JUDGMENT OF THE GENERAL COURT (Sixth Chamber, Extended Composition)

14 September 2022 (*)

(Competition – Abuse of dominant position – Smart mobile devices – Decision finding an infringement of Article 102 TFEU and Article 54 of the EEA Agreement – Concepts of multi-sided platform and market ('ecosystem') – Operating system (Google Android) – App store (Play Store) – Search and browser applications (Google Search and Chrome) – Agreements with device manufacturers and mobile network operators – Single and continuous infringement – Concepts of overall plan and conduct implemented in the context of the same infringement (product bundles, exclusivity payments and anti-fragmentation obligations) – Exclusionary effects – Rights of the defence – Unlimited jurisdiction)

In Case T 604/18,

Google LLC, established in Mountain View, California (United States),

Alphabet, Inc., established in Mountain View,

represented by N. Levy, J. Schindler, A. Lamadrid de Pablo, J. Killick, A. Komninos, G. Forwood, lawyers, P. Stuart, D. Gregory, H. Mostyn, Barristers, and M. Pickford QC,

applicants,

supported by

Application Developers Alliance, established in Washington, D.C. (United States), represented by A. Parr, S. Vaz, Solicitors, and R. Baena Zapatero, lawyer,

by

Computer & Communications Industry Association, established in Washington, D.C., represented by E. Batchelor, T. Selwyn Sharpe, Solicitors, and G. de Vasconcelos Lopes, lawyer,

by

Gigaset Communications GmbH, established in Bocholt (Germany), represented by J. F. Bellis, lawyer,

by

HMD global Oy, established in Helsinki (Finland), represented by M. Glader and M. Johansson, lawyers,

and by

Opera Norway AS, formerly Opera Software AS, established in Oslo (Norway), represented by M. Glader and M. Johansson, lawyers,

interveners,

v

European Commission, represented by N. Khan, A. Dawes, C. Urraca Caviedes and F. Castillo de la Torre, acting as Agents,

defendant,

supported by

BDZV – Bundesverband Digitalpublisher und Zeitungsverleger eV, formerly Bundesverband Deutscher Zeitungsverleger eV, established in Berlin (Germany), represented by T. Höppner, professor, and P. Westerhoff, lawyer,

by

Bureau européen des unions de consommateurs (BEUC), established in Brussels (Belgium), represented by A. Fratini, lawyer,

by

FairSearch AISBL, established in Brussels, represented by T. Vinje, D. Paemen and K. Missenden, lawyers,

by

Qwant, established in Paris (France), represented by T. Höppner, professor, and P. Westerhoff, lawyer,

by

Seznam.cz, a.s., established in Prague (Czech Republic), represented by M. Felgr, T. Vinje, D. Paemen, J. Dobrý and P. Chytil, lawyers,

and by

Verband Deutscher Zeitschriftenverleger eV, established in Berlin, represented by T. Höppner, professor, and P. Westerhoff, lawyer,

interveners,

THE GENERAL COURT (Sixth Chamber, Extended Composition),

composed of A. Marcoulli, President, S. Frimodt Nielsen (Rapporteur), J. Schwarcz, C. Iliopoulos and R. Norkus, Judges,

Registrar: C. Kristensen, Head of Unit,

having regard to the written part of the procedure and further to the hearing which took place from 27 September to 1 October 2021,

gives the following

Judgment

1 By their action under Article 263 TFEU, Google LLC (formerly Google Inc.) and Alphabet, Inc., of which Google LLC is the subsidiary (together, ‘Google’ or ‘the applicants’), seek, principally, annulment of Commission Decision C(2018) 4761 final of 18 July 2018 relating to a proceeding under Article 102 TFEU and Article 54 of the EEA Agreement (Case AT.40099 – Google Android) (‘the contested decision’) or, failing that, cancellation or reduction of the fine that was imposed on them in that decision.

I. Background to the dispute

2 Google is an undertaking in the information and communications technology sector specialising in internet-related products and services and operating within the European Economic Area (EEA).

A. Context of the case

3 In 2005, in order to take account of the emergence and development of the mobile internet and of the likely change in user behaviour to which that would lead as regards general searches performed online, Google acquired the undertaking that had originally developed the Android operating system ('OS') for smart mobile devices. According to the European Commission, in July 2018 approximately 80% of smart mobile devices used in Europe and worldwide were running Android.

4 When Google develops a new version of Android, it publishes the source code online. This allows third parties to download and modify that code to create Android 'forks' (a fork being new software created from the source code of existing software). The Android source code released under an open-source licence (Android Open Source Project licence; 'the AOSP licence') covers the basic features of an OS, but not the Android applications ('apps') and services owned by Google. Original equipment manufacturers ('OEMs') who wish to obtain Google apps and services must therefore enter into agreements with Google. Google also enters into such agreements with mobile network operators ('MNOs') who wish to be able to install Google's proprietary apps and services on devices sold to end users.

5 Some of those agreements form the subject matter of the present case.

B. Procedure before the Commission

6 On 25 March 2013, FairSearch AISBL, an association of undertakings active in the information and communications technology sector, lodged a complaint with the Commission regarding some of Google's business practices in the mobile internet. Following that complaint, the Commission sent requests for information to Google, its customers, its competitors and other entities operating in that environment. Other entities also complained to the Commission about Google's conduct in the mobile internet.

7 On 15 April 2015, the Commission initiated a procedure against Google in relation to Android.

8 On 20 April 2016, the Commission sent a statement of objections to Google. A non-confidential version of the statement of objections was also sent to 17 complainants and interested third parties.

9 Between October 2016 and October 2017, the Commission received comments on the statement of objections from 11 complainants and interested third parties. In December 2016, Google submitted the final version of its response to the statement of objections ('the response to the statement of objections'). Google had not at that time requested a hearing.

10 Between August 2017 and May 2018, the Commission provided Google with various pieces of evidence capable of supporting the conclusions set out in the statement of objections. This evidence was communicated in particular by means of a first letter of facts, on 31 August 2017, and a second letter of facts on 11 April 2018. Google submitted its observations on those letters on 23 October 2017 and 7 May 2018, respectively.

11 In addition, in September 2017, Google requested all relevant documents relating to the Commission's meetings with third parties. The Commission replied to that request in February 2018.

12 Google had access to the file in 2016 following the statement of objections, in 2017 following the first letter of facts, and in 2018 following the second letter of facts.

13 On 7 May 2018, Google requested a hearing. On 18 May 2018, the Commission refused that request.

14 On 21 June 2018, at Google's request, the Commission provided it with two letters received from interested third parties. Google submitted its observations on those documents on 27 June 2018.

C. Contested decision

15 On 18 July 2018, the Commission adopted the contested decision. In that decision, the Commission imposed a fine on Google LLC and, in part, on Alphabet, Inc. for having infringed competition rules by imposing anticompetitive contractual restrictions on OEMs and MNOs in order to protect and consolidate Google's dominant position on the national markets, within the EEA, for general search services.

16 Three sets of contractual restrictions are identified in the contested decision:

– restrictions contained in the Mobile Application Distribution Agreements ('MADAs'), under which Google required OEMs to pre-install its general search app (Google Search) and browser app (Chrome) in order for them to be able to obtain a licence to use its app store (Play Store);

– restrictions contained in the Anti-Fragmentation Agreements ('AFAs'), under which OEMs that wished to pre-install Google apps could not sell devices running versions of Android that were not approved by Google;

– restrictions contained in the Revenue Share Agreements ('RSAs'), under which Google granted OEMs and MNOs a percentage of its advertising revenue, provided that those manufacturers or operators had agreed not to pre-install a competing general search service on any device within an agreed portfolio ('portfolio-based RSAs').

17 As regards the duration of the contractual restrictions (together, 'the restrictions at issue'), those linked to the MADAs lasted, in the case of the Google Search and Play Store bundle, from 1 January 2011 to the date of the contested decision and, in the case of the Chrome, Google Search and Play Store bundle, from 1 August 2012 to the date of the contested decision; those linked to the AFAs lasted from 1 January 2011 to the date of the contested decision; and those linked to the RSAs lasted from 1 January 2011 to 31 March 2014, the date on which the last portfolio-based RSA ended.

18 According to the Commission, the objective of the restrictions at issue was to protect and strengthen Google's dominant position in relation to general search services and, therefore, the revenue obtained by Google through search advertisements. The common objective and the interdependence of the restrictions at issue led the Commission to classify them as a single and continuous infringement of Article 102 TFEU and Article 54 of the EEA Agreement.

19 In order to penalise what it considered to be abusive practices, the Commission imposed a fine of EUR 4 342 865 000 on Google. In determining that amount, the Commission took into consideration the value of relevant sales within the EEA, in relation to the single and continuous infringement, achieved by Google during the last year of participation in the infringement (2017), and applied a gravity coefficient (11%). The Commission then multiplied the amount obtained by the number of years of participation in the infringement (approximately 7.52) and added an additional amount (equivalent to 11% of the value of sales in 2017) in order to deter similar undertakings from engaging in the same practices. The Commission also considered that it was not appropriate to find that there were mitigating or aggravating circumstances, or to take particular account of Google's significant financial capacity in order to decrease or increase the amount of the fine.

20 The Commission also required Google to bring those practices to an end within 90 days of the notification of the contested decision.

II. Procedure and forms of order sought

21 By application lodged at the Court Registry on 9 October 2018, Google brought the present action.

22 At the Commission's request, the time limit for lodging the defence was extended several times. It was ultimately set at 15 March 2019, and the defence was lodged on that date.

23 At Google's request, the time limit for lodging the reply was extended several times. It was ultimately set at 1 July 2019, and the reply was lodged on that date.

24 At the Commission's request, the time limit for lodging the rejoinder was extended several times. It was ultimately set at 29 November 2019, and the rejoinder was lodged on that date.

A. Applications to intervene

25 Eleven applications to intervene were submitted within the time limit laid down by Article 143(1) of the Rules of Procedure of the General Court.

26 By order of the President of the Third Chamber of 23 September 2019:

– Application Developers Alliance ('ADA'); Computer & Communications Industry Association ('CCIA'); Gigaset Communications GmbH ('Gigaset'); HMD global Oy ('HMD') and Opera Norway AS, formerly Opera Software AS ('Opera') were granted leave to intervene in support of the form of order sought by Google;

– Bureau européen des unions de consommateurs (BEUC), Verband Deutscher Zeitschriftenverleger eV ('VDZ'), BDZV – Bundesverband Digitalpublisher und Zeitungsverleger eV ('BDZV'), Seznam.cz, a.s. ('Seznam'), FairSearch and Qwant were granted leave to intervene in support of the form of order sought by the Commission.

27 In order to enable the interveners to express their views on all of the main parties' pleadings, the time limit for lodging statements in intervention was set to run from the lodging of the consolidated non-confidential version of the rejoinder.

28 At the request of certain interveners, the time limit for lodging statements in intervention was extended several times. It was ultimately set at 30 June 2020, and all of those statements in intervention were lodged on that date.

29 On 12 October 2020, the main parties lodged their observations on the statements in intervention.

B. Conduct of the proceedings, principal requests for confidential treatment and preparation of the case

30 At the request of the main parties, the time limit for lodging requests for confidential treatment of the application, the defence, the reply and the rejoinder was extended several times. For the application and the defence, the time limit was ultimately set at 13 September 2019, and the main parties lodged a consolidated non-confidential version of each of those documents on that date. For the reply and the rejoinder, the time limit was ultimately set at 11 December 2019 and 1 May 2020, respectively, and the main parties lodged a consolidated version of each of those documents on those dates.

31 As regards those documents, the only objections to the requests for confidential treatment were submitted by FairSearch on 20 March 2020 in relation to Google's claim for confidentiality in respect of three annexes to the rejoinder.

32 On 7 April 2020, by way of a measure of organisation of procedure as provided for in Article 89 of the Rules of Procedure, the Court asked Google for clarification of the scope of its claim for confidentiality in respect of the three annexes identified by FairSearch. Google replied on 23 April 2020 and produced new versions of those annexes.

33 On 6 May 2020, by way of a measure of organisation of procedure, the Court asked FairSearch whether, in the light of the new versions of the three annexes to the rejoinder provided by Google, it maintained its objections regarding the confidentiality of those documents. FairSearch replied on 1 June 2020, stating that it did not maintain its objections.

34 At the request of the main parties, the time limit for lodging requests for confidential treatment of their observations on the statements in intervention was extended several times. It was ultimately set at 11 December 2020, and consolidated non-confidential versions of those observations were lodged on that date.

35 As regards the observations of the main parties on the statements in intervention, the only objections to the requests for confidential treatment were submitted by BEUC on 8 January 2021 in relation to Google's claim for confidentiality concerning an annex to the application and certain passages in Google's observations on BEUC's statement in intervention.

36 On 21 January 2021, in the context of a measure of organisation of procedure, the Court asked Google for clarification of the scope of its claim for confidentiality concerning that annex to the application and those passages in its observations. Google replied on 27 January 2021 and produced new versions of the annex to the application identified by BEUC and of its observations on BEUC's statement in intervention.

37 On 18 February 2021, by way of a measure of organisation of procedure, the Court asked BEUC whether, in the light of the new non-confidential version of the annex which it had identified, and the new non-confidential version of Google's observations on its statement in intervention, it maintained its objections. BEUC replied on 5 March 2021, stating that it did not maintain its objections.

38 The combined efforts of all parties throughout the procedure made it possible, notwithstanding the diverging interests often at stake, to resolve the difficulties associated with the confidential nature of the information, data and documents relied on in the present case, and to authorise examination of the case on the basis of a consolidated non-confidential version. Certain confidential data known to the main parties were replaced subsequently by the ranges used in the public version of the contested decision available on the Commission's website.

39 Following a change in the composition of the Chambers of the Court, pursuant to Article 27(5) of the Rules of Procedure, the Judge-Rapporteur was assigned to the Sixth Chamber of the Court, to which the present case was accordingly allocated.

40 The written part of the procedure was closed on 19 March 2021 with the communication of the last of the observations on the requests for confidential treatment.

41 On 6 April 2021, Google requested a hearing.

42 On a proposal from the Sixth Chamber, the Court decided, pursuant to Article 28 of the Rules of Procedure, to refer the case to the Sixth Chamber sitting in extended composition.

43 On a proposal from the Judge-Rapporteur, the Court decided to open the oral part of the procedure.

44 On 25 June 2021, by way of measures of organisation of procedure, the Court requested the parties to reply to a first set of questions. The parties replied to those questions concerning the substance of the case and the main parties submitted their written observations on those replies.

45 On 5 July 2021, the Court invited the parties to comment on the proposed schedule for the various days of the hearing. That schedule was adjusted in the light of the comments made in that regard.

46 A report for the hearing was sent to the parties and, on 7 September and 24 September 2021, Google and the Commission, respectively, submitted observations on that document. The Court took formal note of

those observations.

47 The main parties and the interveners presented oral argument and answered the oral questions put to them by the Court at the hearing which took place over five days, from 27 September to 1 October 2021.

C. Forms of order sought

48 Google, supported by ADA, CCIA, Gigaset, HMD and Opera, claims that the Court should:

– annul the contested decision;

– failing that, cancel or reduce the fine;

– order the Commission to pay the costs;

– order BEUC, VDZ, BDZV, Seznam, FairSearch and Qwant to pay the costs related to their intervention.

49 ADA, CCIA, Gigaset, HMD and Opera also claim that the Court should order the Commission to pay the costs related to their intervention.

50 The Commission, supported by BEUC, VDZ, BDZV, Seznam, FairSearch and Qwant, contends that the Court should:

– dismiss the action;

– order Google to pay the costs;

– order ADA, CCIA, Gigaset, HMD and Opera to pay the costs related to their intervention.

51 BEUC, VDZ, BDZV, Seznam, FairSearch and Qwant also contend that the Court should order Google to pay the costs related to their intervention.

III. Law

52 In support of the action, the applicants put forward six pleas in law:

– the first plea, alleging that the assessment of market definition and dominance is incorrect;

– the second plea, alleging that the finding that the MADAs' pre-installation conditions were abusive is incorrect;

– the third plea, alleging that the finding that the sole pre-installation condition included in the portfolio-based RSAs was abusive is incorrect;

– the fourth plea, alleging that the finding that it was abusive for Google to make Play Store and Google Search licences conditional on compliance with the AFAs' anti-fragmentation obligations is incorrect;

– the fifth plea, alleging infringement of the rights of the defence;

– the sixth plea, alleging that the various factors taken into account to calculate the fine were incorrectly assessed.

A. Preliminary observations

53 Before examining the parties' arguments, it is appropriate to make some observations on the commercial context of the conduct penalised, the rules governing judicial review of the contested decision and the taking of evidence and the admissibility of the evidence submitted to the Court.

1. The commercial context of the conduct penalised

54 The online dictionary *Merriam-Webster* defines the verb 'to google' as the action of '[using] the Google search engine to obtain information about someone or something on the World Wide Web'. Very few undertakings achieve such renown that their name gives rise to a verb and this alone attests to the importance that Google has acquired in everyday life.

(a) Business model centred on searches using Google Search

55 Google derives most of its revenue from its flagship product, its search engine Google Search. On smart mobile devices, users can access Google Search using the Google Search app or via other entry points, such as the search widget, or an address bar in the browser. That search engine provides general search services and allows users to search across the entire internet for answers to their queries (recitals 94 to 101 and 106 of the contested decision).

56 Google's business model is based on the interaction between, on the one hand, internet-related products and services offered for the most part free of charge to users and, on the other hand, online advertising services from which it derives the vast majority of its revenues. Thus, the Android OS, the app store Play Store, the Google Search app, the Chrome browser, the email service Gmail, the file storage and editing service Google Drive, the geolocation service Google Maps and the content distribution service YouTube are offered free of charge. Other services are paid services, such as Google Play Music and Movie, and some offer a paid premium version, such as YouTube and Google Drive (recital 107 of, and footnote 65 to, the contested decision). In 2016, for example, online advertising accounted for 88.7% of Google's total revenues, 80% of which was generated via Google's websites, in particular Google Search's homepage (recitals 105 to 107 of, and footnote 62 to, the contested decision).

57 Unlike the business model adopted, for example, by the company Apple, which is based on vertical integration and the sale of higher-end smart mobile devices, Google's business model is based first and foremost on increasing the numbers of users of its online search services so that it can sell its online advertising services (recital 153 of the contested decision).

58 When users interact with its products and services, Google collects data on their commercial activities and the use of their devices. The data obtained includes, in particular, contact information (name, address, email address, telephone number); account authentication data (username and password); demographic information (gender and date of birth); details of the card or bank account used; information about the content served to the user (advertisement, pages visited and so forth); interaction data, such as clicks; location data; and data relating to the device and operator used. Those data allow Google to strengthen its ability to present relevant search responses and advertisements (recitals 109 to 111 of the contested decision).

(b) Practices adopted in the shift to the mobile internet

59 Google's business model was initially developed in a personal computer (PC) environment where the web browser was the core entry point to the internet. In the mid-2000s, Google concluded that the development of the mobile internet was going to represent a fundamental change in users' behaviour, in particular in view of the opportunities offered by geolocation.

60 That projected expansion prompted Google to develop a strategy to anticipate the effects of that change and ensure that users would perform their searches on mobile devices via Google Search (recitals 112 to 117 of the contested decision). There were several aspects of that strategy.

61 First, in 2005 Google acquired the original developer of the Android OS in order to take over its development and maintenance (recitals 120 to 123 of the contested decision). The Android OS is made available free of charge to OEMs, MNOs and app developers under an open-source licence, the AOSP licence (recital 124 of the contested decision). The Android OS is also part of an 'ecosystem' incorporating other elements such as all Google Mobile services (GMS bundle or Google Mobile Services; 'the GMS suite') (see recital 133 of the contested decision), which include, inter alia, the app store Play Store, the Google Search app and the Chrome browser. The first commercial versions of Android devices were marketed in 2008-2009.

62 Second, in 2007 Google entered into an agreement with Apple whereby Google Search became the default general search service on all of Apple's smart mobile devices since the launch of the iPhone. As a result of that agreement Google Search accounted, in 2010, for more than half of the internet traffic on the iPhone and almost a third of all mobile internet traffic (recitals 118 and 119 of the contested decision).

63 In addition, Google is also active in the production of Google Android devices with its own Nexus and Pixel ranges (recitals 152 and 153 of the contested decision).

(c) Single infringement with a number of aspects

64 In the present case, the Commission found that certain aspects of Google's strategy for adapting its business model to the transition to the mobile internet constituted an abuse of a dominant position.

65 That was the case as regards the restrictions at issue which Google imposed on OEMs and MNOs in order to ensure that traffic on Google Android devices would be directed to the Google Search search engine. In the Commission's view, those practices had the effect of depriving Google's competitors – such as Qwant or Seznam – of the possibility of competing with it on their own merits, and EU consumers of the advantages of effective competition, such as the possibility of using a search engine that prioritises the protection of privacy, is adapted to particular linguistic features or focuses on value-added content, particularly in the field of information.

66 As stated above, according to Sections 11 to 13 of the contested decision, the restrictions at issue were threefold:

– restrictions contained in the MADAs, under which Google required OEMs to pre-install its general search app (Google Search) and browser app (Chrome) in order for them to be able to obtain a licence to use its online app store (Play Store);

– restrictions contained in the AFAs, under which OEMs that wished to pre-install Google's apps could not sell devices running versions of Android that were not approved by Google;

– restrictions contained in the portfolio-based RSAs, under which Google granted OEMs and MNOs a percentage of its advertising revenue, provided that those manufacturers and those operators had agreed not to pre-install a competing general search service on any device within an agreed portfolio.

67 In the Commission's view, the restrictions at issue formed part of an overall strategy by Google to cement its dominant position on the online general search market at a time when the importance of the mobile internet was growing significantly (see Section 14 of the contested decision).

68 The objective of that strategy was to preserve Google's chances of having consumers use its search engine when performing their general searches on the internet, which guaranteed not only that it would obtain the corresponding advertising revenue, but also that it would acquire the information necessary for improving its services. While the means employed were numerous and interacted, the objective was broadly the same:

– the purpose of the MADAs was to enable Google to ensure that Google Android devices marketed had the Google Search app and Chrome browser, the two main entry points for a general search; the

effect of the pre-installation of those apps was thus to enable Google to take advantage of the 'status quo bias' associated with them, an advantage that had significant effects on competition by reducing, in particular, the choices available to consumers;

– the purpose of the AFAs was to enable Google to prevent the emergence of solutions likely to exploit the Android OS to its detriment; thus the company Amazon did not succeed in using Android to develop its own solutions in terms of corresponding apps and services;

– the purpose of the portfolio-based RSAs, which admittedly did not cover all Google Android devices and were implemented only for a short period, was to enable Google to obtain what was not formally provided for by the other agreements, namely exclusivity; under those revenue sharing agreements, major OEMs and MNOs undertook to pre-install only the Google Search search engine.

69 It is also necessary to highlight an important point in the Commission's reasoning in the contested decision, in particular in recitals 738 and 739 and in Section 14.2.

70 The Commission identified restrictions at issue of three types in the MADAs, the AFAs and the portfolio-based RSAs, and took the view that these gave rise to 'four separate infringements' of Article 102 TFEU.

71 However, the Commission also found that those restrictions, and the infringements arising from them, pursued an identical objective and were complementary and interdependent. Together they thus constituted a 'single and continuous infringement' for which a single fine was imposed.

72 That infringement thus had several aspects, each of them having evolved over time according to its own parameters, yet all being linked by the common objective of ensuring that Google had the best possible access to general searches carried out by consumers on smart mobile devices. There was, it is claimed, also a not insignificant 'cumulative effect' linked to the combination of the various aspects of that infringement. In particular, the effects of the restrictions at issue were not the same once the guaranteed presence permitted by the MADAs, although non-exclusive, was strengthened by the exclusivity conferred by the RSAs.

2. The rules governing judicial review

73 It should be noted that the system of judicial review of Commission decisions relating to proceedings under Articles 101 and 102 TFEU consists in a review of the legality of the acts of the institutions for which provision is made in Article 263 TFEU, which may be supplemented, pursuant to Article 261 TFEU and at the request of the applicant, by the General Court's exercise of unlimited jurisdiction with regard to the penalties imposed in that regard by the Commission (see judgment of 26 September 2018, *Infineon Technologies* v *Commission*, C 99/17 P, EU:C:2018:773, paragraph 47 and the case-law cited).

(a) In-depth review of all the relevant evidence

74 As regards the review of legality provided for in Article 263 TFEU, it should be noted that the scope of that review extends to all the elements of Commission decisions relating to proceedings applying Articles 101 and 102 TFEU which are subject to in-depth review by the General Court, in law and in fact, in the light of the pleas raised by the applicant and taking into account all the relevant evidence submitted by the latter (see judgment of 26 September 2018, *Infineon Technologies* v *Commission*, C 99/17 P, EU:C:2018:773, paragraph 48 and the case-law cited).

75 In that regard, in so far as the contested decision imposes a fine and a periodic penalty payment for an infringement of competition law, the Courts of the European Union must, inter alia, establish not only whether the evidence relied on by the Commission is factually accurate, reliable and consistent but also whether that evidence contains all the information which must be taken into account in order to assess whether the circumstances constituting the infringement exist, and whether that evidence substantiates the

Commission's interpretation of it in the contested decision (see, to that effect, judgment of 8 December 2011, *Chalkor* v *Commission*, C 386/10 P, EU:C:2011:815, paragraph 54 and the case-law cited).

76 Unlike, for example, a prospective analysis of the kind required for the examination of a proposed concentration, which makes it necessary to predict events which are more or less likely to occur in future if a decision prohibiting the planned concentration or laying down the conditions for it is not adopted, it is usually a matter for the Commission, when penalising an abuse of a dominant position, to examine past events, for which there is generally a variety of evidence available that makes it possible to understand the causes and to assess the effects on effective competition (see, to that effect, judgment of 15 February 2005, *Commission* v *Tetra Laval*, C 12/03 P, EU:C:2005:87, paragraph 42).

77 In such a situation, it is for the Commission to prove not only the existence of the abuse but also its duration. More particularly, the Commission must prove the infringement which it has found and adduce evidence capable of demonstrating to the requisite legal standard the existence of the circumstances constituting the infringement (see, to that effect, judgments of 5 October 2011, *Romana Tabacchi* v *Commission*, T 11/06, EU:T:2011:560, paragraph 129 and the case-law cited, and of 15 July 2015, *Trafilerie Meridionali* v *Commission*, T 422/10, EU:T:2015:512, paragraph 88 and the case-law cited).

78 In this respect, any doubt in the mind of the Court must operate to the advantage of the undertaking to which the decision finding the infringement was addressed. The Court cannot therefore conclude that the Commission has established the infringement at issue to the requisite legal standard if it still entertains any doubts on that point, in particular in proceedings for annulment or variation of a decision imposing a fine (see, to that effect, judgments of 5 October 2011, *Romana Tabacchi* v *Commission*, T 11/06, EU:T:2011:560, paragraph 129 and the case-law cited, and of 15 July 2015, *Trafilerie Meridionali* v *Commission*, T 422/10, EU:T:2015:512, paragraph 88 and the case-law cited).

79 In particular, where the Commission finds an infringement of the competition rules on the basis that the facts established cannot be explained other than by the existence of anticompetitive behaviour, the Court will find it necessary to annul the decision in question if the undertaking concerned puts forward arguments which cast the facts established by the Commission in a different light and which thus allow another plausible explanation of the facts to be substituted for the one adopted by the Commission in concluding that there has been an infringement. In such a case, the Commission cannot be regarded as having furnished proof of the existence of an infringement of competition law (see, to that effect, judgments of 28 March 1984, *Compagnie royale asturienne des mines and Rheinzink* v *Commission*, 29/83 and 30/83, EU:C:1984:130, paragraph 16, and of 31 March 1993, *Ahlström Osakeyhtiö and Others* v *Commission*, C 89/85, C 104/85, C 114/85, C 116/85, C 117/85 and C 125/85 to C 129/85, EU:C:1993:120, paragraphs 126 and 127).

80 Where there is any doubt as to the existence of circumstances constituting the infringement, it is necessary to take account of the principle of the presumption of innocence, which is one of the fundamental rights protected in the EU legal order and which has been affirmed by Article 48(1) of the Charter of Fundamental Rights of the European Union. Given the nature of the infringements in question and the nature and degree of severity of the ensuing penalties, the principle of the presumption of innocence applies in particular to the procedures relating to infringements of the competition rules applicable to undertakings that may result in the imposition of fines or periodic penalty payments. It is accordingly necessary for the Commission to produce sufficiently precise and consistent evidence to support the firm conviction that the alleged infringement took place (see, to that effect, judgments of 5 October 2011, *Romana Tabacchi* v *Commission*, T 11/06, EU:T:2011:560, paragraph 129 and the case-law cited, and of 15 July 2015, *Trafilerie Meridionali* v *Commission*, T 422/10, EU:T:2015:512, paragraph 88 and the case-law cited).

81 Nevertheless, although the Commission must produce sufficiently precise and consistent evidence to support the firm conviction that the infringement took place, it must be pointed out that it is not necessary for every item of evidence produced by the Commission to satisfy those criteria in relation to every aspect of the infringement. It is sufficient if the body of evidence relied on by the Commission, viewed as a

whole, meets that requirement (see, to that effect, judgment of 26 January 2017, *Commission* v *Keramag Keramische Werke and Others*, C 613/13 P, EU:C:2017:49, paragraph 52 and the case-law cited).

(b) Unlimited jurisdiction with regard to the fine

82 As regards the unlimited jurisdiction conferred on the EU judicature by Article 31 of Council Regulation (EC) No 1/2003 of 16 December 2002 on the implementation of the rules on competition laid down in Articles [101 and 102 TFEU] (OJ 2003 L 1, p. 1) in accordance with Article 261 TFEU, this empowers the competent Court, in addition to carrying out a mere review of legality with regard to the penalty, to substitute its own appraisal for the Commission's and, consequently, to cancel, reduce or increase the fine or penalty payment imposed (see judgment of 26 September 2018, *Infineon Technologies* v *Commission*, C 99/17 P, EU:C:2018:773, paragraph 193 and the case-law cited).

83 In particular, in order to satisfy the requirements of Article 47 of the Charter of Fundamental Rights when conducting a review in the exercise of its unlimited jurisdiction with regard to the fine, the EU judicature is bound, in the exercise of the powers conferred by Articles 261 and 263 TFEU, to examine all complaints based on issues of fact and law which seek to show that the amount of the fine is not commensurate with the gravity or the duration of the infringement (see judgment of 26 September 2018, *Infineon Technologies* v *Commission*, C 99/17 P, EU:C:2018:773, paragraph 195 and the case-law cited).

84 In that context, it has, in particular, been held that the gravity of the infringement must be assessed on an individual basis and that, in order to determine the amount of a fine, it is necessary to take account of the duration of the infringement and of all the factors capable of affecting the assessment of its gravity, such as, inter alia, the conduct of the undertaking concerned, its role in the establishment of the abusive practices, the profit which it was able to derive from those practices or the intensity of the incidents of anticompetitive conduct (see, to that effect, judgment of 26 September 2018, *Infineon Technologies* v *Commission*, C 99/17 P, EU:C:2018:773, paragraphs 196 and 197 and the case-law cited).

85 That exercise does not require the Court to apply the Commission's guidelines on the method of setting fines (see, to that effect, judgment of 14 September 2016, *Trafilerie Meridionali* v *Commission*, C 519/15 P, EU:C:2016:682, paragraphs 52 to 55).

86 In conclusion, the EU judicature can vary the contested measure, even without annulling it, in order to cancel, reduce or increase the amount of the fine imposed. That jurisdiction is exercised by taking account of all the factual circumstances. It follows that the EU judicature is empowered to exercise its unlimited jurisdiction where the question of the amount of the fine is put before it, and the exercise of that jurisdiction entails the definitive transfer to the EU judicature of the power to impose penalties (see order of 7 July 2016, *Westfälische Drahtindustrie and Pampus Industriebeteiligungen* v *Commission*, C 523/15 P, EU:C:2016:541, paragraphs 32 to 34 and the case-law cited).

3. The taking of evidence and the various objections in that regard

87 In the present action, both the Commission and Google dispute the relevance, or admissibility, of certain arguments and related evidence submitted by them or by the interveners.

88 That is the case as regards, for example, certain statements made by a Google executive or employee or by an interested party; certain statements or certain reports submitted at a party's request by a third party on the basis of the latter's status as expert; and documents produced in order to establish a fact that may be described as well known which is referred to in the contested decision and is disputed before the Court, specifically the concept of the 'status quo bias' identified in psychology to illustrate irrational behaviour that explains the aversion to change. The same is true for documents drawn up on the basis of an undertaking's own internal information and produced to support or to refute a claim made in the contested decision or in the present action.

89 In that regard, first, it must be recalled that the judicial review of a Commission decision relating to proceedings applying Article 101 or 102 TFEU is carried out taking into account all the evidence submitted by the applicant, whether it predates or post-dates the decision that is contested, whether it was submitted previously in the context of the administrative procedure or, for the first time, in the context of the proceedings before the Court, in so far as that evidence is relevant (see, to that effect, judgment of 21 January 2016, *Galp Energía España and Others* v *Commission*, C 603/13 P, EU:C:2016:38, paragraph 72 and the case-law cited).

90 Similarly, in the exercise of its unlimited jurisdiction, it is for the Court to assess, on the date on which it adopts its decision, whether the applicant received an appropriate fine (see, to that effect, judgment of 11 July 2014, *Esso and Others* v *Commission*, T 540/08, EU:T:2014:630, paragraph 133 and the case-law cited). In that context, the Court is entitled to take into account all the factual circumstances which it considers to be relevant, whether they be prior to or subsequent to the decision at issue (order of 7 July 2016, *Westfälische Drahtindustrie and Pampus Industriebeteiligungen* v *Commission*, C 523/15 P, EU:C:2016:541, paragraph 43 and the case-law cited).

91 In the present case, it follows from those principles that, if they are relevant to the Court's assessment, the arguments and related evidence submitted by the applicants for the first time before the Court cannot be rejected on the pretext that they were not previously presented to the Commission in the administrative procedure.

92 Second, it must also be noted that the principle which prevails in EU law is that of the unfettered evaluation of evidence, from which it follows that, where evidence has been obtained lawfully, its admissibility cannot be contested before the General Court, and that the only relevant criterion for the purpose of assessing the probative value of evidence lawfully adduced relates to its credibility (see judgment of 26 September 2018, *Infineon Technologies* v *Commission*, C 99/17 P, EU:C:2018:773, paragraph 65 and the case-law cited).

93 In application of that principle, it is apparent in the present case that there is no reason for the Court to assume that the various items of evidence produced by the parties were not obtained lawfully or that they are not sufficiently credible to be taken into consideration in its evaluation.

94 In that respect, as regards the probative value of the various items of evidence that have been challenged, it may be noted as follows.

95 First of all, as regards the statements made by a Google executive or employee or by an interested party, it must be pointed out that, while those statements cannot be considered to have no probative value, the fact remains that such statements are intended either to mitigate the liability of the undertaking concerned by the proceedings or to support a finding of liability on the part of that undertaking in order either to defend or to accuse it, depending on the particular interests of the party submitting the statement. Therefore, while those statements have probative value, this must be viewed in the context of the probative value of the various documents, such as emails or other internal documents, which directly concern the period and the facts at issue (see, to that effect, judgment of 8 July 2008, *Lafarge* v *Commission*, T 54/03, not published, EU:T:2008:255, paragraph 379).

96 Similarly, as regards the statements or reports submitted – at a party's request to support its claims – by a third party on the basis of the latter's status as expert, it should be noted that the probative value of such documents is assessed in several respects. The author must ensure that he or she sets out his or her qualifications and experience and explains how they are relevant to his or her providing an opinion on the question under consideration. Moreover, in terms of its content the opinion must set out the reasons why it should be taken into consideration, whether as regards the reliability of the methodology used or the relevance of the answer given to that question for the purposes of the present case. It is in the light of those principles and the observations submitted by the parties in that respect that the Court has examined those documents in the present case.

97 Last, as regards documents produced in order to demonstrate the existence of what may be described as a matter of common knowledge that is referred to in the contested decision, it is apparent from the case-law that these must be held to be admissible (see, to that effect, judgment of 5 February 2020, *Hickies* v *EUIPO (Shape of a shoe lace)*, T 573/18, EU:T:2020:32, paragraph 18). Such documents in essence merely demonstrate that there is a consensus as to the meaning commonly given to the concept of 'status quo bias' relied on by certain undertakings and reproduced by the Commission in the contested decision.

98 Third, it must be noted that while, under Article 85 of the Rules of Procedure, evidence produced or offered is, in principle, to be submitted in the first exchange of pleadings, the main parties may still produce such evidence in the reply and rejoinder in support of their arguments or even, exceptionally, before the oral part of the procedure is closed, provided that the delay in its submission is justified. However, it is apparent from the case-law that evidence in rebuttal and the amplification of the offers of evidence submitted in response to an argument or evidence in rebuttal in the defence are not covered by the time-bar laid down by that provision. That provision concerns offers of fresh evidence and must be read in the light of Article 92(7) of those rules, which expressly provides that evidence may be submitted in rebuttal and previous evidence may be amplified (see, to that effect, judgments of 17 December 1998, *Baustahlgewebe* v *Commission*, C 185/95 P, EU:C:1998:608, paragraphs 71 and 72, and of 5 December 2006, *Westfalen Gassen Nederland* v *Commission*, T 303/02, EU:T:2006:374, paragraph 189).

99 In the present case, it is apparent from the examination of the various objections made by the parties, challenging the relevance, or admissibility, of certain arguments and related evidence submitted by the main parties or by the interveners, that they can all be rejected on the ground that those arguments and that evidence relate to the exercise of the adversarial principle, since the parties concerned submitted them in order to respond to an argument or evidence in rebuttal that had just been communicated to the Court.

100 On that basis, the Court considers that both the evidence submitted for the first time in the context of the action and the facts relied on or evidence produced in order to refute arguments submitted by another party during the proceedings, where required in the light of internal data, or to prove a matter of common knowledge cannot be declared inadmissible, and that their relevance may be assessed subsequently in the context of the examination of the various pleas put forward in challenging the contested decision.

101 The various pleas in law put forward by Google in support of the action and all the evidence produced by the parties must be examined in the light of those considerations.

B. The first plea, alleging that the assessment of the definition of the relevant market and dominance is incorrect

102 By the first plea in law of the action, which is divided into three parts, Google complains that the Commission made a number of errors of assessment in the definition of the relevant markets and in the subsequent assessment of its dominant position on some of those markets.

1. Background

103 As a preliminary point, in order to consider the concept of competition between 'ecosystems' highlighted by Google in the context of the present plea, it is necessary, first, to recall the main issue in determining the relevant market in relation to abuse of a dominant position, and, second, to examine the particular circumstances of the present case.

(a) Concepts of relevant market, dominant position and competitive constraints, particularly in the context of an 'ecosystem'

104 It must be recalled that, in the application of Article 102 TFEU, the objective of the definition of the relevant market is to define the boundaries within which it must be assessed whether the undertaking concerned is able to behave, to an appreciable extent, independently of its competitors, customers and

consumers (see judgment of 30 January 2020, *Generics (UK) and Others*, C 307/18, EU:C:2020:52, paragraph 127 and the case-law cited).

105 The definition of the relevant market is therefore, as a general rule, a prerequisite of any assessment of whether the undertaking concerned holds a dominant position. That exercise involves defining, first, the goods or services which form part of the relevant market ('the product market') and then, second, the geographical dimension of that market (see judgment of 30 January 2020, *Generics (UK) and Others*, C 307/18, EU:C:2020:52, paragraphs 127 and 128 and the case-law cited).

106 As regards the product market, the concept of the relevant market implies that there can be effective competition between the products or services which form part of it, and this presupposes that there is a sufficient degree of interchangeability or substitutability between those products and those services. That interchangeability or substitutability is not assessed solely in relation to the objective characteristics of the products or services at issue. The conditions of competition and the structure of supply and demand on that market must also be taken into consideration (see judgment of 30 January 2020, *Generics (UK) and Others*, C 307/18, EU:C:2020:52, paragraph 129 and the case-law cited).

107 In its geographical dimension, the relevant market is the territory within which the conditions of competition are the same and form an area which is sufficiently homogeneous to be considered in its entirety and to enable the effect of the economic power of the undertaking concerned to be evaluated (see, to that effect, judgment of 14 February 1978, *United Brands and United Brands Continentaal* v *Commission*, 27/76, EU:C:1978:22, paragraphs 11, 44, 52 and 53).

108 Applying those principles, the dominant position referred to in Article 102 TFEU thus relates to a position of economic strength enjoyed by an undertaking which enables it to prevent effective competition being maintained on the relevant market by giving it the power to behave to an appreciable extent independently of its competitors, customers and ultimately of its consumers (judgment of 14 February 1978, *United Brands and United Brands Continentaal* v *Commission*, 27/76, EU:C:1978:22, paragraph 65).

109 In that regard, it must be pointed out that the purpose of determining the relevant market and the dominant position held on that market by the undertaking concerned is not only to define the fact and extent of internal competitive constraints specific to that market, but also to verify that there are no external competitive constraints from products, services or territories other than those which form part of the relevant market under consideration.

110 In general terms, it is necessary for the Commission to identify and define the boundaries within which the undertakings compete in order to determine whether the undertaking concerned can, to an appreciable extent, act independently of the constraints imposed by effective competition.

111 As the Court of Justice has previously pointed out, the interchangeability and substitutability of products or services are naturally dynamic, in that a new supply may alter the conception of the products or services considered to be interchangeable with a product or service already present on the market or as substitutable for that product or a service and, in that way, justify a new definition of the parameters of the relevant market (judgment of 30 January 2020, *Generics (UK) and Others*, C 307/18, EU:C:2020:52, paragraph 130).

112 Such a finding presupposes, however, that there is a sufficient degree of interchangeability between the products or services which form part of the relevant market and those envisaged to meet the demand on that market. That would be the case if the alternative provider was in a position to respond to demand within a short period of time with sufficient strength to constitute a serious counterbalance to the power held by the undertaking concerned on the relevant market (see, to that effect, judgment of 30 January 2020, *Generics (UK) and Others*, C 307/18, EU:C:2020:52, paragraphs 132 and 133).

113 Although, in certain circumstances, it may therefore be appropriate to examine the external constraint that an alternative supply might represent, it is also necessary to take account of the specific features inherent in

certain situations, in particular in the case of several interlocking markets.

114 Although the principles set out above remain valid for the purpose of defining a clear and transparent analytical framework for the concepts of relevant market and dominance, their application sometimes calls for a more detailed examination, going beyond mere segmentation into markets, in order better to assess the competitive constraints prevailing on those markets and the position of economic strength enjoyed by the undertaking concerned.

115 That is particularly so in the case of markets which, as in the present case, fall within the digital economy, where traditional parameters such as the price of products or services or the market share of the undertaking concerned may be less important than in traditional markets, compared to other variables such as innovation, access to data, multi-sidedness, user behaviour or network effects.

116 Thus, in a digital 'ecosystem', which brings together several categories of supplier, customer and consumer and causes them to interact within a platform, the products or services which form part of the relevant markets that make up that ecosystem may overlap or be connected to each other on the basis of their horizontal or vertical complementarity. Taken together, the relevant markets may also have a global dimension in the light of the system that brings its components together and of any competitive constraints within that system or from other systems.

117 Identifying the conditions of competition relevant to the assessment of the position of economic strength enjoyed by the undertaking concerned may therefore require multi-level or multi-directional examination in order to determine the fact and extent of the various competitive constraints that may be exerted on that undertaking.

118 In conclusion, what is important in the context of the present plea is to ascertain, in the light of the parties' arguments and of the reasoning set out in the contested decision, whether Google's exercise of the power attributed to it by the Commission on the relevant markets enabled Google to act to an appreciable extent independently of the various factors likely to constrain its behaviour.

119 According to Google, as it argued in essence during the administrative procedure and as it argues again in the context of the present plea, the Commission should have taken account of its claims that, because of the competitive constraints exerted by Apple's ecosystem, Google did not have the power to prevent effective competition from being maintained on the relevant markets linked to the Android ecosystem.

(b) Distinct but interconnected markets

120 In the present case, it should be noted first of all that the Commission identified four types of relevant market (recitals 217 and 402 of the contested decision): (i) the worldwide market (excluding China) for the licensing of OSs, in the sense of the licensing of smart mobile device operating systems (see paragraph 3 above; 'the market for licensable OSs'); (ii) the worldwide market (excluding China) for Android app stores; (iii) the various national markets, within the EEA, for the provision of general search services; and (iv) the worldwide market for non OS-specific internet browsers designed for mobile use ('mobile web browsers').

121 Next, the Commission found that Google held a dominant position on the first three markets (recital 439 of the contested decision), that is to say that Google was, to an appreciable extent, able to behave on those markets independently of its competitors, its customers and consumers.

122 In its analysis, the Commission took into account, inter alia, the competitive pressure exerted by Apple on Google, described as an 'indirect constraint', in that it was exerted at the level of users and of app developers (recital 242 of the contested decision), and judged 'insufficient' to call into question Google's dominant positions on the relevant markets (recitals 243, 322, 479 to 559 and 652 to 672 of the contested decision). According to the contested decision, Apple and the iOS ecosystem were not in a position to exercise a sufficient competitive constraint on Google and the Android ecosystem.

123 In that regard, in the first place, it should be noted that, for reasons of expediency and without prejudice to its position in that respect, Google indicates in the application that it chose not to challenge the finding made in the contested decision as to its dominance of the various national markets for general search services.

124 In the absence of any argument invoked in that respect apart from the passing observation made subsequently by Google regarding the conditions of competition examined by the Commission in relation to the market for general search services in the Czech Republic, where it is not disputed that Google's market share is smaller than it is in the other countries of the EEA, there is no need for the Court to call into question the Commission's findings in relation to those national markets in recitals 674 to 727 of the contested decision.

125 For the purposes of the present case, it must therefore be held that the Commission duly established in the contested decision that Google, being in a position to behave, to an appreciable extent, independently of its competitors, its customers and consumers, held a dominant position on the various national markets for general search services in the EEA (see recitals 674 and 675 of the contested decision and the reasoning supporting that conclusion).

126 In the second place, it must be pointed out that while the relevant markets are presented separately in the contested decision, they cannot be artificially separated in so far as they all had complementary aspects that were duly mentioned by the Commission.

127 That was true of the market for licensable OSs and of the market for Android app stores. Apps that were accessible from an Android app store were of interest only because they ran on the licensed Android OS. Conversely, a licensable OS was dependent, in terms of increasing its attractiveness, on the number, variety and quality of apps that could run on that OS (recitals 84 to 88 and 271 of the contested decision).

128 Likewise, the national markets for general search services could not be dissociated from the markets for licensable OSs, Android app stores and non OS-specific mobile web browsers. Taken together, the products or services covered by those three types of relevant market constituted an entry point to general search services (see, for example, recital 1341 of the contested decision).

129 It is against that factual background of distinct but interconnected relevant markets and the implementation of an overall strategy aimed essentially, according to the Commission, at securing Google's dominant position on the national markets for general search services that the arguments relating to the first plea must be examined.

2. The first part, concerning dominance in the licensing of OSs for smart mobile devices

130 In defining the market for licensable OSs, the Commission considered it appropriate to exclude from that market operating systems for computers, operating systems for mobile devices with limited functionality and non-licensable OSs, in the sense of non-licensable operating systems for smart mobile devices, including Apple's iOS. On the other hand, the Commission indicated that this market included all licensable OSs and did not distinguish between OSs for smartphones or for tablets (recitals 218 to 267 of the contested decision).

131 Next, the Commission found that, with its Google Android devices, Google held a dominant position on the market for licensable OSs. In reaching that conclusion, the Commission relied on Google's market share and its evolution over time, the examination of barriers to entry and expansion, the lack of countervailing buyer power and the fact that non-licensable OSs, in particular Apple's iOS, exercised an insufficient competitive constraint (recitals 440 to 589 of the contested decision).

132 In the first part of the first plea, Google submits that the Commission erred in its assessment of Google's position on that market by failing properly to take into account competition from non-licensable OSs, in particular Apple's iOS, and competition due to the AOSP licence.

(a) Admissibility of the first part

133 The Commission contends that, in so far as the first part of the plea seeks to challenge the definition of the market for licensable OSs, it must be held to be inadmissible; Google is challenging only the finding of its dominant position on that market.

134 In that regard, although Google's arguments are focused on its alleged dominance on the market for licensable OSs and the title of the first part of the plea is worded accordingly, the fact remains that, by its arguments, Google criticises the Commission for having defined that market from the perspective of OEMs and not of users or app developers, who would take account of the competitive constraint exerted by Apple.

135 That line of argument is understandable in the light of the reasoning that led the Commission not to include non-licensable OSs in the relevant market, which takes into consideration, inter alia, the fact that competition from Apple was indirect and insufficient and the fact that the approaches identified in the judgment of 22 October 2002, *Schneider Electric* v *Commission* (T 310/01, EU:T:2002:254), invoked by Google, were not applicable (see Section 7.3.5 in relation to market definition and recitals 241 to 245 of the contested decision). In addition, at the stage of the definition of the market for licensable OSs, the Commission itself referred to the reasoning developed in order to assess Google's dominant position on that market, which also takes into consideration the competitive constraint that may be exercised by Apple, in particular with regard to users or app developers (see recitals 243 and 267 of the contested decision which refer to Section 9.3.4 in relation to the assessment of dominance).

136 Therefore, in so far as Google challenges both the reasoning used to define the market for licensable OSs and that developed to assess its dominant position on that market, there is no need to limit the admissibility of the first part of the plea to the second part of the contested reasoning.

137 Accordingly, it must be held that Google's arguments challenging the definition of the market for licensable OSs on the basis of the first part of the first plea are admissible.

(b) Substance of the first part

138 In support of the first part of the first plea, Google puts forward two complaints, alleging, first, that the competitive constraint exerted by non-licensable OSs, in particular Apple's iOS, was wrongly assessed and, second, that the competitive constraint exerted by the open-source nature of the AOSP licence was wrongly assessed.

(1) The competitive constraint exerted by non-licensable OSs

139 In the contested decision, the Commission found that non-licensable OSs were not part of the same market as licensable OSs (see recitals 238 to 267 of the contested decision) and that Google's dominant position on the market for licensable OSs was not affected by the competitive constraint exerted on that market by the non-licensable OSs of Apple and BlackBerry (see recitals 479 to 589 of the contested decision). Thus, although the definition of the relevant market and Google's position on that market are dealt with separately, the issues raised at those two stages of the contested decision are closely related.

140 It must be noted in that regard that, in order to define the market for licensable OSs, the Commission took into consideration the fact, not contested by Google, that OEMs did not have access to the non-licensable OSs, in particular to Apple's iOS (recital 239 of the contested decision). Therefore, the role likely to be played by non-licensable OSs could be examined, as moreover Google argued, only at the level of users and app developers (recital 241(2) and recital 243 of the contested decision). The Commission found, however, that that indirect competition was insufficient to counterbalance Google's market power (recital 243 with a reference to Section 9.3.4 of the contested decision).

141 In reaching that conclusion, the Commission considered, inter alia, the possibility of a small but significant non-transitory decrease in quality ('quality degradation' or 'the SSNDQ test') in respect of Android. By that test, it examined the reaction of users and app developers to a deterioration in the quality of Android. In other words, the Commission verified whether Google could refrain from developing and financing Android without its users and app developers responding by favouring an alternative.

142 In the first part of the plea, Google complains that the Commission ignored the competition from Apple so far as users and app developers were concerned, both in relation to the definition of the market for licensable OSs and when assessing its power on that market. First, according to Google, the Commission wrongly disregarded evidence of the competitive constraint exerted by Apple. Second, it failed to take account of the principles laid down in the judgment of 22 October 2002, *Schneider Electric* v *Commission* (T 310/01, EU:T:2002:254), which envisaged competition from vertically integrated undertakings. Third, with the SSNDQ test, which remains an imprecise instrument, the Commission underestimated the impact of a deterioration in the quality of Android by incorrectly assessing the sensitivity of users to the quality of the OS, the importance of Apple's pricing policy, the costs of switching to another OS, the loyalty of users to their OS and the behaviour of app developers.

(i) Evidence of a competitive constraint exerted by Apple

– *Arguments of the parties*

143 Google, like the parties intervening in its support, claims that the Commission wrongly rejected a variety of evidence of the competitive constraint exerted by Apple, including, first, the significant investments made by Google in developing the Android OS; second, the regularity of innovations released for the Android OS and for Apple's iOS; and, third, the documents referred to in recitals 250 to 252 of the contested decision, which illustrate the competition from Apple.

144 The Commission states at the outset that it properly concluded that the competitive constraints from the non-licensable OSs of Apple and BlackBerry were insufficient. In that regard it contends that, first, Google's investments in developing Android are motivated by its financial interest; second, the innovation race claimed by Google has not been demonstrated, given, in particular, that users do not choose an OS but a device; and, third, the documents referred to by Google are few and insufficient to establish the existence of a sufficient competitive constraint on the part of Apple.

– *Findings of the Court*

145 In claiming that the assessment of the competitive constraint exercised by Apple on the market for licensable OSs and on Google's dominant position on that market is incorrect, Google relies on a variety of evidence which may be summarised as follows:

– statements by one of its executives, who claims that it invested in Android in response to the competitive constraint exercised by Apple;

– certain responses to the Commission's information requests, annexed to the application, which refer to competition between Apple and Google;

– two internal Google documents, namely an email dated 16 May 2012 and an internal presentation from October 2011, referred to in recital 252 of the contested decision, from which it is apparent that Google is under attack from its competitors, which include Apple, and that Google's objective is to compete with a vertically integrated Apple.

146 In that regard, first of all, it should be recalled that Google does not dispute the fact that the competitive constraint exercised by Apple did not exist with regard to OEMs, as pointed out by the Commission (see recitals 239, 249 and 252 of the contested decision). Google merely invokes the competition from Apple as regards users and app developers, which was examined by the Commission which found that that

competitive constraint was not only indirect but also insufficient (see recitals 242, 243 and the reference to Section 9.3.4, and recitals 249 and 267 of the contested decision).

147 Next, it must be noted that it is not apparent from the various items of evidence relied on by Google that Apple exerts a competitive constraint capable of preventing it from behaving, to an appreciable extent, independently of its competitors, its customers and consumers. The statements of a Google executive and the responses from various undertakings to the Commission's requests for information do not establish that the indirect competition from Apple, as regards users and app developers, was sufficiently strong to counteract Google's power on the market for licensable OSs. Those documents indicate only that Google and other undertakings perceive Apple as a competitor. They are hardly conclusive as to whether Google is significantly constrained by the competition exerted by Apple on the market at issue here. The same conclusion must be drawn as regards the two internal Google documents referred to by the Commission in recital 252 of the contested decision, which merely attest to the existence of a competitive relationship between Google and Apple but do not enable the importance of that relationship to be assessed and are not such as to establish its significance in the light of Google's power on the market for licensable OSs.

148 As regards, more specifically, Google's claims that the size of its investment in Android and the parallel innovations of Android and iOS are evidence of vigorous competition with Apple, these are not sufficient to call into question the Commission's reasoning as set out in the contested decision.

149 First, Google's investment in the development of Android cannot, in itself, be attributed to the importance of competition by Apple with Google as regards users of smart mobile devices and developers of apps for those devices. As the Commission correctly states, those investments are attributable essentially to the fact that Android was an essential element of Google's strategy for responding to the challenge of the shift to the mobile internet, as that OS allows Google's general search services to be incorporated on smart mobile devices.

150 Second, the Commission has already responded to the argument based on the parallelism of innovation in the contested decision by observing, in particular, without being contradicted in this respect in the present action, that that parallelism was not as regular as Google claimed, since some of the pre-2011 updates of Apple's iOS referred to were only intermediate updates to maintain the OS and not genuine updates, and the slowdown in Android updates from 2011, and therefore its alignment with those of iOS, was probably accounted for by the fact that it acquired significant market power from that date, enabling it to keep Android versions in place for longer without having to invest as much in updating them as in the past (see recitals 258 to 262 of the contested decision).

151 Thus, the Commission cannot be criticised for having placed the alleged innovation race between Android and iOS over the period from 2008 to 2011 in context, in so far as, over that period, only three successive versions of iOS had been developed, compared with seven for Android. In the same way, the Commission correctly concluded that, rather than reflecting the competitive constraint exerted by Apple, which in any event was not sufficient, the decrease in the frequency of Android updates from 2011 onwards was capable of substantiating the existence of Google's market power.

152 Therefore, in so far as a cause-and-effect relationship between an iOS update and an Android update can be relied on to any extent, the evidence invoked in that respect does not establish that that relationship was so significant as to have enabled Apple to constrain Google in such a way that Google could not behave, to an appreciable extent, independently of its competitors, its customers and consumers.

153 Last, as regards the criticisms levelled at the Commission's rejection, in recital 251 of the contested decision, of documents predating 2011 on the ground that Google did not then have a dominant position on the market for licensable OSs, it should be noted that the competitive situation before and after 2011 changed as a result of the evolution of Google's position on that market. The importance of the competitive pressure exercised by Apple cannot therefore be assessed on the basis of data relating to a period when Google did not hold a dominant position, and the Commission thus correctly considered the documents at issue not to be relevant to its assessment. Nor, moreover, would that assessment have changed if those

documents had been taken into consideration, in that, although they illustrate a competitive constraint exerted by Apple, they do not enable its importance to be assessed and are not such as to establish its significance in the light of Google's power on the market for licensable OSs.

154 Consequently, all of Google's arguments relating to the assessment of certain evidence concerning the competitive constraint exerted by Apple's iOS on the market for licensable OSs must be rejected.

(ii) Consideration of the judgment of 22 October 2002, Schneider Electric v Commission (T 310/01, EU:T:2002:254), and consistency with previous practice in taking decisions

– *Arguments of the parties*

155 Google submits that, by failing to take into account the competitive constraint exerted by Apple, the Commission made the same error as that penalised by the Court in the judgment of 22 October 2002, *Schneider Electric* v *Commission* (T 310/01, EU:T:2002:254). In that case, the Court held that, in assessing the position of a non-integrated undertaking on a downstream market, competition on the same market from integrated undertakings had to be taken into account. Google also claims that the Commission undermined the consistency of its practice in taking decisions.

156 The Commission notes that the factual context of the present case differs from that of the case that gave rise to the judgment of 22 October 2002, *Schneider Electric* v *Commission* (T 310/01, EU:T:2002:254), in the absence, in particular, of competition between Apple and Google as regards OEMs. Furthermore, in its submission, the decisions on which Google relies do not reveal any inconsistency with the Commission's practice.

– *Findings of the Court*

157 In the first place, as regards the taking into account of the judgment of 22 October 2002, *Schneider Electric* v *Commission* (T 310/01, EU:T:2002:254), it must be recalled that that judgment disposes of an action for annulment brought against a decision declaring a merger between two undertakings, Schneider Electric SA and Legrand SA, to be incompatible with the internal market. In that judgment, the Court annulled the Commission's decision on the ground, inter alia, that the Commission had failed to take proper account of the market power of integrated undertakings and had thereby overestimated the market power of non-integrated undertakings, in particular that of the entity formed by the merger between Schneider and Legrand.

158 More specifically, it is apparent from paragraph 282 of the judgment of 22 October 2002, *Schneider Electric* v *Commission* (T 310/01, EU:T:2002:254), that non-integrated producers of panel-board components, like Schneider and Legrand, faced competition from integrated producers at two levels. That competition manifested itself directly in the participation of integrated producers and assemblers from their networks in tenders in which non-integrated producers, in association on an ad hoc basis with other assemblers, also participated. It also manifested itself indirectly in that the integrated producers would sell their components to assemblers who had won a tender but who were not part of their networks. In both cases, the non-integrated producers faced competition from integrated producers.

159 The factual context of the present case differs, however, from that of the case that gave rise to the judgment of 22 October 2002, *Schneider Electric* v *Commission* (T 310/01, EU:T:2002:254). First, the downstream market was not characterised by tendering procedures in which Apple and Google would bid directly. Competition on the downstream market for users was between Apple and other OEMs, which did not assemble their mobile devices solely from components sold by Google. The OS was only one of a number of elements. Even if, by integrating Android, OEMs became associated with Google and competed with Apple, as an integrated undertaking, competition so far as users were concerned could nevertheless not be reduced to the OS alone.

160 Second, as the Commission rightly noted in recital 245 of the contested decision, Apple, as an integrated undertaking, did not offer iOS to OEMs. There could not, therefore, have been competition between Apple and Google at that level. The position would have been different if, in addition to selling iOS devices, Apple offered to license its OS. Whereas, in the judgment of 22 October 2002, *Schneider Electric* v *Commission* (T 310/01, EU:T:2002:254), integrated and non-integrated undertakings competed to offer their components to assemblers, that was not so in the present case.

161 As regards OEMs, iOS and Android were therefore not substitutable, which justified not defining a market as encompassing all OSs. Although Google did indeed face competition from Apple so far as users or app developers were concerned, in that the OS could be one of the parameters which they would take into account before purchasing a mobile device or developing an app for that OS, it was only one of a number of parameters. Substitutability therefore appeared to be limited to that level, which could explain, as the Commission noted in recital 243 of the contested decision, iOS and Android not being included in the same market.

162 In any event, the Commission cannot be criticised for having overlooked in the contested decision the competition from Apple as regards users and app developers, the Commission having taken that into account in concluding that competition was both indirect and insufficient.

163 Accordingly, the Commission was correct not to have applied, in the present case, the approaches identified in the judgment of 22 October 2002, *Schneider Electric* v *Commission* (T 310/01, EU:T:2002:254).

164 In the second place, as regards the consistency of the contested decision with the Commission's previous practice in taking decisions, it should be recalled that decisions in other cases can give only an indication, in so far as the facts of those cases are not the same (see, to that effect, judgment of 16 September 2013, *Roca Sanitario* v *Commission*, T 408/10, EU:T:2013:440, paragraph 64 and the case-law cited).

165 In any case, the Commission is required to carry out an individual appraisal of the circumstances of each case, without being bound by previous decisions concerning other undertakings, other product and service markets or other geographic markets at different times (see judgment of 9 September 2009, *Clearstream* v *Commission*, T 301/04, EU:T:2009:317, paragraph 55 and the case-law cited). Accordingly, the Commission cannot be criticised for having undermined the consistency of its practice in taking decisions given the particular circumstances of the present case.

166 In any event, first, it is apparent from Commission Decision C(2012) 2405 final of 4 April 2012 declaring a concentration to be compatible with the common market and the functioning of the EEA Agreement (Case COMP/M.6439 – AGRANA/RWA/JV) that the integrated undertakings had, in that case, been regarded as exercising a competitive constraint in that they were able to divert and sell part of their juice concentrate production to third parties. In the present case, however, Apple did not offer its OS to third parties at all. Furthermore, while it is apparent from recital 115 of the abovementioned decision that the Commission took account of the existence of an indirect competitive constraint from integrated undertakings for juice concentrate processors, no difference to the present case can be identified. The Commission did examine the indirect competitive constraint exerted by Apple but ultimately did not consider it relevant to its assessment because of its insufficiency.

167 Second, as regards the approach taken in Commission Decision C(2014) 8546 final of 12 November 2014 declaring a concentration to be compatible with the common market and the functioning of the EEA Agreement (Case COMP/M.7342 – Alcoa/Firth Rixson); and in Commission Decision C(2005) 2676 final of 13 July 2005 declaring a concentration to be compatible with the common market and the functioning of the EEA Agreement (Case COMP/M.3653 – Siemens/VA Tech), this is similar to that followed in the present case; accordingly no inconsistency can be identified. In those decisions, the Commission examined the importance of the competitive constraint likely to be exerted on the relevant market by vertically integrated undertakings.

168 Third, in Commission Decision C(2012) 1068 final of 13 February 2012 declaring a concentration to be compatible with the common market and the functioning of the EEA Agreement (Case COMP/M.6381 – Google/Motorola Mobility), the Commission did not in any way find that licensable and non-licensable mobile OSs belonged to the same market. It is apparent from recital 30 of that decision that the Commission preferred to leave that question open as the merger between Google and Motorola Mobility did not raise any difficulties in that respect.

169 Fourth, the same is true of Commission Decision C(2009) 10033 of 16 December 2009 relating to a proceeding under Article 102 [TFEU] and Article 54 of the EEA Agreement (Case COMP/39.530 – Microsoft (tying)). Although, in the light of recital 17 of that decision, there may be some doubt as to the definition of a market encompassing both licensed and unlicensed PC operating systems, it must be noted that that issue did not generate any debate. It is clear from recital 30 of that decision that Microsoft did not in any way deny holding a dominant position on the market for PC operating systems.

170 Fifth, examination of Commission Decision C(2013) 8873 of 4 December 2013 declaring a concentration to be compatible with the common market and the functioning of the EEA Agreement (Case COMP/M.7047 – Microsoft/Nokia) provides the same insight. It is apparent from recital 102 of that decision that the Commission did not take any view on the existence or otherwise of a market for licensable and non-licensable OSs.

171 Accordingly, the Commission cannot be criticised for having undermined the consistency of its practice in taking decisions, and therefore the arguments put forward by Google in that regard must be rejected.

(iii) The SSNDQ test

– *Arguments of the parties*

172 In Google's view, the Commission contradicted itself when it envisaged a situation in which there might be a deterioration in the quality of Android in so far as it asserted, at the same time, that Google had every interest in ensuring the widest possible distribution of Android devices. Google also points out, as do the parties intervening in its support, that the quality degradation test used in that regard is imprecise and that it does not know how, specifically, the test was applied.

173 According to the Commission, first, there is no inconsistency between the statement that Google's commercial strategy was to increase the distribution of Android devices and the statement that Google could profitably degrade the quality of Android. That does not mean, however, that it is in Google's interest to degrade Android's quality. Second, the Commission emphasises that it cannot be required to define a precise standard of quality degradation to apply the SSNDQ test, as this would render it unworkable in practice.

– *Findings of the Court*

174 It should be observed that, in the contested decision, the Commission envisaged the possibility of a deterioration in the quality of Android in order to assess Google's position on the market for licensable OSs. The Commission indicated in that regard that users and app developers of licensable OSs were not sufficiently sensitive to a deterioration in the quality of Android (recital 483 of the contested decision). It also referred to that assessment in order to define the scope of the market for licensable OSs (see recitals 243 and 267 of the contested decision).

175 Thus, in essence, because of an indirect and insufficient constraint as regards users and app developers, the Commission found that non-licensable OSs did not belong to the same market as licensable OSs and the undertakings operating the former, in particular Apple, would not counterbalance Google's market power.

176 First of all, for the purposes of defining a relevant market and evaluating, on that market, the competitive situation of the undertaking concerned, the Commission may rely on a body of evidence, without being

required to follow a rigid hierarchy of different sources of information or types of evidence available to it (see, to that effect, judgment of 11 January 2017, *Topps Europe* v *Commission*, T 699/14, not published, EU:T:2017:2, paragraphs 80 to 82).

177 In the case of a product that was very unlikely to lend itself to the classic hypothetical monopolist test aimed at verifying the market's response to a small but significant and non-transitory increase in the price of an asset (Small but Significant and Non-Transitory Increase in Price), the SSNDQ test, which envisages the quality degradation of the product at issue, did constitute relevant evidence for the purpose of defining the relevant market. Competition between undertakings can indeed take place in terms of price, but also in terms of quality and innovation.

178 That hypothesis could also be used, in Sections 9.3.4.1 to 9.3.4.3 of the contested decision, to verify whether Google, holding a dominant position on the market for licensable OSs, was constrained by competition from Apple, which was outside that market. The finding, at the market definition stage, of weak substitutability of indirect demand where there is a deterioration in the quality of a product also remained relevant, at the stage of the assessment of dominance, for the purpose of assessing the constraint from an undertaking marketing a different product, one that was outside the market thus defined.

179 Next, the formulation of that hypothesis in no way implies, as Google wrongly claims, that the Commission stated that it was in Google's interest to degrade the quality of Android. On the contrary, the examination of a deterioration in the quality of Android was intended merely to ascertain whether Google was subject to a competitive constraint from Apple so far as users and app developers were concerned, as was claimed by Google during the administrative procedure.

180 Last, defining a precise quantitative standard of degradation of quality of the target product cannot be a prerequisite for the application of the SSNDQ test. The hypothesis of a small deterioration in the quality of Android did not require – as in the case of the classic hypothetical monopolist test for which a small but significant and non-transitory increase in price can be more easily quantified – a precise standard of degradation to be set beforehand. All that matters is that the quality degradation remains small, albeit significant and non-transitory.

181 Therefore, the Commission correctly considered the quality degradation of Android by means of the SSNDQ test.

(iv) User loyalty to OSs

– *Arguments of the parties*

182 In Google's view, user loyalty was not a relevant parameter. Although, in 2015, more than four out of five users who purchased an Android device bought another Android device, that was only because of Google's efforts to maintain the quality of the OS. In its submission, loyalty is therefore a function of the quality of Android, as illustrated by a variety of evidence that was wrongly rejected by the Commission. Furthermore, the Commission erroneously rejects the use of the Klemperer economic model, which demonstrates that Google is competing with Apple to win first-time buyers and that this competition has an impact on behaviour for all Android users.

183 According to the Commission, user loyalty was a relevant parameter for ruling out the possibility of substantial switching by users to another OS in the event of a small deterioration in the quality of Android. The Commission also rejected the relevance, in the present case, of the results obtained using the Klemperer economic model.

– *Findings of the Court*

184 In this regard, first, it should be observed that user loyalty to Android was not attributable, according to the Commission, solely to the quality of the OS. As the Commission indicated on the basis of the

statements of OEMs cited in recitals 524 and 534 of the contested decision, the high degree of user loyalty to Android could also be accounted for by the difficulties users encountered in porting personal data or by the need to repurchase apps. In particular, as noted inter alia by one of those OEMs, users get used to the way their smart device works and do not want to relearn a new system (see recital 534(3) of the contested decision). User loyalty could not, however, be attributable to the quality of the OS alone, as the Commission stated in recital 488 of the contested decision, since many users were using Android versions that had not been updated.

185 Second, the statement of a Google executive, annexed to the application, does not call into question the importance of the parameter of users' loyalty to their OS. That statement refers in particular to Google's efforts to respond to the demands of users and developers of Android products and the various techniques used by Google to assess the risk of users switching to Apple. The comments made in that respect are in general terms only and, in most cases and for the most part, unsupported by specific evidence or figures that would enable their effect to be measured. As regards more particularly the efforts referred to by Google to respond to user demand, it should be noted that ensuring users' satisfaction cannot be due solely to the risk of those users switching to another OS; rather, it reflects generally the strategy of any undertaking wishing to innovate and respond to its users' needs. Ensuring users' satisfaction was also a way of strengthening their loyalty to Android.

186 Third, the evidence on which the Commission relied in the contested decision did indeed reveal switching to another OS, but the extent of this was limited. Admittedly, Google maintains that the fact that, in 2015, 82% of users of Android devices remained loyal to Android when making a new purchase does not mean that it can be firmly concluded that that percentage would remain as high in the event of a deterioration in the quality of Android. By contrast, that fact did serve to indicate that, at the very least, the high degree of user loyalty towards Android made it unlikely, on the face of it, that users would switch to another OS. Similarly, without being challenged on this point by Google, the Commission indicated in recital 537 of the contested decision that, in the period between 2013 and 2015, only 16% of users of Apple mobile devices previously used an Android device. In other words, only a small proportion of users, not a substantial proportion, was likely to switch to Apple. The statements of the OEMs in recital 543 of the contested decision were along the same lines. While those OEMs recognised the possibility that users might switch to Apple, that would only be in exceptional circumstances, characterised by significant changes.

187 Moreover, if, as the Commission indicated in recital 538 of the contested decision, many users did switch to Apple at the end of 2015, it was because of the launch of a new smart mobile device with new features. In other words, the switch was not due to competition between OSs. That interpretation is confirmed by an internal Google document on which Google relies. It is apparent from the document entitled 'Switcher Insights' that switching by users was mainly prompted by launches of new devices, not by changes in the OSs.

188 Fourth, the use of the Klemperer economic model, referred to in recital 551 of the contested decision, did not disprove users' loyalty to their OSs. That study actually covered first-time buyers and cannot be interpreted as meaning that users would not show any loyalty to their OS once their choice has been made.

189 Therefore, the Commission was fully entitled to rely on the loyalty of users to their OS in order to assess the scope of the competitive constraint exerted by Apple.

(v) The sensitivity of users to the quality of the OS

– *Arguments of the parties*

190 Google claims, as do the parties intervening in its support, that users were sensitive to any deterioration, however small, in the quality of Android. It argues that quality is the determining factor in consumer choice, and that it is not equivalent or ancillary to other factors, such as the price or design of the product concerned. This is illustrated by the wide media coverage of new OS releases and by several surveys.

191 The Commission, supported by the parties intervening alongside it, states that it did not find that users were insensitive to any variations in the quality of mobile OSs, but considered that it was unlikely that they would change their purchase behaviour and switch to a different product in response to a small deterioration in the quality of Android. Users would take into account a bundle of features, not only the OS. The various matters relied on by Google do not support the contrary.

– *Findings of the Court*

192 It should be stated at the outset that, contrary to Google's assertions, the Commission did not in any way find that users did not attach any importance to the OS of smart mobile devices.

193 Thus, in line with its practice in taking decisions, the Commission indicated that the OS was an important factor in the choice of a smart mobile device. The Commission did, however, also stress that it was not the only factor taken into account by users (see recital 483 of the contested decision). It is particularly in the light of this that the Commission found, in that recital, that, in the event of a small deterioration in the quality of Android, it was 'unlikely' that users would change their purchase behaviour and switch from a device operating on a licensable OS to a device operating on a non-licensable OS.

194 Beyond that single finding, Google challenges two of the grounds underpinning the Commission's assessment. First, while not disputing that a user's decision is determined by a number of factors, Google observes that to acknowledge that there are several factors is not sufficient to rule out the possibility that a deterioration in the quality of the OS may lead users to switch to devices running another OS. The results of several surveys thus show that the quality of the OS was a crucial factor in users' choice. Second, Google observes that, contrary to recitals 488 to 490 of the contested decision, the fact that users do not immediately switch when access to Android updates is delayed does not in any way support the argument that users would not react to a degradation of the quality of Android. Uptake of Android updates takes some time.

195 On the one hand, it must be noted that the surveys referred to by Google do not properly support its claims. The first, the document entitled 'Switcher Insights', drawn up by Google and referred to in recital 540 of the contested decision, indicated that switching coincided with the launch of new devices, and not with OS changes. It follows from this that users were attaching importance to a bundle of factors related to the device, and not to the OS alone. That interpretation is all the more plausible given that the survey revealed different rates of switching depending on the OEM.

196 The second, the Kantar study, referred to in recital 494 of the contested decision, indicated that 24% of users of low-end Android devices were switching each year to another OS, as against 14% of users of high-end devices. It is true that that study showed that some users of Google Android devices in the United Kingdom had switched to devices running another mobile OS. However, that switch was not due principally to the quality of the OS but to other attributes, such as the brand or model, cost, ease of use, network or carrier. This was particularly so because it was apparent from that study that a very small proportion of users indicated that they had switched to an Apple device because of the OS quality and brand, a fact which was not disputed by Google. In other words, while the quality of the OS might be an important factor, it was not the determining factor in the purchase of a new device.

197 The third, the Yandex survey, referred to in recital 492 of the contested decision, indicated that most users of Android devices were loyal to that OS, in essence, because of its quality. That survey does not, however, support Google's claims. While 44% of users had expressed their loyalty to Android because of a preference for the OS rather than the device or its price, the document in question placed the significance of that figure in context. The document itself indicated that it could not be ruled out that other factors would be taken into account by those users, including brand loyalty or the costs of switching to another platform. Similarly, in its conclusions, the survey also indicated that a small deterioration in the quality of Android was not determinative of the choice of device at the retail level.

198 On the other hand, in recitals 488 to 490 of the contested decision, the Commission indicated that many users of licensable OSs used devices running older versions of Android. That finding is not disputed by Google. Thus, in May 2017, only 7.1% of users had a device operating on the latest version of Android, although that version had been available since October 2016. Similarly, it is apparent from recitals 489 and 490 of the contested decision that sales of Google Android devices were not related to updates of that OS. It thus follows that users were sensitive in relation to variations in the quality of Android, in that they seemed to be content with older versions of that OS.

199 Consequently, the Commission cannot be criticised for having found that, with multiple factors determining a user's choice, it was unlikely that a deterioration in the quality of Android would lead to users switching from a device operating on a licensable OS to a device operating on a non-licensable OS.

(vi) The costs of switching to another OS

– *Arguments of the parties*

200 In Google's view, the need to repurchase apps in order for them to function on iOS was not a barrier to users switching to that OS. Paid apps are only a very small proportion of downloaded apps, and some ensure that subscriptions are portable. Similarly, Apple goes out of its way to make it easy for users to switch OS by offering tools to move apps from Android to iOS.

201 According to the Commission, there is a range of other factors inhibiting users from switching to another OS, such as the loyalty of users to their OS, the attributes of the device and the need to repurchase new apps.

– *Findings of the Court*

202 It should be noted at the outset that Google does not take issue with all of the obstacles to switching identified by the Commission in recital 523 of the contested decision. Google concentrates only on the need, highlighted by the Commission, to download and purchase new apps, whereas the Commission's statement that switching to iOS is costly is also supported by the fact that users are obliged to familiarise themselves with a new interface and to transfer a large amount of data.

203 The arguments put forward by Google do not challenge all of the findings set out in recitals 522 to 532 of the contested decision. First, even if users spent little on apps compared to the cost of a mobile device, it must be noted that there would nevertheless be an additional cost for users wishing to switch to another OS. Google would not dispute that. However small that additional cost was, it could not be avoided and it did constitute a barrier to users switching.

204 Second, the fact, mentioned in recital 525 of the contested decision, that Apple was attempting to make switching easier, cannot be interpreted as meaning that switching was effective. On the contrary, as the Commission explains, Apple's launch of an app to facilitate the move from Android to iOS did show that switching was a source of concern. The Commission rightly notes, without being challenged on this point by Google, that switching requires users to familiarise themselves with a new interface, making it necessarily more complex and uncertain.

205 Accordingly, the Commission did not err in finding that switching to another mobile OS could lead to additional cost, constituting a further barrier to users switching to Apple.

(vii) The effect of Apple's pricing policy

– *Arguments of the parties*

206 According to Google and the parties intervening in its support, Apple's pricing policy was not a barrier to users switching, regardless of whether they used higher-end or lower-end devices.

207 The Commission contends, as do the parties intervening in its support, that Apple's pricing policy could not be disregarded and constituted a significant barrier to users switching, both for higher-end and lower-end devices.

– *Findings of the Court*

208 In the present case, the arguments put forward by Google are the same as those rejected by the Commission in recitals 512 to 521 of the contested decision. For users of lower-end devices, Apple's pricing policy appeared to be a clear obstacle. The Commission observed, correctly, in recital 513 of the contested decision that at least 50% of Android devices were sold at prices below those of Apple devices. Moreover, in recitals 503 and 504 of the contested decision, the Commission stated that, in the period from 2009 to 2014, Apple devices cost, on average, almost twice as much as Android devices. Therefore, any switching to Apple devices involved greater expense for users of lower-end devices.

209 The argument based on the price of the iPhone SE model cannot succeed in that respect. First, although the iPhone SE model was the cheapest device sold by Apple, at a price of around 400 United States dollars (USD) (approximately EUR 290 in 2014), according to the graph in recital 503 of the contested decision, that price was nevertheless still higher than the average sale price of Android devices. Second, the lower price of that iPhone on an online sales platform, put forward by Google, did not correspond at all to the price charged by Apple. The price was that charged by a third-party reseller at a particular time and cannot therefore be generalised. Third, in the light of recital 518 of the contested decision, the iPhone SE model had been put on sale from March 2016, that is to say, at the end of the infringement period, which Google does not dispute.

210 Therefore, the Commission did not err in finding that Apple's pricing policy was a barrier to switching by users of lower-end Android devices.

211 The same conclusion cannot, however, be drawn as regards users of higher-end devices, that is to say, devices sold in the same price range as Apple devices.

212 In the contested decision, the Commission pointed out, in recital 513, that users of higher-end devices were unlikely to switch in view of their purchase behaviour, the additional costs that such switching would entail, and users' loyalty to their OS. It also made clear, in recital 515 of the contested decision, that, even taking such switching into account, the financial impact on Google would be limited. Google continued to receive a large share of revenue because of the use of its search engine Google Search on iOS, owing to the agreement concluded with Apple. In that regard, Google claims, on the contrary, that it derives a large portion of its revenue from the use of Google Android devices in a price range similar to Apple's devices. Therefore, even if a small proportion of them switched, that would be damaging to Google.

213 Although Apple's pricing policy appeared to be a barrier to switching by users of lower-end devices, the same is not true of users of higher-end devices. The Commission seems to recognise this implicitly, in so far as, in recital 513 of the contested decision, it gives different reasons for asserting that users of such devices would not switch to Apple devices. The Commission's arguments are not, therefore, in any way based on Apple's pricing policy, which is not in itself a barrier to switching by users of higher-end devices in the event of a small deterioration in the quality of Android.

214 The finding in recital 515 of the contested decision, according to which the impact of such switching in the case of higher-end devices would be limited in financial terms, as users would still run searches using Google Search on iOS devices and Google would retain the revenues generated by those searches, has no real effect on whether Apple's pricing policy was capable of counterbalancing Google's position on the market for licensable OSs. As the Commission recognises in recital 540(1) of the contested decision by referring to an example, Apple's pricing policy cannot be a barrier to users of higher-end devices switching from the Android ecosystem to the iOS ecosystem.

215 Accordingly, the Commission correctly found that Apple's pricing policy constituted a barrier to switching for the vast majority of Android device users. On the other hand, the same cannot be said for users of higher-end devices. That error is, however, of no consequence in that, for the latter users, their switching depends on other factors, as is apparent from recital 513 of the contested decision or recital 540(2) and (3) of the contested decision. That applies in particular to users' loyalty to their OS, including, as is apparent from the statement of one of the OEMs which the Commission set out in recital 534 of the contested decision, the fact that users are used to the way their OS works (see paragraphs 184 to 189 above).

(viii) The behaviour of app developers

– *Arguments of the parties*

216 Google emphasises the importance of being supported by app developers. It submits that it had to maintain a high level of quality for Android to ensure the greatest number of users for app developers. Any degradation of Android would lead to app developers switching to other platforms, in particular Apple's, or to their investing less in Android. A decline in the investment of app developers would create a negative spiral that would lead to users switching.

217 According to the Commission, the lack of switching by users in the event of a small deterioration in Android quality implies, as a corollary, a lack of switching on the part of app developers. The graph in recital 610 of the contested decision illustrates moreover the fact that app developers have, since 2010, largely been switching from iOS to Android.

– *Findings of the Court*

218 In that regard, it should be noted that the Commission correctly explained why an app developer would continue to operate for Android in the event of a small quality degradation of the OS. Android was the most widely used platform, therefore app developers had every interest in targeting the large majority of users (see recital 553 of the contested decision).

219 To the extent that users were unlikely to switch to another mobile OS in the event of a small deterioration in the quality of Android, the same would be true of app developers, who could not reasonably abandon the majority of their customers.

220 Likewise, contrary to Google's contention, the fact that app developers were operating for several OSs reinforced the finding that a deterioration in the quality of Android would not have stopped the development of an app for Android.

221 Therefore, the Commission did not make errors of assessment by finding that app developers would not switch from Android in the event of a small deterioration in the quality of that OS.

222 Consequently, the Commission correctly found that the relative intensity of competition from Apple justified not extending the relevant market to all mobile OSs and excluding any competitive constraint exerted by non-licensable OSs from Google's considerable power on the market for licensable OSs. Whether it is users' loyalty to their OS, the effect of Apple's pricing policy, in particular for users with lower-end devices, and the costs involved in switching to another OS, the Commission rightly considered that the numerous obstacles, taken together, enabled the impact of the competitive constraint exercised by Apple on Google's market power to be limited.

(2) The competitive constraint of the AOSP licence

(i) Arguments of the parties

223 Google claims that it is competitively constrained by the AOSP licence, which allows perfect Android substitutes to be developed. Thus, any small degradation of Android quality would lead to OEMs

favouring freely available non-degraded versions of Android. Google argues that the Commission is disregarding the solution adopted in its decision C(2010) 142 final of 21 January 2010 declaring a concentration to be compatible with the common market and the functioning of the EEA Agreement (Case COMP/M.5529 – Oracle/Sun Microsystems) ('the Sun Microsystems decision'), in which it found that the open-source nature of software led to competitive pressure. Furthermore, the stability of Google's market shares since 2011, which is attributable to its efforts to maintain the quality of Android, has no bearing on the reaction of OEMs in the event of a small deterioration in its quality. Google also disputes the relevance of the references made in the contested decision to the Android trade mark, which it owns, to its proprietary application programming interfaces ('proprietary APIs'), to its control of Android by means of compatibility tests, or to the fact that the great majority of OEMs have concluded AFAs and MADAs with it.

224 The Commission disputes those arguments. It notes in particular that Google controls access to the Android source code (recitals 128 to 130 of the contested decision). The Commission also relies on an internal presentation by a Google executive. It submits that the presentation clarifies Google's policy, notably the need to retain control over Android through the development of the Play Store and of its Google apps, making it ultimately impossible for a credible alternative version of Android to emerge. Furthermore, the Sun Microsystems decision is of no assistance because, in the present case, OEMs wishing to use the Android trade mark, have access to the Play Store and use Google's apps must enter into agreements with Google.

225 BDZV agrees with the Commission. It submits that Android is the 'most closed open source project'. BDZV refers to the fact that Google develops the Android source code itself; that it controls the AOSP licence and the Android trade mark; that it controls the implementation of Android through compatibility tests; that it has a commercial interest accounting for its need to retain control over Android; and that the open nature of Android is questionable in view of the gradual restriction of the source code.

(ii) Findings of the Court

226 It must be stated that Google overestimates the competitive constraint due to the AOSP licence. It is true that the ground set out in recital 568 of the contested decision, according to which Google's market shares since 2011 have steadily increased to a very high level, cannot, in itself, be sufficient to rule out any competitive constraint due to the AOSP licence. Nor does the fact that no non-compatible Android fork has been able to emerge preclude the possibility of an undertaking developing a credible alternative to Android from the source code. The fact remains that, in conjunction with the other grounds on which the Commission relied in recitals 567 to 583 of the contested decision, the constraint due to the AOSP licence could be limited considerably.

227 First, it must be borne in mind that the barriers to entry for an undertaking wishing to develop an OS from the Android source code were high, despite the fact that Android was free of charge, or even because of it. As the Commission rightly noted in recital 569 of the contested decision, without being challenged on this point by Google, any undertaking wishing to develop an alternative OS from the Android source code would incur significant costs, which would probably lead to an alternative paid-for version being offered initially. The examples of Amazon's OS or the attempt by Seznam to develop its own OS are particularly compelling. In other words, Google cannot claim that, in the event of a small deterioration in the quality of Android, OEMs would have been able to turn quickly to the source code to counteract such a deterioration.

228 That is especially true in view of the AFAs, which prevented the emergence of alternatives to Android, as was pointed out by the Commission, in particular, in recitals 572, 575 and 576 of the contested decision. Many OEMs were bound by such agreements, which did not allow them to sell mobile devices running versions of Android not approved by Google. For the signatories of the AFAs – in reality around 100 OEMs, including the 30 largest (see paragraph 867 below) – switching to an alternative version that was not approved by Google meant a complete break with Google.

229 Second, even if OEMs succeeded in developing an alternative version of Android from the Android source code, such a version might not initially be a credible competitor. In order to develop such a version, an undertaking would have to be in a position to offer several apps and also to give access to sufficiently functional application programming interfaces, as the Commission indicated in recital 576 of the contested decision. Moreover, Google does not call into question the statements set out by the Commission in recitals 576 and 577 of the contested decision, according to which Google's own apps and proprietary APIs, owing in particular to its market power in general search services, were commercially important for the manufacturers. Replicating those apps and the corresponding application programming interfaces thus required time and significant investment. In other words, the emergence of a credible alternative version was highly uncertain.

230 Google claims in this respect that an alternative version of Android could benefit from its proprietary APIs. However, even if such a possibility were established, Google does not contradict the assessment in recital 576 of the contested decision that access to the apps and to its proprietary APIs was conditional on the conclusion of an AFA, thus allowing Google to supervise the alternative versions of Android.

231 Third, the Sun Microsystems decision does not cast doubt on the foregoing analysis. Indeed, as the Commission argues, the circumstances of that case and the present case differ. Admittedly, in recital 749 of that decision, the Commission took account of the competitive constraint arising from software developed from the source code of Sun Microsystems, Inc. software when examining the market power of the merged entity. Similarly, in recital 252 of the contested decision, on which Google relies, the Commission acknowledged that the owner of open-source software was constrained by independent developers who were able to provide upgrades or patches for that software. Nevertheless, in the present case, the open-source nature of Android is not comparable to that of the software at issue in the Sun Microsystems decision. As is apparent from recital 128 of the contested decision, the open-source version of Android that is available is not necessarily the latest version of Android offered by Google. Similarly, offering upgrades for Android from the source code is difficult in practice, except by linking more closely with Google in order to obtain, inter alia, access to its apps and to its proprietary APIs. It follows from the foregoing that the open-source nature of Android does not constitute a competitive constraint comparable to that described in the Sun Microsystems decision.

232 Last, there is no need to address further Google's argument in the reply that the Commission contradicts itself because, on the one hand, it states that 'an Android variant needs to access Android trade marks, and the Play and Search apps, to be a credible threat', when, on the other hand, it is considered – on the basis of the abuse on the worldwide market (excluding China) for Android app stores and on the national markets for general search services whereby the licensing of the Play Store and Google Search was made conditional on acceptance of the anti-fragmentation obligations ('the second abuse') – that 'incompatible forks', which do not have such access, 'constitute a credible competitive threat' (see recital 1036(1) of the contested decision). As explained by the Commission, in assessing the competitive constraint likely to be exerted by the AOSP licence, it is necessary to take account of the fact that, in order to be able to sell their devices, which operate on compatible forks, and to apply Google's proprietary APIs, OEMs must enter into an AFA and a MADA. Therefore, in so far as those OEMs are bound by AFAs, the duration of which is generally five years (see recitals 168, 169 and 1078 of the contested decision), they cannot rely freely on the Android source code to create forks. It would therefore not be possible for them quickly, and at any time, to launch a device operating on such a fork.

233 Accordingly, the Commission rightly concluded that the open-source nature of the AOSP licence did not constitute a sufficient competitive constraint to counterbalance Google's dominant position on the market for licensable OSs.

234 Consequently, the first part of the first plea must be rejected as being unfounded.

3. The second part, concerning the dominance of Android app stores

235 In addition to the market for licensable OSs, the Commission also considered the market for Android app stores. In order to define that market, the Commission included, in recitals 268 to 322 of the contested decision, all app stores for Google Android devices as well as app stores for other Android devices. However, first, the Commission concluded that a set of apps, including apps that may be downloaded directly from the internet, did not belong to the same market as an app store. Second, the Commission ruled out app stores for other licensable OSs and app stores for non-licensable OSs.

236 The Commission subsequently concluded that, in the market for Android app stores, Google held a dominant position with the Play Store. As is apparent from recitals 590 to 673 of the contested decision, the Commission relied on Google's market shares; the quantity and popularity of downloadable apps and update functionalities; the obligation to use the Play Store in order to obtain Google Play Services; the existence of barriers to entry; the lack of countervailing buyer power of OEMs; and the insufficient competitive constraint from app stores for non-licensable mobile OSs.

237 In the second part of the first plea, Google's arguments are focused on the Commission's examination, in Section 9.4.7 of the contested decision, of the intensity of the competitive constraint from app stores for non-licensable mobile OSs.

(a) Arguments of the parties

238 First of all, Google emphasises that Android and the Play Store were interdependent. They had to be simultaneously competitive: the dominance of one cannot be dissociated from that of the other. The Commission acknowledged this in recitals 299, 305 and 594 of the contested decision. HMD, ADA and CCIA confirm that interpretation and point out that, by disregarding competition between the Android and Apple 'systems' and by failing to assess overall competition, the contested decision fails to reflect the reality of the facts.

239 Next, Google argues that, in separating the Play Store from Android, the Commission then failed to take account of competition from Apple. Yet Apple is the driver for the development of the Play Store to ensure that its high quality is maintained. The judgment of 12 December 2018, *Servier and Others* v *Commission* (T 691/14, under appeal, EU:T:2018:922), confirms that such a pattern of innovation indicates competition. If, as the Commission claims, Google held a dominant position, Google would have refrained from innovating and one would expect to have observed a degradation in quality in the Play Store. Similarly, the assertion in recital 660 of the contested decision that the development of the Play Store cannot be explained by a phenomenon of innovation but by technological trends or by an alignment of one with the features of the other is unsubstantiated and erroneous. If true, such a finding would corroborate the existence of competition between Google and Apple.

240 Last, contrary to what is stated in recitals 290 and 668 of the contested decision, Google states, as does ADA, that it cannot profitably increase the fees it charges app developers. Just as it cannot degrade the quality of Android, it cannot derive any benefit from an increase in app developer fees without increasing competition from Apple. The proof of this is Google's 15% reduction, during the period of alleged dominance, of the fees it charged app developers, to match Apple's reduction.

241 The Commission and the parties intervening in its support of contend that the arguments raised by Google are unfounded. First, Google's arguments are incorrect in that they sidestep, in particular, the fact that users cannot use app stores for other OSs, as is apparent from recital 299(2) of the contested decision, and in that the Play Store dominates the market for Android app stores.

242 Second, they contend that there is no evidence of the Play Store's development having been spurred by developments by Apple's App Store. In any event, other evidence cited in the contested decision demonstrates the dominant position of the Play Store on the market for Android app stores. Similarly, the evidence cited in the contested decision to explain how Google could apply a price increase for app developers without that having repercussions remains valid. Given, in particular, the fact that Google Android devices increased from 48% of worldwide sales of smart mobile devices in 2011 to 81% in 2016,

app developers would not want to forgo access to such a large and expanding user base. App developers would not stop distributing apps through the Play Store in the event of a price increase.

(b) Findings of the Court

243 In the first place, it should be noted that Google contests only a limited number of the grounds of the contested decision. The complaints do not cover all of the factors that led the Commission to conclude that, through the Play Store, Google held a dominant position on the market for Android app stores. Google focuses exclusively on the Commission's failure to take account of the competitive constraint from Apple.

244 In that context, Google refers to recital 299 et seq. of the contested decision, relating to the definition of the market and the ruling out of any system formed of Android and the Play Store. According to Google, the Commission made an error of assessment by rejecting the existence of such a system, which is in competition with the Apple system formed of iOS and the App Store.

245 However, it must be noted that, in recital 299 et seq. of the contested decision, the Commission envisaged the existence of a system formed of Android and the Play Store, not in order to dismiss the possibility of competition from Apple, but to place in context the competition from app stores for other licensable OSs and from other Android app stores. In other words, in recital 299 et seq. of the contested decision, the Commission did not formally address the question whether there was competition between the Android system and the Apple system.

246 In the second place, as regards the examination of the competitive constraint from the App Store, the question of the existence of an Android/Play Store system is couched in different terms. Unlike Android, iOS had only one app store and could not, for that reason alone, be dissociated from it. In that sense, the Play Store and the App Store were both competing through the system to which those stores belonged, Android and iOS respectively.

247 Faced with the Apple system, and for the purposes of assessing the competitive constraint exercised by the App Store, the Play Store likewise cannot be dissociated from Android, particularly because Google makes access to the Play Store conditional on the conclusion of an AFA, which enables the Play Store to be associated only with versions of Android that satisfy Google's compatibility test.

248 It follows from the foregoing that to assess, as regards users and app developers, the competitive constraint exerted by the App Store on the Play Store is effectively to take into account the competitive constraint exerted by iOS on Android, which Google, in reply to a question put by the Court at the hearing, expressly acknowledged.

249 The competitive constraint exerted by the App Store on the Play Store depended on that exerted by iOS on Android. In addition to the fact that the OS is a prerequisite for the functioning of a mobile device, the proper functioning and variety of available apps also depend on its quality.

250 That fact, which leads to an assessment of competition between systems, is confirmed on reading the contested decision. The Commission found, in recital 656 of the contested decision, that the App Store did not exercise a sufficient competitive constraint on the Play Store, referring in particular to Section 9.3.4, at the end of which it found that iOS did not exercise a sufficient competitive constraint on Android from the point of view of users.

251 Similarly, from the point of view of app developers, the Commission relied on essentially identical grounds in recitals 552 to 555 and 668 to 670 of the contested decision in concluding that iOS exercised an insufficient competitive constraint on Android and that the App Store exercised the same level of constraint on the Play Store. That overlap in the grounds is highlighted in recitals 553 and 668 of the contested decision, both of which refer to recital 290 concerning the App Store's not belonging to the same market as the Play Store.

252 Thus, the merits of the second part of the first plea depend on the merits of the first part, by which Google claims that the Commission disregarded the competitive constraint exercised by iOS on Android as regards users and app developers. Logically, it is not possible that a competitive constraint exercised by the App Store on the Play Store would differ in intensity from that exercised by iOS on Android. In both cases, the data taken into account in order to assess the intensity of the competitive constraint are the same.

253 Since Google's arguments in support of the first part of the first plea have been rejected as being unfounded, thereby confirming the grounds of the contested decision concerning insufficient competition for Android from Apple's iOS, Google's arguments in support of the second part of the first plea cannot, in consequence, be upheld.

254 The second part of the first plea must, therefore, be rejected as being unfounded.

4. The third part, concerning the contradiction between the finding of dominance in search services provided to users and the theory of abuse, which relates to search apps licensed to OEMs

(a) Arguments of the parties

255 In support of this part of the plea, Google submits that the assessment of its dominance on the markets for general search services does not fit the theory of abuse adopted in the contested decision. The Commission states in recital 674 of the contested decision that Google is dominant in general search services provided to users, but the conduct challenged in recitals 877 and 1016 of the contested decision relates only to general search apps licensed to OEMs, not to users.

256 According to Google, the contested decision does not establish that it is dominant in the 'market' for the licensing of general search apps to OEMs, which, in practice, is not the case. It is not necessary for OEMs to place the Google Search app on their devices, because that search service is freely and readily available over the internet. Likewise, a user who buys a device without the Google Search app could easily access it. An OEM could also create and install an icon that leads to Google's homepage in a browser. In the absence of a finding that Google is dominant in the licensing of search apps to OEMs, requiring OEMs to agree to anti-fragmentation obligations and to pre-install Chrome under the MADA as a condition for licensing the Google Search app cannot be considered to be abusive. The same is true of Google's sharing of some of its advertising revenue in return for the exclusive pre-installation of Google Search by the OEMs and MNOs concerned.

257 The Commission contends generally that the findings concerning Google's dominance in the markets for general search services correspond to the abuses identified. In any event, it could not be argued that, because it is users who carry out general searches, no abuse can arise in view of Google's dominant position on the markets for general search services through its conduct vis-à-vis OEMs. The Commission does not rely on the form of the abuse, but on the similarity of the facts, in so far as Google's conduct took place at the level of OEMs, but in relation to a product used by consumers.

(b) Findings of the Court

258 The complaint alleging a contradiction between the abuses identified by the Commission in recitals 877 and 1016 of the contested decision and Google's dominant position on the national markets for general search services cannot properly succeed.

259 In the first place, it should be noted that the abuses identified by the Commission in recitals 877 and 1016 of the contested decision were identified in view of Google's dominant position both on the national markets for general search services and on the market for Android app stores. Therefore, even if those abuses were wrongly based on Google's dominant position on the national markets for general search services, it must be noted that they were also based on Google's dominant position on the market for Android app stores, which was not called into question by the arguments put forward by Google in the second part of the first plea.

260 In the second place, in any event, irrespective of the finding that the abuses identified by the Commission in recitals 877 and 1016 of the contested decision also stemmed from Google's dominant position on the market for Android app stores, it must further be noted that the practices at issue were closely linked to Google's dominant position on the national markets for general search services. Since Google Search is a product that users of Google Android devices expected to have, Google used its power on the national markets for general search services to supply that app to signatories of MADAs.

261 Thus, contrary to Google's contention, the abuses identified by the Commission in recitals 877 and 1016 of the contested decision, which manifested themselves admittedly in the relationships between Google and MADA signatories, were directed in reality to the users of, and national markets for, general search services, on which Google held a dominant position. The fact that the practices at issue concerned the provision of Google Search to MADA signatories does not alter that finding. Google Search was an important entry point for Google's general search services, with MADA signatories acting, in that context, as intermediaries between Google and its users.

262 In other words, Google's dominant position on the national markets for general search services was both the starting point and the objective of the practices examined in recitals 877 and 1016 of the contested decision (see, in particular, recital 1341 of the contested decision), which were in reality designed, according to the Commission, to preserve and to increase Google's power on the national markets for general search services and to prevent the emergence of any competitor on that market.

263 Accordingly, no contradiction can be established between the abuses identified by the Commission in recitals 877 and 1016 of the contested decision and Google's dominant position on the national markets for general search services.

264 The alleged inconsistency between the abuse identified, in recital 1192 of the contested decision, in relation to portfolio-based RSAs and Google's dominant position on the national markets for general search services must be interpreted in the same way.

265 Whereas the abuses identified in recitals 877 and 1016 of the contested decision are regarded by the Commission as the bundling of products or obligations, the abuse identified in recital 1192 of the contested decision covered, by means of the portfolio-based RSAs, the sharing of advertising revenue received by Google as a result of its activity on the national markets for general search services. The portfolio-based RSAs necessarily depended therefore on Google's power on those markets. In addition, although the portfolio-based RSAs concerned Google's relationships with the signatories to those agreements, which could thus no longer pre-install apps competing with Google Search, it must again be noted that, by entering into such an obligation, those signatories allowed Google to strengthen its position on the national markets for general search services for users.

266 Accordingly, no contradiction can be established between the abuse identified by the Commission in recital 1192 of the contested decision and Google's dominant position on the national markets for general search services.

267 Therefore, the Court must reject the third part of the first plea as being unfounded and, consequently, the first plea in law in its entirety.

5. The relative relevance of competition between ecosystems for the purposes of the present case

268 It is clear from the foregoing that the first plea must be rejected in its entirety. In particular, as regards the first and second parts of that plea, it follows that the Commission was correct to find that the indirect competitive pressure exerted by Apple on Google remained insufficient.

269 In addition, it should be noted that although, to support the first and second parts of the first plea, Google challenges, separately, the definition and its own subsequent position on the markets for licensable OSs and

for Android app stores, its arguments also refer to the need to take into account the reality of competition between ecosystems.

270 Indeed, in the contested decision, the Commission recognised that Apple's iOS, like its App Store, could exercise a certain degree of constraint on Google (recitals 242, 243 and 322 of the contested decision). The Google 'ecosystem', characterised by the relationship between the Android OS and the Play Store, would thus have been in competition with the Apple 'ecosystem', characterised by the relationship between iOS and the App Store.

271 In that context, according to Google, the constraints exercised by Apple through iOS and the App Store, which are not licensable, would not have enabled it to behave to an appreciable extent independently of that competitor, in particular as regards the determination of the dominant positions which the Commission attributed to it on the worldwide (excluding China) markets for licensable OSs and for Android app stores.

272 In this respect, it is important to take account of the fact that Apple is not a priori capable of influencing Google's dominant position on national markets for general search services. As is apparent in particular from recitals 118 to 199 and 515 of the contested decision, Apple was party, during the period of the infringement, to a revenue sharing agreement that was conditional on Google Search being set as the default on Apple's mobile internet browser, Safari. As a result of that agreement, Apple had no incentive therefore to operate on those markets to compete with Google Search since the use of that search engine by users of iOS devices generated significant revenue for Apple.

273 While that agreement was admittedly not the subject of the proceedings, it could nevertheless be taken into account in the contested decision, as it was by the Commission, as a factual element enabling a better assessment to be made of Google's position of economic strength and its ability to behave to an appreciable extent independently of its competitors, its customers and consumers.

C. The second plea, concerning the first abuses, alleging that the finding that the MADA pre-installation conditions are abusive is incorrect

274 By the second plea in law of the action, which is divided into two parts, Google submits that the Commission erroneously concluded that the MADA pre-installation conditions, under which the pre-installation of the Google Search app is a prerequisite for obtaining the Play Store and the pre-installation of the Chrome browser is a prerequisite for obtaining the Play Store and the Google Search app ('the first abuses'), are abusive.

1. Background

275 As a preliminary point, in order to respond to the parties' arguments, it is necessary to set out, first, the conditions for finding that the practices at issue constitute an abuse of a dominant position; second, the various factors which the Commission set out in the contested decision to characterise the exclusionary effects produced by those practices; and, third, the relationship between those practices.

(a) Concepts of abusive practice, exclusionary effects and tying, particularly in the light of the judgment of 17 September 2007, Microsoft v Commission (T 201/04, EU:T:2007:289)

276 It is not in itself unlawful for an undertaking to be in a dominant position and to compete on the merits. It is only in certain circumstances – those in which, for example, its conduct produces exclusionary effects which do not fall within the scope of such competition – that that conduct constitutes an abuse of a dominant position within the meaning of Article 102 TFEU.

277 Indeed, it is in no way the purpose of Article 102 TFEU to prevent an undertaking from acquiring, on its own merits, a dominant position on a market. Nor does that provision seek to ensure that competitors less efficient than the undertaking with the dominant position should remain on the market (see judgment of

6 September 2017, *Intel* v *Commission*, C 413/14 P, EU:C:2017:632, paragraph 133 and the case-law cited).

278 Thus, not every exclusionary effect is necessarily detrimental to competition. Competition on the merits may, by definition, lead to the departure from the market or the marginalisation of competitors that are less efficient and so less attractive to consumers from the point of view of, among other things, price, choice, quality or innovation (see judgment of 6 September 2017, *Intel* v *Commission*, C 413/14 P, EU:C:2017:632, paragraph 134 and the case-law cited).

279 The onus is, however, on the dominant undertaking not to allow its behaviour to impair competition on the merits on the internal market (see, to that effect, judgment of 6 September 2017, *Intel* v *Commission*, C 413/14 P, EU:C:2017:632, paragraph 135 and the case-law cited).

280 That is why Article 102 TFEU prohibits a dominant undertaking from, among other things, adopting pricing practices that have an exclusionary effect on competitors considered to be as efficient as it is itself and strengthening its dominant position by using methods other than those that are part of competition on the merits. Accordingly, in that light, just as with all competition on price, not all competition on other parameters may therefore be regarded as legitimate (see, to that effect, judgment of 6 September 2017, *Intel* v *Commission*, C 413/14 P, EU:C:2017:632, paragraph 136 and the case-law cited).

281 Exclusionary effects characterise situations in which effective access of actual or potential competitors to markets or to their components is hampered or eliminated as a result of the conduct of the dominant undertaking, thus allowing that undertaking negatively to influence, to its own advantage and to the detriment of consumers, the various parameters of competition, such as price, production, innovation, variety or quality of goods or services.

282 The fact that the conduct of a dominant undertaking produces exclusionary effects on markets other than the dominated market does not preclude the application of Article 102 TFEU (see, to that effect, judgment of 14 November 1996, *Tetra Pak* v *Commission*, C 333/94 P, EU:C:1996:436, paragraph 25 and the case-law cited).

283 In the present case, the practices at issue in the case of the first abuses are instances of tying. This is a common practice in the course of trade which is normally intended to provide customers with better products or offerings in more cost-effective ways. Tying consists of a dominant undertaking making the sale of a specific product (the tying product) conditional upon the acquisition of another product (the tied product). It may have exclusionary effects on the tied market, the tying market or both at the same time. An undertaking which is dominant in one product market or more (market for the tying product) can harm consumers through that practice by foreclosing the market for the other products that are part of the tie (market for the tied product) and, indirectly, the tying market.

284 In that regard, in order to assess the abusive nature of such practices, it has previously been held that the Commission was entitled to rely on the following factors (judgment of 17 September 2007, *Microsoft* v *Commission*, T 201/04, EU:T:2007:289, paragraph 869):

– first, the tying and tied products are two separate products;

– second, the undertaking concerned is dominant in the market for the tying product;

– third, the undertaking concerned does not give customers a choice to obtain the tying product without the tied product;

– fourth, the practice in question ‘forecloses competition’;

– fifth, that practice is not objectively justified.

285 As regards, in particular, the fourth condition referred to in paragraph 284 above relating to the foreclosure of competition, in paragraph 867 of the judgment of 17 September 2007, *Microsoft* v *Commission* (T 201/04, EU:T:2007:289), the Court recalled the substance of the earlier case-law according to which, 'in principle, conduct will be regarded as abusive only if it is capable of restricting competition'.

286 However, in paragraph 868 of the judgment of 17 September 2007, *Microsoft* v *Commission* (T 201/04, EU:T:2007:289), the Court also noted that, in the decision that was contested in that case, 'the Commission [had] considered that, in light of the specific circumstances of the … case, it could not merely assume, as it normally [did] in cases of abusive tying, that the tying of a specific product and a dominant product [had] by its nature a foreclosure effect' and that, in such circumstances, 'the Commission [had] therefore examined more closely the actual effects which the bundling had already had on the [relevant] market and also the way in which that market was likely to evolve' (see, also to that effect, judgment of 17 September 2007, *Microsoft* v *Commission*, T 201/04, EU:T:2007:289, paragraph 1035).

287 In order to explain why the Commission had examined the actual effects of the bundling on the relevant market, the Court noted that the Commission had considered the following in the decision that was contested in that case (judgment of 17 September 2007, *Microsoft* v *Commission*, T 201/04, EU:T:2007:289, paragraph 977):

'There are … circumstances relating to the tying of [Windows Media Player] which warrant a closer examination of the effects that tying has on competition in this case. While in classical tying cases, the Commission and the Courts [of the European Union] considered the foreclosure effect for competing vendors to be demonstrated by the bundling of a separate product with the dominant product, in the case at issue, users can and do to a certain extent obtain third party media players through the Internet, sometimes [free of charge]. There are therefore indeed good reasons not to assume without further analysis that tying [Windows Media Player] constitutes conduct which by its very nature is liable to foreclose competition.'

288 Consequently, in paragraph 869 of the judgment of 17 September 2007, *Microsoft* v *Commission* (T 201/04, EU:T:2007:289), the Court considered that the question of the bundling had to be assessed by reference to the conditions set out in the decision that was contested in that case (set out in paragraphs 842 and 843 of that judgment), including the condition relating to the fact that the practice in question 'foreclose[d] competition'.

289 In the present case, in the contested decision, the Commission refers to the judgment of 17 September 2007, *Microsoft* v *Commission* (T 201/04, EU:T:2007:289), in setting out the conditions for characterising the first abuses (recitals 741 and 742 of the contested decision).

290 In particular, regarding the fourth condition referred to in paragraph 284 above, the Commission, having indicated in the contested decision that, according to the case-law preceding the judgment of 17 September 2007, *Microsoft* v *Commission* (T 201/04, EU:T:2007:289), anticompetitive effects were not required to be demonstrated in 'classical tying cases', stated, in essence, that the fourth condition for establishing tying was, in principle, satisfied if the practice in question '[was] capable of restricting competition' (see recital 749 of the contested decision and footnote 813 thereto, which refers to the judgment of 17 September 2007, *Microsoft* v *Commission* (T 201/04, EU:T:2007:289, paragraph 867)).

291 In that regard, as will be examined below, it is apparent in the present case that, under the guise of applying a test formulated by reference to paragraph 867 of the judgment of 17 September 2007, *Microsoft* v *Commission* (T 201/04, EU:T:2007:289), as the 'capacity to restrict competition', the Commission was also careful to set out specifically in the contested decision the various factors which, in its view, made it possible to establish that the alleged exclusionary effects were real, in accordance with paragraph 868 of that judgment.

292 As Google has argued in the present case, it is easy for users to obtain general search or browser apps competing with those that are subject to tying. That fact is recognised by all parties, since what is at issue

is not the possibility of users being readily able to download such apps but the incentives which they might have to do so (see recital 917 of the contested decision).

293 In those circumstances, as was explained by the Court and confirmed by the parties at the hearing, it is indeed apparent from the contested decision that the Commission endeavoured to characterise a restriction of competition not only as 'potential' or 'possible' but also as 'actual' or 'concrete' with regard to some of its aspects. According to the Commission, from 2011 or August 2012 to July 2018, the practices at issue produced the exclusionary effects identified in the contested decision, which proved to be detrimental to competition on the merits.

294 By way of example, the Commission thus concludes that those practices had the effect, inter alia, of '[making] it harder' for competing search services to gain search queries and the revenues and data needed to improve their services (recital 859 of the contested decision), that they 'increase[d] barriers to entry' by shielding Google from competition from other search services (recital 861 of the contested decision) and that they 'reduce[d] the incentives' for the innovations that competitors marketing specialised search services in a particular language or targeting a specific group of users wished to offer (see recitals 862 and 1213 of the contested decision, the latter referring to Seznam, DuckDuckGO, Qwant and Kikin's 'Touch-to-Search').

295 In the present case, the Commission therefore correctly found, as it did in the decision which gave rise to the judgment of 17 September 2007, *Microsoft* v *Commission* (T 201/04, EU:T:2007:289) (see paragraph 286 above), that close examination of the actual effects or further analysis, according to the terminology used in the past in that regard, was required before it could be concluded that the tying in question was harmful to competition. Such an examination, first, serves to reduce the risk that penalties may be imposed for conduct which is not actually detrimental to competition on the merits and, second, further to clarify the gravity of the conduct in question, which will facilitate determination of the appropriate level of any penalty.

296 Thus, given that the practices at issue took place over a long period and, according to the contested decision, had observable actual effects on the relevant markets, the benefit of a vaguer definition of 'restriction of competition' under the heading of its 'capacity to restrict competition' is less important than it might be in other circumstances.

297 It is not a question of the Commission carrying out a prospective analysis which would be based on effects that will arise in the light of assumptions that cannot yet be verified in practice, as might be the case in other circumstances (see, for example, judgment of 30 January 2020, *Generics (UK) and Others*, C 307/18, EU:C:2020:52, paragraph 145).

298 Furthermore, where conduct has covered a number of years, the Commission may establish a restriction of competition by finding that those practices have eliminated or hampered sources of competition which would otherwise have taken place or developed. It is not, therefore, disputed that the actual and concrete effects of the practices at issue, effects which have arisen in the past, are to be assessed both in the light of the actual competition which the dominant undertaking had to face and in the light of the potential competition that could not arise because of the exclusionary practices.

299 Consequently, the difference between 'restriction of competition' and 'capacity to restrict competition' has no bearing on the requisite proof in cases where, as in this instance, the Commission has characterised the restriction of competition on the basis of the effects which the implementation of the practices at issue have had over a significant period of time, effects which may be observed and which enable the Commission to determine the nature and scope of the ensuing anticompetitive foreclosure, and the Court to review those findings.

(b) Contested decision

300 In the contested decision, the Commission found that the first abuses consisted of two tying arrangements in the form of the MADA pre-installation conditions which OEMs and MNOs wishing to be able to market devices with the GMS suite were required to accept, namely:

– in the first instance of tying, in which the Google Search app was tied with the Play Store, Google abused its dominant position on the worldwide market (excluding China) for Android app stores from 1 January 2011 to the date of the contested decision (recitals 752 and 1009 of the contested decision);

– in the second instance of tying, in which the Chrome browser was tied with the Google Search app and the Play Store, Google abused its dominant positions on the worldwide market (excluding China) for Android app stores and on the national markets within the EEA for general search services from 1 August 2012 to the date of the contested decision (recitals 753 and 1010 of the contested decision).

301 The Commission's assessment in the contested decision of the first three conditions referred to in the judgment of 17 September 2007, *Microsoft* v *Commission* (T 201/04, EU:T:2007:289), is not disputed as such by Google. The arguments put forward in the context of the present plea instead relate to the matters set out in the contested decision in relation to the fourth and fifth criteria of that judgment, concerning, respectively, foreclosure of competition and the objective justifications put forward by Google in that regard.

(1) The first three conditions referred to in the judgment of 17 September 2007, Microsoft v Commission (T 201/04, EU:T:2007:289)

302 As regards the Google Search-Play Store bundle, the Commission finds, first, that these are distinct products (recitals 756 to 762 of the contested decision); second, that Google holds a dominant position on the worldwide market (excluding China) for Android app stores (recital 763 of the contested decision); and, third, that Google Search and the Play Store cannot be obtained separately (recitals 764 to 772 of the contested decision).

303 As regards the Chrome-Play Store and Google Search bundle, the Commission describes Chrome as a distinct product from the Play Store and the Google Search app (recitals 879 to 885 of the contested decision). The Commission also notes that Google holds a dominant position on the worldwide market (excluding China) for Android app stores and on the national markets within the EEA for general search services (recital 886 of the contested decision). The Commission further observes that the Play Store and the Google Search app cannot be obtained without Chrome, and sets out again the arguments put forward in respect of the first bundle (recitals 887 to 895 of the contested decision).

(2) The condition relating to the 'restriction of competition'

(i) Google Search-Play Store bundle

304 As regards the condition relating to the 'restriction of competition' (title of Section 11.3.4 of the contested decision), the Commission finds that the Google Search-Play Store bundle is capable of restricting competition for the following reasons (recital 773 of the contested decision):

– first, it provides Google with a significant competitive advantage that competing general search service providers cannot offset;

– second, it helps Google to maintain and strengthen its dominant position on each national market for general search services, by increasing barriers to entry and deterring innovation, which tends to harm, directly or indirectly, consumers.

305 In the first place, in describing the significant competitive advantage to Google resulting from the Google Search-Play Store bundle, to the detriment of other general search service providers, the Commission

advances the following five arguments (recital 775 of the contested decision):

– the number of general searches carried out on smart mobile devices has grown significantly during the infringement period, notably exceeding, since 2015, the number of general searches undertaken on PCs (recital 777 of the contested decision);

– pre-installation is an important channel for the distribution of general search services on smart mobile devices, because it can increase significantly on a lasting basis the usage of the service provided by the app; the user is more likely to turn to a pre-installed app or one that is set as default than to download an alternative product ('status quo bias'), and the Google Search-Play Store bundle ensures for Google that the distribution of the Google Search app is as wide as the number of Google Android devices (recitals 778 to 800 of the contested decision);

– it is impossible to uninstall the Google Search app from the GMS suite (recitals 801 to 803 of the contested decision);

– competing general search services cannot offset the competitive advantage conferred by the Google Search-Play Store bundle, whether through downloads, agreements with search engine developers, or pre-installation agreements (recitals 804 to 834 of the contested decision);

– the evolution of Google's market shares as regards general search queries confirms the above findings (recitals 835 to 851 of the contested decision).

306 In the second place, the Commission demonstrates the reality and the harmful nature of the exclusionary effects as follows. In order to show that the Google Search-Play Store bundle 'helps Google to maintain and strengthen its dominant position in each national market for general search services, increases barriers to entry, deters innovation and tends to harm … consumers', the Commission puts forward a number of arguments:

– Google's conduct 'makes it harder' for its competitors in the markets for general search services to gain search queries and the respective revenues and data to improve their services (recitals 859 and 860 of the contested decision);

– Google's conduct 'increases' barriers to entry by shielding it from competition from general search services that could challenge its dominant position on the relevant national markets; competing general search services must spend resources to overcome the advantage conferred by pre-installation, which also shields Google from the most effective competition, linked to exclusive pre-installation (recital 861 of the contested decision);

– Google's conduct 'reduces' the incentives of competing general search services to invest and to innovate by making it harder to gain search queries and the revenues and data needed to improve those services (recital 862 of the contested decision);

– as a result of that interference with the normal competitive process, Google's conduct 'is [also] capable of harming', directly or indirectly, consumers who may see less choice of general search services available (recital 863 of the contested decision).

307 In response to Google's arguments by which it seeks to minimise the impact of the Google Search-Play Store bundle on the ground that Android devices accounted for only [10-20%] to [20-30%] of all Google Search queries between 2013 and 2015, the Commission contends that those figures are equivalent to two to five times more than those for searches on all competing services. As regards the argument that that practice coincided with a period of improvement of the general search service, that is not sufficient to demonstrate that there were no effects on competition (recitals 864 to 866 of the contested decision). Moreover, the Commission states that it is not required to demonstrate that there would have been greater

competition without the Google Search-Play Store bundle, only that that bundle was capable of restricting competition, which it asserts is indeed the case (recitals 867 to 876 of the contested decision).

(ii) Chrome-Play Store and Google Search bundle

308 Similarly, as regards the 'restriction of competition' (title of Section 11.4.4 of the contested decision), the Commission finds that the Chrome-Play Store and Google Search bundle is capable of restricting competition for the following reasons (recital 896 of the contested decision):

– it provides Google with a significant competitive advantage that other non-OS-specific mobile web browsers cannot offset;

– it enables Google to deter innovation and tends to harm, directly or indirectly, consumers.

309 In the first place, as regards the significant competitive advantage that competing non-OS-specific mobile web browsers cannot offset, the Commission argues as follows:

– pre-installation is an important channel for the distribution of search engines for smart mobile devices; that is apparent in particular from the comparison between the revenues generated on Google Android from the pre-installed Chrome browser and other browsers which are not pre-installed or between the revenues generated by searches undertaken via a browser on the iOS OS or on the Android OS (recitals 900 to 912 of the contested decision);

– Google Chrome cannot be uninstalled on GMS devices (recitals 913 to 915 of the contested decision);

– competing non-OS-specific mobile web browsers cannot offset the advantage provided by the Chrome-Play Store and Google Search bundle, whether through downloads or pre-installation agreements (recitals 916 to 946 of the contested decision);

– the evolution of market shares confirms those findings (recitals 947 to 963 of the contested decision).

310 The Commission also finds that it is not possible for competing undertakings to offset the advantage gained by the Chrome-Play Store and Google Search bundle by means of pre-installation agreements with OEMs and MNOs (recitals 964 to 982 of the contested decision).

311 In the second place, in order to establish the reality and the harmful nature of the exclusionary effects, the Commission makes the following case. To demonstrate that the Chrome-Play Store and Google Search bundle 'helps to maintain and strengthen Google's dominant position in each national market for general search services, deters innovation and tends to harm, directly or indirectly, consumers', the Commission argues as follows:

– Google's conduct 'deters' innovation in relation to web browsers because it prevents the development of non-OS-specific mobile web browsers with innovative features (recital 970 of the contested decision);

– as a result of Google's interference with the normal competitive process, that conduct 'is [also] capable of harming', directly or indirectly, consumers who may see less choice of mobile web browsers (recital 971 of the contested decision);

– Google's conduct 'helps it to maintain and strengthen' its dominant position in national markets for general search services and its revenues via search advertisements; that conduct thus 'prevents' other general search services from gaining search queries and the revenues and data needed to improve those services (recitals 972 to 977 of the contested decision).

312 According to the Commission, those findings are not affected by the argument that Google's conduct coincided with a period of improvement of Chrome, which allowed users to change the general search service that was set as default, or the argument that OEMs were free to install other browsers (recital 978 of the contested decision). The Commission also contends that Google's various arguments concerning the need to understand the practice in its context have not been made out (recitals 983 to 992 of the contested decision).

(3) The condition relating to the absence of objective justifications

313 The Commission also disputed the objective justifications claimed by Google. First of all, Google had not demonstrated that its practices were necessary to monetise its investment in Android and its non-revenue-generating apps. There were other solutions, given Google's revenues. Nor had Google demonstrated that it did not have an interest in developing Android in order to counter the risks to its business model resulting from the shift to mobile. Further, Google had not demonstrated that its practices were necessary in order to provide users with the experience claimed. Last, the need for Google to avoid having to charge OEMs a fee for the Play Store had been insufficiently demonstrated, given the revenues generated by the value of the Play Store (recitals 993 to 1008 of the contested decision).

(c) Complementarity of the first abuses

314 While it is indeed possible, as the Commission does, to distinguish between two product bundles on the basis of the apps concerned, it is also necessary to take account of the fact that those bundles are similar in two respects, on which the parties were questioned at the hearing, and are therefore to some extent complementary.

315 In order to assess the abusive nature of the practices concerned in the first abuses, it is also important to note that the Chrome-Play Store and Google Search bundle came to overlap with the Google Search-Play Store bundle to take account of changes in the MADA, which did not initially include the Chrome browser among the apps included in the GMS suite (recital 1010 of the contested decision).

316 Similarly, it should be stated that, in both cases, the objective of the two bundles identified by the Commission was to enable Google to reach users, so that they would carry out their general searches using Google Search, either as a general search app or as the Chrome browser's search engine.

2. The first part, concerning the 'restriction of competition'

317 In support of the first part of the second plea, Google submits that the Commission failed to demonstrate in the contested decision that the pre-installation conditions of the MADA were likely to foreclose competition.

318 In Google's submission, in view of the opportunities available to competitors and to users, those conditions have only a very limited impact on competition. The MADA merely requires that, on devices on which OEMs wish to pre-install the GMS suite, the home screen displays icons for the Play Store, an app folder and Google Search. That promotional placement does not prevent OEMs from pre-installing rival services by placing other icons on the home screen with equal or greater visibility. OEMs are also free to set those rival services as defaults, which gives them superior promotional opportunities than those required by the MADA for Google's own apps. The MADA, moreover, does not prevent users from downloading competing search services or browsers and users can also access search services directly via the browser. What OEMs cannot do under the MADA is exclusively pre-install rival search services and browsers. They remain free to sell Android devices without any Google apps and to pre-install competing search and browser services exclusively on those devices.

319 Google puts forward five complaints in support of its arguments and criticises the contested decision in so far as, first, it does not establish that the pre-installation conditions create a 'status quo bias'; second, it ignores the fact that the MADA left OEMs free to pre-install rivals and to set them as defaults; third, it also

ignores the fact that rivals had other effective means of reaching users; fourth, it fails to show that Google's search and browser usage shares were attributable to the contested pre-installation conditions; and, fifth, it fails properly to consider the full economic and legal context in reaching the conclusion that the pre-installation conditions provided rivals with new opportunities, rather than foreclosing them.

(a) Pre-installation and 'status quo bias'

320 In its first complaint, Google criticises the reasoning set out by the Commission to substantiate the claim that a significant competitive advantage is conferred by the MADA pre-installation conditions.

(1) Contested decision

321 Taking into account various factors which attest to the importance of pre-installation, or of similar techniques, for the distribution of general search services and browsers on smart mobile devices, the Commission found that pre-installation gave rise to a 'status quo bias' (according to the expression used by an undertaking from the sector), given that users tended to use what was offered to them (see, in particular, recitals 781 and 782 of the contested decision), and could thus increase significantly and on a lasting basis the usage of the service provided (see recitals 779 and 900 of the contested decision).

322 That advantage having been established, the Commission found that it could not be offset by Google's rivals, whether:

– by pre-installation agreements with OEMs or MNOs (recitals 823 to 834 and 932 to 946 of the contested decision);

– by downloads of competing apps (recitals 805 to 816 and 917 to 931 of the contested decision); or

– by agreements with developers of competing browsers (recitals 817 to 822 of the contested decision).

(2) Summary of the arguments of the parties

323 Google submits that the MADA pre-installation conditions were not exclusive, that they did not create a 'status quo bias' and that they did not therefore foreclose competition. The contrary conclusion is based essentially on evidence the relevance of which Google disputes, because it concerns the setting of defaults, referred to previously in the statement of objections, rather than the pre-installation ultimately used in the contested decision.

324 In that regard, Google challenges the following evidence:

– first, the use made of its statements and those of third parties (HP, Nokia, Amazon, Mozilla), the Yandex analysis and the Microsoft-Verizon agreement;

– second, the FairSearch study, data provided by Microsoft, in the light in particular of NetMarketShare's data, and the comparison of its revenues on Android and iOS devices; and

– third, a comparison of revenues generated by Safari on iOS and of those generated by Chrome and the Opera survey.

325 The Commission contends that the body of evidence referred to in the contested decision does not concern only default setting or premium placement. Furthermore, the fact that those techniques create a 'status quo bias' does not alter the fact that pre-installation also creates such a bias. In the present case, Google relies on a narrow definition of the term 'default', limited to the default setting of a service in a given app. Like other industry players, Google also uses the term in the wider sense of the pre-installation or 'preloading' by OEMs and MNOs of apps on their devices, and thus the factory set-up of a device. Taken in context, the contested evidence does indeed concern the 'status quo bias' created by pre-installation.

(3) Findings of the Court

(i) Preliminary observations

326 Before examining the merits of Google's arguments, two preliminary observations must be made regarding, first, the lack of practical relevance of the proposed distinction between 'pre-installation' and 'default setting' and, second, the quantitative importance of the pre-installation conditions.

– *Lack of practical relevance of the proposed distinction*

327 Google complains, in essence, that the Commission refers in the contested decision to a 'status quo bias' applicable to the MADA pre-installation conditions on the basis of evidence that relates instead to default setting.

328 In particular, Google criticises the fact that no distinction is made or weighting applied between pre-installation and default setting in terms of what is covered by each of them.

329 That approach is based on the premiss that such a distinction or weighting would be easy to make or apply. Accordingly, it would be possible and appropriate to distinguish the effects of pre-installation from the effects of default setting in the myriad of references made to those concepts in the various documents mentioned in the contested decision.

330 From the outset, however, it transpires that it is not easy to make such a distinction. It is thus apparent from certain documents cited in the contested decision that Google itself sometimes uses the term 'default', not to refer in the narrow sense to the setting of a service as the default in a given app, but to refer more broadly to the pre-installation or 'preloading' of apps at the configuration stage of devices before they are marketed (see recital 787(2) and (3) of the contested decision, which refers to internal emails from a Google executive). Other operators in the sector similarly conflate the concepts of default setting and pre-installation, which are also associated with a third technique used to encourage users to avail of the service in question, namely premium placement (see, in particular, recitals 781 and 782 of the contested decision, which refer to statements made by HP and Nokia).

331 Furthermore, as was stated at the hearing, it is not disputed that the pre-installation of an app in itself confers an advantage over competing apps. Being available on the device when it is first used is certainly preferable to not being on it. Google generally acknowledges in that respect the fact that, like any form of promotion, pre-installation increases the likelihood of users trying the apps that are pre-installed. Pre-installation therefore has at least a promotional value for Google as well as for other industry players. That view, set out in the contested decision on the basis of passages from the response to the statement of objections (recital 780 of the contested decision), was accepted by Google at the hearing.

332 In the present case, it should also be noted that the promotional opportunities afforded by the MADA pre-installation conditions included not only provisions relating to the pre-installation of the Google Search app and the Chrome browser, but also provisions concerning premium placement or default setting. As Google acknowledged at the hearing, there was indeed a point relating to placement in the pre-installation conditions. It is not therefore in any event a case merely of pre-installation.

333 The approach adopted in the contested decision must be examined in that context. According to that approach, the Commission finds that, given the effects of pre-installation, default setting or premium placement, or of a combination of those techniques (recitals 779, 781 and 782 of the contested decision), the MADA pre-installation conditions confer a competitive advantage (see recital 785 of the contested decision).

334 Assuming that to be the case, the evidence criticised by Google in connection with the first part of the plea could indeed therefore be relied on in order to establish the existence of a general tendency to 'freeze' the situation, regardless of whether, strictly speaking, the evidence concerns default setting or pre-installation

or premium placement. According to the approach adopted in the contested decision, what may be inferred in the case of pre-installation also applies *mutatis mutandis* and a fortiori in the case of default setting. Similarly, although only default setting is mentioned, that does not rule out the possibility that a similar effect may arise in the case of pre-installation, especially if that pre-installation is combined with premium placement or with default setting.

335 Consequently, it is not necessary at the outset, for the purpose of establishing whether there is a 'status quo bias', to distinguish precisely, as Google wishes, the effects of default setting from the effects of pre-installation given that, as the contested decision suggests, those effects are similar across different cases.

– *Quantitative importance of the pre-installation conditions*

336 It should also be noted that the pre-installation of the Google Search app and Chrome browser, coupled in the case of the former with premium placement and, in the case of the latter, with the setting of the Google Search app as default, has significant consequences in quantitative terms.

337 As a result of the MADA pre-installation conditions, the Google Search app and Chrome browser were pre-installed on a large number of smart mobile devices. It is apparent in that regard from the contested decision that:

– in 2016, of the 260 million smartphones that were sold in Europe, 197 million or 76% were Google Android devices and Google does not dispute the assertion made in the contested decision that the Google Search app and Chrome browser were pre-installed on practically all of those devices (recital 783 of the contested decision);

– similarly, in 2016, of the 1.65 thousand million smart mobile devices sold worldwide, 1.33 thousand million or 81% were Google Android devices, of which 918 million or 56%, that is to say, practically all Google Android devices sold outside China, had the Google Search app and Chrome browser pre-installed (recitals 784 and 901 of the contested decision).

338 By way of comparison, Bing was set as the default general search service on only 21 million smart mobile devices sold worldwide in 2016 and Samsung had pre-installed its Samsung Internet browser – which, moreover, had Google Search set as default – on only 336 million smart mobile devices (recitals 784 and 901 of the contested decision).

339 Google's arguments concerning (i) certain statements and information set out in the contested decision; (ii) certain comparisons made in the contested decision; and (iii) more specifically, certain matters relating to Chrome must be examined in that context.

(ii) Certain statements and information set out in the contested decision

340 In the first place, Google submits that the evidence cited in the contested decision relates to default setting rather than pre-installation (evidence relating to Google itself, HP, Nokia, Amazon and Mozilla), does not distinguish pre-installation and default setting (Yandex analysis) and reflects the Commission's conflating of the benefits of default setting with those of pre-installation (pre-installation agreement between Microsoft and Verizon). However, a service set as default is engaged without the user being required to make a choice, whereas a pre-installed app that is not set as default must be selected by the user. Non-exclusive pre-installation of a non-default app – as provided for in the MADA – could not therefore be regarded as being similar to default setting.

– *Evidence from Google*

341 As regards the arguments relating to the evidence from Google, the following should be noted with regard to the first bundle.

342 First, in an internal email dated 14 November 2008, a Google executive expresses his concern about '[Google's general search service ("GMA")] because of revenue implications of not getting a preload (underlying assumption that GMA prominently present leads to more searches, particularly with voice)' and wonders as follows (recital 787(1) of the contested decision):

'How can we address this concern? Could we minimally require GMA preload on Android (or all platforms) as a necessary condition for any GMS deals?'

343 Second, in an internal email dated 1 November 2010, another Google executive states the following (recital 787(2) of the contested decision):

'Preloading remains valuable to users, and hence OEMs, despite full unbundling [i.e. the fact that Google apps are not only pre-installed but also available for download on the Play Store] because most users just use what comes on the device. People rarely change defaults.'

344 Third, in an internal email dated 26 April 2011, the same Google executive states the following (recital 787(3) of the contested decision):

'Do we really need exclusivity terms? The current [non-US] terms give pretty much the same effect. OEM preinstall default [settings] under MADA + carrier [revenue share] incentive with non-duplication + volume targets [search deals] = many hurdles for a carrier seeking to change the default. They'd need > $ from the alternative search [and either] persuade the OEM to seek (and get from us) an exception to their MADA to allow preinstallation of another search provider with preinstall of other GMS, [or] ship a device with no GMS preinstalled [sic] at all [MADA requirements]. In practice, shipping without all GMS doesn't happen except in edge cases, like (previously) America Movil. All developed markets have users who expect and demand GMS.'

345 Fourth, in the response to the statement of objections, Google states, with reference to a report by Professor Carl Shapiro of the University of California, Berkeley (United States) of 5 November 2016 annexed thereto, that 'pre-loading [Google Search and Google Chrome] and placing Search on the home screen is unquestionably valuable to Google' (recital 788 of the contested decision).

346 Furthermore, as regards the Chrome-Play Store and Google Search bundle, the contested decision mentions an internal Google email from April 2012, in which a Google executive emphasises Google's interest in '[making] Chrome mandatory', in the sense that it should be available on devices distributed by OEMs (recital 904 of the contested decision).

347 Those documents are put forward by the Commission in support of its assertion that pre-installation is important for Google. Google submits in that regard that, while not disputing the importance of pre-installation of apps as such, those documents, in particular the second and third, which are internal documents relating to the infringement period, concern default setting rather than pre-installation.

348 On that point, as the Commission argues, it must be noted that the terminology used by Google remains imprecise. Reference is made to 'preloading' or 'default'. Those terms may admittedly, a priori, be regarded as references to 'default setting', but, in the light of the content of the MADA, which provided only for pre-installation and premium placement, there can be little doubt that those terms do not cover default setting in the strict sense suggested by Google.

349 Consequently, given the contractual context of those documents, namely that of pre-installation conditions laid down by the MADA, Google's arguments as to the need to distinguish between pre-installation and default setting must be rejected, and it must be accepted that arguments put forward in the context of one of those two concepts may apply equally in the context of the other.

– *Evidence from third-party undertakings*

350 As regards the arguments relating to the evidence from third-party undertakings, the following should be noted with regard to the Google Search-Play Store bundle.

351 First, the contested decision cites a statement from HP (recital 781). In its response to a request for information of 12 June 2013 that was sent to OEMs, HP stated, in reply to question 55 on 'the commercial importance of premium placement and default settings for the distribution of mobile services and applications on smart mobile devices', as follows:

'Premium placement and default settings give applications and services located in those positions the advantage of being the first things users see when they start to interact with their device. Users are more likely to try these applications/services based on their prominent visibility and once they are using them, they usually continue to do so. It is an easy way to obtain new users and deliver almost automatic stickiness for an application or service.'

352 First of all, admittedly, as Google observes, that statement does not, strictly speaking, concern pre-installation. Pre-installation was covered in questions 50 to 54 of the section on 'pre-installation of mobile services and applications' (see, in particular, question 54: 'Does the pre-installation of a particular mobile application influence the way in which users make use of competing mobile services and applications?'). Question 55, however, opens the section on 'premium placement and default settings for mobile services and applications'.

353 Nevertheless, as the various screenshots of a Google Android device included by HP in its answer to question 55 illustrate, premium placement does ensure that users of the device can see Google's services prominently. It should also be noted that, alongside those screenshots, HP indicates, in order to identify the apps covered by premium placement, that they are 'pre-installed'.

354 It is moreover also apparent, as the information on that point given in response to the measures of organisation of procedure shows, that HP's reply to question 54 is not such as to call into question the content of the reply to question 55 which was taken into account by the Commission in the contested decision.

355 Next, it is also apparent, in the light of the responses to the measures of organisation of procedure, that the reply to question 55, concerning the commercial importance of premium placement and default settings, is corroborated by 8 of the 12 other replies given by OEMs to whom the request for information was sent.

356 Those replies show that there is a certain consensus among the OEMs that premium placement or default setting, or a combination of those techniques, facilitates the usage of the apps that benefit from it. It is in that context that HP's statement cited in recital 781 of the contested decision must be taken into account.

357 Finally, as regards the content of the other replies given by the OEM recipients of the request for information to question 54 on pre-installation, the content of which was communicated to the Court by the Commission, it is not possible to infer a similar consensus to that which is apparent from the replies on premium placement or default setting.

358 Of the nine OEMs that commented expressly in that regard, five state that pre-installation does not influence the way in which users make use of mobile services and apps. One OEM merely answers the question in the negative, while four others refer to the opportunities offered by downloading. It must be noted, as Google submits, that the latter view is shared by Gigaset and HMD, two other OEMs. The four other OEMs that submitted answers to question 54 do recognise the influence pre-installation is likely to have, although two of them note that that influence may be offset by the opportunities offered by downloading.

359 However, contrary to Google's claim, that lack of consensus among the OEMs on the role of pre-installation in user behaviour is not sufficient to call into question the Commission's assertion in recital 781 of the contested decision. By stating that 'the reason why pre-installation, like default setting or premium

placement, can increase significantly on a lasting basis the usage of the service provided by an app is that users that find apps pre-installed and presented to them on their smart mobile devices are likely to "stick" to those apps', the Commission takes account of HP's statement, but also of the other evidence cited in the contested decision.

360 The evidence which corroborates that assertion, particularly as regards the Google Search app and, by analogy and in consequence, the Chrome browser, comes from certain OEMs, including Nokia, as well as from other operators, including Google, whether these be app developers or operating systems (Amazon, Yandex), an MNO (Hutchison 3G) or search service providers (Yahoo, Qwant, Microsoft).

361 Similarly, the Commission's statement in recital 781 of the contested decision must be analysed in its context, that is to say, both in the light of the fact that the pre-installation of the Google Search app and Chrome browser was not merely a pre-installation but a pre-installation coupled with premium placement or the setting of a search engine as default, and concerned a very large number of Google Android devices (see paragraph 337 above), and also in the light of the fact that the number of downloads of competing apps remained low in practice (see paragraphs 549 and 550 below).

362 Furthermore, it must be noted that the intervention of BEUC in the present case, which may be regarded as being representative from the point of view of users of general search services, may serve to moderate the observations made in that regard by ADA on behalf of developers and CCIA on behalf of industry operators. The explanations provided by BEUC on that point substantiate and corroborate the idea that, from the users' point of view, the pre-installation of the Google Search app and Chrome browser on almost all Google Android devices marketed within the EEA tends to freeze the situation as regards the usage of the associated Google Search general search service.

363 It follows from the foregoing that the objections raised by Google with regard to HP's statement and the 'status quo bias' which may be attached to pre-installation, as it might be to default setting or to premium placement, with which pre-installation may be combined, do not give rise to any doubt the benefit of which might be given to Google. Although such objections appear a priori to be relevant when examined out of context, that is not sufficient to call that conclusion into question when the context and information referred to in that respect in the contested decision – the content of which is set out above – are taken into account.

364 Second, the contested decision cites a statement by Nokia (recital 782 of the contested decision). In its response to a request for information of 29 June 2015 addressed to app developers, Nokia stated, inter alia, in question 17 relating to the 'pre-installation of applications', which asked for estimates, in respect of three popular apps, of the additional average revenue per device if that app was either pre-installed on the front screen or pre-installed one swipe away from the front screen, compared to average revenue without such pre-installation, that 'where a product [was] preloaded by default, consumers [tended] to stick to this product at the expense of competing products – even if the default product [was] inferior to competing products'. Nokia explained, in that regard, that its response concerned 'the impact of pre-installed apps generally'.

365 The applicants refer to another passage from Nokia's reply to that question, where it stated that, 'as to the impact of pre-installed apps generally, it [was] clear that the relevance of default setting on mobile devices [was] significant', and claim that that answer confuses the effects of pre-installation with the effects of default setting.

366 On reading Nokia's response as a whole, it appears that Nokia envisages various options, namely that of default setting when reference is made to Apple Maps and that of pre-installation when the term 'preloaded' is used referring to Google Search or YouTube. That statement must therefore be taken into account in the context of the various technical solutions chosen for the apps referred to, which may be set as defaults, pre-installed or given premium placement.

367 Nokia's statement is corroborated by a statement by Yandex (recital 782 of, and footnote 834 to, the contested decision). In its response to a request for information of 12 June 2013 addressed to app developers, Yandex stated, in reply to question 35.1, that 'download levels of mobile applications that [were] competing with preinstalled mobile applications [tended] to be low if the pre-installed service [was] of comparable or even (insubstantially) worse quality'.

368 Third, the contested decision cites another statement by Nokia (recital 789(1)). In its response to a request for information of 12 June 2013 addressed to OEMs, Nokia stated, inter alia, in reply to question 17.2 on the importance, for a consumer's purchasing decision, of the availability and pre-installation of individual mobile services on their devices, that 'preloading of apps (as opposed to the availability of apps for downloading) play[ed] a critical role for developers because being prominently visible on a smartphone's home screen or near to the home screen inevitably increase[d] the likelihood of consumers trying out the app'.

369 The applicants refer to other passages in that response, in which Nokia also stated that 'users [had] become accustomed to searching app stores to download the apps they want[ed] to use', that 'this [had] decreased the importance of pre-loading' and that 'most consumers assume[d] that smartphones [came] with full browser capabilities and that they [could] easily make searches in web with their smartphones'. They claim that those passages contradict the assertion that the pre-installation of a general search app creates a 'status quo bias'.

370 However, although it is necessary to take account of the passages cited by the applicants, which relate more closely to the situation of users than the passage cited in the contested decision which concerns app developers, other passages in Nokia's response must also be taken into account. Nokia also stated that 'Google itself [was] prepared to pay significant amounts of money to its distribution partners for embedding of its own apps prominently on devices', and, moreover, made clear elsewhere in its response that it considered pre-installation to be likely to influence consumer choice and app use.

371 Consequently, taking account of the whole of Nokia's response to the Commission's request for information and the technical solutions to which that response refers, it cannot be inferred from it that the pre-installation of a dedicated search app does not create a 'status quo bias'.

372 Fourth, the contested decision cites two statements by Amazon (recital 789(2)). In its response to a request for information of 29 June 2015 addressed to app developers, Amazon stated, in reply to question 17 on the importance, for a consumer's purchasing decision, of the availability and pre-installation of individual mobile services on their devices, that 'having an app pre-installed on a device significantly improve[d] that app's discoverability by end users'. Similarly, in its response to a request for information of 12 June 2013 addressed to operating system developers, Amazon stated, in reply to question 35 regarding the influence of the pre-installation of a particular mobile application on the use of competing applications, that 'premium placement of preinstalled applications [had] a significant impact on their use', and that 'the presence of pre-installed mobile applications in many cases limit[ed] user willingness to try competing mobile applications'.

373 The applicants cite a third statement by Amazon, made in its response to a request for information of 12 June 2013 addressed to app developers, in which Amazon stated in reply to question 35.1, concerning the question as to the extent to which users downloaded mobile applications that competed with the applications pre-installed on their smart mobile devices, that it had information about downloads of pre-installed applications only in relation to those with premium placement or default settings. The examples provided by Amazon in that regard related to default mapping services.

374 Again, examination of the various statements referred to by the main parties, once placed in their context, does not call into question the use that is made of them in the contested decision. The extracts cited by the Commission may be relied on to argue that the pre-installation of an app, whether or not in conjunction with premium placement, tends to freeze the situation. The extracts cited by Google do not contradict the above observations.

375 Fifth, the contested decision cites a statement by Hutchison 3G (recital 789(3)). In its response to a request for information of 12 June 2013 addressed to MNOs, Hutchison 3G stated the following in reply to question 51:

'It is very powerful to have an application preloaded as opposed to a bootstrap or even a marketing recommendation to use the app. As with any other service, if it is within reach, the likelihood to use it is greater.'

376 The applicants take issue with that statement on the ground that that company acknowledges that it does not develop apps (response to the request for information of 13 August 2013).

377 However, the fact that Hutchison 3G states that it does not develop apps does not preclude it from being entitled to have an opinion on the usefulness of pre-installation on the basis inter alia of its experience, as an MNO, of user behaviour. The statement reproduced in the contested decision remains relevant for assessing the effects of pre-installation from the point of view of the operator concerned.

378 Sixth, the contested decision cites a statement by Yandex (recital 789(4)). In its response to a request for information of 12 June 2013 addressed to app developers, Yandex stated the following in reply to question 25.5:

'The most efficient distribution channel is pre-installation by the OEM. OEMs mainly pre-install those services that potentially can generate additional income for them. In our portfolio, the service that generates the most revenue is our mobile search and associated services. Most of our discussions with OEMs therefore concern the pre-installation of Yandex search.'

379 That statement is not contested by Google. It can be relied on by the Commission to support its argument that the pre-installation of an app tends to freeze the situation.

380 As regards the Chrome-Play Store and Google Search bundle, the contested decision cites, inter alia, a statement by Mozilla (recital 905(1)). In its response to a request for information of 12 June 2013 addressed to app developers, Mozilla stated, in reply to question 39 on premium placement and default settings on smart mobile devices, that 'the default setting remain[ed] the most powerful influence on application usage', and that premium placement was '[in] the hierarchy of commercial significance for default and pre-install options', default setting being above it (see response to the request for information of 22 March 2016).

381 According to the applicants, that statement focuses on default setting. It is, however, apparent from that statement that it also refers to the pre-installation of an app, which is also said to '[increase] adoption by a user', albeit to a lesser extent than in the case of default settings. That distinction having been taken into account, Mozilla's statement is still relevant.

382 The other statements referred to in the contested decision in order to establish the importance of pre-installation as a distribution channel are not disputed by Google.

383 In conclusion, it follows from the foregoing that the various elements set out in the contested decision, when taken together, do indeed support the Commission's finding that, from the point of view of market participants, the pre-installation of the Google Search and Chrome apps under the conditions laid down by the MADA makes it possible to 'freeze the situation' and to deter users from turning to a competing app.

384 Examination of the interventions on this point supports that conclusion. Thus, BEUC, FairSearch, Seznam and Qwant, intervening in support of the Commission, confirm that, from their perspective, the 'status quo bias' linked to pre-installation can be treated in the same way as that occasioned by default setting. For their part, ADA, CCIA, HMD, Gigaset and Opera, intervening in support of Google, do not dispute, as such, the existence of a 'status quo bias' linked to pre-installation, but focus on the opportunities offered by downloading to remedy the situation.

– *Yandex analysis*

385 The contested decision refers to the Yandex analysis, which concerns the market shares of that search engine in Russia in May 2015, stating that, where the search widget was pre-installed on the home screen and that search engine was set as default in the pre-installed mobile web browser, Yandex's market share was 'three times higher' on Android devices than its market share with no pre-installation (recital 789(5), Figure 18, and recital 798(4) of the contested decision).

386 Google criticises that assessment on the ground that it does not distinguish pre-installation from default setting, given that the Yandex search engine is 'set as default in the pre-installed mobile web browser' and the effects of pre-installation depend on that default setting (see Econometric Data Report). Google argues that the analysis also contains several methodological errors.

387 However, as the Commission contends, such a distinction is not required for the purpose of assessing the scope of the assessment set out in the contested decision. This merely establishes, in the light of the various scenarios examined in the Yandex analysis, that, where there is pre-installation and default setting (fourth and fifth columns of Figure 18 of the contested decision), the market share of that search engine is 'three times higher' than the market share with no pre-installation (first column of that graph). The data set out in that graph also show that Yandex's market share is higher when its search engine is pre-installed in the form of a search widget on the second screen (third column of that graph) than when there is no pre-installation.

388 The Yandex analysis and its results in Figure 18 of the contested decision can therefore be invoked to support the argument that the pre-installation of an app, whether or not in combination with default setting or premium placement, leads to better results.

389 The fact that the Yandex analysis concerns only one undertaking and only one month or that it contains what Google considers to be methodological errors does not render it irrelevant, as the Commission invokes it only to confirm other evidence relating to the importance of pre-installation as a distribution channel and to the 'status quo bias' which it entails.

390 Furthermore, it should be noted in this respect that the statements by Yahoo and Qwant, which indicate, in essence, that pre-installation is likely to improve the results of the search services concerned (recital 789(6) and (7) of the contested decision), are not disputed by Google.

– *Agreement between Microsoft and Verizon*

391 The contested decision also refers to a 2008 agreement between Microsoft and Verizon, pursuant to which Microsoft's general search service, Bing, was pre-installed in 2010 and 2011 alongside Google Search on six models of Google Android devices, the traffic resulting from that agreement accounting for 15 to 25% of the entire volume of general search queries to Bing in the United States during that period. Bing's market share in the United States during that period increased from almost 0 to approximately 1.5% (recital 789(8) and recital 798(3) of the contested decision).

392 Google argues that those findings reflect the conflating of the benefits of default setting with those of pre-installation. Microsoft had explained that, under that agreement, it obtained 'the default search position for Bing', with mobile devices being 'shipped with Bing as the default search provider on all entry points'. The increase referred to was neither 'significant' nor 'lasting' and was not attributable to pre-installation, only to default setting.

393 Consideration of Microsoft's reply to question 10.1 of the request for information of 20 November 2015 addressed to general search service providers does indeed show that, of the six devices mentioned in it, one had Bing set as default on all entry points and the other five, in addition to having Bing set as default, had the Google Voice Search app with an icon on the home screen. Google is therefore right to claim that the

results obtained by Microsoft as a result of that agreement with Verizon can be explained by the default setting and not by pre-installation on Google Android devices.

394 However, while that agreement cannot be invoked to support the importance of pre-installation, the relevance of pre-installation is not thereby refuted for the reasons given by the Commission in the contested decision on the basis of the evidence examined above.

(iii) Certain comparisons made in the contested decision

395 In the second place, Google criticises certain comparisons made in the contested decision.

– *FairSearch study*

396 First, the contested decision mentions the study carried out for FairSearch in 2017 by Professor Marco Iansiti of Harvard University (United States) ('the FairSearch study'), and finds that the usage of each app in the GMS suite, including the Google Search app, is consistently higher on Google Android devices, where it is pre-installed, than on iOS devices, where users must download each app. That statement is made on the basis of data supplied by Microsoft in respect of the monthly usage of those apps in the United Kingdom in February 2016. Thus, 17% of users of an iOS device used the downloaded Google Search app, whereas 76% of users of an Android device used the pre-installed Google Search app (recitals 791 and 792, Table 10 and Figure 19, and recital 799(1) of the contested decision).

397 Google argues that the comparisons made in the FairSearch study contradict the claim of a 'status quo bias' because they show that Google's search usage shares on Android, where the MADA applies, and on iOS, where the MADA does not apply, are similar. In order to substantiate that assertion, Google refers, in fact, to data other than those set out in the FairSearch study. In particular, Google states that the FairSearch study concerns only the usage of the Google Search app and not usage of the Google Search service overall, which is, however, the relevant market according to the contested decision (recital 323), or searches made through the browser. Once access via the browser is taken into account, the 'reach' of Google Search on Android and iOS is not materially different (see recital 515(3) of, and footnote 857 to, the contested decision). In that overall context, a comparison of usage on Android and iOS therefore does not support the alleged 'status quo bias' from pre-installation; rather, it highlights the importance of access to the internet via a browser.

398 However, contrary to Google's contention, the finding made by the Commission in the contested decision in the light of the results of the FairSearch study remains relevant to the examination of the first bundle. That study takes into account only queries carried out by means of the Google Search app and not those carried out through other search entry points such as mobile web browsers (recital 799(1) of the contested decision), which are covered by the assessment relating to the second bundle.

399 Furthermore, as the Commission submits, while the usage of Google Search – and not the Google Search app – may be similar on Android and iOS devices, that can be explained by the fact that even though Apple does not pre-install a general search app on iOS devices, it sets Google Search as the default general search service on Safari (see, in particular, recital 799(2) of the contested decision).

400 Consequently, in view of the specific features referred to above, it is not appropriate to find that the examination of comparisons made in the FairSearch study contradicts the use that is made of them in the contested decision as to the existence of a 'status quo bias'.

– *Data provided by Microsoft and NetMarketShare data*

401 Second, the contested decision refers to data provided by Microsoft in reply to question 13 of a request for information of 10 April 2017, comparing general search queries on Google Android devices, where Google Search is pre-installed, and those on Windows Mobile devices, where Bing is set as the default, in France, Germany, Italy, Spain and the United Kingdom from 2014 to 2017. According to those data, Google

Search accounts for [10-20]% to [40-50]% of general search queries on Windows Mobile devices and [90-100]% of general search queries on Google Android devices (see recital 793 and Table 11 of the contested decision).

402 Google maintains that the failure to distinguish between the effects of default setting and pre-installation undermines the relevance of those data, since Google Search was not pre-installed on Windows Mobile devices where Bing is 'set as the default general search service' (see recitals 793 and 840 of the contested decision) and that that default setting cannot generally be changed, unlike search defaults on Android devices. The default setting might therefore account for most or all of the difference referred to in the contested decision. Rather, it is user preference for Google Search that explains the small number of downloads of competing general search apps (approximately 95% of users in the United Kingdom, France and Germany prefer Google, according to data submitted by Google at the end of 2016). In comparison, NetMarketShare data show that the difference in Google's share of search queries between Android and Windows Mobile devices is smaller, with a material difference equivalent to just 1% (*Data On Operating System Market Share: Mobile OS, Europe*, 2015). The contested decision deplores the fact that Google did not submit the quantitative data underlying those statistics (recital 799(3)), but the Commission could have obtained the data on request.

403 However, even if part of the difference between the shares of search queries on Android and Windows Mobile devices is 'attributable to default setting in the pre-installed browser' rather than to pre-installation, the data provided by Microsoft remain relevant. The data merely reflect the differences between devices equipped with the Android OS along with the GMS suite and those equipped with the Windows Mobile OS: the former have the search service app Google Search pre-installed and the latter the Bing search service set as the default.

404 As regards the NetMarketShare data supplied by Google and mentioned in order to show that the difference between its shares of search queries on Android and Windows Mobile devices is small and equivalent to 1%, it should first of all be noted that they are succinct. They are presented in the form of a graph and a table without any explanation. In particular, as the Commission points out in recital 799(3) of the contested decision, given the absence of information on the data used to establish which devices were taken into consideration in order to assess the shares of search queries on Windows Mobile OS devices, it is difficult to assess the real significance of the data mentioned in the 'Windows Phone' column. Similarly, as the Commission also states in recital 799(3) of the contested decision, the NetMarketShare data are contradicted by other data provided by Microsoft and Google during the administrative procedure, which support the assertion made in the contested decision that Google's share of general search queries on Android devices, where the Google Search app is pre-installed, is significantly higher than on Windows Mobile devices, where that app is not pre-installed.

– *Comparison of Google's revenues from Android and iOS devices*

405 Third, the contested decision refers to a comparison of Google's worldwide revenues from Android devices and iOS devices (recital 794 and Table 12) for the years 2014 to 2016, made using data provided by Google, which indicates that it obtains significantly higher revenues with the use of its general search app Google Search on Android than on iOS (+71% in 2014, +134% in 2015 and +193% in 2016), whereas total revenues for searches were at a similar level for Android and iOS (+3% in 2014, +22% in 2015 and +28% in 2016).

406 Google submits that the failure to take into account browser-based search queries taints that comparison. If those queries were taken into account, Table 12 of the contested decision would show that Google's total search revenues from queries on iOS were higher than those derived from Android, despite the Google Search app not being pre-installed on iPhones. Moreover, Apple does not make Safari available on Android. Chrome's share is therefore inevitably smaller on iOS.

407 However, as the Commission observes, the data provided by Google show that revenues generated by the Google Search app are higher on GMS devices, where the Google Search app is pre-installed, than on iOS

devices, where no general search app, including Google Search, is pre-installed. Since that part of the decision concerns the first bundle, it is not necessary to include in it revenues from the implementation of the second bundle. More broadly, once again, the data compare situations in which the general search service at issue, in this case Google Search, has the benefit either of the Google Search app being pre-installed on Google Android or of Google Search being set as the default on the Safari browser.

408 Google's criticism of the comparison in the contested decision of its revenues from Android devices and from iOS devices must therefore be rejected.

(iv) Certain matters relating to Chrome

409 In the third place, Google submits that the observation that Safari generates higher revenues on iOS compared to Chrome (recital 907 of the contested decision) also conflates pre-installation and default setting, and that the Opera survey (see recital 905(3) of the contested decision) fails to establish restrictive effects.

– *Comparison of Google's revenues via Safari and via Chrome*

410 First, the contested decision refers to a comparison of Google's worldwide revenues from searches made via Safari, which is pre-installed on iOS devices, and via Chrome, which is not pre-installed on iOS devices. That comparison, made using data provided by Google, shows that it obtains higher revenues via Safari than via Chrome on iOS devices (+2 457% in 2014, +1 988% in 2015 and +1 883% in 2016) (recital 907 and Table 16 of the contested decision). In 2016, there were only 40 million downloads of Chrome on iOS devices, as compared to 258 million pre-installations of Safari (recital 912(2) of the contested decision).

411 Google argues that that observation that Safari generates greater revenues on iOS than Chrome on iOS devices (recital 907 of the contested decision) conflates pre-installation and default setting. It submits that Apple sets its own Safari browser as the default browser on all iOS devices, which the contested decision fails to take into account, and that it is impossible properly to isolate the effects of pre-installation in the light of evidence concerning a combination of pre-installation, premium placement and default setting.

412 However, such an observation does not mean that the comparison between the revenues Google receives on iOS devices from search queries via Safari and via Google Chrome is irrelevant. That comparison was made in the light of the specific features of those browsers on iOS devices: the former is the only one that is pre-installed, while the latter must be downloaded. In addition, users download Google Chrome on only a small percentage of iOS devices (15% in 2016) (recital 912(2) of the contested decision).

413 Google's criticism regarding the comparison made in the contested decision of its revenues generated via Safari and via Chrome must therefore be rejected.

– *Opera survey*

414 Second, the contested decision refers to a survey carried out by Opera (see recital 905(3)), which indicates that, in 2013, 72% of 1 500 respondents in Germany, Poland and the United Kingdom used the browser that was pre-installed on their smart mobile devices, and that 16% of those respondents did not consider factors such as quality, ease of use, speed, security or other features, and continued to use the browser solely because it was pre-installed.

415 Google recalls that the question asked in that survey was: 'When selecting the browser you currently use most often/regularly, what factors did you take into account?' The contested decision relies on users who selected the option according to which '[they] just use[d] the browser that came with [their] mobile' to support its assertions. That option does not distinguish between users who chose a browser because it was pre-installed and those who chose it because it was set as the default. Several answers added as a comment that it was the 'phone's default browser' which was used. Moreover, as the data from the survey provided

by Opera show (response to the request for information of 15 December 2015), only 70 respondents out of 500 (14%) actually chose the option referred to in the contested decision. In reality, the number might be even lower: of those 70 users, 18 appear to be referring to iOS devices, not to Android devices, stating that they used Safari as a browser, which is not available with Android. The remaining 86% of respondents mentioned factors such as speed, ease of use, security, data consumption and other quality-related factors. It would also be wrong to assume that only one browser 'came with' the telephone, when in fact OEMs generally pre-install two or more browsers.

416 However, as the Commission contends, although the Opera survey does not isolate the effect of pre-installation from that of default setting, at least part of the reason why respondents used the web browser that 'came with [the] mobile' is because OEMs pre-install that browser. That survey identifies the mobile web browser that users 'most often' use to search the internet on their devices. Taking into account the three EEA countries (Germany, United Kingdom and Poland) included in the sample of 1 500 users, 853 users (57%) mentioned Chrome or Safari – browsers that are pre-installed on all GMS and iOS devices – as the browser that they used most often, and 232 users (15%) replied that they most often used the browsers set as default (Chrome on GMS devices and Safari on iOS devices).

417 Google's criticism regarding the references made in the contested decision to the results of the Opera survey must therefore be rejected.

418 In conclusion, the various arguments put forward by Google to refute the advantage conferred by the pre-installation of the Google Search and Chrome apps on Google Android devices cannot call into question the conclusions drawn by the Commission from the various points set out in the contested decision in that regard.

(b) Whether possible for OEMs to pre-install competing general search services or to set them as default

(1) Contested decision

419 The contested decision finds that the competitive advantage conferred by the MADA pre-installation conditions cannot be offset by competing general search service providers through other pre-installation agreements for the following reasons (recital 833 of the contested decision):

– OEMs generally do not wish to install an additional general search app; this is due to the relatively low additional revenues that would be obtained from such an app being added, the cost of negotiating such agreements, and the risk of duplication of apps, which could negatively impact user experience or cause issues with storage space; the same applies *mutatis mutandis* to browsers (recitals 824 to 829, 933 and 934 of the contested decision);

– the MADA prevents OEMs and MNOs from pre-installing exclusively another general search app on Google Android devices (recitals 830 to 832 of the contested decision); in addition, even if a browser competing with Chrome could be pre-installed, it could not be set as the default browser (recital 935 of the contested decision);

– the RSAs concluded with OEMs and MNOs, which required the exclusive pre-installation of the Google Search app for [50-60%] to [80-90%] of all Google Android devices in the EEA, would also prevent Google's competitors from pre-installing another general search service app alongside its own on those devices (recital 833 of the contested decision);

– the number of pre-installations of competing browsers on Google Android devices is significantly lower than the number of pre-installations of Google Chrome (recital 936 and Table 19 of the contested decision).

420 Thus, Bing, Google Search's main competitor, could not have been pre-installed on Google Android devices between 2011 and 2016, with the exception of one model of device released in the United States in 2011 (recital 834 and recital 789(8) of the contested decision).

(2) Summary of the arguments of the parties

421 Google submits that the MADA pre-installation conditions did not prevent OEMs from providing the same pre-installation for rival search services and browsers on all of their Android devices as that provided for Google Search and Chrome. It would even have been possible to secure promotional opportunities superior to those for Google's products, since OEMs could make a browser other than Chrome the default browser and could set rival general search services as the default in such pre-installed browsers. Furthermore, although Chrome defaulted to Google Search in the URL bar, users would still have been able to change that search service to that of a competitor. The practices in question could not, therefore, have restricted competition.

422 Thus, in Google's submission, the assertion that OEMs and MNOs do not want competing apps on Android devices is contradicted by their practices in relation to general search services, browsers and other kinds of apps. Similarly, the reasoning on RSAs contradicts the assertion that OEMs and MNOs do not have any interest in pre-installing additional search and browser apps alongside Google's apps (recitals 824 to 829, 933 and 934, as compared with recital 1208(1) and recitals 1213, 1214, 1219 and 1220 of the contested decision). In addition, none of the four reasons given in support of the assertion that OEMs did not wish to pre-install rival apps alongside Google apps – namely 'user experience' impediments, storage space concerns, transaction costs and the lack of financial benefits from pre-installation – is corroborated by sufficient evidence.

423 The Commission contends that competitors cannot offset, via pre-installation agreements, the significant competitive advantage that Google ensures for itself through the pre-installation of the Google Search app and Google Chrome on practically all Google Android devices sold in the EEA.

(3) Findings of the Court

(i) Preliminary observations

424 As a preliminary point, it must be noted that Google essentially claims in this complaint that the MADA pre-installation conditions did not prevent OEMs from pre-installing competing general search services and browsers on Google Android devices sold in the EEA in the same way as Google Search and Chrome were pre-installed.

425 The Commission does not dispute in the contested decision that the MADA allows OEMs to pre-install apps competing with Google Search and Chrome. Google's competitors could therefore, in principle, offer OEMs the same pre-installation conditions for their own apps as those laid down by the MADA. Joint installation was possible under the MADA.

426 Rather, the contested decision states, on the one hand, that the MADA 'prevents' OEMs from pre-installing such apps exclusively instead of Google Search and Chrome (recital 832 of the contested decision) and, on the other, that the RSAs require of OEMs and MNOs the exclusive pre-installation of the Google Search app for the part covered by those agreements, that is, over time, for [80-90%] to [50-60%] of Google Android devices sold in the EEA (recital 833 of the contested decision), which includes portfolio-based RSAs and device-based RSAs, as the Commission confirmed in response to measures of organisation of procedure.

427 In that context, in view of the market shares and their evolution from 2011 for Google Search and from 2012 for Chrome to the adoption of the contested decision, the debate on the options available for competitors to offset the competitive advantage granted by the MADA pre-installation conditions remains largely theoretical. In practice, competing app providers were not in a position to offset via pre-installation

agreements the competitive advantage that Google ensured for itself through the pre-installation of Google Search and Chrome on practically all Google Android devices sold in the EEA. As stated in the contested decision, the pre-installation of competing general search apps and browsers cannot be compared, in terms of reach, to the pre-installation of the Google Search app and Google Chrome (see recital 940 of the contested decision for browsers).

428 A distinction must be made in this respect between theoretical competition assumptions and the practical reality, where the competitive alternatives to which Google refers appear to have little credibility or real impact due to the 'status quo bias' arising from the MADA pre-installation conditions and the combined effects of those conditions with Google's other contractual arrangements, including RSAs.

429 It is in that context that the Court must examine Google's argument that, notwithstanding the MADA pre-installation conditions, OEMs remained free to provide the same pre-installation conditions for competing general search services and browsers on Google Android devices sold in the EEA as those granted in respect of Google Search and Chrome. That argument covers, first of all, pre-installation of rival apps, next, an alleged contradiction between the reasoning on RSAs and the claim that there is no interest in pre-installing rival apps and, last, OEMs' interest in pre-installing rival apps.

(ii) Pre-installation of rival apps

430 In the first place, it should be noted that Google's arguments in this respect focus more on the situation regarding browsers than on that regarding general search service apps. Those arguments cover, first of all, the Google Search app and rival apps, next, the Chrome browser and its competitors and, last, other apps.

– *The Google Search app and its competitors*

431 As regards general search service apps, Google merely challenges the reference made to Bing, which, from 2011 to 2016, could be pre-installed only on one model of Google Android device released in the United States in 2011 (see recital 834 and recital 789(8) of the contested decision).

432 According to Google, the fact that Bing could not be pre-installed on Google Android devices sold in the EEA is not explained by the pre-installation conditions of the MADA, but by Bing's lack of localised programming for most countries in the EEA.

433 However, it must be noted, as the Commission does, that Google's competitors have only very rarely been able to pre-install their general search app on devices in addition to the Google Search app. In any event, only a limited proportion of the devices of the OEMs concerned was affected, notably in the EEA.

434 Only two cases of 'pre-installation' of a competing general search app are mentioned in the contested decision, and these involved cases where the OEM did not have, or no longer had, an RSA with Google (recital 1219 of the contested decision):

– a revenue share agreement between Microsoft and ZTE in February 2017 for the sale of certain Google Android devices worldwide, including the EEA, with Bing set as default on ZTE's browser, as well as for the sale of certain quantities of Google Android devices with the Bing general search app pre-installed on those devices (recital 1219(1) of the contested decision);

– a revenue share agreement between Yandex and two OEMs for the sale of Google Android devices worldwide, including a small number in the EEA, where the Yandex general search service widget and links to the Yandex homepage on the default browser were pre-installed (recital 1219(2) of the contested decision).

435 Moreover, the reason given by Google in relation to Bing is not a plausible explanation for Microsoft's failure to convince OEMs to pre-install that app on Google Android devices. The lack of localised programming did not affect all EEA countries and, even in countries where that app allowed localisation,

such as the United Kingdom or Germany, OEMs did not pre-install the Bing app. Similarly, OEMs did not pre-install the Seznam app on their devices in the Czech Republic, despite the fact that the app's general search algorithms were built around Czech (see recital 682 and recital 814(4) of the contested decision).

436 It follows from the foregoing that, contrary to Google's assertions, general search service providers competing with Google Search were not able to offset the competitive advantage conferred by the MADA pre-installation conditions.

– *The Chrome browser and its competitors*

437 In the case of browsers, Google refers to various matters to support its contention that the MADA pre-installation conditions did not prevent OEMs from providing competing browsers with the same pre-installation conditions as those granted in respect of Google Search and Chrome:

– the contested decision indicates that, between 2013 and 2016, competing browsers were pre-installed alongside Chrome on up to 60% of Android devices (recital 936 and Table 19); in Google's submission, the number of those pre-installations of competing browsers is not, therefore, 'significantly lower than the number of pre-installations on Google Android devices of Google Chrome';

– a second pre-installed browser could generate a higher proportion of search revenues than either the Google Search app or Chrome pre-installed under the MADA, as is apparent from the following evidence: Samsung, which started in 2016 to pre-install its own browser on its devices by giving it a better position than Chrome, Samsung's browser accounting for 38.4% of Google Search revenues in the EEA on Samsung Galaxy S6 devices and exceeding both the Google Search app (38.1%) and Chrome (23.3%) (recital 949 of the contested decision); Huawei, which stated in 2015 that the 'Huawei browser [was] preloaded in all Huawei Smartphones in EEA market as system default browser' (Huawei, 14 December 2015); and HTC, which stated in 2015 that its browser, HTC Internet, was pre-installed on its devices and that there was 'no significant effect' as a result of Google's inclusion of Chrome in the GMS suite in 2012, because HTC pre-installed its own web browser in most of its devices (HTC, 13 November 2015).

438 Contrary to the Commission's contention, Google's arguments and the various points supporting them cannot be rejected automatically.

439 Google's arguments serve a priori to show – as is apparent from the facts set out in the contested decision (see Table 19, which indicates parallel pre-installation rates of 40 to 60% worldwide from 2013 to 2016) – that, as regards browsers, there is more vigorous competition than in the case of general search service apps. Browsers other than Chrome may be pre-installed on Google Android devices and, moreover, often are.

440 The case of Opera is a good illustration. According to Opera, intervening in support of Google, a good number of its users come from pre-installation agreements concluded with OEMs (Samsung, Huawei, OPPO and Tecno) so far as concerns Google Android devices. The Commission notes in that regard that those agreements concerned less than 5% of Google Android devices sold in the EEA (recital 940 of the contested decision), since the devices were mainly sold in Africa (Opera agreements with Samsung and Tecno).

441 This example shows that agreements for the joint pre-installation of browsers could exist during the infringement period, in any event to a greater extent than was the case for agreements for the pre-installation of a general search service app. However, it is necessary to examine the effects of such agreements on the question as to whether they are capable of offsetting the advantage arising from pre-installation.

442 The impact of Google's arguments concerning the analysis is weakened in the light of the various observations made by the Commission and its supporting interveners. In practice, it is thus apparent that, while the freedom to pre-install other browser apps was indeed an option available to OEMs, they could benefit from it in practice only in order to pre-install browser apps that used Google Search as the default search engine.

443 Indeed, unlike the Opera example, Seznam sets out in its statement in intervention the difficulties encountered in securing the pre-installation of its search and browser apps. Seznam indicates moreover that those difficulties existed both at the time of portfolio-based RSAs and, subsequently, when device-based RSAs were in place. Similarly, it was only in September 2018, that is, after the contested decision was adopted, that Qwant was in a position to be set as the default search engine on the Brave browser in France and Germany.

444 First, it is true that, from 2013 to 2016, competing browsers were pre-installed alongside Chrome on up to almost 60% of Android devices (Table 19 of the contested decision).

445 However, as regards the cases of Samsung and Huawei mentioned by Google, it should be noted that the only mobile web browsers that were pre-installed on a significant number of those OEMs' Google Android devices are the OEMs' own browsers, not third-party browsers (recital 936 of the contested decision).

446 In that regard, the Commission observes that some operators, including Samsung and Huawei, set Google Search as the default general search service on their browsers. Recital 798(2) of the contested decision thus refers to 'agreements with OEMs and MNO to ensure that Google Search was the only pre-installed general search service and set as default on any pre-installed third party mobile web browsers'. When questioned on that point, the Commission stated that this was a reference to the RSAs. The Commission also refers to HTC, which also set Google Search as the default general search service on its browser, to indicate that, in any event, HTC had stopped developing its own browser as of 30 November 2016.

447 Moreover, as regards the situation of operators which entered into an RSA, it should be noted that, in order to be entitled to benefit from revenue sharing, those operators undertake to set Google Search as default on the various entry points of their Google Android devices, including their own browser (recital 822, footnote 908, and Section 6.3.3 on portfolio-based RSAs), and not to pre-install any competing general search service (recitals 192 and 198 of the contested decision).

448 This is all the more significant as, in recital 822 of the contested decision, the Commission indicates that, from 2011 to 2016, RSAs covered [80-90%] to [50-60%] of Google Android devices sold in the EEA. It is apparent from the information set out in footnote 908 to recital 822 of the contested decision that the information taken into account in that regard includes not only information derived from coverage of portfolio-based RSAs but also information derived from coverage of device-based RSAs, which succeeded portfolio-based RSAs. That was confirmed by the Commission in reply to a question put by way of measures of organisation of procedure.

449 Thus, from 2011 to 2016, more than 50% of Google Android devices sold in the EEA were covered by RSAs concluded with Google, whether portfolio-based or device-based, all of which required Google Search to be set as the default search engine on pre-installed browsers and prohibited the installation of a competing search service.

450 Consequently, and this applies to Samsung, HTC, LG and Sony, as well as to the other operators that entered into RSAs, it has become apparent that when a browser was pre-installed alongside Chrome, which is set by default to Google Search, that browser also was set by default to Google Search.

451 That observation serves to illustrate the complementarity of Google's various practices and necessarily means taking into account – as is moreover stated in the contested decision – the combined effects of the MADAs and RSAs. The result of the RSA-linked contractual obligation not to install anything other than Google Search for general searches is that the theoretical possibility of pre-installing a service competing

with Google's apps, although permitted in principle by the MADAs, was in fact excluded, from 2011 to 2016, for at least half of the Google Android devices sold in the EEA. In other words, the RSAs guaranteed exclusivity on the devices concerned, which must be taken into account when assessing the anticompetitive effects of the MADAs.

452 In that regard, it must be noted that the taking into account as a factual element of the combined effects of MADAs and RSAs does not in any way depend on whether or not the RSAs are abusive, irrespective of whether they are portfolio-based RSAs constituting an abuse according to the Commission's analysis, which is challenged by Google in the context of the third plea, or device-based RSAs which are not considered abusive in the contested decision.

453 In those circumstances, Google's argument in relation to one OEM, whereby in 2016, the OEM's mobile web browser generated higher search revenues in the EEA on one category of its devices than the Google Search app or Chrome, does not alter the above analysis.

454 That argument, put forward in the application, was disputed by the Commission on the ground that it was unable to verify such a claim either in respect of the particular category of that OEM's devices in 2016 or, more broadly, in respect of other years and other categories of that OEM's devices. In response, Google submitted internal data used to demonstrate the assertions made in the application. The data actually show that, in 2016, that OEM's own browser generated higher revenues through search queries than the Google Search app or Chrome on two model series.

455 Those revenues were also higher than those generated by Chrome in 2017 on three model series (the two mentioned above and a third), and, in 2018, on four model series (the three mentioned above and a fourth) of that OEM, but were lower than the revenues generated at that time by the Google Search app on those devices.

456 Google submits that that is a case in which, by pre-installing its own browser on its Google Android devices, an OEM was able to offset to a certain extent the competitive advantage which Google enjoyed as a result of the pre-installation of the Google Search app and Chrome.

457 However, in so far as the OEM in question was bound by an RSA and was thus under an obligation to set Google Search as the default on the various entry points of its devices, including its own browser, the competitive effect of such offsetting must be placed in context. That point was confirmed by Google in response to measures of organisation of procedure.

458 In addition, the situation of an OEM which pre-installs its own browser on its devices is not comparable to that of a Google competitor on the markets for general search services which does not have the option of manufacturing its own devices, since the latter has to negotiate with an OEM in order to be able to pre-install its apps.

459 Second, in any event, the Commission recalls that even if a competing browser were pre-installed on a Google Android device, it cannot be set as the default browser (recital 935 of the contested decision).

460 In response to Google's assertions regarding a Huawei representative's statement in an email to the Commission in December 2015, according to which a browser other than Chrome could be the 'system default browser', the Commission indicates in that regard that that would not have been possible.

461 It is apparent from the MADAs that OEMs were required to pre-install Chrome on almost all of their Google Android devices sold in the EEA, and, from the AFAs and clause 3.2.3.2 of the Android Compatibility Definition Document ('CDD'), that 'device implementers [were not to] attach special privileges to system applications' use of … intent patterns, or prevent third-party applications from binding to and assuming control of these patterns'. Therefore, an OEM that had pre-installed Chrome, which presupposed the signing of a MADA and an AFA, could not set a competing mobile web browser as the default browser.

462 The statements made by Orange and another undertaking (recital 935 of the contested decision) confirm that even if a browser competing with Chrome is pre-installed, that browser cannot be 'set as the default web browser'. Those two operators refer in that regard to the obligation mentioned above by the Commission not to give preference to a browser competing with Chrome when it is also pre-installed on the Google Android device.

463 In that context, none of the evidence relied on by Google is capable of substantiating its claim that such default setting of the competing browser is possible when Chrome is present:

– as regards the statement that 'Huawei Browser is preloaded in all Huawei Smartphones in EEA market as system default browser', it transpires that this was not made on behalf of Huawei in response to a request for information, but simply provided by an employee of Huawei as 'background info[rmation]' in a 'preliminary response', and it is unclear what that employee meant by 'system default browser', particularly in the light of the requirement of the abovementioned CDD pursuant to which OEMs could not set a competing browser as default; in any event, since 2016, Huawei has no longer pre-installed its own mobile web browser (see Huawei ALE Android 6.0 Release Notes, 7 June 2016: 'For better experience, all our mobile phones tailored for overseas market carrying Android 5.0 and above will delete the build-in [Huawei] browser and adopt Google Chrome');

– as regards the statement made by Orange in an email dated 3 August 2012, according to which 'Chrome will be able to coexist with manufacturers browsers and is not required to be the default browser by Google', it follows simply that the MADAs do not oblige OEMs to set Chrome as the default browser – which is not disputed by the Commission – and not that OEMs can set their own mobile web browser as the default browser.

464 Furthermore, the question whether a competing browser can be set as default is irrelevant. Google, moreover, does not dispute the theoretical nature of that question in view of the combined effects of the MADAs and AFAs. What is important in the present case is to examine the various practical possibilities for competing general search services to reach users, Google ensuring that OEMs comply in respect of browsers competing with Chrome with their obligation under the AFAs to treat Google Search in at least the same way as they might treat another general search service.

465 Third, the fact that OEMs pre-install their own browser on some of their devices does not alter the fact that the number of pre-installations of each browser is lower than the number of pre-installations of Google Chrome on those devices. Account must be taken in particular of the fact that some of the data referred to by Google concern pre-installation worldwide, including China (see, for example, Table 19 of the contested decision). The lack of pre-installation of Google Chrome in China has a considerable impact on the data relating to the EEA. Google Chrome's pre-installation covered virtually all Google Android devices in the EEA whereas, in comparison, the joint pre-installation of another browser remained less significant in terms of reach and effectiveness. The Commission's observations on that point are not therefore called into question by Google.

– *The other apps*

466 As regards the apps other than Google Search and Chrome that are included in the GMS suite, and apps competing with them, it must be noted, as does the Commission, that Google's arguments in relation to them are irrelevant. Those other apps and competing apps are not general search apps or browsers and are not therefore covered by the abuses of a dominant position defined in the contested decision.

(iii) The alleged contradiction between the reasoning on RSAs and the claim that there is no interest in pre-installing rival apps

467 In the second place, Google submits that the contested decision's reasoning on RSAs contradicts the claim that OEMs are not interested in pre-installing general search and browser apps alongside its own apps.

468 In that regard, it is appropriate first of all to recall the content of the statements at issue.

469 On the one hand, in concluding that pre-installation agreements with OEMs could not be compared in reach and effectiveness to agreements for the pre-installation of the Google Search app on GMS devices, the Commission found – among other factors – that OEMs were 'unlikely' to pre-install one or more other general search service apps in addition to the mandatory Google Search app. That conclusion is explained, in particular, by the fact that OEMs would need to balance the potential revenues that they would receive from that other general search service app with the cost of such a transaction and other costs related to factors such as user experience and support (recitals 823 and 824 of the contested decision).

470 In order to explain that conclusion, the Commission indicated that it had taken the following factors into consideration:

– first, the share of potential revenues that OEMs would obtain from the installation of one or more other apps in addition to the Google Search app would be low, given Google's market share of more than 90% in most national markets for search services in the EEA and the fact that Google would still be set as default on all other main entry points, in particular on web browsers (recital 825 of the contested decision);

– second, OEMs would have to incur transaction costs when entering into such pre-installation agreements and those costs are unlikely to be justified for a small volume of devices (recital 826 of the contested decision);

– third, OEMs would also have to take account of the fact that, since the GMS suite includes 12 to 30 apps, there might by duplication of apps and that can negatively impact user experience (recitals 827 to 829 of the contested decision).

471 Likewise, in concluding that pre-installation agreements with OEMs could not be compared in reach and effectiveness to agreements for the pre-installation of the Chrome browser on GMS devices, the Commission found – among other factors – that OEMs were 'reluctant' to pre-install apps which duplicate apps already installed because of issues with the storage space of certain devices (recitals 932 and 933 of the contested decision).

472 On the other hand, in the part of the contested decision concerned with RSAs, the Commission refers repeatedly to the interest OEMs would have in securing such agreements for the following reasons:

– 'absent the portfolio-based revenue share payments, OEMs … would have had a commercial interest in pre-installing competing general search services on at least some of their Google Android devices' (recital 1208(1) of the contested decision);

– pre-installing competing general search services would have enabled OEMs 'to offer differentiated products' (recital 1213 of the contested decision);

– the 'pre-installation of competing general search services alongside Google would have increased the traffic to those services' (see recital 1214 of the contested decision, citing Yahoo!, Qwant, Microsoft, Yandex and Seznam);

– OEMs had entered into agreements to pre-install competing general search services on devices or to set them as default services (recital 1219 of the contested decision);

– an agreement between Mozilla and a competing search service 'shows that Mozilla considers that OEMs … have a commercial interest in pre-installing the Mozilla browser with a competing general search service set as default on at least some of their Google Android devices' (recital 1220 of the contested decision).

473 Contrary to Google's contention, those two lines of reasoning cannot be considered to contradict each other. The Commission first examines the likelihood of OEMs negotiating, or their incentive to negotiate, pre-installation agreements with competitors of the Google Search app or of Chrome, which are pre-installed on GMS devices under the MADA. The Commission does not thereby dispute that those OEMs may have a commercial interest in negotiating such agreements, which is referred to in particular in relation to RSAs. That commercial interest must, however, be reconciled with the other factors referred to in the Commission's reasoning as regards the first bundle (small residual market share for a second general search service app, transaction costs, difficulties connected with duplication in the light of user experience and storage capacity) and the second bundle (issues with storage space).

474 It follows from the foregoing that the complaint of a contradiction between the contested decision's reasoning on RSAs and the Commission's assertions that OEMs are unlikely to pre-install general search service apps competing with the Google Search app and that OEMs would be reluctant to pre-install browser apps competing with Chrome must be rejected.

(iv) OEMs' interest in pre-installing competing apps

475 In the third place, Google submits that the contested decision identifies four reasons in support of the assertion that 'OEMs are unlikely to pre-install an additional general search app to the mandatory Google Search app' (recital 824 of the contested decision; 'the contested assertion'), namely user experience impediments, storage space concerns, transaction costs and the lack of financial benefits from pre-installation. However, since OEMs do in fact pre-install rival apps on GMS devices, none of those reasons is, Google argues, borne out by evidence, and the contested assertion is therefore mistaken.

476 In order to examine these arguments, it is necessary first to place them in context.

477 The contested assertion is based on the idea, set out in recital 824 of the contested decision, that the decision as to the pre-installation of a general search service app competing with the Google Search app is the product of OEMs' balancing, first, the revenues likely to result from that additional app with, second, the cost of the transaction and its effects on the user experience or technical support. The contested assertion therefore principally concerns OEMs' interest in pre-installing a rival of the Google Search app or, alternatively, of the Chrome browser set as the default on the general search service Google Search, and not any of the other apps covered by the GMS suite, particularly those that are unrelated to the implementation of a general search service.

478 Consequently, the facts that are relevant for assessing whether the contested assertion is well founded are those that concern apps that implement a general search service and not any other types of app.

479 Moreover, the contested assertion is only the first of five explanations on which the Commission relies in arguing, contrary to Google's claim during the administrative procedure, that 'pre-installation agreements with OEMs and MNOs cannot be compared in reach and effectiveness to the pre-installation of the Google Search app on GMS devices' (recital 823 of the contested decision).

480 Google does not take issue with the following explanations:

– the MADA prevented OEMs from pre-installing exclusively a general search service app competing with the Google Search app on Google Android devices; Google's competitors were therefore deprived of an opportunity to obtain better terms than those laid down by the MADA; in practice, an OEM which accepted such exclusive pre-installation of a competing general search service app would not be able to offer the Play Store or the other apps in the GMS suite (recitals 830 and 831 of the contested decision);

– the MADA also prevented MNOs from requesting that OEMs pre-install exclusively a general search service app competing with the Google Search app on Google Android devices, given that

nearly all OEMs had entered into a MADA and had therefore undertaken to pre-install the Google Search app on GMS devices (recital 832 of the contested decision);

– the RSAs concluded with certain OEMs and MNOs required the exclusive pre-installation of the Google Search app for between [80-90%] and [50-60%] of Google Android devices sold in the EEA from 2011 to 2016, thereby depriving Google's competitors of the possibility of pre-installing their general search service app alongside the Google Search app (recital 833 and Section 13.4.2.1 of the contested decision);

– Bing, Google Search's main competitor, could not be pre-installed on any Google Android device from 2011 to 2016, with the exception of just one model of device released in the United States in 2011 (recital 834 and recital 789(8) of the contested decision).

481 Google's arguments concerning the contested assertion must be examined against this factual background, which takes account of the reach and effectiveness of the pre-installation of the Google Search app on GMS devices in the light of the various agreements concluded by Google as part of its general strategy to consolidate and preserve its shares of the mobile internet market within the EEA. In essence, Google criticises the various reasons put forward by the Commission (see paragraph 475 above) to assess OEMs' interest in the pre-installation of rival apps, namely potential revenues, transaction costs, the user experience and storage space.

– *Potential revenues*

482 In its assessment of the likelihood of an OEM pre-installing an additional general search service app as well as the Google Search app on GMS devices, the Commission observes that 'the share of potential revenues that OEM[s] would get from one or more additional general search app services would be low, given that Google has enjoyed shares in most national markets of 90% and as explained at recital (796) [of the contested decision], Google would still be set as default on the other major entry points, in particular web browsers' (recital 825 of the contested decision).

483 That explanation is criticised by Google on the following grounds:

– according to the contested decision, equally efficient competitors could obtain a 22.5% share of search queries if they were pre-installed alongside Google and set as default on web browsers' entry points (recital 1226(2) of the contested decision); those competitors could therefore share the revenue from those queries with OEMs ('the first point of criticism');

– the claim that 'Google would still be set as default on the other major entry points, in particular web browsers' (recital 825 of the contested decision) is mistaken because 'the MADA has never required setting Google [Search] as the default on rival web browsers'; the contested decision is referring here to evidence relating to defaults on non-Android devices (see recital 796(2), which mentions browsers on iOS devices or on PCs), which is of no relevance; in addition, reference is made in other parts of the contested decision to a version of the MADA which did not, however, require default setting in web browsers and which in any event has been removed (recital 185) ('the second point of criticism');

– the references made in other parts of the contested decision to the statements of two undertakings to the effect that competing browsers cannot be set as default (recital 935 of the contested decision) are unsubstantiated; neither of those undertakings was party to a MADA and one of them stated that 'Chrome [would] be able to coexist with manufacturers browsers and [was] not required to be the default browser by Google'; those assertions are also contradicted by OEMs which, like Huawei, set a rival browser as default ('the third point of criticism');

– to assert that OEMs would not have an interest in pre-installing rival apps because most search usage would go to Google implies that those apps are less attractive, which would amount to protecting less

efficient rivals (‘the fourth point of criticism’).

484 Those criticisms are not, however, capable of calling into question the contested assertion.

485 As has already been pointed out, Google does not dispute the fact that the MADA ensured that no general search service app competing with the Google Search app could achieve exclusive pre-installation on Google Android devices (recitals 830 to 832 of the contested decision). Only joint pre-installation was possible on those devices.

486 In practice, moreover, it must be noted that, solely by virtue of the MADA, Google secured for itself a pre-installation which remained exclusive provided that the OEM did not decide jointly to install another general search service app.

487 Unlike the pre-installation achieved automatically by Google pursuant to the MADA, that OEM or a competitor of Google had to take account of other parameters in order to pre-install or secure the pre-installation of another general search service app.

488 In that context, the share of potential revenues that could be derived from the pre-installation of one or more additional general search service apps was not comparable in terms of reach and effectiveness to that derived from the MADA and could only be limited.

489 That is attributable first of all, as the Commission notes in recitals 825 and 830 of the contested decision, to the fact that Google’s general search service is the market leader with strong and stable market shares of more than 90% in most EEA countries, and has been since 2008 (see recitals 683 and 684 of the contested decision). It is also necessary to take account of Google’s strong brand recognition, which extends to its general search service (recitals 712, 812 and 830 of the contested decision). None of those assertions is criticised by Google.

490 Rather, Google criticises the assertion made at the end of recital 825 of the contested decision that even if a competing general search service app were pre-installed on GMS devices, ‘Google would still be set as default on the other major entry points, in particular web browsers’. In its second point of criticism, Google submits that that assertion is mistaken, first, because ‘the MADA has never required setting Google [Search] as the default on rival web browsers’ and, second, because that assertion is based on evidence relating to default setting on non-Android devices (see recital 796(2) of the contested decision, which refers to iOS devices, PCs equipped with Chrome and PCs equipped with Safari, Opera or Firefox).

491 As regards the first two arguments underlying the second point of criticism, it must be noted, first of all, that the contested decision does not claim that the general search service Google Search was set as default on the other major entry points as a result of the MADA. Rather, taken in context, the assertion made at the end of recital 825 of the contested decision suggests, as the Commission contends in its defence, that Google used several means at its disposal to ensure that OEMs would set Google Search as the default general search service on entry points other than that resulting from the use of the pre-installed Google Search app.

492 Indeed, while it is true, as Google observes, that some of the evidence referred to in the contested decision to demonstrate the importance of using Google Search for general searches does not concern GMS devices but iOS devices, PCs equipped with Chrome or PCs equipped with the web browsers Safari, Opera or Firefox, all of which default to Google Search (see recital 796(2) of the contested decision), it is equally apparent that, for GMS devices also, even if a competing general search service app were pre-installed, Google Search would still be set as default on other entry points, in particular web browsers.

493 As is apparent from recitals 818 and 973 of the contested decision, Google does not allow any general search service other than Google Search to be set as default on Chrome. That default setting cannot be changed by an OEM.

494 Similarly, it is apparent from the responses to the measures of organisation of procedure that, on most of the browsers pre-installed alongside Chrome or even downloaded, Google Search was the default general search service. That is the case for Samsung, Mozilla and UC Web browser or, within the EEA, for Opera. That default setting was a consequence of an RSA or of an agreement to that effect between Google and the undertaking concerned, which therefore had the effect of limiting the financial interest that an OEM might have had in pre-installing a general search service app competing with the Google Search app.

495 The various means employed by Google as part of its overall strategy to consolidate and preserve its position on the general search markets, in particular searches made on mobile devices using the internet, thus enabled Google to achieve, with the general search service Google Search and for almost all national markets within the EEA in 2016, a market share of two to five times more than the combined market share of all other general search services (see recital 796(1) of the contested decision).

496 Consequently, in the light of those factual observations, it must be held that the assertion made at the end of recital 825 of the contested decision that, even if a competing general search service app were pre-installed on GMS devices, 'Google would still be set as default on the other major entry points, in particular web browsers', is not mistaken.

497 In any event, as regards the third argument underlying the second point of criticism, the significance of the references made in the contested decision to the provisions of the MADA on default setting that were cited by Google, which were allegedly misinterpreted and in any event have been removed, must be placed in context in so far as those references have no bearing on the above reasoning. In those circumstances, their criticism by Google is ineffective.

498 It is true that, in parts of the contested decision other than in recital 825, the Commission indicated that certain versions of the MADA were drafted in such a way that they appeared to require OEMs to set the general search service Google Search as the default for all access points for searches made on GMS devices (see recital 185, where it is also stated that that obligation was abandoned by Google as from October 2014).

499 However, it must be held that, for the reasons given by Google during the administrative procedure, it is no longer disputed that those contractual provisions did not require OEMs to set Google Search as the default for all searches made from a browser pre-installed on a Google Android device. According to what has been stated by Google, and which the Commission has not refuted, the purpose of the clause in question was to resolve conflicts that might arise when a general search query, made from any app whatsoever, was likely to be processed by more than one general search app.

500 Therefore, even if the Commission is justified in pointing out that it is apparent from the file that there may have been some ambiguity as to the actual scope of those contractual provisions at the start of the infringement period (see recitals 1228 to 1238, on the one hand, and recital 1230 of the contested decision, on the other, as part of the analysis of portfolio-based RSAs), the fact remains that Google's explanations in this respect are convincing and serve to explain the reasons for it. On that point, the benefit of the doubt must be given to the undertaking concerned.

501 As regards the first point of criticism, the reference made, in connection with the examination of the abusive nature of portfolio-based RSAs that is covered by the third plea in law, to the proposition that one or more hypothetical competitors that are as efficient as Google could obtain a share of 22.5% of general search queries 'if pre-installed alongside Google and set as default on web browsers' entry points' does not call into question the reasoning of the Commission that is criticised by Google. Even if such a possibility could be contemplated for the purpose of assessing 'the share of potential revenues that OEM[s] would get from one or more additional general search app services', the fact remains that the revenues in question would be difficult to compare with those obtained by Google as a result of the pre-installation conditions laid down by the MADA.

502 Moreover, in principle, in order to agree to pre-install jointly one or more other general search service apps alongside those pre-installed pursuant to the MADA, the OEM would seek remuneration from Google's competitor. In view of the mere presence of the Google Search app and of Chrome, leaving aside the possibility of payments being made to obtain exclusivity under portfolio-based RSAs, what a competitor of Google might offer in that regard cannot be relevant given the revenues which it could expect to obtain as a result of that joint pre-installation.

503 As regards the third point of criticism, the Commission rightly points out that even if an OEM were also to pre-install a browser competing with Chrome on GMS devices, it could not set it as the default browser.

504 As is apparent from the responses to the measures of organisation of procedure, Google does not dispute the fact that, under the AFAs and the CDD, if more than one browser were pre-installed on an Android device, none of those browsers could be set as default.

505 In the case of Google Android devices, given that, under the MADA, the OEM was obliged to pre-install Chrome in order to obtain the GMS suite, recital 935 of the contested decision correctly states that, in view of the combined effects of that agreement with the abovementioned provisions, 'even if a competing mobile web browser were also pre-installed, it [could not] be set as the default web browser'.

506 In that regard, contrary to Google's submission and as has already been determined in paragraphs 462 and 463 above, the statements made by certain undertakings cannot usefully be relied upon in order to call into question the contested assessment.

507 An email from Google dated 27 March 2013, sent to one of the main OEMs, thus mentions the need for that OEM to allow the user to choose between the pre-installed browser of that OEM and Google Chrome in such a situation.

508 Accordingly, Orange's statement in an email of 3 August 2012 that 'Chrome will be able to coexist with manufacturers' browsers and is not required to be the default browser by Google' merely indicates that the MADA did not oblige OEMs to set Chrome as the default browser and that that browser could therefore coexist with others (see paragraph 463 above).

509 The statements made by another undertaking in 2013 (recital 935(2) of the contested decision) also form part of a context in which, as the Commission claims, OEMs and, subsequently, MNOs could not set a competing browser as the default. Those statements could indeed be relied upon by the Commission in finding, as it did in recital 935 of the contested decision, that, 'even if a competing mobile web browser were also pre-installed, it [could not] be set as the default web browser' (see paragraph 462 above).

510 As regards Huawei's statement in 2015, in the form of a preliminary response by one of its employees, according to which the 'Huawei browser is preloaded in all Huawei Smartphones in EEA market as system default browser', its content remains ambiguous (see paragraph 463 above). As the Commission argues, it is indeed difficult to know what the author of the reply considers a 'system default browser' to be, in view of the CDD requirement whereby OEMs could not set a competing browser as default. Huawei's browser could not, therefore, in principle, be set as the default browser if it was pre-installed on a device on which Chrome was also pre-installed, at least in the sense defined by the CDD. Therefore, as the Commission also contends, it is likely that the expression 'system default browser' simply refers to the fact that the Huawei browser was 'preloaded', that is to say, pre-installed on Google Android devices.

511 Likewise, it is not possible to attach any decisive value to the content of Opera's letter, which was sent on Opera's own initiative to the Commission on 31 May 2017, and which states that 'some Android OEMs have agreed to preinstall Opera and set Opera as the default browser on their devices and feature it prominently on the default home screen'. Indeed, that letter effectively contradicts what Opera had previously stated in its response to the request for information of 19 October 2015, which stated that 'the availability of the Chrome browser as the default browser application, pre-installed and available on the

home-screen on Android phones limit[ed] Opera's ability to compete for the default position on all Android devices' (recital 925(2) of the contested decision).

512 In that regard, in order to explain how its position evolved, Opera indicates in its statement in intervention that although, in 2015, it was under the impression that 'the MADA required OEMs not only to pre-install Chrome but also to set it as the default browser and provide premium placement on the home screen of Android devices', in 2017 it had learned that 'its understanding apparently did not reflect the MADA pre-installation conditions … and that the MADA merely required Chrome to be pre-installed in a folder'. Such an explanation can indeed be put forward, in so far as the MADA pre-installation conditions did not require one browser to be set as default to the detriment of another in the event of joint pre-installation (see paragraph 491 above).

513 However, as the Commission rightly observes, the setting of a competing browser as the default in the event of its joint pre-installation with Chrome was not feasible because of the combined effect of the MADA and the CDD. A pre-installed competing browser could be set as the default only by user intervention at a later stage. Moreover, in its statement in intervention, Opera no longer relies on the pre-installation of its browser with its 'default setting' and home screen placement, but only on the pre-installation of its browser with home screen placement.

514 As regards the fourth point of criticism, Google's assertion that the contested assessment implies that the apps of competing search services were less attractive to users or that they came from less efficient competitors cannot be accepted. As has already been stated (see paragraph 294 above), the contested decision sets out the reasons why such an assumption cannot be made in the present case, given the relevance of the various technical solutions proposed by Google's competitors for users or innovation.

515 In conclusion, it follows from the foregoing that the Commission's assessment that OEMs could derive only limited revenues from the pre-installation of one or more competing general search services in parallel with the Google Search app cannot be called into question.

– *Transaction costs*

516 In the second place, Google criticises the assertion that transaction costs would deter OEMs from negotiating pre-installation agreements with other general search services, because 'such costs are unlikely to be justified for a small volume of devices' (recital 826 of the contested decision). There is no evidence that would substantiate or quantify those transaction costs or establish why they would cover only a small volume of devices. The only evidence mentioned in that regard, namely a 2012 internal Google email concerning discussions with an OEM about the sharing of revenues generated by the Play Store on televisions and mobile devices (see recital 1222(2) of the contested decision), is insufficient.

517 In the Commission's view, the contested decision reaches 'no general conclusion that transaction costs preclude[d] pre-installation deals', but simply finds that, because of transaction costs, OEMs were unlikely to enter into a large number of small volume agreements, be they pre-installation or revenue share agreements. In addition, Google's internal email of 2012 showed that it recognised the existence of such transaction costs in its case.

518 It follows from the foregoing that the main parties agree that the assertion relating to transaction costs cannot be interpreted as precluding pre-installation agreements. Rather, the question is whether those costs make it unlikely that pre-installation agreements will be concluded for a small volume of devices.

519 The only evidence mentioned in that respect in the contested decision, namely Google's internal email of 2012 referred to in recital 826 and cited in recital 1222(2), cannot be regarded as sufficient to substantiate the existence of an impediment to the negotiation of pre-installation agreements.

520 The document in question is a single, relatively old document as regards the infringement period and is not directly relevant because it concerns ongoing negotiations between Google and an OEM on the sharing

of revenue generated by the Play Store on televisions and mobile devices. The indications that that agreement covered a volume described as ‘not meaningful’ in the light of the resources committed and the payments that would be made by Google are both too generic, in that they are not quantified, and too closely linked to Google’s particular situation to be capable of being applied more generally to the situation of its competitors.

521 As Google submits, it is not therefore apparent from the file that the transaction costs mentioned in the contested decision precluded the negotiation of pre-installation agreements between OEMs and providers of a general search service competing with Google Search. However, even if those costs do not preclude the negotiation of such agreements, they are nevertheless an economic factor which OEMs take into account when assessing its relevance.

522 The various factors and assessments referred to in the contested decision in relation to transaction costs must be taken into account in that context.

– *The user experience*

523 In the third place, Google criticises the assertion that ‘the duplication of too many apps can negatively impact user experience’, because, for example, users ‘will be repeatedly prompted to make decisions about which app to use or set as default’ (recitals 827 and 828 of the contested decision). It maintains that the contested decision does not establish that having to choose a general search app or a browser would damage the user experience such that OEMs would be unwilling to pre-install competing services. Nor does the contested decision establish that users are ‘repeatedly prompted’ to select which general search app or browser to use or set as default. Furthermore, pre-installing a rival general search app and browser would not duplicate ‘too many apps’ but would only duplicate Google Search and Chrome. It is not a case of ‘bloatware’, a term which refers to apps that have little or no use.

524 The Commission recalls that the MADA requires OEMs to pre-install a bundle of 12 to 30 Google apps and not just the Google Search app and Chrome. In that context, the duplication of too many Google apps negatively affects user experience. That observation applies to the various apps included in the GMS suite and not specifically the general search and browser apps competing with the Google Search app or Chrome.

525 It follows from the foregoing that the main parties agree that the criticism relating to the duplication of apps does not strictly speaking concern the Google Search and Chrome apps or competing general search and browser apps, but other apps, which are included in the GMS suite.

526 The evidence mentioned in that regard in recitals 827 and 828 of the contested decision, namely an internal Google email dated 10 January 2012, an internal Google email dated 17 January 2014 concerning the state of the discussions between Google and an OEM, and an email from Google to that OEM dated 18 April 2014, confirm that that is indeed the case.

527 In addition, as regards, more specifically, the disadvantage which might be caused to a user by his or her being repeatedly prompted to select which general search app or which browser to use or set as default, it must be noted that Google claims, without being challenged on this point, that such prompts occur only when an app wants to trigger a general search or a browser action and the app has not specified which general search service or browser to use and, when that occurs, users will typically be able to select ‘always’ to use their preferred app, in which case the prompt will not be shown again. Google also observes, without being contradicted, that in any event users could easily disable the Google Search and Chrome apps so that they become invisible and cease operating.

528 Therefore, as Google submits, it is not apparent from the file that the installation of two or more general search apps and browsers damages the user experience.

– *Storage space*

529 In the fourth place, Google criticises the assertion that ‘the duplication of too many mandatory Google apps [could] cause issues with the storage space of some devices’ (recitals 829 and 933 of the contested decision), since pre-installing multiple general search and browser apps could certainly not cause a modern mobile device to run out of storage space. Google states that the memory capacity of mobile devices has increased exponentially. For example, the Samsung Galaxy S9 came with 64 GB of built-in storage, the S9+ with up to 256 GB of storage, and the HTC Desire had internal flash storage of 512 MB, while the size of a rival general search app like Bing was 2.9 MB in 2012 and 14 MB in 2016. In addition, according to data provided by International Data Corporation (IDC), by 2012 the majority of Android smartphones shipped had a storage capacity of 4 GB or more and, by the first half of 2017, 74% of devices had a storage capacity of 16 GB or more. The statements cited in the contested decision do not override the objective evidence on available storage space.

530 According to the Commission, the contested decision does not find that issues with the storage space of devices generally deter OEMs from pre-installing a competing app alongside the Google Search app or Chrome browser. The contested decision finds only that OEMs had to be mindful of the consequences for the user experience of duplicating a particular pre-installed Google app, given that, pursuant to the MADA, OEMs had to pre-install a bundle of 12 to 30 Google apps and the duplication of too many Google apps could cause issues with the storage space of certain devices (recitals 827 to 829 and 926 of the contested decision).

531 As in the case of the previous complaint concerning the user experience, the main parties agree that the criticism relating to the duplication of apps does not strictly speaking concern the Google Search and Chrome apps or competing general search and browser apps, but other apps, which are included in the GMS suite.

532 As regards general search service apps and in view of the technological developments in relation to the memory of smart mobile devices and the illustrations provided by Google, the duplication of that type of app does not seem likely genuinely to cause a problem. It should be noted in that regard that the statement of Hutchison 3G relied on in that respect in recital 829 of the contested decision concerns the duplication of apps in general, not of general search service apps. As Google submits, it is not therefore apparent from the file that the installation of two or more general search apps causes storage problems.

533 As regards browsers, it must be noted, however, that the statements of two OEMs cited in recital 934 of the contested decision refer, in one case, to requests from MNOs in August 2012 and, in the other, to the decision to stop pre-installing its own browser from 2012 in view of the mandatory pre-installation of Chrome in accordance with the MADA. It may therefore be assumed that such statements were made at a time when the space available in smart mobile devices was still relatively limited, which should no longer be the case, as Google illustrates by providing examples of modern devices.

534 Consequently, although it has not been demonstrated that the pre-installation of several general search service apps causes storage capacity problems, it is nevertheless apparent that some OEMs stopped installing competing browsers because of the installation of Chrome, at least for the first years of the infringement. It is also apparent from the file that, at least from 2016, one of the OEMs mentioned in recital 934 of the contested decision was able to install its own browser in addition to Chrome on its Google Android devices. The storage space constraint thus appears to have quickly disappeared.

535 In line with that analysis, however, and taking into account therefore the constant increase in the storage capacity of mobile devices, account must also be taken of the fact that the Google Search and Chrome apps were bundled together, which accordingly increased the space taken up.

536 The various factors and assessments referred to in the contested decision in relation to storage space must be taken into account in that context.

– *Conclusion*

537 It follows from the foregoing that, notwithstanding the fact that some of the complaints put forward by the applicants regarding certain elements of the reasoning for the contested decision are such that its scope may be diminished or qualified, the Commission was in a position to conclude that, even though providers of general search services competing with Google Search were free to provide OEMs and MNOs with the same pre-installation as that provided in respect of the Google Search app and Chrome on Google Android devices sold in the EEA, that did not happen for much of the infringement period and that, at the very least, part of the explanation for the lack of such pre-installation lies in the combined effects of the MADAs, the RSAs and the AFAs.

538 On that point, the difference between the situation of Seznam, which, despite its efforts, was unable to secure agreements for pre-installation on Google Android devices, and Opera, which was able to secure agreements for pre-installation on such devices, is striking in so far as that difference was explained by the fact that the former was seeking to compete with the general search service Google Search, while the latter wished to use that service by setting it as the default on its browser.

(c) Means of reaching users other than pre-installation

(1) Arguments of the parties

539 Google submits that not only are rivals free to secure pre-installation of their general search services and default setting from OEMs and to secure equal or superior placement to pre-installed Google apps, they also have unimpeded access to users by means of downloading and the browser in the case of general search services. That precludes a finding that the pre-installation conditions are capable of foreclosing users. User behaviour shows that users do download apps extensively, including rival apps for which an alternative is pre-installed on a device. Download behaviour contradicts the contested decision's claim that pre-installation creates a 'status quo bias' that prevents users from looking for rival services.

540 In the first place, as regards the downloading of apps by users, Google observes that downloading is an effective means of reaching users, including when rival apps are pre-installed. The evidence relating to the Google Search app and to Seznam, Naver and Yandex confirms that users will download a rival general search service if it is attractive. The download rates for browsers are also high. Comparatively, the evidence on which the contested decision is based is not sufficient to support the assertion that downloading is ineffective. Thus, the responses to the requests for information referred to do not reflect the general tenor of the replies received.

541 Therefore, neither a general reluctance of users to download apps for which a competing service is pre-installed, nor an ineffectiveness of downloading, can be the reason for the low download rates of rival general search apps identified in the contested decision (recitals 808 to 810). Given the high downloading rates for other types of rival apps, it is far more plausible that those low download rates are the result of factors that are unrelated to the MADA, such as user preference for Google Search, its quality and performance, or the fact that users carry out their searches via browsers.

542 In the second place, Google notes that users can easily and quickly access competing general search services via the browser without downloading any app. Some browsers, like Chrome, already offer rival general search services by providing users with lists in the form of dropdown menus of various general search services so that they can choose a default. The contested decision finds that most Google Search queries originate from the browser, not from the Google Search app (recital 1234(3)(b)). Chrome's substantial share of browser usage and its setting of Google Search as the default search service (recitals 818 and 821 of the contested decision) are not relevant. What matters is that users can and do access rival general search services via Chrome in the same way as they can with any mobile browser. Users therefore have unimpeded access to competing general search services via the browser and a large proportion of search queries are conducted in this way.

543 In addition, as part of this line of argument, Google criticises the contested decision for conflating 'competitive advantage' with 'anticompetitive foreclosure'. The latter may be inferred from the former. Yet

in order for conduct to be considered abusive, the Commission would have to demonstrate that the foreclosure effect makes 'market entry very difficult or impossible for competitors of the undertaking in a dominant position'. A competitive disadvantage does not amount to anticompetitive foreclosure. In the present case, even if it were true that the MADA pre-installation conditions give Google a 'significant competitive advantage', *quod non*, the contested decision fails to show that rivals were unable to offset that advantage or that those conditions made their 'market entry very difficult or impossible'. The contested decision does not attempt to characterise the alleged competitive advantage and does not examine the coverage of the conduct, even though the vast majority of general search queries in the EEA – between [80-90]% and [70-80]% between 2013 and 2015 – did not occur on Google Android devices (recital 796). The MADAs are limited to GMS devices, which represent only a fraction of devices on which users access browsers and general search services; in particular they use Apple mobile devices or Windows computers. In addition, competing browser and general search service developers are free to negotiate pre-installation agreements for GMS devices and secure the same or better promotion for their services on those devices. Ease of access to rivals through downloading and the browser means that they have additional opportunities to reach users on those devices. There is therefore no basis for claiming foreclosure.

544 The Commission maintains that none of Google's claims calls into question the finding that competitors cannot offset the significant competitive advantage that Google ensures for itself through the pre-installation of the Google Search app and Google Chrome on practically all Google Android devices sold in the EEA. Downloads of competing general search apps and browsers or the setting of a competing general search service as the default in browsers on Google Android devices are not comparable in terms of reach and effectiveness (see recitals 805 to 812 and 917 to 931 of the contested decision). Furthermore, in order to establish whether competition is being restricted, the contested decision takes into account not only the significant competitive advantage conferred by pre-installation, but also the fact that that advantage cannot be offset by competitors (see recital 896(1) of the contested decision). In addition, even though it is not necessary to quantify the significant competitive advantage stemming from the tying or to discuss its coverage, the contested decision shows, inter alia, that between 2013 and 2015, Google Android devices accounted for [10-20]% to [20-30]% of general search queries on Google Search in the EEA and, in 2016, [20-30]% of such queries (see recital 796 of the contested decision).

(2) Findings of the Court

545 Apart from the pre-installation opportunities available to competing general search services or browsers, Google also argues that its competitors can offset the tendency for the situation to be frozen as a result of the MADA pre-installation conditions by relying on the behaviour of users, who can download their apps or access their general search service via the browser.

(i) Downloads of competing apps

546 As a preliminary point, it should be noted that the main parties do not dispute that users can easily download general search service or browser apps competing with the Google Search app or Chrome.

547 The main parties disagree as to whether such downloads actually take place, which has a direct bearing on the possibility of Google's competitors offsetting the pre-installation conditions of the MADA.

548 The explanations in the contested decision relating to that question do therefore concern the characterisation of the actual and specific effects of Google's disputed conduct over the period from 2011 or 2012 to 2018.

549 In that regard, in the case of general search apps, it is apparent from the data provided by Google and set out in the contested decision that the number of downloads of apps competing with the Google Search app remained low compared to the number of devices on which the Google Search app was pre-installed:

– between 2011 and 2016, users downloaded competing general search apps from the Play Store on less than 5% of the GMS devices sold worldwide, a figure that falls to less than 1% for GMS devices

sold in the EEA, given that most of those downloads were in South Korea (recitals 808 and 809 of the contested decision);

– between 2011 and 2016, the annual number of downloads of competing general search apps from the Play Store in each EEA country was minimal, with the exception of the Czech Republic with Seznam (recital 810 of the contested decision);

– in the case of the Czech Republic, users downloaded the Seznam search app from the Play Store on at most 23%, for a given year, of GMS devices sold in that Member State.

550 Similarly, as regards browsers, it is apparent from the data provided by Google and set out in the contested decision that the number of downloads of browsers competing with Chrome remained low compared to the number of devices on which Chrome was pre-installed:

– in 2016, no competing mobile web browser achieved a number of downloads that was comparable to the number of pre-installed Google Chrome browsers (see recital 919 of the contested decision);

– in 2016, users downloaded competing mobile web browsers on less than 50% of the GMS devices sold worldwide and, between 2013 and 2016, users downloaded competing mobile web browsers on only approximately 30% of the GMS devices sold worldwide (see recital 920 of the contested decision);

– in 2016, users downloaded the UC, Opera and Firefox browsers on less than 1%, 1.5% and 4% respectively of the GMS devices sold in the EEA, and, between 2013 and 2016, the total number of downloads on GMS devices in the EEA of competing mobile web browsers from the Play Store corresponded to less than 10% of the GMS devices on which Google Chrome was pre-installed (see recitals 921 and 922 of the contested decision).

551 It should be noted in that context that the matters relied on by Google in relation to the downloading of the Seznam, Naver and Yandex apps are not sufficient to call into question the above findings. As the main parties acknowledge, those three examples can be explained by the fact that these are general search services that are built around an algorithm which takes account of the specific nature of the Czech, Korean and Russian languages.

552 The Commission also explains, convincingly, that the counter-example of downloads of the Google Search app on Windows Mobile devices for which Bing is set as the default is not at all as conclusive as Google claims, since 2016 is not representative and the data relied on do not include only smartphones but also other types of device (footnote 901 to the contested decision). The claimed figure of 95% of downloads of the Google Search app is thus, in reality, only 27% in 2016. Such a figure could be compared to the figure of 23% corresponding to downloads of the Seznam app on Google Android smartphones sold in the Czech Republic, all of which had the Google Search app pre-installed.

553 Similarly, the Commission is correct to observe for the reasons set out in recital 813 of the contested decision that the analogies suggested by Google in the light of downloading practices observed in respect of other types of app, such as messaging apps, are not relevant to searches and navigation.

554 Furthermore, contrary to Google's assertions, the various factors set out in the contested decision to establish that the downloading of apps competing with Google Search and Chrome does not offset the advantage conferred by pre-installation continue to be relevant. Those factors confirm that downloads are not comparable in terms of reach and effectiveness to pre-installation.

555 That is the case with the survey provided by Opera (recitals 812 and 923 of the contested decision), which, while giving only indications of usage of pre-installed browsers and covering only 2013, can nevertheless be invoked in the contested decision to argue that 'certain users remain reluctant to download apps and prefer to use the pre-installed mobile web browser'.

556 Similarly, as regards the various statements made in the responses to requests for information, it is indeed apparent that replies which are not cited in the contested decision refer to the theoretical possibility of downloads offsetting pre-installation. However, that does not render irrelevant the various replies set out in the contested decision which support the notion that users tend to favour pre-installed apps over apps that must be downloaded.

557 In addition, contrary to Google's contention, it is not appropriate to find that the contested decision is not consistent with the case-law and with previous practice in taking decisions. It is not disputed in the contested decision that downloading can in principle offset the advantage that would be conferred by pre-installation, which has already been contemplated in other cases examined by the Commission. In the present case, however, for the reasons set out in the contested decision and examined above, it is apparent that even though general search or browser apps can readily be downloaded free of charge, they are not downloaded in practice, or in any event are downloaded for an insufficient proportion of the devices concerned.

558 Consequently, Google's complaint regarding the downloading of competing apps must be rejected.

(ii) Access to competing search services via the browser

559 Google's arguments do not call into question the conclusion that competitors cannot offset, through agreements with mobile web browser developers, the significant competitive advantage that Google ensures for itself through the pre-installation of the Google Search app on practically all Google Android devices sold in the EEA.

560 It is necessary in that respect to compare the actual situation observed by the Commission and set out in the contested decision to the various alternative solutions claimed by Google but which do not actually manifest themselves in reality.

561 As the Commission explains, the setting of a competing general search service as the default in mobile web browsers on Google Android devices cannot be compared in reach and effectiveness to the pre-installation of the Google Search app (see recitals 817 to 822 of the contested decision). In particular, it is necessary to take account of the fact that Google does not allow any search service other than Google Search to be set as default on Chrome and that Chrome had a usage share of approximately 75% of non-OS-specific mobile web browsers in Europe and 58% worldwide.

562 The Commission also sets out – without being contradicted in this respect by Google – a variety of evidence, including Microsoft's and Yandex's presentations, to show that users do not in practice access other general search services through browsers and only rarely change the default settings of those browsers. Such observations are relevant, contrary to Google's claims, and serve to establish that despite the possibility of setting a different general search engine, the search engine remains in practice the one that was originally set.

563 In those circumstances, Google's complaint regarding access to competing search services via the browser must be rejected.

(iii) Conflating competitive advantage and anticompetitive foreclosure

564 As to the alleged conflating of competitive advantage and anticompetitive foreclosure, it must be pointed out that this complaint is based on a misreading of the contested decision, from which it is apparent that it establishes, first, the existence of an advantage linked to the MADA pre-installation conditions that cannot be offset by competitors, and, second, the anticompetitive effects of that advantage.

565 As regards the question whether the advantage must be quantified, it must be observed in any event, as the Commission suggests, that between 2013 and 2015 Google Android devices accounted for 11 to 24% of all search queries made on Google Search in the EEA. In 2016, Google Android devices accounted for 29% of

those search queries (recital 796 of the contested decision). Likewise, in 2016, MADAs covered all Google Android devices sold outside China, corresponding to 76% of the total number of smart mobile devices sold in Europe and 56% of the total number of smart mobile devices sold worldwide (including China) (recitals 783, 784 and 901 of the contested decision). In those circumstances, it is always possible to find, as the Commission does in the contested decision, that the pre-installation conditions of the MADA provided Google with a significant competitive advantage.

566 Google's complaint regarding the conflating of competitive advantage and anticompetitive foreclosure must therefore be rejected.

(iv) Conclusion

567 It follows from the foregoing that the Commission is justified in taking the view that, even if users remained free to download apps competing with the Google Search app and Chrome or to change the default settings, or mobile web browser developers were able to offer their apps to OEMs, that was not sufficiently the case for much of the infringement period because of the pre-installation conditions of the MADA.

(d) Failure to show a connection between usage shares and pre-installation

(1) Arguments of the parties

568 Google points out that, according to the contested decision, Google's shares of general search and browsing '[do] not seem to be explained' by user preference and are 'consistent with' a restriction of competition (recitals 835, 837, 947 and 954). Yet the contested decision does not demonstrate that Google's shares were caused by the contested pre-installation conditions or that they are inconsistent with competition on the merits, which it is for the Commission to establish. In addition, there is a wealth of evidence, ignored by the contested decision, that the success of Google's general search service and browser reflects their quality. Reliance on Play Store ratings for the Google Search app and its rivals is not sufficient for that evidence to be disregarded.

569 The Commission contends that none of Google's arguments calls into question the finding that the significant competitive advantage resulting from the pre-installation of the Google Search app and Google Chrome on practically all Google Android devices sold in the EEA and the inability of competitors to offset that advantage are consistent with the evolution of Google's market shares. The success of the Google Search app and Google Chrome does not reflect only the alleged 'superior quality and performance of Google's services'. Likewise, the fact that user ratings in the Play Store are based on different sample sizes is not decisive. Those samples are sufficiently large to be representative.

(2) Findings of the Court

570 In the first place, as regards pre-installation and its effects it must be noted that, in the contested decision, the Commission stated that its conclusions as to whether Google had a competitive advantage as a result of pre-installation, which could not be offset by competitors and which had the effect of restricting competition on the merits to the detriment of consumers, were confirmed by the evolution of usage shares attributable to Google on smart mobile devices (see recitals 835 to 851 and 947 to 963 of the contested decision).

571 In that context, the Commission's references to the evolution of those usage shares are not in themselves open to criticism. They provide a basis for the Commission to be able to demonstrate that, first, pre-installation confers an advantage on Google's general search and browser apps that are pre-installed and, second, that advantage could not be offset by competitors.

572 As regards the evolution of Google's share of general search queries by type of device in Europe from 2009 to March 2017, the Commission is thus able to establish that that share was consistently between 95

and 98% from 2011 to March 2017 on smart mobile devices and that that share was always larger than that observed over the same period on PCs (88-95%) or on tablets (90-98% from July 2012 to March 2017) (recital 836 of the contested decision).

573 As regards the evolution of the usage share of Chrome compared to that of other non-OS-specific mobile web browsers in Europe from August 2012 to March 2017, the Commission is also able to establish that Chrome's share rose from 4.7 to 74.9% over that period. By contrast, the share of other Android browsers (referred to as 'AOSP-based browsers' or 'Android browsers') decreased from 74.5 to 8.2% over the same period (see recital 949 of the contested decision; for a presentation of worldwide results, see recital 950 of the contested decision; for a presentation of results with PC web browsers, see recital 951 of the contested decision; for a presentation of results with OS-specific web browsers in Europe, see recital 952 of the contested decision).

574 Contrary to Google's claims, the Commission is entitled to rely on those developments in support of its contention of harm. In so far as that contention takes as its starting point the 'status quo bias' linked to pre-installation, which disrupts the competitive process presupposed by Google, in whose view the user could in particular remedy that tendency by downloading a competing app – which is precisely what the user does not do – the Commission is right in referring to usage shares.

575 In the second place, as regards the quality factor and its alleged effects, it must be held that, in a situation such as this, the Commission was not required to determine precisely whether those usage shares could be explained not only by pre-installation – as it believes – but also, or rather, by the superior quality claimed by Google. In Google's view, the failure to call into question the Google Search app's usage shares or the gradual increase in usage shares of Chrome is attributable more to the superior quality of its products than to pre-installation. In the present case, however, pre-installation is not disputed, so that all Google Android devices had the Google Search app and Chrome, whereas the impact of quality on the lack of pre-installation or downloading of a competing app is merely asserted by Google, with the evidence submitted in that regard being neither sufficient nor particularly relevant.

576 Google relies to that effect on the statement of one of its executives, who comments on the superior quality of the Google Search app compared to its rivals. That document does indeed refer to various items, including a consumer survey in 2016 showing that Google Search was the preferred general search engine of consumers in the United Kingdom, Germany and France, and various articles indicating that Google Search had better or newer functionalities than Bing or that Bing was not as accurate as advertised. The statement by the Google executive and the material annexed thereto are not, however, as such, sufficient to establish that the usage share of Google Search and Chrome can be explained by the fact that Google has a service of superior quality rather than by the fact that those apps are pre-installed.

577 Moreover, even assuming that Google Search and Chrome are superior in terms of quality to the services offered by rivals, that would not be decisive since it is not claimed that the various services offered by the rivals are not technically capable of meeting consumer needs.

578 In addition, as is apparent from the material in the file, the needs of consumers are not necessarily met by what is qualitatively the best solution, assuming that Google might claim that its services represent such a solution, given that variables other than technical quality, such as the protection of privacy or the account taken of specific linguistic features of search queries, also play a role.

579 In the third place, it should be noted that, in order to refute Google's argument that the quality of its products in the eyes of consumers, rather than pre-installation, accounts for the size and evolution of its usage shares, the Commission stated in the contested decision that such a quality advantage did not seem to be apparent from the ratings given to competing services in the Play Store.

580 For the first bundle, the average ratings in the Play Store were 4.4 for the Google Search app with 5.8 million reviews; 4.3 for the Bing app with 73 000 reviews; 4.2 for the Yahoo app with 28 000 reviews; 4.3

for the Seznam app with 39 000 reviews; and 4.4 for the Yandex app with 219 000 reviews (recital 837 of the contested decision).

581 For the second bundle, the average Play Store ratings were 4.3 for Chrome with 7.4 million reviews; 4.3 for Opera with 2.2 million reviews; 4.4 for Firefox with 2.8 million reviews; 4.5 for UC Browser with 13.9 million reviews; and 4.4 for UC Browser Mini with 2.8 million reviews (recital 954 of the contested decision).

582 It is true, as Google observes, that the reviews are not based on the same sample sizes and they are not necessarily representative for assessment purposes. However, as the Commission submits, it is clear from those ratings that the quality assessment of the various competing services remains similar. That may therefore be taken into account in finding that the respective quality of the various competing search and browser services is not a decisive criterion in their use, since they all offer a service capable of meeting demand.

583 It follows from the foregoing that, in view of the tendency to freeze the situation associated with the MADA pre-installation conditions and in the absence of proof of the precise impact of the superior quality claimed by Google in respect of its general search and browser apps, the Commission correctly considered that Google's usage shares corroborated the 'status quo bias' linked to pre-installation.

584 This complaint must therefore be rejected.

(e) Failure to consider the economic and legal context

(1) Arguments of the parties

585 Google submits that the contested decision fails to assess whether the MADA pre-installation conditions were capable of restricting competition that would have existed in their absence, having regard to their full economic and legal context. A full analysis of that context confirms that those conditions were not likely to foreclose competition or capable of doing so because they created new competitive opportunities for rivals, rather than removing such opportunities. The extent to which Google or its rivals benefited from these opportunities depends on the respective qualities of their services and their attractiveness for users. The MADA pre-installation conditions were a part of the free licensing model developed for the Android platform and therefore cannot be reviewed in isolation. Furthermore, anyone can take and use the Android OS free of charge.

586 The Commission contends that it is Google, and not the contested decision, that fails to assess the economic and legal context of the tying of the Google Search app with the Play Store and of the tying of Google Chrome with the Play Store and the Google Search app. The contested decision takes account of the nature of interactions between the different sides of the Android platform (recitals 874 and 875, 990 and 991 of the contested decision). The following aspects of the context in which the tying took place should, in particular, be taken into account:

– within the EEA, the pre-installation of Google Chrome covered practically all Google Android devices (recital 901 of the contested decision);

– Google does not allow any general search app other than Google Search to be pre-installed exclusively on GMS devices. The Google Search app is the single most important entry point for searches on Google Android devices, accounting for [40-50]% of all general search queries on Google Android devices in 2016 (recital 799(1) and recital 974 of the contested decision);

– Google does not allow any general search service other than Google Search to be set as default on Google Chrome (recitals 818 and 973 of the contested decision), the second most important entry point for general searches on Google Android devices, with [30-40]% of all general search queries

on Google Android devices in 2016 being carried out via Google Chrome (recitals 818, 973 and 974 of the contested decision);

– between 2011 and 2016, Google entered into revenue share agreements with OEMs and MNOs. Pursuant to those agreements, covering between [50-60]% and [80-90]% of all Google Android devices sold in the EEA, OEMs and MNOs were required to pre-install exclusively the Google Search app and to set Google Search as the default general search service for all pre-installed mobile web browsers (see recitals 822 and 833 of the contested decision);

– pursuant to the AFAs, OEMs wishing to sell even one device with the Play Store and the Google Search app pre-installed cannot sell any other device that runs on an Android fork;

– pursuant to a revenue sharing agreement maintained since 2007, Apple sets Google Search as the default general search service on the Safari browser on iOS devices (see recitals 119 and 154, recital 515(1), recital 796(2)(a), recital 799(2) and recitals 840 and 1293 of the contested decision);

– pursuant to revenue sharing agreements, all major PC web browsers, with the exception of Microsoft's Internet Explorer/Edge, are required to set Google Search as the default general search service (see recital 796(2)(c) and recital 845 of the contested decision).

(2) Findings of the Court

587 In essence, Google criticises the Commission for failing to analyse all the relevant circumstances for the purpose of assessing the alleged effects of the conduct at issue.

588 According to Google, the Commission should have properly taken account, first, of the reason which prompted it to develop the Android platform, its intention having been to address being locked out from other operating systems (iOS or Windows) by their owners; and, second, of the pro-competitive effects generated by the success of the open and free Android platform even though the pre-installation conditions at issue were in force, effects which established an increase in usage of general search services and browsers as well as an increase in the number of apps. In that context, the Commission should have assessed the situation by comparing it with a situation in which, because of the absence of the pre-installation conditions at issue, Google would not have been able to develop and maintain the open and free Android platform.

589 This line of argument does not, however, reflect the content of the contested decision.

590 As the Commission contends, the abusive conduct described in the contested decision does not relate to the development and maintenance of the Android platform, including the fact that it is open and free of charge, aspects decided on by Google to address what it considers to be lock out from other operating systems by their owners. The Commission acknowledged, moreover, before the Court that the Android platform increased opportunities for Google's competitors.

591 It is also apparent from the contested decision that Google had presented the Commission with a line of argument similar to that reiterated before the Court and that this was rejected by the Commission on the ground, inter alia, that the Commission was not challenging the MADA as a whole but only one of its aspects, the effects of which were anticompetitive (see recitals 867 to 876 for the first bundle; see recitals 983 to 992 for the second bundle). Google's line of argument was therefore taken into account by the Commission in its assessment of all of the relevant circumstances, as is apparent from the contested decision.

592 Indeed, even taking into account the pro-competitive effects generated by the Android platform, of which the MADA is one of the methods, the Commission nevertheless found that one specific aspect of the MADA, namely the pre-installation conditions at issue, was abusive.

593 Thus, as examined above in connection with the present plea in law (see also the various factual circumstances referred to in paragraph 585 above), the Commission found that the two product bundles conferred a competitive advantage on Google that was attributable to the 'status quo bias' linked to pre-installation, which could not be offset by competitors and which had the effect of restricting competition on the merits to the detriment of consumers.

594 It is those pre-installation conditions of the MADA, and not more generally the open and free licensing system sought by Google with the OEM signatories to that agreement, that constitute the conduct at issue.

595 It is in that context, therefore, as the Commission suggests, that reference should be made to the various contributions of Opera. Some of these mention, as Google indicates, the pro-competitive effects of the development and maintenance of the Android platform. Others refer, as the Commission points out, to the anticompetitive effects associated with pre-installation.

596 It follows from the foregoing that Google has not established, as it claims, that the Commission failed to take due account of all the relevant circumstances for the purpose of assessing the conduct at issue. This complaint must therefore be rejected.

3. The second part, concerning objective justifications

(a) Arguments of the parties

597 Google submits that the MADA pre-installation conditions are objectively justified, because they enable it to provide the Android platform free of charge by ensuring that the revenue-generating apps, Google Search and Chrome, are not excluded from pre-installation and associated promotional opportunities. Those legitimate and pro-competitive conditions contributed to the diversity and widespread adoption of mobile devices, decreased barriers to entry and created opportunities for competitors. The suggestion in the contested decision that OEMs could be charged a licence fee for the Play Store that would vary for lower-end and higher-end devices would sacrifice the pro-competitive benefits of Google's offering the Android platform free of charge. Google also denies being able to obtain compensation from mobile data. Similarly, the non-monetary trade created by the MADA pre-installation conditions is more efficient and increases output compared to an arrangement where OEMs pay cash for the components of the Android platform.

598 The Commission contends that the conditions for the pre-installation of Google Search and Chrome on practically all Google Android devices sold in the EEA are not objectively justified. Google already monetises the investments through the marketing of data collected from users and the revenues generated via the Play Store and other apps and services, including Google Search. Moreover, a significant number of Google Android users will still use Google Search in the absence of those requirements. Google has also failed to demonstrate that pre-installation is necessary to ensure that Google is not excluded from exclusive pre-installation on Google Android devices and to avoid the need for it to charge OEMs a fee for the Play Store.

(b) Findings of the Court

599 It must be borne in mind that, where there has been a finding of anticompetitive effects due to the actions of a dominant undertaking, it is open to that undertaking to provide justification for behaviour that is liable to be caught by the prohibition under Article 102 TFEU (see, to that effect, judgment of 27 March 2012, *Post Danmark*, C 209/10, EU:C:2012:172, paragraph 40 and the case-law cited).

600 In particular, such an undertaking may demonstrate, for that purpose, either that its conduct is objectively necessary, or that the exclusionary effect produced may be counterbalanced, outweighed even, by advantages in terms of efficiency that also benefit consumers (see, to that effect, judgment of 27 March 2012, *Post Danmark*, C 209/10, EU:C:2012:172, paragraph 41 and the case-law cited).

601 As regards the first scenario, it has been held that although the burden of proof of the existence of the circumstances that constitute an infringement of Article 102 TFEU is borne by the Commission, it is for the dominant undertaking concerned, and not for the Commission, before the end of the administrative procedure, to raise any plea of objective justification and to support it with arguments and evidence. It then falls to the Commission, where it proposes to make a finding of an abuse of a dominant position, to show that the arguments and evidence relied on by the undertaking cannot prevail and, accordingly, that the justification put forward cannot be accepted (see, to that effect, judgment of 17 September 2007, *Microsoft* v *Commission*, T 201/04, EU:T:2007:289, paragraphs 688 and 1144).

602 As regards the second scenario, it is for the dominant undertaking concerned to show that the efficiency gains likely to result from the conduct under consideration counteract the exclusionary effect produced, that those gains have been, or are likely to be, brought about as a result of that conduct, that such conduct is necessary for the achievement of those gains in efficiency and that it does not eliminate effective competition, by removing all or most existing sources of actual or potential competition (see, to that effect, judgment of 27 March 2012, *Post Danmark*, C 209/10, EU:C:2012:172, paragraph 42).

603 In that regard, it should be noted that, in the contested decision, the Commission examined under the same heading, 'Objective justification and efficiencies', the various arguments put forward in that regard by Google during the administrative procedure (recitals 993 to 1008).

604 In its written pleadings, Google relies, in essence, on two sets of arguments to justify its conduct, which to a large extent overlap with those put forward during the administrative procedure and which were examined and rejected in the contested decision.

605 In the first place, Google argued before the Commission that its practices were legitimate, because they enabled it to monetise its investment in Android and in its non-revenue-generating apps (recital 993(1) of the contested decision).

606 That argument is restated in the present action, in which Google invokes, first, the size of its investments in the development and maintenance of the Android platform, including the Android OS, the Play Store and the GMS suite, and, second, the fact that that platform is free of charge. In its submission, the MADA pre-installation conditions are therefore justified, because they allow it, by means of the revenues generated by the Google Search and Chrome apps, to obtain an appropriate return on its investment without, however, excluding the possibility of competitors or users availing of pre-installation or other options.

607 In rejecting that line of argument, the Commission found that Google had not demonstrated that the bundles at issue were necessary for the purpose of monetising its investment in Android and its non-revenue-generating apps (see recitals 995 to 998 of the contested decision).

608 Compared to the amount invested by Google in developing and maintaining Android, whether the amount is that mentioned by the Commission or that put forward by Google, it appears, in any event, that Google has always been in the position of having significant sources of revenue to finance those investments which were made as part of its strategy of preserving its share of the general search services market during the transition to the mobile internet.

609 In addition to revenues generated by the Play Store (recital 996 of, and footnote 1074 to, the contested decision), which are now sufficient on their own to enable Google to recoup its investment in the development and maintenance of the Android platform during the corresponding year (see, in that regard, the data provided by Google before the Court), Google also had other sources of revenue.

610 As the Commission points out in the contested decision, Google would still have benefited from the valuable user data gathered from Google Android devices, such as location data or data from the usage of Google Play Services. Google would also, given its large market shares on PCs, have benefited from a significant stream of revenue from search advertising (recitals 997 and 998 of the contested decision).

611 Google's criticisms of those possibilities are generic and vague.

612 Consequently, in view of, first, the value of the user data and, second, the amount of revenues generated by search advertising on PCs, the Commission correctly found that Google would not have had to recover all of the expenditure relating to the development and maintenance of the Android platform solely on the basis of revenues generated by that platform.

613 Furthermore, as the Commission also observes in the contested decision, Google has not demonstrated that it would not have had an interest in developing Android in order to counter the risks to its search-advertising business model resulting from the switch to smart mobile devices (recital 999 of the contested decision). From that perspective, it may reasonably be considered that Google would have incurred the expense of developing and maintaining the Android platform without even being certain that that expenditure would be compensated by the revenues generated by that platform, taking into consideration, for example, revenues generated by the Play Store.

614 It follows from the foregoing that Google has not established that the MADA pre-installation conditions were objectively justified in the sense that they enabled Google, by ensuring that the Google Search app and Chrome would be pre-installed on Google Android devices, to recoup the expenditure incurred in respect of the development and maintenance of the Android platform.

615 In the second place, Google submits that the MADA pre-installation conditions allowed it to offer the Play Store free of charge because its value to OEMs and users correlated to the value to Google of the promotion by those OEMs of its general search service. The Commission's suggestion of a licence fee being payable for the Play Store calls that model and its positive effects on competition into question (see recital 993(3) of the contested decision).

616 However, Google has again failed to discharge its burden of proof with regard to the demonstration of objective justifications.

617 Google's preferred solution of free licences does not, however, preclude the other solutions envisaged by the Commission to enable Google to replace the revenues generated by the pre-installation of the Google Search app and Chrome on Google Android devices, such as, for example, the payment of a licence fee for the Play Store, which may be compatible with a difference in treatment between lower-end products and higher-end products.

618 It follows from the foregoing that Google is not in a position to establish that the MADA pre-installation conditions are objectively justified in the sense that they guarantee free licensing in relation to the Play Store.

619 The second part concerning objective justifications for pre-installation must therefore be rejected, as must, in its entirety, the second plea in law, alleging that the finding that the MADA pre-installation conditions are abusive is incorrect.

D. The third plea, alleging that the finding that the sole pre-installation condition included in the portfolio-based RSAs was abusive is incorrect

620 By the third plea in law of the action, Google submits that the Commission erred in concluding that certain provisions included in the portfolio-based RSAs were abusive.

1. Background

(a) Contested decision

621 According to the contested decision, Google granted payments to certain OEMs and MNOs on condition that they did not pre-install, or make available immediately after purchase, any competing general search

service on a set of mobile devices within a predefined portfolio (recitals 198 and 1195 of the contested decision).

622 It is also apparent from the contested decision that the portfolio-based RSAs penalised are those that were in place from 1 January 2011, the date as of which the Commission concluded that Google was dominant in each national market for general search services in the EEA, to 31 March 2014, the date on which a portfolio-based RSA with an OEM referred to by the Commission ended (recital 1333 of the contested decision).

(1) The nature of portfolio-based RSAs

623 The Commission submits that portfolio-based RSAs include exclusivity payments. It recalls that, under those RSAs, if the OEM or MNO concerned pre-installs a competing general search service on any device within a predefined and agreed portfolio, it must forgo any share of the revenue in respect of the entire portfolio.

624 In the case both of the OEMs and of the MNOs concerned, the Commission states that the portfolio-based RSAs covered an important segment of mobile devices sold. Internal Google documents confirmed that the purpose of the portfolio-based RSAs was to ensure that Google met all the requirements of those OEMs and MNOs in relation to general search services on the devices included in those portfolios. Those documents also showed that Google was aware that that practice could give rise to competition concerns (recitals 1195 to 1205 of the contested decision).

(2) The capability of the portfolio-based RSAs to restrict competition

625 In recitals 1206 and 1207 of the contested decision, the Commission states that the presumption that Google's exclusivity payments are abusive is confirmed in the present case by the analysis of their capability to restrict competition, taking into account in particular the share of the national markets for general search services covered by the contested practice.

626 First of all, the Commission finds that the portfolio-based RSAs reduced the incentives of the OEMs and MNOs concerned to pre-install competing general search services. First, in the absence of the portfolio-based RSAs, those OEMs and MNOs would have had a commercial interest in pre-installing such services on at least some of their Google Android devices. Second, competing general search services could not have offered those OEMs and MNOs the same level of revenue as that offered by Google. Third, the portfolio-based RSAs were one of the reasons why OEMs and MNOs refrained from installing competing general search services on their Google Android devices (recitals 1208 to 1281 of the contested decision).

627 Next, the Commission argues that the portfolio-based RSAs made access to the national markets for general search services more difficult for Google's competitors. First, those payments deterred OEMs and MNOs from pre-installing competing general search services. Second, the portfolio-based RSAs covered a significant part of the relevant markets. Third, competing services would have been unable to offset, via alternative distribution channels such as downloads, the competitive advantage that Google derived from the practice at issue (recitals 1282 to 1312 of the contested decision).

628 Last, the Commission indicates that the portfolio-based RSAs deterred innovation, as they prevented the launch of Google Android devices pre-installed with general search services other than Google Search. In the absence of such a practice, users would have had a wider choice. That practice also reduced, on the one hand, incentives for competitors to develop innovative features by preventing them from gaining incremental search queries and the revenues and data needed to improve their services, and, on the other, the incentive for Google to innovate as it was no longer subject to competitive pressure on the merits. In addition, even if the practice coincided with a period of improvement of Google's general search service, Google had not proved that that practice did not affect the incentives and ability of competing general search services to improve their services. Google could thus have improved its services to a greater degree (recitals 1313 to 1322 of the contested decision).

629 Moreover, as is apparent in particular from recital 1259 of the contested decision, the Commission assessed in this case the capability of the practice in question to produce an exclusionary effect on undertakings considered to be as efficient as the dominant undertaking. When asked about this point at the hearing, the Commission confirmed that it had indeed taken the attributes of such a hypothetical competitor into consideration in its assessment.

(3) Objective justifications

630 The Commission refutes the objective justifications put forward by Google. Thus, first, it contends that the portfolio-based RSAs were not necessary initially to convince OEMs and MNOs to sell Google Android devices, given that Google Android devices already represented more than 40% of smart mobile device sales worldwide in January 2011 and that the purpose of the RSAs was not to sell Google Android devices but to enable Google 'to be set as the exclusive general search service' on those Google Android devices. Second, Google had not demonstrated that the portfolio-based RSAs were necessary to ensure that it recouped its investment in Android. In the absence of the portfolio-based RSAs, Google would still have been able significantly to monetise Android. Third, Google had not demonstrated that the portfolio-based RSAs were necessary to allow Google Android devices to compete against Apple (recitals 1323 to 1332 of the contested decision).

(b) The distinction between portfolio-based RSAs and device-based RSAs

631 The advertising revenue shares referred to in the contested decision are conditional on the exclusive pre-installation of Google Search on a set of predefined devices in a portfolio. In other words, for each device covered, OEMs and MNOs must satisfy the conditions laid down by the portfolio-based RSAs in order to obtain a share of Google's advertising revenue.

632 As the Commission states in recital 197 of the contested decision, since March 2013, Google has, however, gradually replaced portfolio-based RSAs with device-based RSAs. Under a device-based RSA, an OEM's or MNO's share of Google's revenues depends on the number of devices sold that comply with the obligation not to pre-install competing general search services. Thus, the device-based RSAs enable an OEM or an MNO to offer, for the same type of device, some that promote Google's general search service exclusively and others that also offer competing general search services.

633 Therefore, unlike the position set out in the statement of objections, the Commission did not find in the contested decision that the device-based RSAs, which were gradually introduced more than five years before its adoption, constituted, in themselves, an abusive practice. Device-based RSAs remain, however, an integral part of the factual context of the Commission's examination of the exclusionary effects produced by the practices for which Google was criticised in the contested decision (see paragraphs 448 to 452 above).

(c) Revenues shared under the portfolio-based RSAs

634 Under the portfolio-based RSAs, Google shares part of its advertising revenue in return for the exclusive pre-installation of Google Search on a set of mobile devices in a predefined portfolio.

635 In recital 1240 of the contested decision, the Commission points out that those RSAs do not cover revenues from search queries made on mobile devices via Google's internet homepage, which Google expressly confirmed in response to a question put by the Court before the hearing.

636 In other words, the portfolio-based RSAs cover advertising revenues from search queries carried out via Google Search, Chrome and the URL bar of other mobile web browsers if Google's search engine is set as default. Recitals 1234 and 1240 of the contested decision, read together, support that finding.

(d) Proof of the abusive nature of an exclusivity payment

637 According to the contested decision, the purpose of portfolio-based RSAs is to ensure that Google has exclusive rights to pre-install general search service apps on mobile devices. That practice leads to a result which is, in essence, identical to that of the 'loyalty' rebates that were central to the case giving rise to the judgment of 6 September 2017, *Intel* v *Commission* (C 413/14 P, EU:C:2017:632). In the present case, Google remunerates OEMs and MNOs for ensuring that Google Search is exclusively pre-installed.

638 In that context, it is necessary, before assessing the merits of the arguments raised by Google in support of the third plea, to recall the principles governing the assessment, in the light of Article 102 TFEU, of 'exclusivity' payments.

639 It follows from the case-law that, in a situation in which, as in the present case, the undertaking concerned by proceedings under Article 102 TFEU that may lead to a finding of abuse of a dominant position claims, during those proceedings, that its conduct was not capable of restricting competition and, in particular, of producing the alleged exclusionary effects, it is then for the Commission, in order to establish the culpability of that undertaking, to analyse the various circumstances that demonstrate the restriction of competition resulting from the contested practice (see, to that effect, judgment of 6 September 2017, *Intel* v *Commission*, C 413/14 P, EU:C:2017:632, paragraphs 137 and 138).

640 In that situation, the Commission is not only required to analyse, first, the extent of the undertaking's dominant position on the relevant market and, second, the share of the market covered by the challenged practice, as well as the conditions and arrangements for the pricing practices in question, their duration and the amounts involved; it is also required to assess the possible existence of a strategy aiming to exclude competitors that are at least as efficient as the dominant undertaking from the market. Similarly, the balancing of the favourable and unfavourable effects of the practice in question on competition can be carried out only after an analysis of the intrinsic capacity of that practice to foreclose competitors which are at least as efficient as the dominant undertaking (judgment of 6 September 2017, *Intel* v *Commission*, C 413/14 P, EU:C:2017:632, paragraphs 139 and 140).

641 In order to assess the intrinsic capacity of a practice to foreclose competitors which are at least as efficient as the dominant undertaking, a test known as the 'as efficient competitor test' ('the AEC test') can be useful.

642 The AEC test concerns a competitor which hypothetically is equally efficient and which, it is assumed, charges customers the same prices as those charged by the dominant undertaking, while facing the same costs as those borne by that undertaking (see, to that effect, judgment of 17 February 2011, *TeliaSonera Sverige*, C 52/09, EU:C:2011:83, paragraphs 40 to 44). Furthermore, in addition to price, in order to be considered 'as efficient' as the dominant undertaking, that hypothetical competitor must also be as attractive to that undertaking's customers in terms of choice, quality or innovation (see, to that effect, judgment of 27 March 2012, *Post Danmark*, C 209/10, EU:C:2012:172, paragraph 22).

643 The AEC test, mentioned in the Guidance on the Commission's enforcement priorities in applying Article [102 TFEU] to abusive exclusionary conduct by dominant undertakings (OJ 2009 C 45, p. 7; 'the Guidance on exclusionary abuses'), seeks to distinguish conduct in which a dominant undertaking may not engage from conduct in which it may. The AEC test thus constitutes a possible framework for analysing exclusionary effects in relation to a given case and the exclusionary effects alleged. However, it is only one of several factors that may be applied in order to establish, by means of qualitative or quantitative evidence, whether anticompetitive foreclosure exists for the purposes of Article 102 TFEU.

644 Nevertheless where, as in this instance, the AEC test is applied, it must be conducted rigorously. In that regard, in order to determine whether a competitor which hypothetically is at least as efficient would be likely to be foreclosed by the contested practice, the Commission must examine economic data relating to cost and sales prices, and in particular whether the dominant undertaking is engaging in below-cost pricing. This requires, however, that sufficiently reliable data be available. Where they are, the Commission is required to use information on the costs of the dominant undertaking itself. The Commission has investigative powers to obtain the necessary data. Further, if reliable information on those

costs is not available, the Commission may decide to use the cost data of competitors or other comparable reliable data.

645 As regards exclusivity payments, the AEC test is designed to assess whether a competitor which hypothetically is at least as efficient as the dominant undertaking would have been capable of matching or exceeding those payments. In the present case, as is apparent from the contested decision, the purpose of the AEC test conducted by the Commission was to assess whether a competitor which hypothetically was at least as efficient as Google could have had a strategic or economic interest in obtaining the contestable share of general search service queries covered by the portfolio-based RSAs.

646 In that regard, it should be noted that the analysis which the Commission carried out in the contested decision to establish whether the portfolio-based RSAs were anticompetitive in nature depends in particular on two sets of considerations: first, examination of the coverage of that practice and, second, the results of the AEC test which it applied.

647 It is in the light of those preliminary considerations that the merits of the arguments put forward by Google in support of the third plea must be assessed.

648 The third plea in law of the action is divided into three parts. By the first, Google complains that the Commission wrongly considered that the portfolio-based RSAs included an exclusivity condition. By the second, argued at the hearing stage, Google submits that underlying the contested decision is a failure to state reasons, in that the Commission did not explain to what extent a practice with limited coverage of the relevant market restricted competition. In the third part, Google claims that the Commission failed to establish, to the requisite legal and factual standard, the anticompetitive nature of the RSAs.

2. The first part, concerning the nature of the portfolio-based RSAs

(a) Arguments of the parties

649 Google argues that the Commission should not have characterised the portfolio-based RSAs as exclusivity agreements. A situation of exclusivity could, in the abstract, exist only if all of a customer's requirements are covered. However, first, portfolio-based RSAs are not intended to govern the general search service requirements of OEMs and MNOs on non-Android mobile devices or on computers. Second, portfolio-based RSAs relate to only one of the entry points to general search services. They clearly require OEMs and MNOs to maintain entry points for competing general search services. Third, portfolio-based RSAs are, for some, subject to territorial limits.

650 The Commission observes that the portfolio-based RSAs are at the 'pinnacle' of the various interlocking practices penalised by the contested decision. According to the Commission, in order to receive a share of the revenues arising from queries made via Google's general search service on devices running Google-approved versions of Android, OEMs first had to enter into an AFA and a MADA, and then a portfolio-based RSA, the latter reinforcing the restrictive capabilities of the AFAs and MADAs. Furthermore, none of Google's three reasons for denying that the portfolio-based RSAs are exclusivity agreements is convincing; those reasons are all directed at the significance of the coverage of the RSAs and not their exclusive character.

(b) Findings of the Court

651 First, as Google points out, exclusivity arises from the foreclosure by an undertaking of all or most of a customer's requirements. Indeed, an undertaking which is in a dominant position on a market and ties purchasers by an obligation or promise on their part to obtain all or most of their requirements exclusively from that undertaking may be abusing its dominant position within the meaning of Article 102 TFEU, whether the obligation is stipulated without further qualification or whether it is undertaken in consideration of the grant of a rebate. The same applies if the undertaking in question, without tying the purchasers by a formal obligation, applies, either under the terms of agreements concluded with these

purchasers or unilaterally, a system of loyalty rebates, that is to say, discounts conditional on the customer's obtaining all or most of its requirements – whether the quantity of its purchases be large or small – from the undertaking in a dominant position (judgments of 13 February 1979, *Hoffmann-La Roche* v *Commission*, 85/76, EU:C:1979:36, paragraph 89, and of 6 September 2017, *Intel* v *Commission*, C 413/14 P, EU:C:2017:632, paragraph 137).

652 Consequently, in order to assess Google's argument that the Commission wrongly classified the portfolio-based RSAs as exclusivity agreements, it is necessary to ascertain whether, under those agreements, Google's customers, namely OEMs and MNOs, could, for all or most of their requirements, also request the services or products of competitors of the dominant undertaking.

653 In the present case, and without prejudice to the examination of the coverage of national markets for general search services, which is the subject of the third part of the present plea, it should be noted that Google does not dispute that the portfolio-based RSAs constituted a financial advantage that was conferred on OEMs and MNOs on condition that they not pre-install any general search service other than Google Search on a set of mobile devices within a predefined portfolio. Similarly, it is also common ground that the portfolio-based RSAs constituted an incentive for the OEMs and MNOs in question, in so far as they wished to market smart mobile devices equipped with a general search service, to obtain their requirements from Google and to exclude Google's competitors in respect of an important segment of those devices (see recitals 1197 and 1199 of the contested decision).

654 Second, Google submits that the portfolio-based RSAs did not exclude access to competing general search services, which remained accessible despite the exclusive pre-installation of Google Search. The same applies to downloads of competing apps or direct access via mobile web browsers other than Chrome.

655 In that regard, it follows from the case-law referred to above in relation to exclusivity agreements that the concept of exclusivity is to be assessed in relation to the possibility, for customers of the dominant undertaking, of requesting identical services from that undertaking's competitors. Exclusivity is therefore not to be assessed by reference to the conduct of users, but by reference to the conduct of customers of the dominant undertaking. Google's argument that users could, by themselves, use general search services competing with Google Search by downloading apps or browsers other than Chrome must therefore be rejected as ineffective.

656 Third, Google states that the geographic scope of certain portfolio-based RSAs was limited to certain Member States. Yet as the Commission correctly points out, Google does not dispute the fact that the markets covered are all national markets, taken individually, for general search services. The fact that certain portfolio-based RSAs may apply only to a limited number of Member States does not preclude an exclusivity effect on the national markets concerned.

657 Accordingly, Google is not justified in claiming that the Commission made an error of assessment when it found that the payments in question were exclusivity payments.

3. The second part, concerning a failure to state reasons

658 At the hearing, Google submitted that the contested decision contains an inadequate statement of reasons. The Commission had failed to explain to what extent a practice representing, according to Google, limited coverage of the relevant market can restrict competition.

659 In that regard, it should be borne in mind that the statement of reasons required under Article 296 TFEU must be appropriate to the measure at issue and must disclose in a clear and unequivocal fashion the reasoning followed by the institution which adopted that measure, in such a way as to enable the persons concerned to ascertain the reasons for the measure and to enable the competent Court to exercise its power of review. The requirement to state reasons must be evaluated according to the circumstances of each case, in particular the content of the measure in question, the nature of the reasons given and the interest which the addressees of the measure, or other parties to whom it is of direct and individual concern, may have in

obtaining explanations. It is not necessary for the reasoning to go into all the relevant facts and points of law, since the question whether the statement of reasons meets the requirements of Article 296 TFEU must be assessed with regard not only to the wording of the measure, but also to its context and to all the legal rules governing the matter in question (judgment of 27 June 2012, *Microsoft* v *Commission*, T 167/08, EU:T:2012:323, paragraph 99).

660 First of all, it must be noted that the reasons for the Commission's finding that the portfolio-based RSAs were abusive are set out in recitals 1188 to 1336 of the contested decision, which concern the abusive nature of the portfolio-based RSAs. In that regard, as part of that reasoning, the Commission addressed the coverage of the national markets for general search services by the contested practice in recitals 1286 to 1304.

661 In the light of that reasoning and Google's arguments in that regard in the third part of the present plea, the Court considers that Google was able to challenge the Commission's analysis on that point effectively and, moreover, that the Court is in a position to assess the merits thereof.

662 Accordingly, Google's complaint alleging a failure to state reasons must be rejected as being unfounded.

4. The third part, concerning the finding of a restriction of competition

663 Google maintains, which the Commission disputes, that the contested decision fails properly to analyse, in the light of all the relevant circumstances, the sole pre-installation condition included in the portfolio-based RSAs in order to establish its exclusionary effects.

664 First, according to Google, the contested decision fails to take account of the small share of the market covered by the contested practice and its negligible impact. Second, the contested decision errs in its assessment of the possibility of the portfolio-based RSAs excluding rivals that are hypothetically at least as efficient, in particular the ability of those rivals to offset them. Third, the contested decision ignores the conditions for granting the payments in question, which left users with unfettered access to rivals. Fourth, the Commission did not carry out a valid counterfactual assessment.

(a) Coverage and impact of the portfolio-based RSAs

(1) Contested decision

665 According to the contested decision, the Commission concluded that the portfolio-based RSAs covered a 'significant part' of the national markets for general search services (recital 1286 of the contested decision).

666 First, to support that finding, the Commission states that the portfolio-based RSAs were concluded with the major OEMs selling Google Android smartphones and with the major MNOs active on the European market. According to the Commission, the OEMs concerned sold approximately [80-90]% of Google Android smartphones on the European market in the period from 2011 to 2012. Taking into account also the fact that Google Android smartphones represented 56% of all smartphones sold in the period from 2011 to 2012, the Commission infers from this that the portfolio-based RSAs covered [40-50]% of all smartphones sold in Europe during that period. The Commission clarifies in that respect that it did not include all smartphones sold by MNOs under their portfolio-based RSAs, which, for the two MNOs taken into consideration, accounted for only a very small part of the sales referred to (recitals 1287 to 1289 of, and footnote 1376 to, the contested decision).

667 Second, the Commission observes that the proportion of search queries originating from all mobile devices via Google Search grew constantly in the period between 2012 and 2014 to almost [30-40]% of Google queries carried out in the EEA in 2014 (recital 1290 of the contested decision).

668 Third, the Commission refers to the replacement from 2013 of portfolio-based RSAs with device-based RSAs, the latter covering almost [50-60]% and [60-70]% of Google Android devices in 2013 and 2014, respectively. Likewise, the Commission states that Google Search was set as default on Apple's Safari browser, on all iPhones. Google Search was thus preinstalled or set as default on a browser on the large majority of the remaining mobile devices or PCs (recitals 1291 to 1293 and 1298 of the contested decision).

669 Fourth, the proportion of search queries from Google Android devices was [10-20]% and [10-20]% of total Google search queries carried out in the EEA in 2013 and 2014, respectively (recital 1294 of the contested decision; those data being unavailable for 2011 and 2012).

670 Fifth, in response to an argument by Google concerning the minimal 'impact' of the portfolio-based RSAs in the light of certain data taken into account in the statement of objections with regard to the possibility of competing general search services matching the level of payments granted to the OEMs or MNOs in question (see recitals 1225 to 1271 of the contested decision), the Commission indicates that while that 'impact' appeared minimal to Google, it was nevertheless significant for those services, particularly because the search queries referred to on the basis of that analysis would have constituted a 'significant amount of additional queries' for them at a crucial time in the development of general searches, namely the shift from general searches on PCs to general searches on mobile devices (recitals 1299 to 1302 of the contested decision). The Commission also maintains that the significant nature of the coverage of the national markets for general search services by the contested practice is apparent from the fact that the type of search in question enabled valuable location data to be obtained which, as such, could improve the general search service and resulting advertising revenues (recital 1298 of the contested decision).

(2) Arguments of the parties

671 Google notes that, in recitals 1286, 1287 and 1295 of the contested decision, the Commission claims that the portfolio-based RSAs 'covered a significant part of the relevant national markets for general search services' on the basis that those RSAs applied to the 'most significant OEMs' distributing Google Android devices and the 'major MNOs active in the EEA'. That assessment does not take into account the coverage of the contested practice. A proper assessment of the portfolio-based RSAs' coverage depends on the proportion of search queries accounted for by Google Android devices and on the proportion of Google Android devices subject to portfolio-based RSAs.

672 On average, Google indicates in paragraph 262 of the application or, taking into account the observations made in that respect by the Commission, in paragraph 172 of the reply, that the portfolio-based RSAs covered just [0-5]% of the national general search 'markets' during the period of the alleged abuse. Those 'markets' encompassed, according to recital 353 of the contested decision, 'searches via PCs and smart mobile devices' and portfolio-based RSAs, which applied only to certain smartphones, accounted for only a small portion of search queries made during the relevant period. Similarly, many OEMs and MNOs never signed a portfolio-based RSA. A coverage of [0-5]% on average over the period from 2011 to 2014 is not therefore a basis for concluding that those RSAs made it 'very difficult or impossible' for competitors to access the relevant markets. Such a rate is, moreover, substantially below the market coverage of practices that were found to be abusive in previous cases (39, 40 or 85%).

673 In response to the Commission's criticism that Google used figures for devices sold and not devices in use, Google argues that the contested decision itself used devices sold as a proxy for market coverage. Google adds that even if its calculation is adjusted to include devices in use, on the assumption that each device sold has an estimated lifetime of approximately two years, the impact on the coverage is still minimal.

674 Incidentally, Google observes that, as far as the Commission is concerned, as is apparent from recital 1226 of the contested decision, rival search services could have achieved, at most, [0-5]% of queries on revenue share Google Android devices if their app had been pre-installed alongside the Google Search app. Therefore, given the markets taken into consideration and on the Commission's own assessment, the

impact of portfolio-based RSAs on shares of general search queries in the EEA was extremely small in each year of the alleged infringement.

675 Consequently, in view of the low coverage of the contested portfolio-based RSAs and their negligible impact, the reasons put forward for finding that the coverage of the sole pre-installation condition was 'significant' should not be upheld.

676 In essence, the Commission contends that the coverage of the portfolio-based RSAs suggested by Google does not erode the contested decision's finding on the significance of that coverage for the reasons stated therein.

677 In particular, annual sales cannot be equated to the number of devices subject to the portfolio-based RSAs, without taking into account sales in earlier years of devices still in use. In addition, Google's impact calculation relies, without further explanation, on the contestable market share of [0-5]% rather than the contestable share of 22.5%, achievable by a competitor if its search service is set as default on a pre-installed mobile web browser other than Chrome.

678 VDZ contends that the degree of market coverage is not relevant, since competition should be fully protected when the market is dominated. In that context, the portfolio-based RSAs contributed to securing Google's dominant position by preventing OEMs from allowing users to multi-home.

(3) Findings of the Court

679 It should be borne in mind that where, as in the present case, the undertaking concerned submits, during the administrative procedure, on the basis of supporting evidence, that a practice involving exclusivity that was established by that undertaking was not capable of restricting competition and, in particular, of producing the foreclosure effects alleged by the Commission, the Commission is required, inter alia, to analyse the share of the market covered by the contested practice (see, to that effect, judgment of 6 September 2017, *Intel* v *Commission*, C 413/14 P, EU:C:2017:632, paragraphs 138 and 139).

680 Such an analysis makes it possible to determine the effect of foreclosure of the relevant market attributable to the contested practice with a view, in particular, to determining which part is shielded against competition as a result of the exclusivity conferred by the payments at issue.

681 It is clear from recital 1286 of the contested decision that the Commission found that the portfolio-based RSAs concluded by Google with certain OEMs and MNOs covered a significant part of the national markets for general search services within the EEA.

682 It is also apparent from the contested decision that those different markets encompass all general searches from all types of device, including non-Android mobile devices and PCs (see, for example, recital 353 of the contested decision).

683 As Google submits in that regard, it is also apparent from the various examples taken from the Commission's previous practice that the latter considered a coverage of between 39% and 85% of the relevant market to be significant.

684 In the present case, however, the coverage of the contested practice which the Commission considered significant is, as such, considerably lower than that previously accepted by the Commission in practice. According to data provided by Google in that respect, it is less than 5% of the market defined by the Commission.

685 While the Commission contends that the coverage put forward by Google in the application and subsequently in the reply underestimates the number of devices in use that were covered by portfolio-based RSAs during the relevant period of the infringement, the fact remains that it may be concluded from the data and explanations provided by Google in that respect that Google's calculation is plausible.

686 That is particularly so given the Commission's failure to indicate what its own assessment of the portfolio-based RSAs' coverage would be with regard to the various markets which the Commission itself considered relevant to its analysis, even though that is a matter that falls under the Commission's responsibility in accordance with the case-law cited in paragraph 679 above.

687 It is apparent that, in concluding that the portfolio-based RSAs covered a significant part of the national markets for general search services within the EEA, the arguments advanced by the Commission in the contested decision relate either to just one segment of the various relevant markets, that of general search queries from a smart mobile device, or to matters unrelated to the effect of the contested practice on those markets.

688 First, the Commission thus observes in recitals 1287 to 1289 of the contested decision that the portfolio-based RSAs bind, in essence, the most significant OEMs (the Commission refers to three) and MNOs (the Commission refers to four) within the EEA, and that those binding OEMs accounted for [40-50]% of all smartphones sold in Europe in 2011 and 2012. However, such statements do not support a finding of significant coverage of the national markets for general search services by the portfolio-based RSAs. Those statements show that only one segment of those markets is affected, that of mobile searches. It is all the more important that that share is placed in context as it is apparent from recital 1288 of the contested decision that the share of Google Android smartphones sold by OEMs and covered by portfolio-based RSAs gradually declined over the period from 2011 to 2014 from [70-80]% in 2011 to [5-10]% in 2014.

689 Admittedly, it is apparent from recital 1292 of the contested decision that, since 2013, the year in which the proportion of Google Android smartphones covered by portfolio-based RSAs fell sharply, Google has gradually replaced portfolio-based RSAs with device-based RSAs. The Commission notes that those device-based RSAs covered [50-60]% and [60-70]% of Google Android smartphones sold in 2013 and 2014. The fact remains, however, that the coverage of an allegedly anticompetitive practice involving exclusivity cannot in principle be established by taking into account practices which are not themselves considered anticompetitive. It is also irrelevant to the assessment of the coverage of the portfolio-based RSAs that these have, since 2013, gradually been replaced by device-based RSAs.

690 Second, in recitals 1290 and 1297 of the contested decision, the Commission states that general search queries carried out via Google Search on all mobile devices grew constantly in the period between 2012 and 2014 and represent [30-40]% of all Google queries in the EEA in 2014. However, that finding serves to demonstrate not the portfolio-based RSAs' allegedly significant coverage on the national markets for general search services but only the importance for Google of Google Search as an entry point on mobile devices.

691 Third, in recitals 1293 and 1298 of the contested decision, the Commission bases the allegedly significant coverage of the national markets for general search services by the portfolio-based RSAs on the finding that Google Search is set as default on the Safari browser incorporated in the mobile devices sold by Apple. However, as Google submits, its agreement with Apple is not among the portfolio-based RSAs referred to in the contested decision.

692 Fourth, in recital 1294 of the contested decision, the Commission observes that the proportion of search queries from Google Android mobile devices was [10-20]% and [10-20]% of all Google search queries carried out in 2013 and 2014, respectively. However, that finding does not corroborate the existence of an allegedly significant coverage of the national markets for general search services – quite the contrary. Indeed, assuming that all Google Android mobile devices were covered by portfolio-based RSAs in 2013 and 2014, which was not the case, and that Google held a full market share on the national markets for general search services, which it did not, even if its market shares were close, the theoretical coverage of the portfolio-based RSAs on the national markets for general search services could not, in 2013 and 2014, exceed [10-20]% and [10-20]% respectively of the national markets for general search services. The result of that purely theoretical calculation was expressly accepted by the Commission in its reply to a question put by the Court before the hearing.

693 In those circumstances, the share of the relevant markets covered by the contested practice cannot be characterised as significant.

694 It is true that, in response to an argument by Google concerning the minimal 'impact' of the portfolio-based RSAs in the light of certain data taken into account in the statement of objections with regard to the possibility of competing general search services matching the level of payments granted to the OEMs or MNOs in question (see recitals 1225 to 1271 of the contested decision), the Commission indicates that while that 'impact' appeared minimal to Google, it was nevertheless significant for those services, particularly because the search queries referred to on the basis of that analysis would have constituted a 'significant amount of additional queries' for them at a crucial time in the development of general searches, that of the shift from general searches on PCs to general searches on mobile devices (recitals 1299 to 1302 of the contested decision). The Commission also maintains, in response to another argument, that the significant nature of the coverage of the national markets for general search services by the contested practice is apparent from the fact that the type of search in question enabled valuable location data to be obtained which, as such, could improve the general search service and resulting advertising revenues (recital 1298 of the contested decision).

695 On the basis of the reasoning set out in the contested decision and examined above, such observations are not sufficient, however, to establish that the coverage of the relevant markets by the contested practice is significant.

696 It would have been otherwise had the Commission chosen to argue, which it did not do, that, notwithstanding a share of the relevant markets covered by the contested practice that is not significant, the segment covered by that practice or even just the OEMs and MNOs concerned in this case were of such strategic importance that the foreclosure effect attributable to that practice was capable of excluding Google's rival general search services from the relevant markets. Those rival services would then have been deprived of sufficient opportunities to compete on the merits by entering those markets or expanding in them, at a time when, for Google as well as for its competitors, such as Microsoft, it was important to tackle the challenges of the shift from general searches on PCs to general searches on mobile devices.

697 That case is not made out in the contested decision, in which it is merely outlined and insufficiently substantiated by the Commission in a section commencing with the assertion that its conclusion that the portfolio-based RSAs covered a significant part of the national markets for general search services is not affected by Google's arguments in that respect (see recital 1295 of the contested decision).

698 It follows from the full analysis of the coverage of portfolio-based RSAs that this was incorrectly described, in recital 1286 of the contested decision, as 'significant'. That error must, therefore, be taken into account in assessing the abusive nature of the portfolio-based RSAs in themselves.

699 It is also necessary to examine Google's arguments concerning errors allegedly made by the Commission in its assessment of the conditions under which the competitive advantage conferred by the portfolio-based RSAs could be offset by a competitor that was at least as efficient.

(b) Offsetting of portfolio-based RSAs

(1) Contested decision

700 In the contested decision, the Commission states that a competing general search service could not compensate for the loss of advertising revenue that would be sustained by the OEMs and MNOs concerned if a competing app were to be pre-installed alongside Google Search. In the first place, the Commission relies on the following data (recitals 1225 to 1271 of the contested decision).

701 First of all, a competing general search service could not, according to the Commission, expect to capture more than [0-5]% of search queries carried out on a mobile device, if its app were pre-installed alongside Google Search. That contestable share would rise to 22.5%, according to the Commission, if, in addition to

the pre-installation of a competing app, OEMs and MNOs set a competing search engine as the default on a mobile web browser other than Chrome.

702 First, the Commission states that, pursuant to the MADA, an app competing with Google Search could be pre-installed only in addition to Google Search, not instead of it. There is also some confusion, according to certain OEMs and certain Google employees, regarding the requirement under the MADA to set Google's search engine as the default on mobile web browsers other than Chrome. Where Google's search engine is set as the default on all mobile web browsers, the most that a competing service might have expected to achieve was that its mobile app would be pre-installed alongside Google Search.

703 Second, the Commission provides details of the calculation of the contestable share where a competing search app is pre-installed alongside Google Search. It takes into account the percentage of search queries (12%) carried out on PCs by all competing general search services in the period from 2011 to 2014 and applies that percentage to the assumption made in respect of search queries carried out on a mobile device. It also takes into account the proportion for Google of search queries originating from Google Search [30-40]%. The contestable share thus corresponds to [0-5]% of search queries from that app. That is the case because, under the MADA, any app of a competing search service must, in that situation, be pre-installed alongside Google Search. According to the Commission, that percentage is favourable to Google.

704 Third, the Commission provides details of the calculation of the contestable share where a competing search engine is additionally set as the default on a mobile web browser other than Chrome, that is, 22.5%. That percentage is derived from the sum of the contestable share of search queries via a mobile app [0-5]% and the share of search queries obtained by Google via the URL bar of a mobile web browser [10-20]%.

705 Next, the Commission observes that OEMs and MNOs received between [0-20]% and [30-50]% of Google's advertising revenues covered by the portfolio-based RSAs.

706 Lastly, according to the Commission, the portfolio-based RSAs covered only advertising revenues generated from [70-80]% of Google search queries. The Commission states that the portfolio-based RSAs do not concern revenues generated from Google's homepage.

707 In the second place, in the light of those data, the Commission contends that a competing general search service would have been unable to compensate for the loss of revenue on all devices covered by the portfolio-based RSAs. The Commission considers two different scenarios, which vary depending on whether or not there is a requirement under the MADA to set Google's search engine as the default search engine on other mobile web browsers.

708 On the one hand, in a scenario in which there is no such requirement, the Commission states that, in order to compete with a revenue share of [30-40]%, a competing service would have to forgo more than 100% of its advertising revenues. In order to compete with a revenue share of [10-20]%, the Commission adds that a competing service would have to forgo more than [70-80]% of its advertising revenues. That percentage falls to [50-60]% if Google shares [10-20]% of its advertising revenues, and to [30-40]% if Google shares [10-20]% of those revenues. The reason for those differences is that while Google shares almost [70-80]% of its advertising revenues, a competing service could share, depending on the contestable share, no more than 22.5% of such revenues.

709 Similarly, the Commission states that this calculation applies only if the competing services are present, in the case of a share of [10-20]%, on at least [70-80]% of mobile devices covered by the portfolio-based RSAs, in the case of a share of [10-20]%, on at least [50-60]% of mobile devices and, in the case of a share of [10-20]%, on at least [30-40]% of mobile devices. In the case of a share of [30-40]%, compensation would in any event be impossible.

710 The pre-installation of competing general search services on a large number of mobile devices is difficult in practice, particularly for those targeting a smaller group of consumers, such as Seznam's service, which targets Czech-language speakers. The difficulty is compounded by the fact that competing general search

services could expect to be pre-installed only on new mobile devices, not on those already in circulation. The greater the number of Google Android mobile devices in circulation, the higher the percentage of revenue which competing services would have to forgo in order to compensate for the portfolio-based RSAs.

711 On the other hand, where there is such a requirement to set Google Search as the default on a pre-installed mobile web browser other than Chrome, there is, according to the Commission, no room for doubt. In order to compensate for Google's sharing of even [10-20]% of its advertising revenues, a competing service would have to offer more than 100% of those revenues. Moreover, there would be the additional constraint of the competing app being pre-installed on what would in all likelihood be a limited number of mobile devices covered by the portfolio-based RSAs.

(2) Arguments of the parties

712 Google submits that, because of the low market coverage of the portfolio-based RSAs, users' open access to rivals, and the fact that as-efficient competitors could have matched the payments it makes under the portfolio-based RSAs, it is incorrect to claim that those RSAs were capable of foreclosing as-efficient competitors. On the contested decision's own analysis, as-efficient or even less efficient competitors would have been able to match payments under the portfolio-based RSAs.

713 In the first place, Google maintains that the vast majority of the portfolio-based RSAs resulted in payments of [10-20]% of search revenues, and that payments of more than [20-30]% were extremely rare. The calculations set out in the contested decision, in particular in recital 1243, show that as-efficient (or even less efficient) competitors could offset portfolio-based RSAs that offered payments of up to [20-30]%. More specifically, the contested decision states that, 'for an OEM or MNO that received a [20-30]% portfolio-based revenue share payment from Google, a competing general search service would have had to offer a share of its revenues greater than [70-80]%'. Thus, according to the contested decision, competitors could offset the portfolio-based RSAs while retaining a margin of approximately [30-40]% from the search revenues of covered devices. That margin increases to [60-70]% in respect of Google's [10-20]% revenue share payments.

714 The contested decision mentions, however, in recital 1246 that competitors would have been left without a margin from search revenues on covered devices when Google's revenue share payments reached a [40-50]% level, but that concerns only two MNOs. No other partner received revenue share payments at that level. The agreement with one of those two MNO partners was concluded before Google allegedly became dominant and ended nearly a year before the alleged infringement, and the agreement with the second MNO partner covered only certain EEA Member States, as is apparent from recitals 208 and 209 of the contested decision. Since the coverage of portfolio-based RSAs as a whole was very low, the coverage of those two portfolio-based RSAs would have been considerably lower still. The contested decision, therefore, could not establish likely foreclosure effects of those agreements.

715 In the second place, Google submits that the contested decision's analysis of rivals' ability to match the portfolio-based RSA payments suffers from a number of errors that vitiate its conclusion that a competing general search service could not have compensated an OEM or MNO for the loss of Google's payments under the relevant RSAs.

716 The margin that a rival search service could achieve while matching Google's revenue shares depends on the share of queries that an equally efficient and attractive rival can expect to win when its app is pre-installed alongside Google, the proportion of devices for which an OEM or MNO would be willing to pre-install a rival and the costs of an equally efficient rival. On each of these points, Google argues, the contested decision makes errors which, once corrected, show that rivals could have outbid Google's portfolio-based RSAs, including RSAs offering [40-50]% revenue shares.

717 First, an as-efficient rival could have obtained more than 12% of the search queries from the Google Search app if the rival search app were also pre-installed. By way of illustration, Seznam, in the Czech

Republic, obtained up to 26% of the annual shares of general search queries on PCs during the period of the alleged abuse. An equally attractive and thus equally efficient rival could therefore obtain at least 26% of general search queries.

718 Second, an as-efficient rival could have obtained queries via its homepage, generating via that entry point revenues which could be shared. Although Google does not share such revenues, a rival that was at least as efficient could outbid it by sharing such revenues.

719 Third, an as-efficient rival could have obtained additional queries via mobile web browser default setting, which is not prohibited by the MADAs. The statements of three OEMs cited in the contested decision do not prove that OEMs had misunderstood the MADA conditions. That question should, in any event, be assessed on the basis of the objective terms of the MADA, not of any misunderstandings. Furthermore, those statements do not suggest that OEMs were prevented from setting another browser as default or from setting another search service as default in the URL bar of other browsers. Other documents show that OEMs were free under the MADA to set rival search services as default in browsers, and confirm that OEMs had understood that to be the case. The contested decision therefore overestimates the alleged foreclosure effect of Google's RSAs.

720 Fourth, the contested decision fails to explain either why an as-efficient competitor could obtain pre-installation only on a limited proportion of OEMs' devices, or why a given OEM would have been prevented from pre-installing duplicate apps on some of its devices but not on others, or why rival apps could not be pre-installed on devices that had already been sold during the period that the RSA had been running.

721 Fifth, the contested decision overestimates Google's costs and thereby underestimates the margin that an as-efficient competitor could achieve while matching Google's portfolio-based RSAs.

722 According to Google, an equally efficient competitor should have at the very least attracted [30-40]% of search queries when pre-installed alongside Google and set as default. It should have been able to secure pre-installation on an entire portfolio of devices and should have faced costs of only [5-10]%. As a result, it could have outbid Google's portfolio-based RSAs while achieving a margin ranging from [10-20]% on RSAs giving rise to payments of [40-50], to [70-80]% on RSAs giving rise to payments of [10-20]%.

723 For its part, in the first place, the Commission notes that the analysis of the inability of as-efficient competitors to offset Google's payments is only one factor in determining the capability of the portfolio-based RSAs to restrict competition. Moreover, it contends that applying the AEC test is of no relevance in a situation where the structure of the market makes the emergence of an as-efficient competitor practically impossible.

724 The Commission also takes the view that, in the present case, it would be unrealistic not to take into consideration Google's dominance in general search, which magnifies the leverage that Google enjoys in concluding portfolio-based RSAs with OEMs and MNOs. Google's motives for concluding those RSAs are also relevant, as is their objective of ensuring that OEMs and MNOs obtain from Google all of their requirements for general search services on the devices included in the agreed portfolio.

725 In the second place, as regards the assessment of the portfolio-based RSAs, the Commission emphasises the lack of uniformity of the RSAs and the restrictions imposed on OEMs in the MADAs. The contested decision notes in that regard that there are a number of search entry points on a Google Android device that are already configured to Google's advantage by the MADAs, such as the obligation to pre-install the Google Search app on the device's home screen and to pre-install Google Chrome, with Google set as the default for general search.

726 In that context, Google paid the OEMs or MNOs a percentage ([0-10] to [30-40]%) of Google's net advertising revenue generated from Google searches within a defined portfolio of devices made from the Google Search app, the URL bar of Chrome and the URL bar of all other mobile web browsers. Those

payments were dependent on the OEMs or MNOs maintaining exclusivity in the sense of not installing on any device within the portfolio any service similar to Google Search.

727 The Commission also recalls that the question whether the MADAs prevented OEMs from setting another general search service as the default in a browser which those OEMs might also have pre-installed in addition to Chrome was uncertain as far as the OEMs were concerned. Some OEMs had understood their MADAs as requiring them to make Google's general search service the default service for all entry points on devices within their portfolio. However, for the purposes of assessing whether a competing general search service could have matched Google's payments, the Commission proceeded on the basis (favourable to Google) that the MADAs did not impose such a restriction. Google's arguments in that regard are therefore ineffective.

728 In the third place, first, Google's criticism of the reasoning followed in the contested decision takes as its starting point an intermediate stage in the calculation and ignores the subsequent analysis concerning the limited extent of installation that a competitor could expect to achieve. Those observations are not called into question by the criticisms made of the portfolio-based RSAs concluded with two Android OEM partners.

729 Second, as regards Google's argument that the 12% benchmark taken from the total share obtained by competitors for general search queries on PCs is irrelevant because it does not reflect the share obtainable by a competitor, the Commission recalls that its assessment of the capability of competitors to match Google's payments was favourable to Google. The Commission then rejects all the arguments put forward by Google in that regard.

730 Third, as regards Google's argument that competitors shared revenue generated through their homepages, it is illusory, according to the Commission, to consider that those competitors would offer to share revenue that Google would not share under its own RSAs.

731 Fourth, the contested decision does explain why it is unlikely that competing general search services would have been installed across the entire portfolio of an OEM's devices, the impact of pre-installation of the Google Search app on devices already sold, why a competing general search service could not compensate for Google's payments, despite increasing sales of new devices, and why OEMs are not likely to enter into RSAs with multiple competing services in order to compensate for Google's payments.

732 Fifth, Google's argument about costs is ineffective if the Court accepts the Commission's arguments as to the correctness of the analysis of the impossibility of a competitor matching the terms of Google's portfolio-based RSAs. In any event, that line of argument is unfounded, inter alia, because the costs calculated by Google do not include a share of its fixed costs, in particular research and development (R&D) costs.

(3) Findings of the Court

733 Google criticises the Commission for having concluded that it was impossible for competing undertakings to compensate for the loss that OEMs and MNOs would sustain if they should decide to pre-install a competing general search app alongside Google Search.

734 In reaching that conclusion the Commission, inter alia, conducted an AEC test, the results of which are challenged by Google, as are the methodology and the quantitative assumptions applied. It is therefore necessary to examine the errors alleged by Google in the light of the principles of case-law set out in paragraphs 643 to 649 above.

(i) Costs attributable to a hypothetically at least as efficient competitor

735 According to Google, in recitals 1265 and 1266 of the contested decision, the Commission overestimates Google's costs and thereby underestimates the margin that a competing search service could achieve if its

app were to be pre-installed alongside Google Search.

736 Google claims that the Commission is wrong to assume that Google's costs are equivalent to [10-20]% of its advertising revenues and that, in order to compete with Google, a hypothetically at least as efficient competitor would have to retain at least [10-20]% of advertising revenues. Rather, the costs borne by Google that are relevant for the purposes of the AEC test are, according to Google, more in the order of [0-10]%. Instead of making assumptions about Google's costs, the Commission could easily have had access to accurate information by seeking access to Google's financial data.

737 The Commission maintains that the question of costs is irrelevant. The ability that Google attributes to an as-efficient competitor to deduct only [0-10]% of costs instead of [10-20]% would be insufficient to alter the outcome of the analysis carried out in the contested decision. Google does not adduce evidence to the contrary and, as indicated in recital 1267 of the contested decision, hides the fact that a competing general search service would also have to cover a share of its fixed costs, in particular R&D costs.

738 Moreover, the complaint concerning a failure to take into account 'relevant and available information' is, in the Commission's view, unfounded. The data annexed to Google's application were not provided during the administrative procedure.

739 In that regard, it should be noted that a hypothetically at least as efficient competitor is a competitor which, at the very least, as the Commission points out in recital 1259 of the contested decision, has the same ability to generate revenue and is faced with the same costs as those of the undertaking in a dominant position. That requirement is also set out in the Guidance on exclusionary abuses. The Commission emphasises, in essence, in paragraph 25 of that guidance that, in order to determine whether a hypothetically at least as efficient competitor would be likely to be foreclosed by pricing practices, it examines, inter alia, where available, economic data relating to the costs of the dominant undertaking.

740 The costs to be taken into account have a direct impact on the margin that a competitor which hypothetically is at least as efficient as Google would be likely to retain if it had to make exclusivity payments in order to offset, in this instance, the portfolio-based RSAs. The lower the costs to be covered, the more likely a hypothetically at least as efficient competitor is to achieve a greater margin and thereby to share higher revenues.

741 In addition to that preliminary observation, first, it should be noted that, in recital 1265 of the contested decision, the Commission states that Google 'recognise[d]', in its response to the second letter of facts, that its 'operational' costs were [10-20]% and that, in essence, a competitor which hypothetically was at least as efficient as Google would have to bear the same level of costs.

742 It is true that, in its response to the second letter of facts, Google admits that the document on which the Commission relies, a portfolio-based RSA concluded with an OEM, includes a line relating to 'operating costs', which are stated to be [10-20]%. However, it must be noted that Google also made it clear that the percentage referred to by the Commission did not correspond to the relevant costs to be considered under the AEC test, which would be the incremental costs.

743 Google informed the Commission that that percentage bore no relation to the costs which a hypothetically at least as efficient competitor would have to bear. It was merely the reduction in the percentage of revenues shared with the other contracting party, which was expressed only in gross figures, not net. That point was made by Google in its response to the first letter of facts.

744 Accordingly, in Google's submission, the Commission cannot, without distorting Google's response to the second letter of facts, claim that Google implicitly consented to such a percentage being taken into account as relevant costs for the application of the AEC test.

745 Second, in its response to the second letter of facts, Google stated that it was for the Commission to conduct a proper investigation in order to define the relevant costs precisely. Google complained, more

specifically, that the Commission had concluded that the costs to be considered under the AEC test were [10-20]%, that percentage having been derived from documents submitted by a third party and not from a response to a request for information sent directly to Google.

746 It is apparent in particular from paragraph 25 of the Guidance on exclusionary abuses that, where available, the Commission is to take account of economic data from the dominant undertaking; therefore, in the present case, the Commission failed to conduct an appropriate examination of the costs.

747 Moreover, although, as the Commission points out, Google did not transmit such data of its own accord during the administrative procedure, it cannot be criticised for that.

748 The burden of proving that a practice is abusive lies with the Commission, having regard to any justifications that may be put forward by the undertaking concerned (see, to that effect, judgment of 6 September 2017, *Intel* v *Commission*, C 413/14 P, EU:C:2017:632, paragraphs 138 to 140). Accordingly, the Commission could not, in the present case, rely solely on data contained in a document submitted by a third party and fail to corroborate them with Google, by means, if necessary, of a request for information.

749 Third, it is apparent from recital 1266 of the contested decision that the Commission recognises the relevance of incremental costs for the application of the AEC test in this case, in that it notes that, in so far as the 'operational costs' deducted by Google are a percentage of the revenues associated with search queries, they are essentially a proxy for those costs.

750 However, it must be pointed out that the Commission is relying in that regard on mere conjecture, without referring to more precise data from Google. That point is particularly critical as, before the Court, the figure given by Google in respect of the incremental costs to be considered under the AEC test was [0-10]%. As Google correctly submits, it is not inconceivable that, by having to cover only [0-10]% of costs, a hypothetically as-efficient competitor would be in a better position to offset the portfolio-based RSAs than that envisaged by the Commission.

751 In those circumstances, the Commission cannot merely refer to the ineffectiveness of Google's arguments by asserting before the Court that taking a lower percentage into account would leave the outcome of the AEC test unchanged and that Google does not suggest otherwise.

752 It follows that Google's reference to a substantially lower percentage than that used by the Commission in the contested decision, combined with the fact that no further investigation was initiated by the Commission and that no detailed reasons relating thereto were given in the contested decision, is such as to raise doubts as to the correctness and validity of the AEC test carried out by the Commission.

(ii) Revenues that could be shared by a hypothetically at least as efficient competitor

753 According to Google, the Commission is wrong to ignore the share of search queries that a competing undertaking could obtain through the internet homepage of its search engine. Although Google would not share advertising revenues generated by search queries on its internet homepage, competing undertakings that are at least as efficient could have chosen to share those revenues and, in so doing, to compete with Google. In recital 1264 of the contested decision, the Commission ruled out that possibility, without, however, providing an adequate statement of reasons.

754 In that regard, it should be noted at the outset that Google disputes only one of the two reasons that led the Commission to reject that possibility. In recital 1264 of the contested decision, the Commission notes that competing general search services would not share the advertising revenues generated by search queries carried out on the webpage of their search engines, since, first, Google does not share those revenues and, second, those revenues are generated independently of any revenue share agreement concluded with OEMs and MNOs.

755 Google's argument cannot succeed. In assessing the ability of a practice to foreclose a competitor which hypothetically is at least as efficient, it is necessary to take account of the revenues shared by the dominant undertaking. To do otherwise would be tantamount to assessing the effects of the conduct of a dominant undertaking on a less efficient competitor, since the latter would have to share an additional source of revenue in order to compete.

756 Furthermore, the second reason referred to in recital 1264 of the contested decision is sufficient to preclude such revenues from being taken into account in the conduct, in this instance, of the AEC test. The aim of a revenue share agreement is to encourage OEMs and MNOs to favour searches from, inter alia, a mobile app or another entry point. OEMs and MNOs do not, however, have any means of encouraging users to visit a competing search engine's homepage of their own accord, regardless of any agreements that may have been concluded.

757 Accordingly, that argument must be rejected as being unfounded.

(iii) The share of search queries that could be contested by a hypothetically at least as efficient competitor

758 Google claims that the margin which competing undertakings could have set aside to counter portfolio-based RSAs must be re-evaluated upwards. That is so, in its submission, as the contestable share of search queries calculated in recital 1234 of the contested decision should have been higher. Google also emphasises the fact that the MADAs in no way prevented the OEMs or MNOs concerned from setting a competing search service as the default on a pre-installed mobile web browser other than Chrome. For its part, the Commission observes that the data relied on in the contested decision are favourable to Google. It also points out that the MADAs were ambiguous in their scope, which is reflected in the behaviour of the OEMs and MNOs.

759 In that regard, in the first place, it must be stated that the scope of the MADAs was not assessed in the same way by all the OEMs and MNOs concerned. As the Commission notes in recitals 1229 and 1230 of the contested decision, some OEMs and MNOs, but not all of them, interpreted the MADAs as prohibiting the setting of a competing general search service as the default on a mobile web browser other than Chrome.

760 That finding does affect the Commission's reasoning in the contested decision. In the case of a contestable share of search queries, incorporating also as an entry point to competing general search services the setting of a competing search engine as the default on a third-party browser, the Commission essentially comes to the conclusion, in recital 1243 of the contested decision, at an intermediate stage of its analysis, that a competitor which hypothetically is at least as efficient as Google could offset almost all of the portfolio-based RSAs. That finding is, however, called into question by the Commission itself in recital 1244 of the contested decision, in that it includes as an additional parameter, also disputed by Google in the context of the present action, the limited extent of pre-installation that may in practice be obtained by a competing general search service.

761 On the contrary, if only one entry point is taken into account, namely the pre-installation of a competing app alongside Google Search, the Commission concludes, at the intermediate stage of its analysis, in recital 1253 of the contested decision, that it is impossible for a competitor which hypothetically is at least as efficient as Google to offset the portfolio-based RSAs. In that context, it is necessary therefore to address the issue of the account taken, in the context of the application of the AEC test, of the numerous interpretations to which the MADAs were subject.

762 The benefit of any uncertainty or doubt relating, as in the present case, to the scope of a contractual obligation must, in the context of an investigation for the purposes of enforcement that could lead to the imposition of a fine, be given to the undertaking concerned, if that undertaking is not to bear the burden of such a doubt (see, to that effect, judgment of 22 November 2012, *E.ON Energie* v *Commission*, C 89/11 P, EU:C:2012:738, paragraphs 71 and 72).

763 Accordingly, for the purposes of applying the AEC test, the Commission could consider only the scenario of a contestable share including both that resulting from the pre-installation of a competing app alongside Google Search and that resulting from the setting of a competing search service as default on a mobile web browser other than Chrome.

764 In the second place, Google criticises the Commission for having understated the contestable share of search queries on mobile devices by a hypothetically at least as efficient competitor. According to Google, such a competitor is in a position to obtain more than 12% of search queries carried out by users via Google Search.

765 It should be recalled at the outset that the contestable share of search queries of 12% corresponds, as is apparent from recital 1234 of the contested decision, to the share contested by all competing general search services as regards general search queries on PCs in the EEA. The Commission in effect transposed the contested share for general search queries on PCs to the contestable share of general search queries on mobile devices. On the basis of that share, the Commission determined the maximum proportion of general search queries that a competing general search service would have been able, at most, to obtain if its app were pre-installed alongside Google Search.

766 In support of its claims, first, Google states that the share of general search queries contested by all competing general search services on PCs is minimal. That means, according to Google, that competing general search services are not competitors that are hypothetically at least as efficient. It also notes that, on the national markets where competing services have substantial coverage, such as Seznam in the Czech Republic, the contested share is higher. Second, according to Google the Commission ignored the fact that, during the period in question, Bing was set as default on almost all PCs.

767 In that regard, the argument relating to the setting of Bing as default on almost all PCs cannot succeed. The Commission contends, without being challenged on this point by Google, that, during the relevant period, from 2011 to 2014, Bing was not set as default on all PCs. During that period, Microsoft was required to leave the choice to users.

768 Moreover, Google states that, by applying a contestable share of search queries of 12%, the Commission did not rely on the share that might be contested by a competitor which hypothetically was at least as efficient as Google. On the contrary, the Commission applied the share actually contested by all competing general search services on PCs, services which were potentially less efficient. That error, according to Google, vitiates the entire AEC test carried out by the Commission.

769 The definition of the contestable share of search queries is, as Google rightly points out, based on an error of reasoning and a misconception of the AEC test.

770 First, the fact that the Commission chose to base its reasoning on the share of general search queries actually contested by all competing general search services on PCs does not make it possible to state with sufficient certainty that a hypothetically at least as efficient competitor could have contested only the same share on mobile devices. The shares actually contested on PCs could not, in the present case, reasonably be taken to form the basis of an AEC test designed to verify the share of general search queries that is contestable by a competitor which hypothetically is at least as efficient as Google on mobile devices.

771 Second, in the case of certain national markets for general search services, notably the Czech Republic, the share contested by certain competitors, such as Seznam, appears to be much higher than that used by the Commission in the contested decision. Google states, without being challenged on this point by the Commission, that, during the infringement period, Seznam obtained up to 26% of general search queries on PCs.

772 Nor does the fact that the 12% contestable share of search queries takes into account the share contested by Seznam in the Czech Republic lead to the conclusion that a hypothetically at least as efficient competitor could not, in the same way as Seznam in the Czech Republic, contest a larger share of search

queries in the EEA. The very fact that Google faces greater competition on certain national markets for general search services raises doubts as to whether that percentage is correct.

773 Third, the fact that only Google could reap the benefits of its market power to improve and offer an accurate service also means that the possibility that a competitor which hypothetically is at least as efficient – particularly from the point of view of service quality and innovation – may contest a share of more than 12% of search queries cannot be ruled out with any certainty.

774 Accordingly, the Commission also erred in proceeding on the basis that a competitor which hypothetically is at least as efficient as Google could, on mobile devices, contest only 12% of search queries carried out by users through Google Search.

(iv) The extent of pre-installation of an app of a hypothetically at least as efficient competitor

775 Google submits that the Commission fails to explain, in recital 1244 of the contested decision, why a rival search service app could be pre-installed on only a limited number of mobile devices. According to Google, the reference to the part of the contested decision concerning MADAs is not sufficient and contradicts recital 1208 of the contested decision, in which the Commission points out that, in the absence of the portfolio-based RSAs, OEMs and MNOs would have a commercial interest in pre-installing several general search apps.

776 In that regard, it must be noted that, in recital 1244 of the contested decision, the Commission gives reasons for the assertion that a competitor would be unlikely to have its app pre-installed on an OEM's or MNO's entire portfolio of mobile devices covered by the portfolio-based RSAs, by referring to recitals 824 to 832 of the contested decision.

777 Recitals 824 to 832 of the contested decision concern the assessment of the anticompetitive nature of the MADAs. The Commission explains that although, under the MADAs, OEMs and MNOs were not in theory prevented from pre-installing competing general search service apps, they were in practice reluctant to pre-install several general search service apps.

778 However, the reference, in recital 1244 of the contested decision, to the reasons relating to the assessment of the abusive nature of the MADAs in order to place in context the ability of a hypothetically at least as efficient competitor to offset portfolio-based RSAs is not convincing, as Google correctly points out. The context of the competitive assessment of MADAs differs from that of the assessment of the possibility of a competitor – being one that is hypothetically at least as efficient as Google and wishes to obtain pre-installation of its app in return for a share of advertising revenue – offsetting the portfolio-based RSAs.

779 First, in order to demonstrate that the competitive advantage which Google derives from the MADAs cannot be offset by the pre-installation of competing apps, the Commission points out, in recitals 825 to 832 of the contested decision, that OEMs and MNOs would be likely to receive little additional revenue in view of Google's market share and its ubiquity at the points of access to general search services. In addition, OEMs and MNOs would be faced with higher transaction costs and technical problems related to storage capacity, thereby degrading the user experience.

780 However, while those reasons are pertinent if the situation of a current competitor of Google that is not seeking to share Google's advertising revenue is taken into account, they do not in any way support the argument that a hypothetically at least as efficient competitor wishing to share Google's revenues would not be able to have its app pre-installed on the entire portfolio of mobile devices of the OEMs and MNOs concerned.

781 Such joint pre-installation could enhance the appeal of smart mobile devices and, therefore, match the interests of the OEMs and MNOs. Offering several general search apps, namely those of Google and of a hypothetically at least as efficient competitor, could improve the user experience, making the mobile

devices concerned all the more attractive, as the Commission moreover acknowledges in recital 1213 of the contested decision.

782 Furthermore, the revenues under the portfolio-based RSAs which OEMs and MNOs would lose if Google Search were no longer exclusively pre-installed could, as is apparent from recital 1243 of the contested decision, be offset by a competitor that is at least as efficient should all the mobile devices be covered by such a competitor's sharing of its advertising revenues. The Commission states moreover in recital 1216 of the contested decision, on the basis of Google's statements, that, in the absence of the portfolio-based RSAs, OEMs and MNOs could always receive revenues from Google, which again places in context the assertion that a hypothetically at least as efficient competitor could have its app pre-installed on only a limited number of mobile devices.

783 Second, the Commission notes, in recitals 830 to 832 of the contested decision, that the MADAs prevent OEMs and MNOs from pre-installing exclusively a competing general search service app or MNOs from requesting that OEMs pre-install such an app exclusively.

784 The situation envisaged in recital 1244 of the contested decision is that of pre-installation in addition to Google Search, not in its absence. The Commission's finding in recitals 830 to 832 of the contested decision is of no assistance, in so far as the situation envisaged as regards offsetting of RSAs is based on the premiss that a competing app is pre-installed alongside Google Search.

785 Third, the Commission relies, in recital 1247 of the contested decision, on two examples set out in recital 1219 to illustrate the fact that competitors which, in practice, had succeeded in having general search services pre-installed were able to cover only a limited number of mobile devices or, in any event, a number insufficient to offset the portfolio-based RSAs. Google points out, on the contrary, that one of the examples cited by the Commission supports the opposite view.

786 The Commission's examples are of current competitors. Moreover, the Commission does not indicate in recital 1247 of the contested decision whether it regards those competitors as competitors that are hypothetically at least as efficient as Google, having sought to share their advertising revenues.

787 Fourth, it should be noted that the assertion that the competitive advantage which Google derives from the MADAs cannot be offset by the conduct of OEMs and MNOs that choose to pre-install a competing app is, as is apparent from recital 833 of the contested decision, primarily based on the fact that those OEMs and MNOs are also linked to Google by the portfolio-based RSAs. The scenario under consideration in the present case concerns a hypothetical competitor proposing to substitute its own revenue sharing agreement for Google's RSA.

788 Accordingly, the Commission cannot qualify the ability of a hypothetically at least as efficient competitor to offset the portfolio-based RSAs merely by stating that such a competitor could, in that situation, have its app pre-installed on only a limited number of an OEM's or MNO's mobile devices.

(v) Application ratione temporis of the AEC test

789 Contrary to the approach taken by the Commission in recital 1249 of the contested decision, Google maintains that the possibility that a hypothetically at least as efficient competitor could offset the portfolio-based RSAs should be verified only from the time when those agreements entered into force. In any event, according to Google, the Commission does not examine the capacity of newer mobile devices to generate higher revenues than those already in circulation. The Commission also wrongly disregards the fact that revenues from older devices decline over time, solely on the ground that Google did not submit any evidence to that effect during the administrative procedure. The Commission maintains that none of the points put forward by Google is capable of calling the contested decision into question.

790 In that regard, it should be pointed out that, in the same way as for certain systems under which discounts are granted according to the quantities sold during a reference period, in which the pressure on the buyer to

achieve the turnover which entitles him or her to that discount increases at the end of that reference period, the exclusivity effect of a revenue sharing agreement intensifies as the number of goods sold which incorporate the services from which that revenue is derived increases (see, to that effect, judgment of 6 October 2015, *Post Danmark*, C 23/14, EU:C:2015:651, paragraph 34).

791 In the present case, in recital 1249 of the contested decision, the Commission correctly assessed the anticompetitive nature of the portfolio-based RSAs, not only at the time of their conclusion, but also during the period in which they were in force. Contrary to Google's contention, it cannot be denied that as the number of mobile devices in circulation covered by the portfolio-based RSAs increased, the more difficult, in practice, it proved to be for a competitor, even one hypothetically at least as efficient, to be able to match them. That is so in the present case, in so far as the revenues shared by Google depend on searches carried out on the mobile devices sold.

792 Accordingly, the Commission cannot have erred in law by having analysed a competitor's ability to offset the portfolio-based RSAs on a dynamic, rather than static, basis.

793 However, it must be noted that the considerations set out in recital 1249 of the contested decision remain purely theoretical. The Commission does not quantify in this case the actual effect of devices already sold on the ability of a competitor which hypothetically is at least as efficient as Google to offset the portfolio-based RSAs.

794 Moreover, while such a factor could be relevant, as Google rightly points out, in order to place in context the impact on the ability of a hypothetically at least as efficient competitor to offset the portfolio-based RSAs, in recital 1270 of the contested decision the Commission rejects the propensity of newer mobile devices to generate larger revenues than older mobile devices solely on the ground that Google submitted no evidence to that effect in its response to the second letter of facts.

795 The abusive nature of exclusivity payments cannot be based on a mere presumption of abuse, which it is for the undertaking holding a dominant position to rebut. On the contrary, it is clear from the case-law that, in the event that it is disputed that a pricing practice restricts competition, the Commission is required to assess all the relevant circumstances of the practice at issue in order to analyse its inherent capacity to foreclose competitors that are at least as efficient (see, to that effect, judgment of 6 September 2017, *Intel* v *Commission*, C 413/14 P, EU:C:2017:632, paragraphs 139 and 140).

796 Thus, since, in the present case, the burden of proving the exclusionary effect of the portfolio-based RSAs on a hypothetically at least as efficient competitor did not lie with Google but with the Commission, the Commission was not entitled to rely, in recital 1270 of the contested decision, on Google's alleged failure to act, by taking for granted, without further analysis, the capacity of new and old mobile devices to generate the same general search revenues.

797 Accordingly, the Commission cannot have conducted an appropriate examination of the ability of a hypothetically at least as efficient competitor to offset the portfolio-based RSAs during the period in which they were in force.

(vi) Conclusion on the validity of the AEC test

798 It follows from the foregoing that the AEC test carried out by the Commission in the contested decision contains several errors of reasoning. These relate, first of all, to one of the premisses of the AEC test, namely the general search query share that might be contested by a hypothetically at least as efficient competitor if its app were pre-installed alongside Google Search. Next, it must be noted that the Commission failed to isolate the costs that could be attributed to a hypothetically at least as efficient competitor and chose simply to extrapolate from data contained in a document submitted by a third party that were challenged by Google during the administrative procedure. Moreover, the reasons set out in recital 1244 of the contested decision in no way support the assertion that a hypothetically at least as efficient competitor is likely, in the absence of the portfolio-based RSAs, to have its app pre-installed on

only a limited number of mobile devices. Last, the Commission's assessment of the propensity of mobile devices already in circulation to generate lower revenues than those of newer mobile devices was incomplete.

799 That fourfold finding is, in itself, capable of giving rise to doubt as to the correctness of the result of the AEC test carried out by the Commission and, consequently, of the alleged exclusionary effect of the portfolio-based RSAs on a hypothetically at least as efficient competitor. Therefore, as conducted by the Commission, the AEC test does not support the finding of an abuse resulting from the portfolio-based RSAs.

5. Conclusion on the validity of the grounds relating to the abusive nature of the portfolio-based RSAs

800 As a result of the Commission's various errors of reasoning, the conclusion that the portfolio-based RSAs were abusive cannot be considered sufficiently established. Those errors concern essential aspects of the competitive analysis of the portfolio-based RSAs, namely the assessment of their coverage and the application of the AEC test.

801 Leaving aside those stages of the Commission's reasoning, it cannot be concluded that the portfolio-based RSAs are abusive just on the basis of the twofold finding of a restriction of innovation or of an interest on the part of OEMs and MNOs in pre-installing several general search service apps if those RSAs did not exist. Even if Google were not to contest those two aspects of the Commission's reasoning, it must be pointed out that they are, by themselves, insufficient to dispel the doubt raised by the Commission's errors in analysing the coverage and the capacity of the portfolio-based RSAs – through the AEC test which it carried out – to foreclose a hypothetically at least as efficient competitor.

802 Consequently, the contested decision must be annulled in so far as it considers the portfolio-based RSAs in themselves to constitute an abuse, without it being necessary to examine Google's arguments in relation to users' access to competing general search services and the need for a counterfactual test.

E. The fourth plea, alleging that the finding that it was abusive for the Play Store and Google Search licences to be made conditional on compliance with the anti-fragmentation obligations is incorrect

1. Preliminary observations on the scope of the second abuse identified in the contested decision

803 In the fourth plea, which is divided into two parts, Google disputes the claim that its practice of making the grant of licences for the Play Store and Google Search conditional (in the context of a MADA) on acceptance of the anti-fragmentation obligations contained in the AFAs can be characterised as abuse of its dominant position on the markets for Android app stores and for general search services.

804 The Commission takes the view that the practices at issue are abusive and, furthermore, that the arguments put forward by Google in support of the fourth plea are in part ineffective. In that regard, it also argues that much of the evidence on which the contested decision is based is not disputed by Google.

805 As is apparent from the file, Google required OEMs wishing to be able to market smart mobile devices on which the Play Store and Google Search were pre-installed to enter into an AFA. Indeed, the signing of a MADA was conditional on the conclusion of an AFA.

806 It should be noted that it is common ground that the anti-fragmentation obligations require observance of a minimum compatibility standard for implementation of the Android source code. That standard, defined by Google in the CDD, which is published on the internet, requires inter alia that smart mobile devices enable installation of apps, correctly report their screen sizes to apps, implement basic security features, and include a complete set of Android APIs.

807 The anti-fragmentation obligations apply to all devices marketed by every OEM that has entered into an AFA, if those devices run Android or an Android fork (that is to say, an OS developed from the Android source code). In order to demonstrate their compatibility with the standards laid down in the CDD, the devices must pass a series of compatibility tests (the Compatibility Test Suite; 'CTS'). The CTS, public access to which is provided by Google on the Android site, consists of a series of tests to demonstrate that a smart mobile device running on Android fork meets all the technical compatibility requirements set out in the CDD. OEMs are themselves responsible for running the CTS on devices operating on an Android fork, including devices on which Google's apps are not pre-installed.

808 By convention, Android forks which pass the CTS will be referred to as 'Android-compatible forks'. Android forks that have not undergone those tests or that have not passed them, that is to say, variants derived from Android source code which have not actually demonstrated that they can pass the CTS, will be referred to as 'non-compatible Android forks'.

809 According to the contested decision, Google has, since 1 January 2011, abused its dominant position in the worldwide market, excluding China, for Android app stores and in the national markets for general search services by making the licence for the Play Store and Google Search conditional on acceptance of the anti-fragmentation obligations. The second abuse is said to have started on 1 January 2011, the date on which Google acquired a dominant position on the abovementioned markets, and was ongoing as at the date on which the contested decision was adopted (recital 1187 of the contested decision).

810 It should be stated at the outset that, as the main parties confirmed at the hearing, the AFAs are considered abusive in the contested decision only in so far as they require OEMs to ensure that all the devices which they market and whose OS is Android or an Android fork, including those on which Google's apps are not pre-installed, are compatible with the CDD. In other words, the AFAs are considered to be abusive only in so far as they prohibit the marketing of smart mobile devices that have an OS which is a non-compatible Android fork even if no Google apps are pre-installed on those devices.

811 While it is true that the Commission found, in general terms, that making the licensing of the Play Store and Google Search conditional on compliance with the anti-fragmentation obligations was capable of restricting competition (recital 1036 of the contested decision), that assessment must nevertheless be compared to the assessment that, while there may be some justification in the case of smart mobile devices on which the GMS suite is pre-installed, the same cannot under any circumstances be said in the case of devices running Android forks on which Google's apps are not installed (recital 1173 of the contested decision).

812 Thus, referring to the judgment of 17 September 2007, *Microsoft* v *Commission* (T 201/04, EU:T:2007:289), and to the conditions under which it may be established that a bundle of products or obligations is abusive, the Commission complains, in essence, that Google implemented an anticompetitive practice aimed at depriving non-compatible Android forks of commercial markets.

813 It follows that the arguments put forward by Google and the parties intervening in support of the applicants that seek to demonstrate the legitimacy of the application of the anti-fragmentation obligations to devices on which the GMS suite is installed are not in any event capable of establishing that the Commission erred in its assessment of the second abuse.

814 In the first part of the fourth plea relied on, Google disputes the Commission's findings to the effect that the practice at issue is restrictive of competition. In the second part of that plea, Google submits that its conduct is, in any event, objectively justified.

2. The first part, concerning the restriction of competition

(a) Contested decision

815 Referring to the judgment of 17 September 2007, *Microsoft* v *Commission* (T 201/04, EU:T:2007:289), the Commission states that, in order to characterise the second abuse, it is necessary to establish (i) that the anti-fragmentation obligations are unrelated to the Play Store licence and Google Search licence; (ii) that Google is dominant in the Android app stores market and in the markets for general search services; (iii) that the Play Store and Google Search cannot be obtained other than by accepting the anti-fragmentation obligations; and (iv) that the anti-fragmentation obligations are capable of restricting competition (recital 1011 et seq. of the contested decision).

816 Having assessed the first three criteria, the Commission develops six lines of argument to establish that the anti-fragmentation obligations are capable of restricting competition: (i) non-compatible Android forks constitute a credible competitive threat to Google; (ii) Google defines the anti-fragmentation obligations, the content of which it thus controls, and actively monitors OEMs' compliance with them; (iii) the anti-fragmentation obligations hinder the development of non-compatible Android forks; (iv) Android-compatible forks do not constitute a credible competitive threat to Google; (v) the capability of the anti-fragmentation obligations to restrict competition is reinforced by the unavailability of Google's proprietary APIs to non-compatible Android fork developers, which reduces the incentive for developers to design apps intended to function on such OSs; and (vi) Google's conduct maintains and strengthens its dominant position in the national markets for general search services, deters innovation and tends to harm, directly or indirectly, consumers (recital 1036 of the contested decision).

(b) Arguments of the parties

(1) Google's arguments

817 In support of the first part of the fourth plea, Google submits that the anti-fragmentation obligations do not restrict the ability of Android variants to compete. On the contrary, they increase their competitiveness by maintaining a minimum standard of compatibility which ensures that apps can function properly on all of those variants. Non-compatible Android forks, which do not meet that standard, are of no value and jeopardise the 'Android ecosystem' as a whole.

818 In the first place, according to Google, compliance with the technical standards of the CDD is essential, on the one hand, to ensure the proper functioning of smart mobile devices with an Android or Android fork OS and, on the other, to ensure the interoperability of those devices and the apps developed for Android. Conversely, proven incompatibilities reduce the attractiveness of the OS and of Android forks for users and app developers. The anti-fragmentation obligations thus enable OEMs to enjoy the high degree of flexibility of Android's open-source model, while protecting the viability and quality of that OS and of Android forks against malfunctions due to incompatibilities. Google submits that the anti-fragmentation obligations are intended to be a means of drawing the appropriate conclusions from past experience and from the demise of other open-source ecosystems, such as Symbian and Unix. Therefore, the anti-fragmentation obligations, being indispensable for the protection of the 'Android ecosystem', do not restrict competition.

819 In the second place, Google submits that the contested decision fails to identify the specific requirements of the anti-fragmentation obligations that supposedly restrict competition. Nor does it specify which relevant competitive parameter might be affected. The parties to the AFAs merely undertake to ensure that their Android forks comply with the compatibility requirements laid down in the CDD. The anti-fragmentation obligations thus leave OEMs free to compete with their Android forks on all conceivable parameters of competition, including price, quality and innovation. They could innovate the Android source code, develop new features and add APIs. The anti-fragmentation obligations do not preclude OS providers or OEMs which have entered into an AFA from offering rival general search services. Indeed, Android-compatible forks are not less well suited than non-compatible forks to offering rival search services.

820 In the third place, Google also submits that, by ensuring the development and maintenance of the Android platform, the AFAs expanded opportunities for competitors by saving them from incurring the increased

development costs that would have arisen from the additional testing required in the case of a fragmented platform, which would, as a result, also have raised costs for users. For example, requiring that a complete set of Android APIs be installed on an Android-specific device or on a device developed specifically to run on an Android fork is an advantage, not a constraint. Each device has immediate access to the wide range of apps designed for all compatible OSs. The other technical requirements of the CDD are intended to achieve the same result. All the economic operators concerned can thus avoid the need to construct their own 'ecosystem' from scratch.

821 In the fourth place, Google submits that the assertion that the anti-fragmentation obligations restrict competition is based on vague and incorrect arguments which, moreover, are unrelated to the anti-fragmentation obligations. In that regard, Google refers in particular to the competitive threat allegedly posed by non-compatible Android forks, the difficulties encountered by certain non-compatible Android forks, such as Amazon's Fire OS and Alibaba's Aliyun OS, and the assertion relating to the desirability of certain incompatibilities, which is allegedly illustrated by Google's decision to break Android's compatibility with Java. According to Google, the failure of non-compatible Android forks is attributable to their inherent weakness and not to the AFAs.

822 In the fifth place, the claim that Google could 'in principle' amend the CDD requirements to render them more restrictive in the future is speculative and cannot be characterised as an infringement. Google contends that it has never exercised its limited control over the platform to restrict competition and there is no reason to believe that it could be led to do so. It points out that the AFAs provide that exceptions to the compatibility requirements may also be granted.

823 In the sixth and last place, Google submits that, contrary to what is stated in the contested decision, the anti-fragmentation obligations did not reinforce its position in the general search services market. Rival services could use Android-compatible forks just as well as non-compatible Android forks as a distribution channel. The anti-fragmentation obligations do not prevent OS developers or OEMs from marketing devices on which a rival general search service is pre-installed. Moreover, in the contested decision, the Commission did not explain why non-compatible Android forks were considered to provide a better distribution channel for general search services competing with Google Search. The commercial prospects of non-compatible Android forks, being lesser than those of compatible forks, are less-well-suited distribution channels. The examples of pre-installation of Bing by Amazon and Nokia on non-compatible Android forks are irrelevant.

824 In support of that line of argument, the parties intervening in support of Google submit, inter alia, as follows:

– ADA maintains that the Commission should have examined the AFAs in the light of the interactions between the OSs and the apps. In that context, the non-compatible Android forks do not constitute a credible competitive threat because of porting costs and the adverse consequences of incompatibilities. Without Google's proprietary APIs, the apps would not function correctly and correcting those malfunctions would entail additional high costs. Those incompatibilities therefore represent a disadvantage for developers and adverse consequences for users. Consequently there is no realistic alternative to the AFAs;

– CCIA submits that the Commission should have sought a realistic counterfactual scenario, which would have sufficed to show that, contrary to what is stated in the contested decision, the AFAs actually expanded the opportunities to compete;

– Gigaset and HMD submit that the AFAs promoted competition by protecting the viability of Android over alternative models. This benefited app developers, OEMs and consumers. There is no ambiguity as to the application of the CDD. Malfunctions caused by non-compatible forks have negative repercussions for all stakeholders;

– Opera submits that the Android business model has benefited it by offering it a reliable platform that provides access to many potential users. That model is more pro-competitive than any other.

(2) The Commission's arguments

825 The Commission refers, in essence, to the content of the contested decision. Google's internal documents and its communications with OEMs show that it wanted the AFAs to prevent OEMs wishing to sell devices with the Play Store and the Google Search app pre-installed from also selling devices running non-compatible Android forks. The AFAs also restrict competition in general search services, because they ensure that Google's partners and competitors cannot develop non-compatible Android forks that are outside Google's control, on which OEMs could have pre-installed competing general search services and set them as default.

826 Thus, first, according to the Commission, the objective of the AFAs is to prevent, on the one hand, the development of non-compatible Android forks by OS developers and by OEMs and, on the other, the sale of devices running such forks. Such an objective is sufficient to characterise Google's strategy as being one of foreclosing non-compatible Android forks. Second, non-compatible Android forks constitute a more credible competitive threat to Google than Android-compatible forks. Third, the exclusionary effects inherent in the AFAs are not mitigated by the existence of licensable OSs other than Android. Fourth, the Commission notes that there was demand from certain OEMs to sell devices running non-compatible Android forks. In all those cases, the AFAs would have prevented the OEMs and developers concerned from responding to that demand.

827 The parties intervening in support of the Commission contend in particular as follows:

– VDZ contends that competition from non-compatible Android forks increases variety and leads to lower prices for devices while encouraging innovation. The anti-fragmentation obligations therefore go beyond what is necessary;

– FairSearch contends that the anti-fragmentation obligations were designed to exclude open-source competition and that Google has a discretion as to the interpretation of the term 'fragmentation', which enables it to cement its market power. The anti-fragmentation obligations are thus neither justified nor proportionate;

– Seznam notes that it is compelled to use the Play Store as it is impossible to convince developers to create its own app store for a market as small as the Czech Republic. The anti-fragmentation obligations remove any option that would make any business sense and prevent competition on the merits on the markets for general search services;

– Qwant contends that, since the adoption of the contested decision, OEMs' offers of non-compatible Android forks have become competitive, as is illustrated by the example of Fairphone. By preventing the development of non-compatible Android forks, the AFAs deprived Google Search's rival search engines of distribution platforms.

(c) Findings of the Court

828 As has just been noted, the Commission criticises Google for making the licensing of the Play Store and Google Search conditional on a set of obligations that restrict the freedom of OEMs wishing to obtain those licences, specifically in so far as they prohibit OEMs from marketing any other device running a non-compatible Android fork. That restriction stems from the AFAs and, in so far as it applies to smart mobile devices on which Google's apps are not pre-installed, is the only obligation that is considered in the contested decision to be abusive. The Commission does not dispute Google's right to impose compatibility requirements in respect of devices on which its apps are installed. However, it considers that Google's practice of preventing the development and market presence of devices running a non-compatible Android fork to be abusive. It is therefore necessary to examine whether the Commission has succeeded in

establishing that, as it finds in the contested decision, Google implemented a practice designed to exclude non-compatible Android forks, and whether that practice may be classified as anticompetitive for the purposes of Article 102 TFEU.

829 Under point (b) of the second paragraph of Article 102 TFEU, abusive practices which may constitute an abuse of a dominant position consist, inter alia, in limiting production, markets or technical development to the prejudice of consumers. In order to assess whether the second instance of Google's conduct that is characterised as an abuse in the contested decision constitutes such an abusive practice, it is necessary to ascertain, first, whether the Commission has demonstrated that it exists and, second, whether it has established that that practice was capable of restricting competition.

(1) The existence of the practice

830 As regards the existence of the practice concerned, the fact that parties to the AFAs are prohibited from marketing devices running non-compatible Android forks is not disputed by the parties. It is, moreover, apparent from the documents in the file.

831 First, the existence of that practice is corroborated by Google's answers to the written questions put to it by the Court, in which it recalls that its decision to put in place the AFAs dates back to Android's inception. It claims that it chose to deal commercially only with undertakings that would agree not to imperil Android. In its view, that objective could be achieved only by limiting all possible sources of incompatibilities and, in particular, the development of non-compatible Android forks which, by creating a risk of app malfunctions, posed a threat to its reputation and a disadvantage, both from the point of view of developers and of consumers. It must therefore be noted that Google acknowledges having from the outset put the AFAs in place to prevent development of non-compatible Android forks.

832 Second, Google does not dispute the seven examples set out in the contested decision, according to which it actively intervened to remind OEMs which had undertaken to market devices running non-compatible Android forks of their contractual obligations, or to put pressure on developers in order to deter them from designing apps for non-compatible Android forks (recitals 1051 to 1059 of the contested decision). Although Google argued during the administrative procedure that its interventions were intended to remedy hardware deficiencies, it did not produce any evidence to support its claims. On the contrary, it is apparent from Google's emails at the time to the undertakings in question that its interventions were motivated by the desire to prevent the development of non-compatible Android forks and not by the need to resolve technical difficulties associated with the devices themselves.

833 Third, the observations submitted to the Commission by an undertaking questioned during the administrative procedure show that Google itself monitored OEMs' compliance with the AFAs by making purchases, sporadically, from MNOs and by itself running the devices thus purchased through the CTS (recital 1061 of the contested decision).

834 It must therefore be held that the material existence of the practice considered by the Commission to constitute the second abuse, admitted by Google, is established. It is also apparent from the foregoing that it was actually implemented, from Android's inception.

835 It is therefore necessary to determine whether that practice, which seeks to limit the development of non-compatible Android forks, constitutes an abuse of a dominant position within the meaning of Article 102 TFEU. To that end, the Court must examine the reasons for the Commission's view in the contested decision that that exclusion restricted competition, or at least was capable of doing so, as well as the arguments on the basis of which Google disputes those findings.

(2) The anticompetitive nature of the practice

836 As regards the anticompetitive nature of the practice concerned, according to the contested decision, Google pursued anticompetitive objectives and its conduct actually produced effects that were restrictive of

competition. Those findings must, therefore, be examined.

(i) Concerning the anticompetitive nature of the objectives pursued

837 It is apparent from the internal documents mentioned in the contested decision that the anti-fragmentation obligations were designed, inter alia, to prevent any development of Android source code not approved by Google, by depriving non-compatible Android fork developers of commercial markets. That objective is, moreover, confirmed by the arguments put forward by Google in connection with the first part of the fourth plea.

838 First, it is apparent from internal emails cited in the contested decision that the strategy aimed at hindering the development of non-compatible Android forks was established from the outset, in order to prevent Google's partners and competitors from developing standalone versions of Android. From the outset, as is apparent from internal emails and information published on Android's website, Google sought to reserve access to the 'ecosystem' to Android-compatible forks and to prohibit participating undertakings from marketing devices running non-compatible Android forks (recitals 159 and 160 of the contested decision).

839 Second, the arguments put forward by Google in the context of the first part of the present plea in order to challenge the anticompetitive nature of the practice at issue are based on the alleged need to protect the 'Android ecosystem' from the fragmentation inherent in 'open-source' licence models. That alleged need, it is argued, is a circumstance which precludes Google's conduct from being considered abusive, since the pro-competitive advantages resulting from the non-fragmentation of the 'Android ecosystem' greatly exceed the anticompetitive effects of excluding non-compatible Android forks. According to Google, that risk of fragmentation arises from the mere market presence of non-compatible Android forks which, because of their incompatibility, are likely to undermine interoperability, that is to say, the ability to run all apps designed for Android on all devices using Android or any Android fork as an OS. Google thus acknowledges that the need to counter that threat led it to prevent the development of non-compatible forks.

840 On that point, according to Google, market incentives alone could not have achieved the desired result since, in the absence of the AFAs, developers and OEMs would not have had sufficient interest in remedying any risk of incompatibility by themselves. Google thus submits that the marketing ban on non-compatible Android forks contained in the AFAs was therefore necessary. As to whether the risk of fragmentation alleged by Google is capable of objectively justifying that conduct, that question will be examined in the context of the second part of the present plea.

841 It must therefore be held that it is apparent from Google's own statements, supported by the documents in the file, that the practice characterised as abusive in the contested decision was knowingly implemented with the aim of limiting market access of non-compatible Android forks.

(ii) Concerning the restriction of competition

842 It is consequently necessary to examine whether Google is justified in maintaining that the Commission did not sufficiently establish in the contested decision that the practice at issue was capable of restricting competition. In that regard, the matters on which the Commission relied in the contested decision in order to establish the capacity of the second abuse to restrict competition that is disputed by Google can be grouped together into three main grounds. First, non-compatible Android forks are more credible competitors of Google than Android-compatible forks. Second, the second abuse allowed Google actually to exclude non-compatible Android forks. Third, and last, that exclusion is harmful to competition, since it has the effect of strengthening Google's dominant position on national markets for general search services and stifles innovation.

– *The potential threat posed by non-compatible forks*

843 According to the Commission, non-compatible Android forks constitute a competitive threat to Google that is not only credible but even greater than that constituted by Android-compatible forks and that different OSs, such as Windows Mobile or Linux, might represent. In that regard, the parties disagree, on the one hand, as to the extent to which apps designed for Android could function correctly on non-compatible Android forks and, on the other hand, as to the costs entailed in adapting those apps to non-compatible Android forks, the Commission taking the view that the costs are lower if an app designed for Android is ported to a non-compatible Android fork than those that would be necessary for porting that app to different OSs.

844 In that regard, it is clear from the documents in the file that non-compatible Android forks are, like Android and Android-compatible forks, licensable OSs. It is also apparent from the examination of the first plea in law that licensable OSs constitute a relevant market for the purposes of the assessment of competitive relationships. Consequently, non-compatible Android forks are likely to compete with Google on the market for licensable OSs. Therefore, the question, debated by the parties, of the extent to which the relative competitive pressure exerted by Android-compatible forks and by other licensable OSs is more or less significant by comparison with the competitive pressure exerted on Google by non-compatible Android forks is irrelevant. It is sufficient, for the purpose of characterising a restriction of competition, to establish that the non-compatible Android forks would have been competitors of Android on the market for licensable OSs, which Google does not dispute.

845 Similarly, the question whether the costs of porting apps to non-compatible Android forks, that is to say, the development costs which must be incurred in order to enable apps designed for Android to function correctly on devices running an OS that is a non-compatible Android fork, are higher or lower than those of porting to OSs other than Android is also irrelevant. Even if it is accepted, which Google has not shown, that the costs of porting apps designed for the 'Android ecosystem' to non-compatible Android forks are comparable to those which must be incurred for porting to entirely different OSs, that is to say, OSs not developed on the basis of the Android source code, it must be concluded that, so far as that expenditure is concerned, the competitive threat to Google from the non-compatible Android forks cannot be less than that which is posed by the other licensable OSs analysed in the contested decision.

846 Nor is the ability of non-compatible Android forks to exert competitive pressure on Google called into question by the applicants' arguments that the development of non-compatible Android forks is of no commercial interest, which would preclude their constituting a threat to the applicants. In fact, Google puts forward a general and abstract claim in that regard, the merits of which are not supported by any conclusive evidence. On the contrary, Seznam, in its reply to the written questions put by the Court, claims that it tried in vain to convince OEMs which had entered into an AFA with Google to market devices running non-compatible Android forks on which it intended to install its own search engine. That example supports the findings in the contested decision that the second abuse helped Google to escape the competitive threat which non-compatible Android forks might have represented, both on the market for licensable OSs and on the market for general search services.

847 It follows from the foregoing that Google has not established that non-compatible Android forks could not in any event have constituted a competitive threat to it. Accordingly, it is necessary to consider whether the AFAs are likely actually to have made entry into the OS market more difficult for those competitors of Google.

– *The actual exclusion of non-compatible Android forks and the anticompetitive effects of that exclusion*

848 It is common ground that, during the infringement period that was considered in the contested decision, no non-compatible Android fork was able to exist on a lasting basis on the market. The parties disagree on the interpretation of that finding, the Commission taking the view in the contested decision that the commercial failure of non-compatible Android forks that had existed, on the one hand, and the non-entry into the market of new non-compatible Android forks, on the other hand, are the result of Google's conduct. In particular, the Commission criticises Google for having required all OEMs wishing to benefit

from the installation of the Play Store and Google Search on the devices which they were marketing to enter into an AFA. Conversely, Google submits that the failure of non-compatible Android forks is due to their inherent weaknesses and their lack of commercial interest.

849 First of all, it should be observed that Google does not dispute the observations, contained in Section 6.3.1 of the contested decision, relating to the coverage of the AFAs. In that regard, it is recalled in the contested decision that Google entered into AFAs or similar agreements with some 100 undertakings operating on the market for smart mobile devices, at all levels of the production chain of those devices. AFAs, inter alia, were concluded with the top 30 OEMs in terms of their sales of smart mobile devices (Figure 7 of the contested decision). The duration of those agreements with the OEMs was at least equal to that of the MADAs, the AFAs having to be renewed if OEMs wished to continue to benefit from a MADA. It must therefore be regarded as established that, during the period of the infringement, the largest economic operators capable of offering a commercial market to developers of non-compatible Android forks were prevented from doing so by the AFAs.

850 Next, Google disputes the Commission's interpretation of the failure of Fire OS, a non-compatible Android fork developed by Amazon and designed with the aim of establishing an 'ecosystem' independent of Google, but to enable apps designed for Android to function. According to Google, the failure of Fire OS was due to various factors, including the unavailability of the Play Store, which Amazon itself had acknowledged. In that regard, it should be observed that it is, admittedly, common ground that the Play Store is a 'must have' deliberately reserved for participants in the 'Android ecosystem'. However, Google did not adduce any evidence that might invalidate the findings in the contested decision to the effect that six of the largest OEMs in terms of sales refused to conclude agreements for the development of devices running Fire OS, expressing concerns to Amazon that that would be a clear breach of the AFAs (recital 1094 of the contested decision). It must therefore be held that, even if there could also be other reasons for the commercial failure of Fire OS, which, moreover, are not independent of Google's commercial policy, the Commission has nevertheless established that the AFAs deprived Fire OS of the markets which the OEMs that had entered into an AFA with Google could have constituted for it.

851 Furthermore, Google does not deny that it actively intervened to remind several OEMs of their obligations, those OEMs having initially envisaged marketing the Aliyun OS, a non-compatible Android fork developed by Alibaba, in China. Indeed, it is apparent from the statements made by Alibaba during the administrative procedure that that undertaking was planning to enter into production agreements to introduce its OS in China and then in the rest of the world, including the EEA. It is also apparent from the statements made by several OEMs that Google expressly asked them to suspend all commercial negotiations with Alibaba (recitals 1054, 1057 and 1069 of the contested decision). Although Google considers its interventions to be justified by the need to protect its reputation and the desire not to allow its competitors to benefit from positive externalities due to the 'open-source' nature of the Android licence, it does not deny having acted to ensure that those OEMs met their obligations under the AFAs in relation to the prohibition against providing markets for non-compatible Android forks. In those circumstances, Google is not justified in maintaining that Alibaba's failure in China is due exclusively to hardware failures and problems with the quality of counterfeits.

852 It should also be recalled that in the second part of the fourth plea, Google submits, in response to an argument put forward by the Commission, that without the AFAs, market discipline, despite the lack of commercial interest in the development of non-compatible Android forks, would not have been sufficient to ensure that there were no incompatibilities. Without binding obligations, Google submits that the operators of the 'Android ecosystem' would have had an interest in taking advantage of the interoperability resulting from compatibility, but not necessarily in themselves incurring the expenditure necessary to remedy all the incompatibilities.

853 Last, the parties also disagree as to the appropriate conclusions to be drawn from the fact that Google had reserved to itself ownership of APIs as well as of other programs which it had itself developed and which helped apps to function on devices by enabling them to communicate effectively with the OS. Although, in the contested decision, the Commission considers that Google's refusal to make its APIs available to

developers of non-compatible Android forks contributed to the second abuse, it must nevertheless be noted that, as it confirmed at the hearing, the Commission does not dispute, as such, Google's proprietary right to the programs it has developed. It should also be noted that Google indicated, without being contradicted, that the successive versions of the Android source code that it had published all included an update of the 'basic' APIs and that these were sufficient to allow apps designed for Android to function in all compatible developments of the source code.

854 In the present case, it should be noted that the use by an undertaking, even one that is in a dominant position, of a legitimately acquired property right cannot be regarded as such as abusive, for the purposes of Article 102 TFEU. Indeed, the exercise of an exclusive right linked to an intellectual property right is one of the rights of the holder of such a right, and consequently the exercise of that right, even when done by a dominant undertaking, cannot in itself constitute an abuse of the dominant position. However, such conduct cannot be accepted when its purpose is precisely to strengthen the dominant position of the party engaging in it and to abuse that position (see judgment of 30 January 2020, *Generics (UK) and Others*, C 307/18, EU:C:2020:52, paragraphs 150 and 151 and the case-law cited).

855 In the present case, it is necessary to take account of the statements obtained from three undertakings during the administrative procedure, according to which the fact that increasingly effective proprietary APIs are available only to participants in the 'Android ecosystem' has tended to make developers of apps for Android critically reliant on those APIs. The cost of any porting of apps to non-compatible Android forks has thus become more of a deterrent. In the light of those statements, it must be held that the commercial policy adopted by Google as regards the availability of its APIs must be taken into consideration, as a contextual element, in assessing the effect of the market restrictions put in place in the AFAs. That effect is all the more important given that Google does not dispute the Commission's findings that the technological gap between Google's APIs and the basic versions of the source code increased throughout the infringement period. Access to Google's proprietary APIs was thus of strategic interest to developers and OEMs. ADA, intervening in support of Google, also confirms that, without Google's proprietary APIs, apps would not function correctly and the correction of those malfunctions would entail further and significant costs.

856 As examination of the second plea has shown, OEMs wishing to avail of Google's proprietary APIs were required to enter into a MADA, which presupposed prior acceptance of the terms of the AFAs. Therefore, it must be held that Google's policy in relation to the development and distribution of its APIs constituted an incentive to enter into an AFA, which, as has just been noted, limited the markets for non-compatible Android forks.

857 In order to establish the anticompetitive nature of the exclusionary practice constituting the second abuse, the Commission highlights two main consequences in the contested decision, in addition to the impediment to the development of Google's actual or potential competitors on the market for licensable OSs. First, according to the Commission, the second abuse led to the strengthening of Google's dominant position in the market for general search services. Second, it deters innovation and limits the diversity of the offers available to consumers (recitals 1139 to 1145 of the contested decision).

858 As regards the first point mentioned above, Google challenges the suggestion that the AFAs contributed to the strengthening of its dominant position in the markets for general search services. In support of its challenge Google submits, in essence, that the AFAs did not contain any clause prohibiting OEMs from installing general search services competing with Google Search and that the success of its own service is due to its merits.

859 In that regard, it is sufficient to note that the Commission did not find the clauses of the AFAs to be abusive in so far as they applied to devices on which the GMS suite is installed. By contrast, in the context of the second abuse, the Commission complains that Google effectively deprived non-compatible Android forks of any commercial market. It is common ground that the licensing policy established by Google entailed reserving the GMS suite for Android-compatible forks. Google Search could not therefore be installed on devices running non-compatible Android forks. That fact alone is sufficient to establish that

non-compatible Android forks could have been distribution channels for competing general search services. Thus, although the AFAs admittedly did not prohibit pre-installation of general search services competing with Google Search, they did, by limiting markets for non-compatible Android forks, nevertheless contribute to competing general search services being deprived of situations in which, being exclusively pre-installed, they would not have competed directly with Google Search on a given device.

860 On devices running non-compatible Android forks, general search services competing with Google Search would have been able to claim not only pre-installation but even exclusive installation. That, moreover, according to Seznam, is why it proposed to OEMs that they market devices running non-compatible Android forks on which only its own general search service would be installed. FairSearch also claims, without being seriously challenged, that the practice at issue made the development and market penetration of general search services that focused on the protection of users' privacy more difficult.

861 It follows that Google is not justified in challenging the findings that its practice of excluding non-compatible Android forks contributed to the strengthening of its dominant position in the markets for general search services.

862 Moreover, as regards deterring innovation, the Commission found in the contested decision that, by preventing the development of different variants of the OS, the practice of excluding non-compatible Android forks that was established in the AFAs had thereby hindered opportunities for innovation and deprived users of functionalities distinct from those offered by Android-compatible forks or additional to them. In that regard, contrary to Google's contention, the Commission was not required, for the purpose of establishing that that finding was well founded, to define more precisely which functionalities could have been introduced had the practice at issue not been adopted. Google does not dispute that the markets in question are characterised by rapid innovation, to which forks with characteristics differing from those of compatible forks would have been able to contribute.

863 It follows from the foregoing that the Commission has sufficiently established that the AFAs prohibited their signatories from providing markets for non-compatible Android forks. That impediment to Google's direct competitors on the OS market, the effects of which are, moreover, reinforced by Google's policy on the conditions for marketing its APIs and its other proprietary apps, also helped to strengthen Google's dominant position on the markets for general search services and additionally proved detrimental to end users.

864 Since the Commission found that the second abuse consisted in the application of all the technical standards defined in the CDD to devices on which the GMS suite was not installed, and carried out an overall assessment of the effects of the restriction of competition which the practice at issue entailed, it was not required, contrary to Google's submission, to identify precisely the CDD standards which gave rise to those effects. The criticisms levelled at Google in the contested decision do not concern the content of the compatibility obligations defined by Google, but its practice aimed at preventing non-compatible Android forks from finding commercial markets.

865 Since that practice may be regarded as established in terms of its existence and its effects by the matters set out above, it is not necessary to rule in the context of this part of the plea on the arguments concerning the clarity of the anti-fragmentation obligations, the purely theoretical nature of the possibility that Google might develop CDD content in an anticompetitive manner or any intention on its part to mislead its contracting partners. Those arguments seek to challenge additional grounds relied on elsewhere in the contested decision, and therefore their examination would not be capable of calling the foregoing findings into question. It is, however, appropriate at this point to examine the objective justifications put forward by Google.

3. The second part, concerning objective justifications

(a) Contested decision

866 The Commission contends that none of the objective justifications put forward by Google can be accepted. It disputes the arguments set out by Google in eight points during the administrative procedure, namely that (i) the anti-fragmentation obligations are necessary to ensure compatibility within the 'Android ecosystem', the business models of developers of other OSs being more restrictive of competition; (ii) the anti-fragmentation obligations are necessary to prevent fragmentation that would be detrimental to the whole 'Android ecosystem'; (iii) the anti-fragmentation obligations are necessary to protect Google's reputation; (iv) the anti-fragmentation obligations are necessary to prevent developers of non-compatible Android forks from benefiting from unmerited externalities linked to reduced development costs as a result of the availability free of charge of a source code that is already operational; (v) the anti-fragmentation obligations are necessary to prevent developers of non-compatible Android forks from benefiting from unmerited externalities as a result of Google's technology being made available to them, in particular through the early release of source code or developer workshops; (vi) the anti-fragmentation obligations were introduced before Google held a dominant position; (vii) the anti-fragmentation obligations were not meant to be misleading as to their scope for undertakings which had concluded an AFA; and (viii) the Commission failed to carry out a balancing of the anticompetitive and pro-competitive effects of the anti-fragmentation obligations (recitals 1155 to 1183 of the contested decision).

(b) Arguments of the parties

(1) Google's arguments

867 In support of the second part of the fourth plea, Google maintains that the contested decision fails to take into account the pro-competitive nature of the anti-fragmentation obligations, which are necessary to protect the integrity and quality of the Android platform against the risks inherent in any incompatibilities.

868 In the first place, Google submits that the anti-fragmentation obligations are necessary to protect the viability and quality of Android against the risks that incompatibilities would entail. The anti-fragmentation obligations assure developers that their apps will run on different Android devices without malfunctioning. They also give end users the assurance that apps developed for Android will work on the Android device they choose. Promoting compatibility constitutes, therefore, a pro-competitive benefit for developers of Android forks, app developers, OEMs and users. Preserving that interoperability and protecting the integrity and quality of the Android platform are legitimate objectives that are not anticompetitive.

869 In the second place, Google recalls that Android was introduced under an open-source licensing model providing OEMs and developers with more flexibility than the 'proprietary' licensing model, by allowing them to change the source code and adapt it to their needs. The Android platform, within which several forks coexist, is thus intended to develop in a pluralist and diversified manner. Those features make it essential, however, that mechanisms are implemented to prevent fragmentation, which could lead to the destruction of the Android platform as a whole. The anti-fragmentation obligations, which are merely intended to meet that objective, are therefore justified even if they are anticompetitive in nature, which Google disputes, moreover, in the context of the first part of the present plea.

870 Several factors demonstrate the need for the anti-fragmentation obligations. First, past experience of fragmentation of the open-source platforms Unix, Symbian and Linux Mobile shows the irreparable consequences of the proliferation of incompatibilities. Second, the submissions from numerous participants in the 'Android ecosystem' corroborate Google's position. Thus, over 94% (35 out of 37) of Android stakeholders that provided a substantive response to the Commission's questions concerning fragmentation (including app developers, OEMs, MNOs and other undertakings) indicated that the threat of incompatibilities was a source of concern. Third, Google's internal documents produced during the administrative procedure attest to the fact that the sole rationale for the anti-fragmentation obligations was to ensure compatibility and preserve the integrity of the Android platform.

871 In the third place, Google observes that, in the contested decision, the Commission states that the anti-fragmentation obligations were not necessary because fork developers would avoid incompatibilities of

their own accord to ensure the correct functioning of apps. According to Google, the Commission cannot simultaneously, without contradicting itself, on the one hand criticise the anti-fragmentation obligations because they prevent the development of non-compatible Android forks and, on the other, claim that developers would minimise incompatibilities irrespective of the anti-fragmentation obligations. Google submits that developers could ensure the compatibility of their Android forks only by complying with the technical requirements of the CDD. Without the anti-fragmentation obligations, compatibility could not therefore be guaranteed. Nor could it be claimed that fork developers or OEMs would ensure compatibility on their own, since they would have an interest in taking advantage of interoperability but would not have sufficient incentive to make all the necessary effort themselves to guarantee it in the absence of common definition and control criteria, which Google alone was in a position to establish.

872 In the fourth place, Google observes that the application of the anti-fragmentation obligations, the legitimacy of which the Commission recognises in so far as they apply to devices on which the GMS suite is installed, must necessarily be extended to devices on which those apps are not pre-installed. Were that not the case, the integrity and viability of the Android platform as a whole could not be protected from the problems created by incompatibilities, namely the risk of Android fragmenting.

873 In the fifth place, Google disputes the Commission's arguments regarding the possibility of countering the disadvantages of fragmentation by means of an appropriate intellectual property policy. In that regard, the Commission suggests that incompatibility issues would merely affect its reputation and could be resolved by a branding strategy that limits the use of the 'Android' brand to compatible devices. Incompatibility and the risk of Android apps malfunctioning are not, however, a reputational issue, but a technical problem that threatens the integrity and viability of the 'Android ecosystem'. That argument also ignores the fact that anti-fragmentation obligations apply only to devices 'developed specifically to run on Android'. If those devices did not live up to the expectations of users and app developers as regards compatibility, they would undermine confidence in Android as a whole.

(2) The Commission's arguments

874 The Commission contends that the AFAs are challenged in the contested decision only to the extent that they require OEMs' devices on which Google's apps are not pre-installed to pass the CTS. According to the Commission, the objective justifications put forward regarding the need to avoid the risks associated with apps failing to work or malfunctioning on devices on which Google's apps are not pre-installed must be rejected. Users and app developers would not attribute any failure or malfunctioning of apps on those devices to Google.

875 It is not the sole rationale of the anti-fragmentation obligations to ensure compatibility and preserve the integrity of the Android platform; they also seek to address the negative consequences for Google of competition from non-compatible Android forks. That is apparent from Google's internal documents and from the responses to the requests for information.

(c) Findings of the Court

876 According to the case-law referred to in the examination of the second part of the second plea, conduct is not abusive if it is justified by pro-competitive advantages or serves legitimate interests. In particular, the dominant undertaking may demonstrate, for that purpose, either that its conduct is objectively necessary or that the exclusionary effect produced may be counterbalanced, outweighed even, by advantages in terms of efficiency that also benefit consumers. To that end, it is for the dominant undertaking concerned to show that the efficiency gains likely to result from the conduct under consideration counteract the exclusionary effect produced, that those gains have been, or are likely to be, brought about as a result of that conduct, that such conduct is necessary for the achievement of those gains in efficiency and that it does not eliminate effective competition, by removing all or most existing sources of actual or potential competition (see, to that effect, judgment of 27 March 2012, *Post Danmark*, C 209/10, EU:C:2012:172, paragraphs 40 to 42 and the case-law cited). It is in the light of those principles that the justifications put forward by Google must be assessed.

(1) The need to protect compatibility within the 'Android ecosystem' and to prevent 'fragmentation'

877 Google submits that the conduct at issue is necessary in order to ensure compatibility within the 'Android ecosystem', to which fragmentation poses a threat. These are, however, two different objectives, which must be assessed separately.

878 First, it should be recalled that the Commission did not take the view in the contested decision that the introduction of obligations to ensure the compatibility of Android forks on which the Play Store and Google Search were installed constituted an infringement of Article 102 TFEU. It should also be borne in mind that the Commission does not dispute Google's right to restrict the installation of the GMS suite to devices running Android-compatible forks. The Commission merely concluded that it was abusive to prohibit OEMs marketing devices on which the GMS suite was installed from also offering commercial markets to non-compatible Android forks. It follows that the first justification put forward by Google, namely the need to ensure compatibility within the 'Android ecosystem', is unrelated to the second abuse and, therefore, is irrelevant in the present case.

879 Second, Google cannot justify the AFAs depriving non-compatible Android forks of all markets solely on the ground of the risk that 'fragmentation', that is to say, the proliferation of mutually incompatible platforms, would pose to the very survival of Android. On this point, Google refers to the failures experienced for that reason by previous OSs distributed, like Android, as 'open source'.

880 It is not necessary to settle the dispute between the parties as to the harmfulness or benefits which fragmentation might have represented for Google and for the entire sector; suffice it to note that Google does not seriously call into question the findings set out in the contested decision relating to the superior market power of the 'Android ecosystem'. It should be recalled in that respect that the arguments, submitted in support of the first plea, relating to Google's dominant position on the markets for app stores and OSs must be rejected. Moreover, Google does not deny holding a dominant position on the markets for general search services. Furthermore, according to Table 1 in the contested decision, which Google also does not dispute, the share of devices based on a licensable OS sold worldwide, excluding China, by OEMs bound by an AFA rose from [70-80]% in 2011 to [90-100]% in 2016 (recital 167 of the contested decision). Nor does Google dispute the accuracy of the information set out in Figure 16 in the contested decision, from which it is apparent that the number of apps available in the Play Store reached 1 million in 2013 and 2.8 million in 2017 (recital 607 of the contested decision). Admittedly, it cannot be ruled out that Android's situation could have been likened, at the time of its launch, to that of pre-existing 'open-source' OSs, such as Unix, Symbian and Linux. However, the extremely rapid growth of the 'Android ecosystem' from the early 2010s onwards makes Google's claims regarding the hypothetical risk that the threat which it describes to the very survival of that 'ecosystem' could have continued throughout the infringement period implausible. It follows that that justification must be rejected.

(2) The need to protect its reputation

881 Google submits that, although they were essentially intended to address technical problems whose impact was much more serious, the anti-fragmentation obligations were also necessary to protect its reputation.

882 In that regard, first of all, it should be recalled that the Commission did not find the anti-fragmentation obligations to be abusive in so far as they applied to devices on which the GMS suite, that is to say Google's apps, was installed. Google's claims regarding the protection of its reputation must therefore be examined solely in the light of the impediment which the AFAs constituted for non-compatible Android forks, on which the installation of those apps was in any event precluded by Google. It is common ground that Google reserves the right to install its apps for OEMs that comply with the technical obligations defined in the CDD.

883 Next, Google disputes the assessment in the contested decision that it could put in place measures that would eliminate any confusion as to the commercial origin of devices running Android-compatible forks, for example by registering trade marks that would reserve the name 'Android' for them (recitals 1172 to

1176 of the contested decision). In that regard, Google merely argues that such measures would not be sufficient, but no detailed evidence is adduced in support of that claim. It cannot, therefore, be established that Google's defence of its intellectual property rights for the purpose of protecting its reputation by prohibiting, for example, the use of the names 'Google' and 'Android' on devices running non-compatible Android forks, outside the 'Android ecosystem', would be ineffective. Such measures would certainly be less restrictive of competition than the foreclosure of non-compatible Android forks resulting from the AFAs, which is, therefore, disproportionate to the alleged aim.

884 Last, in order to substantiate the infringement at issue, Google refers essentially to the risks arising, in its view, from 'fragmentation', any malfunctions attributable to non-compatible Android forks rebounding on the entire 'ecosystem'. It follows from the foregoing (see paragraphs 897 and 898 above) that the risk of propagation to the detriment of the Android ecosystem has not been sufficiently established in the present case.

(3) The need to eliminate windfall effects

885 Google submits that the anti-fragmentation obligations are necessary to limit the windfall effects of its technology being made available to third parties. As regards the positive externalities from which non-compatible Android forks benefit, these are, on the one hand, according to Google, financial windfall effects, arising from the reduction in development costs both as regards the OS and the apps and, on the other, technical windfall effects associated with the transfer of its technology (see, to that effect, judgment of 27 March 2012, *Post Danmark*, C 209/10, EU:C:2012:172, paragraphs 41 and 42).

886 In that regard, it should be borne in mind that the Commission challenges the AFAs only in so far as they involve obligations aimed at depriving non-compatible Android forks of commercial markets. The right of an undertaking to take advantage of the economic benefits linked to the services which it develops does not mean that it must be recognised as having the right to prevent any competitors from existing on the market. Furthermore, it must be observed, as the Commission has done (recitals 1177 to 1181 of the contested decision), that the possibility of third parties benefiting from the technology developed by Google is inherent in the choice made by Google to disclose the Android source code through the AOSP licence. Therefore, the possibility that Google's competitors might enjoy windfall effects cannot justify the second abuse.

(4) Conduct predating the acquisition of the dominant position and not being misleading

887 Google does not challenge the relevance of the observations in the contested decision according to which the fact that the conduct at issue started before Google became dominant in the markets for Android app stores and general search services does not justify the second abuse. It should simply be pointed out in that regard that the Commission did not impose a penalty on Google in respect of the period before Google acquired its dominant position.

888 Moreover, the Commission does not accuse Google of having attempted to mislead the parties to the AFAs or third parties as to the scope of the anti-fragmentation obligations, with the result that Google's argument that it did not mislead in any way must be rejected as being ineffective.

(5) Consideration of the pro-competitive effects of the anti-fragmentation obligations

889 Google complains that the Commission failed to weigh the pro-competitive effects of the anti-fragmentation obligations against their anticompetitive effects. In that regard, it should be recalled that the Commission does not dispute the fact that the compatibility standards set by Google contributed to the development of the 'Android ecosystem'. The Commission also does not dispute the fact that compatibility has produced pro-competitive effects by promoting the development of the participants in that ecosystem and competition among them. Nor does the Commission consider that Google was not entitled to set standards to ensure compatibility within that 'ecosystem'. On the other hand, the Commission found that, since Google had not objectively justified the obstacles to non-compatible Android forks that arose from

the AFAs, it was not required to take account of the pro-competitive effects of the anti-fragmentation obligations (recital 1183 of the contested decision).

890 In that regard, first of all, it must be borne in mind that the Commission considers the provisions of the AFAs to be abusive only in so far as they prohibit OEMs from providing commercial markets for non-compatible Android forks. That obstacle must therefore be regarded, for the purposes of the application of Article 102 TFEU, as distinct from the obligations that are intended to ensure the compatibility of Android-compatible forks and interoperability within the 'Android ecosystem', the pro-competitive effects of which are not disputed. As has been noted above, the obstacle in question produces its effects outwith the 'Android ecosystem', since it applies to non-compatible forks on which Google's proprietary apps, such as the GMS suite, are not intended to be installed and for which compatibility and interoperability are not necessarily sought.

891 Preventing the development of non-compatible Android forks cannot be regarded as being indispensable per se to the setting of compatibility standards that are to be applied within the 'Android ecosystem'. It follows, in particular, from the fact that Google's justifications concerning the need to combat 'fragmentation' must be rejected, that Google has not established that it was impossible for it to ensure the survival of the 'Android ecosystem' without the conditions at issue. Therefore, in the absence of any relationship of necessity between the exclusion of non-compatible Android forks, on the one hand, and compatibility within the Android ecosystem – which, moreover, is the objective of the anti-fragmentation obligations – on the other, Google is not justified in maintaining that the Commission should have weighed the pro-competitive effects of the anti-fragmentation obligations within the Android ecosystem, which participants in that ecosystem derive from the advantages of compatibility, on the one hand, and the restrictions of competition that arise outside that ecosystem and which have been identified as constituting the second abuse, on the other.

4. Conclusion in relation to the assessment of the fourth plea

892 It follows from the foregoing that the anticompetitive nature of the foreclosure of non-compatible Android forks by means of the AFAs must be regarded as established. That conduct deprived potential or existing competitors of Google of any market, strengthened Google's dominant position on the markets for general search services and deterred innovation. Moreover, Google has neither demonstrated that the exclusion of non-compatible Android forks resulting from the AFAs met a legitimate objective nor established that that exclusion produced pro-competitive effects attributable to that undertaking.

893 It also follows from the foregoing that the Commission, contrary to Google's claims, duly took into account the relevant economic and legal context and the actual effects of the second abuse. Therefore, having sufficiently demonstrated the existence of the restrictions at issue and of their effects on competition, the Commission was not also required – contrary to the views taken by Google and the parties intervening in its support – to carry out a counterfactual analysis to evaluate the hypothetical consequences that might have been observed, in the absence of the second abuse, on the markets for Android app stores, for general search services, on which that abuse was identified, and for licensable OSs, on which Google also holds a dominant position.

894 Accordingly, the fourth plea must be rejected.

F. The fifth plea in law, alleging infringement of the rights of the defence

895 By the fifth plea, which is divided into two parts, Google submits that the Commission infringed its rights of defence by failing to respect, first, its right to be heard and, second, its right of access to the file. It argues that these procedural irregularities invalidate the findings in the contested decision and justify its annulment. The second part of the plea must be addressed first.

1. The second part of the fifth plea, alleging infringement of the right of access to the file

(a) Arguments of the parties

896 Google submits that the content of the notes of meetings which the Commission held with third parties concerning the subject matter of the investigation is insufficient and does not safeguard its rights of defence or, at the very least, respect the principle of good administration. Those notes were drawn up after the event, sometimes several years after the meeting in question. Only 3 of the 35 notes provided in that respect could be considered 'full' records. The remaining 32 are overly brief summaries, given the requirements for an interview with a third party laid down by Article 19(1) of Regulation No 1/2003, in the light in particular of the judgment of 6 September 2017, *Intel* v *Commission* (C 413/14 P, EU:C:2017:632).

897 In particular, Google criticises the insufficiency of the information provided in respect of the meetings with the Member of the Commission responsible for competition matters or a member of her cabinet, as well as the fact that certain identities were anonymised.

898 Owing to the brevity of the notes provided, Google could not determine the content of the discussions between the Commission and the third parties interviewed or the nature of the information provided in that context. That infringement of its rights of defence is, in Google's submission, material, in particular as regards interviews with app developers, where it is plausible that they would have made exculpatory statements which are not recorded in the notes provided by the Commission.

899 The Commission contests the merits of those arguments.

900 As a preliminary point, it maintains that it is not required to take a full note of meetings that it conducts with third parties when these constitute 'interviews' within the meaning of Article 19 of Regulation No 1/2003, that is to say, a meeting the purpose of which is to collect information relating to the investigation. As regards other meetings, the Commission is required only to take succinct notes of any evidence provided during the meeting concerned that it intends to use in its decision, and any potentially favourable evidence provided on the same occasion that the undertaking under investigation could have relied on to undermine the inferences made by the Commission.

901 In that context, the Commission contends that the meetings with the Member of the Commission responsible for competition matters and a member of her cabinet did not have the aim of collecting information relating to the subject matter of the investigation.

902 As to the notes relating to the other meetings, the Commission claims to have provided sufficient information about when and how it had prepared those notes, including the reasons why certain identities were redacted.

(b) Findings of the Court

903 By the second part of the fifth plea, Google complains in essence that the Commission provided it with notes of meetings with third parties that did not enable it to understand the substance of the discussions held and the nature of the information provided in relation to the matters discussed during those meetings and, therefore, properly to assert its rights of defence in that regard.

904 It is indeed apparent from the contested decision that, on 15 September 2017, following the judgment of 6 September 2017, *Intel* v *Commission* (C 413/14 P, EU:C:2017:632), Google requested all relevant documents relating to the meetings which the Commission had been able to have with third parties (see recital 30 of the contested decision). The Commission replied to that request on 28 February 2018 (see recitals 33 and 63 of the contested decision).

905 It is also apparent from the contested decision that, once those documents were provided, the Commission stated that it had no other documents relating to those meetings, whether conducted in person or by

telephone (see recital 64 of the contested decision). That assertion is not called into question by anything in the file of the present case.

906 At the outset, it must be recalled that the rights of the defence are fundamental rights forming an integral part of the general principles of law whose observance the General Court and the Court of Justice ensure (see, to that effect, judgment of 25 October 2011, *Solvay* v *Commission*, C 109/10 P, EU:C:2011:686, paragraph 52).

907 The Commission is also required, pursuant to the principle of good administration, to ensure that its internal rules observe the rights of the defence.

908 In the context of competition law, observance of the rights of the defence means that any addressee of a decision finding that that addressee has committed an infringement of the competition rules must have been afforded the opportunity, during the administrative procedure, to make known its views on the truth and relevance of the facts and circumstances alleged as well as on the documents used by the Commission to support its claim that there has been such an infringement (judgments of 25 October 2011, *Solvay* v *Commission*, C 109/10 P, EU:C:2011:686, paragraph 53, and of 25 March 2021, *Deutsche Telekom* v *Commission*, C 152/19 P, EU:C:2021:238, paragraph 106).

909 A corollary of the principle of respect for the rights of the defence, the right of access to the file thus means that the Commission must give the undertaking concerned the opportunity to examine all the documents in the investigation file which may be relevant for its defence. Those documents include both incriminating evidence and exculpatory evidence, save where the business secrets of other undertakings, the internal documents of the Commission or other confidential information are involved (judgments of 7 January 2004, *Aalborg Portland and Others* v *Commission*, C 204/00 P, C 205/00 P, C 211/00 P, C 213/00 P, C 217/00 P and C 219/00 P, EU:C:2004:6, paragraph 68, and of 12 July 2011, *Toshiba* v *Commission*, T 113/07, EU:T:2011:343, paragraph 41).

910 Furthermore, it must also be recalled that Article 19(1) of Regulation No 1/2003, invoked by Google, constitutes a legal basis empowering the Commission to interview a natural or legal person in the context of an investigation (judgment of 6 September 2017, *Intel* v *Commission*, C 413/14 P, EU:C:2017:632, paragraph 86).

911 It is apparent from the very wording of Article 19(1) of Regulation No 1/2003 that that provision is intended to apply to any interview conducted for the purpose of collecting information relating to the subject matter of an investigation. There is nothing in the wording of that provision or in the objective it pursues to suggest that the legislature intended to exclude certain of those interviews from the scope of that provision (judgment of 6 September 2017, *Intel* v *Commission*, C 413/14 P, EU:C:2017:632, paragraphs 84 and 87).

912 When it conducts an interview, pursuant to Article 19 of Regulation No 1/2003, for the purpose of collecting information relating to the subject matter of an investigation, the Commission is required to record such an interview in a form of its choosing. For that purpose, it is not sufficient for the Commission to make a brief summary of the subjects addressed during the interview. The Commission must be in a position to provide an indication of the content of the discussions which took place during the interview, in particular the nature of the information provided during the interview on the subjects addressed (see, to that effect, judgment of 6 September 2017, *Intel* v *Commission*, C 413/14 P, EU:C:2017:632, paragraphs 91 and 92).

913 Last, it should be noted that, according to well-established case-law, there is a breach of the rights of the defence where it is possible that, as a result of an error committed by the Commission, the outcome of the administrative procedure conducted by the latter might have been different. An applicant undertaking establishes that there has been such a breach where it adequately demonstrates, not that the Commission's decision would have been different in content, but rather that it would have been better able to ensure its defence had there been no procedural error (judgments of 2 October 2003, *Thyssen Stahl* v *Commission*,

C 194/99 P, EU:C:2003:527, paragraph 31, and of 13 December 2018, *Deutsche Telekom* v *Commission*, T 827/14, EU:T:2018:930, paragraph 129). The assessment of the Commission's observance of the rights of the defence must be made in the light of the factual and legal circumstances of each case (see, to that effect, judgment of 18 June 2020, *Commission* v *RQ*, C 831/18 P, EU:C:2020:481, paragraph 107).

914 The parties' arguments in relation to the second part of the fifth plea must be examined in the light of those principles.

915 In the first place, as to whether all the notes relating to the meetings with third parties concern interviews within the meaning of Article 19 of Regulation No 1/2003, it should be noted that, in reply to a question put by the Court at the hearing, the Commission acknowledged, as recorded in the minutes, that 33 of the 35 notes sent to Google concerned interviews within the meaning of that provision.

916 It is therefore only in respect of 2 of the 35 meetings covered by the notes sent to Google, namely the 2 meetings involving the Member of the Commission responsible for competition matters or a member of her cabinet, that the Commission disputes their classification as interviews within the meaning of Article 19 of Regulation No 1/2003. That objection is made on the ground that it was not the purpose of those meetings to collect information relating to the subject matter of the investigation.

917 However, contrary to the Commission's contention, those two meetings must also be considered to be interviews within the meaning of Article 19 of Regulation No 1/2003 in the present case. It is apparent on reading the notes sent by the Commission in relation to those meetings that they do amount to interviews conducted for the purpose of collecting information relating to the subject matter of the investigation.

918 Thus, it follows from the first of those notes that, during an interview conducted on 2 July 2015, an undertaking from the sector was able to present to the Commission its views on mobile platforms, including Android, and on the competitive environment in which its apps and services were evolving.

919 Likewise, it follows from the second of those notes that, during an interview conducted on 27 September 2017, ADA was able to present to the Commission its views with regard to the investigation that gave rise to the contested decision, in particular as regards the AFAs and the remedies under consideration to resolve the competition issues identified. That note also indicates that ADA confirmed to the Commission that everything ADA had said during that interview had already been explained to the Commission in the documents that had been submitted to it.

920 Consequently, the fact that the interviews which the Commission conducted with third parties may have taken the form of meetings with the Member of the Commission responsible for competition matters or a member of her cabinet cannot bring them outside the scope of Article 19 of Regulation No 1/2003, when those meetings are held for the purpose of collecting information relating to the subject matter of an investigation.

921 In the second place, as regards the validity in the light of Article 19 of Regulation No 1/2003 of the notes relating to the interviews which the Commission conducted with third parties for the purpose of collecting information relating to the subject matter of the investigation, it should be pointed out that Google claims in essence that those notes are both too late and incomplete.

922 As regards their belated nature, it must be observed that of the 35 notes produced to the Court in an annex to the application, only 3 concern interviews conducted after delivery of the judgment of 6 September 2017, *Intel* v *Commission* (C 413/14 P, EU:C:2017:632), 2 of which are interviews with ADA on 18 and 27 September 2017 and 1, an interview with BEUC on 20 December 2017. The other 32 interviews took place between 30 May 2013 and 26 July 2017, including 21 interviews between 2013 and 2015.

923 The delay in the transmission of some of those notes, particularly those which were finalised several years after the interview in question, is attributable, in this instance, to the particular circumstances of the present case.

924 It is apparent first of all from the file that, on 2 September 2016, Google had asked the Commission to send it notes setting out in full the content of all discussions held between the Commission and third parties relating to the subject matter of the investigation. In its reply of 22 September 2016, the Commission stated that it was rejecting that request, relying in that respect on the case-law of the General Court prior to the judgment of the Court of Justice of 6 September 2017, *Intel* v *Commission* (C 413/14 P, EU:C:2017:632), including in particular the judgment of 12 June 2014, *Intel* v *Commission* (T 286/09, EU:T:2014:547, paragraph 619 and the case-law cited).

925 It is also apparent from the file that, on 15 September 2017, Google reiterated its request in reliance, on that occasion, on the delivery of the judgment of 6 September 2017, *Intel* v *Commission* (C 413/14 P, EU:C:2017:632), and the clarification provided by that judgment regarding the concept of interviews conducted for the purpose of collecting information relating to the subject matter of an investigation.

926 In responding to that request, the Commission indicated, on 28 February 2018, that it had contacted all the third parties with which it had held meetings with a view to obtaining their agreement regarding the content of discussions that were recorded in the relevant notes. Those notes were indeed therefore finalised, in the case of the 32 notes concerning the interviews conducted before delivery of the judgment of 6 September 2017, *Intel* v *Commission* (C 413/14 P, EU:C:2017:632), in response to Google's request of 15 September 2017.

927 Where records of statements made by third parties during the interviews had not been drawn up at the appropriate time, the Commission therefore endeavoured – as the hearing officer explains in his letter of reply of 30 April 2018, having been contacted by Google about the handling of its requests for access to the file – to prepare more detailed notes, mentioning where possible the relevant documents from the file that had already been disclosed to Google, or setting out as far as possible the recollections of those present where such documents could not be identified.

928 The fact remains, as Google submits, that some of the notes that were sent to it were not prepared immediately or shortly afterwards, but in some cases were drawn up several years after the meeting in question. It is on that basis that it must be concluded that a good number of the notes relating to meetings with third parties were sent belatedly.

929 As to whether the notes were incomplete, it must be observed that Google regards only 3 of the 35 notes sent by the Commission as satisfying the requirements under Article 19(1) of Regulation No 1/2003 for interviews conducted for the purpose of collecting information relating to the subject matter of an investigation. These are the notes relating to the interview conducted on 26 January 2015 with an undertaking from the sector, the interview conducted on 28 May 2015 with an undertaking whose name was not disclosed to Google, and the interview conducted on 18 September 2017 with ADA.

930 So far as the other 32 notes are concerned, it must be concluded, as it was by Google, that these are too cursory to constitute a record of an interview conducted for the purpose of collecting information relating to the subject matter of an investigation in accordance with the requirements of Article 19(1) of Regulation No 1/2003. In particular, to the extent that it is possible to establish from those notes the general substance of the discussions held during those interviews, the notes are in themselves too vague or insufficiently detailed as to the precise substance of those discussions and the nature of the information which those third parties provided during those interviews.

931 Consequently, given the belated nature of those notes already referred to above, it must be held, as Google submits, that the 32 contested notes provided in February 2018 are too cursory. The reconstitution after the event of the content of the interviews which the Commission held with third parties for the purpose of collecting information relating to the subject matter of the investigation or the references made subsequently to earlier or later documents in the investigation file with regard to those interviews cannot therefore adequately compensate for the absence of a proper record.

932 It follows from the foregoing that a good number of the notes provided by the Commission on 28 February 2018 are too late and too cursory to be capable of constituting the record of an interview in the sense prescribed by Article 19(1) of Regulation No 1/2003.

933 In the future, it would be useful and appropriate for the record of each interview conducted by the Commission with a third party for the purpose of collecting information relating to the subject matter of an investigation to be made or approved at the time when that interview is held or shortly afterwards so as to be added to the file as quickly as possible to enable the person accused of an infringement, when the time comes, to acquaint himself or herself of it for the purpose of exercising the rights of the defence.

934 In the third place, as regards the inferences to be drawn from procedural errors in relation to records of interviews with third parties in the sense prescribed by Article 19(1) of Regulation No 1/2003, it is necessary to determine whether, in view of the factual and legal circumstances specific to the present case, Google has adequately demonstrated that it would have been better able to ensure its defence had those errors not occurred. If that is not demonstrated, no infringement of its rights of defence can be established.

935 It would be demonstrated where the content of undisclosed evidence may be neither determined nor be determinable. In such a case, the undertaking cannot be expected to bear the impossible burden of proving the content of the document, in particular the existence of incriminating or exculpatory evidence that has not been disclosed. The undertaking may thus confine itself to mentioning the mere possibility that the undisclosed information could have been useful for its defence (see, to that effect, judgment of 25 October 2011, *Solvay* v *Commission*, C 110/10 P, EU:C:2011:687, paragraphs 59 to 62).

936 On the other hand, where the content of the evidence to which access was restricted is or can be determined a posteriori, the undertaking cannot be relieved of the burden of proving that it did not have access to the incriminating or exculpatory evidence and of explaining the inferences to be drawn from that with regard to the exercise of its rights of defence. That is so where the undertaking can at least give a useful indication of the authors and nature and content of the documents which have been withheld from it (see, to that effect, Opinion of Advocate General Kokott in *Solvay* v *Commission*, C 110/10 P, EU:C:2011:257, point 37).

937 In the case of undisclosed incriminating evidence, the undertaking concerned must show that the outcome of the procedure might have been different, assuming that that incriminating evidence had been disclosed (see, to that effect, judgments of 7 January 2004, *Aalborg Portland and Others* v *Commission*, C 204/00 P, C 205/00 P, C 211/00 P, C 213/00 P, C 217/00 P and C 219/00 P, EU:C:2004:6, paragraphs 71 and 73, and of 12 July 2011, *Toshiba* v *Commission*, T 113/07, EU:T:2011:343, paragraph 46).

938 As regards exculpatory evidence, the undertaking concerned must establish that it would have been able to use such evidence for its defence, in the sense that, had it been able to rely on it during the administrative procedure, it would have been able to invoke evidence which was not consistent with the inferences made at that stage by the Commission and therefore could have had an influence, in any way at all, on the assessments made by the Commission in its decision. It follows that the undertaking concerned must establish, first, that it did not have access to certain exculpatory evidence and, second, that it could have used that evidence for its defence (judgment of 6 September 2017, *Intel* v *Commission*, C 413/14 P, EU:C:2017:632, paragraphs 97 and 98).

939 In the present case, it must be stated that Google has failed to establish that, had the procedural errors noted above as regards the belated and incomplete nature of the contested notes provided not been made, it would have been better able to ensure its defence.

940 In that regard, Google merely asserts in general terms that an accurate record of the substance of the exchanges with the third parties interviewed would have provided it with explanations and contextual material regarding the documents in the investigation file on which the Commission had relied.

941 First, as to the possibility of determining after the event whether evidence was not disclosed, it must be recalled that, in the absence of records of the interviews, the Commission nevertheless endeavoured to reconstitute their content in order to enable Google to exercise its rights of defence.

942 It must thus be noted that, among the comments made on 28 February 2018 in response to Google's request, the Commission indicated that it had not made use of any of the notes provided as inculpatory evidence in either the statement of objections or the first letter of facts and that it had provided Google with all potentially exculpatory evidence provided at each of those meetings that could be useful for Google's defence.

943 It is not apparent from the examination of the contested decision and the file before the Court in the present proceedings that any material in that file might be such as to call into question the assurances given in that regard by the Commission.

944 Second, it must be noted that, in respect of 26 of the 32 notes which Google claims are incomplete, it is stated that the content of what was discussed during those interviews is fully reflected in specific documents in the investigation file, to which Google, in reply to a question put by the Court, acknowledged having had access. Twenty-four of those 26 notes also indicate that the Commission obtained the relevant third party's agreement to the content of the note, confirming that the references to the documents contained in the file are pertinent and exhaustive. As regards the two notes whose content could not be agreed with the relevant third parties, the explanation for this is provided: the first of those third parties had ceased to exist and the second did not respond to the Commission's repeated requests for approval.

945 In those circumstances, it must be held that, notwithstanding the procedural errors concerning the records of the interviews, Google was able to obtain information from the Commission about the substance of what was discussed during those interviews, particularly as regards the nature of the information provided on those occasions on the topics discussed.

946 In the light of the information provided by the Commission and the inferences that could be drawn from it for the purposes of assessing the substance of the interviews, Google has not put forward any detailed argument that might explain how it might have been better able to ensure its defence, including as regards the interviews conducted with the two third parties whose agreement to the content of the corresponding notes could not be obtained.

947 Third, as regards the six remaining notes, which set out in summary form the substance of the exchanges and do not refer to any document in the investigation file that might supplement the content, it must be noted as follows.

948 The first note in chronological terms concerns an interview conducted on 2 July 2015 with an undertaking from the sector, at which that undertaking was able to present to the Commission its views on mobile platforms, including Android, and on the competitive environment in which its apps and its services were evolving.

949 Although there is no reference in that note to any document from the file, it was nevertheless possible for Google to place it in context with the information provided in relation to two other interviews conducted with the same undertaking on 10 December 2014 and 12 January 2016 on the same subject. The notes sent to Google in respect of those interviews, which were approved by the undertaking concerned, refer to documents contained in the investigation file reflecting the content of what was discussed on those occasions, that is to say, both before and after the aforementioned interview. Google was therefore aware of the views of that undertaking in the context of the investigation.

950 In those circumstances, Google has nevertheless failed to put forward any detailed argument that might explain how it might have been better able to ensure its defence in the present case.

951 The second note concerned an interview conducted on 15 July 2015 with a security provider whose name was not disclosed to Google. As the Commission explains in its note, which was agreed by the undertaking in question, that interview was an opportunity to discuss market dynamics regarding the Android OS. As is apparent, however, from the content of that note, the concerns expressed during that interview essentially concerned security solutions, an aspect of the file that is not addressed in the contested decision, rather than the restrictions at issue which were examined in relation to the various abuses considered by the Commission.

952 Similarly, the third note covered an interview conducted on 28 October 2015 with a payment service provider, at which the provider was able to present to the Commission its views on the market dynamics regarding mobile devices and their apps, as regards mobile payment systems. This also is an aspect of the file that is not considered in the contested decision.

953 In any event, apart from the lack of any obvious link between those interviews and the abuses alleged in the contested decision, it must be noted that Google has not put forward any detailed argument that might explain how it might have been better able to ensure its defence in the present case, had the procedural errors regarding records of those two meetings for the purposes of Article 19(1) of Regulation No 1/2003 not occurred.

954 The fourth and fifth notes concerned two interviews with BEUC on 1 February and 20 December 2017. The purpose of those meetings was, as far as BEUC was concerned, to obtain information from the Commission about the progress of the investigation. The very purpose of those meetings and their summary, which was agreed by BEUC, thus serve to rule out any assumption that the Commission withheld evidence.

955 The sixth and last note concerns statements made by ADA, an entity which intervened in support of Google during the administrative procedure, during an interview that was held on 27 September 2017. Although drafted in general terms, it is clear from that note that ADA saw no reason to require Google to change its behaviour. Furthermore, the representative of ADA confirmed in that note that the discussion had related to information which ADA had already submitted to the Commission. It must be pointed out in that respect that Google does not claim not to have had access to all the material in the investigation file submitted by ADA during the administrative procedure. Those circumstances, along with the presence of ADA which has intervened in support of Google in the present action and the fact that it made no comments in that regard, enable the Court to rule out any assumption that the Commission withheld evidence.

956 In that respect, Google's arguments, put forward in the application, as to it being plausible that, during the various interviews which the Commission held with app developers, the latter would have made exculpatory statements that are not recorded in the notes provided are not convincing. Given ADA's intervention in support of Google in the present action and the numerous opportunities afforded to both ADA and Google to specify what statements might have been made that were not reported by the Commission, it must be concluded that that theory has not been proved.

957 It follows from the foregoing that, having regard to the matters set out in the contested decision and the information provided to Google by the Commission during the administrative procedure, there is no basis for finding that the summary and in most cases belated preparation of the notes relating to the interviews with third parties deprived Google of access to either incriminating or exculpatory evidence that might have enabled it better to ensure its defence.

958 Accordingly, the procedural errors consisting in the lack of an accurate record of the interviews conducted by the Commission with third parties cannot, in the particular circumstances of the present case, have resulted in the infringement of Google's rights of defence.

959 That conclusion is not, moreover, called into question by the anonymity which certain third parties were granted by the Commission. It must be borne in mind that, under Article 27 of Regulation No 1/2003, the

right of access to the file is not to extend to confidential information, which may, depending on the circumstances of the case, include the personal data of the company representatives interviewed and the names of the companies themselves in order to prevent possible reprisals. In the present case, it is not apparent from the material in the file that the anonymity granted by the Commission and discussed before the hearing officer is not the result of a proper balancing of two conflicting interests, that of the undertaking (and/or its representatives) interviewed to appear anonymously, and that of Google to obtain sufficient information about the discussions that took place.

960 Similarly, the arguments as to the Commission's failure to observe the principle of good administration, its Manual of Procedures and its notice of 20 October 2011 must be rejected as ineffective. Since the Court has concluded above that the procedural error linked to the content of the notes in question did not constitute, in the present case, an infringement of Google's rights of defence, the finding of an additional procedural defect, even if established, as regards the drawing up of those notes and their communication to Google would have no bearing on the question whether, in the absence of that procedural error, Google would have been better able to ensure its defence.

961 Consequently, the second part of the plea must be rejected as being unfounded.

2. The first part of the fifth plea, concerning the refusal of a hearing on the AEC test

(a) Arguments of the parties

962 Google submits that, instead of sending it letters of facts, the Commission should have adopted one or more supplementary statements of objections and thus again afforded Google the right to a hearing. That hearing should have concerned essential aspects of the case concerning portfolio-based RSAs and the AEC test. In that regard, it cannot be considered that Google declined a hearing following receipt of the statement of objections, or that the letters of facts merely refined the preliminary assessment contained in the statement of objections.

963 The Commission contends that Google waived its right to a hearing following the statement of objections and that, in so far as the letters of facts raised no new objections, it was not required to provide any supplementary statement of objections. The letters of facts concerned conduct in respect of which Google had already been given the opportunity to submit its observations. Accordingly, the Commission was not required once again to afford Google the right to a hearing.

(b) Findings of the Court

964 As a preliminary point, it should be noted that, in reply to a question put by the Court at the hearing, Google expressly acknowledged, as recorded in the minutes of the hearing, that any finding of infringement of its rights of defence under the first part of the fifth plea could lead only to partial annulment of the contested decision as regards the abuse arising from the portfolio-based RSAs.

965 The first part of the fifth plea in law is in effect the procedural aspect of the third plea in law of the action, by which Google challenges the merits of the grounds of the contested decision as regards the abusive nature of the portfolio-based RSAs. Google thus claims that, during the administrative procedure, the Commission infringed its rights of defence by failing to give it the opportunity to express its views orally in good time on essential elements of the competitive analysis of the portfolio-based RSAs, in particular the AEC test.

966 It must be noted that observance of the rights of the defence is a general principle of EU law which applies where the authorities are minded to adopt a measure which will adversely affect an individual (judgment of 16 January 2019, *Commission* v *United Parcel Service*, C 265/17 P, EU:C:2019:23, paragraph 28).

967 That principle is reflected in particular in Article 10 of Commission Regulation (EC) No 773/2004 of 7 April 2004 relating to the conduct of proceedings by the Commission pursuant to Articles [101] and [102

TFEU] (OJ 2004 L 123, p. 18). That article requires the Commission, first, to inform the undertaking concerned in writing of the objections raised against it and, second, to give the undertaking concerned the opportunity to inform the Commission in writing of its views on those objections.

968 Article 12 of Regulation No 773/2004 also states that, in its written submissions, an undertaking to which a statement of objections has been addressed may request that the Commission hold an oral hearing in order for the undertaking to be able to develop its arguments orally.

969 In the present case, in its response to the statement of objections of 23 December 2016, Google stated that '[it] therefore declined [its] right to such a hearing'. In that response, Google stated in essence that it had had insufficient time to prepare properly for a hearing at the Commission's premises, within a limited timeframe.

970 More specifically, Google stated that, because about 60 documents in the investigation file were received less than three weeks before the deadline of 23 December 2016 for submission of its response to the statement of objections, and 2 documents, 1 of which was particularly important in relation to pre-installation of a rival general search service on Android devices, was received one day before the deadline, it had not been able to determine, in good time, whether it was appropriate to avail of a hearing. According to Google, waiving its right to a hearing was particularly necessary as the hearing officer had indicated to it that the hearing would take place at the end of January 2017, leaving Google and its advisers only one month to prepare for it, at a time when they were extremely busy.

971 Accordingly, irrespective of the difficulties referred to by Google in deciding, in that particular context and at that stage of the investigation, whether it would be useful for a hearing to be held, Google cannot criticise the Commission for having failed to organise a hearing following the statement of objections.

972 The question arises therefore whether, having declined its right to a hearing on 23 December 2016 in the response to the statement of objections, Google was in a position to assert the need for its rights of defence to be respected in order to be able to secure a hearing from the Commission in May 2018, some 16 months later.

973 As the substantive provisions relating to the exercise of the rights of the defence stand, it is apparent that an undertaking may, on the basis of Article 12 of Regulation No 773/2004, acquire the right to a new hearing if the Commission adopts a supplementary statement of objections.

974 It is indeed apparent from Article 11 of Regulation No 773/2004 that the Commission may, in its decisions, deal only with objections on which the undertaking concerned has been able to comment. A new objection therefore requires that the undertaking concerned be given a further opportunity to make written submissions and to request an oral hearing in order to be able to develop its arguments.

975 In the present case, however, the Commission did not adopt a supplementary statement of objections between the response to the statement of objections of 23 December 2016 and the contested decision of 18 July 2018. Besides the various measures adopted by the Commission following the response to the statement of objections in order to enable Google to be given access to the file, and in particular to the evidence subsequently obtained, the Commission chose to send letters of facts to Google.

976 Thus, the Commission sent two letters of facts to Google, one on 31 August 2017 and the other on 11 April 2018, on which Google had the opportunity to make written submissions on 23 October 2017 and 7 May 2018, respectively. According to the Commission, that procedure excluded any right on Google's part to the organisation of a new hearing and justified the hearing officer's refusal, on 18 May 2018, of the request to that effect which Google made on 7 May 2018.

977 In that regard, it must be borne in mind that the statement of objections is a procedural measure adopted preparatory to the decision which represents the culmination of the administrative procedure. Consequently, until a final decision has been adopted, the Commission may, in view, in particular, of the

written or oral observations of the parties, abandon some or even all of the objections initially made against them and thus alter its position in their favour or, conversely, decide to add new complaints, provided that it affords the undertakings concerned the opportunity of making known their views in that respect (judgment of 27 June 2012, *Microsoft* v *Commission*, T 167/08, EU:T:2012:323, paragraph 184).

978 Communication to the parties concerned of further objections is necessary only where the result of the investigations leads the Commission to take new facts into account against the undertaking concerned or to alter materially the evidence for the contested infringements and not where the Commission fulfils its obligation to abandon such objections as have, in the light of the replies to the statement of objections, been shown to be unfounded (see judgment of 27 June 2012, *Microsoft* v *Commission*, T 167/08, EU:T:2012:323, paragraph 191 and the case-law cited).

979 On the other hand, in line with paragraph 111 of the Commission Notice of 20 October 2011 on best practices for the conduct of proceedings concerning Articles 101 and 102 TFEU (OJ 2011 C 308, p. 6), which is capable of being raised against the Commission, the adoption of a simple letter of facts is justified only if the Commission wishes to rely on new evidence corroborating objections already substantiated in the statement of objections. In observance of the adversarial principle, the Commission is to bring that new evidence to the attention of the undertaking whose practices are the subject of the investigation and collect its written comments within a time limit fixed by the Commission. Paragraph 111 of that Commission notice is silent as to the possibility of also making oral observations.

980 The Court must therefore verify that the Commission's decision to use letters of facts and the subsequent decision of the hearing officer to refuse Google an oral hearing to enable it to develop orally its observations on the new evidence relied on by the Commission does not constitute an infringement of Google's rights of defence in a punitive procedure in which an abuse of a dominant position is to be penalised.

981 In the present case, although the letters of facts do not formally add any objection to those set out in the statement of objections, in that the abusive practices identified by the Commission in the statement of objections are those that are targeted, it must nevertheless be noted that, in reality, the letters of facts substantially supplement the substance and scope of the objection relating to the abusive nature of the portfolio-based RSAs, which was not sufficiently substantiated in the context of the statement of objections, and therefore significantly alter the evidence of the contested infringements.

982 This concerns in particular the AEC test, which, in the present case, played an important role in the Commission's assessment of whether the portfolio-based RSAs were capable of having foreclosure effects on as-efficient competitors (see, to that effect, judgment of 6 September 2017, *Intel* v *Commission*, C 413/14 P, EU:C:2017:632, paragraph 143).

983 While paragraphs 718 to 722 of the statement of objections contained only a brief analysis of the capability of a competitor to match the payments made by Google under the portfolio-based RSAs, it was not until the letters of facts, the last of which was sent three months before the adoption of the contested decision, that Google was in a position to acquaint itself fully with the test and with the reasoning favoured by the Commission in the present case. The quantitative analysis in the statement of objections of the capability of competitors to match Google's payments under the portfolio-based RSAs could be understood only in the light of the first letter of facts read in conjunction with the second.

984 Adopted eight months after the statement of objections, the first letter of facts supports the quantitative analysis by substantially amending the approach provisionally taken in the statement of objections.

985 In that statement of objections, the Commission's entire analysis was configured around two elements, namely the fact that it was impossible for a competitor to achieve more than 5% of search queries on mobile devices in view of the percentage of search queries captured by Google in the period from 2012 to 2015, and the alleged obligation, pursuant to the MADAs, not to set a competing search engine as the default on a third-party browser.

986 In the first letter of facts, the Commission placed the obligation pursuant to the MADAs to set Google's search services as the default on third-party browsers in context. The Commission also formulated for the first time the assumption, set out in recital 1234 of the contested decision, that a competitor that was at least as efficient as Google could not contest more than 12% of general search queries on mobile devices. On the basis of that new premiss, the Commission found that an app competing with Google Search could capture, at most, only [0-10]% of the search queries carried out by users via Google Search.

987 The first letter of facts amends even more fundamentally the approach provisionally adopted in the statement of objections, since, as regards a competitor's ability to match Google's payments under the portfolio-based RSAs, the result arrived at by the Commission is clearly more nuanced than that initially envisaged.

988 Whereas, as set out in the statement of objections, the Commission stated that a competitor would, in all events, have had to share all of its advertising revenues in order to match, not to exceed, Google's payments, the Commission indicated in the first letter of facts that a competitor could, if set as the default on a third-party browser, match or even exceed Google's most common payments without having to share all of its revenues.

989 Adopted eight months after the first letter of facts and three months before the contested decision, the second letter of facts also made significant adjustments to the analysis in the first letter of facts and, a fortiori, in the statement of objections.

990 First, having obtained information from Google concerning contemporary aspects of the statement of objections, the Commission ruled out the possibility that a competitor might wish to share advertising revenues from search queries originating from the search engine's homepage, in so far as Google itself did not share those revenues.

991 Second, the Commission included two new variables in the AEC test, namely the impossibility for a competitor of obtaining pre-installation of its general search app on all mobile devices in the portfolio of an OEM or MNO and the obligation of a competitor to compensate for the loss incurred by the OEMs and MNOs concerned in the light of the revenues associated with mobile devices already in circulation and covered by the portfolio-based RSAs. Those two points appear to be decisive, in that they allow the Commission to place in context the ability of a competitor to match Google's payments if the competing search services are also set as the default on a third-party browser.

992 Third, the Commission added certain financial data relating to Google, which were not acquired from Google but from an OEM. This applies to the 'operational' costs, estimated at [10-20]%, which the Commission mentions for the first time in the second letter of facts and extrapolates to a competitor which hypothetically is at least as efficient as Google. Those costs are, however, still disputed by Google before the General Court, as regards both the amount and the category of relevant costs applicable to the AEC test.

993 The Commission cannot, in that regard, claim that Google acquiesced, in its observations in response to the first letter of facts, in such data being taken into account. Google merely states, with regard to the Commission's reasoning on the subject of the device-based, rather than portfolio-based, RSAs, that the revenue share percentages are expressed only in gross figures, those percentages being reduced by [10-20]%, without, however, the nature of that reduction being specified. In any event, the Commission, on which the burden of proof of the alleged foreclosure effects rests, made no attempt to compare those data with data which Google might have transmitted directly.

994 Similarly, contrary to the Commission's contention in the defence, the statements of one OEM and the data contained in documents submitted by the latter were not used solely for the purpose of the analysis of device-based RSAs. Those data served to supplement the Commission's analysis in relation to the portfolio-based RSAs, which a simple reading of the second letter of facts will show.

995 It follows from the foregoing that, by communicating only at the stage of the second letter of facts the data which it intended to use to conduct the AEC test, the Commission must be regarded as having thereby substantially altered the content of the objection relating to the portfolio-based RSAs.

996 The statement of objections cannot in fact be perceived as being sufficiently substantiated on this crucial aspect of the competitive analysis of the portfolio-based RSAs for a hearing, which would have to have been organised at the beginning of 2017, to have been useful to Google. It was not until the second letter of facts, sent in April 2018, three months before the adoption of the contested decision, that the statement of objections could be sufficiently substantiated, thereby enabling Google to become acquainted with the principal and decisive aspects of the AEC test envisaged by the Commission. Thus, in that particular context, the Commission, which was not under any time pressure, should have adopted a supplementary statement of objections.

997 By sending two letters of facts, instead of a supplementary statement of objections, and by not granting an oral hearing on the observations submitted in response to those two letters of facts, the Commission thus circumvented Google's right to be able to develop its arguments on those observations orally, and infringed Google's rights of defence.

998 Having regard to the importance, in the context of a punitive procedure in which an abuse of a dominant position is to be penalised, of holding an oral hearing, that procedure is necessarily vitiated by the failure to hold such a hearing, irrespective of whether Google has demonstrated that that failure might have influenced the course of the proceedings and the content of the contested decision to its detriment (see, to that effect, judgment of 21 September 2017, *Feralpi* v *Commission*, C 85/15 P, EU:C:2017:709, paragraphs 45 to 47).

999 In addition, in any event, it must be stated that, given the nature of the AEC test and the importance attached to that test by the Commission for the purpose of assessing the capability of portfolio-based RSAs to produce foreclosure effects in respect of equally efficient competitors, Google could have developed its submissions more easily orally regarding the conception of that test, an alternative version of which, drawn up after the contested decision by a firm of economic experts and leading to a different result, is annexed to the application.

1000 That finding cannot be called into question by the fact that the Commission allowed Google to submit written observations on the first and second letters of facts. Although the adversarial principle was satisfied in writing, the Commission made no attempt to enable Google to develop its observations orally, as would have been required if a supplementary statement of objections had been adopted.

1001 The value of such oral discussion may be illustrated, for example, by the question of the costs to be used for the purposes of preparing the AEC test. On that point, the costs attributed to Google by the Commission were taken from documents sent by an OEM, which were not corroborated by means of a request for information to the main party concerned. The Commission departed, in essence, from its Guidance on exclusionary abuses, according to which, 'where [reliable data are] available, the Commission will use information on the costs of the dominant undertaking itself'.

1002 A hearing would thus have enabled Google to provide the Commission with information that could have resolved some of the ambiguities surrounding the preparation of the AEC test at an earlier stage, and to discuss it directly with the Commission. The holding of a hearing would have led the Commission to enter into full discussions with Google with a view to narrowing down in a reasonable way the factual or legal points of controversy. The value of a hearing is all the more apparent in the present case, in so far as the merits of Google's objections in the present action are such that the Court must uphold the third plea in law.

1003 Thus, given the difficulties inherent in drawing up an AEC test, if there had been a hearing, Google could have had an opportunity better to ensure its defence and to convince the Commission of the need to re-evaluate several aspects of its analysis.

1004 Moreover, allowing Google to develop orally its arguments on the substantial changes made by the Commission to the evidence used to establish the abusive nature of the portfolio-based RSAs might have enabled the Commission to refine its analysis.

1005 Consequently, the first part of the fifth plea in law must be upheld and, on that basis also, the contested decision must be annulled in so far as it characterises the portfolio-based RSAs as abusive.

G. The consequences of the examination of the first five pleas, and the sixth plea in law

1006 Google points out that the contested decision imposes the highest fine ever imposed in Europe by a competition authority, that is, EUR 4 342 865 000.

1007 Regardless of the amount, the punitive and deterrent purpose of fines imposed by the Commission to penalise an infringement of Article 102 TFEU means that the Court is obliged, as an impartial and independent tribunal, to ensure the effectiveness of the right to an effective remedy laid down by Article 47 of the Charter of Fundamental Rights when it rules on an action brought against a penalty imposed by an administrative authority that also has investigatory functions.

1008 In the present action, Google claims that the contested decision should be annulled and, failing that, that the fine should be cancelled or reduced in the exercise of the Court's unlimited jurisdiction.

1009 Following the examination of the first five pleas in law, the Court must assess the consequences for the contested decision of the conclusions set out above. In so far as those consequences affect the fine, it is also necessary to clarify to what extent the Court's assessment in that regard in the exercise of its unlimited jurisdiction will take account of the arguments raised in connection with the sixth plea, which concerns various factors taken into account in the calculation of the fine.

1. Relationship between the first five pleas and the sixth plea with regard to the fine

1010 In the sixth plea, which is divided into three parts, Google observes that even if, contrary to the arguments put forward in the first five pleas, the Court upholds the findings of the contested decision as to the existence of an infringement of Article 102 TFEU, three errors nevertheless require that the fine be cancelled or substantially reduced. Thus, as a result of those errors, the fine should be cancelled or, failing that, the Court should exercise its unlimited jurisdiction to reduce the amount of the fine substantially.

1011 In that context, Google submits, first, that it did not commit the infringement either intentionally or negligently; second, that the contested decision breaches the principle of proportionality; and, third, that it contains important errors of calculation in the light of the Commission's application of its guidelines. In that regard, Google claims that the Commission wrongly calculated the relevant value of sales, applied an incorrect gravity multiplier, added an unwarranted additional amount and failed to take account of various mitigating circumstances, including the limited duration of certain conduct.

1012 The Commission contests those arguments. It contends that the contested decision sets the amount of the fine in accordance with the guidelines and that the amount reflects the gravity and duration of the single and continuous infringement.

1013 It follows from the foregoing that, while the arguments developed in respect of the sixth plea are founded on the premiss that the Court endorses the analysis of the Commission that is contested in accordance with the first five pleas, those arguments nevertheless include a number of complaints which may be examined in this instance by the Court when it exercises, autonomously, its unlimited jurisdiction.

1014 For that reason, in so far as it is relevant and appropriate for that exercise, the Court will respond to those complaints in the examination that follows.

2. Conclusions on the infringement following examination of the first five pleas in law

1015 It is apparent from the examination of the first, second and fourth pleas, as regards the substantive aspects, and from the second part of the fifth plea, as regards the procedural aspects, that the Commission has established that the first and second aspects of the single and continuous infringement, described in the contested decision as first to third separate abuses, are abusive. On the other hand, it is apparent from the examination of the third plea and the first part of the fifth plea that, in so far as it found that the third aspect of that infringement, described in the contested decision as a fourth separate abuse, constituted an abuse of a dominant position within the meaning of Article 102 TFEU, the Commission infringed the rights of the defence and vitiated the contested decision by a number of errors of assessment.

1016 It follows that Articles 1, 3 and 4 of the contested decision must be annulled, in so far only as it is declared, in Article 1, that Google committed a single and continuous infringement of Article 102 TFEU consisting of four separate abuses, the fourth of which consists of having made the sharing of revenue with OEMs and MNOs, under certain RSAs, conditional on the exclusive pre-installation of Google Search on a predefined portfolio of devices and in so far as that fourth abuse is referred to in Articles 3 and 4. It also follows that it is appropriate to vary Article 2 of the contested decision, in so far as it imposes a fine that penalises the participation of the companies Google and Alphabet in a single and continuous infringement of Article 102 TFEU that includes the fourth abuse.

1017 In the present case, the Commission did not fulfil its obligation to analyse the intrinsic capacity of the fourth abuse, that relating to the portfolio-based RSAs (third aspect of the single and continuous infringement), to foreclose competitors at least as efficient as the dominant undertaking. The Court remains doubtful as to the capacity of the payments at issue to restrict competition and, in particular, to produce the foreclosure effects alleged.

1018 However, irrespective of the merits of their characterisation in the light of Article 102 TFEU, it should be borne in mind that the portfolio-based RSAs were correctly taken into consideration in the contested decision – as indeed, moreover, were the device-based RSAs – as elements of the factual context for the purpose of assessing the exclusionary effects of the first and second aspects of the single and continuous infringement (described in the contested decision as first, second and third separate abuses), the abusive nature of which was confirmed on examination of the second and fourth pleas.

1019 In particular, it must be borne in mind that, irrespective of the characterisation of the RSAs in terms of competition law, the combined effects of the practices established by Google gave it the benefit, as regards Google Search, of exclusive pre-installation covering, at least until 2016, more than half of all devices marketed in the EEA running an Android-based OS (recital 822 of, and footnote 908 to, the contested decision).

1020 In addition, it should be noted that the MADAs provided that GMS devices were required to comply with the technical compatibility standards contained in the CDD, which were, moreover, applicable to OEMs, for all of their devices with an Android-based OS, under the AFAs, the conclusion of which was a prerequisite for entering into a MADA. That link between the CDD and MADAs facilitated implementation of the overall strategy pursued by Google. The Commission was therefore right to take the CDD into account in order to assess the effects of the MADAs on the markets for general search services.

1021 Those points, facts that are relevant to the assessment of the abusive nature of the conduct alleged against Google, thus establish that there is a link between the first aspect of the single and continuous infringement and the RSAs concluded by Google throughout the infringement period, on the one hand, and between the first and second aspects of the single and continuous infringement, on the other.

1022 Examination of the first, second and fourth pleas in law of the action also shows that the first and second of the restrictions at issue formed part of an overall strategy. On the basis of that finding, the Commission was justified in taking the view that the applicants' conduct, consisting in attaching special conditions to the use of the Android OS, on the one hand, and of certain apps and services, on the other, had to be characterised as a single and continuous infringement of Article 102 TFEU (recital 2 and Article 1 of the contested decision).

1023 The abuses identified were part of an overall strategy aimed at anticipating the development of the mobile internet, while preserving Google's own business model, which is based on the revenues which it derives essentially from the use of its general search service.

1024 It should be noted in that regard that Google does not contradict the findings in the contested decision that its business model is based on the interaction between online products and services offered mostly free of charge to users, on the one hand, and online advertising services, from which it derives the majority of its revenues, on the other. Thus, Google's revenues are essentially linked to the audience for its online general search services, which enable Google to sell the online advertising services from which its remuneration is derived (recital 153 of the contested decision).

1025 In the context of that overall strategy pursued by Google, the preservation of the dominant position which it held, throughout the entire period of the infringement, on the national markets for general search services was therefore of decisive importance, to which the first and second of the restrictions at issue contributed. As is apparent from the examination of the fourth plea, the foreclosure of competing OSs that might allow general search services competing with Google Search to be pre-installed, or even exclusively installed, also served the same purpose.

1026 Last, it is necessary to take account of the fact that the effects of the implementation of that overall strategy were part of a factual situation in which Google Search benefited de facto, under the RSAs concluded by Google, irrespective of their characterisation in terms of competition law, from exclusive pre-installation covering, at least until 2016, more than half of all devices marketed in the EEA running an Android-based OS (recital 822 of, and footnote 908 to, the contested decision).

1027 More broadly, reference must also be made, as a factual aspect to be taken into account in the assessment of all the relevant circumstances, to the fact that, throughout the infringement period, Google had an agreement with Apple whereby Google's search engine could be set as the default on all of that OEM's iPhones (see recitals 118 and 119 of the contested decision). The presence of the Apple ecosystem, which coexisted with the Android ecosystem, on the worldwide market for smart mobile devices was not, therefore, a significant competitive threat to Google in terms of the revenue generated by advertising related to general search services (see, for example, recital 515 of the contested decision).

1028 Furthermore, Google's abusive practices had the effect, inter alia, of depriving competitors of the possibility of offering, without hindrance, alternatives to the general search service Google Search to those users wishing to use them (recitals 862 and 1213 of the contested decision). Thus, in general terms, those practices were detrimental to the interest of consumers in having more than one source for obtaining information on the internet. Accordingly, in more concrete terms, those practices also restricted the development of search services directed at those segments of consumers that attached particular value to, inter alia, the protection of privacy or specific linguistic features within the EEA. Such interests were not only consistent with competition on the merits, in that they encouraged innovation for the benefit of consumers, but were also necessary in order to ensure plurality in a democratic society.

1029 It follows from the foregoing that, while Articles 1, 3 and 4 of the contested decision must be annulled in part and Article 2 of the contested decision must be varied, in so far as the Commission has not demonstrated that the portfolio-based RSAs are abusive, the finding of a single and continuous infringement forming part of an overall strategy to which the first and second aspects of the single and continuous infringement contributed is not vitiated by any illegality. Consequently, the Court itself must, in the light of the above and all the relevant circumstances of the case, set the appropriate amount of the fine in the exercise of its unlimited jurisdiction, as requested by Google in its claim for variation of the contested decision.

1030 The appropriate conclusions to be drawn from the partial annulment of the contested decision as regards the determination of the amount of the fine were specifically mentioned and extensively discussed with the parties at the hearing.

1031 The Court considers it appropriate to observe at the outset that since, in the exercise of its unlimited jurisdiction, it is carrying out an autonomous assessment of the relevant criteria for determining the amount of the fine, it is not necessary to draw automatic inferences from that partial annulment as regards the definition of the single infringement and of its components for the amount of the fine. By contrast, the Court will take account of all of the facts established and the findings lawfully made in the contested decision which may have a bearing on the appropriateness of the amount of the fine.

3. Variation of the fine

1032 In the light of the foregoing and in accordance with the request made to that effect, it is appropriate to rule, pursuant to the unlimited jurisdiction conferred on the Court by Article 261 TFEU and by Article 31 of Regulation No 1/2003, on the amount of the fine.

1033 Unlimited jurisdiction empowers the Court, in addition to carrying out a simple review of the lawfulness of the penalty, which merely permits dismissal of the action for annulment or annulment of the contested measure, to substitute its own appraisal for the Commission's and, consequently, to vary the contested measure, even without annulling it, by taking into account all of the factual circumstances so as, for example, to amend the amount of the fine to reduce that amount as well as to increase it (see, to that effect, judgments of 8 February 2007, *Groupe Danone* v *Commission*, C 3/06 P, EU:C:2007:88, paragraphs 61 and 62, and of 3 September 2009, *Prym and Prym Consumer* v *Commission*, C 534/07 P, EU:C:2009:505, paragraph 86). In those circumstances, the Court may, if necessary, make different findings from those made by the Commission in the contested decision with regard to the penalty imposed on Google.

1034 That exercise does not require the Court to apply the Commission's guidelines on the method of setting fines (see, to that effect, judgment of 14 September 2016, *Trafilerie Meridionali* v *Commission*, C 519/15 P, EU:C:2016:682, paragraphs 52 to 55), even where those indicative rules could potentially offer guidance (see, to that effect, judgment of 21 January 2016, *Galp Energía España and Others* v *Commission*, C 603/13 P, EU:C:2016:38, paragraph 90 and the case-law cited).

1035 In the context of its obligation to state reasons, the Court must also set out in detail the factors which it takes into account when setting the amount of the fine (see, to that effect, judgment of 14 September 2016, *Trafilerie Meridionali* v *Commission*, C 519/15 P, EU:C:2016:682, paragraph 52).

1036 In the present case, in order to determine the amount of the fine to penalise Google's participation in the single and continuous infringement, as established by the partial annulment of Article 1 of the contested decision following examination of the first five pleas in the action, the Court must take the following circumstances into account.

(a) Whether the infringement was committed intentionally or negligently

1037 It is important to determine whether the infringement was committed intentionally or negligently. That distinction, provided for by Article 23(2) of Regulation No 1/2003, is likely to have an effect on the amount of the fine.

1038 The parties express their views on this point by reference to the first part of the sixth plea in law.

1039 In that regard, Google submits that the fine fails to take account of its lack of intent or negligence. The contested decision does not provide any evidence of intent, the contested practices having taken place before Google had allegedly acquired a dominant position. Similarly, Google could not, in view in particular of the practice before and at the time of the contested decision, have been 'aware' of the anticompetitive nature of its open-source business model, which is free of charge and inherently pro-competitive. There is nothing to indicate when the Commission altered its assessment.

1040 For its part, the Commission contends that it is not required to demonstrate exclusionary intent in order to conclude that the infringement was committed intentionally. It is sufficient that Google could not have

been ‘unaware of the anticompetitive nature of its conduct’. In the present case, the infringement was indeed ‘intended to reinforce’ Google’s dominant position on the markets for general search services (recitals 858 to 860, 972 to 977 and 1140 of the contested decision). In addition, the infringement was committed at least negligently, because Google was aware of the ‘essential facts’ justifying the findings in the contested decision concerning the dominant position and the abuses.

1041 It must be borne in mind that, under Article 23(2)(a) of Regulation No 1/2003, the Commission may by decision impose a fine where, either intentionally or negligently, an undertaking infringes Article 102 TFEU.

1042 As regards the condition relating to the commission of an infringement either intentionally or negligently, it is clear from the case-law that the former is the case where the undertaking in question adopts a practice and implements it in full knowledge of its anticompetitive effects on the market, and it is not necessary to show whether or not that undertaking is aware that, in so doing, it is infringing the competition rules (see, to that effect, judgment of 8 November 1983, *IAZ International Belgium and Others* v *Commission*, 96/82 to 102/82, 104/82, 105/82, 108/82 and 110/82, EU:C:1983:310, paragraph 45).

1043 In the first place, there is no doubt that Google, as the Commission rightly pointed out, implemented the practices at issue intentionally, that is to say, in full knowledge of the effects which those practices were going to have on the relevant markets.

1044 Google could not reasonably have been unaware that it held a dominant position or significant power on the markets for Android stores and for general search services. Moreover, in the context of the present action, Google does not deny having held a dominant position on the markets for general search services during the infringement period.

1045 In addition to its position on the relevant markets, Google was consciously pursuing a ‘carrot-and-stick’ strategy, that being the very term used in an internal Google presentation and reproduced by the Commission in the contested decision (recital 1343). The stated purpose was, by means of the MADAs, the AFAs and the RSAs, irrespective of the fact that there was insufficient evidence in the contested decision of the abusive nature of the portfolio-based RSAs, to prevent the use of non-approved alternative versions of Android and to promote the use of Google’s services alone, with the clear aim of protecting and strengthening Google’s position on the markets for general search services (recitals 1343, 1350 and 1351). That the effects that justified the Commission’s intervention and the adoption of the contested decision were intended is all the more obvious because they arose from contractual requirements in the agreements at issue which were designed and drawn up by Google. The statements of Google’s representatives that are set out in the contested decision corroborate that interpretation, one of them making it clear that the objective was to prevent versions of Android from incorporating search services that competed with Google (recitals 1344 and 1347 of the contested decision).

1046 More specifically, Google’s intention to prevent any development of the Android source code by depriving developers of alternative Android forks of commercial markets is indisputable, as is apparent from the examination of the fourth plea in law of the present action. The desire to hinder the development of alternative Android forks is incorporated in the various objectives pursued by the AFAs, even though Google would claim that it was obliged to do this in order to ensure Android’s survival. It is also apparent from internal emails cited in the contested decision that that strategy of hindering the development of alternative Android forks was intentionally put in place from the outset, to prevent Google’s partners and competitors from developing standalone versions of Android (recitals 159 and 160 of the contested decision).

1047 In the second place, Google cannot claim to have been unaware of the anticompetitive effects of the agreements at issue solely because they were implemented before it acquired any dominant position. First, irrespective of its position on the relevant markets, it must be pointed out that Google consciously sought the effects of the agreements at issue. Second, it could not have been unaware of their anticompetitive nature when its market power increased substantially. It is indeed therefore from the time when Google

became dominant that it could be penalised, as it was by the Commission in the contested decision, for having intentionally infringed Article 102 TFEU.

1048 Likewise, the mere finding that Google intended, by its own account, to pursue other allegedly pro-competitive objectives relating to the development and protection of the Android platform does not alter the fact that it also pursued a 'carrot-and-stick' strategy through the agreements at issue in order to maintain and strengthen its position, notably on the markets for general search services, and to limit the presence of its competitors on those markets, or even prevent any competition from developing.

1049 Accordingly, Google cannot claim that its implementation of the practices in question was anything other than intentional or that it did not seek the effects which those agreements were likely to have and which justified the Commission's adoption of the contested decision.

1050 That finding cannot be called into question by Google's arguments regarding the uncertainty as to whether the practices at issue should be characterised as abusive in the light of judicial and decisional practices prior to the contested decision. To conduct that analysis would effectively be to verify whether Google could have been aware that its conduct entailed an infringement of Article 102 TFEU, which is, as the case-law of the Court of Justice shows, irrelevant. All that matters, in the case of an infringement committed intentionally, is proof that a practice was implemented in full knowledge of the anticompetitive effects that would result on the market.

1051 Accordingly, as the Commission moreover correctly found, Google committed the infringement intentionally. The Court will take that circumstance into account in determining the amount of the fine.

(b) Consideration of the gravity and duration of the infringement

1052 In the exercise of its unlimited jurisdiction, it is for the Court to determine the amount of the fine, taking into account all of the circumstances of the case. That exercise involves, in accordance with Article 23(3) of Regulation No 1/2003, taking into consideration the gravity and duration of the infringement at issue, in compliance with, inter alia, the principle of proportionality and the principle that penalties must be specific to the offender and the offence (judgment of 21 January 2016, *Galp Energía España and Others* v *Commission*, C 603/13 P, EU:C:2016:38, paragraph 90 and the case-law cited).

(1) Consideration of the value of sales as initial data

1053 As a preliminary point, as regards the value of the sales made by Google in relation to the infringement, which allows the Commission to determine the basic amount of the fine to be imposed pursuant to its guidelines, the Court would point out that while it has consistently been held that the fixing of a fine is not an arithmetically precise exercise (judgments of 5 October 2011, *Romana Tabacchi* v *Commission*, T 11/06, EU:T:2011:560, paragraph 266, and of 15 July 2015, *SLM and Ori Martin* v *Commission*, T 389/10 and T 419/10, EU:T:2015:513, paragraph 436), the use of such a value may in this instance constitute an appropriate starting point for determining the amount of the fine.

1054 Indeed, it is appropriate to set the amount of the fine using a methodology which, like that applied by the Commission, first identifies a basic amount which can then be adjusted in the light of the particular circumstances of the case. In that regard, the value of sales in relation to the infringement does in this case reflect the economic impact of the infringement and the size of the undertaking involved in it.

1055 It is in this context that the Court will examine the arguments put forward in respect of the amount taken into consideration by the Commission under the third part of the sixth plea.

1056 First, Google criticises the Commission for having taken into account the value of sales in 2017, the last full year of participation in the infringement, when it should instead have taken into consideration the average value of sales over the entire infringement period. The latter is justified by the exponential increase

in Google's revenues between 2011 and 2017 due to the switch from feature phones to smartphones and to the corresponding growth in the mobile internet.

1057 The Commission states, however, that it was for Google to show that the sales made in 2017 did not reflect the economic reality of the infringement and Google's size and market power. The mere finding that its revenues increased between 2011 and 2017 is not sufficient for that purpose.

1058 It should be borne in mind that the taking into account of the value of sales in the calculation of the basic amount of the fine is intended to reflect the economic reality and scale of the infringement penalised. It is not always necessary, however, for the last year of participation in the infringement to be taken as the reference period for the purpose of calculating the value of sales, particularly where the sales made by the undertaking during the last year of participation in the infringement do not reflect the economic scale of the infringement (see, to that effect, judgment of 11 July 2014, *Esso and Others* v *Commission*, T 540/08, EU:T:2014:630, paragraph 95).

1059 However, the mere finding of a significant increase in Google's revenues between 2011 and 2017 is not sufficient to establish that the revenues which it generated in 2017 do not reflect the economic reality, the scale of the infringement, Google's size and its market power. On the contrary, the unilateral nature of the practices penalised by the Commission, which allowed Google between 2011 and 2017 to strengthen its dominant position and its market power and to curb the expansion of its competitors, or even to exclude them from the market or to impede potential competitors, justifies the revenues generated in 2017 being taken into account, that being the year in which Google was able to reap all the economic benefits of the practices it had implemented since 2011.

1060 Accordingly, the Court considers it appropriate, in the exercise of its unlimited jurisdiction, to take account of the value of sales made by Google during the last year of its full participation in the infringement.

1061 Second, Google complains that the Commission took into account, in the relevant value of sales, revenues that were unrelated to the infringement. That is the case for revenues generated by Google when users click on advertising links following general search queries carried out via Google's homepage, rather than via pre-installed Google apps. Those revenues were not covered by the portfolio-based RSAs and Google was in a position to isolate those revenues from revenues generated through queries via its apps.

1062 The Commission emphasises, on the other hand, the importance of taking such revenues into account, as they concern the infringement.

1063 In that regard, it must be held that the value of sales used in the calculation of the basic amount of the fine must be directly or, at the very least, indirectly related to the infringement that is penalised, if the economic reality and scale of that infringement are not to be distorted when determining the penalty.

1064 In the present case, the revenues generated by Google when users click on advertising links following search queries conducted via Google's homepage, rather than via pre-installed Google apps, are at the very least indirectly related to the infringement. As the contested decision correctly shows, the practices penalised by the Commission enabled Google to maintain and strengthen its dominant position and its market power on all national markets for general search services, whether those searches are carried out via a pre-installed app or via Google's homepage (recital 1439 of the contested decision).

1065 By making the use of and access to competing search services more difficult and by capturing the users of such services, Google's practices indirectly enabled it to obtain substantial revenues via its homepage also. The fact that the portfolio-based RSAs do not take account of such revenues is in that respect irrelevant.

1066 Accordingly, the Court considers it appropriate not to exclude from the value of sales taken into account in the calculation of the basic amount of the fine the revenues generated from general search queries conducted on Google's homepage.

1067 Third, Google complains that, in relation to the value of sales, the Commission took into account revenues generated not by Google but by third parties. That applies to traffic acquisition costs, that is to say, payments made by Google in order for its advertising links to be displayed on third-party websites.

1068 The Commission contends, however, that traffic acquisition costs are an integral part of Google's search advertising revenues and a component of the price charged to advertisers for Google's services.

1069 In that regard, it should be recalled that the wording of the second subparagraph of Article 23(2) of Regulation No 1/2003 refers to the total turnover of the undertaking concerned, without any deduction (judgment of 12 December 2012, *Almamet* v *Commission*, T 410/09, not published, EU:T:2012:676, paragraph 225).

1070 In the present case, as the Commission rightly points out in the contested decision, while traffic acquisition costs are indeed costs borne by Google, in that they constitute voluntary expenditure by Google to have its links displayed on third-party websites, those costs are, in essence, charged to advertisers; accordingly they are a component of Google's revenues (recital 1442 of the contested decision).

1071 Therefore, contrary to Google's contention, traffic acquisition costs cannot be deducted from the value of sales. Those costs do not affect Google's gross revenues and adequately reflect the economic reality and scale of the infringement penalised.

1072 Consequently, the Court has decided to take into consideration for the purpose of determining the amount of the fine the same value of sales as that which was applied by the Commission in the contested decision.

(2) Consideration of gravity

1073 As regards the assessment of the gravity of the infringement, it has in particular been held that this must be assessed on an individual basis and that it is necessary to take account of all the factors capable of affecting that assessment, such as, for example, the number and intensity of the incidents of anticompetitive conduct (see, to that effect, judgment of 26 September 2018, *Infineon Technologies* v *Commission*, C 99/17 P, EU:C:2018:773, paragraphs 196 and 197 and the case-law cited).

1074 In the present case, in the exercise of its unlimited jurisdiction, the Court considers it appropriate first of all to take into consideration the following factors, which are also referred to by the Commission in its guidelines, namely the nature of the infringement, the position of Google on the relevant markets, the geographic scope of that infringement and whether or not the infringement has been implemented.

1075 As regards the nature of the infringement, it is apparent from the foregoing analysis that the Commission characterised to the requisite legal standard a number of abusive exclusionary practices on Google's part, which impeded competition by foreclosing its competitors to the detriment of consumers. Those practices are linked to the pre-installation conditions of the MADAs and to the exclusionary effects entailed by the AFAs, and are to be analysed in the light of the relevant factual context during the period of the infringement.

1076 As regards Google's position on the relevant markets and the geographic scope of the infringement, it is not disputed that, throughout the period of the infringement, Google held a dominant position on the national markets for general search services within the EEA. Those markets were the markets covered by Google's overall strategy, which sought to preserve the market power which it held over general search service queries conducted on a PC and general search service queries conducted on a smart mobile device. That finding is unaffected if account is taken not only of general search service queries conducted on an Android device but also of general search service queries conducted on an iPhone.

1077 As regards the question whether or not the infringement has been implemented, the Court considers it particularly necessary in that regard, in order to comply with the principle of proportionality and the

principle that penalties must be specific to the offender and the offence, to assess the number and intensity of the incidents of Google's anticompetitive conduct.

1078 That exercise is facilitated by the careful examination of the actual effects which the Commission carried out in the present case to assess the impact on competition on the merits of Google's overall strategy and the different means used to implement it.

1079 The Court notes in that regard that although, in the contested decision, the Commission initially confined itself to finding that 'the relevant markets affected by the Infringement [were] of significant economic importance', which meant that 'any anticompetitive behaviour on these markets [was] likely to have had a considerable impact' (recital 1449), it was nevertheless careful to make clear subsequently that that finding was based on the conclusions it drew from the analysis of the restrictive effects on competition made in the contested decision in relation to each incident of the conduct in question (recital 1455).

1080 The Court's assessment in that regard follows from the analysis set out above under the corresponding pleas concerning the first and second of the restrictions at issue. That analysis takes account not only of the exclusionary effects identified by the Commission in the contested decision, but also of the various arguments put forward by the parties as regards the value of developing and maintaining the Android OS and its 'ecosystem', which must be regarded as established, as is apparent in particular from paragraphs 907 and 908 above.

1081 In that regard, following consideration of all of those factors, the Court considers it appropriate to indicate that it considers that the application of a fixed gravity coefficient of 11% of the value of sales determined by the Commission (recital 1447 of the contested decision) does not sufficiently reflect the reality of the implementation of the infringement and in particular its intensity during the period concerned, particularly as regards, as will be examined below, Google's anticompetitive conduct in the years 2012 to 2014.

(3) Consideration of duration

1082 As regards the assessment of the duration of the infringement, the following circumstances, which, moreover, are not disputed by Google in the present action, must be taken into account.

1083 First, Google LLC participated continuously from 1 January 2011 until 18 July 2018, the date of adoption of the contested decision, in the following two aspects of the single and continuous infringement: the bundling of the Google Search app with the Play Store, and the licensing of the Play Store and the Google Search app being made conditional on the conclusion of an AFA.

1084 Second, Google LLC participated continuously from 1 August 2012 until 18 July 2018, the date of adoption of the contested decision, in a further aspect of the single and continuous infringement, namely the bundling of Google Chrome with the Play Store and the Google Search app.

1085 Unlike the Commission, however, which used a single, overall multiplier to take account of the duration of Google's participation in the infringement (recital 1461 of the contested decision), the value of sales taken into consideration being multiplied by that duration coefficient, the Court considers that it is more appropriate in the present case to take account of other parameters also, in order better to reflect certain particularities of the progress of the infringement over time in the light, in particular, of its variable intensity.

(4) Combined assessment in the light of intensity

1086 In its assessment of the amount of the fine by reference to the gravity and duration of the infringement, the Court considers it preferable to use a different technique than the arithmetical and linear technique defined by the Commission pursuant to the general methodology adopted in the guidelines. Doing so better ensures, in accordance with the principle of proportionality and the principle that penalties should be

specific to the offender and the offence, that the particularities of the present case are duly taken into account, without thereby undermining the need to achieve a satisfactory level of deterrence.

1087 First, it is appropriate in the present case to take into consideration the complementarity of the first abuses. As the analysis carried out in that respect shows, it is apparent that Google's abusive practices under its overall strategy were reinforced once both the Google Search app and the Chrome browser were covered by the pre-installation conditions of the MADA. Google thereby ensured that it had a significant competitive advantage over the two main entry points for internet queries, a competitive advantage which it was very difficult for Google's competitors to offset.

1088 Second, it also appears necessary for the Court to take particular account of the intensity of the anticompetitive conduct over time and of the other factual elements surrounding the conduct referred to in the contested decision, such as the RSAs. Several periods can be distinguished in this respect:

– an initial exploratory period running from 1 January 2011 to 1 August 2012, marked by deployment of the overall strategy Google wanted in order to ensure the transition to the mobile internet;

– a second period running from 1 August 2012 to the end of the portfolio-based RSAs, on 31 March 2014, during which the intensity of the infringement was at its highest because its effects combined the restrictive aspects of the MADA (for both types of bundling) and of the AFA, in a context in which the exclusivity conferred by the portfolio-based RSAs accordingly reduced the theoretical possibilities of joint pre-installation on GMS devices;

– a third period running from 31 March 2014 to the date of adoption of the contested decision, in which competitors may be considered to have enjoyed a greater margin of freedom with the device-based RSAs than they had under the portfolio-based RSAs, but where, in parallel, it is also necessary to take account of the development of APIs which aggravated the exclusionary effects of the AFAs.

1089 That segmentation leads the Court to take account, in determining the amount of the fine, of the following circumstances.

1090 First of all, it is true, as Google submits in the second part of the sixth plea, that account must be taken of the fact that it ended the portfolio-based RSAs of its own accord, as from 31 March 2014, in order to replace them with device-based RSAs, and that that necessarily had the effect of diminishing the foreclosure resulting from the exclusive pre-installation of the Google Search app and Chrome on certain GMS devices marketed within the EEA.

1091 The use of two fixed and overall multipliers – one for gravity and the other for duration – does not allow that circumstance to be taken into account, nor, moreover, does it allow the fact that the MADA pre-installation conditions did not cover Chrome until 1 August 2012 to be taken into account.

1092 Next, it must also be noted that the effects of the practices at issue in the second period were particularly significant, which must also be specifically taken into account, since those effects occurred at a critical time both for Google and for its competitors, that of the development of the mobile internet.

1093 At that time, which was crucial for the development of online search services from smart mobile devices, Google's abusive practices were damaging to its competitors, for whom it was particularly important to be present, if only on small numbers of devices. That point of view was compellingly put forward at the hearing by the various competitors of Google intervening in the proceedings.

1094 In determining the amount of the fine, the Court will therefore take account both of the respective duration of the various aspects of the single and continuous infringement and of the differences between the various periods, as has been noted above, in order to assess the variable intensity of the effects of that infringement.

(c) Mitigating or aggravating circumstances

1095 The Court considers that the factual context of the present case does not justify granting Google the benefit of mitigating circumstances or, conversely, taking aggravating circumstances into account.

1096 As regards the arguments put forward in that regard in the third part of the sixth plea, it should be noted, first of all, that Google cannot claim the benefit of a reduction of the fine in so far as it may have committed the infringement negligently. As the Commission correctly established in the contested decision, and as is apparent from the preceding paragraphs, Google committed the infringement intentionally, having consciously sought the effects which the agreements in question were likely to have.

1097 Similarly, Google cannot demand a reduction of the fine in return for its allegedly active cooperation during the administrative procedure. It is true that Google voluntarily offered commitments to address the Commission's competition concerns. However, such an offer cannot, per se, extend beyond Google's legal obligations to cooperate during the administrative procedure, nor can it, on that ground alone, justify a reduction of the fine on the basis of Google's active cooperation.

1098 Moreover, the Court does not deem it necessary to consider other factual circumstances capable of influencing the amount of the fine by decreasing or increasing it.

(d) Amount of the fine and Alphabet's joint and several liability

1099 On the basis of the foregoing considerations, in particular the intentional implementation, over a significant period of time, of an overall strategy the existence of which is not called into question by the Commission's errors concerning the third type of conduct examined in the contested decision and which had effects of variable intensity during the period of the infringement, the Court considers that setting the amount of the fine imposed on Google LLC at EUR 4 125 000 000 instead of EUR 4 342 865 000 represents a fair assessment of the gravity and duration of the infringement, having regard, in particular, to the principle that penalties should be specific to the offender and the offence.

1100 Furthermore, Alphabet, Inc. must be held jointly and severally liable as the parent company for the unlawful conduct of Google LLC from 2 October 2015 to 18 July 2018 for the reasons set out in the contested decision and not disputed in the present action (recitals 1388 and 1389 of the contested decision). In the present case, given that Alphabet, Inc. controlled Google LLC for 1 013 of the 2 748 days of the single and continuous infringement, it is to be held jointly and severally liable to pay the sum of EUR 1 520 605 895.

(e) Appropriateness of the penalty

1101 The Court considers that a fine of EUR 4 125 000 000 is appropriate in view of the significance of the infringement. As regards the arguments relied on in that regard by Google in the second part of the sixth plea, first, it should be noted that, contrary to Google's contention, the Commission was not required, in the exercise of its power to impose penalties, to show moderation in order to take account of the alleged novelty of the practices at issue. The same is true of the Court when exercising its unlimited jurisdiction.

1102 It is the case that the Commission has, for the first time, conducted a competitive analysis of the Android platform. However, the assessments relating to the markets, the dominant position held by Google on those markets and the abuses identified by the Commission in the contested decision are based on analyses that are well established in competition law. In the contested decision, the Commission rightly points out that it is penalising several agreements, the analysis of which reveals classic situations of tying or exclusivity between operators (recital 1432 of the contested decision).

1103 Thus, contrary to Google's contention, the present case cannot be treated in the same way as that which gave rise to the judgment of 3 July 1991, *AKZO* v *Commission* (C 62/86, EU:C:1991:286), in which the

Court of Justice took account of the unprecedented punishment of predatory pricing to reduce the amount of the fine, although that was not the only aspect taken into account for that purpose.

1104 Commission Decision 93/82/EEC of 23 December 1992 relating to a proceeding pursuant to Articles [101 TFEU] (IV/32.448 and IV/32.450: Cewal, Cowac and Ukwal) and [102 TFEU] (IV/32.448 and IV/32.450: Cewal) (OJ 1993 L 34, p. 20), on which Google relies, must be read in the same way. It is true that, in recital 116 of that decision, the Commission took account of the fact that the undertakings in question may not have been aware of their obligations under competition law or may have underestimated the gravity of the infringement penalised, circumstances which could have had an effect on the determination of the amount of the fine.

1105 However, in the present case, it must be noted that an undertaking of Google's size and having substantial market power on the markets referred to in the contested decision cannot be unaware of its obligations under competition law. Moreover, it is clear from the internal documents and statements of Google on which the Commission relies that Google was fully aware of the effects of the practices challenged in the contested decision (recitals 1343 to 1347).

1106 In the present case, the Court also considers that the various instances of the conduct at issue were already covered by the Commission's previous practice in taking decisions, that practice having also previously been reviewed by the Courts of the European Union, whether in the judgment of 17 September 2007, *Microsoft* v *Commission* (T 201/04, EU:T:2007:289), or in the judgment of 6 September 2017, *Intel* v *Commission* (C 413/14 P, EU:C:2017:632), both of which clarified the analytical criteria to be applied in assessing those different types of conduct. It cannot therefore be held that the fine imposed is disproportionate because it does not take account of the alleged novelty of the practices in question.

1107 Second, Google claims that the gravity of its conduct was relative and that its conduct had pro-competitive effects. According to Google, the fine imposed therefore had to correspond to the gravity of its conduct but to go no further.

1108 It is apparent in that regard that, in the exercise of its unlimited jurisdiction, the Court has taken full account, in determining the gravity of the infringement, of all the circumstances surrounding it, including the arguments advanced by the parties as regards the development and maintenance of the Android OS and of its 'ecosystem', in order thereby to ensure that the fine is consistent with the principle of proportionality.

(f) Whether the penalty has a sufficiently deterrent effect in view of the size of the undertaking

1109 Like the Commission (recital 1479 of the contested decision), there is no need for the Court in the present case to increase the fine specifically in order to ensure deterrence.

1110 The amount of the fine determined by the Court takes due account of the need to impose on Google a fine that has a deterrent effect.

(g) Compliance with the ceiling of 10% of total turnover

1111 The amount of the fine as determined by the Court in the exercise of the unlimited jurisdiction conferred on it by Article 31 of Regulation No 1/2003 does not exceed the amount provided for in the second subparagraph of Article 23(2) of that regulation, namely 10% of the total turnover of Alphabet in the preceding business year.

1112 This is true both as regards the 2017 business year, the business year preceding the fine imposed by the Commission (recital 1481 of the contested decision), and as regards the 2021 business year, the last available business year, that total turnover having increased constantly since 2017.

(h) Conclusion on the variation

1113 It follows from the foregoing that Article 2 of the contested decision must be varied so that the amount of the fine imposed on Google LLC for the single and continuous infringement referred to in Article 1 of the contested decision, for which Alphabet, Inc. is jointly and severally liable in respect of the period from 2 October 2015 to the date of adoption of the contested decision, must be set at EUR 4 125 000 000.

1114 In the light of the circumstances taken into consideration by the Court in the exercise of its unlimited jurisdiction, it does not appear necessary to rule on the merits of the arguments put forward by Google concerning the additional amount equivalent to 11% of the value of relevant sales made in 2017 (see recitals 1467 and 1468 of the contested decision), since that parameter was not taken into account by the Court in that exercise.

IV. Costs

1115 Under Article 134(2) of the Rules of Procedure, where there is more than one unsuccessful party, the Court is to decide how the costs are to be shared. In the present case, it is appropriate to decide that the main parties shall each bear their own costs.

1116 Under Article 138(3) of the Rules of Procedure, the Court may order an intervener other than those referred to in paragraphs 1 and 2 of that article to bear its own costs. In the present case, it is appropriate to order ADA, CCIA, Gigaset, HMD, Opera, BEUC, VDZ, BDZV, Seznam, FairSearch and Qwant to bear their own costs.

On those grounds,

THE GENERAL COURT (Sixth Chamber, Extended Composition)

hereby:

1. Annuls Articles 1, 3 and 4 of Decision C(2018) 4761 final of the European Commission of 18 July 2018 relating to a proceeding under Article 102 TFEU and Article 54 of the EEA Agreement (Case AT.40099 – Google Android) in so far as they concern the fourth element of the single and continuous infringement, consisting in having made the conclusion of revenue share agreements with certain original equipment manufacturers and mobile network operators conditional on the exclusive pre-installation of Google Search on a predefined portfolio of devices;

2. Sets the amount of the fine imposed on Google LLC in Article 2 of Decision C(2018) 4761 final for the single infringement which it committed, as follows from point 1 above, at EUR 4 125 000 000, for which Alphabet, Inc. shall be jointly and severally liable in the amount of EUR 1 520 605 895;

3. Dismisses the action as to the remainder;

4. Orders Google and Alphabet to bear their own costs;

5. Orders the Commission to bear its own costs;

6. Orders Application Developers Alliance, BDZV – Bundesverband Digitalpublisher und Zeitungsverleger eV, Bureau européen des unions des consommateurs (BEUC), Computer & Communications Industry Association, FairSearch AISBL, Gigaset Communications GmbH, HMD global Oy, Opera Norway AS, Qwant, Seznam.cz, a.s. and Verband Deutscher Zeitschriftenverleger eV to bear their own costs.

Iliopoulos Norkus

Delivered in open court in Luxembourg on 14 September 2022.

E. Coulon A. Marcoulli

Registrar President

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IV. Costs

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* Language of the case: English.