



## **Preliminary Report on the Consumer Internet of Things Sector Inquiry**

### **Google's Observations**

We are grateful for the opportunity to participate in the public consultation on the preliminary report on the Commission's sector inquiry in the consumer IoT industry (the **Report**). We welcome the inquiry's objective to "*gain a better understanding of the consumer IoT sector, its competitive landscape, developing trends and potential competition issues.*"

Our main observations on the Commission's initial findings are as follows:

- **IoT is competitive, nascent and contestable.** The Internet of Things (**IoT**) provides opportunities to improve the everyday lives of European citizens. While the sector is still at a nascent stage, there is substantial innovation, competition from multiple players, and frequent entry. Over 30,000 startups are active in the IoT space, and participants are optimistic about the future. Respondents to the Commission's questions said that the sector is expected to become "*increasingly attractive*".
- **No IoT products can be considered a "must-have".** Given how nascent the IoT space is, there are no "must-have" brands of smart devices, IoT services, or technologies to which access is essential to compete. Nor are voice assistants the key gateway to consumer IoT services. The Report finds that only 11% of Europeans have ever used a voice assistant and consumers have multiple channels, other than voice assistants, to access IoT services. As the Report notes, the "*most used user interface to access smart devices and consumer IoT services*" are mobile apps.
- **We support the ability to communicate among the different components of an ecosystem.** We have long been a supporter of open ecosystems and we take active measures to promote interoperability, in ways that ensure a good user experience and preserve innovation, by making our IoT services open and working with other industry participants.
- **Giving users choice about the use of their data.** Sharing data securely between products and services helps deliver the benefits of IoT -- for example, asking your voice assistant to turn on your lights, record your favorite TV programs, or play your favorite songs. At the same time, we firmly believe in putting users in control of their data, and we offer extensive possibilities allowing it to happen.

With these preliminary observations, we have outlined what appears to us the main challenge for the IoT space: addressing potential competition concerns, while preserving innovation and

ensuring a positive outcome for European consumers and businesses. Given the dynamic development of the IoT sector, it is premature to draw hard conclusions or impose far-reaching regulatory obligations, which could have unintended harmful consequences. Rather, through fact-driven and evidence-based regulatory oversight, it should be possible to craft solutions that address perceived concerns while promoting innovation and consumer welfare.

We once again thank the Commission for the possibility to submit feedback, ideas and views, and we look forward to contributing to the Commission's work in the IoT space in the future. We hope that our observations prove helpful for the Commission's Final Report on the Consumer IoT Sector Inquiry.

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Starting in 1998 as a company that helps people find answers, we are focused on building an even more helpful Google for everyone, and we aspire to give everyone the tools they need to increase their knowledge, wellness, happiness, and success. IoT is part of this core mission.

At Google, we are proud to play a role in spurring innovation in the fast-moving, competitive, but nascent IoT space. We have always believed that open platforms enable competition, which is the best way to put quality services in the hands of consumers at the lowest cost.

## **I. IoT space is competitive, nascent and contestable**

The IoT space includes a wealth of different services and products. There is no single “IoT market”. Rather, the services and products are tailored to the specific needs of customers and consumers. Depending on the use case, users access these services through different interfaces, such as mobile apps, voice assistants, controllers or dedicated touch-screens.

In 2017, the Commission observed that the IoT sector “*is characterised by the presence of a multitude of players, and new companies keep developing products,*” where “*competition between players remains fierce*” and consequently there are “*no clear leaders yet.*”<sup>1</sup> We believe this picture remains valid today.

Connected devices and related services have grown rapidly. The number of IoT startups and related businesses grew globally by 27% in 2020.<sup>2</sup> With increased adoption of connected devices and related services, IoT players continue to invest. In Europe specifically, spending on IoT will reach EUR 170 billion in 2021 and is expected to experience double-digit growth through 2025.<sup>3</sup> At Google, we are committed to IoT development. For example, we develop new products and services in-house, support IoT start-ups,<sup>4</sup> and we have launched a program for early-stage start-ups building applications in the Google Assistant.<sup>5</sup>

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<sup>1</sup> European Commission, [Digital Transformation Monitor, Smart Home: Technologies with a standard battle](#) (September 2017).

<sup>2</sup> Forbes, [The Top 20 IoT Startups To Watch In 2020](#) (May 2020).

<sup>3</sup> IDC, [Worldwide Semiannual Internet of Things Spending Guide](#) (June 2021).

<sup>4</sup> For example, Google invested in Helium, an IoT developer platform for building the network and transferring IoT device data, <https://www.forbes.com/sites/louiscolumnbus/2020/05/25/the-top-20-iot-startups-to-watch-in-2020/>.

<sup>5</sup> Google will start investing in early-stage startups that use the Assistant, “*Investments are one part of this program, but Google will also work with these startups directly to provide them with mentorship and advice from engineers, product managers and design experts. The startups in the program will also get early access to new features and tools, as well as access to the Google Cloud Platform and promotional support*”, see more at <https://techcrunch.com/2018/05/02/google-will-start-investing-in-early-stage-startups-that-use-the-assistant/>.

As noted in the Report, most respondents to the inquiry seem optimistic about the future of IoT, with smart home devices in particular expected to become “*increasingly attractive*”.<sup>6</sup> Most respondents told the Commission that they “*plan to develop and launch other smart devices and/or to expand their business to any of the other consumer IoT segments in the next three years*”.<sup>7</sup> And there is an expectation that “*existing players will also expand into new segments*” and that consumer IoT services “*will continue to grow dynamically*”.<sup>8</sup> We agree. The sector offers fantastic possibilities, and we expect to continue to see growth and entry over the coming years.

## **II. None of the IoT products or services can be considered as “must have”**

Given how nascent, dynamic and competitive the IoT space is, there are no “must-have” brands of smart devices, IoT services, voice assistants or technologies to which access is essential to compete.

Currently, there are more than 10 billion active IoT devices worldwide. In 2027, this number is expected to surpass 25 billion devices.<sup>9</sup> The consumer IoT space is highly fragmented with the presence of a number of larger players and the rapid emergence of many smaller competitors. In smart home devices, some of the main players that compete alongside us include Amazon, Apple, ecobee, Bosch, Wink, Signify, Siemens, Honeywell, GE, LG, and Sony.<sup>10</sup>

In voice assistants, we face strong competition from incumbent players like Apple, Amazon, Samsung, and Microsoft as well as Fyle, Extreme, DataBot, Hound, and Lyra, all of which are also available on Android.<sup>11</sup>

In addition, in a nascent and rapidly-developing technological market such as IoT, competitive constraints are posed not only by incumbent players but also by start-ups. There are currently more than 34,000 start-ups active in the IoT space and this number increases every day.<sup>12</sup>

The Report suggests that “*through their ecosystems combining voice assistants with search and/or marketplaces, and/or operating systems and/or app stores Google, Amazon and Apple*

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<sup>6</sup> Report, para. 143.

<sup>7</sup> *Ibid*, para. 136, and Figure 15.

<sup>8</sup> *Ibid*, paras. 144-146.

<sup>9</sup> Statista, Number of Internet of Things (IoT) connected devices worldwide from 2019 to 2030, <https://www.statista.com/statistics/1183457/iot-connected-devices-worldwide/>.

<sup>10</sup> 9 of the Biggest Smart Home Companies in 2021, <https://www.iottectrends.com/biggest-smart-home-companies/>.

<sup>11</sup> Top 10 best virtual assistants 2021, <https://techengage.com/best-virtual-assistant-apps/>.

<sup>12</sup> There has been a 27% increase in the number of IoT start-ups and related businesses on Crunchbase in just a year, growing from 26,792 in 2019 to 34,120 in 2020. <https://www.forbes.com/sites/louiscolombus/2020/05/25/the-top-20-iot-startups-to-watch-in-2020/>.

*have a unique position in the consumer IoT sector*”.<sup>13</sup> But this passage attests to the strong competition we face from well-resourced players, with whom we are engaged in a robust innovation race. The Report, moreover, omits other strong competitors with a presence across multiple products and services such as Microsoft and Samsung. And it overlooks competition from smaller providers that are successfully growing their offerings.

**The Report overstates the importance of voice assistants.** A theme that runs through the Report is that voice assistants “*are becoming key gateways to the smart home*.”<sup>14</sup> This claim represents the basis for some of the Report’s claims of potential harm, because the Report suggests that “*voice assistants are a central node of the consumer IoT*.”<sup>15</sup>

Away from the rhetoric, however, the data cited in the Report contradict these claims. The data in fact attest to the limited role played by voice assistants in Europeans’ lives and in IoT more specifically:

- The Report notes that just 11% of EU citizens surveyed in 2020 used a voice assistant.<sup>16</sup>
- The Report states that around two thirds of manufacturers of smart devices do not have a voice assistant built into any of their devices.<sup>17</sup>
- The Report finds that voice assistants are not the most common interface in the IoT sector. Rather, the respective mobile apps of the service are “*the most used user interface to access smart devices and consumer IoT services*.”<sup>18</sup>
- According to the Report, the most commonly used smart devices are smart TVs, home audio systems, and smart speakers.<sup>19</sup>
  - On smart TVs, however, people control smart TVs primarily via remotes (where they select favorite TV apps like Netflix, Amazon Prime TV, or Disney), not voice assistants.<sup>20</sup>
  - On smart speakers, the Report identifies the most popular uses of voice assistants as playing music and videos, or listening to the radio, news, podcasts or audiobooks, which is consistent with Google’s own data. These control functions

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<sup>13</sup> Report, para. 125.

<sup>14</sup> Report, para. 55.

<sup>15</sup> Report, p.10

<sup>16</sup> Report, para. 4.

<sup>17</sup> Report, para. 58.

<sup>18</sup> Report, pp. 7, 29.

<sup>19</sup> Report, para. 4.

<sup>20</sup> Report, 42 (“*remote controls are the most popular user interface for smart TVs*”).

are fairly basic functions that users are well-accustomed to completing via their mobile apps of their favorite music or podcast service; it is not a complex interaction that requires a highly sophisticated voice assistant.

- Usage of other types of smart device where voice interaction is more common is much lower.<sup>21</sup>

**Users can access IoT products and services through many interfaces.** Just as voice assistants remain fairly marginal in European citizens' lives, usage of consumer IoT services via smart home devices is minor. Consumer IoT services are web services that are typically accessible through a variety of means, including web browsers and mobile apps. The availability of these services is not limited to smart home devices. Rather, smart home devices may offer one way – among several – for accessing IoT services. These devices tend to account for a limited portion of usage for a consumer IoT service compared to other channels, such as web browsers and mobile apps. That is why several respondents to the IoT inquiry stated that *“the importance of consumer IoT - including voice assistants in particular - for their business to still be relatively limited.”*<sup>22</sup>

For example, in June 2020:

- The share of users who access Google Search via smart home devices at least once a month represents just [REDACTED] of Google Search's total monthly active users (MAUs) who are signed-in.
- The share of users who access Google Maps via smart home devices at least once a month represents just [REDACTED] of Google Maps' MAUs who are signed-in.
- The share of users who access Gmail via smart home devices represent just [REDACTED] of Gmail's total MAUs who are signed-in.
- The share of users who access Podcasts via smart home devices represent just [REDACTED] of Podcast's total MAUs who are signed-in.
- The share of users who access YouTube via smart home devices (of which the majority is on smart TVs) represent [REDACTED] of YouTube's MAUs who are signed-in .

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<sup>21</sup> Report, para. 4.

<sup>22</sup> Report, para. 482.

### III. Promoting interoperability

The Report observes that the “*ability to interconnect and communicate among the different components of an ecosystem, [...], is essential for the full deployment of functionalities that a consumer IoT ecosystem can offer to the user.*”<sup>23</sup>

We have long supported open ecosystems when consistent with maintaining a high-quality user experience and promoting innovation. We therefore look for ways to enable interoperability between different IoT devices, services, and systems. We do so in multiple ways. We are an active member of several standard-setting organizations and take proactive steps to allow interoperability of our services on third-party platforms.

**Standard Setting Organizations.** Google actively collaborates with other industry participants via standard setting organizations to promote interoperability between different devices, services and manufacturers. For instance, Google promotes interoperability by contributing to the development of and implementing the two most advanced industry standards in IoT: Matter and Thread:

- **Matter.** “Matter” is the interoperable, secure, and open connectivity standard for the future of the smart home, formerly known as CHIP (Connected Home over IP project).<sup>24</sup> The standard was described in the Report as “*a promising attempt to consolidate existing technologies*” having the potential to be “*the future standard to reach a broad user-base*”.<sup>25</sup> Matter is led by companies such as Amazon, Apple, Comcast, Google, SmartThings, IKEA, Legrand, NXP Semiconductors, Resideo, Schneider Electric, Signify, Silicon Labs, Somfy and Wulia.<sup>26</sup> Multilateral initiatives like Matter contribute to an open, competitive and user-friendly consumer IoT.

The open-nature of the standard will foster competition by leveling the playing field for smaller players and new entrants, simplifying product development, and increasing choice for consumers. Matter is aimed at taking interoperability initiatives one step further and developing a unified IP-based connectivity protocol. Matter makes it easier for devices to connect with smart home and voice services by standardizing device to device communications. In other words, all Matter-certified devices will be interoperable with each other creating an ecosystem of connected IoT devices. Customers can be

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<sup>23</sup> Report, pp.7-8.

<sup>24</sup> “Matter” is a project by Connectivity Standard Alliance (CSA), formerly known as Zigbee Alliance. CSA aims to develop open and global standards for wireless device-to-device communication for IoT and promote the use of standards around the world. Besides Matter, CSA has also developed ZigBee - low power wireless technology standard that complements WiFi technology to deliver standardization of smart home devices. For more on ZigBee, see <https://zigbeealliance.org/solution/zigbee/>.

<sup>25</sup> Report, para. 400.

<sup>26</sup> See more on <https://www.techspot.com/news/89654-matter-new-connectivity-standard-backed-iot-alliance-google.html>.

confident that regardless of the brand of their smart home devices, those devices will interoperate with one another as well as the voice assistant of the customers choice.

Our commitment to interoperability across the industry and working with other leading tech companies is demonstrated by our efforts to bring Matter to Android and Nest products.<sup>27</sup> First, we will be updating our Nest products and in particular, the newest Nest Thermostat to support Matter. Second, Google will be supporting Matter through Android phones. Google will add built-in support for Matter, allowing customers to set up and control Matter-enabled smart home gadgets through Android apps, Google Assistant, the Google Home app, and more with “just a few taps.”<sup>28</sup> Every Matter-certified product will be marked with the Matter logo, allowing customers to easily recognize all such interoperable devices. Matter marks a turning point in interoperability across the IoT industry allowing homeowners to connect their smart home devices of different brands with each other.

- **Thread Group.** Among companies like Samsung Electronics, Arm, Silicon Labs, Google is one of the founders with its Nest Labs subsidiary, and a board member of an industry group that has developed and continues developing the Thread protocol. Thread is a wireless networking protocol for a secure wireless mesh that enables product developers and consumers to connect more than 250 devices into a low-power, wireless mesh network. An open source implementation of the Thread specification known as OpenThread has been made available. Google’s objective in open-sourcing Thread was to “*improve interoperability [sic] between products dramatically.*”<sup>29</sup>

Google has implemented the Thread protocol in a number of its Nest products. For example, Google Nest Hub Max became the first “Build on Thread” certified device.<sup>30</sup> The Thread Group conducted tests against multiple vendor configurations to ensure that technology from different manufacturers can reliably and securely communicate with each other. After the rigorous testing, Google Nest Hub was proven to be the first device that has the ability to do so. Currently, the Nest Hub Max can connect to more than 30,000 smart devices from more than 3,500 vendors with the Google Assistant and the Smart Home and Local Home SDKs. Within Thread, we are also working to enable

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<sup>27</sup> See more on Google’s commitment to bring Matter to its products at <https://blog.google/products/google-nest/four-google-smart-home-updates-matter/>.

<sup>28</sup> Chaim Gartenberg, Google details how interconnected Matter smart home standard will work on Android and Nest, available at: <https://www.theverge.com/2021/5/19/22444571/google-interconnected-matter-smart-home-standard-android-nest-details-io-2021>.

<sup>29</sup> Ingrid Lunden, Google’s Nest open sources OpenThread to snag more IoT partners, take on Amazon, TechCrunch (May 11, 2016).

<sup>30</sup> The Thread Group Certifies Google Nest Hub Max as World’s First Publicly-Available ‘Built on Thread’ Device, <https://www.threadgroup.org/news-events/press-releases/ID/217/The-Thread-Group-Certifies-Google-Nest-Hub-Max-as-Worlds-First-Publicly-Available-Built-on-Thread-Device>.



compatibility of the Nest Hub Max with a quickly growing ecosystem of other Built on Thread certified products<sup>31</sup>.

Standardized technologies such as those used in the IoT sector are often covered by numerous patents, referred to as Standard Essential Patents (SEPs). For these technologies to be available to all IoT players who would like to implement them in their products and for competition to flourish, it is imperative that the commitment by participants in the standardization process to license their SEPs on a fair, reasonable, and non-discriminatory (FRAND) basis is fairly enforced. This means that any company that wishes to obtain a license to those patents is able to do so, and that the licensing fees be fair and reasonable.<sup>32</sup>

**Enabling third-party access to Google's IoT products and services.** We proactively take steps to ensure that users of third-party platforms can access Google's IoT products. For example, Google has implemented Alexa Skills in a number of its smart home devices including Nest thermostats, cameras, and doorbells, to enable control of these devices via third-party devices that support Alexa voice assistant. This allows users, for example, to issue voice commands to an Amazon Echo speaker to control a Nest thermostat.

**Enabling Google's users to access third-party IoT products and services.** We also take proactive steps to enable the interoperability of Google's systems with third-party products.

- **Assistant.** Google Assistant currently works with over 50,000 smart home devices from more than 10,000 popular brands, and we are adding new brands all the time.<sup>33</sup> Actions on Google platform allows third-party devices to work with Google Assistant through Smart Home Actions. A device manufacturer can implement a Smart Home Action on its device without having to build in-voice support. Once implemented, the user can control the device, *e.g.*, lights, doors, or coffee machines by issuing voice commands via a device, such as a smartphone that runs the Google Assistant app.<sup>34</sup>
- **Google Cast SDK** is a service and device-agnostic technology that enables smart devices to interact with online content streaming services, including both services provided by Google and third parties. Google's smart home devices (such as speakers, smart displays, and Chromecast) can interact with third-party apps that have incorporated Cast functionality into their services' apps for iOS or Android via Cast SDK. The Google Cast SDK enables users to stream video and audio to a smart home device, such as a smart speaker, via Wi-Fi. The app becomes the remote control to control the media. To

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<sup>31</sup> Thread Certified Products, <https://www.threadgroup.org/What-is-Thread/Thread-Benefits#certifiedproducts>.

<sup>32</sup> Additional detail can be found in "FSA Comments to the European Commission's Preliminary Report - Sector Inquiry into Consumer Internet of Things" submitted on Sept. 1, 2021.

<sup>33</sup> See [Services and smart devices that work with Google Assistant - Google Nest Help](#).

<sup>34</sup> See <https://developers.google.com/assistant>.

implement Google Cast, providers of consumer IoT services accept the API Terms of Service for Cast SDK.

- **Google SDM API.** Google runs a Device Access program that enables qualified third-party devices and apps to control or interact with Google's smart home devices via Google's SDM API.<sup>35</sup> For example, users with third-party security systems that implement the API can view and control their Nest cameras and other devices directly from their security providers' apps.
- **Other interoperability initiatives:** Other interoperability initiatives by Google include the open nature of our wearable devices. For example, Fitbit devices support Amazon Alexa and Google Assistant, and provide users with choice.<sup>36</sup>

**Enabling Google's products to work alongside third-party IoT products and services.** We make active efforts to enable switching options for our users between Google and third party products. For instance, while taking steps to ensure a good user experience, we work with smart device manufacturers to enable built-in voice support for multiple voice assistants. For example, Sonos and Bose offer smart speakers with built-in multiple assistant support for Alexa and Google Assistant.<sup>37</sup> Similarly, Samsung offers smart TVs with multiple assistant support built-in.<sup>38</sup>

#### **IV. Giving users choice and putting them in control of their data**

Across Google, our primary focus is our users. Even at this early juncture in the development of IoT technology, we see amazing promise in the power of technology to help consumers. Data is one of the catalysts for these opportunities. We believe that realizing the promise of IoT technology requires putting users in control of their experience.

We are aware that our users value their privacy, and we understand the interest in what we do with users' data. We will continue doing more to bring the best of Google's privacy and security technologies to everyone, in the smart home and beyond.

**Putting users in control.** Our users have a number of tools available to them to allow them to control the collection, storage and use of their data. For example, users can turn on and off Google saving their Web and App Activity, their YouTube activity, their Search queries or their

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<sup>35</sup> For more on the Device Access Program, see <https://developers.google.com/nest/device-access>.

<sup>36</sup> See, <https://www.fitbit.com/global/us/technology/voice>.

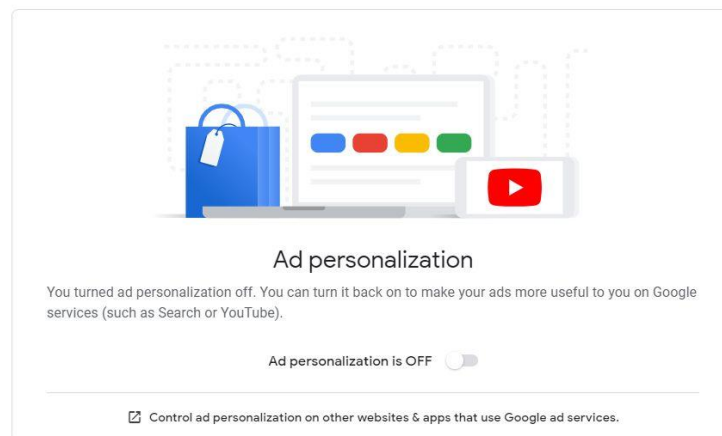
<sup>37</sup> Sonos One, Sonos Move, Sonos Beam and Sonos Arc and the Bose Home, Bose Soundbar and Bose Portable speakers have multi-assistant support built-in.

<sup>38</sup> Samsung's smart TVs allow users to choose between Bixby, Amazon Alexa, and Google Assistant. See [Samsung, Smart TV | Voice Assistants](#).

location history. They can delete existing data or set up an auto-delete plan – all at the click of a button.<sup>39</sup>

Signed-in users can also access and delete data associated with their Google Account manually. Users can view their activity with Google Assistant by visiting “Your data in the Assistant” through the Google Assistant app or Google Assistant Activity, which is accessible through Google Home, Google Assistant app and online.<sup>40</sup> Google Assistant users can also delete their recent activity just by saying: “Hey Google, delete this week’s activity.”<sup>41</sup> And they can pause any saving of their Assistant activity to their account just by saying: “Hey Google, turn on Guest Mode.”<sup>42</sup> The same is true for other Google’s products, not only limited to the consumer IoT space.

As regards advertising more specifically, we provide users with choice over how their data is used. Users who do not want to see personalized ads can turn ads personalization off completely, across all of Google’s services at the click of an accessible button.



If users want to maintain some personalization but do not wish to see personalized ads related to certain aspects of their profile, they can turn off personalization on that basis.<sup>43</sup>

**Protecting privacy.** People who use Google’s services trust us with their data, and it is our responsibility to protect it. We take this responsibility seriously, helping users control their

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<sup>39</sup> These controls and more are all accessible through the My Activity center on Google:  
<https://myactivity.google.com/myactivity>.

<sup>40</sup> [Google Assistant Activity](#)

<sup>41</sup> <https://support.google.com/assistant/answer/7108295>.

<sup>42</sup> <https://safety.google/assistant/#guest-mode-section>.

<sup>43</sup> Full list of the relevant categories for a given logged-in user is available on that user’s ads settings page:  
<https://adssettings.google.com/authenticated?hl=en>.

data.<sup>44</sup> As technology reaches even more aspects of life, privacy and security are even more important. We are proud of our industry-leading protections and innovations in this area,<sup>45</sup> helping people control how their data is used, even in a screenless environment.

Across Google's products, our security measures are designed to automatically stop threats before they reach a user.<sup>46</sup> Advanced encryption keeps data safe in transit, proactive security alerts help protect private information, and our Safe Browsing technology automatically detects and blocks threats –protecting over 4 billion devices every day.

We share many of our privacy and security innovations freely with others. This helps advance the state of technology for everyone –even our competitors. Take differential privacy, for example.<sup>47</sup> Differential privacy is a privacy protective technology that gains insights from data without compromising user anonymity. We spent over a decade building the world's largest library of differential privacy algorithms, and have open-sourced our library so others can apply these same privacy protections in products other than ours.<sup>48</sup>

**Enabling data portability.** We have long supported enhanced data portability. For example, Google has developed Google Takeout specifically to allow users to easily download their data in commonly used, machine readable formats (allowing for the easy upload of such data to third party service providers).<sup>49</sup> Google Takeout can be used to transfer photos directly from Google Photos to Flickr and Microsoft OneDrive. Google Takeout is available for multiple Google IoT services including services which are available in connection with Google Assistant. If a user wishes to access data which is not available to them via the Google Takeout platform, the user can submit a request for their data (including using the Google data access request form).<sup>50</sup>

Google also makes available APIs that can provide access to user data (subject to terms and conditions, and the user's permission). In relation to some services, these APIs enable third-party vendors to develop tools allowing users to transfer certain data from Google's services to third-party services. For example, Soundiiz allows users to transfer their playlists from YouTube Music to other music-streaming services (e.g., Spotify).<sup>51</sup>

In addition, Google supports industry efforts directed at developing such portability. For example, Google is a founding member of the Data Transfer Project, which was launched in

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<sup>44</sup> <https://myaccount.google.com/data-and-personalization>.

<sup>45</sup> <https://myaccount.google.com/yourdata/assistant?pli=1>.

<sup>46</sup> <https://safety.google/security-privacy/>.

<sup>47</sup> <https://safety.google/security/security-leadership/>.

<sup>48</sup> <https://developers.googleblog.com/2019/09/enabling-developers-and-organizations.html>.

<sup>49</sup> <https://takeout.google.com/settings/takeout?pli=1>.

<sup>50</sup> <https://support.google.com/policies/contact/sar>.

<sup>51</sup> <https://soundiiz.com/tutorial/youtube-to-spotify>.

2018 to create an open-source, service-to-service data portability platform so that all individuals across the web could easily move their data between online service providers whenever they want.<sup>52</sup>

## **V. Conclusion**

In conclusion, we believe that the IoT space is competitive and innovative. It has the potential to bring substantial benefits to the lives of millions of European citizens. There are no “must have” IoT products or services, and the importance of voice assistants can be overstated, given the multiple ways that users have to reach IoT services. We seek to contribute to the competitiveness of IoT by promoting interoperability between services and devices, and putting users in control of their data. We look forward to contributing to the Commission’s work in the IoT space in the future.

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<sup>52</sup> <https://datatransferproject.dev/>.