



# Google's Response to the CMA's Consultation on Its Proposed Market Investigation in Mobile Browsers And Cloud Gaming

July 22, 2022

## I. Introduction

1. Google welcomes the opportunity to respond to the CMA's consultation on the proposed market investigation reference in respect of mobile browsers and cloud gaming ("**Consultation**").
2. Our mobile platform, Android, offers users and businesses more choice than any other platform. Android's openness means users can customize their devices to suit their needs, including installing different browsers, search engines, cloud gaming apps, and app stores, and changing their default settings. Businesses, including device manufacturers, carriers, and developers, in turn benefit from myriad opportunities to reach users.
3. Following its extensive market study into mobile ecosystems, the CMA proposes to investigate certain issues relating to browsers and cloud gaming further through an in-depth market investigation. We think a market investigation could have a positive impact on the distribution of mobile browsers and cloud gaming apps in circumstances where there is reliable evidence of features giving rise to adverse effects on competition ("**AEC**") and where appropriate remedies are available.
4. As explained below, however, the issues the CMA identifies with respect to Android do not satisfy these criteria. In particular:
  - The main concerns identified by the CMA in the Consultation, including the requirement to use Apple's WebKit browser engine on iOS and Apple's App Store restrictions on cloud gaming, do not arise on Android (**Section II**).
  - There is, by contrast, scant evidence of a plausible AEC in browsers or cloud gaming on Android, even for the narrow set of concerns that are said to arise across ecosystems (in particular, pre-installation and defaults, third-party access to functionality, and web compatibility) (**Section III**). Indeed, the CMA's extensive market study identified no concrete evidence in support of its concerns.
  - Finally, even if the CMA takes the view that there are plausible AECs, a market investigation is not the most effective forum for exploring the potential changes to the Android ecosystem contemplated by the Consultation (**Section IV**):

- First, the potential remedies the CMA identifies that could apply to Android would require rigorous testing, monitoring, and updating, and are therefore not well suited to the market investigation tool.
- Second, as the CMA notes, the main objective of the market study was “to inform the establishment and development of the proposed new pro-competition regime for digital markets in the UK.”<sup>1</sup> Issues such as defaults and pre-installation -- for all categories of apps, not just browsers -- are better suited for iterative engagement between industry and the Digital Markets Unit (“DMU”) in advance of the future digital regulatory regime.

5. In our view, any market investigation should have a clear focus on areas where the evidence demonstrates that there are plausible AECs that are addressable via available and appropriate remedies.

## II. The Main Issues Identified in the Consultation Are Not Present on Google’s Ecosystem

6. The CMA’s primary concerns in relation to mobile browser and cloud gaming competition appear to stem from Apple’s ban on alternative browser engines on iOS and its App Store restrictions on cloud gaming. These issues do not arise on Android.

- **We support competition between browser engines.** Browser developers on Android can use the browser engine that best suits their needs. In 2013, we released Blink under an open source license to spur innovation on the open web.<sup>2</sup> We have invested more in Blink than our competitors have in their browser engines, as the CMA recognizes.<sup>3</sup> This is reflected in, for example, the greater support for web apps on Blink-based browsers.

We do not impose any rules or restrictions on browsers using alternative browser engines, such as Gecko or WebKit. Our practices and the operation of the Android ecosystem enable browser diversity and foster competition between browsers. They cannot therefore contribute to the restrictions on browser engine competition identified as a potential AEC in the Final Report and Consultation. The CMA finds that there is a “strong case” for allowing other browser engines on iOS.<sup>4</sup> This would be consistent with the approach in the EEA, where the upcoming Digital Markets Act will prohibit gatekeepers from requiring browsers to use the browser engine of that gatekeeper.

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<sup>1</sup> CMA’s interim report in the mobile ecosystems market study (December 14, 2021) (“**Interim Report**”), ¶9.9.

<sup>2</sup> CMA’s final report in the mobile ecosystems market study (June 10, 2022) (“**Final Report**”), ¶5.19 (recognizing that this is “supported by Google’s internal communications”).

<sup>3</sup> Final Report, ¶5.55.

<sup>4</sup> Final Report, ¶8.125.

- **We promote cloud gaming on Android.** We facilitate the distribution of cloud gaming apps on Android.<sup>5</sup> Play admits cloud gaming apps, which developers can make available for download, while Blink facilitates sophisticated cloud gaming experiences through browsers. The adoption of cloud gaming on Android has therefore been much faster than on rival mobile platforms. The CMA found, for example, that there were 10 times as many monthly active users of cloud gaming services on Android phones than on iOS worldwide.<sup>6</sup> The CMA’s concerns therefore do not apply to Android.

7. For completeness, we note that the CMA proposes investigating revenue sharing agreements between Google and Apple which allegedly “dampen” incentives for competition between browsers on iOS. We disagree with this characterization and consider instead that the agreements promote competition between browsers on iOS. The CMA did not identify a clear AEC during the market study.

**III. Other Issues Identified in the Consultation Are Not Features of Google’s Ecosystem Capable of Giving Rise to an AEC**

8. The CMA identifies the following other suspected “*barriers to competition*” in browsers that are said to arise on Android (in addition to iOS): native apps’ use of in-app browsers, pre-installation and defaults, restrictions on access to functionality for third-party browsers, and web compatibility.<sup>7</sup> None of these features are capable of contributing, alone or in combination, to an AEC in the Android ecosystem.

**A. Google Promotes Browser Developer Choice for In-App Browsers**

9. In-app browsing is an important aspect of users’ interactions with their mobile devices. Developers incorporate in-app browsing technology into their apps so that users can seamlessly navigate to and explore web pages from within native apps. Developers can customize the look-and-feel of the in-app browsing experience to align with their apps’ interfaces and can adapt the browsing experience to suit their needs.

10. The CMA expressed concerns that the way Apple and Google are facilitating in-app browsers on their respective platforms reinforces the positions of WebKit and Blink respectively.<sup>8</sup> But the CMA found that we already support browser engine choice for in-app browsers. Its concern -- based on the observations of a single

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<sup>5</sup> Consultation, ¶1.23 (recognizing that cloud gaming apps are “*permitted on Android devices and Google’s app store.*”).

<sup>6</sup> Final Report, ¶6.234

<sup>7</sup> Consultation, ¶1.8.

<sup>8</sup> Final Report, ¶5.84.

third-party -- is that “default settings make it difficult to use a browser engine other than Blink.”<sup>9</sup>

11. This concern, with respect to Android, is misplaced.
  12. A critical part of our role as sponsor of the Android ecosystem is to maintain its attractiveness to developers -- big and small -- by providing easy access to software development kits, libraries, and application programming interfaces (“APIs”) that developers can incorporate into their apps. It is doubtful that these tools can properly be characterized as “defaults” -- or at least, defaults of the type that can give rise to inertia bias. We enable developers to use alternatives, and developers -- which are technically and commercially sophisticated parties -- can be expected to make a conscious choice of the tools that best meet their needs.
  13. In any event, the tools that we provide are a necessary feature of a successful app development platform. This is especially true of foundational app features like in-app browsing. Having a consistent set of basic tools for developers to use makes app development easier, encourages less sophisticated developers to create apps, and facilitates cross-platform development tools like Flutter and React Native. Without these tools, barriers to entry for app developers would increase.
  14. However, we allow app developers to incorporate a different in-app browsing technology if they choose to.<sup>10</sup> Well-known alternatives that developers may implement include Custom Tabs (which typically launches users’ chosen default browser<sup>11</sup>) and GeckoView.<sup>12</sup> It is open to developers to decide which technology to use and, as the Final Report recognizes, there are “advantages to allowing developers to choose the in-app browser implementation.”<sup>13</sup>
  15. The browser engine choice that Android affords app developers promotes competition and is not a feature capable of giving rise to an AEC that warrants further investigation.
- B. Google’s Open Distribution Model Creates Unparalleled Competitive Opportunities for Browsers on Android**
16. The CMA recognizes that “[t]he convenience associated with pre-installation and defaults can bring real benefits” to users, such as an immediate “out of the box”

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<sup>9</sup> Final Report, ¶5.83, fn. 445.

<sup>10</sup> Final Report, ¶5.83.

<sup>11</sup> In-app browsing implementations that use Custom Tabs will use the user’s default browser where (i) the user’s default browser supports Custom Tabs, and (ii) the app developer has not directed the link to open in a specific browser or app.

<sup>12</sup> See, e.g., Arturo Mejia, [Raywenderlich.com, Android Tutorial for GeckoView: Getting Started](https://raywenderlich.com/android/tutorial-for-geckoview-getting-started) (July 29, 2019).

<sup>13</sup> Final Report, ¶5.85.

experience.<sup>14</sup> This is important to consumers and provides opportunities for device manufacturers to differentiate their smartphones through the apps they pre-install and set as default. The CMA is concerned, however, that pre-installation and default settings are maximizing the use of Apple's and Google's own browsers on their respective ecosystems.<sup>15</sup>

17. Again, though, these concerns do not apply to the Android ecosystem. Manufacturers producing Android devices choose which browsers to pre-install and set as default. As a result of the unparalleled choice and flexibility Android affords to device manufacturers, developers, and users, browser competition on Android is thriving. In particular:

- **Pre-installation of Chrome on Android is optional and non-exclusive.** Following the European Commission's 2018 *Google Android* decision we no longer require device manufacturers to pre-install Chrome if they want to pre-install Play and the Google Search app on their devices. Even when device manufacturers choose to pre-install Chrome, they can and do pre-install other browsers too, and promote them to users through prominent placement and default setting. As the CMA acknowledges, over half of Android devices in the UK in 2021 came with a third-party browser (Samsung Internet) pre-installed and set as default.<sup>16</sup> Chrome, on the other hand, was set as default on only [10-20]% of Android devices.<sup>17</sup>
- **Browser choice screens on Android further enhance competition.** On UK Android devices, we show a choice screen for browsers to users the first time they open Play, which enables them to download additional browsers to those that are pre-installed. These choice screens give browser developers an additional, free opportunity to promote their apps to users. Our choice screens were developed in consultation with the European Commission and have proven to be effective: rivals have been downloaded millions of times through the Play choice screen.
- **Android users have multiple opportunities to switch default browsers.** Users can change their default browser with ease on Android in the settings menu. Further, as the CMA recognizes, browsers on Android can and do use prompts to encourage users to switch defaults.<sup>18</sup> According to the Final Report, Brave told the CMA that the ability to prompt users to switch defaults in this way can improve competition.<sup>19</sup> And evidence shows that users engage with defaults on Android. According to the CMA, Chrome has a share of supply of browsers on Android of 74%, but, as mentioned above,

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<sup>14</sup> Final Report, ¶¶6.74.

<sup>15</sup> Consultation, ¶¶1.28

<sup>16</sup> Final Report, ¶¶5.95.

<sup>17</sup> Final Report, ¶¶5.94.

<sup>18</sup> Final Report, Appendix G, ¶¶56.

<sup>19</sup> Final Report, Appendix G, ¶¶26.

was set as default on only [10-20]% of Android devices in 2021.<sup>20</sup> Therefore, to the extent Chrome is popular on Android and iOS, this reflects competition on the merits and users exercising their freedom to select their preferred browser irrespective of the default.<sup>21</sup>

18. Healthy browser competition on Android is borne out by the evidence the CMA gathered during its market study. According to the CMA's calculations, the usage of non-Chrome browsers on Android accounts for more than double the usage of non-Safari browsers on iOS.<sup>22</sup>

19. Far from restricting competition, our choice-enhancing model is extraordinarily *pro-competitive*. Android users benefit from at least one -- but usually more -- high quality browsers out of the box. For device manufacturers, selling pre-installation and defaults allows them to monetize the screen space on their devices. This, in turn, allows them to invest more in their devices and pass on lower prices to consumers. And for app developers, pre-installation and defaults provide promotional opportunities to gain initial or continued exposure to users.

### C. Third-Party Browsers Already Have Access to All Necessary Functionality on Android

20. In its Final Report, the CMA found that "*there are a large variety of functionalities that exist in Safari but that are not available to other browsers on iOS*".<sup>23</sup> At least some of these functionalities are "*significant*", and, according to the CMA, rival browsers' inability to access them impacts their ability to compete with Safari.

21. The CMA did not repeat these concerns in relation to Android. Android, by its very nature, is open and accessible by all Android developers. According to the Final Report, Samsung and Brave told the CMA that there are "*no major features that are available on Chrome which are not available to their own browsers on Android*".<sup>24</sup> Following a detailed year-long investigation, the CMA concluded in its Final Report that it has "*not identified examples where there would be material benefits should Google be required provide to [sic] additional functionality to third-party browsers or browser engines*".<sup>25</sup> It would not therefore be appropriate or proportionate to investigate this issue further.

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<sup>20</sup> Final Report, ¶5.94.

<sup>21</sup> The CMA recognized, for example, that "*many browser vendors ranked Chrome as the fastest browser, and this is consistent with the results of a consumer survey commissioned by the Australian Competition and Consumer Commission*." See Final Report, ¶5.38.

<sup>22</sup> Final Report, ¶5.30, Table 5.2.

<sup>23</sup> Final Report, ¶5.111.

<sup>24</sup> Final Report, ¶5.113. For completeness, the CMA described specific concerns expressed by certain third parties in its Interim Report, repeated in the Final Report at ¶¶5.114-115. We responded to these concerns during the second half of the market study.

<sup>25</sup> Final Report, ¶8.132.

#### D. Web Compatibility Issues Do Not Contribute to an AEC

22. The CMA suggests that web incompatibility (i.e., website developers incorporating features into their websites that work only on particular browsers or browser engines) may limit browser or browser engine competition on Android. The concern appears to be that browser developers' desire to ensure compatibility "*reduces the scope for differentiation and competition between browsers on Android.*"<sup>26</sup> However, this concern is not substantiated.
23. The CMA does not identify any examples of a browser developer wishing to use an alternative browser engine but facing web compatibility issues. Meanwhile, there are many examples of third-parties securing modifications to Blink and/or making changes at the browser level in order to differentiate their service, without running into web compatibility issues. The decision-making authority for Blink (referred to as "Blink API Owners"<sup>27</sup>) currently comprises individuals from both Google and other parties, while the Blink launch process allows for third-party browser vendors to secure modifications *within* Blink for the benefit of their own browser. For example, a Storage Access API was approved and launched in Blink to enable Microsoft's Edge browser to support this feature, even though Chrome currently does not.<sup>28</sup>
24. The CMA's concerns may also relate to the feedback it has heard that "*the pace and nature of Google's developments have made it difficult for other browser vendors to maintain compatibility.*"<sup>29</sup> However, consumers should not be deprived of our improvements to Chrome/Blink as a result of other browsers/browser engines lagging behind. In fact, we have also made significant contributions towards other browser engines (e.g., WebKit), to improve web compatibility. To the extent browser developers choose to use Blink as their browser engine, this reflects competition on the merits, and our extensive investments in maintaining Blink. It would harm innovation in browsers and browser engines to interfere with browsers' choices to switch to or continue to use the most innovative and feature-rich browser engine.
25. Concerns relating to web compatibility on Android are unsupported by the evidence. Given the broad range of other more developed issues in the Consultation, the CMA should not provide the Inquiry Group with a steer to focus on this issue.

#### IV. The Remedies the CMA Is Considering With Respect to Android Are Not Well-Suited to a Market Investigation

26. The remedies contemplated by the Consultation in respect of the Android ecosystem are inappropriate for consideration as part of a market investigation, for the reasons set out below.

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<sup>26</sup> Final Report, ¶5.79.

<sup>27</sup> See The Chromium Projects, [Blink API owner requirements](#) (accessed July 20, 2022).

<sup>28</sup> See further Microsoft, [Introducing the Storage Access API](#) (July 8, 2020).

<sup>29</sup> Final Report, ¶5.34.

A. Choice Architecture Remedies Should Be Developed Iteratively and Applied Consistently

27. The CMA has proposed potential choice architecture remedies to resolve concerns regarding pre-installation and defaults on Android and iOS. These proposals include “requirements that make it more straightforward for users to change the default browser within their device settings,” as well as “choice screens to overcome the distortive effects of pre-installation.”<sup>30</sup> For the following reasons, these remedies are not well suited for consideration or implementation in the context of a market investigation. They should, if taken forward, be the subject of iterative and collaborative discussions between industry and the DMU.
28. First, choice architecture remedies would require careful design, testing, and monitoring, with significant participation from the firms they are applied to as well as third parties:
- The CMA recognizes that effective choice architecture requires user testing, including to ensure that users comprehend the interfaces they interact with. For example, the CMA states in the Final Report that “research and user testing... is important in assessing user understanding of [Apple’s App Tracking Transparency] prompts and their design and making sure they are optimised for their comprehension.”<sup>31</sup> The DMU will have the appropriate range of information gathering tools to achieve this, including the express ability to run trials (such as A/B testing).<sup>32</sup>
  - The CMA will also need to engage in an open dialogue with relevant market participants. As the CMA recognized in its Interim Report, the “advantage of adopting a more iterative approach to remedy implementation is that the effectiveness of remedies may be uncertain, particularly in digital markets where users’ decision making can be easily influenced by design choices. It may be preferable to monitor the effectiveness of particular remedies prior to implementing further, related interventions.”<sup>33</sup>
  - The effectiveness of choice architecture is also likely to change quickly over time, for example as the design of processes, interfaces, and devices evolve. The CMA acknowledges that its current powers “can be too slow for fast-moving digital markets”.<sup>34</sup> Market investigations are not well suited to dynamic markets where interventions may need to be frequently amended to reflect developments. This was a key factor in the CMA’s decision not to make a market investigation reference when it concluded its online platforms

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<sup>30</sup> Consultation, ¶2.37.

<sup>31</sup> Final Report, ¶6.193.

<sup>32</sup> HM Government, [Government response to the consultation on a new pro-competition regime for digital markets](#) (May 2022), ¶100.

<sup>33</sup> Interim Report, ¶7.117.

<sup>34</sup> Final Report, ¶10.10.



and digital advertising market study and to instead make a recommendation for establishing the DMU.<sup>35</sup>

29. Second, the CMA should take a consistent approach across app categories and platforms:

- The CMA states that a market investigation reference may be appropriate where “*other forms of intervention by the Government or regulatory body might have to be too tightly focused to benefit the overall operation of the market.*”<sup>36</sup> Here, the opposite is true: the CMA is considering the implementation of broad default switching and choice screen remedies across a range of app categories, including browsers, in the context of the new regulatory regime.<sup>37</sup> It is more appropriate to consider potential choice architecture interventions in respect of *browsers* at the same time as considering these potential interventions for *other* app categories, *i.e.*, as part of the new regime as the CMA proposes in its Final Report.<sup>38</sup> Examining whether such remedies are necessary or proportionate as part of a market investigation -- when the CMA intends to consider them for a range of apps as part of the new regime anyway -- is unnecessary and disproportionate.
- The same options relating to browser choice architecture on mobile also apply to desktop and warrant consistent treatment. There is a risk of incoherence if remedies are imposed on mobile ecosystems but not, for example, Windows PCs or Mac. This is especially relevant as users can and do sync their browsers across mobile and desktop devices.

30. In sum, a market investigation is not the correct forum for the CMA to explore nuanced choice architecture issues, which would be much better addressed through bilateral engagement with the DMU in advance of the new regulatory regime, taking into account similar rules in other jurisdictions.

#### **B. Mandating Interoperability With Third-Party Browsers Is Unsuitable for the Market Investigation**

31. The CMA has not identified a competition issue on Android in relation to the restriction of access of third-party browsers to functionalities and APIs. Nonetheless, in its Consultation the CMA proposes a potential remedy that would require Apple *and* Google to “*provide equal access to functionality through APIs for rival browsers.*”<sup>39</sup> This mismatch demonstrates the inappropriateness of exploring this issue through a market investigation. It is not appropriate, in the context of a

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<sup>35</sup> CMA’s final report in the online platforms and digital advertising market study (July 1, 2020), ¶¶72-73.

<sup>36</sup> Competition Commission, Guidelines for market investigations: Their role, procedures, assessment and remedies, CC3 (Revised) (April 2013), ¶24.

<sup>37</sup> Final Report, ¶¶8.173-174. Other examples include email or news services.

<sup>38</sup> Final Report, Table 8.1.

<sup>39</sup> Consultation, ¶2.37.

market investigation, to impose a remedy on a party that does not engage in conduct found to give rise to an AEC.

32. In addition, in its Final Report the CMA proposed that, “*within the pro-competitive regime*” Apple and Google could be subject to a “*requirement to provide equitable access to functionality and APIs for third-party app developers competing with Apple and Google’s own products and services within their respective ecosystems.*”<sup>40</sup> This would apply to *all* third-party apps, not just browsers. Android, by its open-source nature, is accessible by all developers. If, however, the CMA decides that further work to understand the need for a requirement for equal interoperability between mobile platforms and third-party apps *generally* is necessary, it would make sense for any *browser-specific* requirements to form part of that process and discussion, rather than a market investigation.

### C. Web Compatibility Remedies Would Require Ongoing Updates and Monitoring

33. As explained in **Section III.D** above, it is not appropriate for the CMA to launch an investigation in relation to a concern that is unclear and unsubstantiated.
34. Even if web compatibility were an issue justifying intervention, though, a remedy in this area would likely require ongoing updates and monitoring. Web compatibility is managed through evolving open standards, where we already invest considerably. Novel browser engine and browser capabilities are introduced frequently and we work hard to ensure that we are solving the right problems in the right way, by engaging stakeholders throughout the design, standardization, and implementation process. Interfering with the existing process of launching new features risks upsetting the finely struck balance between innovation, launching user-friendly features quickly, and maximizing stakeholder participation in the standardization process to improve web compatibility.
35. Any remedy would therefore be complex, require constant monitoring, and need to remain flexible. As explained above, market investigations are not as effective in dynamic markets where interventions of this sort may need to be frequently amended to reflect developments.

### V. Conclusion

36. The choice and openness at the heart of the Android ecosystem has had an undeniable and enduring positive impact on users, developers, device manufacturers, and users in the UK.
37. Successful market investigations result in clear remedies, targeted at well-defined features of a market with strong evidence of their adverse effect on competition. To the extent the CMA decides that the reference test is met, we encourage the CMA to give the Inquiry Group a strong steer to focus its attention on specific issues that are supported by clear evidence and are best suited to the processes and remedies that a market investigation provides.

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<sup>40</sup> Final Report, ¶8.169.