Connected products

ENHANCING CONSUMERS' LIVES WITH TECHNOLOGY

#GetTheFutureYouWant

Capgemini
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Executive Summary

This research delves into the landscape of consumer-facing connected products, outlining consumer preferences and highlighting areas that impact the consumer experiences. Mobile phones and tablets are excluded from the scope of the research.

The research highlights how connected products have become an integral part of consumers' lives. Entertainment systems and connected vehicles lead current ownership, while smart home security and health wearables are poised for increased adoption in the coming year. Consumers also exhibit a willingness to upgrade for enhanced comfort and convenience. Further, nearly seven in ten show an interest in having an always-on AI-powered device if it improves their life.

We then deep-dive into voice assistants and health wearables. Voice assistants are witnessing increasing adoption, with 85% of surveyed consumers using some kind of voice assistant at home, on their mobile, or in their car. The predominant usage is seen in the early stages of the purchase cycle. For in-car voice assistants, playing music, navigation, or accessing in-car functions is the most common feature. Consumers also place trust in their voice assistants' recommendations. One in two consumers do highlight the lack of contextual relevance seen in the responses. When it comes to health wearables, one in three consumers already own a wearable and 29% are likely to buy one in twelve months' time. It is also interesting to note that consumers are willing to pay or be loyal to organizations offering connected experiences around health, retail stores, entertainment, or air travel.

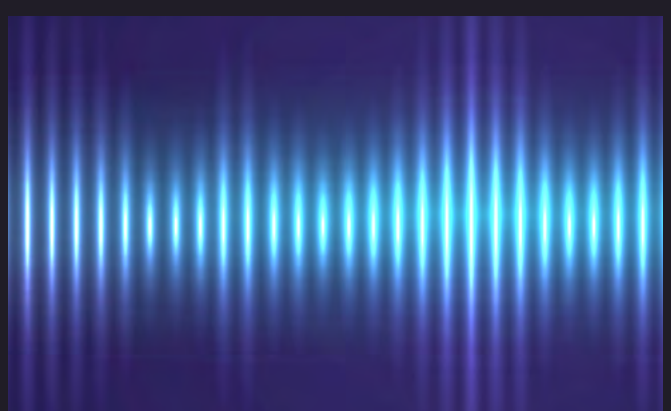
We further found that consumer awareness about e-waste and carbon footprint is rising, and they want the organizations that develop products to ensure they are sustainable. We also see that sustainable practices could drive consumer loyalty and consumers prefer paying for software updates over purchasing new models. Consumers also show concerns around the lack of recycling avenues and ways to responsibly dispose of e-waste.

We also focused on consumer challenges and concerns. Data privacy remains a significant concern, with a mere

Executive Summary

36% expressing satisfaction with the privacy offered by current connected products. Around three in ten consumers also express concern about the potential misuse of data and their personal data being distributed to third parties without consent. One in two consumers also show frustration about the number of connected devices or services they have to deal with regularly, while two in three believe it would be much more convenient to have just one single interface for all connected products.

Finally, we conclude with recommendations for connected technology companies in three different areas – on the consumer front, product front, and business/operations front. On the consumer front, priorities involve instilling trust in data privacy and security, along with enhancing user-friendliness in setup and pairing processes. Regarding the product itself, the focus should be on crafting seamless user experiences across diverse platforms and effectively communicating the product's value proposition. On the business and operations front, the suggestions encompass exploring innovative revenue models that this space offers, adapting business models as needed, advocating for a circular economy to promote sustainability, and bolstering security protocols for both products and services. Finally, we highlight the necessity of regulatory oversight to ensure adherence to standards, promoting interoperability and sustainable practices across the industry.



WHO SHOULD READ THIS REPORT AND WHY?

Who?

This report is written for leaders working on consumer-facing connected products in the consumer products industry, retail, connected health, connected mobility, and industries delivering connected experiences, such as airports and entertainment. Its insights will also be of interest to connected technology executives and business leaders from general management, strategy, technology and digital, product, data and security, and sustainability functions.

Why?

The report covers consumer preferences for connected products and experiences in their daily lives. We examine current and planned ownership of connected products, consumers' willingness to upgrade, and their interest in exploring connected experiences in retail stores, in airports, and for entertainment. We also analyze their concerns around sustainability, data privacy and security, and integration with other connected products. We finally provide actionable recommendations for organizations for crafting a strategy for connected products and experiences.

This report is based on:

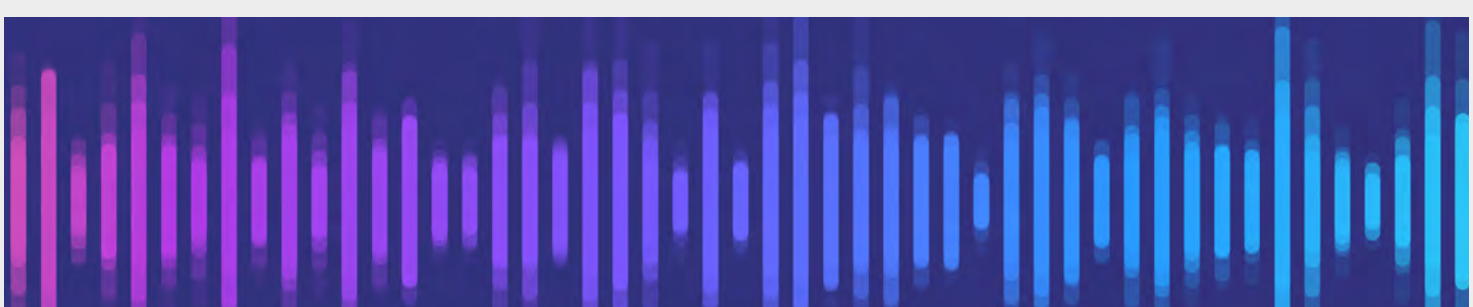
- the findings of a comprehensive consumer survey of 10,000 consumers globally and
- in-depth interviews with industry executives.

See the Research Methodology at the end of the report for more details on the demographics of the consumers surveyed.

Introduction

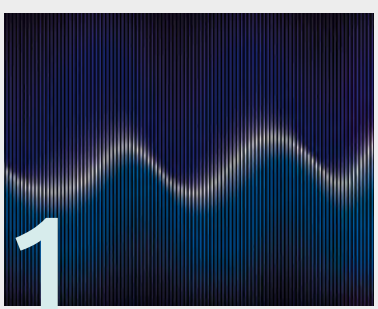
In this report, we examine the position of connected products as an integral aspect of the modern consumer lifestyle, with one-third of consumers using connected products around the clock. We explore specifically the adoption of voice assistants, with more than eight in ten consumers using this technology. We also examine consumer awareness of the sustainability impact of connected products, with 59% of consumers demanding the facility to check the carbon footprints of connected products, demonstrating growing environmental consciousness and a desire for transparent product information. Finally, we examine current levels of consumer satisfaction around data privacy and the integration of connected products.

To address these themes, we conducted a global survey of more than 10,000 consumers over the age of 18 across 13 countries: Australia, Canada, France, Germany, India, Italy, Japan, the Netherlands, Norway, Spain, Sweden, the UK, and the US. For more details on the survey sample, please refer to the Appendix.



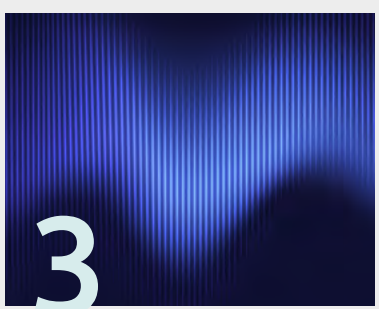
Introduction

This report explores four broad themes:

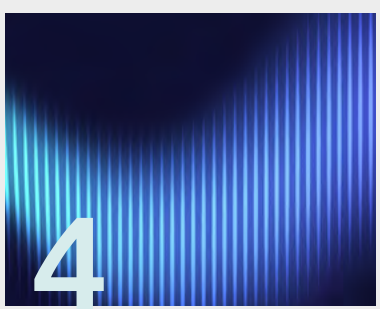


Connected products are an integral aspect of everyday life

Voice assistants and health wearables provide positive consumer experiences

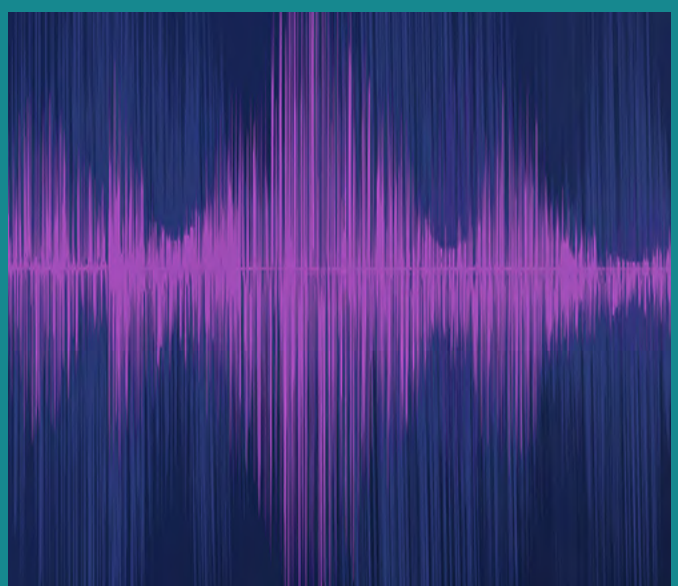


While conscious of the sustainability burden, consumers want organizations to step up and ensure sustainability



Consumers are unsatisfied with the current state of data privacy and integration of connected products

We close this report with recommendations in three key areas for connected product organizations to consider.



DEFINING A CONNECTED PRODUCT

Any product the consumer uses that can connect to the Internet is considered a connected product. As a rule of thumb, if the product comes with an app, it's probably connected.

Connected products include smart watches and wearables; home automation including lights, security, doorbells, and thermostats; health products that track and monitor your heart rate, weight, blood pressure, or glucose level; and mirror fitness systems or Peloton bikes.

Note: In this research we explore the consumer's affinity with connected products outside the ubiquitous smartphone and tablet models. Nevertheless, some of the connected products we look at in detail use a smart phone connection for some functions (for example, a smart watch connects with a smart phone to receive calls and notifications).

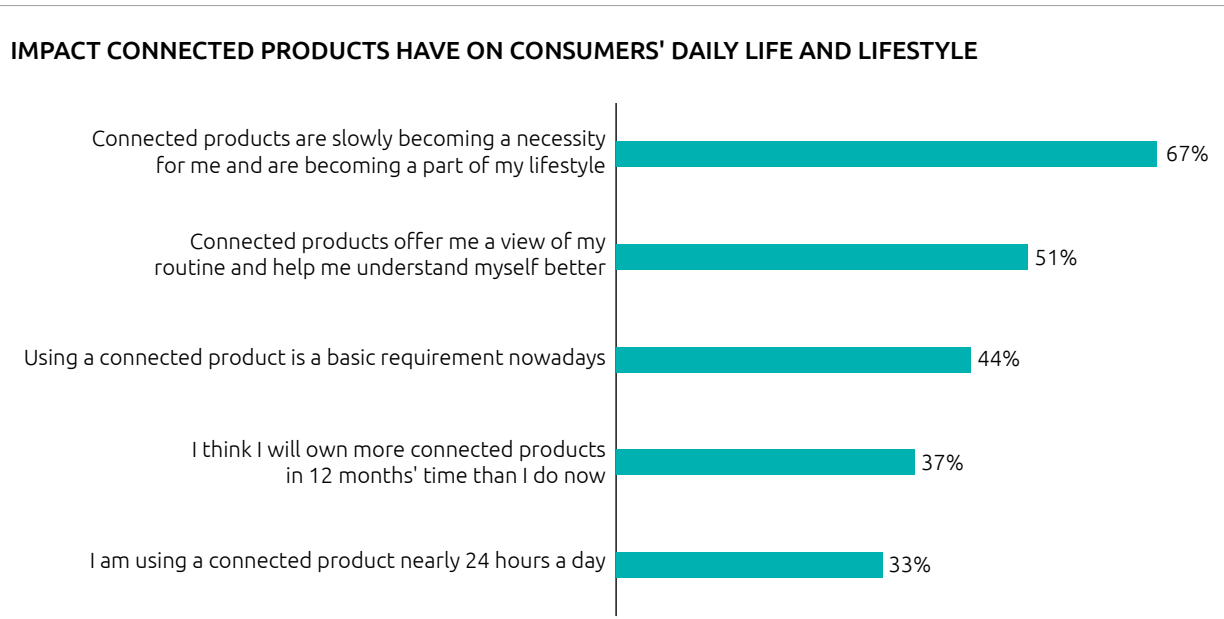
01 CONNECTED PRODUCTS ARE AN INTEGRAL PART OF EVERYDAY LIFE

One-third of consumers rely on a connected product around the clock

Connected products are an essential part of the consumer lifestyle. A majority (67%) of consumers consider connected products to be a necessity, while one-third are using some kind of connected product at any time of day or night. One reason consumers incorporate connected devices into their daily lives is that these products make them feel safer and healthier:

- 60% of consumers surveyed feel connected products such as smart home security systems make them feel safer
- 60% of consumers surveyed feel connected products such as health wearables/trackers help them maintain and improve their state of health

FIGURE 1.
Connected products are integrated into daily lives



Source: Capgemini Research Institute, Connected Products survey, November 2023, N=10,000 consumers.

67%

of consumers consider connected products to be a necessity, while one-third are using some kind of connected product at any time of day or night

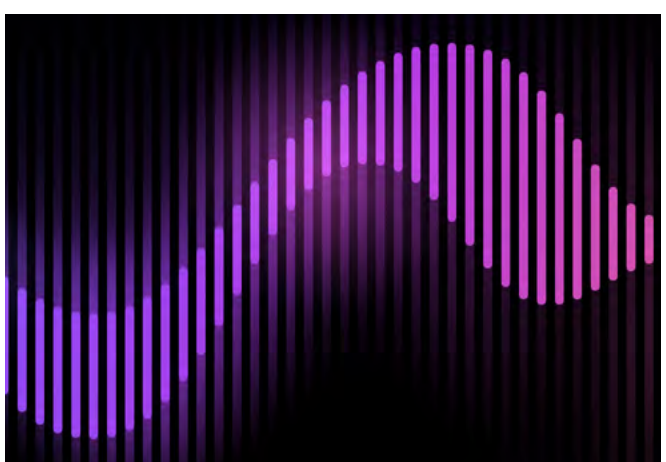
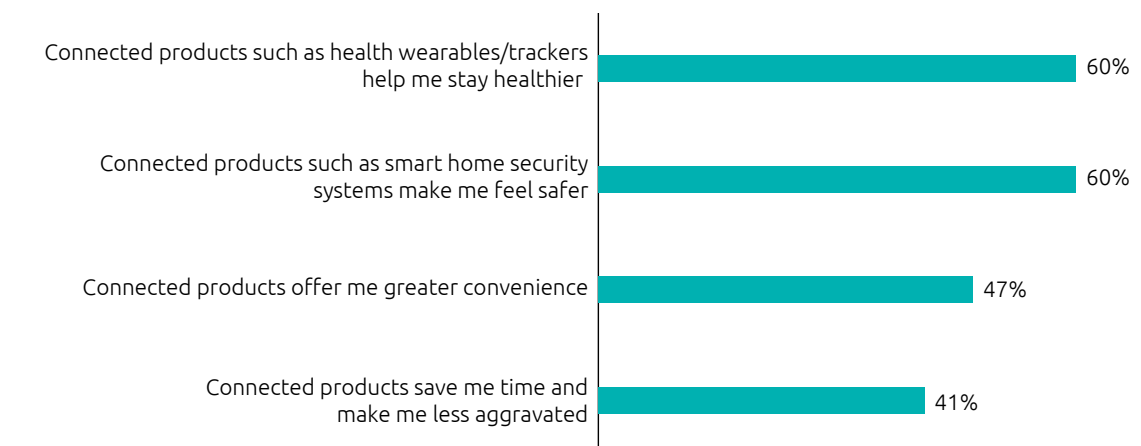


FIGURE 2.

Consumers find that connected products enhance their health and safety, offer convenience, and improve time management



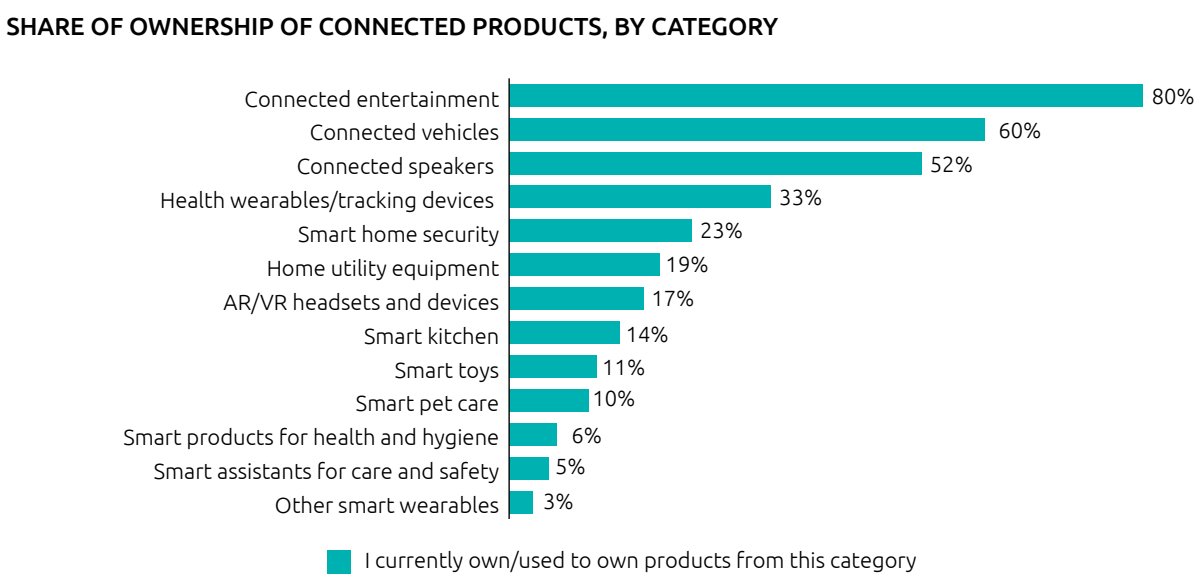
Source: Capgemini Research Institute, Connected Products survey, November 2023, N=10,000 consumers.

The most commonly owned connected products are entertainment systems and connected vehicles

Our research shows that four in five consumers own a connected entertainment system, including smart TVs and gaming systems. Sixty percent of consumers own a connected vehicle and 52% own connected speakers. One in 10 consumers has also started exploring connected devices for pet care (see Figure 3).

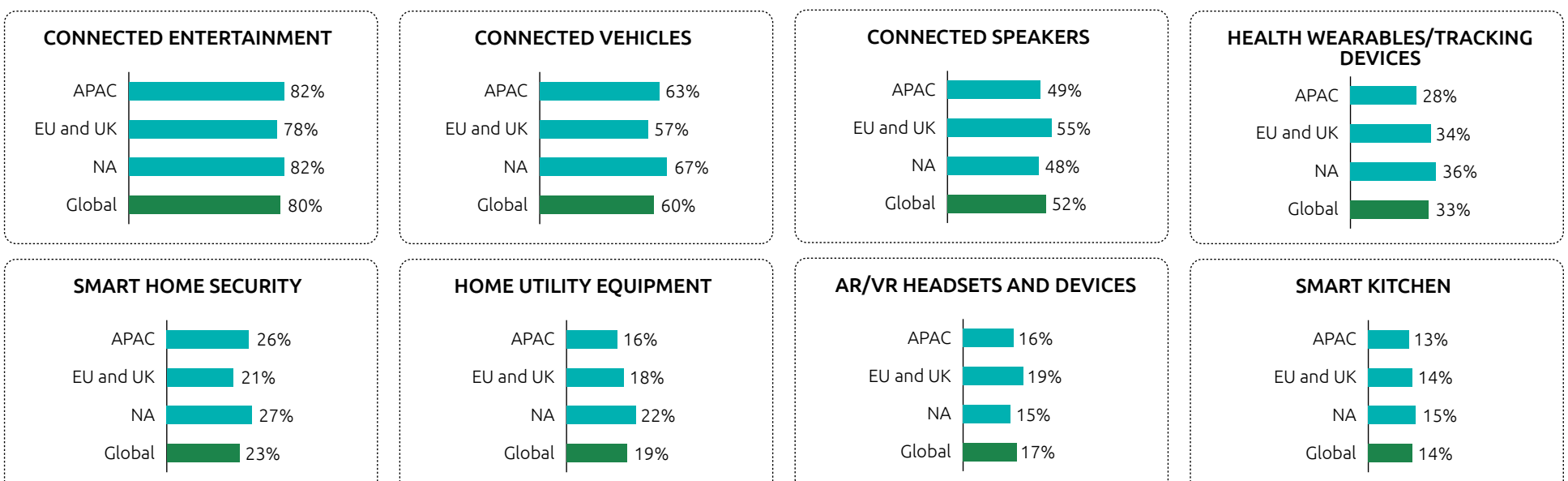
- Connected entertainment devices are the most popular connected products in all countries, with ownership rates ranging from 77% in the UK and Norway to 94% in Japan.
- Connected speakers are also one of the most popular connected devices, although more Gen Z (61%) and Millennial (64%) respondents own these than do respondents in older age groups.
- Connected vehicle ownership rates vary widely between countries, with the highest rate in the US (77%) and the lowest rate in Canada (38%). Figure 4 provides the distribution of these ownership patterns by region.

FIGURE 3.
Connected entertainment, vehicles, and connected speakers have the highest consumer ownership



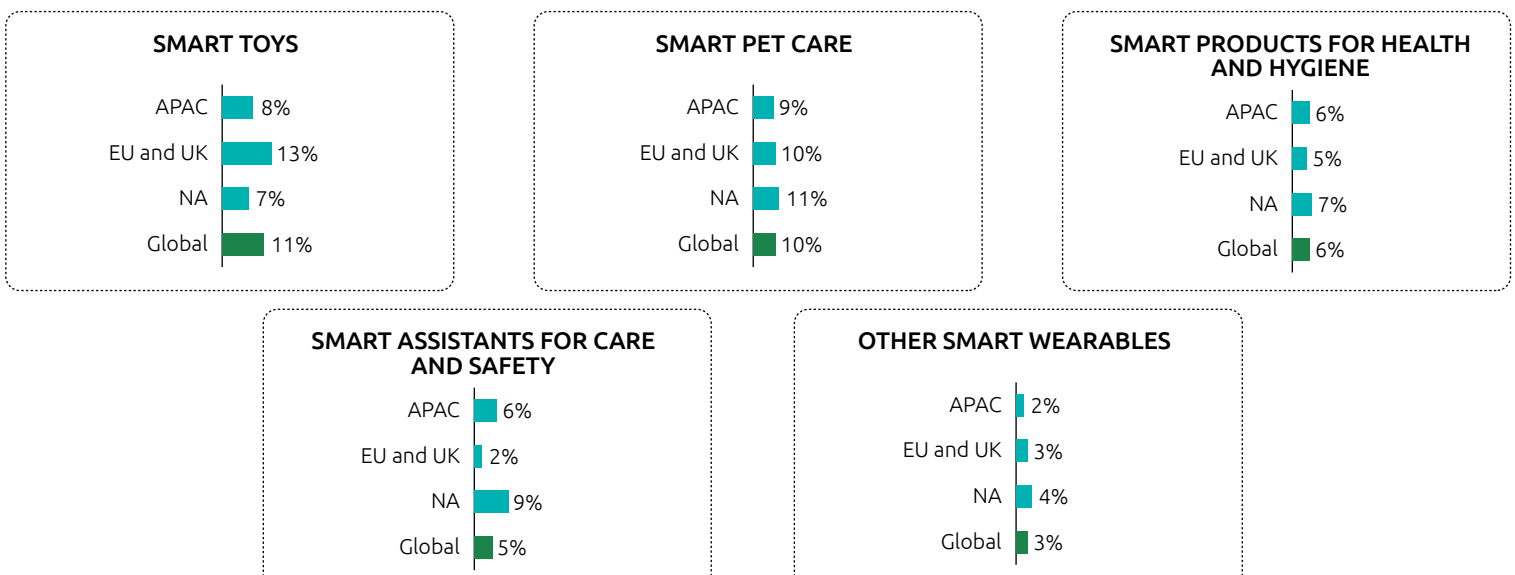
Source: Capgemini Research Institute, Connected Products survey, November 2023, N=10,000 consumers. Examples for each category include: Connected entertainment (Smart TVs, gaming systems), Connected vehicles (in-car voice assistants, GPS, infotainment, or an app for locking your car), Connected speakers (Alexa, Google home, music players), Health wearables/tracking devices (Apple Watch, Fitbit), Smart home security (smart doorbells), Home utility equipment (thermostats, smart lawn mowers), AR/VR headsets and devices (Meta Quest, Google Glass), Smart kitchen (smart coffee makers, smart refrigerators), Smart toys (smart reading books, toys which connect to the TV or smartphone), Smart pet care (smart pet health trackers, smart collars), Smart products for health and hygiene (smart weighing scales, smart shower controllers), Smart assistants for care and safety (smart pill dispensers, AI companions), smart wearables (smart sunglasses, smart clothing).

FIGURE 4.
Ownership (currently owned/used to own) of connected products by region



Source: Capgemini Research Institute, Connected Products survey, November 2023, N=2,300 consumers in the APAC region, 5,700 consumers in the EU and UK combined, 2,000 consumers in the NA region.

FIGURE 4 (CONTINUED).
Ownership (currently owned/used to own) of connected products by region



Source: Capgemini Research Institute, Connected Products survey, November 2023, N=2,300 consumers in the APAC region, 5,700 consumers in the EU and UK combined, 2,000 consumers in the NA region.

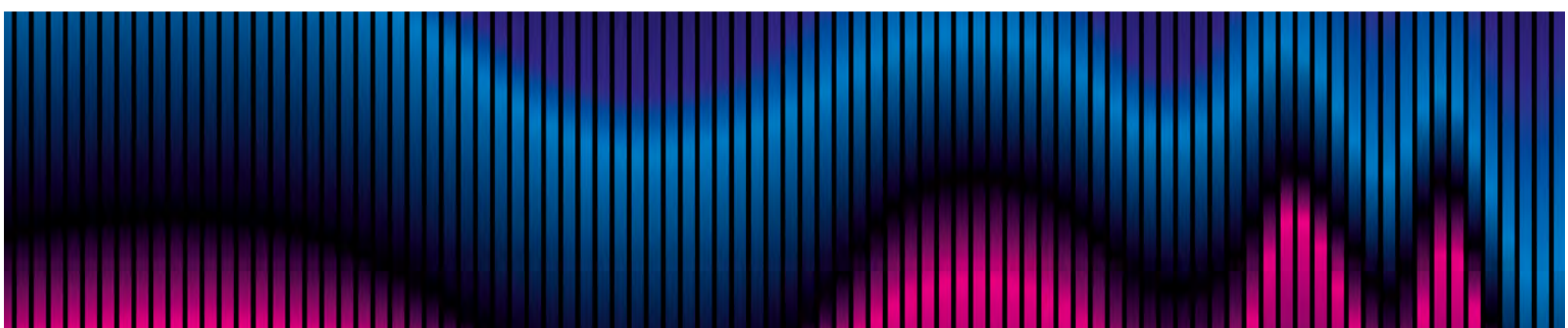
Smart home security and health wearables top the list of connected products that consumers plan to purchase in the next 12 months

Figure 1 shows that 37% of consumers think they will own more connected products in the next 12 months than they do now. More consumers in Australia (40%) and Japan (40%) believe they will own more products than the global average.

There is a notable shift towards prioritizing home security and health wearables, suggesting an increasing emphasis on personal safety, well-being, and the integration of technology into daily life. Smart home security (30%) and smart healthcare (29%) are the leading product categories for intended purchases over the next 12 months.

37%

of consumers think they will own more connected products in the next 12 months than they do now

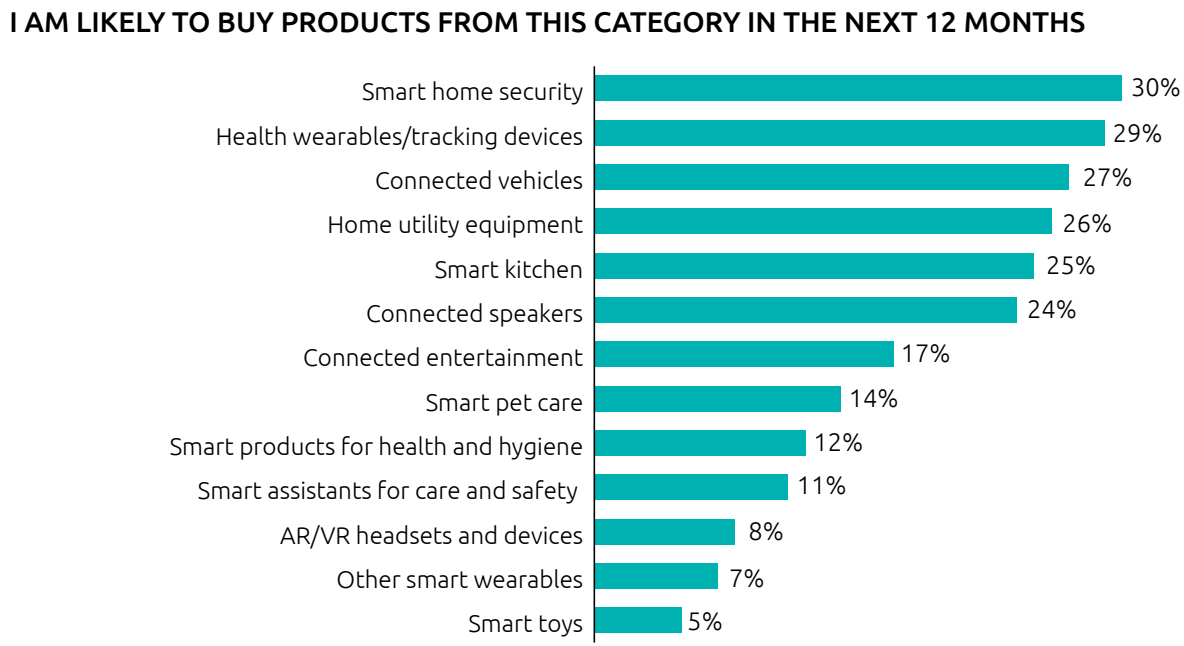


Across all age groups, there is a consistent interest in smart home security, with Baby Boomers (aged 59–77) showing a slightly higher inclination, at 32%. Millennials (aged 27–42) exhibit a higher likelihood than the overall average of purchasing health wearables/tracking devices, at 31%. This signals a trend of health-consciousness among the middle age demographics, aligning with the growing popularity of wellness-focused technologies among this segment. Millennials also display a slightly higher interest in planned ownership of connected vehicles (29%) than do other age brackets.

An executive director in product management at a multi-national telecom company adds a caveat: ***"High intent to buy smart home security devices may reflect consumer interest, but the industry needs to address cost and complexity to convert intentions into widespread adoption."***

FIGURE 5.

Smart home security, health wearables, connected vehicles, and connected speaker products have the highest levels of planned ownership in the next 12 months

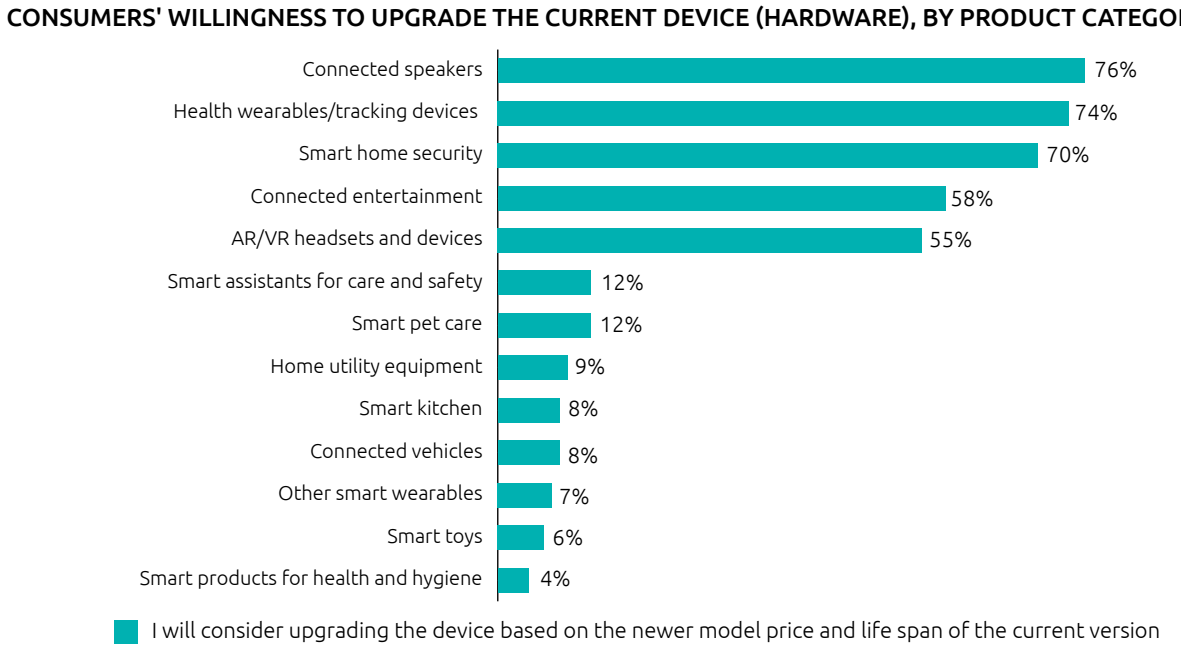


Source: Capgemini Research Institute, Connected Products survey, November 2023, N=10,000 consumers.

Most consumers are willing to update their products in return for greater comfort and convenience

Around three in four consumers say they are willing to upgrade their connected speakers (76%) and health wearables (74%) based on the price of the newer model and life span of the current version. Consumers exhibit a strong interest in and demand for developments in the technology and features for these product categories.

FIGURE 6.
Consumers are more willing to upgrade their current products across smart home security and AR/VR

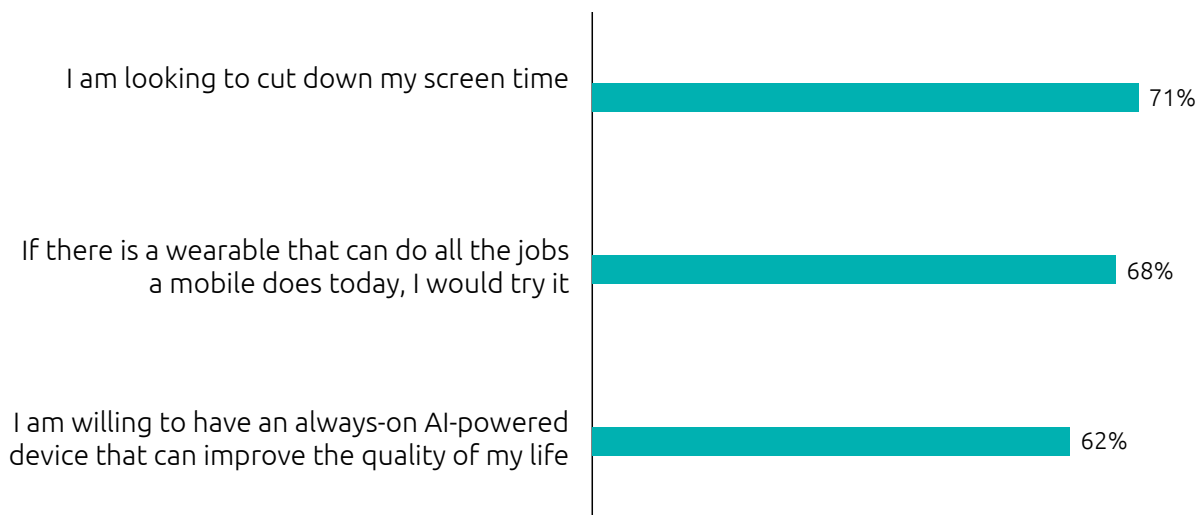


Source: Capgemini Research Institute, Connected Products survey, November 2023: smart home security – N=2,310, home utility equipment – N=1,853, connected entertainment – N=7,969, connected speakers – N=5,188, smart kitchen – N=1,421, smart products for health and hygiene – N=579, health wearables/tracking devices – N=3,329, other smart wearables – N=275, AR/VR headsets and devices – N=1,734, connected vehicles – N=6,014, smart pet care – N=1,025, smart assistants for care and safety – N=475, smart toys – N=1,084 consumers.

We also found that a large majority of consumers are looking to cut down their screen time and, to this end, are trying wearables as an alternative to cellphones. They are also willing to try always-on AI-powered devices as a potential means of improving their quality of life. Highlighting the role of AI, John Miedema, director of product and business development management for EMEA at Lenovo, says, ***"The integration of AI in connected devices will revolutionize user experiences by personalizing interactions based on user habits, preferences, and daily routines. The future of connected products lies in leveraging AI to not only enhance device functionality but also to create a seamless and personalized user journey, from smart homes to gaming experiences."***

FIGURE 7.

Consumers are looking to cut down their screen time and are open to exploring always-on AI powered devices



Source: Capgemini Research Institute, Connected Products survey, November 2023, N=4,986 consumers.

02

VOICE ASSISTANTS AND HEALTH WEARABLES PROVIDE POSITIVE CONSUMER EXPERIENCES

Adoption of voice assistants is growing steadily

"Voice assistants" refer to mediums (with or without screens) that can be accessed via voice commands or inputs. Examples of such voice assistants include Siri, Google Home, and Alexa (accessed via cellphone, smart speakers, or in-car systems). It is estimated that Amazon has sold more than 500 million Alexa-enabled devices,[1] while Apple's Siri is used by a similar number.[2]

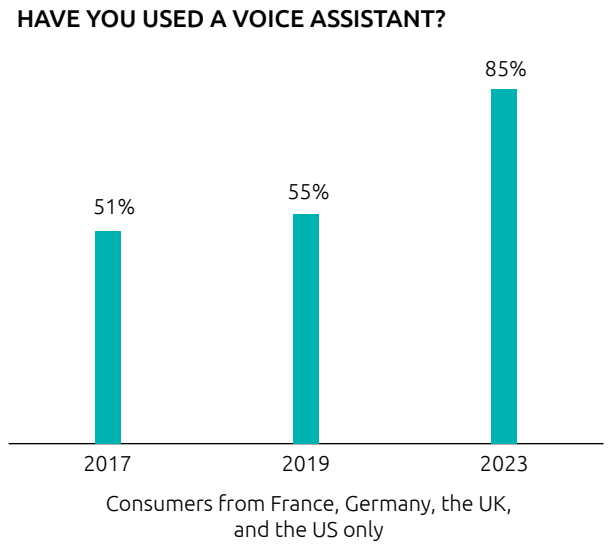
More than eight in ten consumers use voice assistants

Our research reveals that 85% of consumers globally have used a voice assistant. Based on our 2017 research into "conservational commerce," the adoption of voice assistants grew from 51% in 2017 to 85% in 2023 among consumers in France, Germany, the UK, and the US (see Figure 8). One reason for this deep penetration is that most smart phones now feature a built-in voice assistant.

85%

of consumers globally have used a voice assistant.

FIGURE 8.
Use of voice assistants has steadily increased since 2017



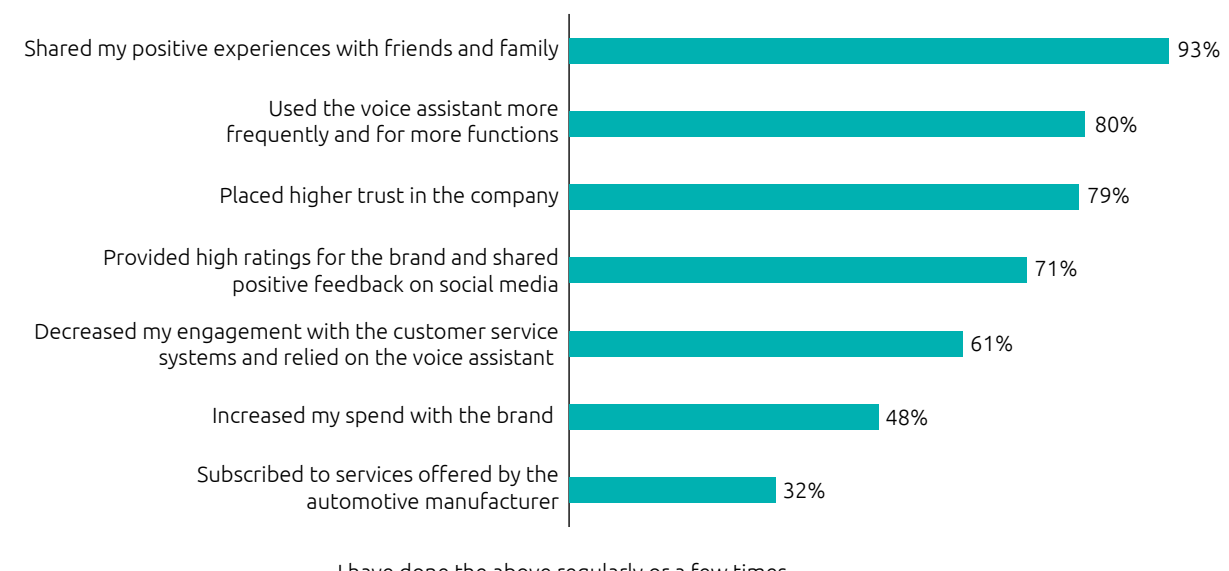
Source: Capgemini Research Institute, Connected Products survey, November 2023, N=4,500 consumers from the US, the UK, France, and Germany; Conversational Interfaces Research, consumer survey, April–May 2019, N=5,037 consumers from the US, the UK, France, and Germany only; *Conversational commerce: Why consumers are embracing voice assistants in their lives, 2018*.

Voice assistants are most commonly used early in the purchase cycle

Voice assistants facilitate the performance of a number of tasks for consumers. However, browsing or researching products or services is the most common functionality, accessed by 71% of consumers who use voice assistants. Our research also highlights that a positive experience with a voice assistant, supported by a specific brand, will lead to increased usage (80%), increased trust (79%), and higher spend (48%), among other outcomes. Organizations are also looking to voice assistants as a means to increase inclusivity. In one of its Mexican outlets, US supermarket chain Walmart has installed a system that allows people with visual disabilities to move within the store independently, making their purchases via voice commands and using Walmart's app on their mobile devices.[3]

FIGURE 9.

More than 90% of consumers have shared their positive experiences with friends and family after having a good experience with a voice assistant



Source: Capgemini Research Institute, Connected Products survey, November 2023, N=5,188 consumers using voice assistants.

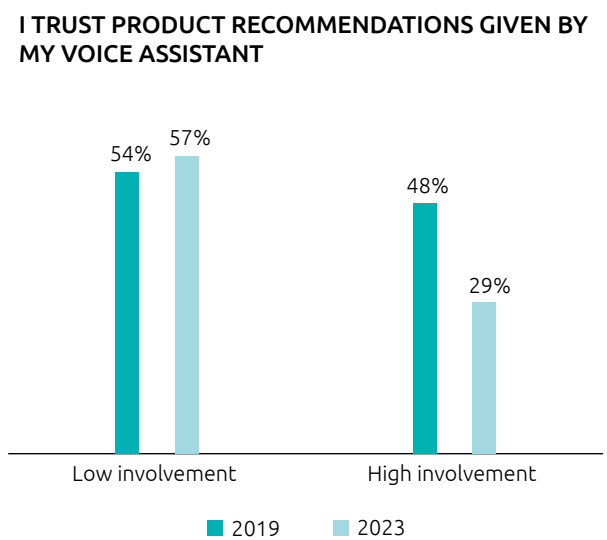
We also examined the extent to which consumers trust the recommendations they receive from voice assistants. More than half of consumers (57%) trust such recommendations in "low-involvement" scenarios, slightly higher than the 54% in 2019. In high-involvement scenarios, 29% said they trust their voice assistants, much lower than the proportion that said so in 2019. A probable reason for this lower level of trust is reluctance to surrender agency to a machine for more complex, higher-value purchases and also that consumers were more willing to trust the voice assistants in 2019 when they were relatively new.

57%

of consumers trust the recommendations from their voice assistants in "low-involvement" scenarios.

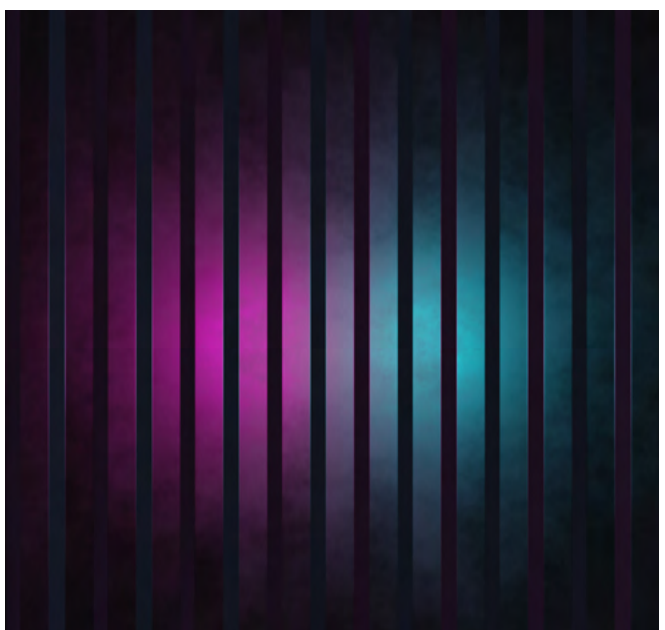
FIGURE 10.

Consumers trust the recommendations from their voice assistants for low-involvement purchases



NB: Involvement level is defined by the number of questions exchanged with the assistant in order to arrive at a resolution.
Source: Capgemini Research Institute, Connected Products survey, November 2023, N=6,596 consumers using voice assistants or connected speakers; Conversational Interfaces Research, consumer survey, April–May 2019, N=10,254 consumers.

Interestingly, three in five consumers (58%) mentioned they would be willing to use generative AI-driven voice assistants or smart speakers if that led to greater understanding on the part of the software and more natural conversations.



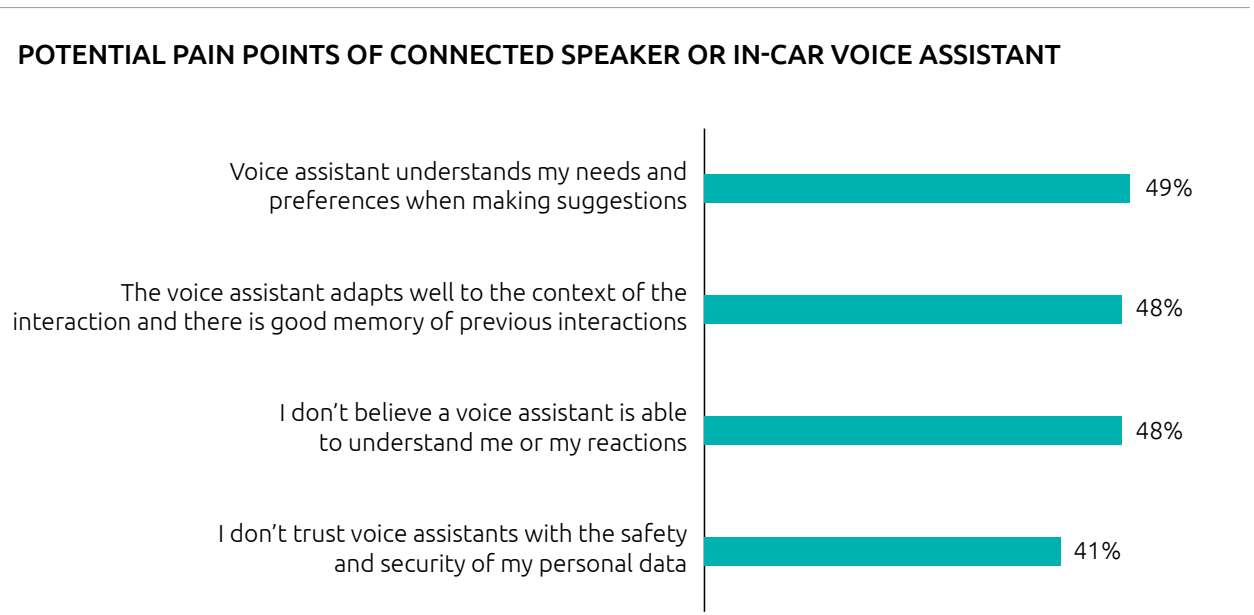
Adoption of in-car voice assistants

In-car voice assistants allow drivers greater freedom to complete hands-off tasks while at the wheel. Our research has found that nearly four in five consumers that use in-car voice assistants use them to play music, to navigate, or for accessing in-car functions. In-car voice assistants also provide a number of other functionalities, such as controlling air conditioning and media systems and remotely starting the car. The integration of Mercedes-Benz is testing the integration of its MBUX infotainment system with ChatGPT, allowing the driver to use it as a hands-free in-car search engine and map-location system.[4]

- Over the next three years, an increasing number of consumers are expected to utilize voice assistants in their vehicles, with 86% projected to engage regularly in tasks such as playing music, checking directions, and managing in-car functions, compared with 78% currently.

Our research also shows a lack of contextual awareness. Nearly one in two consumers feel that the voice assistant is not always able to understand them or their reactions while two in five felt that they could not trust the in-car voice assistants with the safety and security of their personal data.

FIGURE 11.
Lack of contextual awareness of in-car connected voice assistants hinders adoption

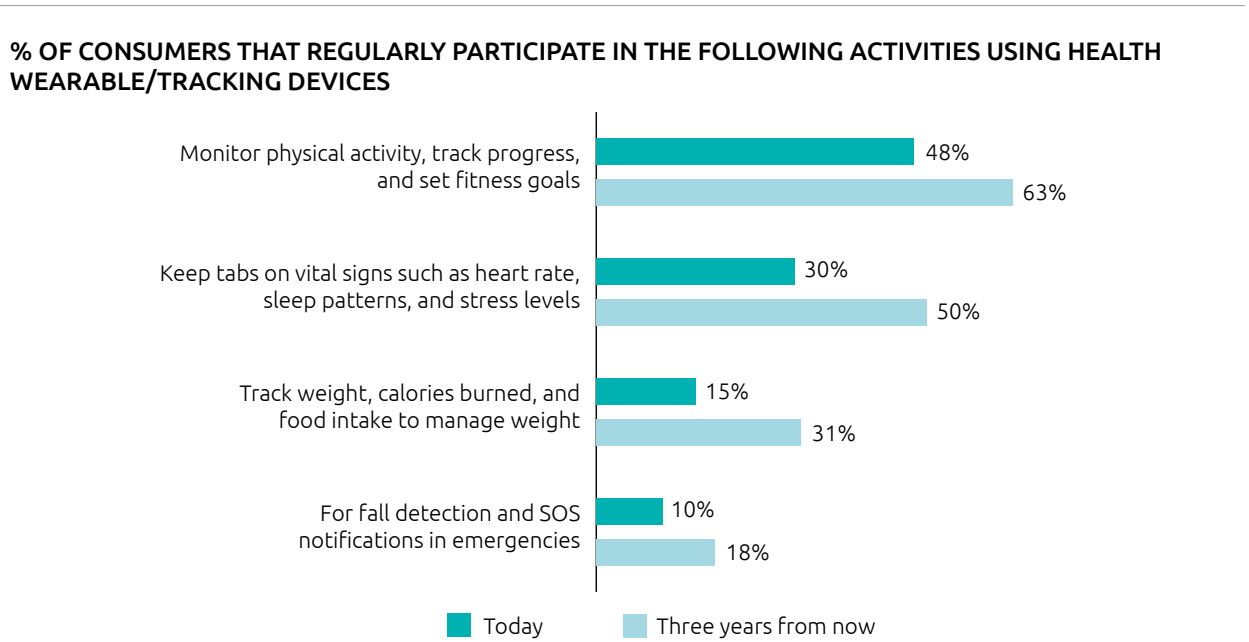


Source: Capgemini Research Institute, Connected Products survey, November 2023, N=6,280 consumers using voice assistants in cars.

One in three consumers uses wearables to monitor their health

As illustrated in Figures 3 and 5, 33% of consumers currently own or have owned a health wearable, while another 29% said they are likely to buy one in the next 12 months. Nearly half of these consumers use these wearables to monitor their level of physical activity, set fitness goals, and track progress. Smartwatches from companies such as Apple and Fitbit can track heart rate and pulse, detect irregular heartbeat, and monitor blood oxygen levels. Professor Michael Snyder of the Stanford School of Medicine elaborates: ***"You don't drive your car around without a dashboard. We're more important than cars, but we're running around without any sensors. And we should be wearing these things, in my opinion, because they can alert you to [important] things [early]."***[5]

FIGURE 12.
Consumers are adopting a range of health-device functionalities



Source: Capgemini Research Institute, Connected Products survey, November 2023, N=3,329 consumers using health wearables.

Health wearables and fitness trackers are not simply measuring devices; they also give early warnings of potential medical problems. Dr. Sumbul Desai, physician and Vice President of Health at Apple, says: ***"We`re 98% accurate in detecting atrial fibrillation and 99% accurate in detecting sinus rhythm."***[6]

Positive experiences from health wearables drive adoption

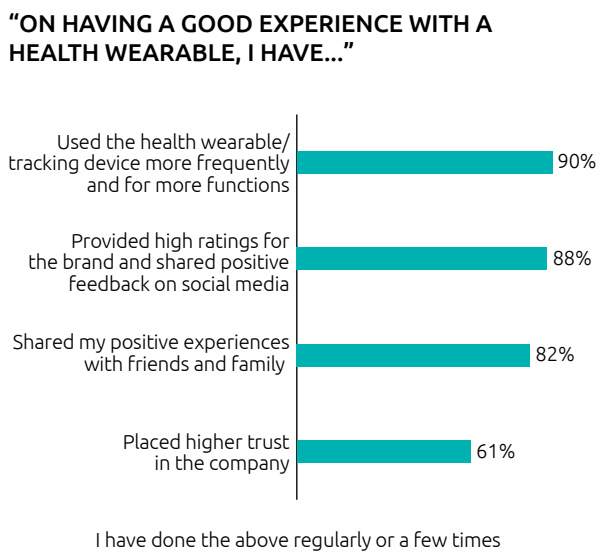
Ensuring a positive experience for the consumer will boost adoption. Nine in ten consumers use a health wearable more frequently, having had a positive experience; 82% also shared positive feedback about the wearables.

61%

of consumers using health wearables trust the data from these devices as much as that from their health practitioner/physical testing

FIGURE 13.

A positive experience allowed nine in ten consumers to use their wearables more frequently



Source: Capgemini Research Institute, Connected Products survey, November 2023, N=3,329 consumers using health wearables.

Our research also shows that 61% of consumers using these wearables trust the data from these devices as much as that from their health practitioner/physical testing. Twenty-seven percent also said they would be willing to pay a premium/ monthly subscription price for using a health wearable/ tracking device that offers specific health advice.

CONSUMERS ARE WILLING TO SPEND ON DEVICES THAT IMPROVE THEIR HEALTH

We presented consumers with the following scenarios to gauge their willingness to spend and share data around health-related services.

Scenario 1: Imagine a fitness watch capable of monitoring muscle mass, hydration level, heart rate, and bodily temperatures. It also sends the report to a healthcare practitioner/app every day, based on which they can deliver recommendations to your smart phone.

74%

mentioned they would buy the device as it can help them improve their health

60%

said they are willing to share relevant data with the provider in exchange for health insights

Scenario 2: Suppose a well-known health-device manufacturer develops a sleep band worn around the forehead that monitors sleep patterns. It plays music to facilitate sleep and analyzes the data collected to detect the causes of sleep-related issues. The band is connected to a mobile app, allowing the user to monitor their sleep patterns.

82%

said they would buy the sleep band to improve their health

71%

said they are willing to share relevant data with the provider in exchange for health insights

Source: Capgemini Research Institute, Connected Products survey, November 2023, N=2,500 consumers.

CONNECTED EXPERIENCES BRING CONVENIENCE IN MANY CONTEXTS

Today, consumers can enjoy connected experiences at locations as varied as airports, retail stores, and theme parks.

Airports

Connected products enhance air travel by providing real-time updates on gate changes, flight times, security wait times, as well as offering baggage-tracking devices. Touchscreen kiosks help passengers navigate airports, while facial-recognition systems can expedite security checks. Below, we explore the willingness of consumers to use such services.

Scenario 1: On entering the airport prior to departure, you receive real-time updates on waiting times for check-in and baggage drop at your booked airlines.

84%

mentioned they would use such a service for their convenience.

86%

said they would use such a service only if it were free.

Scenario 2: You have air travel booked for later in the month. A well-known baggage manufacturer is offering travel bags that can be tracked via your smart phone or tablet.

60%

mentioned they would use such a service only if it were free.

34%

said they would buy the bag for air travel.

Source: Capgemini Research Institute, Connected Products survey, November 2023, N=2,500 consumers.

Retail stores

Connected devices can guide shoppers through retail stores, while connected screens can offer detailed product information, reviews, and recommendations. Self-checkout kiosks reduce wait times, while mobile payments facilitate transactions. Brands offer loyalty programs based on customers' purchase histories. Augmented reality (AR) apps help customers visualize how a particular product will look in their homes, while smart mirrors allow them to try on clothes or make-up virtually. Here, we explore the willingness of consumers to use such services.

Scenario 1: A fashion brand opens a new store near your location. The retail floor has smart mirrors to allow virtual try-on and that can also suggest other available accessories and clothes that will pair well with your selection.

87%

mentioned that such a service would help them make better decisions.

67%

said they would give preference to a brand that offered such a service.

Source: Capgemini Research Institute, Connected Products survey, November 2023, N=2,500 consumers.

Scenario 2: Suppose you buy connected sport shoes from a well-known brand. The shoes are able to track your usage (e.g., the miles you have run/walked while wearing them). The brand has a loyalty program that offers discounts on your next purchase when you reach a certain level of usage.

74%

mentioned they would be loyal to this brand as it values its customers.

58%

said that the service might persuade them to buy more than usual from the brand.

Scenario 3: You visit a well-known furniture store. Each product on display has a QR code, which, when scanned, allows you to place the product virtually in your home.

67%

said that the service might persuade them to buy more than usual from the brand.

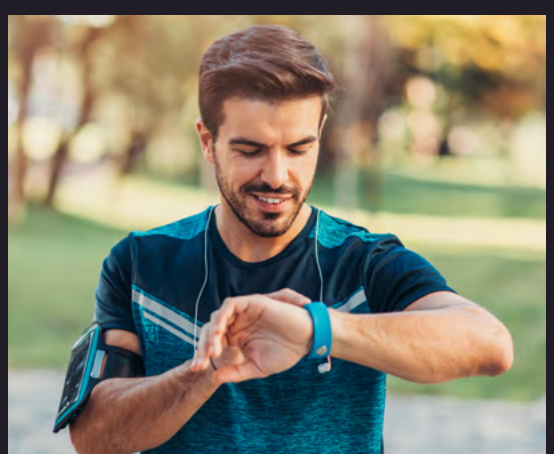
65%

mentioned that the service would save considerable time and effort.

Source: Capgemini Research Institute, Connected Products survey, November 2023, N=2,500 consumers.

Entertainment

Connected products can improve the theme-park experience for visitors by offering real-time wait-time updates, suggesting rides based on preferences, and navigation guidance. Further, connected devices can support interactive games. Below, we look at consumer interest in such services.



Scenario 1: Suppose you are at a theme park where you can opt for a wearable device as an add-on service. The device creates a personalized roadmap based on your preferences for particular rides and the real-time waiting period on each ride. Also, if you have visited the theme park with a companion or a child, your two devices can be connected, allowing the two users to locate each other.

81%

mentioned that they would opt for the wearable device because of the assistance with waiting times.

62%

said they would opt for the device as it would reduce the number of things they need to think about during the visit.

Scenario 2: There is an over-the-top (OTT) application available for cell phones/smart TVs (e.g., Netflix and Amazon Prime) that monitors your mood through a connected wearable device, such as a smart watch, and suggests content based on this data. For example, if you feel sad, it will suggest content designed to elevate your mood.

78%

mentioned they would prefer the OTT application over other applications that lack this feature.

65%

said that this feature would increase the time they spend using the app.

Source: Capgemini Research Institute, Connected Products survey, November 2023, N=2,500 consumers.

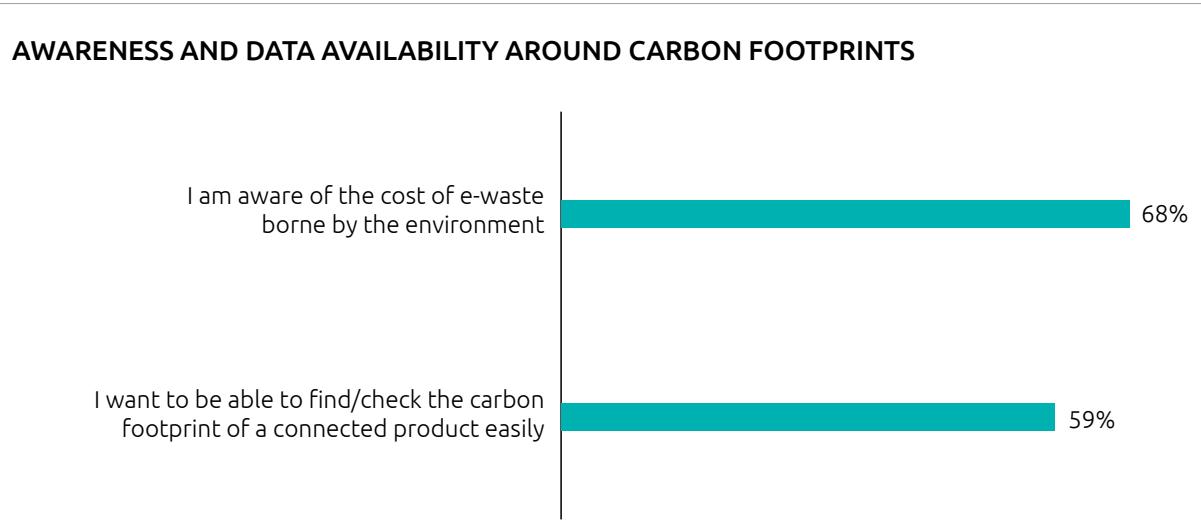
03 WHILE CONSCIOUS OF THE SUSTAINABILITY BURDEN, CONSUMERS WANT ORGANIZATIONS TO STEP UP

Consumers are aware of the costs of e-waste and want to know the carbon footprint of products

Sixty-eight percent of consumers express awareness of the environmental cost of e-waste and 59% want to know the carbon footprint of connected products, demonstrating a strong environmental consciousness and a demand for transparent product information. Consumers of all ages are aware of the cost of e-waste in connected products, with over 65% reporting awareness across all age groups.

- Among Dutch consumers, awareness of the environmental cost of e-waste is lower than the global average, at 64%, while both India (71%) and Japan (70%) exhibit higher awareness levels.

FIGURE 14.
More than half of consumers are conscious of sustainability issues



Source: Capgemini Research Institute, Connected Products survey, November 2023, N=10,000 consumers.

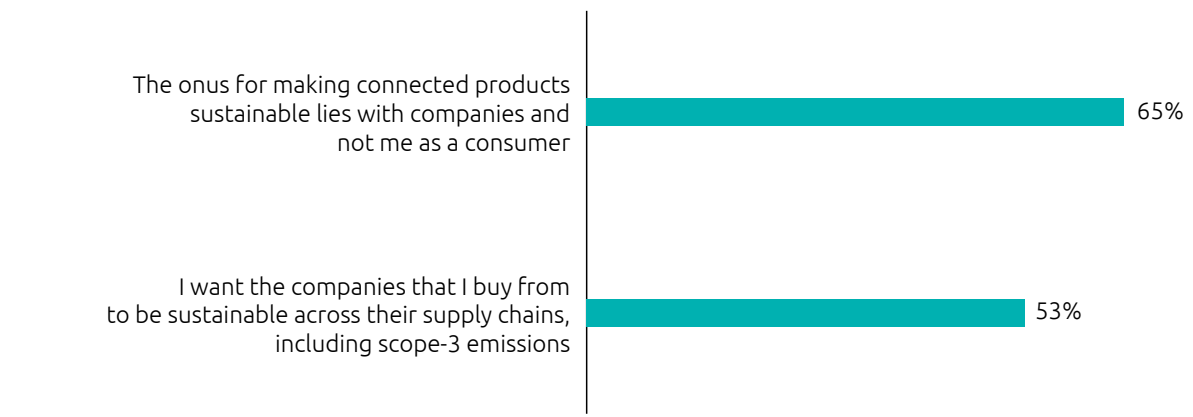
While consumers are conscious of sustainability issues, they feel organizations should take responsibility. Two in three consumers in our research suggested that the onus lies with the brands. This percentage is relatively consistent across age groups. Consumers in Australia (69%) and Canada (69%) are most likely to put the onus for making connected products sustainable on manufacturers.

59%

want to be able to find/check the carbon footprint of a connected product easily

FIGURE 15.

Consumers want manufacturers to take responsibility for the sustainability of products



Source: Capgemini Research Institute, Connected Products survey, November 2023, N=10,000 consumers.

Sustainability is a driver of loyalty

Designing sustainable products could bring business benefits for organizations, with around half of consumers willing to commit to sustainable brands.

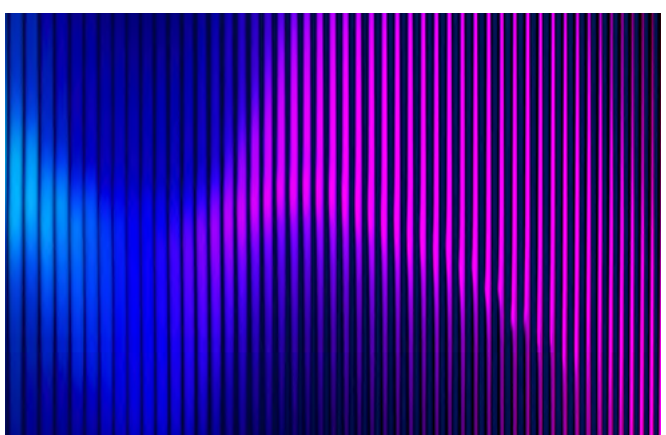
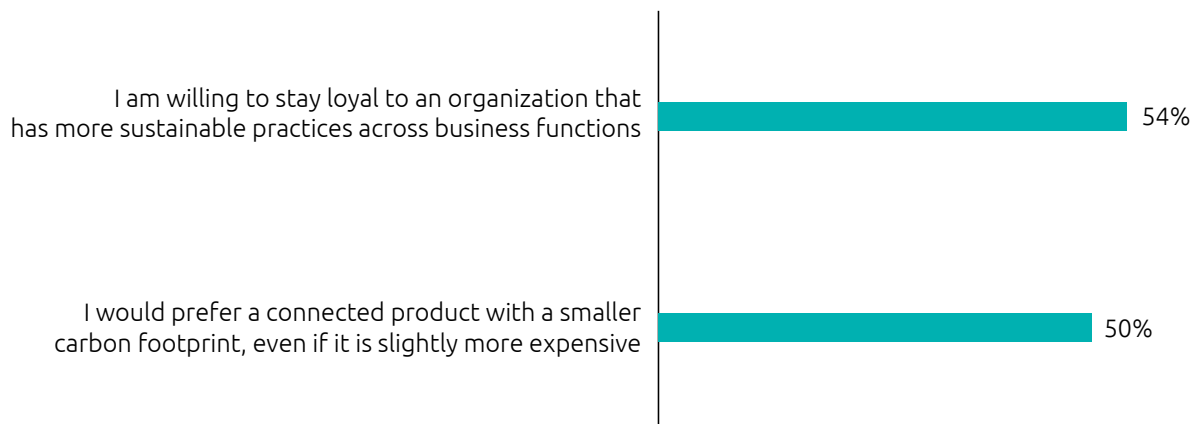


FIGURE 16.
More than half of consumers say sustainability can win their loyalty



Source: Capgemini Research Institute, Connected Products survey, November 2023, N=10,000 consumers.

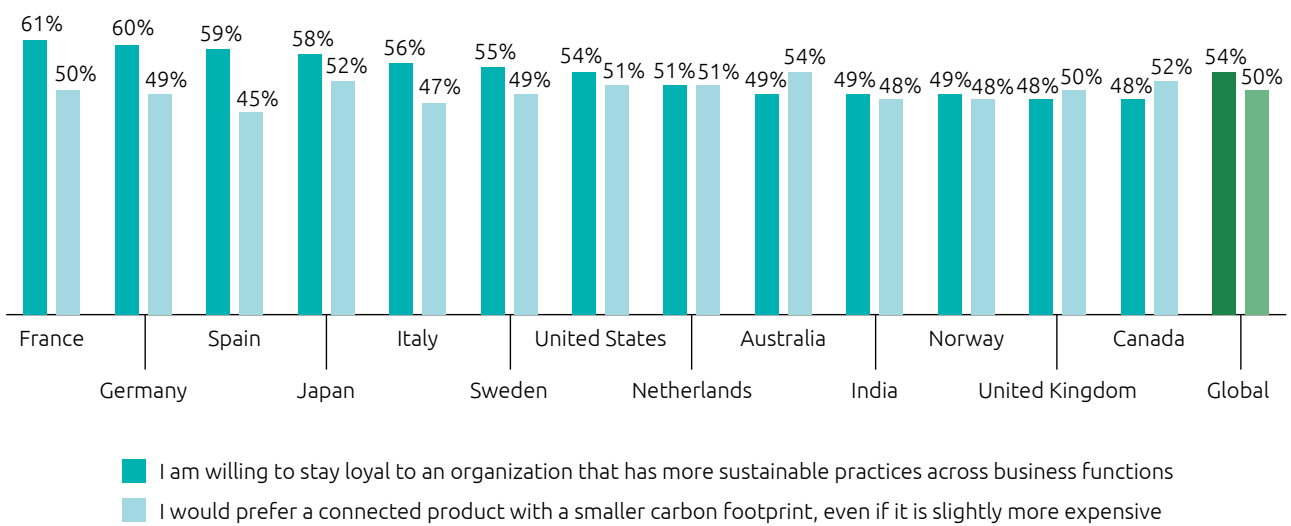
More consumers in Australia (54%) valued environmental considerations over lower costs, as shown in Figure 17. However, countries such as Sweden (49%) and Spain (45%) show a slightly lower inclination to pay more for sustainability, indicating potential variations in consumer attitudes towards balancing costs and sustainability.

65%

of consumers say that the onus for making connected products sustainable lies with companies.

FIGURE 17.

Customers in France and Germany are more willing to show loyalty on account of sustainability



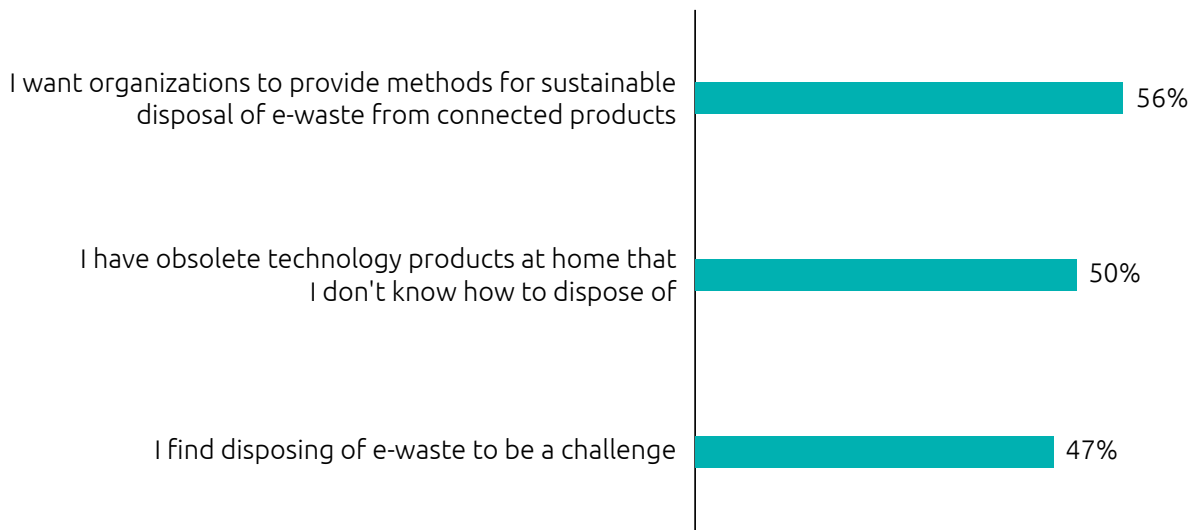
Source: Capgemini Research Institute, Connected Products survey, November 2023, N=10,000 consumers.

Consumers of all ages are willing to stay loyal to an organization that makes connected products more sustainable, with the percentage of willing consumers decreasing slightly with age (58% of Gen Z compared with 50% of Boomers).

Lack of recycling avenues for e-waste disposal is a concern

Our research also highlights a lack of safe and sustainable ways to dispose of e-waste. More than half (56%) of consumers expect organizations to resolve this. Half of consumers report having obsolete technology products at home that they feel unable to dispose of safely, with an average of 47% across surveyed countries finding e-waste disposal challenging, with a particularly high proportion in Spain (53%).

FIGURE 18.
Nearly one in two consumers find the disposal of e-waste challenging



Source: Capgemini Research Institute, Connected Products survey, November 2023, N=10,000 consumers.

However, several organizations are implementing policies and programs to address the problem of e-waste. For instance, Samsung in South Korea has established comprehensive policies to manage and reduce e-waste. Companies including Sony, Samsung, Lenovo, Zebronics, and TCL have set up recycling centers and e-waste collection centers to facilitate disposal and recycling. These initiatives will pave the way for sustainable growth in the electronics industry.[7]

57%

of consumers prefer paying for software updates to buying new, upgraded models.

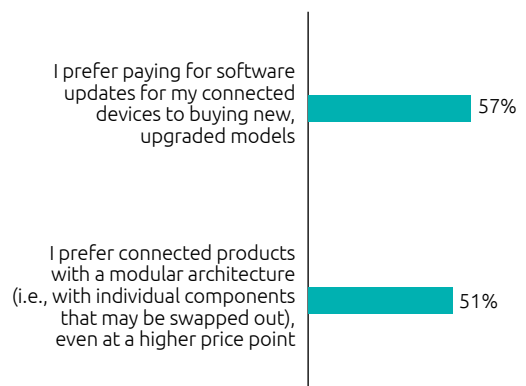
Consumers prefer software updates and modular architecture to frequent replacements

Nearly 60% of consumers expressed a preference for the option to purchase software updates over purchasing entirely new, upgraded models. Consumers in India (59%) and Japan (60%) are keenest on this approach.

More than half (51%) of consumers also expressed a preference for buying connected products with a modular architecture (in which individual components can be swapped out), even if they come at a higher price. Notable variations include Germany (55%) at the higher end and the UK (48%) at the lower end. Similarly, preferences for connected products with modular architecture are consistent across age groups.

FIGURE 19.

Consumers prefer software upgrades and modular replacement to new products



Source: Capgemini Research Institute, Connected Products survey, November 2023, N=10,000 consumers.

Modular design is one way for organizations to ensure they are compliant with the "right to repair" law. The European Parliament endorsed this law and is expected to discuss this with member states in 2024.[8] Some states in the US, such as Minnesota, New York, and California, have already passed similar laws, while 30 states have tabled legislation.[9]

When it comes to smartphones, Fairphone 4, the latest model from Dutch electronics organization Fairphone, allows users to swap out the battery, display, rear cameras, selfie camera, back cover, USB port, and speaker. It is also an e-waste-neutral device, which means that, for every new Fairphone 4 sold, the organization recycles an old smartphone (or an equivalent amount of e-waste from other sources).[10] While Apple, Samsung, Google, and Nokia have all launched programs that allow consumers to repair their handsets,[11] the extent of implementation in the connected product space remains to be seen.

"The integration of AI in connected devices will revolutionize user experiences by personalizing interactions based on user habits, preferences, and daily routines. The future of connected products lies in leveraging AI to not only enhance device functionality but also to create a seamless and personalized user journey, from smart homes to gaming experiences."

JOHN MIEDEMA
Director of product and business development management for EMEA, Lenovo

04 CONSUMERS ARE UNSATISFIED WITH THE CURRENT STATE OF DATA PRIVACY AND INTEGRATION OF CONNECTED PRODUCTS

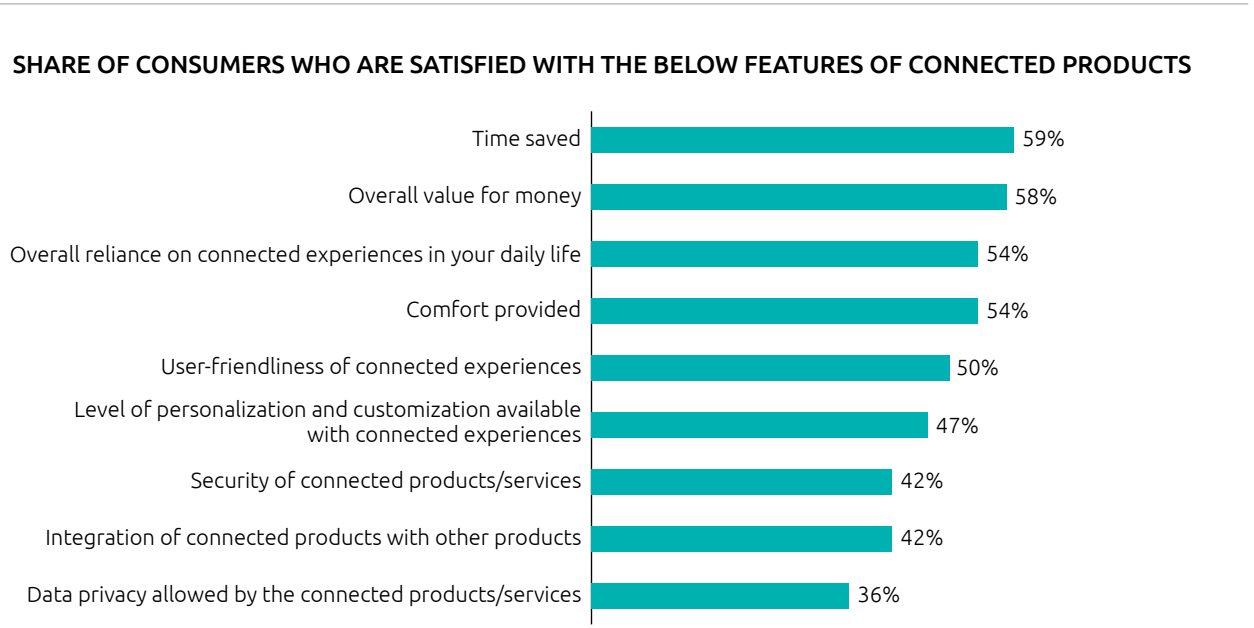
Only around one-third of consumers are satisfied with the data privacy offered by connected products

Connected products and experiences are an integral part of the consumer lifestyle. There are multiple categories of connected product with which a majority of consumers state that they are satisfied, such as connected vehicles (70%), connected entertainment (69%), and health wearables (63%).

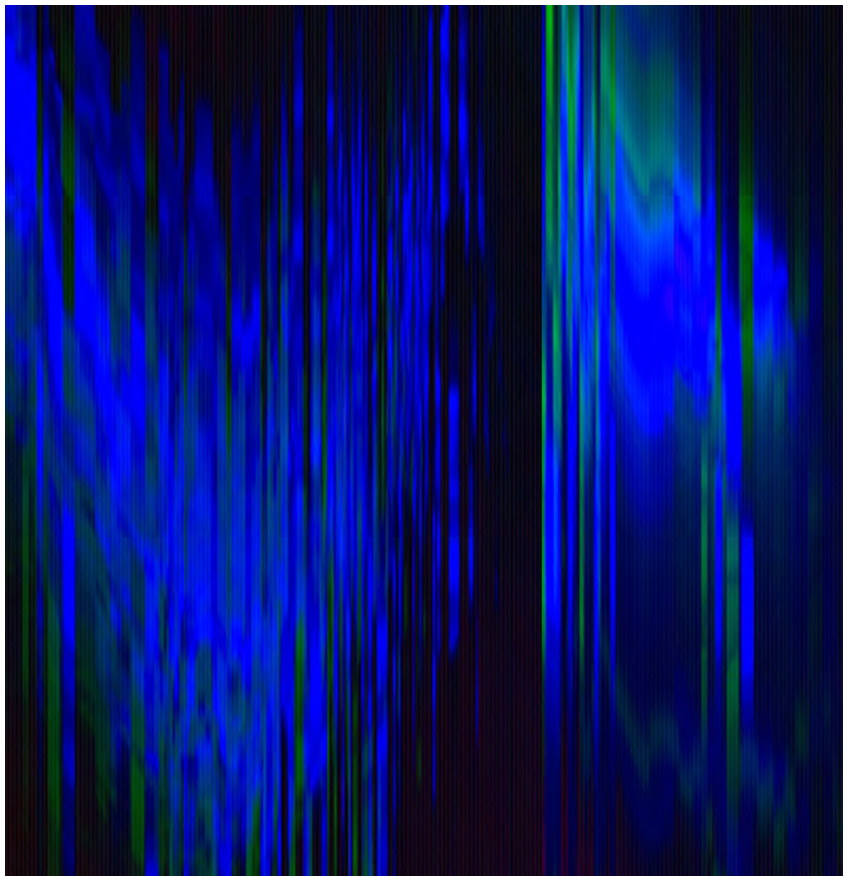
However, less than 60% of consumers are satisfied with multiple aspects of connected products, such as time saved (59%), value for money (58%), and reliability of connected experiences (54%). Less than half of consumers are satisfied with data privacy (36%), integration with other products (42%), and security (42%).

The head of connected solution development at an automotive company adds: ***"There is a need for companies to establish trust through robust security measures and the assurance that customer data will not be exposed to external parties, acknowledging the challenges of maintaining data security in a constantly evolving technological landscape."***

FIGURE 20.
Consumers are unsatisfied with data privacy, security, and integration of connected products



Source: Capgemini Research Institute, Connected Products survey, November 2023, N=10,000 consumers.



75%

of consumers consider trust to be a key factor in their purchase decisions around connected products.

Consumer dissatisfaction with data privacy stems from concern around misuse

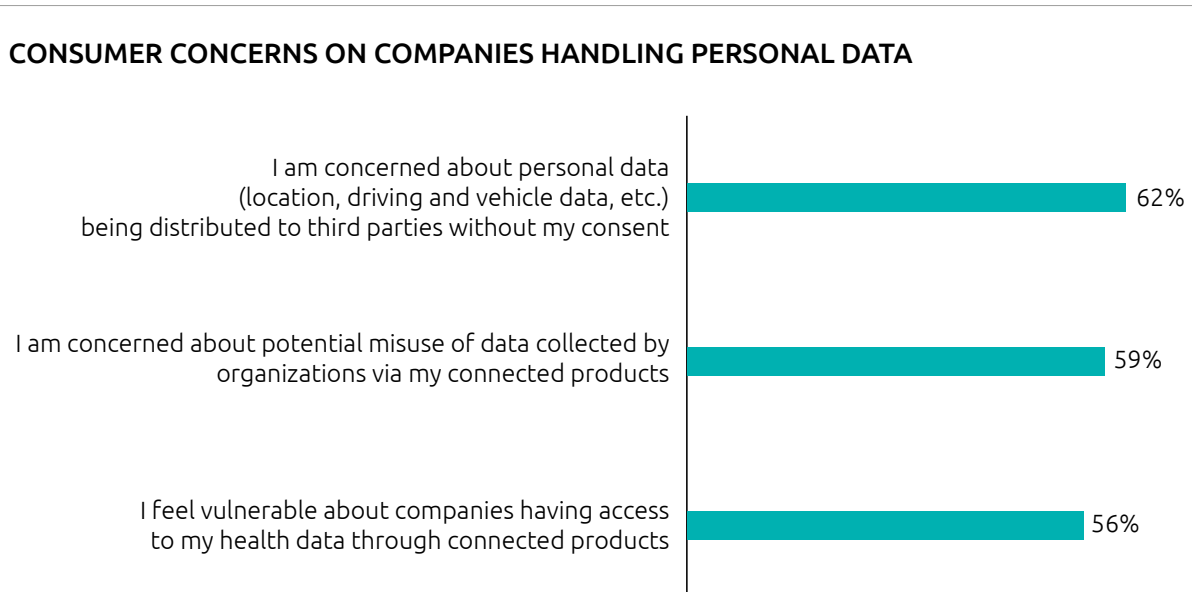
Three-quarters (75%) of consumers consider trust to be a key factor in their purchase decisions around connected products. Trust is considered a more important factor than convenience (70%) and cost (67%) in relation to purchasing connected products. Giuseppe Perri, global director of design systems at Electrolux, a home-appliance manufacturer, adds: ***"Establishing trust in data privacy goes hand-in-hand with a solid brand reputation."***

Consumers are concerned about organizations accessing their personal and product-usage data

Consumers are facing data-privacy challenges with connected products at home, health wearables, and connected vehicles

Our research highlighted the concerns around misuse of data and vulnerability that consumers feel about the data collected by the connected products. Compromising one device on a network could lead to exploitation of other connected devices, thereby making all kinds of consumer data, including financial and health-related information, susceptible to fraud.

FIGURE 21.
Consumers express concern over the potential intrusion into their privacy when companies have access to their personal information

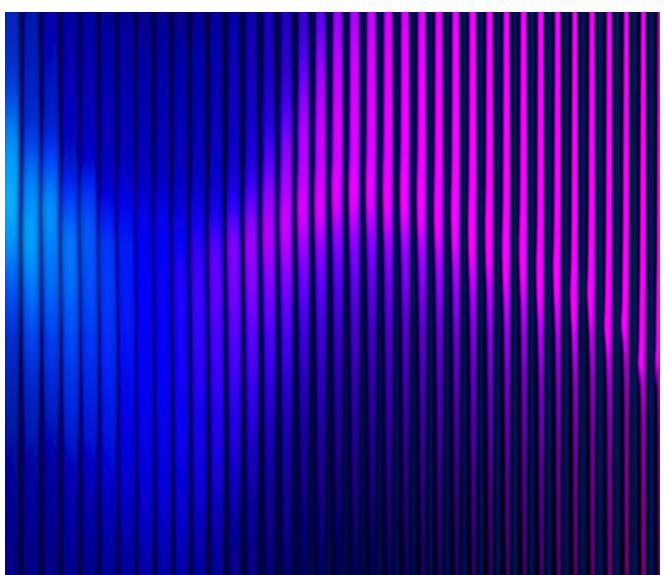


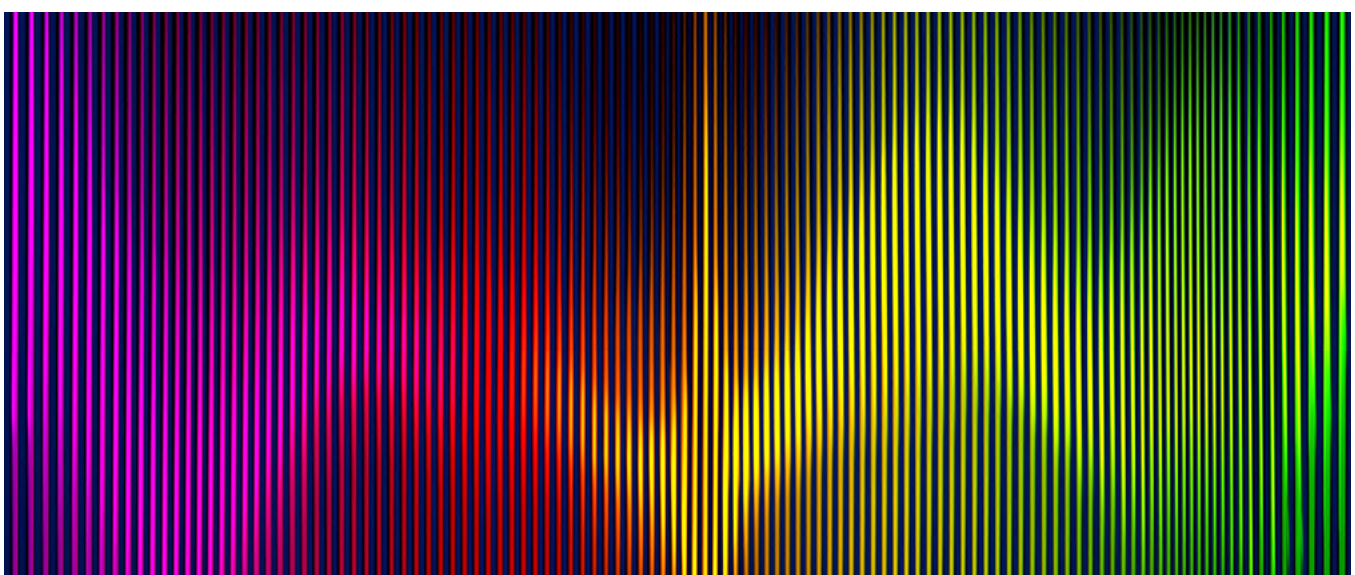
Source: Capgemini Research Institute, Connected Products survey, November 2023, (1) N=6,014 consumers who use connected vehicles; (2) N= 9,321 who use smart home security, home utility equipment, connected entertainment, connected speakers, smart kitchen products; (3) N=3,329 who use healthcare wearables/tracking devices.

YiFu Qi, Executive Vice President, Home and Distribution Division, Schneider Electric, adds: *"As a global specialist in energy management and automation, we believe open standards, technology, and interoperability of connected products are essential to bringing energy to all, making our homes more sustainable and energy-efficient."*[12]

Consumers' reluctance to share personal data for health and entertainment services highlights the need for clearer data-usage transparency

Consumers require greater transparency regarding which of their data is collected and for how long it is retained. We found that only 28% of consumers are fully aware of the range of data that organizations collect from them, and just 12% are aware of how and for how long the companies retain their data.



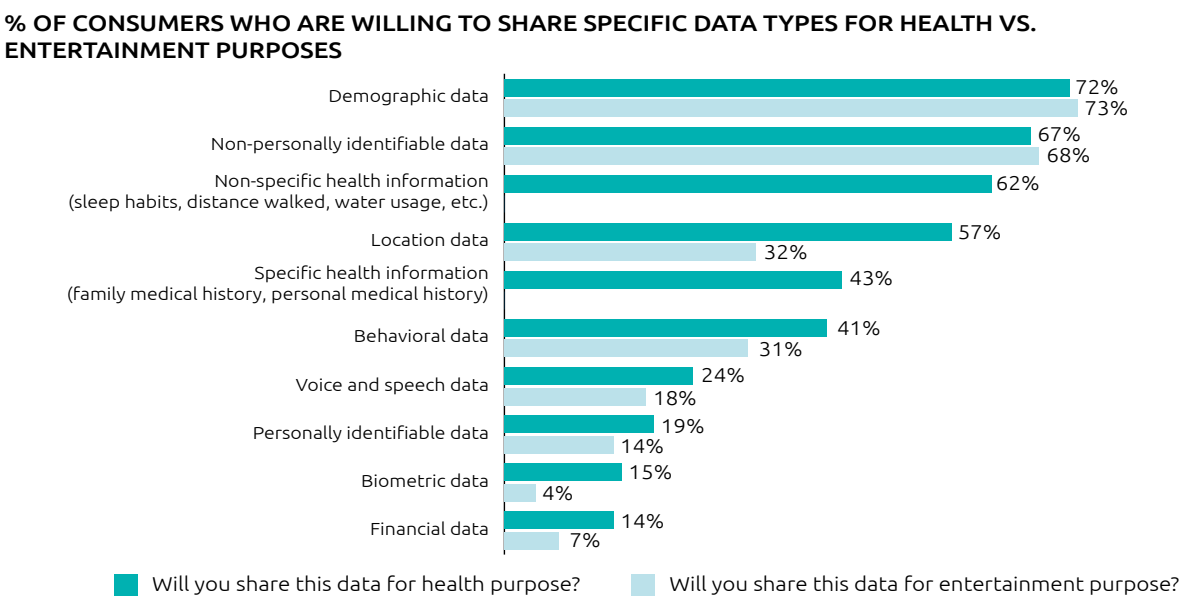


At the same time, consumers are not willing to share their personal data in exchange for value. Only a minority (14%) of consumers are willing to share financial data for health and 7% for entertainment purposes. Boomers are the most willing to share financial data for health purposes, with seventeen percent of Boomers willing to do so. For entertainment purposes, willingness to share financial data decreases with age, with 8% of Gen Z and 6% of Boomers willing to do so.

Moreover, only 5% of consumers are willing to share biometric data with entertainment products, and 15% for medical needs. Here again, older consumers are the most willing to share biometric data; 21% of Boomers are willing to share biometric data, compared with 14% of Gen Z, for healthcare needs. Consumers are generally reluctant to share multiple data points. James Whitehead, visiting lecturer and programme committee member, Pharmacovigilance, University of Hertfordshire, United Kingdom, explains: ***"Consumers are more receptive to purchasing, using, and sharing data when it comes to connected healthcare devices that address specific, active health challenges rather than passive data collection. The key lies in providing actionable solutions for specific needs and fostering patient commitment for better health outcomes."***

FIGURE 22.

For entertainment purposes, customers' willingness to share data is mixed by data type



Source: Capgemini Research Institute, Connected Products survey, November 2023, N=10,000 consumers.

"As a global specialist in energy management and automation, we believe open standards, technology, and interoperability of connected products are essential to bringing energy to all, making our homes more sustainable and energy-efficient."[12]

YIFU QI
Executive Vice President, Home and Distribution Division, Schneider Electric

Consumers prefer a single interface to control their connected devices

Consumers use multiple connected products in their homes and, often, also use connected vehicles. This means having to navigate different kinds of user experience, functionalities, and features when the underlying operating systems are different. This drives demand for having an intuitive and seamless interaction across all products. Over half (65%) of consumers say it will be more convenient if there is a single interface for all connected products. Another area that the organizations must look into is the interoperability across devices. This means the ability to access and exchange information with devices from other ecosystems. At the same time, it is important for the companies to ensure fairly consistent standards. For instance, if the calories burned on one smart watch differs from that of another smart watch from a different company, consumers may quickly lose trust on this feature altogether.

A few automotive OEMs have decided to develop their own systems and integrate third-party services as required, rather than relying exclusively on Apple CarPlay or Android Auto. While it gives them ownership of data and the ability to have a free hand with the design, consumers find the integration and the ecosystem lock-in a challenge as Figure 23 shows.

The executive from the automotive company adds: *"The challenges [for OEMs] include the need for standardization and interoperability across different devices and services. There are efforts to consolidate user accounts and interfaces to provide a more unified experience. There is a growing trend of voice interactions and the desire for a single integrated voice service across various devices."*

Matter, formerly called "Project Connected Home over IP" or "CHIP," is an open-source connectivity standard for smart home and IoT devices. It is developed by the Connectivity Standards Alliance, whose founding members include Amazon, Google, Apple and subsequently IKEA, Huawei, and Schneider Electric. With subsequent versions adding more categories of connected products, this standard aims to address issues of competing standards and protocols by encouraging connectivity between devices and platforms.[13]

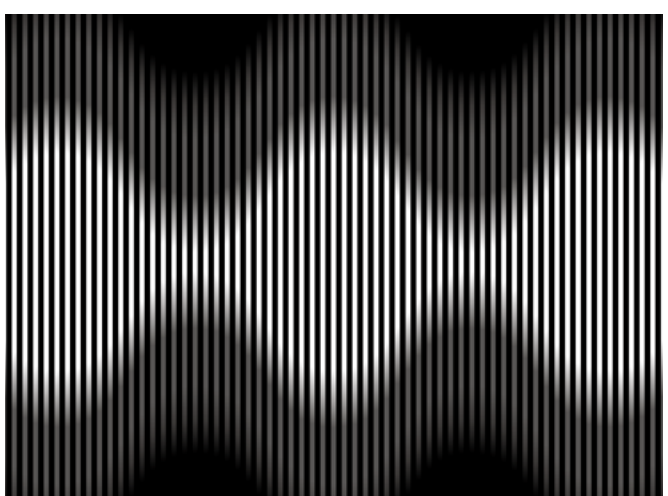
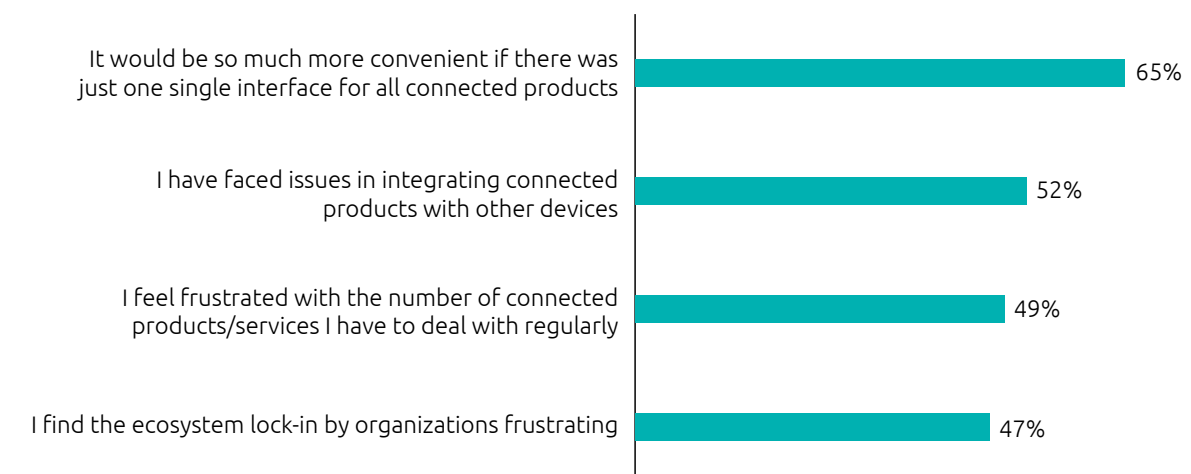


FIGURE 23.
Consumers would prefer one single interface for all connected products



Source: Capgemini Research Institute, Connected Products survey, November 2023, N=10,000 consumers.

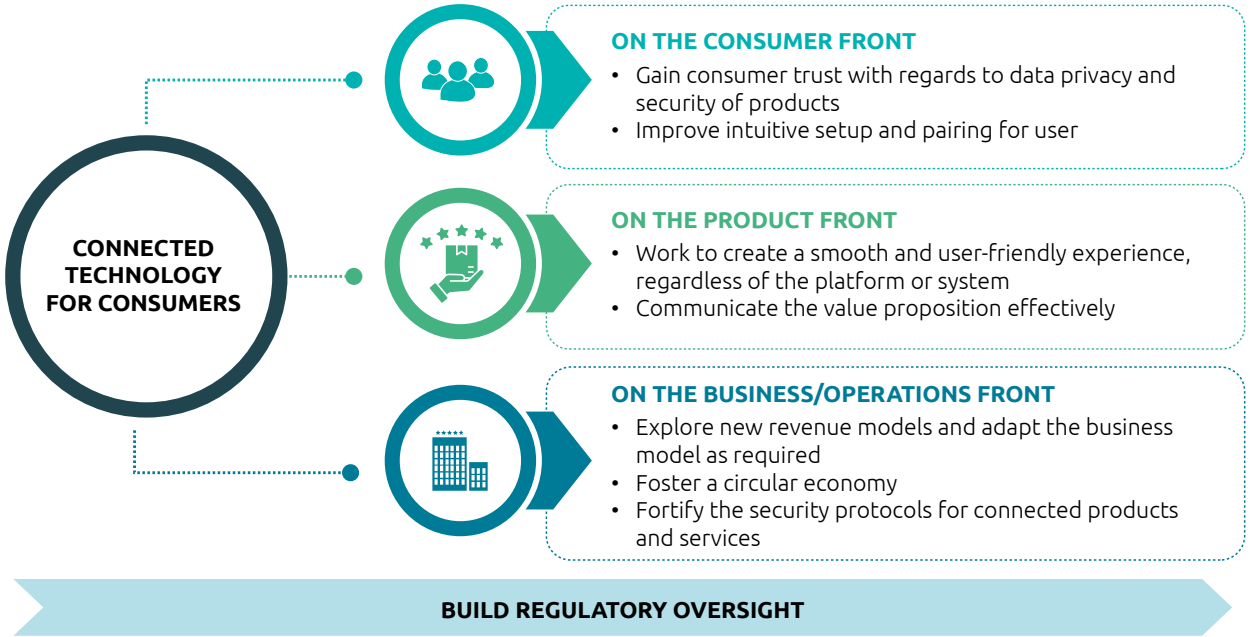
05 RECOMMENDATIONS: HOW TO CRAFT AN EFFECTIVE STRATEGY FOR CONNECTED PRODUCTS

Consumer interest in connected products is evident. It is up to organizations to work on mitigating the challenges to provide a great experience to the consumer. Based on our survey, the in-depth interviews we conducted with executives working in the space, and our sectoral experience, we make recommendations in three key areas for connected product organizations to consider.

56%

of consumers feel vulnerable about companies having access to their health data through connected products.

FIGURE 24.
Key recommendations for crafting a strategy for connected products and experiences



Source: Capgemini Research Institute analysis.

On the consumer front

Gain consumer trust with regards to data privacy and security of products

A significant majority of consumers in our research (67%) express mistrust about how organizations use their data. A telecom company's executive adds: "Privacy is a significant concern for consumers and, while they may sacrifice aspects of it for value, the industry needs to prioritize and communicate privacy features clearly. A 'privacy label' for smart home devices has been discussed to enhance transparency."

Consumers are also concerned about unethical use of personal data obtained through connected products (such as using personal data for training artificial intelligence (AI) models) (69%), with countries such as France (74%) and Italy (73%) showing heightened awareness and concern around this issue.

The Federal Trade Commission (FTC) fined US company Ring, the home doorbell, intercom, and security product manufacturer owned by Amazon, $5.8 million over claims that Ring's employees and contractors were able to view, download, and transfer customers' security recordings for their own purposes owing to "lax attitudes towards privacy and security."[14]

Organizations need to bolster consumers' trust in their products and the way they collect, store, and analyze data. Having the product certified as meeting a recognized cybersecurity standard or obtaining a certified security-rating sticker is a trust factor for 63% of consumers. At the same time, they must prioritize transparent data practices; clearly communicate data collection, storage, and usage policies; and invest in advanced cybersecurity protocols to safeguard user information. They could also offer user-friendly privacy controls and provide accessible tools for consumers to manage and customize privacy settings, allowing them control over their own data. Conducting awareness campaigns to inform users about data-protection measures will build confidence and showcases organizations' commitment to safeguarding their customers' privacy.

"Establishing trust in data privacy goes hand-in-hand with a solid brand reputation."

GIUSEPPE PERRI
Global director of design systems at Electrolux

Improve intuitive setup and pairing for users

A significant majority of consumers in our research (nearly 65%) expressed frustration with the extensive setup process required by connected products, also citing compatibility problems, particularly when integrating third-party-owned connected systems. This indicates a prevalent need for improved ease of setup, streamlined pairing processes, and enhanced compatibility standards.

It is crucial to simplify the setup and pairing procedures of connected devices by implementing intuitive interfaces, with clear instructions. Developing and following standardized protocols will reduce complexities, improving the user experience and encouraging wider adoption of connected devices.

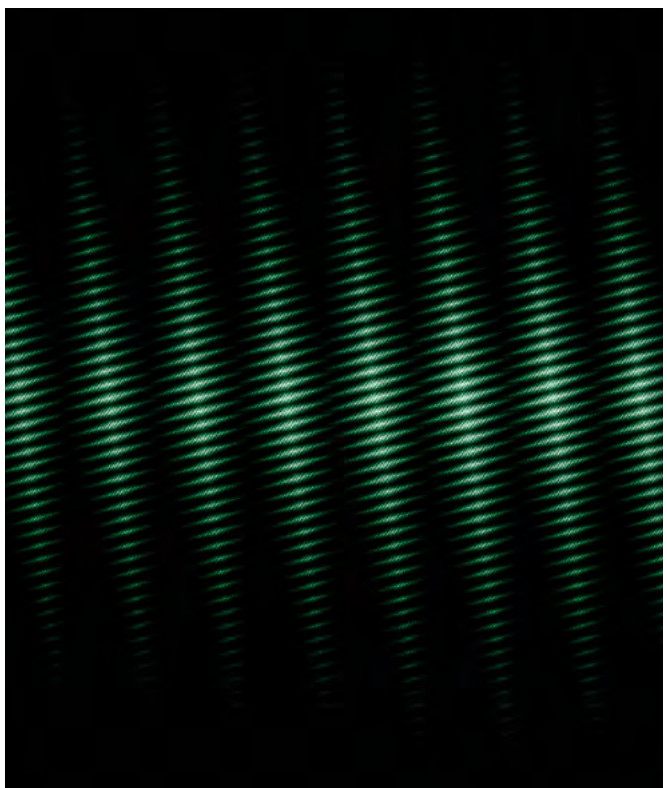
On the product front

Work to create a smooth and user-friendly experience, regardless of the platform or system

Delivering a seamless user experience involves work on multiple fronts. First and foremost among these is ease of setup and pairing with other devices, as discussed above. Organizations must also focus on designing visually appealing, user-friendly interfaces. When it comes to in-car systems, it is also important to design the menu to be as simple as possible, requiring only minimum distraction of the driver.

Other features that could improve the user experience include multilingual support, user guides, and how-to videos, and offering easily accessible customer support.

Additionally, it's a given that there would be different ecosystems that a consumer might have to deal with in their daily lives.



However, organizations can still try to aim for an intuitive UX by focusing on a few areas such as:

- consistency in the design elements,
- cross-platform compatibility,
- allowing data sync and imports and exports to enable an easy transition.

An executive from a telecom company sums it up aptly: ***"True interoperability is essential to mass-market smart home adoption. The future of smart homes lies in seamless connectivity and access to information. Home devices should be as transparent and accessible as finding information on our mobile devices. The goal is to make accessing and controlling your home as simple as checking the weather or your child's grades. The inflection point for smart home mass adoption depends on solving interoperability issues."***

Communicate the value proposition effectively

In our research, 58% of consumers also mention that, while they own connected devices, they do not often use the connected functionalities. Further, even among consumers that regularly use a connected product, many were unaware of all the features of the product in question. Around 60% of users of voice assistants mention they were previously unaware of functions such as creating a shopping list or checking the status of an order. Similarly, 50% of users that owned a health tracker knew about the fall detection and SOS notification feature in their wearables, but have never tried them. Further to this, 71% of consumers that owned a health wearable (or had owned one in the past) said they find healthcare-connected products to be costly. However, as Apple's Dr. Sumbul Desai confirms, features such as atrial fibrillation are saving lives almost every day.[15]

By communicating the value connected products offer, organizations can promote product usage, consumer retention, and loyalty – and ultimately boost sales. This can be facilitated through the following avenues, among others:

- Demos and how-to videos
- Experience centers or in-store displays
- Clear marketing materials, such as product blogs
- Collaborations with influencers or endorsements from celebrities
- Free trials

On the business/ operations front

Explore new revenue models and adapt the business model as required

Organizations have multiple ways to leverage the connected technology to drive business. Beyond the connected product categories, they can also look into delivering connected experiences to their consumers. J.P. Morgan in the US is piloting a biometrics-based payment program with a few select retailers allowing consumers to pay for their purchases through face or palm scans.[16] More than 120 stores of MAC Cosmetics across the globe have virtual try-on mirrors that use facial and 3D video makeup rendering technology to create a curated set of MAC's shades and looks instantaneously.[17] Connected experiences are a gateway to engaging and immersive new experiences.

"Consumers are more receptive to purchasing, using, and sharing data when it comes to connected healthcare devices that address specific, active health challenges rather than passive data collection. The key lies in providing actionable solutions for specific needs and fostering patient commitment for better health outcomes."

JAMES WHITEHEAD
Visiting lecturer and programme committee member, Pharmacovigilance,
University of Hertfordshire, United Kingdom

Organizations can also explore numerous opportunities offered by the growth in the connected technology space. A few such avenues include:

- Subscription-based services for connected device management – As the adoption of connected products increases, users may want to streamline their management and reduce overhead. Organizations could offer a service that handles the maintenance and security of all a consumer's connected devices for a monthly fee. This could mirror mobile device management, paving the way for a new realm of connected device management.
- Enhanced focus on data privacy – Offering subscription-based services to audit and guide consumers on the privacy standards of the connected devices they own. This service could include a centralized portal which provides a comprehensive overview of all devices and the data they access, improving transparency and security.
- Leveraging AI and advanced analytics for personalization: Delivering hyper-personalized experiences and recommendations for services and products based on the consumer behavior and needs, by utilizing AI.
- Integrated health monitoring: Developing a holistic health assistant that consolidates data from smart wearables, dietary habits, sleep patterns, and more to share tailored health recommendations to users.

The opportunities are many and as the market evolves, newer models will emerge. Organizations must continuously adapt their strategy to remain successful.

Foster a circular economy

A circular economy favors activities that preserve value in the form of energy, labor, and materials. This means designing for durability, reuse, remanufacturing, and recycling to keep products, components, and materials circulating in the economy.[18]

Organizations can focus on a few areas to promote circularity in their product life cycles:[19]

- Embracing circular design – focusing on eliminating waste by design rather than looking for waste-reduction opportunities downstream. This could be accomplished by using recyclable or renewable materials and using modular designs and standardized components. IKEA has set targets to ensure that 100% of its products are circular and to use only renewable or recycled content by 2030.[20]
- Rethinking value chains to close the loop – this involves reorganizing supply chains to ensure there is a steady supply of recycled materials. One way to achieve this is by promoting and incentivizing recycling among the consumers. Through its Tech Refresh & Recycle program, Dell allows its consumers to recycle their ageing

systems. Of the returned equipment, 26% goes towards manufacturing refurbishment.[21]

- Educating consumers – it is critical for the final end users of the product to believe in the circularity ambition and support the companies in this journey. To this end, organizations must educate consumers on sustainable practices, recycling avenues, and ways for e-waste disposal with clear labels and instructions. Often, certain categories of waste are not even seen as e-waste and end up in landfills. Such "invisible" e-waste can help recover essential raw materials if correctly disposed of. Per a report by the Waste Electrical and Electronic Equipment (WEEE) Forum, 950 million kg of cables containing copper that is easily recyclable were discarded in 2022.[22] By correctly categorizing the waste and disposing in the right manner, value can be extracted from the waste. Pascal Leroy, Director-General of the WEEE Forum, says, ***"Invisible e-waste goes unnoticed due to its nature or appearance, leading consumers to overlook its recyclable potential."***

Fortify the security protocols for connected products and services

Connected products increase the surface area vulnerable to cyberattacks. As the global number of connected devices increases, the chances of hackers obtaining access to these systems illegally will only increase. A 19-year-old security researcher from Germany was able to hack into dozens of Teslas and remotely unlock the doors, play music at high volume, and even initiate keyless driving.[23] On an amusing note, South Park, the US TV show, in one of its episodes activated the Alexa devices in the viewers' homes, setting an alarm and adding some gross items to the shopping list.[24] While it is a funny take, one could easily imagine how this idea could take a negative turn in more malicious hands.

Strengthening the security of connected products not only improves consumer trust but also avoids reputational damage and even legal and financial penalties. Some steps to improve security include:

- Integrating security measures into product design
- Encrypting data both in transit and at rest
- Stronger authentication, including two-factor or multi-factor authentication
- Regular software updates

"Invisible e-waste goes unnoticed due to its nature or appearance, leading consumers to overlook its recyclable potential."[22]

PASCAL LEROY
Director-General of the WEEE Forum

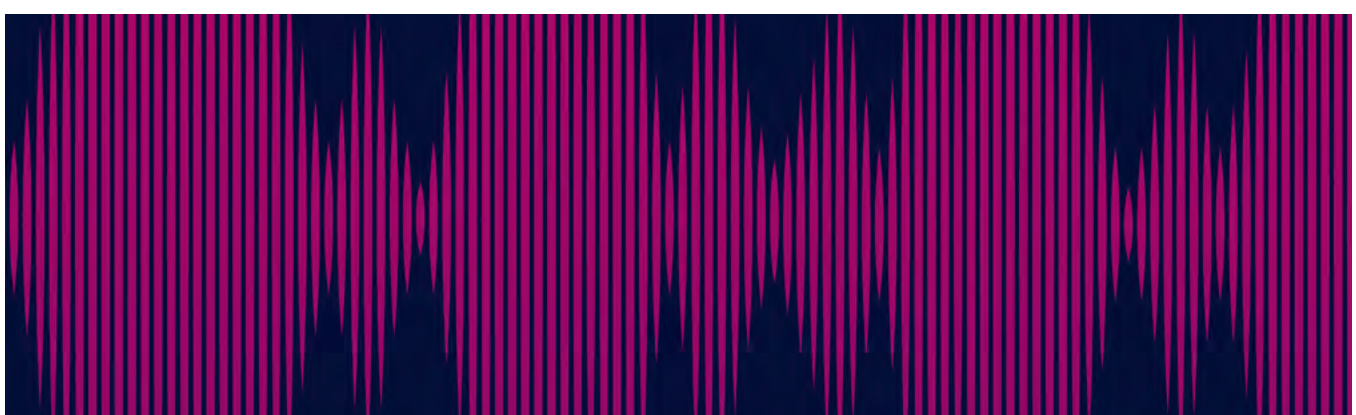
- Regular security audits
- Educating users about best practices, including changing default passwords
- Collecting minimal data
- Adherence to industry-specific security standards

Build regulatory oversight

With the proliferation of connected devices and brands that produce these devices, this connected product space can benefit from regulatory oversight in terms of standards for data privacy, interoperability, and circularity. For instance, the European Union's regulation to mandate a USB-C port by 2024 for all mobile phones, tablets, and headphones will see harmonious charging interfaces and relatively less e-waste.[25] The EU has also made strides in privacy laws with the GDPR.

Similarly, if the regulators are also able to set standards for interoperability and security or the laws such as the right to repair, manufacturers will need to then abide by these standards. In the US, under "U.S. Cyber Trust Mark," the Federal Communications Commission (FCC) has proposed a cybersecurity certification and labeling program to help consumers easily choose connected products that are less vulnerable to cyberattacks.[26] Such laws would also build consumer confidence and further improve adoption.

The proposed "U.S. Cyber Trust Mark" program would help American consumers more easily choose smart devices that are safer and less vulnerable to cyberattacks.[26]



Conclusion

From the convenience of voice assistants to the health benefits of wearable technologies, consumers have welcomed connected products into their daily routines, experiencing positive outcomes such as improved safety and health, and enhanced lifestyles. Our research has shown that 37% of consumers think they will own more connected products in the next 12 months, highlighting the growing consumer interest.

Consumers using voice assistants has increased over years and moreover, they even trust the recommendations from their voice assistants. However, in complex scenarios the trust is not high, highlighting the need for providing contextual and relevant recommendations. Also, while consumers acknowledge the sustainability burden associated with these products, there is a growing demand for organizations to take responsibility for implementing more eco-conscious practices. At the same time, the preference for modular architecture, that more than one in two consumers express, should be a critical consideration for organizations during their design. Similarly, concerns about data privacy and integration persist, with consumers expressing dissatisfaction in these critical areas.

To address these challenges and align with consumer expectations, organizations venturing into connected products should focus on three pivotal areas: consumers, product, and operations. Firstly, engaging consumers through transparent communication, educational initiatives, and engaging ways can foster trust and loyalty. Secondly, product innovation should prioritize sustainability measures and delivering a seamless experience, assuring consumers of organizations' and brands' commitment to establishing responsible practices. On the business and operations side, with the plethora of opportunities that abound, exploring the new revenue models that connected technology offers will be decisive. Lastly, optimizing strategies to streamline data privacy, enhance security measures, and promote sustainability will be imperative to meeting consumer expectations.

By addressing these aspects comprehensively, organizations are able not only to elevate levels of consumer satisfaction and trust but also to navigate the evolving landscape of connected products more effectively. Embracing these recommendations will not only meet consumer demands but also position organizations as industry leaders who are committed to delivering innovative, sustainable, and privacy-conscious solutions for a connected world.

Research methodology

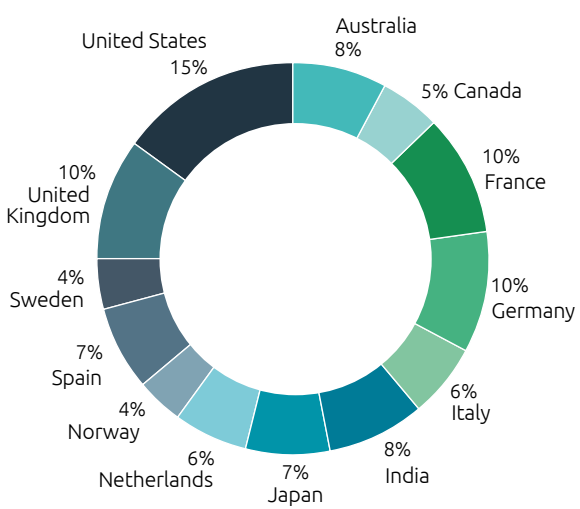
To understand consumer interest in connected products and the adoption levels and pain points we conducted extensive consumer research. We also conducted interviews with experts from large organizations that have consumer-facing connected products.

The study findings reflect the views of the people who responded to our online questionnaire for this research and are aimed at providing directional guidance. Please refer to the methodology for details about the respondents or contact a Capgemini expert to understand specific implications.

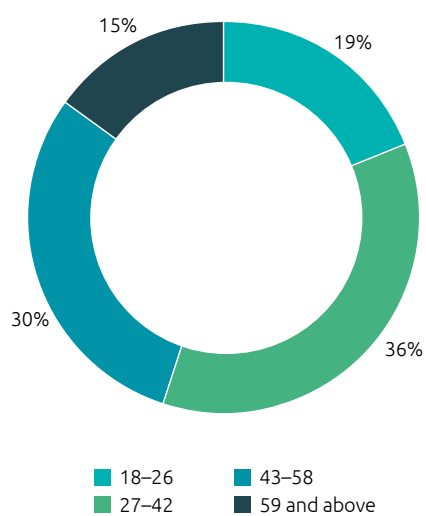
Consumer survey

We surveyed 10,000 consumers over the age of 18 in 13 countries across Asia–Pacific, Europe, the UK, and North America. The survey took place in November 2023. The demographic details of consumers are given below:

CONSUMERS BY COUNTRY OF PRIMARY RESIDENCE

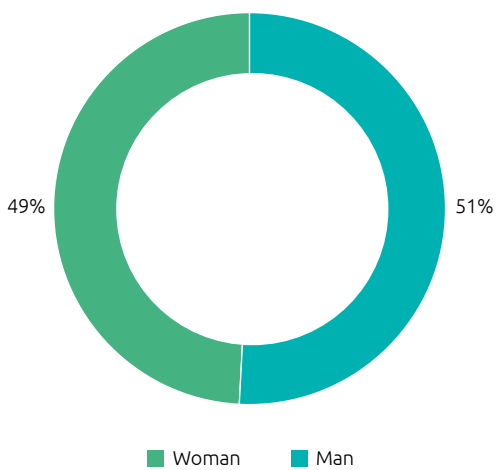


CONSUMERS BY AGE

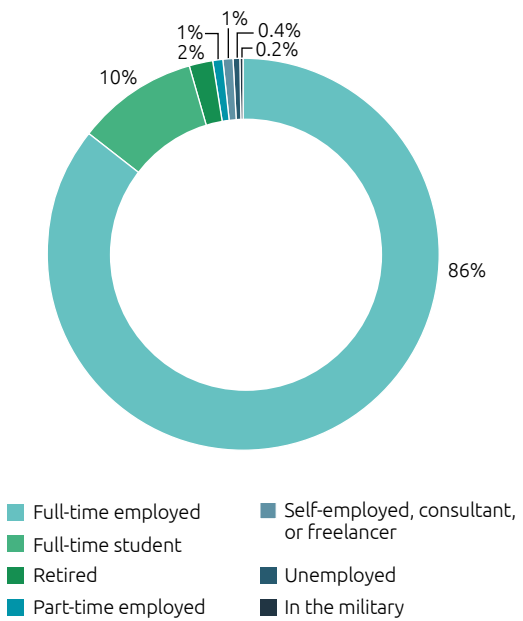


Capgemini Research Institute, Connected Products survey, November 2023, N=10,000 consumers.

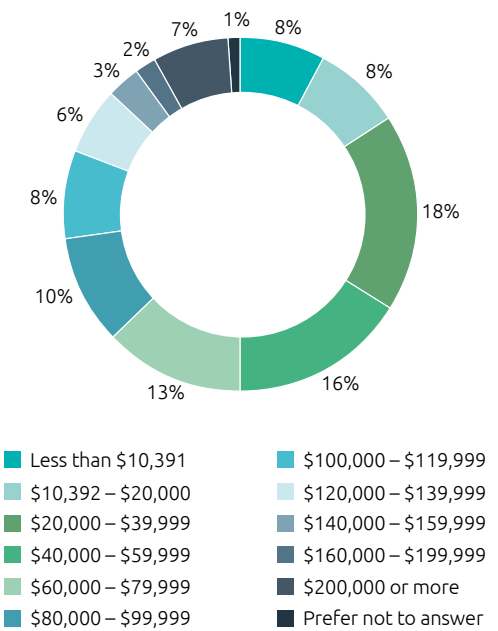
CONSUMERS BY SELF-IDENTIFIED GENDER



CONSUMERS BY WORK STATUS



CONSUMERS BY ANNUAL HOUSEHOLD INCOME



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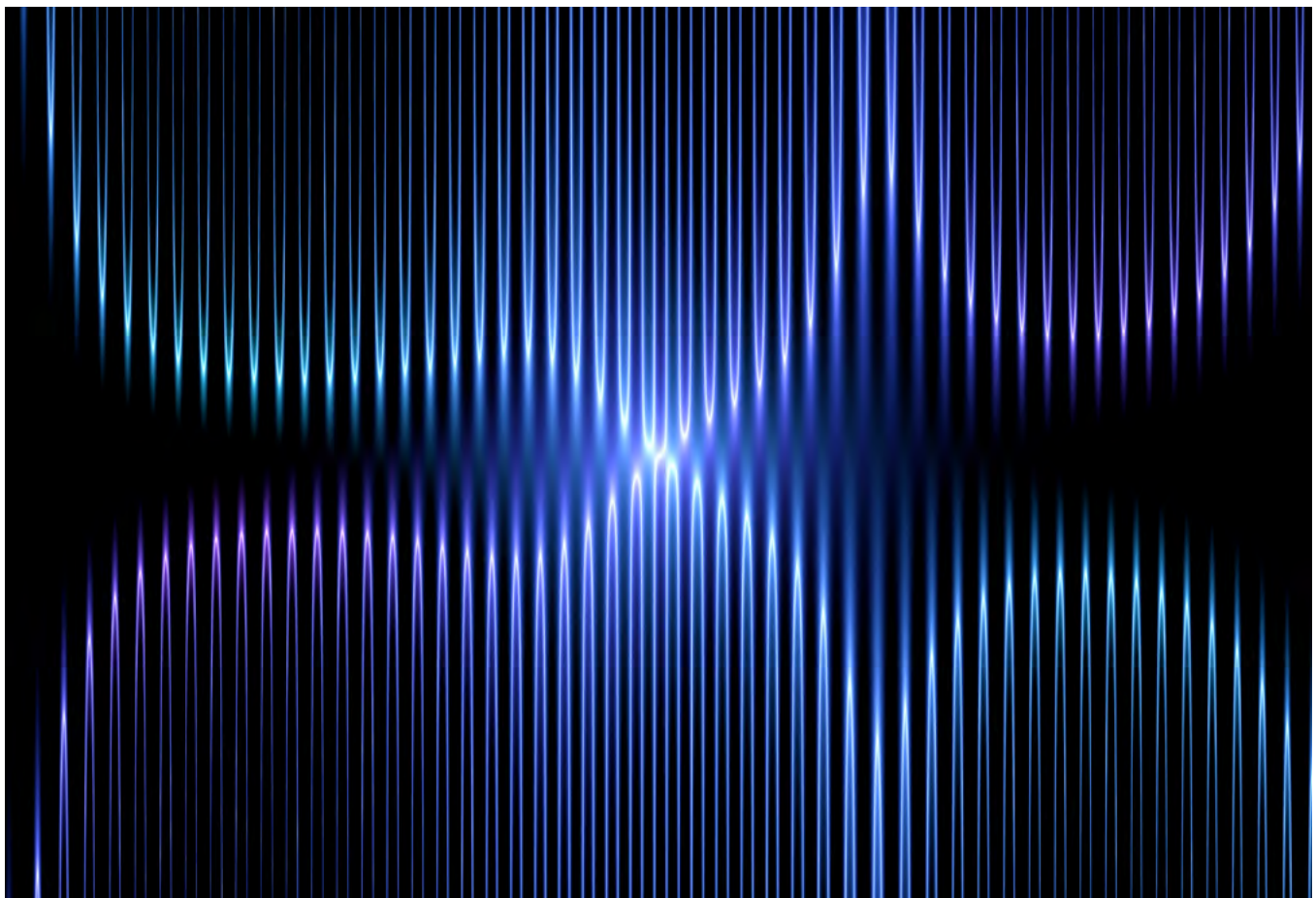

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Connected Consumers: Unleash Intelligent Experiences

In the fast-evolving landscape of consumer expectations, brands that embrace both physical and digital consumer connections are securing long-term relevance and value, outpacing competitors who lag behind. The era of 'one-click,' digitally native consumers has arrived, seeking products and experiences that are not just convenient but tailored to their needs.

Consumers want more:

- Forging direct connections with your customers creates more engagement opportunities.
- 67% of consumers say connected products are becoming a necessity and a part of their lives.

Hyper-personalization drives spending:

- Product companies are expanding to as-a-service models using personalized data and insights.
- 60% of consumers say that personalized experiences and DTC(Direct-to-Consumer) approaches unlock repeat buying habits.

Data is Driving Faster and More Relevant Innovation:

- Whether in CPG (Consumer Packaged Goods) or consumer products, a 360-degree consumer view is driving faster innovation.
- 79% of fast movers are achieving quicker R&D for existing products with greater connectivity and intelligence.

Experience Quality Differentiation:

- Consumers demand a more seamless experience across physical and digital realms.
- 88% of consumers expect companies to offer an enjoyable multichannel experience.

The Shift Towards Seamless Experiences

We partner with ambitious leaders to imagine, create, and scale the intelligent product and service ecosystems that win hearts and move markets. Enabled by technology, fueled by data, personalized by insight, and differentiated by design, we're creating some of the most successful markets on the planet.

Why Work with Capgemini?

Our teams have been conceiving, creating, and launching impactful connected products and ecosystems for top clients across industries for years. We have partnered with companies like Nike, IKEA, Nestle, and Disney.

Proven Methodologies and Frameworks: We help clients orchestrate across a holistic landscape to realize profitable and sustainable connected products that deliver a significant and sustainable return on investment(ROI).

Innovation Centers and Labs: Explore the art of the possible in our innovation centers and labs globally, bringing ideas to life in accelerated timeframes.

Shape the Future with Us:

Embrace the opportunities of tomorrow with our Connected Products for Consumers. Partner with us to build digital and physical experiences that drive revenue like never before.

Connect with a future where your products redefine consumer experiences!

Automotive Connected Mobility: Realize the Promise of Connectivity in mobility

In the fast-evolving mobility landscape, characterized by evolving mobility preferences, sustainability commitments, and advancing connectivity, drive the end-to-end journey to realize the promise of connected mobility.

Business Strategy & Offers: Unlock New Growth Potential with Innovative, Customer-Centric Connected Offerings

- A clear business value strategy
- A clear monetization and enrollment strategy
- New business and operating model

Solution Design & Development: Implement the Next Generation of Connected Services

- Enhanced user interface and experience
- Resilient connectivity and OTA(Over-The-Air) updates
- Service quality and velocity
- Scalability and speed-to-market

Customer Experience & Activation: Enhance the Customer Experience Across Channels

- Personalized experience and content
- Omni-channel strategy
- Frictionless customer journey

Capgemini brings unique expertise with real-world experience in connected services monetization, connected cars, and omni-channel customer experiences, having collaborated with global automotive OEMs, suppliers, and technology partners.

Connect with us to learn how we support automotive industry leaders in pivoting their business from product-centric to connected services, delivering appealing user-centric experiences.

Connected Health: Mastering the MedTech Game

Health wearables represent only a fraction of what's possible in the Connected Health ecosystem. As connected health programs evolve from nascent innovations to reliable contributors to health outcomes, the question remains: how can they transition into sustainable elements of value in healthcare and the life sciences industry?

Start by tackling four key challenges:

1. **Increased Risk (Regulatory Compliance, Cybersecurity, and Data Privacy):** Navigate complexities, ensuring MedTech devices meet standards and mitigate risks in the healthcare ecosystem.

2. **Legacy Infrastructure and Technology Architecture:** Our approach integrates MedTech effectively, overcoming legacy challenges with intentional innovation for cohesive devices in the connected health landscape.

3. **Embracing Experience-Based Design:** We are redefining MedTech experiences, elevating devices beyond mere tools to provide an intuitive user experience that exceeds expectations.

4. **Breaking Down Innovation Silos:** Our strategy breaks free from hindering silos, ensuring a purposeful device evolution aligned with business goals.

To discover more about our approach and our transformative solutions, reach out to our experts or visit Intelligent Products and Services.

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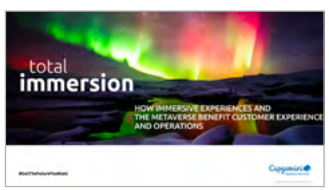

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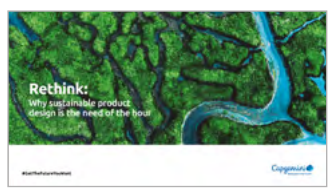

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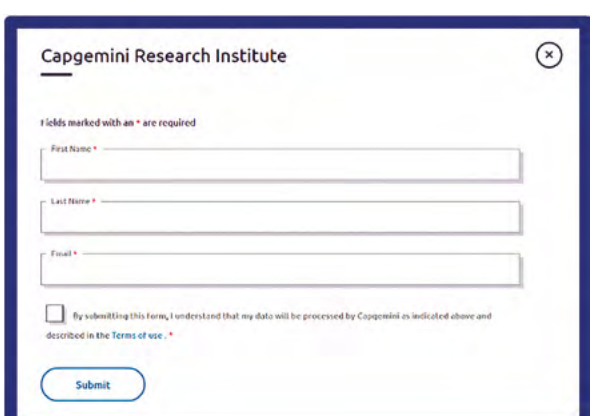

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