Response of Epic Games[1]:
Competition and Markets Authority Invitation to Comment Strategic Market Status: Investigations into Apple's and Google's mobile ecosystems

Epic Games welcomes the CMA's Invitation to Comment (**ITC**) on its investigations into Apple's and Google's mobile ecosystems. The CMA's Mobile Ecosystems Market Study (**MEMS**)[2] offered compelling evidence from a wide range of businesses demonstrating how Apple and Google's grip over mobile ecosystems stifles growth and innovation in the UK and results in consumers experiencing less choice and paying more for apps and services. In particular, Apple and Google were found to have earned at least £4 billion of profits in 2021 from their mobile businesses over and above what was required to sufficiently reward investors with a fair return. As the CMA notes, this suggests "*that there is significant scope for competition to lower prices and drive greater innovation through increased investment – with huge implications for UK consumers*".[3] With the Digital Markets, Competition and Consumers Act 2024 now in force, the CMA has the tools to promote competition in mobile ecosystems, unlock economic growth and to protect UK consumers and businesses from unfair and harmful practices by Apple and Google.

The CMA poses five questions (numbered 1,2, 4, 5 and 6). Questions 1 and 2 address the proposed scope of the investigations and SMS assessments. The scope of the investigations – covering mobile operating systems, native app distribution and mobile browsers and browser engines – is well-designed. The evidence that Apple and Google hold substantial and entrenched market power and positions of strategic significance in relation to each of these digital activities is irrefutable. Adopting a broad approach to SMS assessment and designation will ensure that the CMA can impose comprehensive conduct requirements (**CRs**) and pro-competitive interventions (**PCIs**) which prevent Apple and Google from continuing to engage in exclusionary and exploitative practices.

Questions 4, 5 and 6 explore the potential interventions related to Apple's and Google's mobile ecosystems. Epic's experience as a developer of mobile apps and prospective market entrant as an app store operator means that it is well placed to identify specific interventions that will make a meaningful difference and promote free and fair competition.

In particular, Question 4 seeks input on the concerns with Apple's and Google's mobile ecosystems and the specific types of intervention that the CMA should focus on. The concerns involve systemic abuses of market power by Apple and Google over the past decade and more. Significant targeted interventions are required to introduce true competition to these ecosystems and unlock benefits for UK consumers. The CMA rightly asks (in question 6) whether there are lessons that can be drawn from interventions against Apple's and Google's mobile ecosystems in other jurisdictions. It is vital that the CMA pay close regard to international comparators and guard against Apple and Google evading compliance with the new regime, as they have done elsewhere, including on pretextual grounds of protecting safety or security. Question 5 invites further input on how to ensure the CMA's interventions are effective. Epic has provided detailed examples including the challenges of launching its own rival app store – Epic Games Store (**EGS**). This experience provides compelling evidence that significant regulatory intervention is needed to promote change and that designing intervention in a way that allows the CMA to measure its impact will be critical to ensuring such intervention is effective.

Q1 Do you have any views on the scope of our investigations and descriptions of Apple's and Google's mobile ecosystem digital activities?

The CMA's proposed approach in Part 2 of the ITC is to be welcomed in that the scope of the investigations into Apple's and Google's mobile ecosystems is sufficiently broad and targets relevant digital activities. However, certain details can be added to further clarify the scope and application of these activities. The CMA must also take a holistic approach to its investigation. This could mean grouping together some of the digital activities that have the same purpose or are often used in

[1] Epic Games is a developer of software applications, including Fortnite. Epic Games is headquartered in Cary, North Carolina, U.S. and operates more than 40 offices worldwide, including in London, Manchester, Leamington Spa, Newcastle, Guildford and Edinburgh. Epic Games' widely used "Unreal Engine" software is a key development tool for several sectors across the UK - including in engineering, medicine, architecture, as well as the creative industries and app development.
[2] *Mobile ecosystems: Market study final report*, CMA (10 June 2022).
[3] *Mobile ecosystems: Market study final report*, CMA (10 June 2022), page 255.

combination, in particular where this will make it harder for Apple and Google to evade compliance with potential interventions.

Mobile operating systems

The CMA's definition of mobile operating systems captures most of the key constituents of that activity but should be broadened to expressly include all complementary services to the core operating system. This would include (but not necessarily be limited to) associated middleware, APIs, interaction with hardware functionalities, and other developer tools required to build apps that can function to a high standard on iOS and Android respectively. This includes proprietary programming languages (e.g. Apple's Xcode and Apple's TestFlight).

Native app distribution

A. Web apps are not substitutes for native apps

The CMA is correct to focus on native app distribution and to draw a clear distinction between native apps and web apps. There is plenty of evidence which the CMA should consider that demonstrates that web apps differ from native apps in many important respects.

Web apps have reduced functionality compared to native apps in terms of performance and access to the capabilities of the device they are running on.[4] In Epic's experience it is extremely difficult to provide high quality experiences via a web app, whether these are run on iOS or Android devices. Web apps are also more difficult for developers to debug (i.e. to examine the state of the app to understand why it may be performing incorrectly), due to the lack of debugging tools that, in contrast, are available when developing native apps.

Web apps are also generally platform-agnostic, in that they are not developed for a specific device. To develop an app with a comprehensive user experience, it is necessary to define significant portions of platform-specific code. For example, different smartphones have different processing capabilities and may have different software libraries which need to be accounted for when developing an app. While Progressive Web Apps (**PWAs**) do have some ability to take advantage of device hardware e.g. by accessing the device's camera, the hardware utilisation and resource access for PWAs continues to be inferior compared to native apps. For example, PWAs are less able to offer the higher quality graphics performance critical for delivering high-specification apps such as games.

In MEMS, the CMA also found that the lack of support for web apps on iOS in particular undermined developers' incentives to develop web apps for either iOS or Android:

- The WebKit browser engine on iOS only gained the ability to send push notifications in 2023, but is still limited compared to the capabilities of a native app. Web apps are unable to run in the background to perform tasks such as syncing data or receiving location updates. They are unable to access hardware technologies such as Bluetooth, NFC, and biometric authentication such as Face ID / Touch ID. Because web apps must run under the iOS WebKit browser, they have limited access to processing and storage capabilities (leading to lower quality rendering, less efficient processing, and greater battery drain). Only a web app that a user has "pinned" to their home screen will hide browser elements, such as the address bar, so it appears like a full-screen native app. Only Apple's own Safari browser allows this step of adding a web app to the user's home screen, and only via an obscure menu.

- The CMA has previously found that the limited support for web apps on Apple's iOS, and the fact that they are not generally permitted to be listed on Apple's App Store, means that developers are not incentivised to expend resources developing them for either iOS or Android. Limited functionality on iOS means it is not worthwhile developing a single web app (as opposed to two native apps), and there would be insufficient cost savings to justify development of an Android native app, and a web app for iOS.

[4] CMA, MEMS Final Report, 10 June 2022, paragraph 4.136.

B. "App distribution" must be defined broadly

App distribution involves a range of activities on the journey from app development to consumer use. The CMA should include all of these in its definition of the digital activity of native app distribution. Nine examples are provided below. If not appropriately included as part of any SMS designation, each of these offer a potential route through which Apple and Google can evade compliance.

- (1) Designation must cover access to necessary developer tools for app developers – developers require access to all necessary developer tools and APIs to create apps that interoperate with the relevant operating system. Access must be free of charge and of an equal quality to those available to Apple and Google. Apple and Google currently reserve developer tools and limit access. Self-preferencing by Apple and Google must be prohibited.

  For example, the open-source version of Google Android makes a limited number of APIs available to developers for free. Yet other important APIs for developing apps are only available as part of the "Google Play Services" package. Google Play Services is only available on devices where manufacturers have entered into a Mobile Application Distribution Agreement (**MADA**) with Google, which requires manufacturers to agree to pre-install and prominently place the Play Store. The CMA previously found in MEMS that "*the majority of app developers rely on access to these APIs within Google's Google Play Services to deliver functional Android apps because their apps have been built assuming the Google Play Services APIs will be available*". [5] This is one of many ways in which Google leverages its market power in relation to mobile operating systems into app distribution.

- (2) Designation must capture native app distribution activities regardless of the channel used - designation should capture all forms of app distribution, not only distribution via app stores. For example, directly downloading apps outside Apple's proprietary app store is entirely restricted on iOS devices, and while permitted on Android devices, is subject to the user undertaking a series of onerous and unnecessary steps including changes to the device's default settings, and overriding "scare screens" which aim to dissuade the user from installing the app. The same frictions apply for installing alternative app stores. Other forms of app distribution, such as shareware and adverts that link to alternative stores are similarly currently prevented. This will provide users and developers with additional choice and greater flexibility on how to distribute/access apps, which will promote innovation.

- (3) Designation must be sufficiently broad to allow interventions to protect against the misuse by Apple and Google of security scanning/notarisation processes - Apps distributed on iOS or Android on any app store[6] are subject to security review by Apple or Google (as applicable) prior to their initial listing in a process called "notarisation". Apps installed on a user's device are also subject to background security scanning by iOS and Google Play Protect. These processes have been abused by Apple and Google to exclude or slow down apps developed by third-party developers to protect their market power in native app distribution.

  For example, in the EU, the Digital Markets Act (**DMA**) makes clear that the obligation to enable alternative means of app distribution is subject to narrow exceptions entitling gatekeepers to take measures that are strictly necessary and proportionate to protecting the device hardware / OS or user security. However, Apple has used its DMA notarisation process as a pretext to block apps that it objects to on grounds that have nothing to do with hardware / OS protection or user security. Apple blocked two of Epic's attempts to notarise the Epic Games Store ahead of its launch on iOS in August 2024, as Apple claimed there were similarities between Epic's "Install" and Apple's "Get" buttons, in addition to labels for in-app purchases.[7] Epic shared its concerns regarding Apple's obstructive behaviour with the European Commission (**EC**). While Apple has temporarily approved Epic's attempts to notarise EGS, Apple still maintains that Epic must re-design these buttons.[8]

[5] CMA, MEMS Final Report, 10 June 2022, paragraph 4.24.
[6] The EU is the only region in which applications are available on iOS via channels outside of the App Store.
[7] See, for example, Apple approves Epic Games Store for iOS after rejecting it twice | GamesIndustry.biz
[8] Epic says its EU iOS app store is approved but that Apple wants a change | The Verge

- (4) Designation must allow for interventions which prevent Apple and Google from operating unfair "app review" policies – Apple's App Store and Google's Play Store both operate an "app review" process, which screens apps for compliance with Apple's App Store Review Guidelines and Google's Google Play Developer Program Policies. Apps (and updates) will only be distributed via the app stores if they comply with these policies. These policies reserve to Apple and Google a significant degree of discretion, and are often applied in an inconsistent and opaque manner, which enables Apple and Google to use them as a tool for excluding apps which compete with Apple and Google's first-party apps, or which otherwise challenge their market power.

- (5) Designation must cover discovery of apps - The CMA has previously found that Apple and Google both have an incentive to prioritise first-party apps, especially those that are monetised, or third-party apps which use Apple's and Google's proprietary in-app payment systems, with the risk that consumers are exposed to higher prices and a suppression of competition in app development. The lack of transparency for developers around Apple and Google's app store search algorithms exacerbates this issue.

- (6) Designation must cover ongoing updates and notifications to installed apps - Google has used its control of Android to undermine the user experience of apps which users have managed to download from sources other than the Google Play Store. Prior to the introduction of version 12 of Android in October 2021, Android apps did not automatically update if they were downloaded from third-party app stores and users had to manually approve every update of the directly downloaded app store / app.

- (7) Designation must include ongoing review (takedowns) - Ongoing review of compliance with app store policies has been used as a tool to discipline developers, like Epic, who seek to challenge Apple and Google's market power, for example by introducing alternative payment options for consumers.

  For example, Apple engaged in retaliatory activity following its implementation of the DMA, terminating Epic Games Sweden AB's Apple Developer Account in March 2024, citing Epic CEO Tim Sweeney's public criticism of Apple's DMA compliance plan as one of the bases, on opaque and pretextual grounds.[9]

- (8) Designation must cover app performance and design - Apple and Google both have access to a range of commercially sensitive information from app developers which could be used to gain a competitive advantage for their own proprietary apps, and this can undermine developers' incentives to invest and innovate. Apple and Google also influence the performance and design of apps, for example by requiring that apps which offer "digital" content exclusively use Apple's and Google's own systems ("Apple IAP" and "Google Play's billing system" respectively) for in-app payments.

- (9) Designation must cover advertising apps and steering users to download locations - Apple and Google each can promote their proprietary apps through various means, including showcasing them in editorial sections of their respective app stores and self-preferencing them by listing them at the top of user search results in those app stores. Similarly, Apple and Google can steer users to third-party apps which pay to advertise in app store search results, or limit the ability of app developers to advertise alternative distribution channels. These activities inhibit the ability of third-party app developers to compete.

C. The CMA must take a holistic approach when assessing digital activities

The CMA has invited comments on whether it is appropriate to group digital activities for the purposes of conducting SMS assessments. For interventions to be effective, designations must be sufficiently

[9] Apple terminates Epic Games developer account calling it a 'threat' to the iOS ecosystem | TechCrunch, which includes extracts from the letter sent from Phil Schiller to Epic Games, "*In the past, Epic has entered into agreements with Apple and then broken them," Schiller reminds the game maker in the letter dated February 23, 2024. "You also testified that Epic deliberately violated Apple's rules, to make a point and for financial gain. More recently, you have described our DMA compliance as 'hot garbage,' a 'horror show,' and a 'devious new instance of Malicious Compliance*.'"

broad to capture and address all aspects of the SMS firms' anticompetitive conduct, including conduct that spans multiple activities.

The risk of "splitting" digital activities is that this offers opportunities for Apple and Google to evade compliance. Evidence from the EU and the application of the DMA shows this is a genuine risk.

- The introduction by Apple of the "Core Technology Fee" (**CTF**) is a clear example of Apple redefining its terms in a brazen attempt to fall outside of the DMA restrictions. Apple has defined the CTF in an amorphous way so that it can shapeshift what the fee is for depending on the point of regulatory attack. For example, in documentation, Apple says the "*fee reflects the value Apple provides developers through ongoing investments in the tools, technologies, and services that enable them to build and share innovative apps with users*". But, when critics have pointed out that this is illegal under Article 6(7) of the DMA, which states that interoperability to the operating system must be provided "free of charge", Apple has merely evolved the definition of what the fee is for, suggesting it is, e.g. for Apple's intellectual property.

- Google has argued that Google Play Protect and security services provided by Google Play Services are not "essential" for app distribution (and therefore outside scope) because they are provided not only for app distribution but also to support the Android operating system.

Further details on these examples are provided in response to question 6.

Q2 Do you have any submissions or evidence related to the avenues of investigation set out in paragraph 70-72? Are there other issues we should take into account, and if so why?

The avenues of investigation relating to the SMS tests identified by the CMA in paragraphs 70-72 are well designed to assess Apple's and Google's market power.

Epic's comments focus on the CMA's proposed approach to assessing competitive constraints facing Apple's App Store and Google's Play Store (paragraphs 70(c) and (d)) and the CMA's forward-looking assessment of market power (paragraph 71).

A. Competitive constraints facing Apple's App Store

The CMA will not find any genuine competitive constraints on the Apple App Store because Apple has had complete control over the iOS ecosystem ever since the App Store was launched in July 2008. iOS users have no choice but to use the App Store given Apple's prohibitions on direct downloading and alternative app stores.

Importantly Apple and Google face limited constraint from each other in relation to each other's app stores because consumers generally do not switch between ecosystems. The evidence that the CMA relied upon in reaching this conclusion in MEMS holds true.[10] Developers still do not delist from either app store due to the volume, value and uniqueness of users. Users generally do not have both iOS and Android devices and would need to purchase a new device to access the other app store (and there are many barriers to switching ecosystems). The lack of user switching means that developers must list their apps on both the App Store and the Play Store in order to reach users. The App Store therefore is not constrained by the Play Store and vice versa.

B. Competitive constraints facing Google's Play Store

In MEMS the CMA considered that the Google Play Store faced either "no" or only "limited" competitive constraints. Apple's App Store does not exercise a competitive constraint on the Play Store for the reasons explained above. In practice, while Android is not strictly a "closed" ecosystem in the same manner as iOS, Google ensures that its mobile ecosystem operates in a way that makes competition practically impossible as explained further below.

[10] CMA, MEMS Final Report, 10 June 2022, paragraphs 4.61 – 4.63.

- (1) Pre-installation is not a credible alternative to distribution via the Play Store on Android: The CMA has previously found that third parties seeking to agree to pre-install apps on Android devices did not exercise a constraint on the Google Play Store.

  Even absent any interference from Google, it found that device manufacturers were only likely to pre-install a small number of the most popular apps, or their own first-party apps. It further found that app developers that had pre-installation agreements with device manufacturers experienced limited usage and sign-ups.[11]

- However, the CMA also found that Google interfered with any attempts by third parties to obtain pre-installation agreements. In addition to making it mandatory to pre-install the Google Play Store in a prominent position pursuant to the MADA, Google imposes restrictive terms in the revenue sharing agreements (**RSAs**) / Mobile Incentive Agreement (**MIA**) it offers. Google's RSAs enable device manufacturers to earn a share of Google Play Store revenue provided that they comply with wide-ranging obligations. There are three tiers of revenue sharing under the RSA 3.0. Device manufacturers are incentivised to enrol into the Premier Device Tier, because it offers the highest share of Google's revenues, including revenues from Google Search and / or the Google Play Store. Because of this structure, manufacturers enrolled in the Premier Device Tier are incentivised to direct as high a proportion of traffic as possible to the Google Play Store, to maximise the share of Google Play Store revenue which they receive. In addition, the Premier Device Tier entitles OEMs to the highest share of revenues from Google Search (which generates high revenues for Google by means of advertising, despite being free for users). To enrol devices in the Premier Device Tier, OEMs are generally prevented from (i) pre-installing app stores other than the Google Play Store; (ii) pre-installing apps which are not available via the Google Play Store; and (iii) promoting other app stores.[12]

- The collective effect of Google's agreements with device manufacturers is to undermine manufacturers' incentives to pre-install app stores which compete with the Google Play Store, and to reinforce Google's dominance in app distribution.

- (2) Alternative app stores cannot offer a competitive constraint: In MEMS the CMA found that alternative Android app stores only exercised a limited constraint on the Google Play Store.[13] Reasons included: (i) usage of alternative app stores was much lower than usage of the Google Play Store, both by device users and developers; (ii) app developers did not consider existing alternative Android app stores to be a suitable alternative to the Google Play Store; and (iii) alternative app stores faced barriers to effective competition against the Google Play Store, due to powerful indirect network effects.

- The CMA also found that the constraint from alternative app stores was undermined by a range of agreements and policies implemented by Google. Examples are set out below.

  - Google imposes requirements on device manufacturers under the MADA to pre-install and place the Google Play Store prominently to licence key Google apps and APIs, and to receive a proportion of Google advertising revenue. This undermines the incentives of device manufacturers to invest in their own app stores to compete with the Google Play Store.

  - As explained above, Google's RSAs / MIAs incentivise OEMs to prioritise the Play Store to maximise the amount of revenue they receive. The RSAs / MIAs made it impossible for an alternative app store operator to distribute an app store across all Android devices in the UK, as devices enrolled in the Premier Tier RSAs were generally only permitted to have the Play Store pre-installed (and no other app store). Google thereby artificially created a situation where it was the only operator able to offer a consistent pre-installed app store experience across all Android smartphones in the UK.

  - Beginning in 2019, under a programme which was known internally within Google as "Project Hug" (and was externally referred to as the "Games Velocity Program"), Google

[11] CMA, MEMS Final Report, 10 June 2022, paragraphs 4.61; 4.63.
[12] CMA, MEMS Final Report, 10 June 2022, Appendix E, paragraph 15.
[13] CMA, MEMS, Final Report, 10 June 2022, paragraph 4.69 – 4.79.

entered into a series of agreements with around 20 large games developers, aimed at preventing competition from rival app stores. Google targeted these developers because of their strategic importance and because Google perceived them as most likely to develop their own competing app stores or to distribute their apps via other competing app stores. As part of these agreements, Google provided benefits to these developers that were unrelated to the Google Play Store in the form of different Google credit and support packages (such as cloud computing credits).[14] The total cost of this programme to Google amounts to hundreds of millions of dollars.

- In exchange for these benefits from Google, developers agreed to various parity clauses. The precise terms of these agreements varied from developer to developer, but in general the agreements included terms requiring developers: (i) not to release apps via other platforms earlier than on the Google Play Store; (ii) not to offer better content and features via other platforms; (iii) not to remove apps from the Google Play Store; and (iv) not to promote their apps more aggressively on other platforms. In some cases, the cloud credits to which the developer was entitled under the agreement were calculated as a percentage of user spend on that developer's apps on the Google Play Store. These agreements made it very difficult or even practically impossible for rival app stores to differentiate themselves, for instance by securing exclusive content from any developers participating in the project. They also disincentivised developers from promoting the distribution of their apps via any other channel or from launching their own app stores. Project Hug was subsequently extended to certain other strategically important developers as part of a project known as the "Apps Velocity Program".

- The CMA's concerns identified in its MEMS report remain valid today. Google has continued to engage in conduct that the CMA identified as problematic, including leveraging its relationships with OEMs to exclude competitors. Google continues to require OEMs to sign the MADA if they wish to access valuable Google apps and APIs, and thereby continues to require OEMs to pre-install and prominently place the Play Store on Android devices. Since the MEMS Final Report, Google appears to have partnered with Samsung to increase frictions on the side-loading process, by changing the default setting on Samsung devices so that Auto Blocker is automatically set to "on".[15]

- (3) Direct downloading does not exercise a credible competitive constraint: In MEMS the CMA found (i) only a very small proportion of downloads on Android devices were via direct downloading; (ii) developers did not see direct downloading as a viable distribution channel given the associated constraints; (iii) on Android devices, direct downloading requires the user to change default settings to enable installation of directly-downloaded apps, and also navigate a series of scare screens, for example stating that installing apps in this way can harm the user's device; and (iv) even if a user manages to download them, directly-downloaded apps are at a disadvantage compared to apps downloaded via the Google Play Store. They may not have access to certain Android APIs and may not automatically update, which can be burdensome and time-consuming for users.

- The factors above continue to prevent direct downloading from imposing a constraint on the Google Play Store in relation to app distribution. In virtually all instances, OEMs are obliged by Google to still impose multiple uninformative "scare screens" if a user tries to directly download an app from a website, even in instances where the app is clearly trustworthy.

- The obstacles imposed by Google (and device manufacturers further to agreements with Google) deter the vast majority of users from completing the direct downloading process (as further explained in response to question 4 below). Without the additional restrictions / frictions Google

[14] See for example Google's agreement with software developer King, which confirms Google offered ad credits, cloud computing credits and a $50m marketing budget. Available at: Exhibit 153 – #622, Att. #9 in Epic Games, Inc. v. Google LLC (N.D. Cal., 3:20-cv-05671) – CourtListener.com.

[15] See further Epic's press release: Filing Suit Against Google and Samsung for Illegally Colluding to Block Competition in App Distribution and Undermining the Epic v Google Jury Verdict - Epic Games.

imposes, direct downloading (and alternative app stores) could in time become a source of competition to the Google Play Store.

- (4) Web apps cannot offer a credible competitive constraint: In MEMS the CMA found that web apps were not a viable alternative to native Android apps and therefore the competitive constraint on the Play Store was limited. See further the response to question 1, which explains why web apps continue not to pose a viable alternative to distribution via the Play Store.

- (5) PCs/laptops and games consoles cannot offer a credible competitive constraint: Apps on mobile devices have a unique use case which is distinct to gaming on PC / laptop or games console, namely being able to use the app "on the go" where it is not possible to access other devices. The CMA's findings in the MEMS Final Report concluded that *"Apple and Google face a limited competitive constraint from alternative devices."*[16]

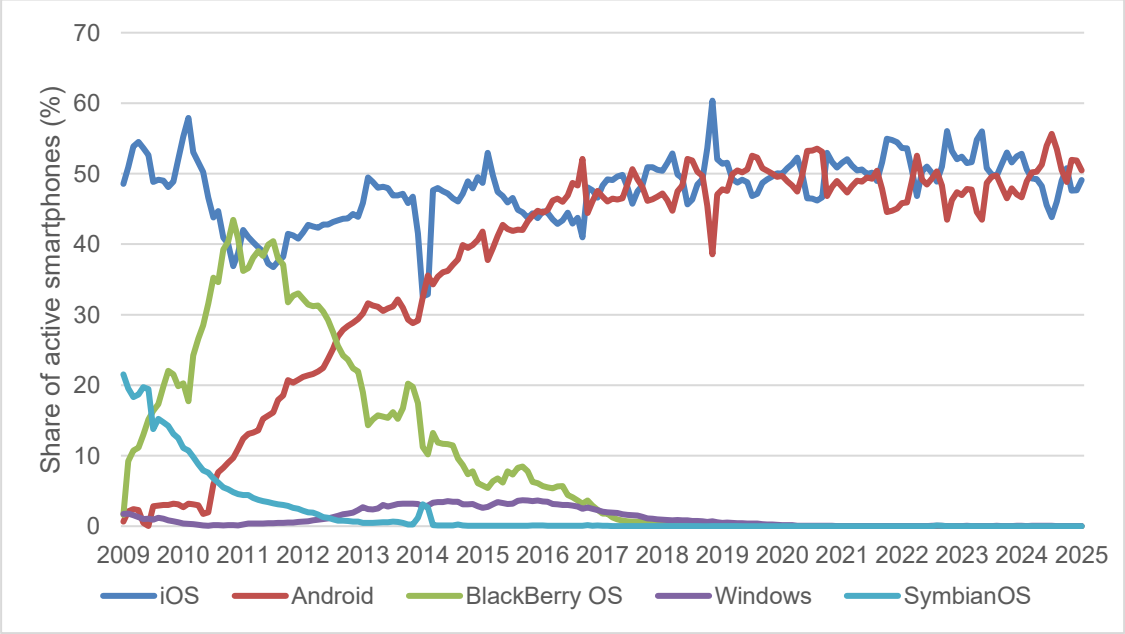
C. Factors relevant to the forward-looking assessment

In MEMS the CMA concluded that barriers to entry and expansion for suppliers of rival mobile operating systems to iOS / Android were material.[17] This is evident when considering how their respective shares of supply have evolved over time.

Figure B.20 in the CMA's MEMS Final Report showed that Apple's iOS and Google's Android are the only mobile operating systems active in the UK for at least the last ten years. Historically, other mobile operating systems such as Blackberry OS, Symbian OS (Nokia) and Windows Mobile (Microsoft) were present, but all are no longer active.

Figure 1 below presents updated data from the same source, showing that the percentage of smartphones using each operating system has remained relatively unchanged up to 2025.[18]

Figure 1: Operating system shares of supply in active smartphones in the UK – Statcounter data (2009-2025)



On the basis of this evidence alone, the CMA should have no hesitation in concluding that (absent effective regulatory intervention) Apple's and Google's market power will continue to remain

[16] CMA, MEMS Final Report, 10 June 2022, paragraph 4.211.
[17] CMA, MEMS Final Report, 10 June 2022, paragraphs 3.125 – 3.130.
[18] Source: Mobile Operating System Market Share United Kingdom, Statcounter Global Stats. Consistent with the equivalent figure in the CMA's MEMS Final Report, only operating systems with a share of 5 percentage points or more in any one year have been included except Microsoft's Windows which is included for illustrative purposes.

substantially entrenched and they will continue to hold positions of strategic significance for at least the next five years.

The fact that Apple's App Store and Google's Play Store are pre-installed on iOS and Android devices means that Apple and Google benefit from a strong, long-lasting incumbency advantage. Even when interventions are imposed on Apple and Google, the reasonably long renewal cycle of mobile devices will act as a "dragging anchor" on the effectiveness of such remedies, unless the interventions are also rolled out to existing devices. If interventions are limited to pre-installation on new devices, Apple and Google's incumbency advantage would be cemented by the powerful impact of defaults on user behaviour – i.e. owners of existing iOS and Android devices would be likely to continue using the Apple App Store and Google Play Store regardless of the consumer benefits offered by competing app stores.[19]

It is not plausible that Apple's and Google's power will be weakened in the short term by (i) technological developments in AI and / or (ii) regulatory interventions outside of the UK.

- (i) While AI is beginning to be integrated into many digital services, including mobile ecosystems, there is no evidence to date to suggest that this development will disrupt incumbent firms with market power. On the contrary, both Apple and Google are incorporating AI tools into their mobile operating systems, which suggests that without intervention AI may have the effect of further entrenching existing market power.[20] Consumers are most likely to benefit from AI tools via native apps, and as explained elsewhere in this submission, absent decisive regulatory intervention, Apple and Google will each retain a near-monopoly in native app distribution.

- (ii) Apple and Google have both been subject to regulatory interventions in other jurisdictions outside the UK, but have been able to engineer their respective responses to these interventions to maintain their stranglehold over the iOS and Android mobile ecosystems, respectively (as further explained in response to question 6). Recent history therefore highlights the scale of the competition problems created by Apple and Google and the challenge faced by regulators in finding and enforcing effective solutions. There is no realistic prospect that regulatory interventions in other countries – whether those which have already occurred or others which may begin in the next five years – will weaken Apple and Google's market power in the UK. The UK clearly has an advantage because the digital markets regime is designed to allow exactly the type of targeted regulatory intervention which is needed to tackle the competition problems at source.

Q4 Which potential interventions should the CMA focus on in mobile ecosystems? Please identify any concerns relating to Apple's or Google's mobile ecosystems, together with any evidence of the scale and/or likelihood of the harms to your business; or to consumers.

The CMA's interventions into Apple's and Google's mobile ecosystem digital activities must focus on opening up those ecosystems to give UK consumers and developers better choice and value. Key areas of intervention are identified below, with specific examples of potential interventions provided in response to question 5.

The CMA should prioritise remedies that generate competition within existing ecosystems to alleviate the most severe impacts that developers and consumers currently suffer. Importantly, the CMA cannot risk imposing limited interventions that only impact upon market power in one activity: a comprehensive approach is needed.

A. Areas of focus for interventions in mobile operating systems

The optimal long-run framework is to ensure that gatekeepers such as Apple and Google are forced to compete with others on a level-playing field. To achieve this, two key areas where the CMA must intervene immediately include (i) interoperability and (ii) default settings.

[19] As recognised in CMA, MEMS Final Report, 10 June 2022, footnote 450.
[20] For example, Apple's "Apple Intelligence" and Google's "Google Gemini".

- (i) Interoperability - the CMA must introduce interventions that allow developers to develop apps that are fully interoperable with the relevant operating system. Parity of access (which should be free of charge) to APIs and developer tools that allow developers to build best-in-class apps is critical.

- (ii) Default settings – the proposed interventions concerning consumers' default settings are critical. Apple and Google enjoy significant incumbency advantages – which they preserve and protect at all cost – not least benefitting from consumers' default bias. Apple and Google must not be able to set their own apps as a default choice. Users must be shown neutrally worded choice screens that enable them to make active choices on the services they require.

- Apple and Google must not be permitted to make the functionality of their operating systems conditional on having proprietary software (such as their apps stores) installed. The App Store and Play Store must be fully uninstallable and substitutable with third-party app stores on their platforms.

B. Areas of focus for interventions in native app distribution

A critical area of intervention in native app distribution is to require Apple and Google to facilitate alternative app stores being made available on mobile devices.

Alternative app stores would inject price competition, innovation and consumer choice into mobile ecosystems. For example, Epic Games charges a substantially lower commission (12%) for apps distributed via EGS, than the 30% charged by Apple's App Store and Google's Play Store. It also permits developers to use alternative payment service providers, and charges a 0% commission on in-app purchases made through such an alternative payment service provider. Price is not the only element that would be improved by app store competition. Competition could improve search and discoverability, developer tools and security. The current lack of competition means Apple and Google are not incentivised to innovate.

Alternative app stores, and alternatively distributed apps, must be able to compete with Apple and Google's own app stores on fair terms. Discriminatory terms, arbitrary eligibility criteria, friction screens, fees or differentiated security screening must not be permitted, as explained in (C) below.

Further examples of the specific interventions required in native app distribution are provided in response to question 5.

C. Concerns relating to Apple's and Google's mobile ecosystems

The CMA in MEMS gathered compelling evidence on how Apple and Google's vice-like grip undermines free and fair competition in the mobile app economy. These concerns – already highlighted earlier in this response - are not repeated here, but they have clearly not gone away. Indeed, following publication of the MEMS, anti-competitive behaviour from both Apple and Google has increased in response to attempts by regulators and courts to curb their activities. Apple and Google's responses to interventions in other jurisdictions are detailed in response to question 6 (addressed next) but include:

- Open retaliation against developers who start to pose a competitive threat (e.g. terminating developer accounts)

- Circumvention of new rules e.g. through the imposition of new fees, frictions, arbitrary eligibility criteria, self-preferencing, and entering into restrictive agreements with third parties.

- Using security and privacy as a pretext to evade compliance.

Q6 What key lessons should the CMA draw from interventions being considered, imposed and/or implemented in relation to mobile ecosystems in other jurisdictions?

Apple and Google will take steps to evade compliance when attempts are made to curb their abuses of market power. Lessons can be learned from the following seven examples.

Lesson 1: Apple and Google can be expected to sidestep reforms by imposing fees and unfair terms which impair developers' ability to gain a foothold despite regulatory reforms. The CMA must ensure access is made free of charge and on non-discriminatory terms. To the extent that Apple / Google are permitted to charge any fees for the services actually provided, it would be important to ensure that any such fees are subject to competition and imposed on a fair and non-discriminatory basis. For instance, the CMA could caveat any interventions by stating: "[*Apple / Google] may charge fees imposed on fair and non-discriminatory basis in relation to any identifiable, transaction-specific service provided by the SMS firm, provided that there is free and unconstrained competition in relation to this service (so that the fee can be determined by market forces)*."

(i) Apple implemented various measures to purportedly comply with its app-store related obligations under the DMA.[21] Apple's implementation of the DMA on 7 March 2024 provided developers with the choice of staying on Apple's existing terms, or opting into new terms. These new terms impose two, new and separate charges on developers:

- All developers must pay Apple a "junk fee", the Core Technology Fee (**CTF**) to benefit from the DMA's freedoms. The CTF amounts to EUR 0.50 for each first annual install, reinstall, or update (a "first annual install" or (**FAI**)) of an app exceeding one million FAIs within a 12-month period within the EU from any distribution channel on all of their apps.[22] This is in addition to a EUR 0.50 fee for every FAI of an alternative app store (which has no minimum threshold).

- Developers distributing through the App Store must also pay fees on all transactions involving "digital goods", including both in-app purchases made using non-Apple payment solutions and all transactions where the user is steered to an alternative payment solution (e.g. on the developer's website). Apple requires those developers to pay either: (a) 17% to Apple where developers use alternative in-app payment solutions or offer hyperlinks within their app for users to conclude a transaction outside of the app; or (b) 20% to Apple where developers use Apple IAP.[23]

- The combination of the CTF and revised percentage fee structure renders Apple's new terms more expensive (and therefore less attractive for many iOS developers) than the existing terms offered by Apple. iOS developers are therefore likely to forgo the new terms and stay on Apple's existing terms.

- Developers distributing through alternative channels do not use any services in the App Store – they only require access to iOS (and the tools and permissions necessary for that access). Despite the fact that interoperability with iOS must be free of charge under DMA Art 6(7), Apple charges the CTF to those developers. While the CTF is loosely defined, it is best characterised as an iOS access fee – which is not only prohibited under Art 6(7), but also is not market standard (as there is no similar fee to access Android OS). The CMA must approach any arguments by Apple that it should be entitled to charge for basic services with cynicism.

- Apple also discourages developers from offering sales of digital goods for purchase via other distribution channels (contrary to Article 5(4) DMA). Under the existing terms, Apple levies two charges on developers seeking to steer users outside the App Store: the "initial acquisition fee"

[21] See Apple's Non-Confidential Summary of DMA Compliance Report: NCS October 2024 and NCS March 2024.

[22] All developers who have signed up to the new terms must pay Apple the CTF, other than: (i) developers whose apps do not surpass 1 million installs per year (this applies to all apps offered under a single Developer Account, not per app); and (ii) non-profit organisations, accredited educational institutions, or government entities with an Apple Developer Program fee waiver. On 2 May 2024, Apple removed the CTF for: (iii) developers that earn no revenue, including offering a free app without monetisation of any kind (physical, digital, advertising, or otherwise); and (iv) developers who meet the requirements for the "3-year on-ramp to the CTF". See https://developer.apple.com/support/core-technology-fee/ and https://developer.apple.com/news/?id=d0z8d8rx

[23] For developers in the App Store Small Business Program and for subscriptions after their first year, Apple imposes reduced in-app purchase fees of 10% (or 13% if using Apple IAP). See https://developer.apple.com/support/dma-and-apps-in-the-eu/

(5%) and "store services fee" (20%, or 7% for developers qualifying for the Small Business Program). These fees are applied to all sales of digital goods and services that a user makes on any platform either (i) within 12-months of the first install of an app that contains the steering functionality (initial user acquisition fee) or (ii) indefinitely (the store services fee). Under the new terms, the initial user acquisition fee and store services fee are lower (5% and 10% (or 5%) respectively), but developers must pay them in addition to the CTF. Both fees are intended to effectively prevent developers from steering users outside the App Store. They are also pretextual: Apple imposes the fees regardless of whether users ultimately follow the in-app links (i.e. regardless of whether they are steered).

- Apple further disincentivises uptake of its new terms under the DMA by making the choice to enter into those terms (a) irreversible for developers that have exercised any of their app store-related freedoms under the DMA (e.g. developers who offer an app through an alternative channel); (b) reversible only once for all other developers; (c) applicable to all of the apps offered by a developer account (all or nothing). Consequently, developers that want to benefit from the DMA's app-store related freedoms under the new terms at present, but anticipate that Apple's existing terms will be more cost-effective when their app becomes more popular, will have little choice but to forgo making use of the app store-related freedoms now.

- To try to assuage these concerns and build developer confidence, Epic announced it will compensate select developers listing on its store for the harm caused by Apple's introduction of the CTF. Specifically, Epic has offered to pay the CTF imposed by Apple on EGS and all other distribution channels they use, including Apple's own App Store. Even with these efforts, Epic has so far been unsuccessful in attracting a large number of high revenue and high user developers.[24]

- Finally, Apple further limits competition to the App Store by imposing unnecessary friction (in particular, uninformative scare screens) on (i) users who download apps via alternative means and (ii) users that follow in-app hyperlinks to complete transactions outside the App Store.

- (ii) Since 18 December 2021 in South Korea, and 26 April 2023 in India, Google has, as a result of new legislation and regulatory action, been obliged to permit app developers to use an alternative in-app payment solution in addition to Google's own payment solution (**GPB**). Google has similarly been required to enable alternative payment solutions in the EU. Google has implemented two new schemes - User Choice Billing (**UCB**) or Developer Only Billing (**DOB**) - both of which are accompanied by an obligation on developers to pay a new "commission" fee.

- Under these schemes, developers are charged a 26 / 27% commission by Google to use alternative payment providers. The economics of these schemes are designed to deter uptake, as the cost of using an alternative payment provider would need to be less than 3 / 4% to avoid paying the same or more for using UCB / DOB. Given Google's own breakeven cost of providing a payment solution (with no profit) is valued at 6%,[25] developers using UCB / DOB will likely be paying more than the 30% charged by Google for its own payment services. The extremely narrow margins also provide little to no incentive for new payment solution providers to enter the market.

- Faced with these costs, developers have little incentive to move away from using GPB. Developer uptake of UCB has been low in South Korea, and the Korean National Assembly is currently contemplating new legislation addressing app store abuses in the face of widespread criticism that its previous legislative changes have failed.[26]

- Even though Google's UCB and DOB programmes have been patently set up to fail, Google has subsequently sought to rely on the low take-up of UCB and DOB to argue that its own payment

[24] See, for example, this blog post by Epic (also referenced above), which explains that the app store economy is not truly open, despite the efforts of EU regulators: App Store Economy is Far From Open, Despite Efforts by Epic, Developers, and Regulators in the EU - Epic Games: *"To ease the burden, Epic will be covering the CTF for all titles for developers that participate in the Epic Games Store's free games program on iOS or iPadOS devices, regardless of where the featured title is downloaded from".*
[25] See slide 14 of GOOG-PLAY - 00565541.R - which was disclosed by Google in the US consumer.
class action proceedings and is publicly available on the court's docket.
[26] See https://asia.nikkei.com/Business/Finance/South-Korea-fails-to-rein-in-Apple-Google-app-fees-critics-say.

service is clearly superior. This is an obvious fallacy, and the CMA should be alive to any such reasoning by Google in its response to the proposed interventions. There is demand amongst developers to use alternative, cheaper payment solutions but, as it stands, Google continues to make this practically impossible. Google proposed introducing UCB / DOB in the UK, but the CMA closed this investigation on the grounds of administrative priorities, having regard to the responses from developers it had received following Google's proposal, which made clear that they considered Google's UCB / DOB proposals to amount to nothing more than a new monopoly tax.

- (iii) A further example is Google's "compliance" plan under the DMA[27], in which it has introduced new fees under its "External Offers Program" for developers to include a link out to purchase (or steering). This is non-compliant under Article 5(4) which stipulates that steering must be "free of charge". The fees charged by Google are set at a level designed to cynically remove any financial incentives for app developers to offer link outs to purchase. Developers would not benefit from any practical fee reduction once payment processing is included, which in turn deprives users from the benefit of any fee reduction.

Lesson 2: Apple and Google will try to circumvent regulation using security and privacy as a pretext. The CMA must not allow proposed interventions into native app distribution to be derailed by suggestions from Apple and Google that this would compromise security and privacy.

- (i) Under the DMA, Apple is required to permit alternative, third-party app distribution mechanisms besides the Apple App Store. Although Apple nominally introduced a variety of technical mechanisms and policy changes to enable alternative app distribution mechanisms on iOS, all apps (including alternative app stores) must still be reviewed and signed by Apple. Apple notes that, through the notarisation process, it "*will encrypt and sign all iOS apps intended for alternative distribution to help protect developers' intellectual property and ensure that users get apps from known parties*".[28] As a result, developers (including rival app store providers) must overcome the hurdle of Apple's notarisation process to distribute their apps on the iOS ecosystem.

- Apple's process suffers from significant issues, such as: i) a lack of transparency and consistency for developers as to why apps are rejected; ii) a slow process for appealing the rejection of an app; and iii) delays affecting the release and updates of apps, with long review times. [29]

- By allowing alternative app distribution mechanisms in the iOS ecosystem and maintaining its own centralised notarisation process, Apple has presented itself as complying with the DMA while simultaneously maintaining its gatekeeper role over the distribution of apps on its operating system. Apple also has a clear conflict of interest in: i) deciding how to allocate its finite reviewing resources between apps meant for distribution on the App Store, and apps meant for distribution solely via alternative app stores; and ii) reviewing apps that compete with its own Apple apps. Importantly, the conflict of interest applies to alternative app stores that compete with the App Store. For example, Epic was initially denied a developer account to distribute its app store and, once received, its app store was rejected by Apple twice, for reasons unrelated to security.

The CMA can learn from Apple's response to the DMA that any CRs focussed on enabling alternative app distribution mechanisms in the iOS ecosystem should not permit either Apple (or, correspondingly, Google) to rely on centralised security processes as a means of circumventing the purpose and spirit of those CRs. A proposed package of CRs relating to notarisation is set out in response to question 5 below.

- (ii) There are several other ways that Apple hampers alternative distribution which bear no relation to security nor privacy.

[27] storage.googleapis.com/transparencyreport/report-downloads/pdf-report-bb_2023-9-6_2024-3-6_en_v1.pdf
[28] See Apple's documentation, "Update on apps distributed in the European Union" (https://developer.apple.com/support/dma-and-apps-in-the-eu/.
[29] See, for example: AltStore: Q&A with Riley Testut.

- Developers using alternative distribution must sign Apple's Alternative Terms Addendum,[30] which stipulates that a developer must be "*in good standing*" with Apple, and leaves Apple absolute discretion to determine what this is.

- Apple has imposed technical obstacles to free distribution. Users can only download and install marketplace apps from browsers that have implemented a specific entitlement controlled by Apple. The browser eligibility requirements mean that, even if a consumer has navigated to the right web page, they will be unable to download an alternative app store if they are using an ineligible browser. The consumer will not be provided information on why the download has failed.

- Apple has stipulated that if users wish to download apps via alternative means, the user may only download the alternative store via a fixed URL. To download EGS on iOS, a user must do this from a single dedicated website page for downloading EGS. If a user visited the Fortnite page in Epic's website because they wanted to install Fortnite, they could not directly install EGS from this page (in order to download Fortnite). Instead, the user would need to be re-routed to the relevant URL that allows users to enter the EGS download flow.

More generally, it is important for the CMA to understand that it is the operating systems that provide critical security functions on a device and that app review can be separated from app distribution. Apple and Google are both able to review apps for security vulnerabilities and then allow those vetted apps to be distributed on their platform through distribution channels other than their own app stores.

Lesson 3: Apple and Google can be expected to introduce complex, confusing compliance plans which are unworkable for businesses. The CMA must consult widely with third parties in advance of imposing interventions to ensure they are workable in practice.

- The CMA must learn from the EC's investigations of breaches under the DMA and ensure that Apple and Google's compliance measures are sufficiently clear and transparent that businesses and consumers are able to rely upon them.

- (i) The EC has already sent Apple preliminary findings indicating that Apple's new app stores rules are in breach of the DMA, as they prevent app developers from freely steering consumers to alternative channels for offers and content.[31] Specifically, under the DMA, developers "*distributing their apps via Apple's App Store should be able, free of charge, to inform their customers of alternative cheaper purchasing possibilities, steer them to those offers and allow them to make purchases*".[32] The EC is also investigating whether the CTF, the multiple steps that Apple requires users to navigate to download apps via alternative means and the eligibility requirements for developers constitute a breach of DMA Art 6(4).[33]

- (ii) The EC has also opened proceedings to assess whether the measures implemented by Google in relation to their obligations pertaining to steering are in breach of the DMA.[34] The EC has expressed concern that Google's measures may not be fully compliant, as they impose various restrictions and limitations, constraining developers' ability to freely communicate and promote offers and directly conclude contracts. Google's scheme offers a web of increasingly complex fee structures designed to dissuade and deter developers from using them.

Lesson 4: Apple and Google can be expected to leverage existing or introduce new frictions to deter/block potential competitors. The CMA must remove such frictions.

- (i) On the Android ecosystem, while it is theoretically possible for third-party app stores to be directly downloaded, Google creates multiple unnecessary frictions throughout the direct download process. To download EGS on Android, a user must navigate a total of 12 screens,[35]

[30] Apple's Alternative Terms Addendum is available here:http://developer.apple.com/contact/request/download/alternate_eu_terms_addendum.pdf
[31] See, for example, "Commission sends preliminary findings to Apple and opens additional non-compliance investigation against Apple under the Digital Markets Act"
[32] See Commission sends preliminary findings to Apple and opens additional non-compliance investigation against Apple
[33] See 'Commission sends preliminary findings to Apple and opens additional non-compliance investigation against Apple under the Digital Markets Act'.
[34] https://ec.europa.eu/commission/presscorner/detail/en/ip_24_1689
[35] See App Store Economy is Far From Open, Despite Efforts by Epic, Developers, and Regulators in the EU - Epic Games.

including uninformative scare screens, which act as a significant deterrent (compared to the single step required to download an app via the Play Store).

- (ii) Apple makes it as difficult as possible for alternative stores to succeed via its "alternative app marketplace entitlement".[36] These are a series of arbitrary eligibility criteria that providers must meet to offer a store, and are imposed by Apple in addition to requirements that limit which browsers app store downloads can be initiated from.[37]

- Even if a developer meets Apple's criteria, and the consumer uses an eligible browser, Apple then imposes a total of 15 screens[38] to download EGS on iOS in the EU (compared to the single step required to download an app via the App Store).

As a result of the frictions imposed by Apple and Google, users that have sought to download EGS since its launch on 16 August 2024 have abandoned that process more than 50% of the time.[39]

Lesson 5: Apple and Google can be expected to find novel ways to circumvent the rules, including entering into restrictive agreements with third parties. The CMA must ensure that its interventions are sufficiently broad to anticipate and prevent this conduct.

- (i) As explained in response to question 2, Google has a history of offering deals to third parties as a means to sustain its market power.

- (ii) Since the successful outcome in the US litigation against Google, Epic has sought to negotiate pre-installation deals with mobile network operators and OEMs to help launch EGS on Android. While Epic has been able to negotiate a limited deal with Telefonica,[40] Google is continuing to utilise its arrangements with OEMs to the detriment of competition. For example, Epic believes that Google has arranged with Samsung to increase frictions on the direct downloading process, by changing the default setting on Samsung devices.[41]

- As of July 2024, Samsung defaulted its Auto Blocker tool "on" to disable the installation of apps from any and all sources other than the Play Store and the Samsung Galaxy Store. These are the only two sources Auto Blocker deems "authorised sources" for apps, to the exclusion of all other stores (as well as direct downloading of apps from the web). Samsung does not offer an avenue for third-party store operators, such as Epic, to qualify their stores as "authorised sources", irrespective of the safety and security of these third-party stores.

- This has a significant impact on any developers of alternative app stores or developers who wish to distribute their apps via the web on Android, as Samsung offers a significant proportion of higher-specification Android devices and is by far the largest Android OEM in the UK. Owners of Samsung smartphones tend to be more willing to spend on IAPs than owners of lower-specification smartphones. In arranging with Samsung to impose the Auto Blocker function, Google has ensured that Epic and other developers are prevented from competing for and offering new products to the largest and most lucrative segment of the Android ecosystem, to the detriment of developers and consumers.

Lesson 6: Apple and Google can be expected to retaliate against potential competitors. The CMA must ensure that interventions preclude retaliatory conduct and outline clear consequences.

- (i) Apple engaged in retaliatory activity following its implementation of the DMA, terminating Epic Games Sweden AB's Apple Developer Account on opaque and pretextual grounds. Although the EC intervened to restore the Epic Sweden Account, Apple's attempt to silence Epic is an indicator that, even if designated with SMS, both Apple and Google are likely to engage in retaliatory

[36] https://developer.apple.com/support/alternative-app-marketplace-in-the-eu/
[37] https://developer.apple.com/documentation/bundleresources/entitlements/com_apple_developer_browser_app-installation
[38] See App Store Economy is Far From Open, Despite Efforts by Epic, Developers, and Regulators in the EU - Epic Games.
[39] See App Store Economy is Far From Open, Despite Efforts by Epic, Developers, and Regulators in the EU - Epic Games.
[40] https://www.epicgames.com/site/en-US/news/telefonica-and-epic-games-bring-fortnite-and-the-epic-games-store-to-telefonica-devices
[41] https://www.epicgames.com/site/en-US/news/filing-suit-against-google-and-samsung-for-illegally-colluding-to-block-competition-in-app-distribution-and-undermining-the-epic-v-google-jury-verdict

activity against their critics if left unchecked. Indeed, it is likely that they will pursue retaliation in areas that sit outside of the designated activities to avoid attention.

- (ii) Apple and Google have created a culture of fear among developers – in conversations designed to secure content for EGS, third parties have indicated an unwillingness to do deals outside of Apple's App Store and Google's Play Store for fear of retaliation.[42]

A key challenge for the CMA during the investigation will be ensuring that potential competitors have the confidence to come forward with their concerns about Apple's and Google's conduct in mobile ecosystems. It will be vital to ensure that information can be provided confidentially to the CMA to assuage real concerns about the threat of retaliation and to avoid the risk that concerns are under-reported.

Lesson 7: Apple and Google can be expected to resist scrutiny by the CMA once interventions are imposed. The CMA must design measurable targets to demonstrate compliance.

Previous interventions against Apple and Google show that both have been able to avoid the intended effects of measures taken against them due to a lack of transparent, measurable targets attached to the relevant provisions. Effective conduct requirements will place an obligation on them to prove the impact of how they are complying.

- (i) Google's DMA Compliance Report asserts that Google complies with Article 6(4) of the DMA, requiring Google to enable app distribution outside of the Play Store, given "*it allows users to sideload third-party apps*".[43] This report fails to mention that the Android direct downloading process continues to contain numerous install frictions for users, consisting of multiple steps with screens warning users of the potential security risks of direct downloading resulting in enormous user drop off.

- Google has tried to characterise its pre-existing approach to alternative distribution as compliant with Article 6(4) of the DMA having made no actual changes. In other words, it has retained a process which actively discourages developers from distributing apps outside of the Play Store via direct downloading and that the DMA had been designed to address.

Setting measurable targets (for example, in terms of numbers of apps being directly downloaded, using third-party app stores etc.) will ensure that the CMA's interventions deliver on the objectives of creating open choices for consumers, by forcing Apple and Google to demonstrate the measures they are taking are leading to an increase in third-party app distribution.

Q5: Are the potential interventions [set out above] likely to be effective, proportionate and/or have benefits for businesses and consumers?

A. Consumer benefit

Each of the CMA's potential interventions can deliver significant benefits for UK businesses and consumers. If appropriately implemented, these interventions will provide developers with the tools they need to freely create high-quality apps tailored for the different ecosystems, choosing the optimal security and payment services to suit their needs. Alternative means of app distribution will also result in greater discoverability for developers, as consumers have access to more than one "shop window". Consumers will benefit from cheaper and higher quality apps (including cheaper and / or higher quality in-app content) and app stores.

These benefits are not intangible or unlikely to materialise. For example, Epic and other potential competitors are ready and waiting to enter the native app distribution market:

- On iOS, Epic will launch EGS on iOS in the UK (as it has done in the EU) as soon as it is able to do so. Epic only charges 12% commission (0% where the developer chooses an alternative payment service) which will deliver lower prices for developers and offer developers the ability to

[42] See App Store Economy is Far From Open, Despite Efforts by Epic, Developers, and Regulators in the EU - Epic Games.
[43] *EU Digital Markets Act (EU DMA) Compliance Report: Non-Confidential Summary*, Google (7 March 2024), p. 121.

choose their own payment services provider. When Epic introduced EGS on PCs, market competition led to the incumbent app store (Steam) reducing commissions for the largest app developers. Apple would similarly be forced to deliver benefits for developers and consumers, or face losing significant business to those that do.

- Alongside lower prices, consumers will receive other direct benefits from the launch of EGS on iOS. Under the DMA, Epic has replicated its "Free Game of the Week" programme on iOS and Android. This programme gives consumers a free download of a game that is usually paid for every week. In 2023, 586M free games were claimed on PC. Consumers will also be able to obtain content that they cannot currently access on iPhones in the UK, including Epic's own apps like Fortnite.

- On Android, EGS's launch has been inhibited by the frictions and intimidating warnings that Google requires OEMs to show consumers when they try to directly download app stores or apps. If the CMA intervenes effectively, Epic will be able to offer EGS as a high-quality, easily accessible alternative to the Play Store. As with iOS, the growth of alternative stores on Android devices will lead to a higher overall quality of app stores, pushing Google to compete on price and quality.

B. Potential interventions in operating systems

(1) OS switching/app and data portability - *"Measures to prevent Apple and Google from unreasonably restricting the ability of users to transfer their data and apps across devices" (83(a))*

- Creating the means for users to transfer data and apps across devices will not overcome the considerable degree of user lock-in to each OS, which is multi-factorial. In its early interventions, the CMA should prioritise ensuring parity of access to the operating system for third-party developers seeking to compete with Apple and Google.

(2) Interoperability - "*Measures requiring access to be given to necessary APIs to enable users to migrate their apps and data between iOS and Android devices more easily*" (83(a)) and "*Requirements for Apple and Google not to restrict interoperability as required by third-party products and services (such as rival browsers, digital wallets and connected devices) to function effectively and compete with Apple's and Google's own products and services. ii. A requirement for Apple to make changes to rules or policies where necessary if its current rules or policies prohibit certain third-party services from operating on iOS devices (such as rival wallets)"* (83(b)(i) and (ii))

- Allowing third parties to develop products that interoperate with iOS and Android on a free and fair basis will be vital in developing competition in both ecosystems. In order to be effective, interventions should ensure that all necessary APIs and developer tools are made available for free and that access to all non-optional APIs and tools is not otherwise restricted (for example, as explained above, Google places the most valuable APIs and tools in Google Play Services, which can only be accessed if the OEM signs a MADA imposing a number of restrictions). Similarly, to the extent Apple and Google must give permission for developers to access their operating systems in order to establish interoperability, that permission must be given free of charge.

- Listed below are the interventions necessary to allow for free, fair interoperability. Any carve-outs from these obligations for security reasons must be framed extremely narrowly and limited to what is absolutely necessary (given the scope for Apple and Google to misuse carve-outs to evade compliance or erect barriers to competition). The onus must be on them to prove there is a real security risk, not on the CMA to disprove their assertion. The interventions still allow Apple and Google to charge a fee for developer tools that are truly optional and subject to competition.[44] The proposed interventions therefore go no further than necessary and are proportionate to the open choices objective. However, again, care must be taken to ensure that this ability is not misused by Apple and Google to evade compliance.

[44] Examples of such optional services may include, for instance: (i) optional developer tools and services; (ii) optional support from the Apple / Google's engineers to assist with app development and / or troubleshooting; (iii) optional customer service support; (iv) optional payment, billing and other services; (v) optional security review; and (vi) optional (decentralised) notarisation.

Proposed CR	Apple	Google
[Apple / Google] must ensure that apps (or app stores) downloaded through distribution channels other than the [App Store / Play Store] can interoperate with the OS (as well as the hardware and other apps on the device) without frictions.	✓	✓
[Apple / Google] must offer, free of charge, all APIs and development tools that are necessary for developers to develop high-quality apps (including app stores) that are competitive with other apps in their category. [Apple / Google] may not withhold such APIs, nor make their availability subject to fees or restrictions. For the avoidance of doubt, this should specifically include development tools such as Xcode.	✓	✓
[Apple / Google] must publish clear and transparent information on the relevant APIs.	✓	✓
[Apple / Google] must ensure that (i) third-party payment services (ii) app notarisation providers can interoperate with the OS, the hardware and other apps on the device without frictions and on the same terms as [Apple / Google's] own payment system / notarisation process.	✓	✓

3) Enabling default changes - "*Requirements for Apple and Google to make changes to choice architecture in factory settings or subsequent device settings; in order to enable users of mobile devices to make active and informed choices about the product or services they use and/or set as a 'default' service"* (83(b)(iii))

- These interventions are necessary to overcome some of the default bias and incumbency advantages that Apple and Google currently benefit from. For these interventions to be effective in opening up consumer choice in app distribution, during the initial device set up (and once for pre-existing devices), users must be presented with a choice screen that allows them to select their preferred app store provider. The wording on the choice screen must be fair and reasonable, and should not be left to Apple / Google to determine. Apple / Google's own apps must not be given any advantage during the process. The functionality of Apple / Google's OSs must not depend on whether certain Apple / Google software, for example, the App Store / Play Store, is already installed on the user's device.

- These measures are proportionate to the open choices objective and go no further than necessary to achieve this aim, as Apple and Google benefit from significant incumbency advantages. Introducing choice screens on device set-up (and once for pre-existing devices) will enable consumers to make active and informed choices on which app store providers to use.

- A complete package of effective and proportionate measures should include the following:

Proposed CR	Apple	Google
Apple cannot set its apps or services (including the App Store) as default on iOS devices. For the avoidance of doubt, this means that Apple cannot require that, when a user searches for and downloads a given app, the app automatically downloads through the Apple App Store.	✓	
Google cannot set its apps or services (including the Play Store and Google Play Protect) as default on Android devices, or require, mandate or otherwise incentivise other parties to do so. For the avoidance of doubt, this means that Google cannot require that, when a user searches for and downloads a given app, the app automatically downloads through the Google Play Store. Similarly, Google Play		✓

Proposed CR	Apple	Google
Protect should not be set as the default security reviewing tool for all apps on a user's device, and the user should have the option to use alternative scanning services. Google Play Protect should only be set as the default security reviewing tool where the user selects Google Play Store as their default app store on device set-up and / or on annual review. Google Play Protect may perform bona fide malware detection and prevention, but must treat all sources of apps neutrally, and not preference apps distributed by Google itself.		
During the initial device set up (and once for pre-existing devices), users must be presented with a choice screen requiring mobile device users to choose a default app store provider. The wording on the choice screen must be fair and reasonable, and developed in consultation with the CMA and users. [Apple / Google's] own app store must not be prioritised or given any advantage during the process.	✓	✓
[Apple / Google] may (in consultation with the CMA and users) develop a set of proportionate, objective eligibility criteria for app store developers to be listed on the choice screen. [Apple / Google] may not charge any fees for listing third-party app stores on the choice screen.	✓	✓
[Apple / Google] cannot make access to its OS or app stores conditional on using, pre-installing or accessing its other products or services." This CR will be relevant to multiple proposed interventions, but has been included in this list as Apple / Google cannot rely on the significant incumbency benefits enjoyed by their OS / app stores to impose anti-competitive requirements in other areas.	✓	✓
Functionality of iOS must not depend on whether or not the App Store (or any other Apple app) is installed on an iOS device. This includes, but is not limited to, automatic, background updates to apps installed on iOS devices.	✓	
Functionality of Android must not depend on whether or not the Play Store (or any other Google app) is installed on an Android device. This includes, but is not limited to, automatic, background updates to apps installed on Android devices.		✓
[Apple / Google] must enable users to follow a simple, straightforward process to choose a default app store (should they wish to do so) within the device's "Settings", which the user should be prompted to do the first time they attempt to install an app from a given app store. The process must involve no scare screens / warning screens, and that default must be capable of applying in all circumstances.	✓	✓

C. Potential interventions in native app distribution

(1) Enabling alternative app stores on iOS - *"A requirement for Apple to allow alternative app stores to operate on iOS*." (85(a)(i))

- The CMA is right to identify app distribution on iOS as a key area of potential growth. For intervention to be effective, Apple must be required to go further than merely technically enabling alternative app stores to operate on iOS. It must be just as easy for developers to develop and list apps on alternative stores on iOS as it is to do so on the App Store. Similarly, consumers must be able to download apps from alternative sources just as easily as they can download apps

from the App Store. Apple should not be able to introduce any fees or frictions where consumers choose to download apps via alternative distribution channels.

- Apple must also be prevented from engaging in similar conduct to Google, such as incentivising potential competitors to prioritise the App Store, demoting alternative app stores or preventing potential competitors from differentiating themselves to the App Store.

- Apple must be prevented from introducing the "Alternative Terms Addendum for Apps in the EU". As explained in question 6 above, the EC has found that aspects of Apple's alternative terms breach the requirement under the DMA to allow distribution of apps by alternative means.

- These measures are proportionate to the aim of creating open choices for consumers. Apple's response to the DMA demonstrates that, without a comprehensive set of CRs, Apple will ensure that the alternative app distribution experience is deprecated for both developers and consumers compared to the experience of using the Apple App Store.

- Epic proposes the following CRs should therefore be imposed on Apple – all measures except for the first two must be imposed on Google as well:

Proposed CR	**Apple**	**Google**
Apple must allow alternative app stores to operate on iOS free of charge. This is subject to the caveat set out at lesson 1 above, that, to the CMA permits Apple to charge a fee for alternative app stores, any such fees must be subject to competition and imposed on a fair and non-discriminatory basis.	✓	
Apple's terms in relation to alternative app stores must be fair, reasonable and achieve the purpose of opening choices for consumers. This should specifically include a prohibition on Apple introducing the Alternative Terms Addendum in the UK.	✓	
[Apple / Google] must ensure that developers have access, free of charge, to all APIs and app development tools necessary to allow developers to develop high-quality apps for release on alternative means of app distribution on [iOS / Android]. <u>Note:</u> There will be overlap here with any interventions that may need to be imposed in relation to mobile operating systems if the CMA concludes that mobile OSs should be designated separately from native app distribution.	✓	✓
[Apple / Google] must not impose any additional frictions or more onerous steps in relation to the use, download or update of any app (or an app store) downloaded on [iOS / Android] devices through a distribution channel other than the [App Store / Play Store], compared to apps (or app stores) downloaded through the [App Store / Play Store]. [Apple / Google] must also not require, mandate or otherwise incentivise other entities to do so, through any technical, contractual, financial or other means. For the avoidance of doubt, this concerns downloading of apps (or app stores) from: (i) a third-party app store; and (ii) from outside a third-party app store (e.g. directly downloading from the web).	✓	✓
For the first 3 years or until distribution via third-party app stores reaches 30% of apps downloaded onto devices operating [iOS / Android (whichever is later), [Apple / Google] must take active measures to promote the use of third-party app stores. [Apple / Google] must agree to such measures with the CMA, in consultation with third-party developers.	✓	✓

Proposed CR	Apple	Google
[Apple / Google] must not engage in any conduct that sets the timing of the release, the pricing or content of any app released on its app store (or otherwise incentivises its setting), in reference to the timing of the release, the pricing or content of the app through any alternative app distribution channel. In particular, this concerns not enforcing any existing agreement or not entering any new agreement with app developers imposing any timing parity, pricing parity or content parity.	✓	✓
[Apple / Google] must not retaliate against, disadvantage or otherwise discriminate against developers if they offer different terms and conditions in apps distributed through other app stores or other platforms.	✓	✓
[Apple / Google] must not prevent, prohibit or otherwise disincentivise the withdrawal of any app from the [App Store / Play Store]. For the avoidance of doubt, [Apple / Google] shall not enforce any existing agreement, enter into any new agreement or otherwise engage in any conduct that prohibits the withdrawal of any app from the [App Store / Play Store] without [Apple's / Google's] consent.	✓	✓
[Apple / Google] shall not require, mandate or otherwise incentivise the distribution of any [iOS / Android] app, or content available in the app, exclusively through the [Apple App Store / Google Play Store].	✓	✓
[Apple / Google] must ensure that apps (or app stores) downloaded on the device through methods other than [Apple's App Store / Google's Play Store], can be automatically updated in the background similar to automatic updates (in performance and capabilities) available through their own store. Where possible, updates should be delivered via the app distribution channel from which the app was downloaded (rather than defaulting to the [App Store / Play Store]). The update process should involve no additional frictions, or manual involvement of the user, above what is required to update apps downloaded from the [App Store / Play Store].	✓	✓
[Apple / Google] shall not offer a competing distributor a share of revenues related to its app store or make any share of revenues linked to the availability on the device of alternative app distribution channels, including other app stores.	✓	✓
[Apple / Google] shall not engage in any conduct that requires or incentivises any potential or actual provider of a competing app distribution channel on [iOS / Android] to scale back, refrain from increasing investment into or abandon its app distribution channel.	✓	✓

(2) Preventing anti-competitive revenue sharing agreements - "*A requirement that prevents Google from making revenue share payments in return for certain additional requirements in relation to the Play Store, e.g. setting the Play Store as the default app store and not preloading alternative app stores on devices."* (85(a)(ii))

- The CMA is right to specifically identify Google's RSAs as an area of concern. However, while the RSAs form an important component of Google's problematic behaviour, the CMA must not address the RSAs in isolation. As set out in question 6 above, Google has leveraged its relationships with OEMs in a variety of creative ways to either incentivise or threaten them to promote the Play Store and demote alternative means of app distribution.

- Preventing Google from entering into contracts with device manufacturers that prioritise their app stores, demote alternatives or make it more difficult for alternatives to function are the minimum necessary to allow alternative app stores to compete. These measures go no further than requiring Google not to unilaterally exclude rivals from the market, and are proportionate to the open choices objective.

- A proportionate and effective package of CRs in this area must include not only those CRs which were highlighted in section (C)(1) above as needing to apply to Google (and Apple) but also the following:

Proposed CR	**Apple**	**Google**
[Apple / Google] shall not engage in any conduct that prohibits, limits or disincentivises the placement of, preinstallation of, and / or grant of installation permission of any app or third-party app store.	✓	✓
Apple and Google must also be prevented from entering into most favoured nation agreements with OEMs and developers (all the CRs relating to this issue are set out in the section relating to Apple above).	✓	✓

(3) Overcoming Apple / Google's incumbency advantages - *"Requirements to address the challenges faced by alternative app stores in attracting a sufficient user base. These could include that Apple and Google list alternative app stores within the App Store and Play Store; allow access to their catalogue of apps to third-party app stores; do not deter users from accessing alternative app distribution models in a way that unduly self-preferences their own services; and / or do not impose terms and conditions on apps and app stores which restrict their ability to compete effectively in app distribution." (85(a)(iii))*

- These interventions are all critical. The only way in which potential competitors will be able to compete effectively is if action is taken by the CMA to tackle the incumbency advantages and network effects that Apple and Google are currently exploiting to the detriment of UK developers and consumers.

- (i) Library porting and uninstalling app stores - Requirements on Apple and Google to distribute other app stores in their stores and to provide developers with access to their catalogues of apps are important steps to overcome these incumbency advantages and allow for competition. The CMA's suggestion of catalogue access is therefore a good first step. However, for it to have a lasting impact on competition, Apple and Google must also enable users to change the "owner" of an app on their device to an alternative app store operator (known as library porting). This is because the app store operator that "owns" the app is the operator that usually pushes through the relevant app updates. Without this, users are unlikely to realise the benefits offered by alternative app stores, as the user would continue to have the version of the app "owned" by Apple / Google (and the developer would continue to be subject to that app store's terms). Relatedly, the CMA should enable users to uninstall the Apple App Store / Google Play Store if they wish to do so. If a user has chosen to use an alternative app store, they should not be forced to keep other stores on their devices, taking up valuable space.

- (ii) Self-preferencing - The CMA is correct to identify the risk of Apple / Google deterring users from accessing alternative stores in a way that self-preferences their own store. Apple / Google must not be able to bury alternative app stores making them difficult for users to find. Requiring transparency in search and ranking algorithms (discussed below) is likely to be necessary to avoid this.

- (iii) Unfair terms on alternative app stores - The CMA is right to identify that Apple / Google should not be able to impose terms and conditions on alternative app stores which restrict their ability to compete effectively. Some guiding principles that should apply: (i) the terms should be clear and

transparent; (ii) no additional frictions should be introduced for alternative app stores compared to using the App Store / Play Store; (iii) Apple and Google must not be able to unilaterally determine eligibility requirements or security standards that other app stores and apps must adhere to (regardless of how the app is downloaded) and (iv) Apple / Google must not be able to charge any new fees for distributing alternative app stores via the Apple App Store / Google Play Store.

- The CMA's proposed interventions in this area are necessary and proportionate to the aim of opening choices for consumers. Without these short-term measures enabling an alternative app store operator to build up a user-base, alternative app store operators will likely find it very difficult to overcome Apple / Google's significant incumbency advantages.

- A proportionate and effective package of CRs in this sector should therefore cover the following measures:

Proposed CR	**Apple**	**Google**
[Apple / Google] shall allow distribution of app stores through its own app store. Distribution of third-party app stores through the [Apple App Store / Google Play Store] should be subject to no more onerous conditions than any other app downloaded through that app store.	✓	✓
[Apple / Google] must not be able to impose purported eligibility criteria, or otherwise restrict or limit developers and / or users' ability to freely choose an alternative app store.	✓	✓
[Apple / Google] must permit third-party app stores to access the Apple App Store / Google Play Store's catalogue of apps not then available on those third-party app stores. If a third-party app store's user wishes to download and install an app not then available on that third-party app store, the [Apple App Store / Google Play Store] shall download and install that app on that user's device. Such apps shall be downloaded on the same terms as any other download that is made directly through the [Apple App Store / Google Play Store].	✓	✓
[Apple / Google] shall allow users to provide third-party app stores with access to a list of apps installed by the [Apple App Store / Google Play Store] on the user's device. [Apple / Google shall provide users with the ability, subject to a one-time user permission, to change the ownership for any or all of those apps such that the third-party app store becomes the update owner for those apps when those apps are directly distributed by the third-party app store.	✓	✓
[Apple / Google] must not impose any fees in connection with distribution of third-party app stores through the [Apple App Store / Google Play Store] (including any fees or commissions on any sales made by such app stores).	✓	✓
Third-party app stores must be as discoverable as other apps in the [Apple App Store / Google Play Store]. In particular, [Apple / Google] should not demote or hide third-party app stores. To assist discoverability, there should be a separate category of "App stores" within the [Apple App Store / Google Play Store]. Discoverability in the [Apple App Store / Google Play Store] should not depend on the third-party app store needing to pay any fees to [Apple / Google].	✓	✓
[Apple / Google] cannot give its apps (including its app store) any advantage (including, but not limited to, in terms of access or	✓	✓

Proposed CR	Apple	Google
prominence) over third-party apps (including app stores) on devices operating with its OS.		
[Apple / Google] must collect, and provide to the CMA, data showing the extent of third-party app store use (including the number of downloads) and must agree key performance indicators with the CMA, including the continued growth of third-party app stores.	✓	✓
[Apple / Google] must ensure that its apps (including the [App Store / Play Store]) are easily uninstallable, using the same number of steps as required to uninstall any third-party app or app store on [iOS / Android] devices. The steps must be no more onerous than in relation to third-party apps or app stores and any warning screens must only be included where essential and must be worded in the same way as in relation to third-party apps or app stores to ensure parity. For the avoidance of doubt, users should be able to entirely uninstall such an app from an [iOS / Android] device (rather than merely removing it from the home screen or just removing an icon).	✓	✓

(iv) Direct downloading - "*A requirement that Apple must allow users to directly download native apps to their devices (referred to as 'sideloading') (for example from a link within an email), where apps are able to demonstrate appropriate security safeguards. For Google, which already permits sideloading subject to certain warning messages being presented to users, a potential requirement could seek to address the format of such warning messages, either generally or where apps are able to demonstrate appropriate security safeguards."* (85(a)(iv)

- Requiring Apple / Google to allow free, frictionless direct downloading is necessary to open consumer choice in app distribution and is not onerous as Apple / Google could easily configure their devices in a way that allows for such direct downloading. The CMA should not be deterred by spurious and pretextual claims by Apple and Google that direct downloading poses a security threat in and of itself. It is wrong to conflate distribution channel with security risk, and there are more proportionate ways of helping users navigate potential threats to the security of their devices. App developers and prospective alternative app store providers, in the UK are already bound by laws to protect users from a broad range of security threats. Further, the Department for Science, Innovation and Technology (DSIT) developed codes of practice to set clear expectations for cybersecurity and resilience,[45] as well as a voluntary code of practice specifically for app store operators and app developers, which includes numerous requirements in relation to user safety based on globally recognised security and privacy practices.[46] Existing UK legislation and codes of practice therefore provide an important baseline for providing app security within mobile ecosystems. Apple and Google do not need unfettered discretion to impose their own far-reaching, additional measures whose effect is to suppress competition. Strong competition will drive innovation in the field of security and create a strong incentive for prospective alternative app store providers (and app developers) to continue to improve their security measures, as this can help them distinguish themselves from competitors and attract users. This will improve standards across the board.

- The full package of effective CRs must therefore include:

Proposed CR	Apple	Google
Google must require that OEMs configure their devices so as to permit users to directly download apps by default. In particular, Google must		✓

[45] See Cyber security codes of practice - GOV.UK (www.gov.uk).
[46] See Code of practice for app store operators and app developers (updated) - GOV.UK (www.gov.uk).

Proposed CR	Apple	Google
require that any device, in order to qualify as a GMS device, must permit users to directly download apps by default.		
[Apple / Google] must not impose any additional frictions or more onerous steps in relation to the use, download or update of any app (or an app store) downloaded on [iOS / Android] devices through a distribution channel other than the [App Store / Play Store], compared to apps (or app stores) downloaded through the [App Store / Play Store]. [Apple / Google] also must not require, mandate or otherwise incentivise other entities to do so, through any technical, contractual, financial or other means. For the avoidance of doubt, this concerns downloading of apps (or app stores) from: (i) a third-party app store; and (ii) from outside a third-party app store (e.g. directly downloading an app from a developer's website).	✓	✓
[Apple / Google] shall not impose, or allow OEMs or carriers to impose, any friction in excess of the friction existing when the user installs an app from the [App Store / Play Store]. [Apple / Google] may not impose more than a single one-tap screen asking in neutral language that the user confirm intent to proceed with the app installation similar to the confirmation displayed when installing apps from the [App Store / Play Store]; if the app being installed is capable of installing further apps (for example, if it is an app store or a web browser), the language may neutrally reference that the app will be able to install additional apps. There will need to be a carve-out to this CR that enables Apple / Google to impose reasonable and proportional additional frictions in relation to downloading of apps/app stores from the web or an app store for (i) apps / app stores whose developers declined to subject their apps/app stores to a generally available, distribution-channel-agnostic notarization-like process, or (ii) apps / app stores are known malware.	✓	✓
[Apple / Google] must take active measures to promote the use of direct downloading. [Apple / Google] must agree such measures with the CMA, in consultation with third-party developers. For the avoidance of doubt, these measures should centre on requiring [Apple / Google] to allow advertising of alternative means of app distribution – even within their own apps.	✓	✓

(v) Advertising - "*Requirements that Apple and Google permit the advertising of alternative app distribution methods on websites and/or within apps listed on the App Store and the Play Store*." (85(a)(v))

- The CMA's proposed interventions are proportionate to achieving the open choices objective. Even if the CMA requires Apple to allow alternative means of app distribution on iOS and forces Google to reduce the current frictions on obtaining apps by alternative means on Android, if users do not know that alternative options exist then they will not use them. Permitting developers to advertise alternative means of app distribution is therefore critical to realise the goal of creating opportunities for growth in native app distribution.

- To be effective, Apple / Google must not be able to enforce existing terms or enter new agreements the effect of which is to prevent or restrict the ability of any company to advertise (i) alternative means of app distribution, such as third-party app stores, or (ii) apps that are distributed via any alternative means of distribution. Similarly, both Apple and Google must be required to allow developers to freely communicate with consumers, including by allowing developers to include links to download or install an app through an alternative app distribution

channel or in an advertisement distributed through apps downloaded from Apple / Google's app store - e.g. an advert within the Instagram app.

- An effective package of CRs in this area should therefore include the following measures:

Proposed CR	**Apple**	**Google**
Apple / Google must not enforce any existing agreements, and must not enter into any new agreements, the effect of which is to prevent or restrict the ability of any company to advertise (i) alternative means of app distribution, such as third-party app stores, or (ii) apps that are distributed via any alternative means of distribution.	✓	✓
[Apple / Google] must not engage in any conduct that restricts developers' ability to communicate in their preferred way with users, or to engage in any conduct that disincentivises developers from doing so. For the avoidance of doubt, this extends to prohibiting developers from including a link to download or install an app through an alternative app distribution channel in an advertisement distributed through the [App Store / Play Store].	✓	✓

(vi) - Permitting alternative payment methods for in-app content - "*Requirements for Apple and Google to permit app developers to use alternative payment methods for in-app content; including within the app or by linking to a separate website*." (85(b)(i))

- The CMA's MEMS Final Report found that if developers were not required to use Apple and Google's payment systems, they could instead choose more bespoke payment solutions which better suited their needs, and the needs of their users, and there would be greater incentives for payment service providers to innovate solutions for in-app payments.[47] The interventions proposed below go no further than necessary to secure the open choices objective. Without a comprehensive package of measures that provides specificity, Apple and Google will find ways of putting up indirect barriers to competition, forestalling the benefits of innovation and enhanced consumer choice (as set out in question 6 above).

- To serve as an effective remedy, intervention must ensure that Apple and Google cannot mandate use of their proprietary payment systems and are not able to impose additional charges on developers for choosing to use an alternative payment system. There should be no more user friction using an alternative payment system than when using Apple or Google's proprietary system. Developers who opt for alternative payment systems must not be required to report to Apple and Google (as suggested in their respective DMA compliance reports). Apple and Google must not be responsible for vetting third-party payment providers, as this will enable them to frustrate attempts to offer alternatives, for example by changing assessment criteria at short notice or by taking excessive time to approve a request (similar to practices which both Apple and Google have employed in the "app review" process prior to making apps available for download).

- Relatedly, there should be no restrictions on developers referring within the app to other ways a user could pay for digital content, such as through a website (i.e. no "anti-steering" rules).

- An effective package of CRs in this area must therefore include the measures listed below. Apple and Google must be required to demonstrate effective compliance with the interventions set out below through KPIs, such as the % of transactions being completed via alternative payment systems.

[47] CMA, MEMS Final Report, 10 June 2022, paragraphs 6.136.

Proposed CR	Apple	Google
Payments		
[Apple / Google] must not oblige developers to use [Apple / Google's] own payment system for in-app payments within apps downloaded through the [App Store / Play Store]. [Apple / Google] must also not oblige developers to use [Apple / Google's] own payment system to execute payments in relation to apps downloaded through third-party app stores.	✓	✓
[Apple / Google] must not be able to impose purported eligibility criteria, or otherwise restrict or limit developers and / or users' ability to freely choose an alternative payment solution.	✓	✓
The use of alternative payment systems should not be subject to any additional steps, or more onerous steps, than the use of [Apple / Google's] payment system.	✓	✓
[Apple / Google] must not impose any charges, fees or commission on app developers, payment service providers or users where payments are made using alternative payment services.	✓	✓
[Apple / Google] must not disadvantage or retaliate against developers if they choose to use or develop an alternative payment system.	✓	✓
[Apple / Google] may not outlaw or ban alternative payment systems or types.	✓	✓
[Apple / Google] must ensure that third-party payment services can interoperate with the OS, the hardware and other apps on the device without frictions and on the same terms as [Apple / Google's] own payment system. [Apple / Google] must publish clear and transparent information on the relevant APIs. [Apple / Google] must offer, free of charge, all APIs and development tools that are necessary for developers to develop high-quality payment services that are competitive with other payment services. [Apple / Google] may not withhold such APIs nor make their availability subject to fees or restrictions. This intervention is also linked to the interoperability interventions above. There is significant interlinkage between [Apple / Google's] operating systems and app distribution.	✓	✓
[Apple / Google] must not require developers to submit reports or other data on transactions made using third-party payment services.	✓	✓
Anti-steering Additional measures will also be needed to ensure that Apple and Google's "anti-steering" rules do not undermine the ability of developers to use a broader range of payment services, including off-app payments such as on websites:		
[Apple / Google] shall not in any way limit, control, or restrict the way in which an app can inform users about out-of-app purchasing options, including by prescribing how the user experience should appear where an alternative payment system is used.	✓	✓
[Apple / Google] must not engage in any conduct restricting developers' ability to steer users to out-of-app payment options, including imposing friction, or engaging in any conduct that disincentivises developers from doing so. In particular, [Apple / Google] must not impose requirements on	✓	✓

Proposed CR	Apple	Google
any out-of-app payment links that make it more difficult for a user to execute a payment out-of-app compared to executing the payment in-app.		
[Apple / Google] shall not restrict, prohibit, impede, disincentivize or deter developers from offering different prices for in-app purchases using Apple / Google's proprietary billing mechanism and out-of-app payment options.	✓	✓
[Apple / Google] shall not impose any fees on transactions made through out-of-payment options to which a user was "steered" by a link within an app.	✓	✓

(vi) Information barriers in Apple / Google - "*Requirements for Apple and Google to ensure they have systems in place to prevent the use of app developers' non-public information for the purpose of their own first-party app development"* (85(b)(ii))

- These measures are proportionate to the fair dealing and trust and transparency aims. Developers might be able to interact with Apple and Google knowing that their non-public information will not be used by either Apple or Google as a means of suppressing competition in another related market.

- The CMA's proposed intervention can only be genuinely effective if it prevents Apple and Google from continuing with their practice of "Sherlocking", by which they leverage non-public data obtained from third-party apps to improve the functionality of their own internal products. For full transparency, Apple and Google must provide any non-public data to users or potential users free of charge, in a manner that is readily available, and in an easily accessible format.

- An effective package of CRs must therefore cover the following:

Proposed CR	Apple	Google
[Apple / Google] cannot share or use any non-public data generated as part of providing the relevant digital activity for the purpose of conducting other activities within the firm (and vice versa). This is subject to the caveat that such non-public data may only be shared internally if [Apple / Google] provides this data to users or potential users free of charge, in a manner that is readily available, and in an easily accessible format. In particular, [Google and Apple] should not share any non-public data between their OS, app store and app development activities. This includes leveraging non-public data obtained from third-party apps to engage in the practice of "Sherlocking".	✓	✓
Non-public data gathered by [Apple / Google] during the app review process must not be used for any other purpose. For the avoidance of doubt, the app review team must be separate from the commercial team working on other aspects of the app store business. In particular, it must not share non-public data with other parts of [Apple / Google], they must not be given any commercial objectives, and their compensation must not be linked to the performance of [Apple / Google's] app store or apps.	✓	✓

(viii) – App review process - *"Requirements for Apple and Google to implement fair and transparent app review processes and to offer fair, reasonable and non-discriminatory access to their app stores."* (85(c)(i)) and "*A requirement to remove any guidelines which arbitrarily ban certain types of apps from mobile app stores*" (85(c)(ii)

- These measures are proportionate to achieving the fair dealing objective and represent the bare minimum that is required to prevent Apple / Google discriminating against certain developers in the iOS and Android ecosystems or preferencing their own apps. Intervention in this area is also necessary for achieving the trust and transparency objective, as intervention will enable developers to make properly informed decisions about whether and how they interact with Apple / Google. For example, if a developer receives a prompt rejection of its app with a clear explanation as to why the app has been rejected, the developer will be able to determine whether it is worth putting the time and effort into re-designing the app in order to re-submit it to Apple / Google for review.

- Measures requiring Apple and Google to implement fair and transparent app review processes and not to arbitrarily ban certain apps will only be effective if (i) there are clear agreed targets and key performance indicators to assess how quickly Apple / Google are reviewing apps; (ii) Apple / Google are obliged to give clear reasons for rejecting an app; and (iii) an independent review or appeal mechanism exists that allows developers to challenge app rejection decisions. Further, Apple and Google's app review criteria must be transparent. Apple / Google should be obliged to give advance notice to the CMA and developers of any material changes to the app review process.

- It will be critical that Apple / Google agree KPIs with the CMA and publish key statistics periodically in relation to their complaints handling process, broken down by app category and disaggregated between first-party and third-party apps. Regular reporting should include data on the appeal process.

- Finally, as explained below, Apple and Google should not be able to conflate app review for their app stores with notarisation review. Developers should have the ability to choose from a number of certified third-party notarisation providers who can notarise their apps. App stores should then be able to review according to policies they set themselves.

- A proportionate and effective package of measures aimed at addressing this issue should include the following requirements:

Proposed CR	**Apple**	**Google**
[Apple / Google's] review criteria must be objective and transparent, and be easily accessible to users. The criteria should be developed in consultation with the CMA and users.	✓	✓
[Apple / Google] must provide advance notice of any changes to the app review process. It must transparently and clearly explain how these changes may impact apps which have already been approved.	✓	✓
[Apple / Google] must apply its app review policies on an objective and non-discriminatory basis. There must be no disparity in the treatment of apps during the app review process unless it is neutral and objectively justified. In order to prove this, [Apple / Google] must collect and publish data and statistics on its app review process, disaggregated between third-party and first-party apps. For the avoidance of doubt, apps developed by [Apple / Google] must be subject to the same app review criteria as third-party apps.	✓	✓
Individual developers may request explanation from [Apple / Google] if their apps are reviewed more slowly than the average for their app category. If a developer requests an explanation from [Apple / Google], [Apple / Google] must provide a reasoned response explaining the delay within 7 working days.	✓	✓

Proposed CR	Apple	Google
[Apple / Google] must provide detailed reasons in a timely fashion for rejecting an app, including clarification of what changes are required for it to pass the app review process.	✓	✓
[Apple / Google] must provide for an independent appeal process in relation to the app review process. Appeal decisions must be issued by an independent panel. The appeal process must allow developers at least seven calendar days from receipt of [Apple / Google's] decision to lodge an appeal against that decision. Once a developer has lodged their appeal, the independent panel must issue its decision within seven days. An appeal of [Apple / Google's] decision can only be dismissed if [Apple / Google] is able to demonstrate that a rejection of the relevant app was strictly necessary on the basis of the objective app review criteria referred to above.	✓	✓
App review must be completed within x business days in y% of cases. These percentage figures should be agreed between the CMA and [Apple / Google] in consultation with developers.	✓	✓

(ix) Transparency in ranking algorithms *"A requirement for Apple and Google to provide greater visibility over the operation of search and ranking algorithms to app developers on their app stores; and a connected requirement to provide fair warning (and explanation) of planned changes to the operation of algorithms, where these are likely to have a material effect on users*" (85(c)(iii)

- These measures are necessary to achieve the trust and transparency and fair dealing objectives. Given Apple and Google's conduct in other jurisdictions of circumventing regulations and adopting deliberately opaque tactics to app review, it is proportionate and necessary to require Apple / Google to provide greater visibility over the operation of their algorithms.

- To be fully effective, app store search and ranking algorithms must operate on a fair, objective and transparent basis and be explainable.

(x) Additional interventions in relation to notarisation providers

- Unless the CMA sets the parameters for competition in this area, Apple and Google will likely use notarisation to retain control over which apps and developers to allow into its ecosystems, undermining the CMA's work to unlock the app distribution market.

- To open competition in this market, the CMA must introduce the following packages of measures:

Proposed CR	Apple	Google
Apple / Google must not implement a "centralised notarisation model" in relation to apps or app stores distributed through alternative channels. For the avoidance of doubt, this means the following: Apple / Google cannot reserve to itself the sole ability to enforce notarisation requirements against apps and app stores distributed through alternative methods. Third-party reviewers must also have the ability to notarise such apps and app stores against a set of agreed criteria. [Apple / Google] cannot unilaterally impose any requirements or eligibility criteria for third-party apps or app stores to be distributed through alternative app distribution methods, unless the same	✓	✓

Proposed CR	Apple	Google
requirements / eligibility criteria are imposed on apps distributed through the SMS firm's app stores. Any criteria for notarisation must be agreed in collaboration with the CMA and / or the industry participants.		
[Apple / Google] should publish data that enables transparent appraisal of their own security checks. This should include data on takedown rates, false positive rates, and average time taken to review. This data should enable comparison with relevant industry standards and third-party notarising entities.	✓	✓
[Apple / Google] must not prevent third-party notarising entities from conducting security checks instead of [Apple / Google's] on-device security measures, including for [Apple / Google's] own app store and app distribution, so long as that notarising entity meets all relevant security regulation requirements. Developers using alternative app distribution channels and operators of third-party app stores will be free to choose from the list of accredited third-party notarising entities.	✓	✓
[Apple / Google] should not be able to charge any fee or introduce any friction that hinders the functioning of any third-party security provider, as long as that notarising entity meets all relevant security regulation requirements.	✓	✓
[Apple / Google] may only carry out review of a third-party app store if it is to be distributed through the [Apple App Store / Google Play Store]. For completeness, this should not extend to the review of apps distributed through the third-party app store.	✓	✓
[Apple / Google] must not set app review standards that third-party app stores distributed on [iOS / Android] devices must use or adhere to.	✓	✓
[Apple / Google] must allow operators of third-party app stores to conduct their own app review (without prejudice to a third-party app store operator's ability to out-source its app review process to a third-party).	✓	✓