Appendix E: Google's agreements with device manufacturers and app developers

Introduction

1. Chapters 3 and 4 of our interim report set out at a high-level various information and concerns we have identified regarding Google's agreements with device manufacturers – or Original Equipment Manufacturers ('OEMs') – and a recent initiative aimed at app developers. This appendix provides a greater level of detail and explanation to support those findings. This introduction provides a brief overview of the different agreements and how they interrelate, before we discuss each in turn in more detail.

2. Most Android devices are manufactured by third-party manufacturers who license the 'Android' trademarks from Google, provided that they meet certain compatibility criteria (as explained in further detail below). As explained in Chapter 3, Google's Pixel range of mobile devices only accounts for [0-5]% of new smartphones in 2020 and [0-5]% of new tablets in the same year.

3. The Android operating system is based on open-source software and was originally developed by the Open Handset Alliance, a consortium of 84 technology companies with the objective of developing open standards for mobile devices.[1] Android is currently commercially sponsored by Google, which licenses the Android name and logo to manufacturers that enter the Android Compatibility Program.[2]

4. As further detailed below, Android manufacturers that also want to license Google's apps and services, including Google's proprietary application programming interfaces (APIs), are required by Google to enter an agreement called the Android Compatibility Commitment (ACC) under which they agree to maintain compatibility with a baseline version of Android as set out in the Compatibility Definition Document (CDD).

5. Manufacturers that have entered the ACC and thus meet the terms of the CDD, meaning they use a Google-compatible version of Android on their devices, can then enter the European Mobile Application Distribution Agreement (EMADA) under which they pay Google a per-device licence fee to license a collection of Google apps and services, named Google Mobile Services (GMS).

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[1] Open Handset Alliance.
[2] See Android Brand guidelines and Android Compatibility Program Overview | Android Open Source Project.

6. GMS (or the 'GMS suite') includes popular Google apps such as Gmail, Maps, YouTube and the Play Store, as well as Google APIs (or Google Play Services). As further explained below, we understand that these APIs may allow third-party developers to make use of basic features and functionalities such as push notifications or to communicate with Google's services (such as Maps, Search, Gmail, and Translate on Android) and create rich features compatible with Android. The EMADA does not include licences for the Google Search app or Google's Chrome browser, which are distributed under separate licence agreements to manufacturers. However, licensing Google Search and Chrome is conditional on a manufacturer entering the EMADA (or being an 'EMADA partner').

7. Google offers EMADA partners payments, both fixed payments per activated device and revenue shares. These payments are **conditional** on the manufacturer entering the EMADA (and thus the ACC) and compliance with certain requirements in relation to Google apps such as Google Search, Google Chrome and (in some cases) the Play Store. Payments from Google to device manufacturers are made through the following agreements:

   - **Placement agreements (PAs)**: these are per-device 'activation payments' for each device on which manufacturers pre-install either the Google Search app or the Google Search and Chrome apps and satisfy certain placement obligations for either Google Search or both;

   - **Revenue sharing agreements (RSAs)**: pursuant to these agreements:

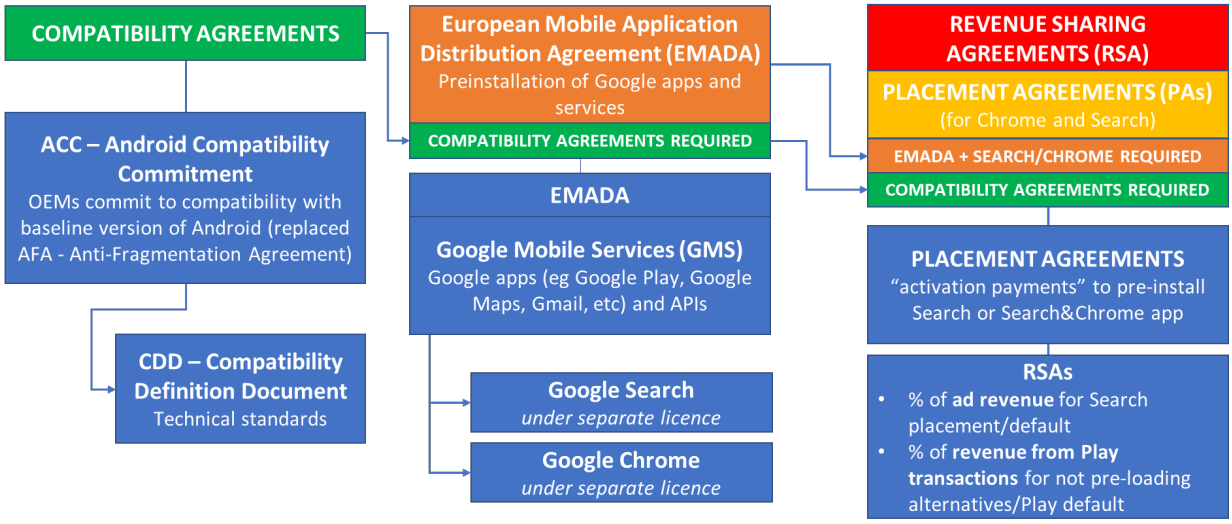
     – Google shares a proportion of net advertising revenue from specific search access points on manufacturers' devices in return for meeting a number of placement and promotion requirements relating to Google's apps including Google Search and Google Assistant such as setting the Google Search app as the default search engine on all preloaded manufacturer browsers.[3] The proportion of revenue shared with the manufacturer increases with the more requirements met by a device;

     – Google shares a proportion of net revenue from Play Store transactions where devices meet certain additional requirements in relation to the Play Store, namely setting the Play Store as the default

[3] Google told us that third-party browsers (as opposed to manufacturer browsers) can have non-Google search services set as default instead, provided that they are not placed on the default home screen (unless in a folder) or the minus one screen. Google also told us that after the EC's decision in *Google Android* the default search service in Chrome is set according to the Android choice screen mechanism that applies in the UK and EEA.

app store and not preloading similar services, such as alternative app stores, on those devices.[4]

8. Figure E.1 below summarises our understanding of the hierarchy of these Google agreements respectively governing: (i) the maintenance of Google-compatible versions of Android ('Compatibility Agreements'); (ii) the licensing of Google's apps and services ('EMADA'); and (iii) Google payments for preinstalling or respecting certain obligations in relation to Google apps such as Google Search, Google Chrome and the Play Store ('Revenue Sharing Agreements' and 'Placement Agreements').



Source: CMA analysis

9. In addition, we are aware of an initiative implemented by Google as operator of the Play Store in 2019 which targeted a number of major app developers, namely 'Project Hug'. Under the initiative, Google provides developers with certain benefits to encourage them to continue to develop and distribute their apps via the Play Store. The value of these benefits, which takes several forms, including related to the use of other Google's products and services (eg cloud, advertising and marketing services), is estimated by Google to equate to an effective reduction in the commission rate to these developers (which we understand to be the service fee it charges them in relation to in-app transactions on Play Store apps). In exchange for these benefits, developers agree to treat Play at least comparably to other distribution platforms in terms of feature and content availability and timing of launch of their apps.

[4] Google told us that '[a]s a technical matter, there is no concept of a default app store on Android. A link or advert would be specific to Play, Samsung Galaxy Store, or other Android app stores. There is no well-developed 'generic' or 'open' link functionality that could be handled by multiple stores and which requires a default to be set or a user selection to be made.'

10. We consider Google's agreements with manufacturers and Project Hug to be relevant for multiple areas of our assessment, including competition in the provision of mobile devices and operating systems (Chapter 3), competition in app distribution (Chapter 4), competition in the provision of browsers (Chapter 5) and competition in the provision of apps in general (Chapter 6). We further consider that they allow Google to use its market power in search to protect its position in mobile operating systems and native app distribution. This in turn allows it to reinforce its position in search. In particular:

- The revenue sharing agreements are conditional on manufacturers using a compatible version of Android and licensing Google's apps and APIs included in GMS (including the Play Store) which are important for ensuring that many native Android apps operate as they should. This ensures that manufacturers only receive a portion of Google's revenue if they use Google's version of Android and a core set of Google's apps (including the Play Store and all the other apps included in GMS)[5] are pre-installed on their devices.

- Google's extensive pre-installation and default positions for GMS apps as well as Google Search and Google Chrome (including via placement agreements and revenue sharing agreements), act as a significant barrier to expansion for rival search engines, by limiting their ability to access consumers, build their scale and grow into stronger competitors over time, as set out in the CMA's market study into online platforms and digital advertising.[6]

- The revenue sharing agreements also reinforce Google's position in search advertising. This is because manufacturers' use of Android allows Google to access extensive first-party data which is likely to give it a substantial advantage over smaller rivals in advertising, creating a barrier to entry and expansion as set out in the CMA's market study into online platforms and digital advertising.[7]

- Given that rivals are unlikely to be able to replicate the payments Google makes to manufacturers, switching away from Android would entail manufacturers missing out on significant financial benefits that are paid for pre-installing or meeting certain requirements in relation to Google's apps

[5] As detailed below, these GMS apps include apps such as Gmail, Maps and YouTube.
[6] See CMA (2020), Market Study into Online Platforms and Digital Advertising, Final Report, paragraph 3.149.
[7] For example, Google can access extensive data on user location, including through Android smartphones, on which half to two thirds of users have location services activated; this allows search advertising to be more effectively targeted based on location. See CMA (2020), Market Study into Online Platforms and Digital Advertising, Final Report, paragraph 5.60.

such as Google Maps, Gmail, YouTube, Google Search, Google Chrome and the Play Store, which are all very popular with users.[8]

- Google has the ability to target major app developers with incentives and other complementary products. These may offer benefits to such developers in the short term, but we are concerned that in the long term they could represent a barrier to emerging competition from other distribution channels, including other app stores.

11. In the remainder of this appendix, we cover in detail all the agreements mentioned above in the following sections:

- some background information on the Android Open Source Project and the Android Compatibility Program;
- Google's licensing of Google's apps and services, including GMS and Google APIs (or Google Play Services), under the EMADA;
- Google's payments to manufacturers for pre-installing Google Search and Chrome apps and for respecting certain placement and promotion requirements in relation to apps such as Google Search, Google Assistant, Google Chrome and (in some cases) the Play Store.
- Google's initiative targeting major game developers, also known as 'Project Hug'.

Android Open Source Project (AOSP)

12. As noted above, Android is currently commercially sponsored by Google, which retains the 'Android' trademarks and licenses the Android name and logo to manufacturers that meet certain compatibility criteria. More specifically, to license the Android name and logo, manufacturers need to enter the Android Compatibility Program,[9] under which Google also provides them with tools that ensure Android apps run smoothly on their devices.[10]

13. In this appendix, we use the term 'Android' to describe all versions of the Android mobile operating system which enter the Android Compatibility

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[8] As detailed in this appendix, Google provides manufacturers with: (i) per-device activation payments for the pre-installation of Google Search and Chrome; (ii) a share of its ad revenue for respecting certain placement and promotion requirements, such as setting Google Search as the default search engine on all pre-loaded manufacturer browsers (although third-party browsers could have non-Google search services set as default, if not placed on the default home screen or the 'minus one' screen); and (iii) a share of Play Store transaction revenue for setting the Play Store as the default app store and not pre-loading any similar services on the device.
[9] Android Compatibility Program Overview | Android Open Source Project.
[10] We understand this includes Android Software Development Kits meaning the software development tools used to produce Android apps which provides built-in tools for developers to clearly state the device features required by their applications. See Android Compatibility Program Overview | Android Open Source Project.

Program. We use 'Android Forks' instead to refer to versions which are outside Google's Android Compatibility Program and whose development is not generally subject to the monitoring and control of Google – this does not include Huawei's HMS devices which, as set out in Chapter 3, use a version of Android that falls within Google's compatibility requirements, but relies on Huawei's Huawei Mobile Services.

Android Compatibility Program

14. The Android Compatibility Program defines technical details of the Android platform and provides tools for manufacturers to ensure developer applications developed for the Android operating system run smoothly on a variety of devices. The Program consists of three key components:

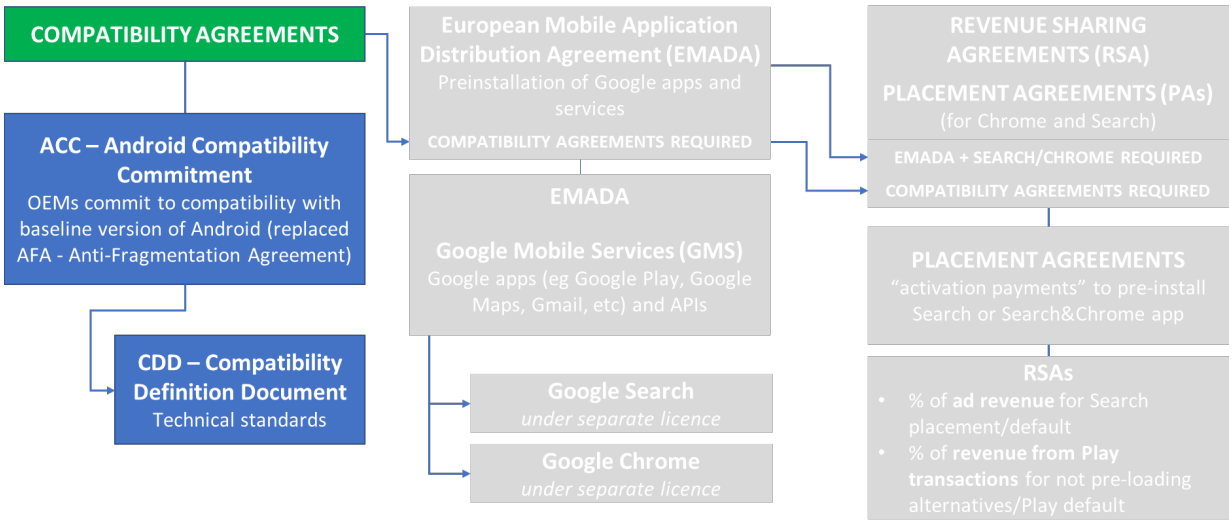
- the Android Open Source Project source code;
- the CDD, which sets out the requirements that must be met in order for devices to be compatible with the latest version of Android; and[11]
- the Compatibility Test Suite (CTS) which is a free online tool that Android partners can download from the Android website and use to detect major CDD compatibility issues in a device.[12]

15. To build an Android compatible device and thus ensure Android apps work on their devices as they should, manufacturers must comply with the technical specification contained in the Android CDD and pass the tests contained in the CTS.[13]

16. Android manufacturers that also want to license Google's apps and services, including Google proprietary APIs, are required by Google to enter the ACC (formerly called the Anti-Fragmentation Agreement (AFA)). Under the ACC, Google's Android partners agree to maintain compatibility with a baseline version of Android as set out in the CDD. [14] In Figure E.2 below, we refer to the ACC and the CDD together as 'Compatibility Agreements', meaning those governing the maintenance of Google-compatible versions of Android.

[11] Android 12 Compatibility Definition.
[12] Compatibility Test Suite.
[13] Android Compatibility Program Overview | Android Open Source Project.
[14] Although after the European Commission's 2018 *Google Android* decision the ACC allows manufacturers to distribute incompatible Android variants on smartphones and tablets supplied into the EEA and the UK, alongside compatible versions, subject to Android branding requirements.

Figure E.2 – Google's compatibility agreements



Source: CMA analysis

17. Google told us that it only licenses its apps for use on Android devices that meet the CDD requirements but that the ACC does not prevent manufacturers from using or developing alternative operating systems on their devices. In particular, Google told us that:

- in the UK and EEA, manufacturers are free to implement Android variants that do not comply with the CDD (albeit Google does not license its apps for use on those devices), subject to the Android branding requirements;
- the CDD sets only a low baseline of minimum compatibility specifications that leave manufacturers free to customise their devices;
- nothing in the ACC prevents manufacturers from using non-Android OSs alongside or instead of Android.

18. In its antitrust case AT.40099 – Google Android – the European Commission (EC) deemed the AFA to be anti-competitive, concluding that through AFAs Google hampered the development of Android Forks.[15] The provisions considered to be problematic were those that obliged manufacturers not to fork Android and not to distribute any devices that were based on a fork alongside devices (including smartphones and tablets) running on Google-compatible versions of Android, as the AFAs applied to the entire product portfolio of a manufacturer.[16]

19. In 2016, Google replaced the AFA with the ACC. Google told us that in order to comply with the EC's decision in Google Android, it amended the terms of

[15] CASE AT.40099, Google Android, dated 18 July 2018, paragraphs 1036 (3) and 1076 (currently on appeal).
[16] CASE AT.40099, Google Android, dated 18 July 2018, paragraph 1106 (currently on appeal).

the ACC to remove compatibility obligations in respect of smartphone or tablet devices supplied into the UK and the European Economic Area (EEA).

20. Following these changes manufacturers can distribute incompatible Android variants on mobile devices supplied into the EEA and the UK, alongside compatible versions, subject to certain branding requirements.[17] However, as already noted above, Google does not license its proprietary apps and APIs for use on such devices.

Google's rationale for the Android Compatibility Program

21. Google told us that the AFA was its response to the threat of incompatibility or 'fragmentation' to Android. Incompatibility or fragmentation occurs where there are multiple different versions of the same operating system and those differences are such that apps developed for that operating system do not work properly on every version. Google explained that such incompatibility would increase costs to developers (who would need to develop multiple versions of their app to access all of the operating systems users) and confuse consumers (if apps for that operating system did not work on the version on their device), 'making the platform less attractive to all'.

22. Indeed, Google told us that ensuring compatibility across Android devices not only promotes developer interest in Android, but also ensure consumers' favourite apps will be available and function properly if they purchase a new Android device or switch Android devices.

23. Google identified 'prior open source mobile platforms like Symbian, Linux Mobile, and Java Mobile' that failed because of incompatibility issues. For instance, according to Google 'Symbian was the leading platform in 2007 with an estimated 73% share of mobile [operating systems]' but 'had almost entirely disappeared' by 2013 as Symbian's owners 'failed to define a single set of standards for apps to rely on'. As a result, the platform fragmented into numerous incompatible variants, creating significant costs for developers, reluctant to write apps for multiple incompatible versions.

24. Google told us that it 'sought compatibility commitments when Android was nascent and had no assurance of any success and against the backdrop of Symbian and other open-source platforms that succumbed to fragmentation'. Google told us that the CDD's baseline compatibility requirement incentivised developers to write apps for Android, improved the availability and reliability of

[17] The ACC requires manufacturers to comply with Google's branding guidelines. These guidelines state that only compatible Android devices can use the term 'Android' and other Google trademarks and brands, and also reserve the right for Google to require that compatible devices display 'Android' or other Google brands.

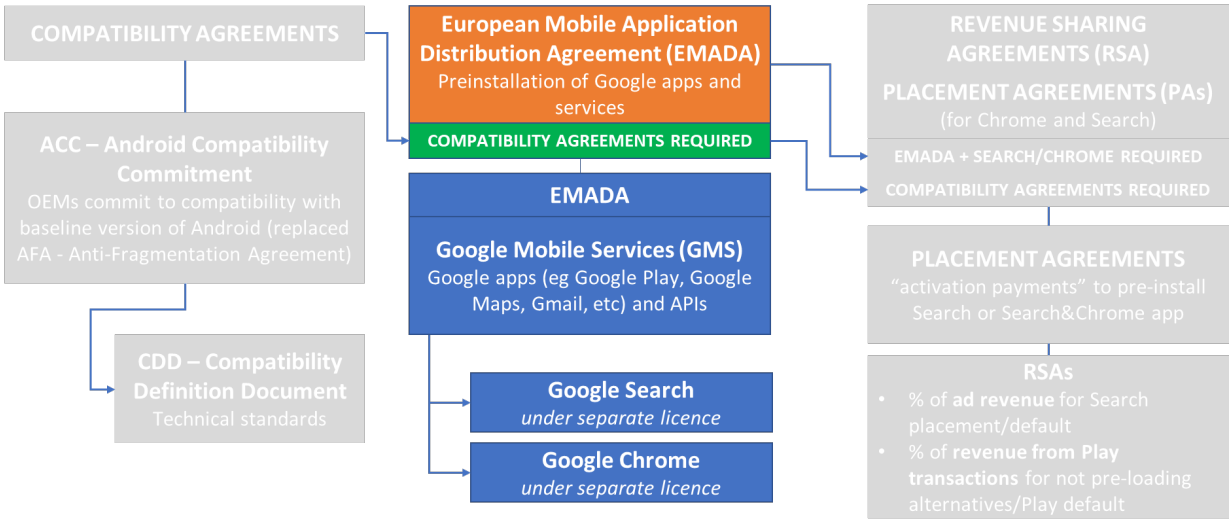
Android apps and enabled Android to compete better with iOS and other operating systems to attract developers.

25. According to Google, '[t]he ACC, in short, has facilitated through contract what successful vertically integrated platforms, such as iOS, achieve through unilateral decisions: compatibility across devices.' Google also said that it 'prevents damage to the Android brand' as apps malfunctioning due to incompatible devices would cause the whole Android ecosystem to suffer. Google submitted that, notwithstanding the amendments it made to the ACC following the EC's 2018 Google Android decision, it 'strongly believes that its compatibility requirements are necessary to prevent harmful fragmentation and enhance competition'.

Google's licensing of Google's apps and services

26. Manufacturers which license Android and meet Google's compatibility criteria can also license GMS (as noted above, a collection of Google apps and services including popular Google apps such as Gmail, Maps, YouTube, the Play Store and APIs) under the EMADA.

27. As further detailed below, to enter the EMADA and license GMS manufacturers need to have entered the 'Compatibility Agreements' as well. Separately, Google licenses Google Search and Chrome apps to manufacturers which entered the EMADA – see Figure E.3 below.



Source: CMA analysis

European Mobile Application Distribution Agreement (EMADA)

28. Manufacturers can only enter the EMADA, and thus license GMS, if they have entered the ACC. As a result, **the licensing of Google's apps and services is conditional on the use of a compatible version of Android**.

29. Under the EMADA, Google licenses the GMS suite (containing the Play Store and a set of other Google apps and services but excluding the Google Search app and Chrome) to manufacturers. If a manufacturer wants to preload one of the apps contained in the GMS suite on its device, it has to preload the full suite and place all of the following on the default home screen on the device:

- the Play Store icon; and
- a folder labelled 'Google' that contains all the remaining Google apps.

30. As mentioned above, the EMADA does not include licences to the Google Search app or Chrome, which are distributed under separate licences agreements to manufacturers, provided they entered the EMADA.

31. Google generates revenue from manufacturers entering the EMADA, which pay Google a licence fee per activated device, depending on device type, certain device characteristics and activation location [✂].

Figure E.4 – [✂]

32. In the section below, we explain in further detail what GMS includes.

Google Mobile Services (GMS)

33. Google told us that GMS is a proprietary collection of Google's apps and services 'that supports functionality across devices with the aim of providing a user-friendly out of the box experience' and that providing it 'ensures an attractive look and feel and a seamless integration of the apps'.

34. As mentioned above, this collection includes popular Google apps such as Gmail, Maps, YouTube, the Play Store, and also a selection of Google proprietary APIs which enable third-party apps and services to communicate with Google's services (such as Maps, Search, Gmail, and Translate on Android) and create feature-rich apps. More specifically, GMS includes:

- apps which must be preloaded on the system partition of the device[18] and thus cannot be deleted but only disabled by the user.[19] In the UK, these include Gmail, Maps, YouTube and the Play Store. [✂]

[18] Any computer device's storage is usually divided into separate 'partitions'. An Android device's 'system partition' contains the operating system, including the device's user interface and preinstalled apps that cannot be deleted.
[19] Disabling one of these apps prevents it from performing any function on the device, while also ensuring the app can be easily re-enabled by the user.

- apps which must be made available to end users as pre-loaded apps on the device when the device is turned on for the first time, but users are able to subsequently delete them. [✂]

- Google Play Services (GPS) which is a software layer that houses Google proprietary APIs and works in the background of Android to enable device functionality for GMS devices and enable developers to use the continually updated set of APIs. Google told us that it regularly updates Google Play Services with new innovative APIs, Software Development Kit (SDKs), and features.

35. Google told us that it 'does not require OEMs or developers that use it [Android] to license Google's GMS suite of apps or any other apps' and that '[t]he GMS licensing arrangements are therefore not linked to the licensing of Android or the Android Open Source Project'. It also told us that 'GMS is not compulsory and including it or not does not alter the availability of Android or any of its features'.

36. However, we understand from Google and others that having GMS installed on a given mobile device, which is **conditional** on using a compatible version of Android, is needed to ensure that many third-party Android apps work properly on that device.[20] This is because many such Android apps rely on functionality included in GMS.

37. Indeed, Google told us that:

- 'some third-party applications also integrate with one or more Google applications, and thus require the Google application(s) to be installed on the device in order to work appropriately';

- '[t]hird-party developers can more easily design applications for Android phones if they can anticipate the package of Google applications that also will be installed';

- '[w]here a developer uses Google proprietary APIs for its app(s), the proper functioning of the app can only be guaranteed if the device also runs Google Play Services (though some Google proprietary APIs may function without Google Play Services)'; and

- [✂].

[20] See Chapter 3 on importance of GMS both in terms of the popularity of the apps included and potential implications on functionality of the device. On the latter, see also Complaint filed by the Department of Justice against Google, paragraphs 73 to 75 and More Competitive Search Through Regulation, Policy Discussion Paper No. 2, May 2021.

38. As detailed in Chapter 3, GMS and the APIs it includes are important to give access to developers to the mobile device's hardware features or to particular services and other apps installed on the device. As a result, no access to GMS, for instance for devices running on versions of Android that do not use Google Mobile Services such as Android Forks, means that these features and functionality do not work properly on those devices.

39. Moreover, we are concerned by claims that over time Google has chosen to include important features and functionality in GMS rather than the open-source Android code. For example, a complaint filed by the Department of Justice in the US says that the APIs allowing basic push notifications are included in GMS rather than the open-source Android code.[21] To the extent that more features and functionalities are included in GMS this increases the reliance of native Android apps on Google Mobile Services making it more difficult to port them to Android Forks or other versions of Android not using Google Mobile Services.[22]

40. Google told us that housing such APIs which enable third-party services to communicate with Google's services (eg Google Maps) and create feature-rich apps in GMS allows Android devices to have the most up to date version of these APIs, ensuring apps relying on these APIs work on all Android devices, even when the manufacturer does not update the underlying Android operating system version.

41. In relation to where these APIs are placed, Google submitted there are reasons for including an API in GMS and not in open-source Android code, including the extent to which the technology they use is proprietary to Google, the frequency of updates they need, etc. More specifically, Google submitted that [✂].

42. We will consider these concerns and the reasons why Google includes APIs in either GMS or the open-source Android code further in the second half of our market study.

Google Search and Chrome Apps Licence Agreements

43. Google offers separate licences to EMADA partners to distribute the Google Search and Chrome apps on compatible Android devices in the EEA and UK. Under these separate licence agreements, the Google Search app and

[21] For example, see the Complaint filed by the Department of Justice against Google, paragraphs 73-75.
[22] As set out in Chapter 3, Huawei currently uses a version of Android that falls within Google's compatibility requirements but relies on Huawei's Huawei Mobile Services instead of Google Mobile Services.

Chrome are distributed for free to manufacturers and on a device-by-device basis.

44. Licensing Search and Chrome for Android is **conditional** on signing the EMADA. Google told us that this is [✂].

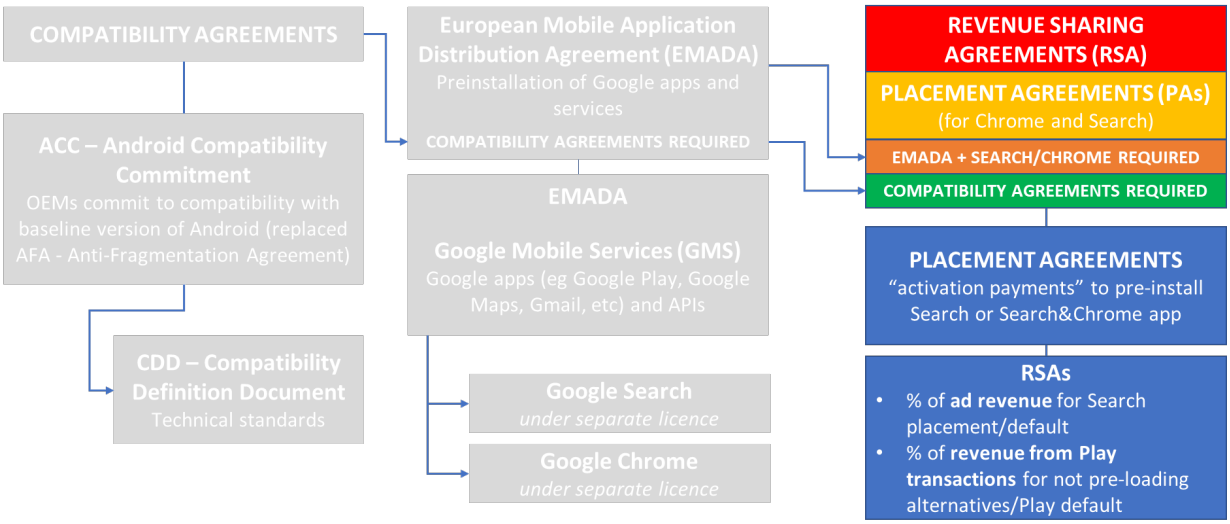
45. As mentioned above, Google Search and Chrome were removed from the GMS suite in the EEA and the UK following the EC's decision on *Google Android*, where the EC established that Google infringed Article 102 TFEU including by tying the Play Store with Google Search and Google Chrome apps.[23]

46. As further explained below, Google may also enter into PAs and RSAs with manufacturers who enter the EMADA and license Google Search and Chrome,[24] as explained in the next section.

Google's payments to manufacturers in connection with requirements relating to Search, Chrome and the Play Store

47. As mentioned above, Google makes payments to manufacturers that comply with certain placement and promotion requirements in relation to Google apps, including Google Search, Google Chrome and the Play Store (see Figure E.5 below).

Figure E.5 – Google's Revenue Sharing and Placement Agreements



Source: CMA analysis

[23] CASE AT.40099, Google Android, dated 18 July 2018, paragraph 5 (10) (currently on appeal).
[24] Google told us that some MADAs with an effective date of 2015 or earlier included a requirement for the manufacturer to set Google as the default search provider. This requirement did not apply to default settings on preinstalled browsers. The requirement was removed from MADAs executed from late 2014 and was waived for legacy MADAs that remained in place, such that there are no active MADAs that contain this requirement today.

48. Google has in place with certain Android manufacturers in respect of UK devices voluntary commercial agreements. For example, it has PAs in place with certain manufacturers regarding the placement of the Google Search app and Chrome on Android devices and RSAs for respecting a number of placement and promotion requirements with respect to certain Google apps, including Google Search, Google Assistant and in some cases the Play Store. Both the PAs and the RSAs are only available to EMADA partners. More specifically

- Under the PAs, Google pays manufacturers 'activation payments' for each device on which they pre-install the Google Search or Google Search and Chrome apps and satisfy certain placement obligations for either (i) the Google Search app, or (ii) the Google Search and Chrome apps. Google told us that the placement obligations in the Placement Agreements are non-exclusive, and do not prevent rivals from being pre-installed or displayed prominently on the device. [✂]

- Under its RSAs, Google pays some manufacturers a proportion of its net ad revenue from specific search access points on their devices in return for meeting a number of placement and promotion requirements, such as setting the Google Search app as the default search engine on all preloaded manufacturer browsers;[25] and

- In addition, under the RSAs, some manufacturers may receive a proportion of Google's net revenue from the Play Store's transactions for setting the Play Store as the default app store on their devices and not pre-loading on their devices any similar services to the Play Store, such as alternative app stores. We understand this was introduced in the most recent RSA contract framework ('RSA 3.0') and that under the previous RSA, no payments for Play Store revenues were made to manufacturers by Google.

49. Google told us that its RSAs give manufacturers a choice as to how they configure their devices [✂].

50. Google also told us that its commercial arrangements for placement of Search/Chrome and RSAs are voluntary agreements, and manufacturers are free to opt into most of the requirements in those agreements for some of their devices.

[25] Google told us that third-party browsers (as opposed to manufacturer browsers) can have non-Google search services set as default instead, provided that they are not placed on the default home screen (unless in a folder) or the minus one screen. Google also told is that after the EC's decision in Google Android the default search service in Chrome is set according to the Android choice screen mechanism that applies in the UK and EEA.

51. However, we consider that these agreements create significant financial incentives for manufacturers not only to pre-install Google Search and Chrome, but also to grant those apps alongside the Play Store, prominent placement, a default status and, in some cases, ensuring that no similar services are preloaded on the device. For instance, all RSAs include setting Google Search as the default search engine on various access points on the device as a requirement while certain RSAs include setting the Play Store as the default app store on the device as well as not preloading any similar services, including alternative app stores, as a requirement.

52. In the sections below we explain in more details what provisions are included in the PAs and RSAs.

Placement Agreements (PAs)

53. Google offers manufacturers the possibility to enter PAs in relation to the Google Search and Chrome apps **conditional** on the manufacturer using a compatible version of Android, having licensed the GMS suite and, under separate licences, Google Search and Chrome apps.

54. [✂].

55. This means that manufacturers have a financial incentive to pre-install Google Search and Google Chrome on their devices, which we consider relevant for our assessment of competition in supply of browsers (Chapter 5).

Size of Google's payments under PAs

56. Google provided aggregate figures for payments it made under PAs to the top five third-party Android manufacturers shipping devices into the UK, according to Statcounter.[26] According to Google, the remaining third-party Android manufacturers account for under 6% of mobile devices sold in the UK.

57. Google paid these Android manufacturers approximately $[1-1.5] billion in Search and Search/Chrome Activation Payments under PAs covering the UK, EEA and Turkey in 2020. Most of that figure was paid to Samsung [✂].

58. We have heard that PAs more than outweigh the EEA licence fees manufacturers incur when entering the EMADA, which means that Google ends up not charging manufacturers at all for licensing its proprietary apps. While the figures reported above appear to show that the licence fee per EEA device is greater than the per-device 'Search/Chrome Activation payments', Google told us that it 'generates licensing revenue for Android from the

[26] Mobile Vendor Market Share United Kingdom | Statcounter Global Stats.

European Mobile Application Distribution Agreement (EMADA)' and 'incurs costs under the Placement Agreement' and that 'these sources of revenues and costs together represent a net cost'.

59. Google told us that the placement obligations contained in the PAs are non-exclusive and do not prevent rivals from being pre-installed or displayed prominently on the device [✂]. However, Google rewards manufacturers for granting Google's apps default positions and respecting some placement and promotion requirements for certain apps, as covered in the section below.

Revenue Sharing Agreements (RSAs)

60. Google offers manufacturers the possibility to enter RSAs **conditional** on the manufacturer using a compatible version of Android, having licensed the GMS suite under the EMADA and Google Search and Chrome apps under separate licence agreements. Google told us that it currently has RSAs with a range of manufacturers and mobile network operators. It is unclear to what extent RSAs between Google and manufacturers are personalised or tailored to the specific manufacturers and we intend to investigate this further in the second half of our study.

61. As mentioned above, under its RSAs, Google pays some manufacturers a proportion of its net ad revenue from specific search access points on their devices in return for meeting a number of placement and promotion requirements in relation to Google Search, Google Assistant and in some cases the Play Store, such as setting the Google Search app as the default search engine on all preloaded manufacturer browsers.

62. We understand that after the EC's decision in *Google Android*, RSAs are now available only on a per device basis in the EEA and UK. This means that Google's RSAs cannot apply automatically to the manufacturers' whole portfolio of devices but need to allow them to select the ones for which they want to opt in.[27]

63. Google told us that 'the obligations in Google's RSAs may differ depending on the negotiated terms of each RSA.' The revenue share a manufacturer may get increases with the number of obligations they meet for their devices. For instance [✂].

[27] In particular, the EC's decision concluded that Google abused its dominant position in the national markets for general search services by granting portfolio-based revenue share payments conditional on the pre-installation of no competing general search service. See CASE AT.40099, Google Android, dated 18 July 2018, paragraph 5 (12) (currently on appeal).

The Play Store component in Google RSAs

64. As mentioned above, Google provides manufacturers respecting certain additional requirements in relation to the Play Store with an additional revenue share from Play Store transactions. In exchange, manufacturers agree to set the Play Store as the default app store and are prohibited from preloading similar services to the Play Store, including alternative app stores.

65. Google told us that it introduced the latest version of its RSAs, meaning the 'RSA 3.0 contract framework' in late 2019 and implemented it with some manufacturers in the course of 2020. Under the previous RSA version, no payments for Play Store revenue were made to manufacturers. [✂].

66. Google told us that Play transaction revenue is only shared in respect of devices that meet certain additional requirements in relation to the Play Store [✂]. For those manufacturers whose RSAs entail the possibility to earn a share of revenue from Play transactions, Google told us that the precise level of the shared revenues can vary, with manufacturers getting between [✂] and [✂].

67. Google told us that '[i]t is important to note that RSAs are voluntary agreements', [✂].

68. According to Google, 'RSAs reflect the normal competition that takes place between apps (and app stores) to seek promotion on OEMs' devices' and this competition better enables manufacturers to 'monetise the screen space on their devices, which in turn leaves them with more funds to invest in new and improved handsets (or to facilitate lower prices)' and to 'offer a user interface that competes closely with Apple's 'clean' out-of-the-box set-up'.

Figures for Google payments under RSAs

69. Google provided aggregate figures for payments it made to the top five third-party Android manufacturers shipping devices into the UK, according to Statcounter.[28] According to Google, the remaining third-party Android manufacturers account for under 6% of mobile devices sold in the UK.

70. Google paid these manufacturers approximately $[1.5-2] billion in ad and Play Store transactions revenue from their devices under worldwide RSAs in 2020. Most of that figure was paid to Samsung, [✂].

[28] Mobile Vendor Market Share United Kingdom | Statcounter Global Stats.

Google's agreements with developers

Project Hug

71. Project Hug is an initiative implemented in 2019 by Google and targeting a number of major app developers, and particularly game developers, aimed at ensuring their presence on the Play Store and thus mitigating the risk to the Play Store from alternative distribution channels.

72. In particular, under Project Hug Google provides developers with certain benefits, including commercial benefits which relate to other Google's complementary products and services, in exchange for treating the Play Store at least comparably to other distribution platforms in terms of feature and content availability and timing of launch of their apps.

73. Project Hug is referred to in two complaints made in the US, namely a complaint filed by a coalition of 39 attorneys general in the United States District Court, Northern District of California ('the **Utah Complaint**')[29] and a complaint filed by Epic Games against Google in the same court ('the **Epic Complaint**').[30] According to the two complaints:

- Google feared that key app developers might have a strong enough relationship with customers and enough brand recognition to bypass the Play Store, either by launching their services on competing app stores or by accessing consumers through sideloading.[31] As a result, Google 'bought off key app developers' to deter them from distributing their apps outside the Play Store.[32]

- Google introduced Project Hug in direct response to Epic's 2018 decision to launch the popular game Fortnite off the Play Store[33] and it 'anticipated that the potential concentration of a few top app developers could create disintermediation threats to Google Play and Android'.[34]

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[29] See State of Utah et al v. Google LLC et al, Case Number 3:2021cv05227. First amended complaint filed 1 November 2021 available at State of Utah et al v. Google LLC et al, 3:21-cv-05227.
[30] See Epic Games, Inc. v. Google LLC et al, Case Number 3:2020cv05671. Updated complaint filed 19 August 2021, available at Epic v. Google unredacted complaint - DocumentCloud.
[31] Sideloading refers to users directly downloading apps without using an app store.
[32] See Utah complaint, paragraph 147.
[33] Epic Games' Fortnite operated outside of the Play Store for 18 months, app was not available on the Play Store until April 2020 when it became available via the Play Store again. See Fortnite owner gives up battle against Google Play store | Google | The Guardian.
[34] See Utah complaint, paragraph 150 and Epic complaint, paragraph 128.

- Google quantified the downstream impact of Epic's decision as $550m or up to $3.6bn potential revenue loss if 'contagion' to other developers would follow.[35]

- The programme was successful in keeping other major app developers, such as Riot, from following Epic's example.[36]

74. Based on Google's documentary evidence and the two complaints discussed above, we understand this initiative to be part of a number of related initiatives targeting several stakeholders participating in Google's ecosystem, namely app developers (and particularly games) and manufacturers, including alternative app store providers.[37] Based on the two complaints we further understand that another of these initiatives by Google is Project Banyan (later renamed Project Agave), which targeted Samsung and its Galaxy Store specifically, although it was never implemented by Google and Samsung.[38]

75. More specifically, based on Google's internal documents in relation to Project Hug, it appears that the aim of this initiative is to ensure the presence of important developers on the Play Store and to encourage them to use other Google services.

76. In particular, the key aims of Project Hug are to:

- Encourage relevant developers to continue to distribute their native apps via the Play Store. This was in the face of app developers establishing exclusive distribution relationships with alternative distribution channels and app stores, which is what Epic Games did in 2018 with the Samsung's Galaxy Store and, based on the Utah complaint, Samsung was pursuing with other popular app developers as well.[39]

- Discourage relevant developers from co-listing on other app stores in addition to the Play Store – with the view that this would create a cycle for the Play Store whereby alternative app stores would have less top titles and in turn less users, which in turn would reduce smaller developers' incentive to co-list on several app stores.

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[35] See Utah complaint, paragraph 150.
[36] See Utah complaint, paragraph 153.
[37] See Utah complaint, paragraph 152.
[38] See Utah Complaint, paragraphs 139-146 and Epic Complaint, paragraphs 119-121.
[39] According to the Utah complaint, in 2018, Samsung partnered directly with top game developer Epic to launch the mobile version of Epic's game Fortnite exclusively on the Samsung Galaxy Store. According to the same complaint, Samsung also pursued exclusive deals with other popular app developers such as Riot Games, Activision, and Blizzard and indicated its intent to place the Galaxy Store on the home screen of its next Generation devices. See Utah complaint, paragraphs 137-138.

- Encourage developers' adoption of other complementary products and services offered by Google (as outlined below the initiative included value for developers in the form of Google's cloud, advertising and marketing services) and thus deepen its relationship with such developers.

77. As detailed in Chapter 4, even though Project Hug may offer benefits to certain app developers in the short term, we are concerned that it may create a barrier to emerging competition from other distribution channels, including other app stores, in the longer term.

Google's submission to the CMA in relation to Project Hug

78. Project Hug was implemented by Google from 2019 and targeted at a number of major developers to encourage developers to continue to develop and distribute their apps via Play. [✂].

79. Google told us that the value it provides to developers under Project Hug comes in several forms, including in relation to the use of other Google's products and services such as Google's cloud, advertising and marketing services. In particular, [✂].

80. We understand from Google that, in exchange for the benefits listed above, developers agree to treat Play at least comparably to other distribution platforms in terms of feature and content availability and timing of launch of their apps. In particular, developers agree to [✂].

Google's internal documents provided to the CMA in relation to Project Hug

81. We have received documentary evidence from Google in relation to Project Hug. In summary, Google's internal documents in relation to Project Hug show that:

- Google considered the Play Store faced increased risk from alternative app distribution channels in 2019.

- Google targeted certain important game developers.

- Project Hug included a range of commercial proposals which were expected to deliver significant value to developers, equivalent to an effective reduction in the commission rate to those developers.

- Google identified that Project Hug might create a cycle whereby top developers would not co-list on third-party stores (such as the Galaxy Store), which would translate into fewer apps on such stores and thus fewer users of them. This would in turn lead to fewer smaller developers

co-listing and hence reduce the risk of spending being diverted away from Play to alternative stores. We consider this shows that Google was seeking to strengthen the impact of indirect network effects which as set out in Chapter 4 are inherent in the provision of app stores.

- Project Hug is one of a number of strategic initiatives by Google aimed at mitigating the risk to the Play Store from alternative distribution channels.
- Google considered that Project Hug would encourage developers' adoption of other complementary products and services offered by Google and thus deepen Google's relationship with such developers.