

AN OVERVIEW OF SOFTWARE SUPPORT AND TRANSPARENCY PRACTICES FOR THE 5 MOST POPULAR CATEGORIES OF SMART DEVICES ACROSS THE EU

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INTRODUCTION

Several important policy initiatives are in progress at the EU level, which have the potential to address the sustainability of these connected devices. While initiatives to extend the useful life of the hardware, namely the physical electronic pieces inside a device such as microchips, are crucial in addressing this problem, our devices are not only made of hardware. Almost any digital device with which we interact with today will rely on software to function, namely a set of instructions that tells hardware what to do. From smart thermostats to smart speakers, to our smartphones, computers and smart TVs, nearly everything in the digital economy requires software to operate. However, if software support to devices is inadequate or not up to date it can have consequences to the safety and privacy of the device.[1] This is also the case for outdated security updates, a risk enabled by software support periods that are shorter than a product's expected life cycle. It is therefore critical that software remains up to date to ensure the device is secure and that any errors to the functioning of the device are resolved to reduce risks to consumers' privacy.[2]

Some definitions...

- **Firmware:** the abstraction layer between the physical chips and the software. Firmware allows the operating system to make generic calls to the hardware (e.g., open microphone, allowing for an audio recording or phone call, which the firmware interprets and then sends the correct instructions to the hardware to turn on the microphone). In other words, the firmware acts as the translator between hardware and software (most of the times, an operating system); it receives the software instructions and further passes them on to the hardware components..
- **Operating System:** the core programme that manages the interactions between other programmes and the hardware. For example, the Operating System will make sure that launching an app such as the web browser won't interrupt sound being played by another application. Modern operating systems like Windows, Android, iOS, or Linux usually bundle several ancillary services, such as the user interface and basic utilities for the device. This includes, for example, a sound managing interface to set the volume of applications playing on the device or a network interface to easily connect to Wi-Fi networks.
- **Software update (also known as patch):** a set of changes to a software to update, fix or improve it. These changes will usually either fix bugs, fix security vulnerabilities, provide new features or improve performances and usability. Infrequently, patches may also be used to limit functionality, remove or disable features. Depending on the software, updates may be installed manually or automatically if the device is connected to the internet and has the appropriate capabilities (for instance, an Android phone that updates its software on its own). Software updates are particularly important when applied to the Operating System given the reliance of other software (such as apps or drivers) on it.

Between February and June 2022, PI investigated the software lifecycles of five popular connected devices namely smartphones, personal computers, gaming consoles, tablets and smart televisions. For each of the five categories, we examined the same three benchmarks (duration of software update support; duration of security update support, and the accessibility and/or availability of relevant information regarding those two). Within each category, we focused on the top three to five market players, depending on dominance and market share. This involved desk-based research into publicly available information on company websites, as well as third-party websites, including consumer electronics blogs, media and online forums.

While every effort was made to ensure that the findings represent an accurate reflection of current industry practices, these can sometimes provide only a hypothetical or assumptive picture. PI reached out to all device manufacturers mentioned below for feedback, however not all of them provided clarifications,[3] This raises further concerns about the transparency of information communicated to consumers regarding how long their devices will remain secure by receiving the necessary software updates.

SMARTPHONES

Smartphones have become an essential part of consumers' everyday life as their use spans communication, entertainment and even education purposes. In 2020, 472 million people across Europe subscribed to mobile services,[4] while 98% of 16–44-year-olds in the United Kingdom stated they personally used a smartphone.[5]

In Europe, 66.1% of smartphones in 2021 were sold by the top five ranking manufacturers including Apple, Samsung, Xiaomi, OPPO and Huawei.[6] Except for Apple, all these manufacturers use the Android Operating System developed by Google (a wholly owned subsidiary of Alphabet Inc. in collaboration with the Open Handset Alliance) on their devices.[7] In contrast, Apple smartphones run their own operating system, iOS.[8]

Findings

The current landscape of smartphone software updates is extremely complex with varying approaches adopted across manufactures. Software support can range from three years or less to a minimum of six for certain devices. Apple is the only manufacturer that provides both smartphone hardware and software, which lends to a degree of transparency regarding the expected duration that an Apple device will be supported for. In contrast, where companies provide the hardware device only, all of which use Google's Android OS software on their smartphones, the research was unable to yield a clear or precise duration of how long devices are expected to receive software and security updates.

With regard to manufacturers communicating to consumers how long their devices will be supported, this information is largely absent from company websites. While only one company seemed to have an online policy dealing with software support, this appeared to exclude smartphones. As a result, relevant information may be found through various third-party websites and external sources such as media reports or online forums.

Summary table

Company	Duration of Software Updates Support	Duration of Security Update Support	Information Availability
Apple	6-8 Years	12-18 months after major release	Heuristics, iOS Support list
Samsung	3-4 Android releases	5 years of security updates to select Galaxy devices	Some models have information, other information is available via third parties, some unknown
Xiaomi	3 years, caveats	Related to MIUI release	Only some information available, but incomplete
Huawei	Unclear	Depends on whether the device runs EMUI or HarmonyOS	Policy and Bulletin board available, but no content on handsets
Oppo	2-4 Android releases	3-4 Google Security releases	Information partially available, no centralised repository

Apple Inc.

Notes

1. It was particularly challenging to identify the exact duration of software updates for specific Apple devices. This information could be gleaned by estimating previous heuristics and product lifecycles however, this is not readily accessible and consumer friendly. Therefore, support updates are likely to be subject to change and provide only indicative guidance.

1. Apple categorise their support schedule not by hardware version, but by software release. Therefore, the security support lifetime depends on the previous version of supported software that the device can run, in addition to the 12-18 months of support of that operating system's lifecycle. For example, iOS 13 was released on 19 September 2019, with the last security release on 1 September 2020.[9]
2. There appeared to be no official indication of expected software updates for a newly purchased Apple smartphone.[10] Our research found that any predictions were from third-party websites, based on previous experience of Apples product lifecycle management.[11]

Samsung Electronics

Notes

1. Depending on the age of the device and its market segment, the expected scheduled software support cycle for Samsung phones can vary. Furthermore, the software support cycle is usually published in relation to "Android Major Releases" rather than years, for example, "supported for four major releases".[12] As the major releases of Android depend on the release schedule of Google, it is hard to identify exactly how many years a device will be supported for.
2. Samsung security update cycles seem to be unclear, as security releases for Android are related to Google's security release schedule, with some versions of Android receiving security updates longer than others.[13] However, regardless of whether functionality or security updates exist, there seems to be no guarantee that they will be pushed to the end user's device. Carrier, vendor and manufacturer customisation may affect the release of an update or patch. With regard to Galaxy devices, Samsung releases its own security maintenance releases on a monthly, quarterly and annual basis, which includes Android OS related security patches.

1. Delivery time of security patches may vary by region and model as all devices go through mobile carrier approval. Some patches from chipset vendors, such as device-specific patches, may not be included in regular security updates and may be delivered when the patches are ready to be delivered by each vendor. Samsung offers up to four generations of One UI namely Samsung's software overlay for its Android devices, and Android OS upgrades and five years of security updates to select Galaxy devices.[14]
2. Security update cycles are summarised on Samsung's Mobile Security website,[15] with specific information about the devices receiving updates and for how long.[16]

Oppo

Notes

1. It was particularly challenging to locate accurate information about the support lifecycle of Oppo devices. The Oppo website stated incorrectly that the "latest version of Android is Android 10.0",[17] when it was in fact Android 12 at the time of writing.[18] Furthermore, analysing the support section of Oppo's website for unsupported devices doesn't return 'end of life notices'.[19] When a software support cycle is provided by a third party, the support cycle is usually published in relation to 'Android Major Releases' rather than years; for example, "supported for four major releases".[20] As the major releases of Android depend on the release schedule of Google, it was difficult to identify exactly how long a device software will be supported for in years.
2. Oppo's update cycles were equally unclear, as security releases for Android are related to Google's security release schedule, with some versions of Android receiving security updates longer than others.[21] However, regardless of whether functionality or security updates exist, there seems to be no guarantee that they will be pushed to the end user's device.

1. Carrier, vendor and manufacturer customisation may affect the release of an update or patch, such as the custom ColorOS kernel shipped on Oppo phones.[22]
2. Oppo did not appear to provide any information of product lifecycle or update availability on its website. Instead, information was gathered through third-party websites.[23]

Xiaomi

Notes

1. While it has been reported that some newer Xiaomi devices with a 2021 Model Year will be receiving software support for 3 years, it is unclear how long older devices will be supported for.[24]
2. Security update cycles are equally unclear, as for security releases for Android are related to Google's security release schedule, with some versions of Android receiving security updates longer than others.[25] However, regardless of whether functionality or security updates exist, there seems to be no guarantee that they will be pushed to the end user's device. Carrier, vendor and manufacturer customisation may affect the release of an update or patch, especially as the effects the custom MIUI kernel shipped on Xiaomi devices.
3. Xiaomi provides no clear or extensive information about product lifecycle or update availability on its website; most information was gained through third-party websites.[26]

Huawei

Notes

1. Huawei runs two different operating systems on its smartphones; EMUI, which tracks Google's Android releases, and its own brand, HarmonyOS, which is also based on Android but is specific to Huawei and continues to support all devices that it has been released on. While Huawei publishes information when new operating systems are available, consumers may be confused if devices are absent from that list.[27]
2. Huawei's update cycles seem to be unclear; security releases for Android are related to Google's security release schedule, with some versions of Android receiving security updates longer than others.[28] However, regardless of whether functionality or security updates exist, there seems to be no guarantee that they will be pushed to the end user's device. Carrier, vendor and manufacturer customisation may affect the release of an update or patch, especially with the effects the custom EMUI kernel shipped on Huawei devices. HarmonyOS hasn't existed for long enough at the time of writing to ascertain what the product lifecycle looks like.
3. Huawei's 'End of Life Policy' appears to relate only to their networking hardware rather than smartphones.[29] The policy document outlines that the 'end of sale' and 'end of life' of its products are listed in an update bulletin.[30] However, searching the bulletin by name of device yielded no reliable results. Also, there appeared to be no category for small consumer electronics, such as smartphones.

PERSONAL COMPUTERS

Personal computers and laptops have become a vital part of today's society as their use ranges from communication to entertainment, business, employment and education purposes. In 2019, almost half of private households worldwide were estimated to have a computer in the home.[31] When considering software update processes for general purpose computing, the operating system is usually separate to the hardware. This means that the lifecycle of personal computers is far more likely to be hindered by the limitations of the hardware rather than the software.

Findings

In comparison to smartphones, companies' governance of software support for personal computers appears to be less fragmented. In general, operating systems on personal computers appear to be offered for longer periods of time but, again, with varying periods of support across different manufacturers.

When it comes to accessibility or availability of information, only a few companies appeared to have detailed policies online. However, the software available on some laptops/personal computers may provide an 'in app' feature which provides information about when they will stop receiving software or security updates. Overall, the availability of information about software updates for specific devices was largely lacking or had to be learned through external sources. This conveys a lack of transparency towards consumers, which impacts their understanding of the duration of their devices' support.

Summary table

Company	Duration of Software Updates Support	Duration of Security Update Support	Information Availability
Microsoft	18 months to 5 years (depending on product and retail channel)	up to 7 years (or longer, under an extended support contract)	Directly from Microsoft, extensive
Apple	6-8 Releases, 6-8 years	~ 3 years (Hardware dependent)	Information available, Apple information incomplete
Google	5 Years	Security Updates included in Software updates	Inside app on supported devices
Linux	Variable	Variable	Variable

Microsoft

Notes

1. Microsoft lists all 'end of support' and 'end of life' documents on a section of its of website which can be easily found online.[32] Microsoft also provides guidance as to how long they anticipate supporting a release for at the earliest opportunity and often before general availability.
2. Microsoft provides clear guidance within its 'Product end of support' policy.[33]
3. As stated above, Microsoft appears to provide extensive and detailed guidance regarding software support, which is available on its website.[34]

Apple

Notes

1. MacOS releases appear to be on a yearly basis. Apple is the only personal computer manufacturer to have complete control over both hardware and software of their Mac line of personal computers. The support cycle of an individual device varies due to a combination of hardware features and limitations.[35] Even though an operating system's lifecycle tends to be low (1 year), the hardware lifecycle might support 6-8 major OS releases, and therefore can be supported for 6-8 years.
2. Each major release appears to receive 3 years of security releases.[36]
3. Information regarding Apple's software support can be found on its own website, although it appears to be incomplete.[37] Third-party websites may also provide more detailed information.[38]

Google

Notes

1. ChromeOS is based on Linux; it is a rolling release, with the headline version related to the version of Chrome Shipped. Device lifetime appears to be around 5 years depending on the model.[39]
2. The security support is only matched to the version of ChromeOS. It is unclear how long the support of an older version of Chrome lasts. However, Google instructs users to always use the latest version and provides an in-app feature to notify users of when their support will end.[40]
3. There exists an in-app feature to notify users of when their support will end.[41] However, it seems to be challenging to find specific information for a broad range of devices, other than on third-party sources.[42]

Linux

Notes

1. Linux is an open-source kernel, which is used by a vast array of Operating Systems. Popular examples include IBM's Red Hat Enterprise Linux, Canonical Ltd's Ubuntu and Software in the Public Interest's Debian. Many of these distributions have several derivatives, such as Ubuntu's targeted derivatives which include Kubuntu and Edubuntu. Alongside downstream forks such as Linux Mint and Pop! OS, Ubuntu is built on Debian. Support, thus, is variable between individual distributions.[43]
2. Security updates are variable between distributions, upstream packages and components.[44]
3. The availability of information to consumers appears sufficient, particularly for "mainstream" distributions like those named above.[45]

GAMING CONSOLES

Across Europe, between 46.6 and 55.9 percent of the population referred to themselves as "gamers".[46] In 2020, the European video game market was valued over $32 billion, making it one of the most valuable markets outside mobile communications and smartphones.[47] The video game console market in Europe is dominated by three major companies Sony, Microsoft and Nintendo.[48]

Besides the companies listed above, there is a number of smaller consoles developed mostly to either stream games or play mobile games. However, they have a relatively small market share. Furthermore, it is important to highlight that many gamers primarily use general purpose personal computers to play video games (PC Games). It is not within the scope of this research to analyse these, due to the large variance in hardware and software. The duration of software support of the operating systems on personal computers is discussed above.

Findings

Overall, the research found that software and security updates for gaming consoles remained unclear. Information regarding how long devices will be supported for appeared incomplete or lacking, leaving consumers to rely on predictions based on past practices for similar products or external sources. However, it is worth highlighting that for gaming consoles, software updates appear to be often bundled with security updates.

Summary table

Company	Duration of Software Updates Support	Duration of Security Update Support	Information Availability
Sony	Unclear (8 - 11 years)	N/A	Some information on Sony's website, Wikipedia
Microsoft	Unclear	At least 4 years of security for Xbox Series X and Series S	Dedicated website
Nintendo	Unclear (up to 14 years)	N/A	Press releases, Wikipedia
Linux	Variable	Variable	Variable

Sony

Notes

1. The longevity of Sony's PlayStation console seems to largely relate to the following two factors: [49]
   - The release date of the last Officially Certified game, and
   - The availability of online services
2. Security updates are bundled with the major software/firmware updates.[50]
3. Sony's website appears to provide limited information about the duration of software support. More information had to be gathered through third-party websites.[51]

Microsoft

Notes

1. Within Microsoft's' Xbox product portfolio, software support lifetime appears to vary.[52] Like Sony's PlayStation devices, the factors effecting support duration are:
   • The release date of the last Officially Certified game
   • The availability of online services
   For example, Xbox360's "Live" online service continues to be available.[53] However, its successor Xbox S's, has been discontinued as has the console.[54] This makes providing a specified support lifetime very challenging, as it varies by product (and likely, by userbase).
2. Security updates are included within firmware releases. Some consoles, such as the original Xbox, have been reported to have unpatched and, in some circumstances, unpatchable security vulnerabilities.[55] Microsoft's website states that Xbox Series X and Xbox Series S consoles, which were released in 2020, will continue to receive security updates at the minimum through August 2024.[56]
3. Information regarding the lifecycle of Xbox system security updates is available on a dedicated website,[57] which does not seem to include past or discontinued Xbox models.

Nintendo

Notes

1. Traditionally, consoles released by Nintendo have had long support cycles. For example, Nintendo Wii, which was released in 2006, was still receiving new game releases in 2020.[58] However, in January 2020 Nintendo

1. announced that it would no longer be servicing or repairing Wii consoles due to a parts scarcity.[59]
2. Security updates for Nintendo consoles are bundled with firmware releases. There appears to be limited information about the nature of security patches.[60]
3. Nintendo appears to have no consistent policy about how long the company anticipates supporting a device and provides no guidance as to when support will end.[61] Furthermore, there appears to be no section on the company's website regarding software and security update information. Dates of the 'end of life' of a product or service appear to be announced via press releases only, and therefore third-party websites remain the alternative sources collating this information in detail.[62]

TABLET COMPUTERS

Tablet computers are a wireless, portable personal computer with a touchscreen interface. Usually smaller than a notebook computer but larger than a smartphone, tablets have become increasingly popular and have a 2021 market revenue stream of around 59 billion dollars worldwide.[63] As of April 2022, Apple was the European market leader with their line of iPad tablets, followed by Samsung and Huawei.[64]

Findings

Similar to the findings for smartphones, the landscape of tablet software and security support is complex, with software or security support ranging from 3 years or less to a minimum of 6 for certain devices. Apple is the only company that provides both the device hardware and software. This provides somewhat greater transparency regarding the expected duration that an Apple tablet will be supported for. On the other hand, regarding companies acting as hardware manufacturers only, all of which deploy Google's Android OS on their tablets, our research was unable to yield a clear or precise duration of how long a tablet is expected to receive software or security update support.

Information about how long tablets will be supported for seems to be often absent from company websites. For example, only one company appeared to have a policy in place, which nevertheless does not appear to include information for tablets. As a result, most information was gleaned from third-party sources. Therefore, it remains questionable whether an average consumer would be able to adequately understand how long their tablet will be supported for.

Summary table

Company	Duration of Software Updates Support	Duration of Security Update Support	Information Availability
Apple	6-8 Years	12-18 months after major release	Heuristics, iOS Support list
Samsung	3-4 Android releases	3-4 Google Security releases	Some models have information, other information is available via third parties, some unknown
Huawei	Unclear	Depends on whether the device runs EMUI or HarmonyOS	Policy and Bulletin board available, but no content on handsets
Linux	Variable	Variable	Variable

Apple Inc.

Notes

1. It was difficult to identify the exact duration of software update support for specific Apple devices. It is possible to estimate through previous heuristics and product lifecycles, although support updates are subject to change and provide only indicative guidance.
2. Apple categorise their support schedule, not by hardware version but by software release. Therefore, the software support lifetime depends on the version of supported software that the device can run, plus the 12-18 months of support of that lifecycle. For example, iOS 13 was released on

1. 19 September 2019, with the last security released being on 1 September 2020.[65]
2. There appeared to be no official indication on the expected software longevity of a newly purchased Apple tablet.[66] Information was gathered based on predictions made by third-party websites, based on previous experience of Apples product lifecycle management.[67]

Samsung Electronics

Notes

1. Depending on the age of the device and its market segment, the expected scheduled software support cycle can vary. Furthermore, the software support cycle is usually published in relation to "Android Major Releases" rather than years, for example, "supported for four major releases".[68] As the major releases of Android depend on the release schedule of Google, it is hard to identify exactly how many years a device will be supported for.
2. Update cycles seem to be unclear, as security releases for Android are related to Google's security release schedule, with some versions of Android receiving security updates longer than others.[69] However, regardless of whether functionality or security updates exist, there is no guarantee that they will be pushed to the end user's device. Carrier, vendor and manufacturer customisation may affect the release of an update or patch.
3. Samsung does not appear to provide information on the product lifecycle or update availability for its devices on its website. Instead, information was gathered through third-party websites.[70]

Huawei

Notes

1. Huawei runs two different operating systems on its smartphones: EMUI, which tracks Google's Android releases, and its own brand, HarmonyOS, which is also based on Android but distinct to Huawei and continues to support all devices that it has been released on. While Huawei publishes information when new operating systems are available, consumers may be left confused if certain devices are absent from that list.[71]
2. Huawei's update cycles remain unclear; security releases for Android are related to Google's security release schedule, with some versions of Android receiving security updates longer than others.[72] However, regardless of whether functionality or security updates exist, there seems to be no guarantee that they will be pushed to the end user's device. Carrier, vendor and manufacturer customisation may affect the release of an update or patch, especially with the effects the custom EMUI kernel shipped on Huawei devices. Regarding HarmonyOS, this system hasn't existed for long enough for the research to ascertain what the product lifecycle looks like.
3. Huawei's 'End of Life Policy' appears to relate only to their networking hardware rather than smartphones.[73] The policy document outlines that the 'end of sale' and 'end of life' of its products are listed in an update bulletin. However, searching the bulletin by name of device yielded no reliable results. There also appeared to be no category for small consumer electronics, such as tablets.

SMART TELEVISIONS

1. Across Europe, around 95% of households own a television.[75] Through technological advances "Smart" televisions can access the internet enabling on-demand functionalities that allow consumers to instantly access a wide range of online video and music-streaming platforms.[76] Samsung is the leading brand in the smart TV market with 29.5% of sales globally in 2021 followed by LG, Sony and TCL.[77]

Summary table

Company	**Duration of Software Updates Support**	**Duration of Security Update Support**	**Information Availability**
Sony	Unknown	Unknown	Not easily accessible list that contains information about software support for all models
LG	Varies, based on Model	Depends on OS, 2-5 years, Not Disclosed	LG's Website, social media
Samsung	Unclear	Unclear	Some models have information, other information is available via third parties, some unknown
TCL	Unknown	Unknown	No information, devices too new for heuristics

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Sony

Notes

1. Depending on the device release date and its market segment, the expected scheduled support cycle can vary. The duration of software updates support duration is not obvious from Sony's own documentation and there doesn't appear to be a list of devices that fall outside of support. For example, their 2021 bulletin applies to 2014-2015 models.[78]
2. Based on Sony's documentation, it appears that security updates are bundled with software updates.[79]
3. Sony does not appear to provide an accessible list for all models. Some bulletins provide a list of models for functionality changes with specific models that can be searched.[80] However, what the latest software update is for a model, when it was released and if the smart TV is still in support seem to be unclear.

LG Electronics

Notes

1. Depending on the device release date and its market segment, the expected scheduled support cycle can vary.[81] Some LG Devices run a customised Android TV build which includes updates from upstream Android. This complicates matters further when ascertaining what the last build of Android was for a specific TV and which Android updates were included. After a final update, the LG Content Store (similar to the App Store) can still update apps on the Smart TV exclusive of the operating system.

1. Update cycles appear to be unclear. Security updates seem to be the consequence of either critical security issues or the discontinuation of services, although they may also come from an upstream update to Android TV. There appears to be no repository or index of updates.[82]
2. Although LG provides a centralised index of discontinued models by region, what discontinued means isn't clearly defined.[83] Furthermore, a model that is discontinued may still receive security updates.

Samsung Electronics

Notes

1. Depending on the device release date and its market segment, the expected scheduled support cycle can vary. For example, the UE32F5500AK, a mid-range television released in 2013, was last updated in December 2019.[84]
2. Update cycles appear to be unclear. Security updates primarily occur due to critical security issues or the discontinuation of services.[85] There exists a dedicated Samsung website detailing all security patches for smart TVs since 2017. However, it is unclear whether all devices receive these security updates as each security patch appears to go back up to 2 or 3 years based on the products "Model Year".[86]
3. Samsung's dedicated website does not seem to provide information of product lifecycle or update availability; it is unclear whether all devices receive these security updates as each security patch appears to go back up to 2 or 3 years based on the products "Model Year".[87]

TCL

Notes

1. TCL smart televisions seem to run on Android TV or Roku TV operating system.[88]
2. Information regarding update cycles seems to be unclear. Security releases for Android are related to Google's security release schedule, with some versions of Android receiving security updates longer than others.[89] However, regardless of whether functionality or security updates exist, there seems to be no guarantee that they will be pushed to the end user's device. Carrier, vendor and manufacturer customisation may affect the release of an update or patch.
3. At the time of writing, there appeared to be a lack of information about how long TCL smart televisions will receive updates for.

CONCLUSIONS

As the research findings illustrate, the support cycle for different devices can vary significantly depending on manufacturer and product. Despite some devices appearing to be supported longer than others, the findings confirm that this support appears to be completely at each company's discretion. Furthermore, it is rarely the case that the duration of software security support meets consumers' expectations regarding the life expectancy of their device. Consequently, this raises serious concerns about how long a device may be used by a consumer compared to the length of time it receives updates, which can have a detrimental impact for users both security and privacy.

The findings also convey that, across all manufacturers and products, there seemd to be a lack of transparency and communication to consumers on how long their devices will be supported for. This raises several concerns regarding consumer's understanding of how long their device is protected, potentially rendering their device vulnerable to malicious attacks because consumers cannot ascertain if the product is still receiving critical security patching. It is therefore vital that all manufacturers, vendors and retailers clearly demonstrate the shelf life of consumer electronics, so that individuals are empowered to only trust companies whose devices receive long-term software and security support.

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