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LET'S TALK ABOUT ANDROID – OBSERVATIONS ON COMPETITION IN THE FIELD OF MOBILE OPERATING SYSTEMS

In the past years, several competition authorities have taken a closer look at Google's business practices after complaints filed by Google's competitors or organisations, which are affiliated to its competitors, like FairSearch.

In January 2013, the US Federal Trade Commission (FTC) closed its antitrust investigations against Google by way of a settlement in which Google voluntarily agreed to offer so-called "vertical" websites that focus on specific categories such as shopping or travel to opt out of display of their content on Google's own vertical services.[1] However, the FTC Commissioners unanimously dismissed allegations of a "search bias". The FTC also rejected complaints that Google was tying products illegally to its Android operating system or tying such products illegally to each other.[2]

In July 2013, the South Korean Fair Trade Commission (KFTC), one of the leading Asian competition authorities, dropped antitrust investigations against Google, which had been initiated upon complaints of two Korean search engine operators (NHN and Daum). These competitors claimed that Google abused a dominant position in smartphones running Google's mobile operating system Android in South Korea. Google, however, does not manufacture smartphones, but offers the mobile operating system Android as open source code to original equipment manufacturers (OEMs). [3] Android can be used by any third party free of charge, as many OEMs do. The competitors accused Google of excluding competing search applications (apps) from Android smartphones on the basis of its "Mobile Application Distribution Agreements" (MADA) with OEMs like Samsung or HTC. The investigations against Google lasted more than two years. Finally, the KFTC came to the conclusion that there was no abuse. OEMs who signed the MADA underscored that they preloaded Google Search because of their own needs and that they remained free to preload

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[1] Google also voluntarily agreed to make it easier to move advertising campaigns across competing ad platforms, and not to seek injunctions to block rivals from using standard essential patents to key technologies. For a closer look at the relationship of SEP and competition law see *Körber*, Standard Essential Patents, FRAND Commitments and Competition Law, 2013, ISBN 978-3-8487-0429-3 (expert opinion for Apple).

[2] See http://www.ftc.gov/opa/2013/01/google.shtm; http://www.ftc.gov/news-events/press-releases/2013/01/google-agrees-change-its-business-practices-resolve-ftc: *"The FTC also conducted an extensive investigation into allegations that Google biased its search results to disadvantage certain vertical websites; and that Google entered into anticompetitive exclusive agreements for the distribution of Google Search on both desktop and in the mobile arena. The agency decided not to take action in connection with these allegations"*; http://www.ftc.gov/sites/default/files/attachments/press-releases/google-agrees-change-its-business-practices-resolve-ftc-competition-concerns-markets-devices-smart/130103googlesearchohlhausenstmt.pdf.

[3] See https://source.android.com/.

competing search or other apps. Likewise, users could easily download search apps or other apps, and they could easily change the relevant default settings. In spite of the high market share of Android phones (based on smartphone sales) the competing South Korean search engines enjoyed a stable combined market share of about 90 % compared to a share of merely 10 % for Google Search. The South Korean competition authority, therefore, concluded that the MADA did not disadvantage competing search engines in any relevant way.[4]

Both issues, the allegation of a "search bias"[5] as well as the allegation of abusive behaviour in connection with the Android operating system (OS), have also been presented to the European Commission. The Commission opened formal proceedings on the search-related complaint by *Foundem and others* on November 30, 2010. In contrast to the US FTC, the European Commission expressed preliminary competitive concerns relating to the placement of Google Search results. These proceedings are likely to be completed in the near future as Commissioner *Almunia* and Google have agreed on commitments under Article 9 Regulation 1/2003 on February 5, 2014.[6]

However, after the European Commission had received anonymous complaints containing similar allegations in 2012,[7] the anti-Google lobbying group FairSearch[8] openly filed an Android-related complaint against Google in March 2013. FairSearch claims that Google abuses its dominant position in the market for mobile OS by licensing Android free of charge in order to monopolize "the whole mobile marketplace". It further accuses Google of foreclosing competing app developers by tying the Google apps and forcing the "Google Mobile Applications Suite" on OEMs and users.[9] The allegations concerning the MADA closely resemble those made in the investigations in the US and in South Korea in which US FTC and KFTC expressly rejected very similar complaints and cleared Google of these accusations.

Nevertheless, the European Commission is pressed hard to formally open proceedings against Google with respect to Android. For example, in a paper named "Secret Ties in Google's "Open" Android" *Ben Edelman*, an associate professor at the Harvard Business School who serves as a consultant for various companies that compete

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4 Decision 2013 Seo-Gam 1025 (not yet published); see http://www.pcworld.idg.com.au/article/521393/ korea drops antitrust investigation against google /. *Edelman* who refers to this case and carefully reiterates the *accusations* against Google, unfortunately omits that these accusations were *rejected* by the KFTC, see Leveraging Market Power through Tying and Bundling: Does Google Behave Anti-Competitively?, Working Paper, 14-112, May 12, 2014, http://ssrn.com/abstract=2436940, at page 55.

5 Covering these investigations e.g. *Körber*, Google im Fokus des Kartellrechts, WRP 2012, 761 (in German) and *Körber*, Internet search engines and competition law, JIPLAP 2014, 517 = http://jiplp.oxfordjournals.org/cgi/reprint/jpu056?ijkey=aejmlUzxPjmgThk&keytype=ref.

6 COMM., 5. 2. 2014, Case COMP/C-3/39.740 – *Foundem and others*; http://europa.eu/ rapid/press-release IP-14-116 en.htm; see also Körber, Internet search engines and competition law, JIPLAP 2014, 517 (link in Fn. 5 above).

7 Compare http://www.reuters.com/article/2012/05/21/us-eu-google-idUSBRE84K0GJ20120521.

8 FairSearch represents a group of 17 specialized search and technology companies, of which only Microsoft/Nokia actually competes with Google in the field of mobile OS. Therefore, some commentators have named FairSearch a "Trojan Horse" of Microsoft, see e.g. http://www. computerworld.com/s/article/9238267/Microsoft not fooling anyone by using FairSearch front in antitrust complaint against Google.

9 See https://www.fairsearch.org/mobile/fairsearch-announces-complaint-in-eu-on-googles-anti-competitive-mobile-strategy/.

with Google, presents outtakes from a MADA-document. Focussing on contractual requirements that oblige OEMs to preinstall a whole suite of apps if they want to preinstall some Google apps like Play or Maps, *Edelman* claims that Android is not really "open source" and that Google by imposing these obligations on OEMs harms competitors, competition and consumers alike.[10] As we will see, this is not only a quite one-sided point of view, but also a rather misleading one.

In the course of this paper, I will take a closer look at the FairSearch allegations. I will do so based on EU competition law and under special consideration of the European Commission's *Microsoft tying cases*, which (only) at the first glance seem to cover similar issues. However, the arguments put forward in this paper are valid for the US debate as well because the scope of the provisions against the abuse of power (Article 102 TFEU in Europe, Section 2 Sherman Act in the US) is very similar, even though their wording is different and the European Commission sometimes takes a somewhat stricter position when applying competition law than DoJ, FTC or US courts.

10 See http://www.benedelman.org/news/021314-1.html (Feb 13, 2014).

A. Economic and Legal Background

I. Google's Business Model

The traditional business model of the software industry is to license software for a one-time fee or based on a subscription model. However, this is not the only way to draw revenue. Other undertakings offer goods or services at a zero price, i.e. without charging the consumers a direct fee (e.g. free newspapers, free TV services, free credit card services). As there is "no free lunch in the business world", these undertakings must seek their remuneration elsewhere. Zero pricing is possible without losing money because these undertakings do not operate on traditional bilateral markets, but on two- or multisided markets in which they face two groups of business partners. There is one group that determines the demand (usually the consumers) and another group that indirectly pays the consideration (e.g. advertisers). Suppliers of free newspapers or free TV services, for example, receive their remuneration from advertisers who pay a fee that is calculated according to the number of readers or viewers. In the digital economy of the internet, "free"[11] services that are offered in two- or multi-sided environments are not the exception, but the rule. Consumer communications services like Skype,[12] eMail services like Outlook.com or Gmail as well as search engine services like Bing or Google Search are just some prominent examples.

While Google's competitors make their money primarily by the sale of devices (Apple, RIM) or commercial licensing (Microsoft),[13] Google offers free services to the consumers (like Search, Maps or YouTube), but draws revenue primarily from business partners on the other side of the market for (regularly search related) online advertising or brokering online advertising.[14] In the context of Google's business model, Google Search and specialised Google services or apps like Maps or YouTube are tools to attract the attention of the consumers, and thereby, draw revenue from the advertising clients. In order to maintain and increase attention on the consumer side of the market – and thereby secure profits on the advertising side – it is essential for Google to create a large customer base (like it is essential for a TV service provider to attract as many viewers as possible). By licensing Android and Google apps for free, Google makes it possible for device manufacturers to offer Android devices at lower prices. This gives more people access to mobile devices. The more people own mobile devices, the more use the internet and have a chance to choose Google's search and other services. More use of those services means more advertising revenue. Google's business behaviour insofar resembles the business model of suppliers of free TV services or free advertising newspaper services that also rely on zero pricing. Obviously, zero pricing to the consumers is a feasible and widely accepted way to achieve this business objective. Therefore in *Google/MMI,* the Europe-

11 It could be argued that the consumers pay a non-monetary price in the form of personal data.

12 See e.g. COMM., 7. 10. 2011, COMP/M.6281 – *Microsoft/Skype*, at paragraph 75.

13 See http://bgr.com/2014/02/06/apple-google-microsoft-revenue-sources/.

14 This description is simplified. Google's business model is in fact more complex and diverse. Google draws revenue not only from search, but from several other sources (e.g. the sale of app or in-app advertising, see e.g. http://www.google.de/ads/admob/). According to COMM., 13. 2. 2012, Case COMP/M.6381 – *Google/MMI*, at paragraph 88, in 2010, Google derived approximately 96 % of its revenue from online advertising.

an Commission considered *"it highly likely that Google will continue to ensure that Android is distributed as widely as possible in order to maximise the adoption of Google's mobile search and advertising services and thereby Google's mobile search and advertising revenues"*.[15]

II. Contractual Framework of the Android Mobile Operating System

1. Android License Agreement

Android is an open source mobile OS which is based on a Linux kernel. It is primarily designed for smartphones and tablet computers. Android was initially developed by Android, Inc., a company that Google acquired in 2005. Google introduced the first version of its Android OS to the market in 2007.[16] Google offers Android to OEMs on a royalty-free basis. The licensees are free to download, distribute and even modify the Android code as they like.[17] OEMs can create mobile devices that run "pure" Android (comparably to Google's own Nexus smartphones and tablets) or they can apply their own user interfaces (UI) and thereby hide most of the underlying Android system (e.g. Samsung's "TouchWiz" or HTC's "Sense"). OEMs make ample use of this option.[18] Furthermore, OEMs can choose whether to install Android with or without preloading Google apps. Google apps like the Google Maps app or the YouTube app are not part of the Android OS, neither technically nor contractually. Google licenses them separately from the Android OS.[19] Making use of this freedom of choice, Amazon, Nokia and other OEMs decided to create mobile devices that are overall compatible with Android applications (both from Google and other app developers), but come without Google apps, i.e. Amazon Fire devices, Nokia X smartphones or CyanogenMod smartphones,[20] which run "forked" versions of Android. The Android license even allows the creation of forked versions like Nook OS (by Barnes & Noble) or Yi OS (by Baidu), which may not be fully Android compatible.

Although Google does not charge any license fees, Android is not an entirely free OS due to certain hardware-related non-free driver libraries for which the patent holders charge OEMs royalties.[21] Likewise, Microsoft claims to hold patents on certain Android technologies[22] and therefore has negotiated patent license agreements with some Android OEMs that cover about 50 % of the Android devices.[23] In the US, Mi-

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15 COMM., 13. 2. 2012, Case COMP/M.6381 – *Google/MMI*, at paragraph 93.

16 See http://en.wikipedia.org/wiki/Android_%28operating_system%29.

17 Android is primarily licensed under an Apache 2.0 open-source license; see COMM., 13. 2. 2012, Case COMP/M.6381 – *Google/MMI*, at paragraph 18.

18 For example, Samsung's TouchWiz clearly dominates hiding most of the underlying Android, and the 180 page manual to the Samsung Note 3 smartphone mentions "Android" only five times, and always as part of the expression "Android Beam".

19 See http://source.android.com/faqs.html#why-is-google-in-charge-of-android.

20 See http://wiki.cyanogenmod.org.

21 See http://www.theguardian.com/technology/2011/sep/19/android-free-software-stallman and, clarifying, http://stallman.org/to-4chan.html.

22 A list of these patents was revealed in the course of Chinese antitrust proceedings against Microsoft see http://images.mofcom.gov.cn/pep/201404/20140408143159274.docx (patent list) and http://www.theverge.com/2014/6/16/5813710/microsoft-android-patents-list (report).

23 See http://www.zdnet.com/microsofts-most-profitable-mobile-operating-system-android-7000015094/ and http://arstechnica.com/information-technology/2011/10/microsoft-collects-license-fees-on-50-of-android-devices-tells-google-to-wake-up/.

crosoft sued Barnes & Noble for alleged patent violations resulting from the use of Android in its Nook tablets. Barnes & Noble, in turn, asked the Department of Justice to take action against Microsoft in 2011. Barnes & Noble underscored that *"Microsoft's willingness to bully small players with expensive litigation raises a substantial barrier to entry"* because only big companies can afford to pay the license fees.[24] Google, in stark contrast to Microsoft, has never asked for or received any consideration for licensing Android since it has released the first version of Android in 2007. As described above, charging a fee for Android OS or Google apps would be contrary to Google's business model.

The providers of other mobile OS either follow an open source business model similar to Google (e.g. Symbian, Ubuntu, Firefox OS, Jolla Sailfish OS, Tizen OS) or they license their OS to OEMs for a royalty fee (Microsoft Windows Phone and Windows 8 for tablets).[25] Alternatively, they are vertically integrated and use their mobile OS exclusively for their own devices, not licensing it to anybody else (Apple iOS, BlackBerry OS).[26]

2. Optional Contracts offered to OEMs in Addition to the Android License

In addition to the Android license agreement, Google offers various other documents, tools and agreements to OEMs. OEMs are *not* obliged to sign these agreements. Unsubstantiated accusations according to which Google "forces" OEMs to sign these agreements in order to get an Android license,[27] are plainly false. In the context of this paper, three documents that build upon each other are of special interest: CDD, AFA, and MADA.

These documents must be analysed in the context of competition among "mobile ecosystems" like Android, iOS, BlackBerry or Windows Phone as well as against the background of Android fragmentation. Compared to other mobile OS, Android offers an unparalleled freedom to OEMs, app developers and users alike. This freedom, however, has a downside in the form of Android fragmentation (i.e. the existence of several versions of Android can impede a consistent user experience and create interoperability problems). Fragmentation is a problem for app developers who want to make sure that their apps run flawlessly and securely on as many devices as pos-

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[24] See http://www.theverge.com/2011/11/8/2548577/barnes-noble-justice-department-microsoft-patent-lawsuits. In the end, the conflict was settled. Microsoft invested 300 million US$ in Barnes & Noble's digital and college textbook subsidiary, and Barnes & Noble, in turn, agreed to pay license fees to Microsoft, see http://blogs.reuters.com/alison-frankel/2012/05/01/who-won-microsoft-v-barnes-noble-patent-litigation/.

[25] In April 2014, Microsoft announced plans to license Windows Phone royalty-free to some makers of smartphones and small tablets for consumers, http://www.reuters.com/article/2014/04/02/us-microsoft-windows-idUSBREA311OX20140402.

[26] See http://chillingcompetition.com/2013/09/05/some-thoughts-on-the-new-anti-google-android-complaint-post-13/. RIM, like Apple, does not yet license its BlackBerry OS to other makers. However, RIM CEO *Thorsten Heins* stated in an interview that licensing was "conceivable" if BlackBerry OS showed a sufficiently large potential as a mobile platform, see http://techcrunch.com/2013/01/21/rim-ceo-says-licensing-blackberry-10-is-conceivable/.

[27] In this vein *Edelman* (footnote 4 above), at page 55. *Edelman's* only "evidence" is two complaints against Google by competitors. But these claims were both *rejected* by the competent court (see *Skyhook Wireless, Inc. v, Google, Inc.* MA Civil Action No. 2010-03652-BLS1) and by the South Korean FTC (*NHN and Daum vs. Google*, footnote 4 above), and therefore actually rather give evidence to the opposite and underscore that *Edelman* is wrong.

sible. Fragmentation also is a problem for users who want to make sure that all their favourite apps run on all their Android devices and who want to be able to switch Android devices for a newer model without having to worry about incompatibilities and switching costs. While fragmentation is not a problem with regard to iOS (because Apple ensures near to absolute uniformity) or with regard to Windows Phone (because Microsoft ensures a very high degree of uniformity), it is more problematic with Android because Google, in contrast, gives Android licensees far greater freedom with regard to using and even modifying the Android code, to customize the UI and to install apps. To balance this situation in the interest of app developers, but also to the benefit of consumers who want devices that are compatible with as many Android apps as possible, Google follows an approach that gives OEMs and mobile network operators (MNOs) the freedom, to opt for more conformity and interoperability in several steps. Step 1 is the option to follow the CDD requirements *de facto*. Step 2 is to commit to follow the CDD contractually by signing the AFA. Step 3 is to offer users an even more comprehensive "Google experience" by signing the MADA and preinstalling the Google Mobile Applications Suite (GMS).

a) Android Compatibility Definition Document (CDD)

The CDD is a publicly available document that enumerates the software and hardware requirements of an Android compatible device. Google issues a new CDD version with each new version of Android.[28] By setting certain standards, the CDD guarantees interoperability throughout the Android ecosystem, in particular the proper functioning of Android apps that rely on certain interfaces and behaviours such as the Application Programming Interfaces (APIs) implemented in Android. For example, clicking on an email address will open an email program (so-called "intents").[29] For this purpose, the CCD also includes a list of core applications that must be present on any Android compatible device (Desk Clock, Browser, Calendar, Contacts, Gallery, GlobalSearch, Launcher, Music and Settings). The CDD thereby creates a stable platform for applications, both from Google and other Android based apps developers. While the CDD ensures interoperability, it does not preclude OEMs from forking Android. The CDD expressly permits OEMs to replace even the Android core applications with alternative apps as long as they fulfil the basic interoperability requirements. Also, the OEMs are completely free to choose which internet search service they want to use and set as a default. The CDD does not require the installation of any GMS apps like Play, Maps or YouTube. OEMs can self-certify their devices by downloading and running the Google "Compatibility Test Suite" (CTS), a free and publicly available suite of compatibility testing programs.[30]

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[28] See http://static.googleusercontent.com/media/source.android.com/de//compatibility/android-cdd.pdf.

[29] See http://static.googleusercontent.com/media/source.android.com/de//compatibility/4.4/android-4.4-cdd.pdf. *"An intent allows you to start an activity in another app by describing a simple action you'd like to perform (such as "view a map" or "take a picture") in an Intent object. This type of intent is called an* implicit *intent because it does not specify the app component to start, but instead specifies an* action *and provides some* data *with which to perform the action",* quote from http://developer.android.com/guide/components/intents-filters.html.

[30] See http://source.android.com/compatibility/cts-intro.html.

b) Anti-Fragmentation Agreement (AFA)

OEMs are free to sign (or not to sign) the Anti-Fragmentation Agreement (AFA). By signing the AFA an OEM pledges to build only devices that fulfil the CDD requirements and not to take any actions that may cause or result in the fragmentation of Android.[31] While all OEMs are free to use the word "Android" in a descriptive fashion without signing the AFA, only OEMs who commit to the AFA and fulfil the CDD requirements may declare their devices to be "Android Compatible Devices" and use the Android compatibility trademark. This offers a minimum protection to users who rely on the compatibility of devices that carry this trademark. At the same time, the AFA reduces Android fragmentation to the benefit of consumers and app developers. The AFA, therefore, is obviously pro-competitive.[32] While signing AFA is a condition precedent for concluding a Mobile Application Distribution Agreement (MADA) with Google and, thereby, for preinstalling GMS apps like Play, Maps or YouTube, neither CDD nor AFA *require* the preinstallation of any Google apps or services. Unsubstantiated allegations claiming that Google "withholds certification" of Android devices, if OEMs do not sign the MADA,[33] are plainly false.

c) Mobile Application Distribution Agreement (MADA)

OEMs may also sign the optional Mobile Applications Distribution Agreement (MADA). If they opt to sign the MADA, OEMs are licensed to preload the GMS on a royalty-free basis. MADA are negotiated with the OEMs individually. They can differ in detail, but the basic requirements are the same in all MADA.[34] Like virtually all individual license agreements, MADA are confidential. Confidentiality is a common business practice with regard to such agreements. For example, the Microsoft OEM Mobile Windows Distribution Agreement with Bsquare that has been published in the course of US proceedings states that the OEMs, inter alia, *"shall keep confidential: (a) the terms of this Agreement, including, without limitation, the Royalty Rate Lists"*.[35] Hence, allegations by FairSearch and *Edelman* who claim that MADA-confidentiality was aimed at "deceiving the public" are misleading.[36]

The material provisions of Google's MADA must be seen in the context of competition among "mobile device ecosystems" (Android, iOS, Windows Phone, BlackBerry and others). Users who buy mobile devices like a consistent "out of the box" experience. They expect a modern smartphone or tablet to come with a certain set of fea-

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31 See e.g. http://www.zdnet.com/androids-fragmentation-problem-just-got-a-whole-lot-weirder-and-bigger-7000026681/.

32 *Edelman* (footnote 4 above, at page 60) omits this rationale of AFA and claims that Google withholds the permission to use the Android trademark and logo in order to foreclose competition. However, it is obviously justified and in the best interest of the consumers that Google forbids makers of *non-compatible* devices to falsely claim otherwise by abusing the Android *compatibility* trademark.

33 In this vein *Edelman* (footnote 4 above), at page 61.

34 If not indicated otherwise, "MADA" in the following refers to the HTC-MADA of 2011 to which *Edelman* also refers in his papers (see footnotes 4 and 10 above) and which he has published on http://www.benedelman.org/docs/htc-mada.pdf.

35 See Sec. 10 of the Microsoft OEM Windows Mobile Distribution Agreement between Microsoft Licensing, GP, an affiliate of Microsoft Corporation, and Bsquare Corporation, dated Nov 1, 2009, see http://www.sec.gov/Archives/edgar/data/1054721/000119312511070073/dex1019.htm.

36 *Edelman* (footnote 10 above, and footnote 4 above, at pages 66 and 71) unfolds a whole "conspiracy theory" of sorts, but the undisputed contents of the MADA and the statements that he quotes point in another direction if read without prejudice.

tures and functions. Google's main competitors Apple, Microsoft and RIM have always offered such an experience while Android has been heavily criticised for being too fragmented.[37] The MADA ensures that users get a device with a full set of apps (the GMS) that offer a "Google experience" similar to the "Apple experience" offered by the iOS devices or the "Microsoft experience" offered by Windows Phone devices. MADA insofar does not restrict, but enables "mobile inter ecosystem competition". At the same time, preinstalling GMS is just an additional *option*, which Google offers in the form of a separate license according to the MADA while Apple and Microsoft both technically embed certain apps in iOS or Windows Phone. Moreover all (iOS) or most (Microsoft/Nokia) devices are made and sold by these vertically integrated undertakings themselves while most Android phones are offered by OEMs to which Google only licenses Android and GMS. MADA is only one option among others for these Android OEMs. In contrast to Apple and Microsoft, Google does not prohibit "forked versions" of Android. Therefore, (only) the Android ecosystem offers mobile *intra* ecosystem competition in addition to mobile inter ecosystem competition. Android devices subject to the MADA offering a "Google experience" compete inter alia with Amazon Fire devices which offer an "Amazon experience" and Nokia X devices which offer a "Nokia experience".

To make this "Google experience" and the intra Android competition among different suites of apps possible, OEMs who choose to preinstall some Google apps on a certain device (e.g. the app store Google Play, You Tube, Maps or Gmail) according to Sec. 3.4 MADA must preload the whole GMS, i.e. all the Google apps defined as "Google Applications" in Sec. 1.11 MADA.[38] That means OEMs cannot "cherry-pick". If OEMs opt to sign the MADA, they must also place the Google Search widget[39] and the Google Play icon on the *"panel immediately adjacent to the Default Home Screen"*, and the other Google Applications *"no more than one level below the Phone Top"*, e.g. in the "Apps" folder or in the Google collection (folder) within this folder. Finally, Google Search must be the default web search engine *for the search intent*. This requirement is of a very limited practical relevance. It means that Google Search is invoked by default if an app uses the search functionality. However, in practice there is hardly any app that uses this specific intent. The standard MADA does not entail any exclusivity for Google Search nor does it mandate a search default for the web browser.[40] Moreover, MADA does not forbid OEMs to install competing apps that

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37 See e.g. http://www.zdnet.com/androids-fragmentation-problem-just-got-a-whole-lot-weirder-and-bigger-7000026681/.

38 According to the 2011 HTC-MADA these "Google Applications" were: Set-Up Wizard, Google Phone-Top Search, Gmail, Google Calendar, Google Talk (now: Google Hangouts), YouTube, Google Maps for Mobile, Google Street View, Contact Sync, Android Market Client (now: Google Play), Google Voice Search and Network Location Provider.

39 A "widget" is a small application with limited functionality that regularly is linked to an app and can be placed directly on the home screen. For example, a Search widget offers a field to type search requests; a weather widget shows a weather forecast on the home screen etc.

40 *Edelman's* assertion (see footnote 4 above, at page 55), according to which the OEMs are forced to make Google Search *"the only and default providers for their respective functions"* if they want to install GMS is inaccurate. The standard MADA does not impose any exclusivity (which *Edelman* admits "in principle" at page 58). MADA are negotiated between Google and OEMs individually and on a device-by-device basis. Therefore, there might be versions of the MADA for certain devices that include exclusive pre-installation and default requirements. However, this would be a variation to the standard MADA and not a condition precedent for entering into the MADA at all. In other words, OEMs can get a license for GMS without submitting themselves to any search exclusivity. Moreover, in any case, nothing prevents users from downloading competing search apps and to change search defaults.

were developed by OEMs or third parties and place them right next to the GMS apps (or in even better positions). As OEMs can conclude the MADA on a "device by device" basis, they stay free to install the GMS on one phone model while they use a different suite of apps on another device.[41] The Windows Phone 8.1 rules for search, for example, leave OEMs far less freedom. They state that *"[b]y default, the only search provider included on the [Windows] phone is Bing"*.[42]

To sign the MADA is optional, but even if we assume that the freedom of choice of OEMs is somewhat limited because users *expect* them to deliver Android phones with GMS, a perspective that only sees the restrictions imposed by the MADA is distorted because the MADA does only take away freedoms from Android OEMs that Windows or Windows Phone OEMs never had in the first place (and that do not exist at all in the iOS ecosystem because Apple makes all iOS devices itself). In addition, the MADA makes it impossible for OEMs or MNOs to exclusively limit users to their own app stores, apps and services by creating so-called "walled gardens" (like Amazon does with its Fire devices for which apps can only be downloaded through Amazon's own apps store). In this respect, the MADA, as a side effect, actually improves consumer welfare by protecting consumers' freedom of choice in this respect as well.

III. Relevant EU Competition Law Provisions

FairSearch has not yet published its complaint in full. However, FairSearch's press release indicates that the complaint rests on two pillars. *First*, on the allegation that Google abuses a presumed "dominance in the smartphone operating system market" by engaging in a predatory pricing strategy by giving away Android free of charge; *second*, on the assumption that Google forecloses competing app developers by tying several Google applications to the GMS on the basis of the MADA.[43] It is safe to assume that the complaint is primarily about alleged abuses of a dominant position, which according to European competition law would be forbidden by Article 102 TFEU. Therefore, the following analysis will focus on this provision.

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41 *Edelman* (footnote 4 above, at page 59) claims the opposite, but he misunderstands the MADA in the respect. While OEMs cannot sign *the AFA* on a device-by-device basis, *the MADA* can be concluded on a device-by-device basis.

42 Windows Phone 8.1 customization and runtime configuration rules for search of April 24, 2014, https://dev.windowsphone.com/en-US/OEM/docs/Customization/Customizations_for_search. This provision continues, that *"[i]f the phone's browser and search language are set to a language that Bing supports, any search providers specified by the OEM will be hidden from the Internet Explorer screen in Settings, and both the hardware search button and search in the browser will always use Bing. Partners cannot control or change this determination".*

43 See http://www.fairsearcheurope.eu/wp-content/uploads/2013/04/FairSearch-Announces-EU-Complaint-on-Google-Mobile-Strategy-9-April-2013.pdf.

B. Competitive Analysis

I. Market Definition

Article 102 TFEU is only applicable to undertakings that hold a "dominant position" in one or more markets. Therefore, the first step of the competitive assessment of a business practice generally is to define the markets on which the undertaking might hold such a position. According to the European Commission's Notice on the definition of relevant market, market definition *"is a tool to identify and define the boundaries of competition between firms. … The main purpose of market definition is to identify in a systematic way the competitive constraints that the undertakings involved face. The objective of defining a market in both its product and geographic dimension is to identify those actual competitors of the undertakings involved that are capable of constraining those undertakings' behaviour and of preventing them from behaving independently of effective competitive pressure"*.[44]

A detailed market definition would go beyond the scope of this paper. However, a summary analysis might suffice at this point. While it stands to reason that the geographic scope of all markets to which the FairSearch complaint refers is worldwide,[45] defining the relevant product market is far more problematic. In particular, any market definition must take into account that Google and most of its competitors operate to a large degree in two- and multisided environments[46] while the rules for market definition mostly refer to traditional bilateral markets. This makes market definition not only far more complex, but also increases the risk of error considerably.[47]

1. Market for Operating Systems for Mobile Devices (Market for Mobile OS)

The relevant market with regard to the first allegation (predatory pricing) could be defined as *"the market for the provision of OSs for smart mobile devices".* The European Commission based its decision in the *Google/MMI* merger case on this definition, but ultimately left the exact scope of this market open. In particular, the Commission expressly did not decide whether mobile OS for smartphones and tablets belong to the same product market. The Commission also did not address the question of whether the aforementioned definition only applies to licensable mobile OS or to all mobile OS.[48] However, in a more recent answer to the European Parliament which asked whether Apple holds a dominant position on the market for mobile OS, the Commission expressed the opinion that *"Apple does not seem to hold a dominant*

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44 OJ 1997 C 372/5 (9. 12. 1997), at paragraph 2.

45 Compare COMM., 13. 2. 2012, Case COMP/M.6381 – *Google/MMI*, at paragraphs 31 and following.

46 See page 3 and following.

47 Against this background, the more efficient procedural approach might be to skip the questions of market definition and dominance and, instead, first analyse if there was an abuse *if* Google held a dominant position. A more detailed analysis of market definition and dominance would then only be necessary if such an abuse was found. This approach might spare all sides costly and time-consuming investigations. Furthermore, incentives to abuse competition law in order to raise the rival's costs would be reduced.

48 COMM., 13. 2. 2012, Case COMP/M.6381 – *Google/MMI*, at paragraphs 24 and 30.

position on the market for mobile operating systems".[49] Hence, the Commission rejected the notion that there are separate markets licensable mobile OS (like Android) and non-licensable mobile OS (like iOS), but considered an overall product market that includes all mobile OS. Taking into account the purpose of market definition quoted above (*"identify … the competitive constraints that the undertakings involved face"*), the better arguments indeed indicate that a wide market definition including OS for smartphones and tablets as well as licensable and (not yet) licensable OS is mandated.

As most mobile OS are designed for both smartphones and tablets (like iOS and Android), it would seem artificial and at odds with the growing convergence between mobile devices to draw a line between smartphone OS and tablet OS just because few suppliers (especially Microsoft) decided to offer separate versions of their OS for smartphones and tablets. Likewise, the European Commission observed in its *Google/MMI* decision that *"the majority of respondents considered that mobile OSs for smartphones and tablets should belong to the same market since they have very similar functionality and there appears to be significant convergence between the two types of devices"*.[50]

Only licensable OS are offered to license seekers while non-licensable OS, by definition, are not. This may, at first sight, suggest a narrow market definition in this respect. However, a distinction between licensable and non-licensable OS would not take into account that the undertaking holding the intellectual property rights for an OS can, at any time, decide to make a formerly non-licensable OS licensable.[51] Even more importantly, a narrow definition would not properly "identify … the competitive constraints that the undertakings involved face" thereby missing the whole point of the market definition process. It is obvious that Android competes not only with other licensable mobile OS like Windows Phone, but primarily with Apple's iOS for end customers. "Platform competition" or "ecosystem competition" between Android and iOS actually is the main competitive force that drives innovation on the market for mobile OS, apps, devices and services. Therefore, not to consider iOS, merely because Apple is vertically integrated and produces all devices running iOS itself, would be misleading. At least, the supply of not (or not yet) licensable OS would have to be considered as substitution competition when assessing dominance.

2. Markets for Mobile Apps and Related Services

With respect to the second allegation (foreclosure by "tying" Google applications to the GMS), several markets may become relevant. Market definition would require defining markets for the tying products (e.g. individual apps, suites of apps or related services) as well as markets for the tied products (e.g. other apps that are presumably forced onto OEMs and users). This is a very complicated task since most

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49 See Answer given by Mr Almunia on behalf of the Commission to the EP on February 10, 2014, http://www.europarl.europa.eu/sides/getAllAnswers.do?reference=E-2013-013770&language=EN.

50 COMM., 13. 2. 2012, Case COMP/M.6381 – *Google/MMI*, at paragraph 28.

51 See footnote 25 above with respect to BlackBerry OS. Compare footnote 23 above with respect to Windows Phone.

mobile services like internet search, email or map navigation do not require a specific app. Users can alternatively access them as mobile websites through any web browser. The boundaries between apps and services are blurred even more due to the fact that some "native apps" offer genuine offline functionality while other apps are little more than hyperlinks to mobile websites. Furthermore, the new HTLM5-stardard makes it even easier to bridge the gap between native apps and mobile websites by creating "hybrid apps" that combine native app functions with integrated websites. In short, even if certain apps are not *pre*installed on a mobile device, this does neither mean that these apps are permanently excluded from the device, nor that the related services cannot be used. Finally, it is not clear whether the product markets that are relevant in the context of the MADA are markets for individual apps or rather markets for suites of apps that offer a certain user experience (e.g. a "Google experience" or an "Amazon experience").

II. Dominance

Competitive assessment becomes even more complicated with regard to the question of dominance. In its Guidance on the Commission's enforcement priorities in applying Article 82 of the EC Treaty to abusive exclusionary conduct by dominant undertakings, the European Commission defines dominance *"as a position of economic strength enjoyed by an undertaking, which enables it to prevent effective competition being maintained on a relevant market, by affording it the power to behave to an appreciable extent independently of its competitors, its customers and ultimately of consumers. … Dominance entails that these competitive constraints are not sufficiently effective and hence that the undertaking in question enjoys substantial market power over a period of time. This means that the undertaking's decisions are largely insensitive to the actions and reactions of competitors, customers and, ultimately, consumers. … In general, a dominant position derives from a combination of several factors which, taken separately, are not necessarily determinative."*[52]

1. Market for Operating Systems for Mobile Devices

a) Market Shares

The European Commission's analysis usually starts with a look at the market shares, which, however, only serve as a first and limited indication of competitive strength.[53] Taking a first superficial look at the market shares in the field of mobile OS, a "snapshot" of the marketplaces at the end of 2013 reports a share for Android that could be associated with dominance.[54] 78.4 % of the smartphones sold worldwide were running Android (iOS: 15.6 %, Windows Phone: 3.2 %, BlackBerry OS: 1.9 %, others: 0.9 %).[55] The worldwide tablet sales point in the same direction: 61.9 %

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52 COMM., Guidance, OJ 2009 C 45/7 (24. 2. 2009), at paragraph 10 (in the following. "Guidance"). Article 82 ECT = Article 102 TFEU.

53 COMM., Guidance, at paragraph 13; see also COMM., 7. 10. 2011, COMP/M.6281 – *Microsoft/Skype*, at paragraph 78.

54 In this vein e.g. *Edelman* (footnote 4 above), at page 55.

55 See http://www.gartner.com/newsroom/id/2665715, Table 3.

of the tablets were running Android (iOS: 36.0 %, Windows Phone: 2.1 %, others: less than 0.1 %).[56] The market shares in Europe differ to a certain degree, but not very much. In January 2014, Android reached a market share of 68.5 % in Europe (iOS: 19.0 %, Windows Phone 10.1 %).[57]

However, the high market shares of Android devices are not as conclusive as they seem at first glance when it comes to assessing Google's market position. Relying on the sales figures would not take into account that Google (other than Apple or RIM) does not produce Android devices. Android devices are manufactured by independent OEMs like Samsung, HTC or LG, and most Android devices are sold by these OEMs or by MNOs. These undertakings control the devices' prices and, therefore, the market shares should be attributed to them and not to Google, which only plays a minor role on the sales markets as vendor of its own "Nexus" devices.[58] Moreover, these sales figures do not differentiate between devices with GMS and Android devices without GMS (like Amazon Fire smartphones and tablets), and they only offer a short-term impression of markets, which are highly dynamic and in which market shares shift rapidly.[59]

In any case, relying on hardware sales figures alone might paint a false picture because the mere number of devices is not the only factor that determine user engagement and, thereby, the incentive for app developers and services providers to compete. Based on an estimate by *ABIresearch,* users downloaded about 56 billion apps in 2013. While Android *smartphones* accounted for 58 % of the app downloads (iOS: 33 %, Windows Phone: less than 4 %, BlackBerry OS: 3 %), Android *tablets* (excluding Amazon's Kindle Fire) accounted for only 17 % of the app downloads in this year (iOS: 75 %, Kindle Fire: 4 %, Windows Phone: 2 %).[60] Moreover, while the total number of app downloads via Google Play exceeded the total number of app downloads from Apple's iOS App Store, the total revenue drawn from Google Play was less than half of Apple's revenue from iOS App Store in the third quarter of 2013.[61] Obviously, the average iOS user spends considerably more money on apps than the average Android user. Furthermore, the more time users spend browsing the web, the more opportunities arise to present advertisements, and iOS users collectively spend more time on the web than Android users. In February 2014, the

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56 See http://techcrunch.com/2014/03/03/gartner-195m-tablets-sold-in-2013-android-grabs-top-spot-from-ipad-with-62-share/ (referring to *Gartner*).

57 See http://www.kantarworldpanel.com/dwl.php?sn=news_downloads&id=428.

58 See http://www.computerworld.com/s/article/9244477/Google_s_Nexus_lineup_may_not_sell_well_but_still_challenges_Android_makers. Google also owned the OEM Motorola between 2012 and 2014, but it sold Motorola to Lenovo in 2014. In COMM., 13. 2. 2012, Case COMP/M.6381 – *Google/MMI*, at paragraphs 64 and following, the Commission did not share this argument and – for the purpose of this merger investigation – attributed the market share corresponding to Android to Google.

59 Compare GC, 11. 12. 2013, case T-79/12, at paragraphs 69 and following – *Cisco Systems and Messagenet/Commission*: "In a dynamic context, high market shares are not necessarily indicative of market power".

60 See https://www.abiresearch.com/press/android-will-account-for-58-of-smartphone-app-down (in the context of this paper the word "billion" means "1000 million").

61 See http://blog.appannie.com/app-annie-index-market-q3-2013/#sthash.bTuRqNK9.dpuf.

mobile browser share of Android Browser and Google Chrome combined reached 35.93 %, while the share of iOS Safari was 53.52 %.[62]

Although the overall picture is not as conclusive as the mere device sales figures suggest, it becomes quite clear that Google and Apple are market leaders in all three respects (device sales, app revenue, web browsing time). This however, does not mean that Google is dominant according to Article 102 TFEU. Market shares are only a first indication. What really matters is whether *"the undertaking's decisions are largely insensitive to the actions and reactions of competitors, customers and, ultimately, consumers"*.[63]

b) Market Dynamics and Overall Competitive Structure of the Market

aa) Market Dynamics

Looking at the dynamics of the mobile OS markets, two factors deserve special attention.

First, historical development in many fields of the digital economy suggests that high market shares are seldom stable over an extended period of time. Only five years ago, MySpace dominated the market for social networks with more than 250 million subscribers; today MySpace is irrelevant.[64] Facebook took the lead, but might already be heading south due to shrinking patronage by younger internet users.[65] The same dynamics manifest themselves in the market for mobile OS: As *comScore* pointed out: *"In 2005, the market was dominated by Palm, Symbian and BlackBerry. However, by the following year all three had ceded control to Microsoft as the new market share leader. 2008-2010 saw BlackBerry stage a comeback to assume the #1 position before eventually giving way to the upstart Android platform in 2011"*.[66] While the sources differ with respect to which mobile OS was market leader in 2009 and 2010 (other sources state that it was Symbian[67] or iOS[68]) all sources agree that Android took the lead only three years ago with respect to worldwide smartphone sales (in 2011)[69] and one year ago with respect to tablet sales (in 2013).[70] Moreover, when Android entered the market for mobile OS, Symbian, BlackBerry and iOS were

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62 See http://netmarketshare.com/. See also http://dotmobi.com/content/apple-devices-dominate-global-web-browsing-while-android-gains-ground-0.

63 COMM., Guidance, at paragraph 13; see also COMM., 7. 10. 2011, COMP/M.6281 – *Microsoft/Skype*, at paragraph 78.

64 See http://en.wikipedia.org/wiki/Myspace.

65 See http://www.dailymail.co.uk/sciencetech/article-2544200/Facebook-like-infectious-disease-claim-researchers-say-peaked-lose-80-percent-users-YEAR.html vs. http://techland.time.com/2014/01/23/facebook-losing-users/.

66 See https://www.comscore.com/ger/Insights/Press_Releases/2013/2/comScore_Releases_the_2013_Mobile_Future_in_Focus_Report, at page 29.

67 According to *Gartner* Android's market share (based on smartphone sales) was only 3.5 % in the third quarter of 2009 and rose to 25.5 % in the third quarter of 2010 while Symbian enjoyed a market share of 44.5 % (2009)/36.6% (2010), RIM 20.7% (2009)/14.8% (2010) and iOS 17.1 % (2009)/16.7 % (2010), see http://www.gartner.com/newsroom/id/1466313.

68 See http://readwrite.com/2010/06/30/android_gaining_on_apple_says_report#awesm=~oIyObV0D7s5Do5.

69 See http://mobithinking.com/blog/2011-handset-and-smartphone-sales-big-picture.

70 See http://techcrunch.com/2014/03/03/gartner-195m-tablets-sold-in-2013-android-grabs-top-spot-from-ipad-with-62-share/. See also http://www.tech-thoughts.net/2012/05/ipad-vs-android-tablet-market.html#.U6_NwrHN3Am.

already there. They had a huge lead with respect to device sales figures, and there were far more apps available for iOS than for Android.[71] The Android ecosystem has just recently caught up with iOS with regard to the total number of apps, and it still lags behind when it comes to the number of apps that have been optimized for tablet use.[72] This is probably due to Android fragmentation. Hence, the seemingly strong market position of Android is still very young and, looking at the market dynamics, it is far from sure that Android will be able to maintain this position in the years to come.

Second, innovation cycles and product cycles are very short in the industries for mobile devices, mobile OS and mobile apps. New versions of mobile OS like Android and iOS as well as new versions of smartphones and tablets are released at least once a year. Moreover, users often receive their smartphones from MNOs on the basis of two-year contracts and therefore tend to get a new smartphone at least every second year. In its merger decision *Microsoft/Skype*, the European Commission concluded: *"The innovation cycles in these markets are short. As a result, software and platforms are constantly being redeveloped. Innovators generally enjoy a short lead in the market"*.[73] In the same decision, the Commission held that even the acquisition of post-merger market shares of up to 90 % does not necessarily lead to a dominant position if the relevant market is still emerging, dynamic and fast growing.[74] This was the case for the markets for consumer communication services like Skype, and these findings apply equally to the market for mobile OS and to the markets for mobile apps and services.

bb) Constraints by Competitors, Entry and Countervailing Buyer Power

When assessing dominance, the European Commission, particularly takes into account constraints by competitors, entry and countervailing buyer power.[75]

First, the Commission considers constraints imposed by the existing supplies from, and the position in the market of, actual competitors. As we have seen in connection with the market definition, Google's decisions in relation to Android are *not* "largely insensitive to the actions and reactions of competitors" because Google faces lively competition, especially from Apple (iOS), but also from Amazon (Fire OS), Microsoft (Windows Phone OS) and other competitors like RIM (BlackBerry OS). In 2012 and 2013, Apple sold as many smartphones in the US as the leading four Android OEMs (Samsung, HTC, LG and Motorola) combined.[76] One out of three Android tablets sold

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71 See *Evans/Schmalensee,* The Antitrust Analysis of Multi-Sided Platform Businesses, Dec. 2012, http://ssrn.com/abstract=2185373, at page 19 footnote 29.

72 Compare http://lifehacker.com/ios-vs-android-which-platform-has-better-tablet-suppo-1560660066.

73 COMM., 7. 10. 2011, COMP/M.6281 – *Microsoft/Skype*, at paragraph 83.

74 COMM., 7. 10. 2011, COMP/M.6281 – *Microsoft/Skype*, at paragraph 108 and following; affirmed by GC, 11. 12. 2013, case T-79/12, at paragraphs 69 and following – *Cisco Systems and Messagenet/Commission.*

75 COMM., Guidance, at paragraph 12.

76 In 2012 Apple held a share of 44 % while Samsung, HTC, LG and Motorola had a combined share of 46 %. In 2013 Apple held 45 %, Samsung/HTC/LG/Motorola (combined) 44 %, http://appleinsider.com/articles/14/02/20/apples-iphone-led-2013-us-consumer-smartphone-sales-with-45-share---npd.

in the US in 2013 was a Kindle Fire,[77] and Amazon is expanding in Europe as well. Amazon has just released its new line of Amazon Fire smartphones.[78] Likewise, OnePlus offers a high-end smartphone running CyanogenMod 11s (a forked version of the Android 4.4) for about 300 US$,[79] and Huawei will sell a variant of its new Honor 3 smartphone featuring the Yandex suite of apps instead of the GMS.[80]

Second, the Commission considers constraints imposed by the credible threat of future expansion by actual competitors or entry by potential competitors. Looking at newly emerging competitors and potential entry, it is important to remember that the market for mobile OS is young, innovation driven and extremely dynamic. Microsoft dominated this in 2006 and 2007. In the following years, Microsoft did not only lose its lead, but practically vanished from the market for mobile OS due to a lack of innovation and a profound misjudgement of the business potential of touch screen mobile devices. Former Microsoft CEO *Steve Ballmer* when asked to comment on the (then new) iPhone pointed out in April 2007: *"There's no chance that the iPhone is going to get any significant market share. No chance"*.[81] However, in 2010 Microsoft took first steps to re-enter the market by introducing "Windows Phone 7". In 2012, "Windows Phone 8" followed and Microsoft intensified its cooperation with Nokia. In April 2014, Microsoft fully acquired the mobile devices branch of Nokia, thereby becoming a vertically integrated developer of mobile OS as well as a producer of mobile devices.[82] Remarkably Windows Phone was the fastest growing mobile OS in the EU5 (Germany, UK, France, Italy, Spain) between January 2013 and January 2014.[83]

In addition, new mobile OS have entered (and are constantly entering) the market, for example Firefox OS and Tizen OS. Mozilla has announced plans for smartphones running Firefox OS that will sell for as little as 25 US$.[84] The introduction of Tizen OS offers an especially high competitive potential because Tizen OS is backed by Samsung, the world market leader for mobile devices. Samsung seems to be gradually shifting from Android to Tizen. While the first generation of Samsung's smart watch "Gear" was originally based on Android, the second generation "Gear 2" runs Tizen[85] and the first generation Gear is switched to Tizen by a recent firmware update that removes Android.[86] Samsung has released its first Tizen based smartphone (Samsung Z) in 2014, and it has announced that it will release smart TVs based on Tizen

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77 See http://arstechnica.com/gadgets/2013/01/kindle-fire-nabs-33-of-android-tablet-market-nexus-7-just-8/.

78 See http://amzn.com/B00EOE0WKQ.

79 See http://www.digitaltrends.com/mobile/oneplus-one-news/.

80 See http://thenextweb.com/mobile/2014/02/19/yandex-launches-android-firmware-yandex-kit-pushes-replace-googles-apps/.

81 See http://macdailynews.com/2007/04/30/microsofts_ballmer_no_chance_apple_iphone_is_going_to_get_any_significant/.

82 See http://thebottomline.as.ucsb.edu/2014/04/microsoft-nokia-merger-brings-new-competition-to-smartphone-wars.

83 See http://www.kantarworldpanel.com/dwl.php?sn=news_downloads&id=428.

84 See http://www.economist.com/news/business/21600134-smartphones-reach-masses-host-vendors-are-eager-serve-them-rise-cheap.

85 See http://www.androidmag.de/news/technik-news/smartwatch-plattformen-android-wear-tizen-pebble-os-und-co-im-kurz-check/.

86 See http://www.stuff.tv/galaxy-gear/original-samsung-galaxy-gear-smartwatch-get-tizen-upgrade/news.

in 2014.[87] Most likely, all Samsung smartphones will feature a similar UI regardless of the underlying OS.[88] This might be just another step to replace Android by Tizen in the future. In any event, Samsung, like Microsoft, certainly is a company with great financial resources and innovation potential.

Third, the Commission regularly assesses "buyer power" (or demand-side power) as a countervailing factor. The term "buyer power" does not seem adequate in the first place for the case at hand, because Android is open source. Nobody has to "buy" it and nobody has to bargain for a reasonable price because Google does not ask for *any* royalty fee (or any other consideration) in exchange for the Android license. As described above, anyone can take the Android code and use it (or even fork it) at will.[89] This in itself raises serious doubts with regard to the assertion that Google might be dominant. Moreover, Google could not change this licensing practice, even if it wanted to, not only because of the strong actual and potential competition, but also because the OEMs enjoy a great "bargaining strength". Samsung is not only a potential competitor, but also the most important licensee of Android. In contrast to client PC OS (like Windows), mobile OS are always licensed to OEMs, not directly to the consumers. OEMs like Samsung or HTC, large MNOs, and makers of non-MADA Android devices like Amazon or Nokia do certainly have sufficient "bargaining strength" to counter any attempts to shift the balance of power.

cc) Comparison to the Microsoft cases

The competitive structure of the market for mobile OS differs considerably from the market for client PC OS, which the European Commission had to assess in the *Microsoft* cases with respect to tying Windows Media Player (WMP, 2004) and Internet Explorer (IE, 2009) to the Windows OS.

First, the Commission's *Microsoft* decisions are based on a worldwide, very stable Windows market share of about 90 %, which Microsoft had consistently held for more than ten years.[90] In the market for mobile OS Android took the lead only a few years ago (smartphones 2011, tablets 2013). The mobile OS market is young and very dynamic. The market for mobile OS is marked by strong competitive pressure while MacOS and Linux never really threatened Microsoft's lead on the client PC OS market. Moreover, it is common practice for smartphone users to get a new device every year or at least every second year, while PCs and client PC OS are used for a much longer time. Windows XP – thirteen years after its release in 2001 – still holds a market share of 28.98 %![91]

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87 See http://www.businesskorea.co.kr/article/2143/tizen-phone-tv-samsung-reveal-smartphone-smart-tv-based-tizen-os-2014. The first Tizen phone "Samsung Z" has just been released, see http://global.samsungtomorrow.com/?p=37149. A Tizen version of the Samsung flagship smartphone "S5" might come soon, see https://www.zauba.com/import-s5+tizen/hs-code-85171290-hs-code.html.

88 See also http://www.cnet.com/news/samsung-galaxy-s4-shows-off-tizen-3-0/.

89 See page 4 above.

90 COMM., 24. 3. 2004, Case COMP/C-3/37.792 – *Microsoft (Interoperability and Media Player)*, at paragraph 432; COMM., 16. 12. 2009, Case COMP/C-3/39.530 – *Microsoft (Internet Explorer)*, at paragraph 24.

91 See http://en.wikipedia.org/wiki/Windows_XP.

Second, the *Microsoft* cases were characterised by strong network effects and other barriers to entry, which effectively sheltered Microsoft Windows from competition. The Commission stated that the *"overall utility that a consumer derives from a client PC operating system … depends on the applications he can use on it and that he expects to be able to use on it in the future. Independent Software Vendors write applications for the client PC operating system that are most popular among users. In other words, the more popular an operating system is, the more applications will be written for it and the more applications are written for an operating system, the more popular it will be among users"*.[92] The Commission held that the degree of ubiquity that Windows had attained resulted in the availability of nearly all commercial applications for Windows, and often only for Windows.[93] Finally, a newcomer on the market of client PC OS would also have to overcome market entry barriers raised by the high costs of development and product testing.[94]

Some indirect networks effects are relevant for the mobile OS market as well. However, the competitive situation is very different. The creation of a new mobile operation system is by far not as costly as creating a new client PC OS. In recent years, several new mobile OS have entered the market. Developers of new mobile OS do not have to start "from scratch". They can build upon the Android code and create forked versions of Android (like Amazon Fire OS, CyanogenMod, Yi OS), they can use the same open source Linux kernel as Android (like Tizen OS) or they can rely on HTLM5 (like Firefox OS).

The development of apps in the mobile ecosystem also differs markedly from the development of programs in the world of PCs. Building the average app is far less complicated and far less costly than creating a PC program.[95] Therefore, it does not come as a surprise that there are far more mobile apps than there ever were programs for Windows PCs. Today, the Apple App Store and Google Play each offer more than a million different apps.[96] In spite of its late start, the Windows Phone Store also passed the 200,000 apps mark in 2013.[97] Moreover, app developers nowadays, in contrast to program developers for PCs, regularly have the incentive and the ability to develop apps for multiple mobile OS (so-called "multi-homing"), and they make use of this ability. According to a survey, 73 % of the app developers build their apps for two or more mobile OS, and 62 % even support three or more.[98]

Multi-homing has become even easier for app developers due to the introduction of HTML5, a markup language that is supported by all major web browsers. This

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92 COMM., 16. 12. 2009, Case COMP/C-3/39.530 – *Microsoft (Internet Explorer*), at paragraph 26.

93 COMM., 16. 12. 2009, Case COMP/C-3/39.530 – *Microsoft (Internet Explorer)*, at paragraph 27 and 56; COMM., 24. 3. 2004, Case COMP/C-3/37.792 – *Microsoft (Interoperability and Media Player)*, at paragraph 452.

94 COMM., 16. 12. 2009, Case COMP/C-3/39.530 – *Microsoft (Internet Explorer)*, at paragraphs 28 and following, COMM., 24. 3. 2004, Case COMP/C-3/37.792 – *Microsoft (Interoperability and Media Player)*, at paragraph 453.

95 See e.g. http://waracle.net/how-much-does-it-cost-to-develop-a-mobile-app-for-google-android/ or http://www.bluecloudsolutions.com/blog/cost-develop-app/.

96 For iOS see http://ipod.about.com/od/iphonesoftwareterms/qt/apps-in-app-store.htm; for Android see http://www.appbrain.com/stats/number-of-android-apps (1,193,546 apps on March 31, 2014).

97 See http://www.phonedog.com/2013/12/17/windows-phone-store-crosses-200-000-app-mark-as-microsoft-works-to-expand-carrier-billing/.

98 See http://www.appcelerator.com.s3.amazonaws.com/pdf/enterprise-survey-q3-2013.pdf.

means that HTLM5 is available *on all mobile devices* regardless of the underlying mobile OS. Therefore, a HTML5 app can be developed once and then run on different mobile OS without the necessity of building separate versions for each OS.[99] This development resembles a situation arising from the success of Sun's programming language Java. Java offers a universal platform for applications that can run on different client PC OS. In the 1990, Microsoft tried to undermine and cripple Java by introducing a proprietary "Microsoft Java Virtual Machine"[100] because Java threatened Microsoft's dominant position on the market for client PC operating systems.[101] By contrast, Google never did anything to hamper HTML5, but even offers a free "Google Web Designer" to make it *easier* to create interactive HTML5-based designs and motion graphics.[102]

Multi-homing not only cuts costs for app development, but also reduces users' switching costs. On the one hand, many users of mobile devices "multi-home" too, i.e. they use more than one app for similar functions or services, and – like in the *Microsoft/Skype* case – there are no technical or economic constraints that prevent users from downloading several apps for the same function.[103] On the other hand, users are far more willing to get mobile devices with a different OS if they can find the apps they are used to for the new device as well. Nokia has just presented its new Nokia X smartphones. These smartphones are Android-based, but as *cnet* put it: *"In fact, the software doesn't look a thing like Android at all"*.[104] Rather, the user interface largely resembles the Windows Phone UI, and the preinstalled suite of apps consists of the Microsoft and Nokia apps that are typically preinstalled on Windows Phone devices (e.g. Bing search, Nokia app store and Nokia Here maps). This means that while Nokia X phones run Android apps, they offer the touch, feel and user experience of a Windows phone. This will make it easy for Nokia X users to switch to Windows Phone devices in the future while it will reduce their incentive to switch to other Android phones with a different, more "Android-like" user interface.[105]

One might argue that there are still switching costs because users have to buy their apps anew after switching to another mobile OS. However, the vast majority of apps are free of charge, and only very few apps cost more than 5 €.[106] Many users completely rely on free apps whose developers draw revenue mostly from advertising. It seems safe to estimate that very few users would have to spend more than 20 € for app purchases after switching to a device with another mobile OS. This is a negligible amount compared to the cost of the new device or the monthly cost of network

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99 See http://www.forbes.com/sites/ciocentral/2013/01/23/html5-vs-native-mobile-apps-myths-and-misconceptions/.

100 See http://en.wikipedia.org/wiki/Microsoft_Java_Virtual_Machine.

101 For further details see Plaintiff's Joint Proposal for the Finding of Facts in the case US vs. Microsoft, http://www.justice.gov/atr/cases/f2600/2613-1.htm, at paragraphs 318 and following.

102 See https://www.google.com/webdesigner/. This is precisely what one would expect considering Google's general business model and the benefits Google derives from increased internet usage.

103 Compare GC, 11. 12. 2013, case T-79/12, at paragraphs 79 and 96 – *Cisco Systems and Messagenet/Commission.*

104 See http://www.cnet.com/products/nokia-x/.

105 Compare http://gigaom.com/2014/02/24/hands-on-with-the-android-powered-nokia-x-smartphone/.

106 This seems clear, although the counts differ considerably, compare e.g. http://148apps.biz/app-store-metrics/?mpage=appprice (about 65 % free apps, and 3.5 % cost more 5 US$) and http://www.flurry.com/bid/99013/The-History-of-App-Pricing-And-Why-Most-Apps-Are-Free#.U7Wj6bHN0uc (90 % free apps).

operator services. This situation, again, differs very much from the Windows PC ecosystem where Windows programs often cost hundreds of Euros, which were lost if a user decided to switch from Windows to MacOS or Linux,[107] and where many programs were not available at all for MacOS or Linux. These barriers virtually do not exist in the field of mobile OS. In addition innovation cycles and device life cycles are much shorter with regard to mobile devices than for desktop PCs.

Before this background, it does not come as a surprise that switching mobile OS – or to be more exact: switching mobile ecosystems – is far more common than switching client PC OS. According to a recent US study, in 2013 more Android users switched to iOS than ever before.[108]

c) Conclusion

While the FairSearch complaint alleges that the high market shares of Android devices indicate a dominant position of Google on the market for mobile OS, a closer look at the competitive structure of this market reveals the opposite. Sales figures make a very poor proxy for dominance in the first place because Android devices are not made by Google but by OEMs. Google licenses Android to these OEMs without charging a royalty fee. Moreover, Google faces strong competitive constraints from actual and potential competitors as well as strong countervailing power on the demand side. The market for mobile OS is young, highly dynamic and innovative. Network effects that created an "applications barrier to entry" in the *Microsoft* cases are much lower, if they exist at all. This is in particular due to the much lower app developing costs and to the easy and widespread multi-homing of apps. The success of Android in spite of the initial lead of Apple iOS is in itself proof of this assumption. As *Evans* and *Schmalensee* observed in 2012: *"Apple's iPhone had an enormous stock of applications (or apps) before the first Android smartphone was marketed … yet as this is written Android phones are substantially outselling iPhones*".[109]

In sum, the analysis above indicates that Google does not hold a dominant position according to Article 102 TFEU in the market for mobile OS because its decisions are not "largely insensitive to the actions and reactions of competitors, customers and, ultimately, consumers" as would be necessary for finding dominance according to the European Commission's Guidance. On the contrary, Google faces lively competition and strong competitive constraints.

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107 Traditionally, software programs were licensed for the product's lifetime. Only recently Microsoft, Adobe and others have changed their licensing model to periodical subscriptions.

108 See http://bgr.com/2013/11/11/android-iphone-switch-study-iphone-5s.

109 *Evans/Schmalensee,* The Antitrust Analysis of Multi-Sided Platform Businesses, Dec. 2012, http://ssrn.com/abstract=2185373, at page 19 footnote 29.

2. Markets for Mobile Apps and Mobile Services

The findings above apply to the markets for mobile apps and for related mobile services as well. Google offers apps for internet search (Search), video streaming (YouTube), navigation (Google Maps) and app distribution (Google Play) that reach considerably high consumer attention. For instance, according to *comScore* Google Maps ranked second (after Facebook) in 2012 with a "reach" of 65.9 % in the smartphone market, followed by Google Play (54.3 %), Google Search (53.5 %), Gmail (47.6 %) and YouTube (46.4 %).[110] However, according to *GlobalWebIndex*, only three out of 16 of the most used mobile apps worldwide were Google apps (Maps, YouTube, Google+), and only two of the underlying services were market leaders in 2013 (Maps, YouTube).[111] Regardless of the question which of these studies or methods is more accurate, these figures do not automatically mean that Google is dominant in any of the markets in which these apps or services are offered (to whatever extent these markets may be defined in detail). "Reach" does measure the percentage of an audience that used a service over a given time frame (typically a month). It is *not* a measure of market share. "Reach" figures for two competing services may sum to more than 100 % because users often "multi-home" (i.e. use more than one app or service for the same function).

Furthermore it is necessary to analyse market dynamics as well as constraints by competitors, entry and countervailing buyer power. The markets for apps and mobile services are certainly no less dynamic than the markets for mobile OS. On the contrary, there are millions of apps, and the vast majority of the mobile apps and services are offered to the consumers free of charge. For each app or service offered by Google, there are several alternatives by competitors. FairSearch nevertheless claims that certain apps like Maps, YouTube or Play are *"must-have Google apps"*,[112] in other words, that Android devices are not viable without GMS and therefore OEMs *de facto* must sign the MADA. This is misleading for several reasons.

First, MADAs can be concluded on a device-by-device basis. In other words, OEMs who have signed the MADA remain free to produce other devices without GMS.

Second, most GMS apps are tools to access internet services, but users "must" not have these apps to access the desired Google mobile services. Users can utilise these services as mobile web pages (e.g. m.youtube.com) through any web browser. OEMs can put links to these mobile websites on the home screen or make them their browser favourites. It is therefore misleading, to equate Google mobile *applications* to Google mobile *services*.[113]

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110 See https://www.comscore.com/ger/Insights/Press_Releases/2013/2/comScore_Releases_the_2013_Mobile_Future_in_Focus_Report, at page 36.

111 See http://blogs.cio.com/mobile-apps/18229/globalwebindex-most-popular-mobile-apps-google.

112 See http://www.fairsearcheurope.eu/wp-content/uploads/2013/04/FairSearch-Announces-EU-Complaint-on-Google-Mobile-Strategy-9-April-2013.pdf; see also *Edelman* (footnote 4 above, at page 60).

113 *Edelman* (footnote 4 above, at page 59), however, does imply just this: *"They also lack the widely-known Google Maps, Gmail, YouTube, and similar applications (collectively, Google Mobile Services)"*.

Third, there are third party alternatives for practically all GMS apps. There are third party apps that make use of Google's mobile websites to grant access to Google services like Maps or YouTube (for example "vTube"), and there is a great number of third party apps that rely on mobile services competing with Google (for example the MapQuest app).

Fourth, there are, at least, 29 other Android app stores in addition to Play.[114] Many OEMs who have signed MADAs (e.g. Samsung or Lenovo) preinstall their own app stores as well as their own apps and third-party apps in addition to GMS.

Finally, some OEMs and MNOs actually exclude GMS and Google services from their Android devices, and nevertheless are successfully on the markets. For example, FairSearch member Nokia has undermined FairSearch's argument by launching its own Android phone series "Nokia X" in 2014. Nokia X smartphones come without GMS, but offer a Microsoft/Nokia suite of apps instead. According to first press reports, Nokia does not even permit the users to install Google apps.[115] Likewise, Amazon replaced Google Play by its own (exclusive) "App-Shop" on its Fire devices. Nevertheless, one out of three Android tablets sold in the US is a Kindle Fire.[116] According to an estimate by the Chinese Android app store Wandoujia, about 70 % of the Android smartphones sold in China come without Google Play.[117] Users obviously do not "depend" on GMS, and neither do OEMs. The supposedly "tying" GMS apps are rather "want-have" apps than "must-have" apps.

The Android ecosystem differs very much from the facts and circumstances of the *Microsoft* tying cases. Microsoft made Internet Explorer part of the Windows OS by embedding it into the OS itself, thereby giving neither OEMs nor users a choice of whether to preinstall it or not. After having eliminated its competitor Netscape, Microsoft ceased improving Internet Explorer 6.0 for many years, thereby slowing down innovation not only in the market for web browsers, but in the internet as a whole to the detriment of the consumers. Microsoft was able act this way because it was not subject to any noticeable competitive constraints for an extended period of time.[118] Google, on the contrary, faces strong actual competition and lively entry of new competing app developers and service providers in all possibly relevant markets as well as strong countervailing demand-side power of OEMs like Samsung and MNOs like Vodafone. Consumers are not powerless, either. Similar to users of consumer communications services in the *Microsoft/Skype* case, they are used to multihoming and they can (and will) switch to competing apps and services *"easily, immediately and without cost"* if the conditions offered by Google worsen (e.g. if Google would start to charge a fee for apps or services) or if Google loses its innovation impetus.[119]

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114 See http://www.onepf.org/appstores/.

115 See http://www.areamobile.de/news/26782-nokia-x-macht-station-in-berlin (in German).

116 See http://arstechnica.com/gadgets/2013/01/kindle-fire-nabs-33-of-android-tablet-market-nexus-7-just-8/.

117 See http://thenextweb.com/asia/2013/11/25/foreign-games-in-china-lose-potential-revenue-by-using-google-in-app-billing-says-report/.

118 See COMM., 16. 12. 2009, Case COMP/C-3/39.530 – *Microsoft (Internet Explorer)*, at paragraphs 54 and following.

119 Compare COMM., 7. 10. 2011, COMP/M.6281 – *Microsoft/Skype*, at paragraphs 26 and 121 to 130.

3. Conclusion

It is far from clear that Google holds a dominant position according to Article 102 TFEU either on the market for mobile operation systems or on any relevant market for apps and/or related mobile services. In fact, the analysis above rather points in the opposite direction. Nevertheless, for the sake of completeness, I will look at the abuses alleged by FairSearch, i.e. hypothetically analyse whether the business practices of Google would amount to an abuse of market power in the meaning of Article 102 TFEU if Google held a dominant position.

III. Abuse

Contrary to a common misunderstanding, Article 102 TFEU is not directed against size or dominance of undertakings, but only against the abuse of a dominant position. The observation that successful undertakings grow at the expense of other undertakings that shrink or even vanish from the market is an expression of *working* competition. Hence, Article 102 TFEU does not forbid the acquisition of a dominant position or monopolies as such. This is especially true on innovation driven markets. A dominant undertaking is principally free to compete on the merits. Article 102 TFEU, however, comes into play if such an undertaking abuses its power to impair effective competition by foreclosing its competitors in an anti-competitive way to the harm of consumers.[120]

1. Exclusion or Predation by Zero Pricing Android?

FairSearch attacks Google's royalty-free licensing of Android as *"predatory distribution"* that *"makes it difficult for other providers of operating systems to recoup investments"*.[121] FairSearch seems to allege that Google engages in a price-based exclusionary conduct or even in a predatory pricing strategy. However, both forms of abuse obviously do not apply to the situation at hand because, as the European Commission has underscored in its Guidance, both require *"engaging in below-cost pricing"* or *"deliberately incurring losses or foregoing profits"*.[122] In other words, it would be necessary that Google lose money by distributing Android on a royalty-free basis. This is simply not the case.

First, like many other open source and internet service undertakings, Google operates on two-sided markets on which the consumers decide about the success of a service, but the remuneration comes from advertising clients. The distribution of Android (and of most apps and mobile services) for a zero price is an indirect tool to attract as much attention as possible by the consumers, increase mobile usage, and ultimately monetise this usage, through advertising or otherwise. By licensing Android for free, Google makes it possible to offer Android devices for lower prices. This gives more people access to mobile devices. The more people own mobile de-

120 Compare COMM., Guidance, at paragraphs 19 and following.

121 See http://www.fairsearcheurope.eu/wp-content/uploads/2013/04/FairSearch-Announces-EU-Complaint-on-Google-Mobile-Strategy-9-April-2013.pdf.

122 COMM., Guidance, at paragraphs 63, 70 and following.

vices, the more they are likely to use the internet and have a chance to choose Google's search and other services. More use of these services can translate into more advertising revenue. Google's business behaviour insofar resembles the business model of suppliers of free TV services or free advertising newspaper services that also rely on zero pricing. The suppliers of such services act this way not in order to *forego* profit, but to *draw* profit while at the same time improving consumer welfare (i.e. by offering free services or making possible low-cost smartphones).

Second, it is highly unlikely that Google will ever change this (successful) business practice. To charge a license fee is impossible for versions of Android that have already been released under a royalty-free license agreement, and it would not be reasonable for future versions of Android because this would run counter to Google's general business model that is based on commercial online advertising. Providing an open mobile platform has always been in Google's vital interest. The openness of Android has always been a quality that set it apart from the closed Windows Phone and iOS ecosystems, and it is one of the key factors of Android's success.

Third, by pursuing a business model that is not only common and generally accepted, but *the* business model of the digital economy, Google competes on the merits. This would be in line with the "special responsibility" for the preservation of competition that EU competition law imposes on dominant undertakings,[123] even if, , *quod non*, Google held a dominant position in any of the relevant markets (which, based upon the findings above, is highly questionable).

The FairSearch complaint closely resembles a complaint by the German map service "Euro-Cities" in this respect. Euro-Cities, inter alia, offers online maps that can be implemented in websites (e.g. for "how to find us"-information). Euro-Cities filed complaints with the German Federal Cartel Office (Bundeskartellamt) and the European Commission claiming that Google was pricing its maps services below cost because Google Maps did not charge a license fee for map usage, but rather utilized the maps as a tool to draw revenue from search related advertising. However, both competition authorities refused to open proceedings against Google on this ground.[124] While it was obvious that Euro-Cities lost customers and profit due to the success of Google Maps, this was not due to a *restraint* of competition, but due to competition *on the merits*. Google's business model was innovative, and the consumers liked it better than the more traditional business model of Euro-Cities that relied on direct license fees. The same applies here. FairSearch's allegations amount to a complaint about Google's business model making it more difficult for Microsoft (as the only competitor that actually charges OEMs for licensing mobile OS) to recoup its investments without changing its own – more traditional and less successful – business model. In other words, FairSearch asks the European Commission to protect Microsoft from competition. It is obvious that granting such a frivolous request would turn the rationale of EU competition law on the head.

It is also noteworthy in this context, that Microsoft announced a radical change of its business strategy in April 2014. In the future, Microsoft will follow Google's example

123 See CJ, 9. 11. 1983, case 322/81 Rec. 1983, 3461, 3511, at paragraph 57 – *Michelin*.

124 See http://www.i-comp.org/wp-content/uploads/2013/07/Google-Im-Fadenkreuz.pdf; *Körber*, WRP 2012, 761, 767 (both in German).

and license Windows Phone OS on a royalty-free basis to some OEMs who make smartphones and small tablets for consumers[125] (while many Android OEMs, as we have seen, must pay a patent royalty to Microsoft for every Android device shipped). Likewise, Apple now offers its office suite iWorks for free to new buyers of iOS devices or MacOS devices (following the Google Docs example).[126] These developments underscore that Google's licensing practice actually increases competition and, at the same time, improves consumer welfare by reducing the costs of mobile devices, applications and services, and thereby making it possible for a larger group of people to benefit from these innovations.

Fourth, to force Google to charge a royalty fee for Android (which seems to be what FairSearch has in mind as a remedy) would not only put Google's own business model into question. It would also distort competition on the merits in the market for mobile OS because Android OEMs would have to pay a royalty fee not only to Microsoft but also to Google (while Windows Phone may be licensed royalty-free). This would decrease consumer welfare because the OEMs or MNOs would pass on such a royalty to the consumers by raising the prices of mobile devices or for mobile network services. Furthermore, such a remedy might put all commercial open-source initiatives and most two-sided business strategies under the "Sword of Damocles" and thereby endanger the backbone of the whole internet economy,[127] even though Article 102 TFEU only applies to dominant undertakings. While this may be an outcome favorable to Microsoft (and by extension FairSearch), it would be detrimental to European users and app developers.

Finally, it might be argued, that even if zero pricing does not constitute an abuse in the market for mobile OS, it might, nevertheless, constitute an abuse in other markets, e.g. in app markets or in markets for mobile services, in particular internet search. However, this would require that Google license Android in a way that is apt to foreclose competing apps or services from these other markets. This is clearly not the case. The situation again differs markedly from the *Microsoft* tying cases. In these cases, Media Player and Internet Explorer were ubiquitous on Windows PCs worldwide because Microsoft technically made these programs a part of the Windows OS itself. With regard to Android, OEMs are free either to build Android-based mobile OS that are not compatible, or to follow the CDD, sign the AFA and make Android-compatible devices. In both cases, they do not have to install any GMS app.[128] Preinstalling GMS is just an additional option, which Google offers in the form of a separate license agreement (MADA) while Apple and Microsoft both technically embed certain apps in iOS or Windows Phone.

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125 See http://www.reuters.com/article/2014/04/02/us-microsoft-windows-idUSBREA311OX20140402.

126 See http://www.apple.com/creativity-apps/mac/.

127 Compare http://chillingcompetition.com/2013/09/06/some-thoughts-on-the-new-anti-google-android-complaint-23-predatory-pricing-claims/: "If what has been released is true … the complaint not only challenges FreeSoftware, it actually runs counter the very logic of the digital economy, where many services are provided free of charge and monetized indirectly".

128 There are some Android "core apps" that must be present Android compatible devices according to CDD/AFA (like Desk Clock, Browser and Calendar), but OEMs can install any apps that fulfil the CDD requirements. These "core app"" are different from the apps licensed according to the MADA (like Play, Maps and YouTube). For details see at page 5 above and following.

In sum, foreclosure by tying is a non-issue with respect to the Android OS because there simply is no GMS app or Google service that is in any way tied to the Android OS itself.[129] FairSearch's press release alleging *that "Google is using its Android mobile operating system as a 'Trojan Horse' to deceive partners, monopolize the mobile marketplace"*[130] is at odds with the facts. Licensing Android for a zero price obviously neither constitutes a price-based exclusion, nor, *a fortiori*, predatory pricing on the market for mobile OS or a foreclosure on any other market.

FairSearch's "predatory pricing" complaint is clearly without merit.

2. Tying Apps by Way of the MADA?

a) The FairSearch Complaint's Tying Allegation

FairSearch's second complaint states that *"Android phone makers who want to include must-have Google apps such as Maps, YouTube or Play are required to pre-load an entire suite of Google mobile services and to give them prominent default placement on the phone ... This disadvantages other providers, and puts Google's Android in control of consumer data on a majority of smartphones shipped today"*.[131] FairSearch, in other words, accuses Google of foreclosing competing app developers by bundling Google apps to the GMS. *Edelman* adds with respect to the MADA: *"In order to obtain key mobile apps, including Google's own Search, Maps, and YouTube, manufacturers must agree to install all the apps Google specifies, with the prominence Google requires, including setting these apps as default where Google instructs. It's a classic tie and an instance of full line forcing: If a phone manufacturer wants any of the apps Google offers, it must take the others also".*[132] *"Google has market power over multiple services without close substitutes [...]; Google then uses that power to compel use of its other services, even in markets where competitors have viable offerings."*[133]

In stark contrast to these allegations, the US FTC and the South Korean FTC did not find any violation of competition law with regard to Android or to the MADA.[134]

FairSearch's second complaint, at first glance, seems to address similar competitive issues as the *Microsoft* tying cases in which the European Commission fined Microsoft for supposedly tying Media Player and Internet Explorer to its client PC OS Windows without giving users a sufficient choice. Upon closer review, however, we will see that the *Microsoft* tying cases are actually very different and must be distinguished from the factual and legal situation at hand.

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129 Obligations to install Google apps or services only come into play if an OEM decides to sign the MADA in addition to AFA.

130 See http://www.fairsearcheurope.eu/wp-content/uploads/2013/04/FairSearch-Announces-EU-Complaint-on-Google-Mobile-Strategy-9-April-2013.pdf.

131 See http://www.fairsearcheurope.eu/wp-content/uploads/2013/04/FairSearch-Announces-EU-Complaint-on-Google-Mobile-Strategy-9-April-2013.pdf.

132 *Edelman*, see footnote 10 above (italics in the original text); see also *Edelman* (footnote 4 above), at pages 57 and following.

133 *Edelman* (footnote 4 above), at page 62.

134 See at page 1 above and following.

b) Competitive Assessment

While tying may constitute an abuse forbidden by Article 102 lit. d TFEU, EU competition law does not per se forbid the tying of two separate products. On the contrary, the European Commission underlines in its Guidance: *"Tying and bundling are common practices intended to provide customers with better products or offerings in more cost effective ways. However, an undertaking which is dominant in one product market (or more) of a tie or bundle (referred to as the tying market) can harm consumers through tying or bundling by foreclosing the market for the other products that are part of the tie or bundle (referred to as the tied market) and, indirectly, the tying market"*.[135]

aa) Dominance on the Tying Market

In order to distinguish legal ties from illegal ties, the European Commission, as a first step, assesses dominance on the tying market. Regardless of whether or not Google is dominant with respect to the Android OS, the tying market can obviously not be the market for mobile OS because Google licenses Android without an obligation to install any GMS apps.[136] The FairSearch complaint therefore alleges that Google was dominant on the markets for *"must-have Google apps such as Maps, YouTube or Play"*.[137]

As we have seen, market definition in this field of the digital economy is particularly problematic because all these apps offer access to mobile services that users can as well access through any web browser. In addition, it might be argued with respect to devices like the Amazon Fire devices or the Nokia X smartphones (which come with a whole suite of non-Google apps) that there is a market for competing "suites of apps" rather than for individual apps.

If we assume for the sake of the argument that separate markets for individual apps exist, it still is far from clear that Google is dominant on any of these markets because there is strong competitive pressure as well as strong countervailing demand-side power and demand flexibility. It is therefore unlikely that Google dominates any relevant app market. Apps like Maps, YouTube or Play are rather "want have apps" than "must have apps".

Nevertheless, I will take a further look at the alleged abuses, i.e. *hypothetically* analyse whether the business practices of Google would amount to an abuse of market power according to Article 102 TFEU, *if* there were separate markets for individual apps (e.g. apps for map services, search, streaming video) and *if* Google held a dominant position on one or more of these markets. To be more precise, I will pretend,

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135 COMM., Guidance, at paragraph 49.

136 By contrast, *Edelman* (footnote 4 above) claims that Android (also) was a tying product (at pages 55 and following and at page 60). However, this is based upon the assertion that Google does not license Android to OEMs if they do not sign MADA. This assertion is plainly wrong. There obviously are fully licensed forked versions of Android installed on devices like the Barnes & Noble Nook, on Amazon Fire devices and on Nokia X smartphones. Furthermore, this assertion was expressly *rejected* in both cases to which *Edelman* refers (*Skyhook*; *NHN & Daum*).

137 Similarly, *Edelman* (footnote 4 above, at pages 57 and following) focusses on YouTube.

137 See at page 1 above and following.

quod non, that Google holds a dominant position on presumed markets for apps that offer mobile map services (Maps), video streaming (YouTube) and app distribution (Play) as FairSearch claims.

bb) Tying and Tied Products as Distinct Products

According to the European Commission's Guidance tying *"usually refers to situations where customers that purchase one product (the tying product) are required also to purchase another product from the dominant undertaking (the tied product). Tying can take place on a technical or contractual basis"*.[138]

It is not beyond question that the GMS apps are separate products. It could be argued that the whole GMS is a single product, which is competing with other suites of Android apps that are, for example, offered by Amazon, Microsoft or Yandex. Furthermore, considering the fact that Android devices compete against vertically integrated rivals such as Apple, competition first and foremost takes place between platforms or mobile ecosystems.

However in the *Microsoft* cases, the Commission took a quite narrow view according to which two distinct products exist, if there (also) is a separate market for a certain program.[139] If we, therefore, assume that the individual apps are separate products, there are, contrary to the *Microsoft* cases, no discernible technical ties. Users also stay free to download most Google apps that belong to GMS separately. However, Sec. 3.4 MADA outlines an "all-or-nothing" rule. OEMs who wish to preinstall one Google app like Play must install all GMS apps (but only on that particular device). This means that users who buy a device that is subject to the MADA will also always get the whole GMS. Therefore, *presuming* that the relevant markets are separate markets for individual apps/services (and not the market for suites of apps), the MADA would constitute a contractual tie. This, however, would not mean that the MADA is per se abusive. As the Commission put it, *"[t]ying and bundling are common practices intended to provide customers with better products or offerings in more cost effective ways"*.[140] In order to assess whether offering the GMS as a suite of apps constitutes a legitimate, pro-competitive tie to the advantage of consumers or an illegal tying practice in violation of Article 102 TFEU, it is necessary to answer two additional questions that actually are aspects of a single, comprehensive competitive assessment:

- *First*, does the MADA lead to a foreclosure of competing apps and/or services?
- *Second*, does the MADA create countervailing pro-competitive and pro-consumer efficiencies? In other words, is a presumed tie objectively justified?

138 COMM., Guidance, at paragraph 48.
139 COMM., 24. 3. 2004, Case COMP/C-3/37.792 – *Microsoft (Interoperability and Media Player)*, at paragraph 804.
140 COMM., Guidance, at paragraph 49.

cc) Foreclosure

Before we turn to the first question of whether the MADA might lead to a foreclosure of competing apps and/or services, it is important to note that combining Google apps to the GMS in the case at hand does not by its nature lead to a foreclosure effect. In a regular tying case, *"the undertaking concerned does not give customers a choice to obtain the tying product without the tied product"*.[141] The customer must *buy* the tied product and *pay for* it, even though he does not want it. At the same time, such a "classic tie" forecloses competitors because the customer does not want *to pay* for a (redundant) competing product *in addition* to the tied product.[142] In the *Microsoft* cases, it was dubious, if this requirement was fulfilled. The Commission underscored in its decisions that the foreclosure requirement mandates a closer review if the presumably tied product is available separately from the presumably tying product and, in particular, if the presumably tied product is available free of charge.[143] Similarly, the Court of Appeal for the D.C. Circuit indicated that the US *Microsoft* tying case should be governed by a rule of reason approach, in particular if the tie improves the value of the tying product to users and to makers of complementary goods.[144]

In the following, I will analyse whether the combination of popular Google apps like Play, Maps or YouTube with other less popular Google apps like Hangouts in the GMS might lead to foreclosure effects. In order to do so, I will compare the facts and circumstances to the *Microsoft* cases.[145]

(1) Preinstallation Requirements

First, in the *Microsoft* case,[146] the Euopean Commission underscored that the Internet Explorer (IE) was ubiquitous on all Windows PCs, and that it was the only web browser that Microsoft licensed and delivered to the OEMs as part of the Windows OS itself. By contrast, the GMS is no part of the Android OS. There are neither technical nor contractual ties that link the Android OS to the GMS. The GMS apps are therefore not as ubiquitous on Android devices as WMP or IE are on Windows PCs. Google has to conclude a separate licensing and preinstallation agreement (the MA-

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141 See COMM., 24. 3. 2004, Case COMP/C-3/37.792 – *Microsoft (Interoperability and Media Player)*, at paragraph 798; COMM., 16. 12. 2009, Case COMP/C-3/39.530 – *Microsoft (Internet Explorer)*, at paragraph 33.

142 COMM. 22. 12. 1987, Cases IV/30.787 and 31.488, OJ 1988, L 16/19 (11. 3. 1988), at paragraph 75 – *Eurofix-Bauco v. Hilti*.

143 COMM., 24. 3. 2004, Case COMP/C-3/37.792 – *Microsoft (Interoperability and Media Player)*, at paragraph 841; COMM., 16. 12. 2009, Case COMP/C-3/39.530 – *Microsoft (Internet Explorer)*, at paragraphs 34 and following; affirmed GC, 17. 9. 2007, case T-201/04, Rec. 2007, II-3601 at paragraph 977 – *Microsoft*.

144 Compare *United States vs. Microsoft Corp.,* 253 F.2d 34, 90 (D.C. Cir 2001) = http://law.justia.com/cases/federal/appellate-courts/F3/253/34/576095/, at #212. This is remarkable, because of the somewhat ambivalent approach of the US Supreme Court, which tends to the per se rule with respect to tying, see e.g. *Jefferson Parish Hosp. Dist. V. Hyde*, 466 U.S. 2, 15 (1984), but also held that not every refusal to sell two products separately can be said to restrain competition (ibidem at page 19).

145 The 2004 *Microsoft Interoperability and Media Player* decision is the only legally binding precedent. The 2009 *Microsoft browser case* was resolved by way of commitments.

146 In the following, the term "the Microsoft case" – if not marked otherwise – relates to the Case COMP/C-3/39.530 – *Microsoft (Internet Explorer)*.

DA) with OEMs like any other app developer, and as such, GMS competes for access to Android devices, and usage, with other suites of apps.

Furthermore, the MADA must be seen in the context of competition among "mobile device ecosystems" (Android, iOS, Windows Phone, BlackBerry and others). Most OEMs install a suite of apps on their devices as consumers expect smartphones to come with functionalities and apps "out of the box". They expect a modern smartphone or tablet to come with a certain set of features and functions. Google's main competitors Apple, Microsoft and RIM have always offered such an experience while the Android OS has been heavily criticised for being too fragmented.[147] The MADA ensures that users – who choose to buy a device with GMS – get a device with a full set of apps that offer a "Google experience" similar to the "Apple experience" offered by the iOS devices or the "Microsoft experience" offered by Windows Phone devices. MADA insofar does not restrict mobile *inter* ecosystem competition, but enables such competition. The GMS certainly is the most successful suite of apps for Android. Most OEMs opt to sign the MADA. However, there *are* competing suites. For example, Amazon Fire devices and Nokia X smartphones come with alternative suites of apps offering users an "Amazon experience" or a "Windows Phone-like Nokia experience" similar to the "Google experience" offered by GMS. Yandex also offers a full suite of its own apps for Android phones and a free software toolkit ("Yandex.Kit") that enables OEMs to customize their Android firmware.[148] All this is remarkable because there is no *intra* ecosystem competition for alternative suites of apps at all with regard to iOS devices or Windows Phone devices.

Second, in the *Microsoft* case, the Euopean Commission observed that OEMs *"hardly ever distribute competing web browsers"*, and that *"it was not possible for OEMS or users to turn off Internet Explorer"*.[149] GMS apps, by contrast, are not preloaded at all, if an OEM decides not to sign the MADA. If the OEM signs the MADA for a certain device, the OEM must install all GMS apps, but it is permissible and, in fact, very common to preinstall competing apps and services as well. The standard MADA does not imply any exclusivity. A simple look at any smartphone subject to the MADA proves that allegations claiming the opposite[150] are plainly wrong. For example, world market leader Samsung preinstalls its own "Samsung Apps" store on its Android devices in addition to Google Play as well as its own media service "Samsung Hub". Most other OEMs preinstall and promote their own app stores as well. For example, the popular "Samsung Note 3" smartphone comes preinstalled with two web browsers, two email clients, two photo viewers, two consumer communications apps, two voice search apps and even three cloud media services (Google Drive, Samsung Hub, Dropbox).[151] In addition, OEMs and MNOs preinstall third party apps, thereby disproving accusations according to which the MADA makes it impossible to

147 See e.g. http://www.zdnet.com/androids-fragmentation-problem-just-got-a-whole-lot-weirder-and-bigger-7000026681/.

148 See http://techcrunch.com/2014/02/19/yandex-kit/ and http://kit.yandex.com/.

149 COMM., 16. 12. 2009, Case COMP/C-3/39.530 – *Microsoft (Internet Explorer)*, at paragraphs 42 and 43. Compare COMM., 24. 3. 2004, Case COMP/C-3/37.792 – *Microsoft (Interoperability and Media Player)*, at paragraph 855.

150 In this vein *Edelman* (footnote 4 above), at pages 55 and 68.

151 See also *O'Connor*, Observations on the Economics of Mobile App Suite Bundling, http://www.project-disco.org/competition/030314-observations-on-the-economics-of-mobile-app-suite-bundling/ with another example (Sprint Galaxy S4 by Samsung).

preinstall such apps and draw revenue from this source. For example, many smartphones come with preinstalled Dropbox, Twitter and Facebook apps. Samsung also preinstalles the TripAdvisor app. TripAdvisor is a member of FairSearch.

Moreover, users are in no way forced to use the preinstalled GMS apps. Other than Windows users in 2004 or 2009 with regard to WMP or Internet Explorer, Android users are even free to deactivate the GMS apps. If they do so, the apps' icons automatically vanish from the device's screen (it is also possible to just remove the icons from the screen without deactivating the apps). Apple does not offer these options with regard to the apps that come embedded in iOS. Likewise, Samsung allows users to deactivate all GMS apps including Google Play, but they are not permitted to deactivate the Samsung Apps store, the Samsung Hub and the third party app Flipboard.

Third, in the *Microsoft* cases, the Commission paid special attention to the fact that users were not only unwilling, but also often unable to install competing media players (2004) or web browsers (2009). In the 2009 case, *"the Commission preliminarily considered that users are prevented from switching from Internet Explorer to competing web browsers (even if offered free of charge) through downloading due to the barriers associated with such a switch, such as searching, choosing and installing such a competing web browser, which can stem from a lack of technical skills, or be related to the user's inertia".*[152] In the 2004 case, the Commission considered that *"while downloading is in itself a technically inexpensive way of distributing media players, vendors must expend resources to overcome end-users inertia and persuade them to ignore the pre-installation of WMP"*.[153]

While these observations may have been correct for PC users five or ten years ago, they certainly do not apply to users of mobile devices today. Like the European Commission described in the *Microsoft/Skype* case, there are no technical or economic constraints that prevent users from downloading several apps for the same function.[154] Mobile OS like Android are designed for app downloads. They make it very easy for users to find, download and install apps and to customize their devices. Users do not have to search the internet for alternative apps the way PC users had to in 2004 or 2009 (although internet search has vastly improved over the past years). All mobile devices offer at least one app store, and all app stores offer special app search functions that make it very easy to find apps. App stores also offer a user ranking and review system by which users can get information about the quality of apps. Moreover, Android OEMs can put links to mobile services or download links for apps directly on the home screen. Users just have to touch these links to access the services or install the apps. No technical skills are required.[155] Some OS suppliers even offer comprehensive "Google Applications" packages for download.[156]

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152 COMM., 16. 12. 2009, Case COMP/C-3/39.530 – *Microsoft (Internet Explorer)*, at paragraphs 41, 47 and following.

153 COMM., 24. 3. 2004, Case COMP/C-3/37.792 – *Microsoft (Interoperability and Media Player)*, at paragraph 870.

154 Compare GC, 11. 12. 2013, case T-79/12, at paragraph 79 and 96 – *Cisco Systems and Messagenet/Commission.*

155 Downloading apps certainly is no *"convoluted manual procedure"* or even *"unrealistic for most users"* as *Edelman* claims (see footnote 4 above), at pages 64 and 65.

156 For example http://wiki.cyanogenmod.org/w/Google_Apps.

Against this background, it does not come as a surprise that – in marked contrast to the conditions of PC users in 2004 or 2009 – users of mobile devices make ample use of downloading apps. The average Android user installs more than 50 additional apps on his device, and users of mobile devices have downloaded more than 100 billion apps in total as of May 2013.[157] There obviously is no "user's inertia".

It is important to emphasize that Android offers far more freedom to OEMs, app developers and users in this respect than any competing mobile OS. There are at least 30 Android app stores[158] while there is just one app store for iOS (Apple's own store) or for Windows Phone (the Microsoft/Nokia Windows Phone store). Android OEMs often preinstall their own app stores in addition to Google Play.

Furthermore (and again in contrast to iOS and Windows Phone), Android offers users the freedom to download Android apps directly from other sources (e.g. from the app developer's website or other websites like Chip.de) without having to use an app store at all. The MADA neither forbids preinstalling other app stores in addition to Play, nor does it forbid enabling app downloads directly from the web.[159] This is particularly remarkable because OEMs who did not sign the MADA (like Amazon with regard to its Fire devices) often take these freedoms away from users and app developers by blocking third party app stores and direct app downloads. Against this background, the MADA does not foreclose app distribution. The MADA rather forecloses "walled gardens" in which OEMs bind users to exclusive app stores, apps or services. The MADA thereby actually *enables* competition. It protects user freedom by requiring OEMs who choose to make a device subject to the MADA to commit to an open device on which users can download and install the apps they desire without interference.

Last but not least, the situation at hand differs very much from the *Microsoft* case with regard to the aspect of interoperability. In the first *Microsoft* case (2004), the European Commission did not only address the tying issue (with respect to WMP), but also considered it an abuse of market power that Microsoft had withheld essential interoperability information from its competitors (with respect to the interaction of client PCs running Windows and workgroup servers running the competitors' software). The Commission found that Microsoft made it impossible for its competitors to compete on the merits and that it hampered their ability and incentive to develop innovative products by withholding this interoperability infor-

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157 See http://www.asymco.com/2013/05/31/100-billion-app-downloads/ (May 2013).

158 See http://www.onepf.org/appstores/.

159 If users download an app from an app store that was not preinstalled, or if they download an app directly from the web, Android issues an "unknown sources" warning. This warning is necessary to protect consumers from malicious apps (e.g. apps containing viruses) because Google cannot control the safety of these apps (as it does with regard to apps that are distributed through Play). Users can easily override this warning once or for all (see, for example, http://m.aptoide.com/installer). There is no such security warning, if users install apps from Play or from other preinstalled app stores like "Samsung Apps". Makers of third-party app stores are free to enter into agreements with OEMs according to which the OEMs then can set these app stores as "known sources" (thereby assuming part of the responsibility for the safety of apps offered through these stores). Furthermore, it must be noted in this context, that this warning – like many other apparent "restrictions" of Android, only balances out the greater freedom that Android offers compared to the competing mobile OS. While Android permits other app stores and direct download, and then protects consumers by issuing a mere warning, Microsoft and Apple restrict app developers and users to their own exclusive app stores in the first place, and thereby completely foreclose all competition in this respect.

mation. Therefore, the Commission forced Microsoft to license the interoperability protocols to the competitors for a fair royalty.[160] Google, on the other hand, offers the whole Android code on a royalty-free, open source basis to every maker of mobile devices. Google furthermore provides a single set of clear interoperability instructions to all apps developers, including competitors, in form of the CDD.[161] The system of "intents" used in Android enables these apps to integrate seamlessly with other services, allowing users the ability to choose which service they use for a specific category of actions.[162]

In this context, it must also be noted that the remedy imposed by the European Commission to address the tying concern in the Microsoft Media Player case was to force Microsoft to offer a Windows version without WMP ("Windows N") in addition to the complete version of Windows with WMP.[163] As indicated above, OEMs are free to take Android with or without GMS. They keep this freedom for future devices, even if they have signed the MADA since the MADA only applies on a device-level basis. Google's licensing practices, therefore already conform to the legally applicable standard regarding tying and interoperability requirements (even if, *quod non*, it were dominant).

(2) Placement Requirements

With regard to the placement requirements according to the MADA, FairSearch alleges a "screen bias" on Android phones that are subject to the MADA. In the same vein, *Edelman* points out that *"Google requires that its apps be the default, and Google demands prominent placements for its search app and app store. These factors sharply limit users' attention to other preloaded apps, reducing competitors' willingness to pay for preinstallation. … Thanks to the MADA, alternative vendors of search, maps, location, email, and other apps cannot outcompete Google on the merits; even if a competitor offers an app that's better than Google's offering, the carrier is obliged to install Google's app also […]; to the extent that manufacturers can install competitors' apps, they can offer only inferior placement adjacent to Google, with Google left as the default in key sectors – preventing competitors from achieving scale or outbidding Google for prominent or default placement on a given device"*.[164]

These conclusions are clearly at odds with the facts and quite misleading. Again, a simple look at any Android phone subject to the MADA proves the opposite.[165]

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160 COMM., 24. 3. 2004, Case COMP/C-3/37.792 – *Microsoft (Interoperability and Media Player)*, at paragraphs 30 and following, 546 and following (interoperability), 998 and following (remedy); affirmed by GC, 17. 9. 2007, case T-201/04, Rec. 2007, II-3601 at paragraphs 312 and following.

161 See at page 5 above.

162 For more details, see at pages 26 and following below.

163 The 2004 *Microsoft Interoperability and Media Player* decision is the only legally binding precedent. The 2009 *Microsoft browser case* was resolved by way of commitments.

164 See *Edelman*, footnote 10 above and footnote 4, at pages 63 and following.

165 The following pictures are screenshots from an unbranded Samsung Note 3 smartphone with GMS, running Android 4.4.2. See also http://marketingland.com/htc-first-facebook-fairsearch-android-39507 (with some screenshots of the "HTC First" smartphone).

Picture 1: Default home screen of the Samsung Note 3

Google Search Widget

Icons including ("Google Play" and "Samsung Apps")

Bottom Line Screen (Launch Bar) with "Apps" Icon

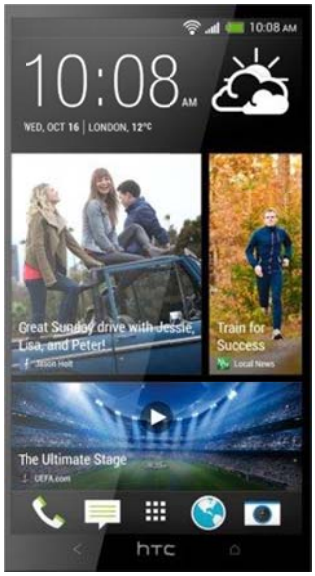
Android smartphone usually come with a screen that consists of several pages or "panels". The panel that the users see when they disable the lock screen for the first time is the "default home screen" (or "home screen"). Each screen panel regularly consists of an upper part with a 4x4 matrix (i.e. 16 fields for icons and/or widgets) and a lower part called "bottom line screen" (or "launch bar") with five additional icons. Users can "swipe" right or left to switch between screen panels. If users swipe to another panel, the upper part changes while the launch bar stays the same on all panels. In sum, each screen panel features 16 + 5 = 21 fields. By default, HTC smartphones feature two panels with 2 x 16 + 5 = 37 fields. Samsung smartphones offer four panels with 5 x 16 + 5 = 85 fields.[166]

Sec. 3.4 HTC-MADA (which *Edelman* quotes) requires that the Google Search widget and the Play icon must be placed *"on the panel immediately adjacent to the Default Home Screen"*. This leaves the default home screen and the bottom line screen completely to HTC (picture 2) while Search widget and Play icon combined require five fields on the second panel.[167] In other words, Search widget and Play icon occupy 13.5 % of the HTC screen or 5.9 % of the Samsung screen (see picture 3). Android tablets have larger screens than smartphones and therefore offer even more fields. For example, even a relatively small tablet like the 8-inch Samsung Galaxy Tab 3 offers 42 fields on each home screen panel (36 regular fields plus six on the launch bar).

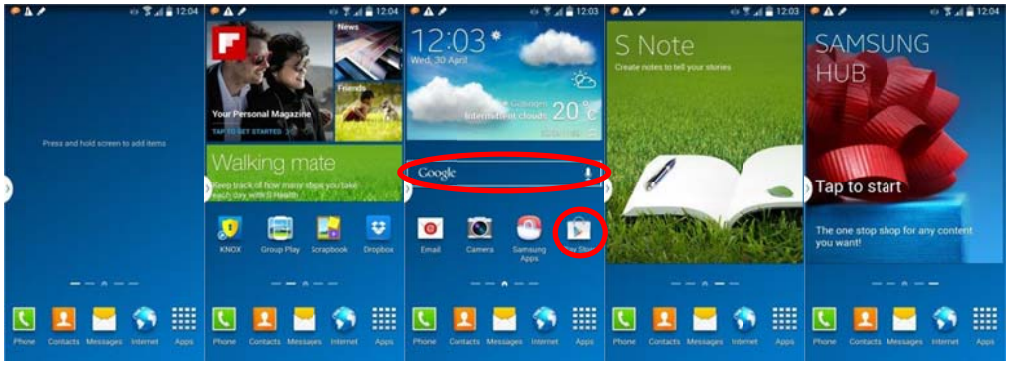
166 Users can add more panels, up to a combined seven panels, so the maximum screen space is 7 x 16 + 5 = 117 fields.

167 The Search widget requires four fields.

Picture 2: Default home screen of the HTC One Max



Picture 3: The five panels of a Samsung Note 3's home screen (default setup)



Sec. 3.4 HTC-MADA requires placement of all GMS apps (except for Play and Search widget) no more than "one level below the Phone Top". This means that these GMS apps are regularly not located on a home screen panel, but on the apps screen or even in a common Google collection (folder) on this screen. Users can access the apps screen by selecting the "Apps" icon in the launch bar (picture 1). The apps screen of an Android smartphone regularly has a 5x5 matrix and therefore offers at least 25 fields (picture 4).[168] The MADA reserves only one of these 25 fields for a single "Google" folder in which the icons to the GMS apps can be placed, leaving at least 96 % of this screen free for other apps (picture 4). This simple math already indicates that there is no foreclosure by a "prominent placement" of GMS apps according to the MADA.

168 Like on the home screen, the number of fields can differ depending on the devices and on the OEMs UI. Tablets regularly offer more fields. Moreover, the apps screen may feature several panels depending on the number of preinstalled apps (picture 4).

Picture 4: The two panels of a Samsung Note 3's apps screen

Picture 5: The Google folder (opened)

A more detailed review underscores this result. Although the MADA-placement requirements for Search widget and Play certainly draw some user attention, the MADA requires neither exclusivity nor a better placement for GMS apps compared to other apps. The HTC-MADA leaves the whole default home screen (the first panel) to non-Google apps and widgets. HTC (picture 2) fills this screen with its own service "BlinkFeed" on its recent smartphone models. Samsung, on the other hand, places the Search widget and the Google Play icon on the default home screen, but it also places the icon of its own app store "Samsung Apps" on the default home screen right next to the Google Play icon, thereby making the default home screen an "app

store choice screen" (picture 1).[169] Furthermore, the default home screen contains an icon to the email app (the standard app, not Gmail) and the Samsung camera app (picture 1). The other panels are mostly filled with Samsung widgets and icons. In addition they feature a big Flipboard widget and the Dropbox icon (both third party apps), but not a single additional Google application icon or widget (picture 3). On all panels the launch bar features the icons for Phone, Contacts, Messages, Browser (the standard Android browser, not Google Chrome) and Apps (the general apps folder, not the Google folder).

All GMS apps except for Search and Play are not located on the Samsung home screen, but on the apps screen that users can access by selecting the "Apps" icon in the launch bar (pictures 1, 4 and 5).[170] The default apps screen of Samsung phones consists of two panels with 25 fields each. Of these 50 fields, four are filled with Google icons (8 %) while the MADA *requires* only one field for a single Google folder (2 %).[171] Samsung fills most of this space with icons for its own apps and third party apps. Samsung positions two Samsung folders ("Samsung" and "Galaxy Plus") directly besides the "Google" folder. The Galaxy Plus folder contains third party apps like TripAdvisor, Dropbox and Evernote. Moreover, the icons for Samsung's own apps for picture viewing (Gallery), media streaming (Samsung Hub) and consumer communications (ChatOn) and the Dropbox icon are placed directly on the apps screen, while the icons for the competing GMS apps (Photos, Google Play music/movies/games/books, Google Drive, Google Hangouts) are placed "one level below" in the Google folder (pictures 4 and 5).

In addition to these observations, it bears noting that the more prominently placed GMS apps Search and Play are none of the supposedly "tied" apps. They are the supposedly "tying" apps, which most OEMs would install anyway (regardless of the MADA) because users want them. FairSearch even holds them to be "must-have" apps. Therefore, the complaint focuses on the other GMS apps (those in the Google folder on picture 5) and claims that the MADA forces *these other apps* on OEMs and users (e.g. Google Hangouts) by tying them to the presumed "must-have apps" and, thereby foreclosing app developers that compete with *these other apps*.

However, the supposedly "tied" apps do not receive any prominent placement at all. They are regularly located in a single folder on the apps screen represented by a single Google folder icon. To get to the supposedly tied GMS apps users must open the apps screen first, and then (regularly) the Google folder. In other words, even though these apps offer essential functionality, users might not even realise that they are present on their device until they actively look for them or until they make use of their functionality. This obviously very "non-prominent" placement makes it quite hard, not to say impossible, for the supposedly tied GMS apps to *"sharply limit users' attention"* to third party apps (as *Edelman* erroneously claims). Furthermore, these apps are by far not as essential for using mobile device as a web browser (In-

169 Notably, users *have* a choice because the MADA only requires a good placement of Play while Google's main competitors Apple and Microsoft do not permit other app stores at all.

170 OEMs are free to put other GMS apps on the home screen, but the MADA does not require this.

171 The four icons are the Google folder icon as requested by the MADA (red circle on picture 4) and the icons for Google Play, Google Maps and YouTube that Samsung places on the apps screen out of its own choice (green circle on picture 4). The MADA leaves 98 % of apps screen to Samsung.

ternet Explorer) or a media player (WMP) are for using a Windows PC. While the GMS apps "Gmail" and "Chrome" offer essential functionality (email, web-browsing), they are only preinstalled *in addition* to the Android Mail program and the Android Browser, which are placed far more prominently in the launch bar.[172]

Finally, the placement requirements of the MADA are only binding for OEMs, and they only cover the initial device setup. The users stay completely free to move the GMS apps and the Search widget wherever they want, to remove the icons to these apps from the smartphones screens or even to deactivate the apps completely (which automatically also removes their icons from the smartphones screens).

In sum, the MADA obviously does not create an anti-competitive "screen bias" in favour of Google. If there is a screen bias at all on recent Android smartphones, it is in favour of Samsung's or HTC's own apps and services and not GMS.

(3) Default Requirements

As remedies with respect to the *Microsoft* tying allegations, Microsoft had to offer a Windows version without Media Player ("Windows N") in the 2004 case,[173] or at least a choice screen that made it possible for users to select a web browser in the 2009 case.[174] While Microsoft had to be forced to offer a "pure" Windows N without Media Player, the Android OS has always been licensed "pure", i.e. without the GMS which OEMs can (but do not have to) license separately by signing the MADA.[175] Furthermore, the MADA does in no way hamper the OEMs ability to create more choice screens (e.g. by installing several apps for the same functions and putting the icons side by side on the home screen),[176] and Android even includes several choice screens by default.

The standard MADA requires that Google Search must be set as default for the search *intent*.[177] However, this requirement is of a very limited practical relevance. It means that Google Search is invoked by default if an app uses the search functionality. In practice there is hardly any app that uses this specific intent. In particular, the standard MADA *does not* require OEMs to set the search engine default of the preinstalled Android web browser to Google Search, but leaves them free to use a search engine of their choice.[178] Moreover, if several apps offer the same function with respect to a certain intent (e.g. search, email, web browsing or map services), Android automatically opens a choice screen and asks users which application they want to use. For example, if users tap on a web address, they are given a choice among *all* web browsers that are installed on the device (picture 6). This choice is renewed

172 If another app calls for the email function or web browsing function, a choice screen opens and offers both email-programs or browsers (see picture 6). The GMS apps are *not* set as defaults.

173 COMM., 24. 3. 2004, Case COMP/C-3/37.792 – *Microsoft (Interoperability and Media Player)*, at paragraphs 1011 and following; affirmed by GC, 17. 9. 2007, case T-201/04, Rec. 2007, II-3601 - *Microsoft* at paragraphs 850 and following.

174 COMM., 16. 12. 2009, Case COMP/C-3/39.530 – *Microsoft (Internet Explorer)*, commitments No. 1 and 2.

175 See at page 4 above and following.

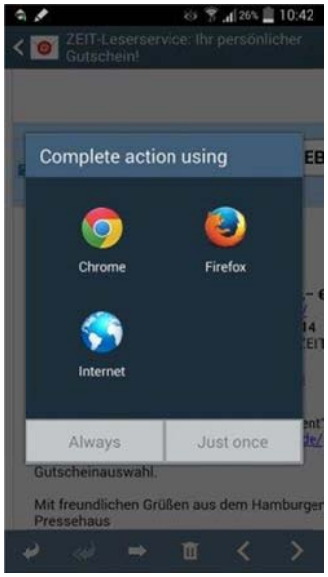
176 See at pages 25 and 34 above and following, in particular picture 1.

177 For an explanation of the term "intent" see footnote 29 above.

178 For details see footnote 40 above. It bears noting in this context, that Microsoft Phone 8.1 is far more restrictive with regard to Bing as search default, see details at and in footnote 42 above.

every time a new app that covers this function is installed (regardless of whether this app is a Google app or an app by a third party developer). That also means that users can override any intent default by simply installing another app with the same functionality.

Picture 6: Choice screen (multiple apps with the same functionality are available)[179]



In addition, Android permits a complete redesign of the user interface. OEMs and MNOs often apply their own UIs to Android devices (like Samsung's "TouchWiz" or HTC's "Sense", see picture 2). On devices with such UIs, Android operates primarily "in the background". Users can also change the UI by installing apps like "Facebook Home" (downloaded more than one million times) or "Go Launcher EX" (downloaded more than 10 million times). [180] Such IUs make it possible to change the home screen design (and remove the GMS placements) in a single step. Neither iOS nor Windows Phone offers a similar option for user customisation.

(4) Foreclosure or Competition on the Merits?

A look at the real market conditions disproves allegations that *"other apps cannot outcompete Google on the merits"*.[181] In fact, there are more than a million third party Android apps and thousands of mobile services. As usual in a competitive environment, some apps and services are more successful than others. In some cases, Google apps and services are market leaders. Neither Google nor OEMs need to "force" Search, Maps or YouTube on users. These apps are similarly prominent on other platforms. FairSearch even claims that Maps, YouTube and Play are "must-have" apps. In other cases, competing apps and services have taken the lead.

179 Internet = Android browser, Chrome = GMS app, Firefox = third-party app installed by user.
180 Go Launcher EX also installs an additional app store ("Go Store").
181 Quote from *Edelman*, footnote 10 above.

In 2013, only three out of 16 of the most used mobile apps worldwide were Google apps (Maps, YouTube, Google+), and only two of the underlying services were market leaders (Maps, YouTube).[182] To give some further examples:

- Although Google+ is now part of the GMS, Facebook is the dominant social network. OEMs of GMS-devices can preload the Facebook app because the MADA does not imply any exclusivity. Likewise, users can easily download the Facebook app from Play or any other app store, if it was not preinstalled in the first place. Users have downloaded the Facebook app more than 500 million times from Google Play.
- Although Google Hangouts (formerly Talk) is part of the GMS, and Samsung, in addition, preinstalls its own consumer communications service ChatOn, neither of the preinstalled services is market leader. Users prefer WhatsApp, Facebook Messenger and other services like Skype or Twitter.[183] They have downloaded the WhatsApp messenger more than 500 million times from Google Play, and the Facebook Messenger, Skype and Twitter apps more than 100 million times each.
- With regard to cloud media services, Samsung phones come preinstalled with Google Drive, but also with Samsung Hub and Dropbox. Of these three services, Dropbox took the clear lead (17 %) over Google Drive (10 %) and Samsung Hub (3 %) in the US in 2013 while Apple iTunes was market leader (27 %).[184]

In stark contrast to users of desktop PCs five or ten years ago, users of mobile OS in 2014 obviously do not stick to the preinstalled apps, but make use of the enormous choice of apps and mobile services offered to them. Users might not literally *need* a second browser or a second map service (like nobody *literally* needs a second pair of shoes), but mobile users obviously *like* to compare apps, to try out alternatives and to multi-home. As we have seen, mobile users (in contrast to PC users) get information and assistance through specialized app store search functions and app store user ratings when they look for alternative apps and services, and they typically download dozens of additional apps (most of them free of charge).

Finally, Google also gives app developers far greater freedom than its competitors do. App developers can distribute their apps not only through at least 30 different Android app stores, but also completely skip the wholesale level and offer their apps directly from their own homepages or through other websites. In other words, app distribution is open to competition while apps for iOS and Windows Phone must be distributed through an exclusive single app store. The great freedom offered by Android has encouraged app developers who in turn have created a large number as well as a wide range of apps. On last count (March 2014), users could select from a total of 1,193,546 Android apps,[185] and they made ample use of this choice.

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182 See http://blogs.cio.com/mobile-apps/18229/globalwebindex-most-popular-mobile-apps-google.

183 See http://www.1mtb.com/whatsapp-leads-the-global-mobile-messenger-wars-with-44-pc-market-share/.

184 See http://www.engadget.com/2013/03/21/strategy-analytics-cloud-media-market-share/.

185 See http://www.appbrain.com/stats/number-of-android-apps.

In sum, while the MADA imposes some rather modest obligations on OEMs in order to prevent Android fragmentation and to provide users a consistent "out of the box"-experience, Google, on balance, leaves OEMs, MNOs, app developers and users far greater freedom than its competitors do. If OEMs sign the optional MADA, they still enjoy far greater freedom than currently exists in the iOS or Windows Phone ecosystems. This also means that there is obviously *more* room for competition on all levels in the Android ecosystem than there is in the competing mobile OS ecosystems. This openness is without doubt one major reason for Android's success, and it has enabled lively competition among mobile apps and services.

(5) Consumer Harm or Consumer Benefit?

For the reasons stated above, multiple apps are certainly not *"confusing to users, and a drain on limited device resources"* as *Edelman* claims.[186] These arguments refer to the original *Microsoft* case of 2004.[187] They are "from the past" and not in line with user experience and technology of the year 2014. As we have seen, the average mobile user today voluntarily installs dozens of apps. Users are obviously able to cope with multiple apps. They make use of the lively competition among apps and services and they multi-home. Likewise, OEMs like Samsung preinstall multiple apps for the same function (e.g. two email programs, two web browsers and three cloud services on the Note 3 smartphone). OEMs certainly would not act this way, if this would confuse users and thereby increase support costs.

Likewise, the preinstalled GMS apps certainly do not constitute *"a drain on limited devices resources"*. Again, some simple math is sufficient to disprove this allegation. Mobile apps are developed for mobile download and, therefore, require only very little resources. For example, Google Play requires about 10 MB of memory, Google Mail 7 MB, YouTube 13 MB, Google Maps 16 MB and Google Hangouts 23 MB.[188] Even low cost Android phones like the Samsung Galaxy S3 mini come with 8 GB of memory, which equals 8,192 MB.[189] This means that the YouTube app, for example, takes only 0.16 % of the Galaxy S3 mini's memory. Likewise, all GMS apps combined fill no more than a few percent of an Android device's memory, leaving more than ample space for OEM apps, third party apps and other data.[190]

It is equally false when *Edelman* claims that *"MADA restrictions harm consumers"* because *"competing app vendors face greatly reduced ability to subsidize phones through payments to manufacturers for preinstallation or default placement; Google's*

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186 Quote from *Edelman*, footnote 10 above and *Edelman* (footnote 4 above) at page 58.

187 See COMM., 24. 3. 2004, Case COMP/C-3/37.792 – *Microsoft (Interoperability and Media Player)*, at paragraph 851. The "limited resources"-argument was incorrect even in 2004 and it is utterly false in 2014.

188 The program sizes refer to (rounded) figures from the system information of a Samsung Note 3 (Android 4.4.2). Sizes may vary slightly depending on the device and the version of Android running on this device.

189 Other devices offer 16 GB or even 32 GB of preinstalled memory. Furthermore, users can upgrade most Android devices by installing additional, low cost MicroSD memory cards. iOS devices do not permit the installation of such memory cards.

190 See also See also *O'Connor* (footnote 151 above) who underlines that the average app size is just 23 MB.

rules leave manufacturers with much less to sell… thereby preventing any pass-through price reductions to consumers".[191]

As we have seen above, OEMs and MNOs are free to offer competing app developers preinstallation and prominent placement right next to Play and Search (and in even more prominent positions than the rest of the GMS apps), and OEMs and MNOs make use of this freedom. While it is true, that the MADA leaves them less to sell, the "less" rather follows from the fact that the MADA actually *prohibits exclusivity*. An OEM or MNO who does not sign the MADA can bargain for an even higher price for preinstallation by offering app developers or service providers exclusivity with regard to their apps or services. As a procompetitive side effect, the MADA actually helps to avoid such exclusive dealings that would reduce consumer choice and thereby consumer welfare. The MADA insofar enables rather than forecloses competition between apps and services.[192]

Furthermore, to claim that the MADA increases the cost of Android devices because it makes it harder for OEMs to sell preinstallation to third party app developers is not only rather far-fetched. It is also very one-sided and misleading. The allegation is far-fetched because it is possible and quite common to sell preinstallation and prominent placement to third parties, and because it is far from clear that OEMs would actually pass on the extra revenue to the consumers. The allegation is one-sided because it does not take into account that the Android OS itself and the GMS are licensed free of charge. This licensing policy has made it possible to sell Android devices at much lower prices than iOS devices or Windows Phone devices in the first place. For example, in Germany, users can get an Android smartphone for as little as 52 € (including 19 % sales tax)[193] while the least expensive iPhone costs 549 €.[194] In other words, Google's licensing policy has opened smartphone markets to low-income consumers (including students) and to customers in third-world countries. This also largely explains why Android devices are world market leaders when it comes to sales figures.[195] To claim that Google's licensing policy makes Android devices *more* expensive, does not only confuse the facts, but turns them on the head.

(6) Conclusion

The allegation that the MADA insolates Google from competition is wrong. Google faces strong actual competition and lively entry of new competing app developers and mobile service providers on all relevant markets. OEMs can choose to sign the MADA and to preinstall the GMS, or they can decide to install Android without any Google apps. If OEMs opt to sign the MADA, this agreement still leaves much *more* room for competition on all levels of the Android ecosystem than Apple or Microsoft

191 Quote from *Edelman*, footnote 10 above; see also *Edelman* (footnote 4 above) at pages 58, 62, 65 and 67.

192 See also *O'Connor* (footnote 151 above): *"Edelman's definition of competition is perverse. He states that because other companies can't pay for exclusive access, this is somehow anticompetitive".*

193 Samsung Galaxy Star S5280. Likewise, the LG L40 with the most recent Android 4.4 costs less than 100 Euros (prices according to Amazon.de on June 12, 2014).

194 Price including 19 % sales tax according to the Apple Store. In addition, there is basically no price competition for iPhones while there is fierce price competition for Android smartphones.

195 Compare http://www.economist.com/news/business/21600134-smartphones-reach-masses-host-vendors-are-eager-serve-them-rise-cheap.

allow with regard to the competing iOS or Windows Phone ecosystems. In accordance with the findings of the US FTC and the South Korean FTC,[196] it must be concluded that the MADA does not constitute an anti-competitive foreclosure.

Nevertheless, for the sake of completeness, in the following, I will finally analyse procompetitive and pro-consumer effects that may serve as countervailing factors. In a way, I thereby go "back to the basics" because even if "tying" in general is defined in a wide way, *anti-competitive* tying according to EU competition law requires that the anti-competitive effects outweigh the pro-competitive effects and pro-consumer effects.

dd) Efficiencies

In its Guidance, the European Commission underscores that it *"will look into claims by dominant undertakings that their tying and bundling practices may lead to savings in production or distribution that would benefit customers. The Commission may also consider whether such practices reduce transaction costs for customers, who would otherwise be forced to buy the components separately, and enable substantial savings on packaging and distribution costs for suppliers. It may also examine whether combining two independent products into a new, single product might enhance the ability to bring such a product to the market to the benefit of consumers. The Commission may also consider whether tying and bundling practices allow the supplier to pass on efficiencies arising from its production or purchase of large quantities of the tied product"*.[197]

I have already described most efficiencies above. With respect to the MADA, it is quite obvious that combining Google apps in a comprehensive suite of apps (GMS) can help to reduce transaction costs for OEMs and consumers.

Android offers OEMs, app developers and users *far more freedom* than the competing mobile OSs to install any app or UI they desire, to change defaults and to customize their Android devices. Users of mobile devices are able and willing to make use of this freedom. Nevertheless, they prefer mobile devices that offer an "out of the box" set of apps to start with. Android phones must fulfil these needs in order to effectively compete with iPhones and Windows Phones who offer a similar degree of usability.

This is especially important for Android devices because the unparalleled freedom that Android offers to OEMs has a downside in the form of Android fragmentation. Fragmentation is a problem for app developers who want to make sure that their apps run flawlessly and securely on as many devices as possible. Fragmentation also is a problem for consumers who want to make sure that all their favourite apps run on all their Android devices and who want to be able to switch Android devices for a newer model (e.g. upon renewal of a contract with a MNO) without having to worry about incompatibilities and switching costs. While fragmentation is not a problem with regard to iOS (because Apple ensures near to absolute uniformity) or with re-

196 See page 1 above
197 COMM., Guidance, at paragraph 62.

gard to Windows Phone (because Microsoft ensures a very high degree of uniformity), it is more problematic with Android because Google, in contrast, gives Android licensees far greater freedom with regard to using and even modifying the Android code, to customize the UI and to install apps.[198]

To balance this situation out in the interest of app developers, but also to the benefit of consumers who want devices that are compatible with as many Android apps as possible, Google follows an approach that gives OEMs and MNOs the freedom to opt for more conformity and interoperability in several steps. As was described above, step 1 is the option to follow the CDD requirements *de facto*. Step 2 is to commit to follow the CDD contractually by signing the AFA. Step 3 is to offer users an even more comprehensive "Google experience" by signing the MADA and preinstalling the GMS.

To sign the MADA is optional, but even if we assume that the freedom of choice of OEMs is somewhat limited because users expect them to deliver Android phones with GMS, a perspective that only sees the restrictions imposed by the MADA is distorted because the MADA does only take away freedoms from Android OEMs that Windows or Windows Phone OEMs never had in the first place. In addition, the MADA makes it impossible for OEMs or MNOs to exclusively limit users to their own app stores, apps and services by creating "walled gardens" (like Amazon does with its Fire devices). In this respect, the MADA actually improves consumer welfare by protecting consumers' freedom of choice.

While tying usually involves an element of exploitation (the buyer of product "A" must also buy *and pay for* product "B" even though he does not want it), the GMS (like Android itself) is free of charge. This reduces production costs and makes it possible for OEMs to offer low-price smartphones to groups of consumers who could otherwise not afford to buy a smartphone or tablet. The more devices which are subject to the MADA are sold, the more users can make use of Google services. This, in turn, allows Google to draw indirect revenue from advertising and, thereby, to keep investing in the improvement of mobile OS, apps and services. If OEMs could "cherry-pick" Google's business model might not work anymore. This, in turn, might lead to increased device prices and a reduction of innovation.

In sum, the MADA helps to improve the quality of Android devices by offering users an "out of the box" experience comparable to iOS or Windows Phone and improving intra and inter ecosystem competition. It helps to cut costs for the production of Android devices while making it possible for Google to receive the remuneration that it needs to keep innovating. The MADA furthermore improves interoperability of devices and apps throughout the Android ecosystem. It thereby also helps to reduce the costs of app development to the advantage of app developers and consumers alike.

198 *O'Connor* (footnote 151 above) also rightfully underlines these efficiencies while *Edelman* (footnote 10 above) not only ignores the obvious consumer benefits of the MADA, but boldly claims that they do not exist (*"there are no plausible pro-consumer benefits to the Google MADA restrictions I analyze above"*).

3. Conclusion

By building a suite of apps (GMS) and only licensing GMS as a whole by way of the MADA, Google pursues a legitimate business interest without foreclosing competition on the markets for apps and mobile services. On the contrary, the MADA facilitates competition on the merits with Apple, Microsoft and others. OEMs receive a full suite of apps on a royalty-free basis. Consumers profit by inexpensive Android devices and a user experience comparable to iOS and Windows Phone. Moreover, app developers and consumers both benefit from increased interoperability within the Android ecosystem.

Upon closer review, the second FairSearch complaint, like the first, is without merit.

C. Closing Remarks

There is a certain irony in the fact that the first charge of the FairSearch complaint accuses Google of anti-competitively foregoing profits by giving away Android for free, while the second charge accuses Google of anti-competitively drawing indirect profit from Android and Google apps after all. The FairSearch complaint profoundly misunderstands (or misrepresents) the functioning of two- or multisided business models that are the backbone of digital economy by artificially splitting them into two separate fields of transactions instead of looking at the larger picture. The complaint also misstates competition on the market for mobile OS as well as in the field of mobile apps.

Mark Zuckerberg, CEO of Facebook, which is one of Google's main competitors for online advertising (and as such a very unsuspicious witness) puts it as follows: *"Android is growing quickly, and we're excited that the platform is open and that it allows us to build these great experiences [by installing Facebook Home]. I think that this is really good for Google too. Something like this could encourage a lot of people to get Android phones, because I think people really care about Facebook. In a lot of ways, this is one of the best Facebook experiences that you can get. Of course, a lot of people also love iPhones – I love mine, and I would like to be able to deliver Facebook Home there as well"*.[199]

While *Zuckerberg* is right in attributing Android's success to its openness for competition and while the US FTC and the South Korean FTC have both cleared Google of accusations with regard to Android and MADA, FairSearch has, nonetheless, asked the Commission *"to move quickly and decisively to protect competition and innovation in this critical market as consumers increasingly turn to a mobile platform dominated by Google's Android operating system"*.

However, neither competition nor innovation is "at risk" and nobody forces consumers to buy Android devices. On the contrary, the fact that users and OEMs *prefer* devices running Google's mobile OS to devices running other mobile OS is an expression of working competition on the merits. The contractual framework of Android and GMS (Android license, CDD, AFA, MADA) offers OEMs, app developers and users a freedom of choice which is unparalleled by other OS. This freedom and openness has led to an increase of choice with regard to mobile OS (e.g. by allowing the distribution of forked versions of Android) and app distribution. Likewise, Google's licensing policy has increased consumer choice with regard to devices running mobile OS as well as with regard to apps and mobile services. There are more distribution channels and more apps for Android than for any other mobile OS, and the MADA *de facto* prohibits "walled gardens" by which OEMs and MNOs could otherwise restrict consumer choice by way of exclusivity agreements.

In sum, not anticompetitive foreclosure, but unparalleled openness for competition and low device prices, which both result from Google's open licensing policy, are the secret of Android's success.

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[199] See http://www.macrumors.com/2013/04/04/zuckerberg-androids-openness-offers-opportunity-for-way-better-experience-than-iphone/.

Against this background, the FairSearch complaint ultimately does not aim to protect competition or consumers, as it pretends to. It rather strives to shelter Microsoft *from competition* by abusing competition law to attack Google's business model and to subvert competition. What it really means is, "the Commission must act quickly because the consumers prefer Android to Windows Phone, and we do not like that".

The Commission should not walk into this trap, but quickly and decisively reject the FairSearch complaint to make clear that it is not willing to endorse such attempts to abuse competition law and competition authorities for anticompetitive purposes. Instead, the Commission should act in accordance with the US FTC and the South Korean FTC and protect innovation, consumer choice and consumer welfare by letting competition in the highly dynamic field of mobile OS, apps and services run its course.

As *Antoine de Saint Exupéry* put it: "We should not try to foresee the future, but make it possible".[200]

200 *Antoine de Saint Exupéry*, Citadelle or The Wisdom of the Sands (1948).