10 Hot Consumer Trends 2030

Connected intelligent machines

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The 10 roles consumers expect connected intelligent machines to have in 2030 everyday life.

01. Body bots

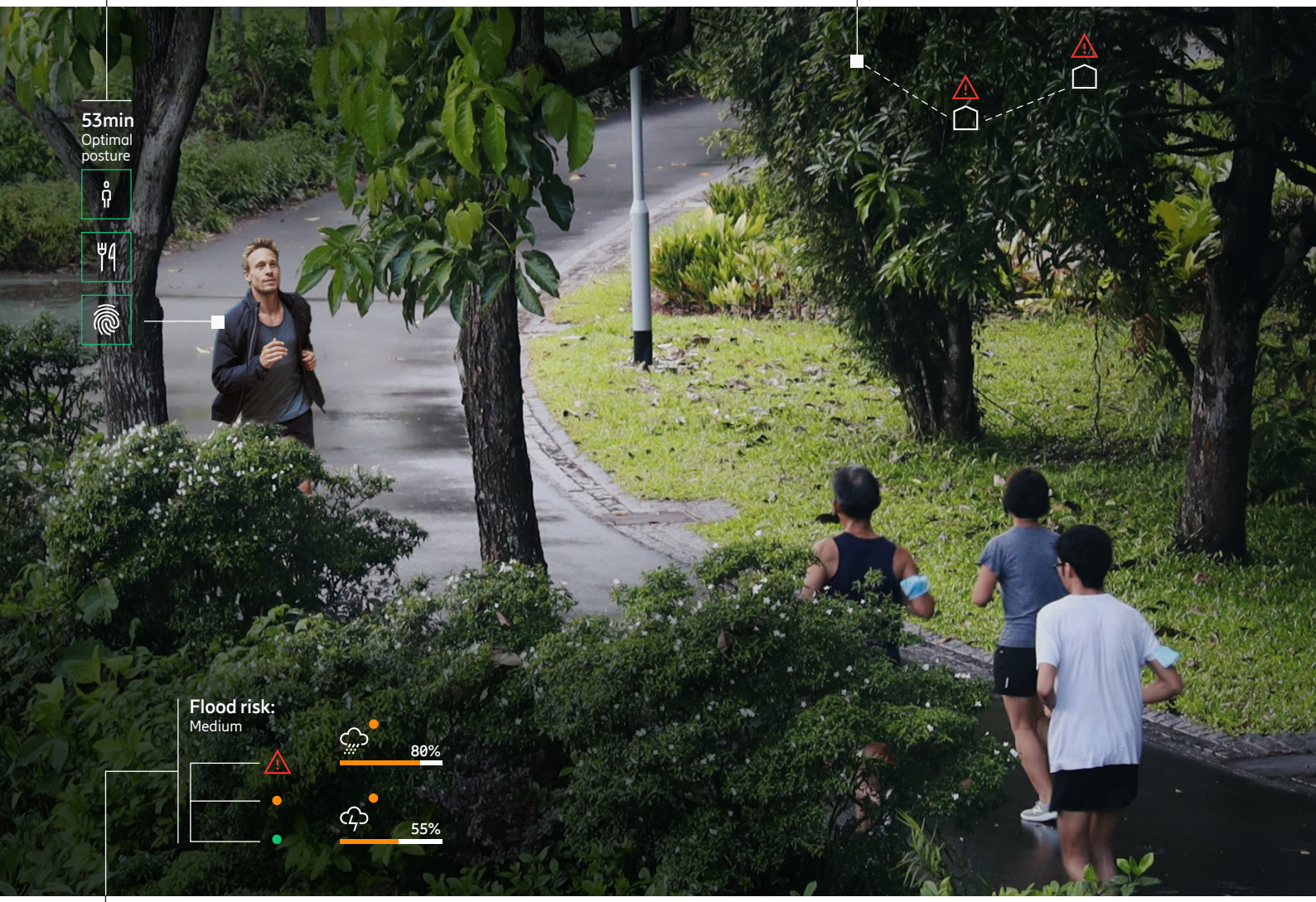
Get a power-up – 76 percent of consumers predict there will be intelligent posture-supporting suits.

02. Guardian angels

Three-quarters believe that privacy guardians will help fool surveillance cameras and block electronic snooping.

03. Community bots

Seventy-eight percent believe electronic watchdog services will alert neighborhood allies to any trespassers.



04. Sustainability bots

Future weather will be extreme – 82 percent believe devices will share data and warn about local rain torrents or heat blasts.

05. Home officers

WFH uninterrupted – 79 percent say smart speakers will project noise-canceling walls around the home office space.

06. Explainers

More than 8 in 10 predict automated financial management systems that explain how your investments are handled.

07. Connectivity gofers

Smart signal locators will be able to guide you to optimal connectivity spots, say 83 percent of consumers.

08. Baddie bots

A baddie bot that can be trained to carry out burglaries or attack other people is wanted by 37 percent of AR/VR users.

09. Media creators

Machines will curate content. Sixty-two percent think game consoles will make original games based on their gameplay.

10. Bossy bots

Around 7 in 10 believe that social network AIs will understand your personality and build up a circle of friends that is good for your mental and physical wellbeing.

Contents

Methodology
This report presents insights based on Ericsson's long-standing consumer trends program, now in its 10th year. The quantitative results referred to in the report are based on an online survey of residents in Bangkok, Delhi, Jakarta, Johannesburg, London, Mexico City, Moscow, New York, San Francisco, São Paulo, Shanghai, Singapore, Stockholm, Sydney and Tokyo, carried out in October 2020.

The sample consists of at least 500 respondents from each city (15,658 respondents were contacted in total, out of whom 7,627 qualified), aged 15–69, who are currently either regular users of augmented reality (AR), virtual reality (VR) or virtual assistants, or intend to use these technologies in the near future.

Correspondingly, these participants represent only 50 million citizens out of 261 million living in the metropolitan areas surveyed, and this, in turn, is just a small fraction of consumers globally. However, we believe their early adopter profile makes these individuals important when exploring expectations of technology for the next decade.

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Ericsson Consumer & IndustryLab delivers world-class research and insights for innovation and sustainable business development. We explore the future of connectivity for consumers, industries and sustainable societies by using scientific methods to provide unique insights on markets and consumer trends.

Our knowledge is gained from global consumer and industry research programs, including collaborations with renowned industry organizations and world-leading universities. Our research programs cover interviews with over 100,000 individuals each year, in more than 40 countries – statistically representing the views of 1.1 billion people.

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Welcome to the age of connected intelligent machines

What roles can we expect machines to take on in everyday consumer life by 2030?

Imagine waking up in the morning and feeling that every day is exhilaratingly different. And what if some of that feeling of anticipation is generated by devices in your household? Rather than normalizing your routine and turning your preferences into a grey blur of sameness, they instead add intelligence, even creativity, to the choices they make for you.

Today, the shower temperature is a bit colder because you didn't sleep too well, and need a bit of extra waking up. So, the coffee is stronger, and – surprise, surprise – the croissants have been replaced by whole grain bread because, well, you need to shape up a bit in order to sleep better.

Your workday starts with an overview from your automated work assistant, while your office chair readjusts its position to make sure the body ache you experienced last week won't come back. After the workday, you pass by a distant neighbor you didn't even know before your intelligent agents mutually agreed that the sofa she was selling was exactly what you wanted – which you then bought from her at a machine-negotiated price. Back home again, your automated financial adviser helps with your vacation plans and suggests bookings that are optimal for your family's interests while meeting your budget ceiling. Later in the evening, you settle down with an intelligently curated selection of TV shows that gently challenges your political views. Seeing things from different perspectives can be fun!

Will your day look like this in the future? At Ericsson Research, our vision is that advances in AI and cellular communications technology will enable connected intelligent machines to securely communicate across the networks of tomorrow. In the process, they could make the world more responsive to your implicit needs than ever before.

Saying that machines are about to become intelligent doesn't necessarily mean that they will look like humans, with arms, legs and a friendly smiling face. They could just as well be faceless silicon abstractions that do things more quickly and logically than a human ever could.

In either case, they might not just be mindless automations or servants that unthinkingly follow your every whim without considered reasoning.

In this study, respondents were presented with 8 connected intelligent machine concepts, ranging from human-centered to a more rational perspective, in 14 different categories, making a total of 112 concept ideas. The result is an overview of the different roles that connected intelligent machines are most likely to take in everyday consumer life during the coming decade, according to respondents. Do you agree with them? What do you think the connected intelligent future will hold?

Body bots

Connected machines are expected to augment consumers physically – and mentally.

The word exoskeleton may sound very high tech, but it is one of the oldest things you could imagine. Living organisms have used exoskeletons to support and protect their bodies as far back as in the Precambrian era, and humans have been using them since the late 19th century to assist body motion. But it may be only now, with the advent of low-cost AI chips, new and lighter battery technologies and low latency 5G networks, that exoskeletons become part of everyday life.

Although 6 in 10 think that exoskeleton suits that guide them in home repairs and provide the strength to carry almost anything will be available by 2030, it is another type of strength that early adopter urbanites globally are predicting to be of even higher importance. As many as 76 percent say there will be intelligent posture-supporting suits helping people to maintain the correct position when going about their daily activities. Half of them would even like to use such a suit themselves.

This modern focus on wellness rather than brute strength is also reflected in the 71 percent believing lightweight and foldable exercise machines that send personalized food recipes to your cooking appliances will be available in the future.

Intriguingly, modern urbanites seem to think that power primarily lies in the ability to control technology around them. Hence, 71 percent predict that by 2030, we will have AI assistants that translate everything they say to code, giving humans the power to program any device. Maybe your mind could enable the ultimate body enhancement.

Of those who would want to use a body bot, 4 in 10 believe it is high status to have devices that don't share data with third parties. In contrast, among those who think body bots will not be used by 2030, only 17 percent think it is high status to have devices that don't share data with third parties.

Get a power-up.

Guardian angels

A spiraling increase in use of guardian tech is on the horizon.

Given that life remains full of unforeseen hazards, using technology to help guard oneself seems to be an option for many. In fact, 30 percent believe that all 8 guardian angel concepts we asked about will be available by 2030.

More specifically, as many as 75 percent say that networked item trackers which can find things that were stolen or borrowed without being returned will be available by then; it is also the kind of connected intelligent guardian that most would like to use themselves. Imagine all your belongings having a functionality like "find my phone", and it may give you an idea of what such a future could be like.

But data is also important to us – and that importance is set to grow over the decade. Three-quarters believe privacy guardians that organize personal devices to reduce digital footprints, fool surveillance cameras and block electronic snooping will be in use 10 years from now. Simultaneously, just as people can keep track of things, things can also keep track of people. For that reason, it makes sense that 70 percent predict devices with the ability to shield them from anything and everything using connectivity to track them, will also be available.

But what if you are the one being guarded against? A third would like to use an artificial private investigator that collects online monitoring data to spy on family members, neighbors or other people they suspect of wrongdoing. Interestingly, around a third also say that such guardian technology could affect them negatively. In that light, the networked item tracker seems more trustworthy, with 53 percent wanting to use one themselves and only 17 percent thinking there could be a negative effect in doing so.

However, the negative side effects were higher with all other guardian angel bots. For example, around a quarter think that nanobots that live in the bloodstream to combat cancers and viruses by exchanging data with other people's nanobots could be bad for them. Despite this, almost half still wanted to use such a technology.

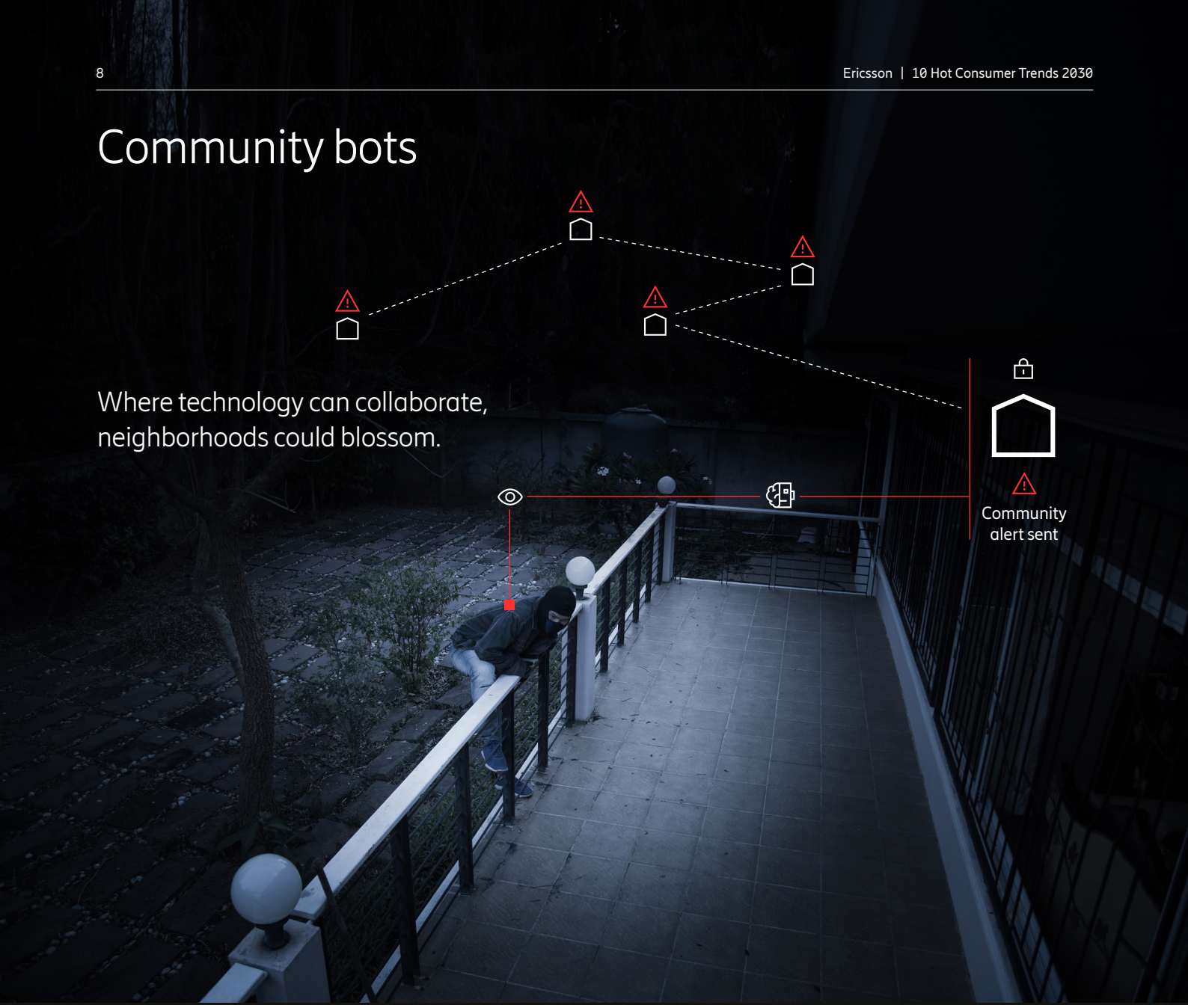
Interestingly, among those who wanted to use guardian angels, as many as two-thirds saw that such technology could also adversely affect them.

75%

Three-quarters believe that privacy guardians will organize their personal devices to reduce digital footprints, fool surveillance cameras and block electronic snooping.

Watching over you.

Community bots



Neighborhood allies.

If you can't beat them, join them. And if protective technology can also be used against you, teaming up with others around you may be a very sensible thing. That may be why as many as 78 percent believe there will be an electronic watchdog service by 2030 that not only guards your home, but can also alert other watchdogs in the vicinity if there are trespassers.

But with continued urbanization, there are many other challenges in the world's major cities, with many neighborhoods struggling to maintain a nice environment. If connected machines could collaboratively look after neighborhoods, much could be gained. By 2030, 74 percent believe that there will be gardening devices like mowers that autonomously team up and keep their common areas tidy.

Imagine a future where technology is used to make people join forces, not only in the abstract way of being friends on a social network, but also physically where they live. For communities to really come to life, human interaction is needed and not just automated services. However, there is still plenty of room for machines in such a scenario. One example could be a bartering system where community members can trade things based on a value that has been calculated using AI. Around 7 in 10 think that using cutting-edge technology to enable sustainable lifestyles and better community cohesion will be a reality in 10 years' time.

However, for such a system to work, its users would have to allow themselves to be represented by bots in the actual bartering process. As it happens, 43 percent of those who would like to have connected community bots are already willing to delegate their identity to a device that can act on their behalf on a more general level. This could include negotiating rent, using their credit card or even voting on their behalf.

But maybe the most conclusive community bot would be the inhabitants themselves merging with the AIs. Today, nearly one-third of those already inhabiting virtual worlds – in the sense that they are regular AR/VR users – say they could imagine uploading their own mind and consciousness and becoming an AI themselves. This should be compared to just 1 in 10 among those who neither use nor plan to use AR/VR saying they could imagine doing such a thing.

78%

Almost 8 in 10 consumers predict electronic watchdog services that guard your home and alert other community watchdogs to intruders.

Sustainability bots

With the climate crisis now forcefully impacting everyday life, technology needs to play new roles.

When thinking about the climate crisis and what it means for future generations, it is easy to feel discouraged because it seems so difficult to take action. But one important aspect in a society that still runs on fossil fuels is to find ways to limit one's use of energy. As many as 84 percent foresee that by 2030, smartphones, wearables and household devices will conserve electricity by sharing it with all their other devices and only recharging during off-peak hours.

Another way could be to generate power sustainably at home – and this might indeed be a viable option. In fact, 83 percent believe self-charging batteries that generate energy from multiple sources such as the sun, movement, rain and waste will be available by 2030. Demand for self-sustainable energy sources will likely be strong, as 6 in 10 already say they would like to use self-charging batteries themselves. Overall, the interest in energy conservation is high, with more than half also wanting to use devices that share energy with other devices.

However, the climate crisis is obviously much broader than energy use. For example, adapting everyday life to extreme weather is also of importance to many. According to 82 percent, smartphones and wearables will have the ability to warn about local rain torrents or heat blasts by sharing data with everyone else's personal devices by the next decade.

Finally, access to water is already an increasing concern for people. By 2030, half say they would like to use a water purification device that adapts to new contaminants and continuously learns new purification schemes by sharing data with other purifiers.

82%

Smartphones and wearables will have the ability to warn about local rain torrents or heat blasts by sharing data with everyone else's personal devices, according to 82 percent of consumers.

50%

Half of consumers would like a water purification device that adapts to new contaminants and learns new purification schemes.

Weathering the storm.

Home officers

Working from home creates higher demands on flexible technology.

During the COVID-19 pandemic, working from home has become the new normal for a large share of citizens in major cities across the globe. For some, it may be felt as a forced isolation, whereas others may experience that the time saved on lengthy commutes is a real boon. But what all respondents could potentially agree on is that the home office poses new challenges that they hadn't previously considered.

One such challenge is cost. For this reason, 84 percent now predict that by 2030, there will be smart electricity meters that calculate electricity used for work at home, including related electricity use, such as making coffee and cooking.

Another challenge is handling working time in a trusted way. Hence, 8 in 10 believe there will be a time tracker that connects to all devices and automatically reports home working hours. However, a thornier challenge might be to actually find room to work from home on a more permanent basis, particularly in dense urban centers where space comes at a premium. As a result, home technology will increasingly need to focus on the ability to switch between different activity modes to reduce disturbances between family members. One such example might be smart speakers that project noise-canceling walls around the home office space to allow for concentration during calls. As many as 79 percent believe this will be available in 10 years, indicating strong potential for such highly adaptable products.

White-collar workers, who make up a significant share of current office staff, express the highest belief that they will be using connected intelligent home office equipment in the future. Apart from the smart speakers and electricity meters already mentioned, each of which 54 percent of white-collar workers expect to be using, they are particularly interested in using a smart work-life balance planner. In fact, around half want to use such a planner if it would allow them to plan home activities for all family members, in order to minimize irritation and disturbances. Simultaneously, it should be pointed out that white-collar workers also see more issues with home office bots than other workers. For example, three-quarters of white-collar workers believe a work tracker that alerts your employer if you are doing non-related activities during work hours will be used in the future. However, more than a third of them say this would affect them negatively. Similarly, a quarter of those who believe that automatic work hour trackers will be in use in the next decade, said it would affect them negatively.

Overall, 9 out of 10 workers would like to use some kind of connected intelligent home office bot. Simultaneously, around 6 in 10 also see that such technology could affect them negatively. Working from home won't mean that job-related issues go away – it just puts a new spin on them!

WFH uninterrupted.

Explainers

As far as consumers are concerned, AI might as well stand for Alien Intelligence. That needs to change.

Accountable machines.

Understanding how machines reason is near impossible for many. Hence, there is a demand for technology to start explaining itself. The technology that first comes to mind is, of course, the smartphone: 86 percent expect that by 2030, smartphone apps will explain what data they collect and how it will be used. But is that realistic? Chances are that if you were to find out more about how these apps use your personal data, you would want to limit use of the app and thus throttle the source of income for the app publisher.

However, 46 percent of those who have already struck up a conversation with their smartphone – in the sense that they are regular users of virtual assistants – say that by 2030, AI devices will be required by law to explain what they do. Given that they are more familiar with the technology than those who neither use virtual assistants today nor plan to do so in the future – of whom only 32 percent think such a law might come into place – this might indeed happen.

Finances are also famously pointed to as a field that many have a hard time grasping. Unsurprisingly then, more than 8 in 10 think there will be automated financial management systems that explain how your investments are handled.

But there are also new areas for accountable bots to conquer. Imagine that you are on a sightseeing trip and the guide is telling you when the governmental building you are passing was built, and how high the spire of the adjacent church is. But imagine that same guide then somewhat oddly explaining that there is a cyclist in front of you, and that the school children crossing the street seem to be aged 9 to 11 and therefore could be expected to suddenly run out without heeding traffic. Finally then, imagine that the guide tells you that it is now rush hour and since you are entering a busy part of the city, you should take over the steering wheel yourself – and you realize that the guide is nothing but the car itself speaking to you. In fact, 78 percent expect that by 2030, autonomous cars will only take control when traffic is calm enough for driving decisions to be explained to the user.

Among those who think that self-explaining phone apps, financial management systems and cars will exist in a decade, roughly half wanted to use these technologies themselves. But these explainer bots were all more favored by virtual assistant users compared to those who neither use nor plan to use virtual assistants, indicating that having a conversational approach to technology might be a good way to stay informed.

Connectivity gofers

By 2030, consumers expect today's islands of connectivity to disappear.

Always best connected.

During the last year, it has become particularly apparent to consumers across the globe how important connectivity now is as a societal infrastructure. Still, many face challenges, and coverage of cellular networks is not always perfect. However, consumers expect that, going forward, devices will intelligently adapt to any signal, with the use of cellular, Wi-Fi and fixed connectivity being seamless. In fact, with 40 percent forecasting that all 8 concepts we tested would be available by 2030, expectations of connectivity are higher than for any other connected intelligent machine type.

Expectations were even higher among regular AR/VR users: 47 percent of them expect all connectivity gofers we asked about to be a reality in 10 years, potentially due to high AR/VR performance requirements. Today, AR/VR applications are primarily used indoors, and as many as 86 percent also expect home connectivity to improve significantly, with access points that automatically connect their devices to fiber, cable, 5G and Wi-Fi without any necessary setup.

Once home connectivity has become seamless, it is time to hit the streets. The service with the second-highest expectation for being available by 2030 is a smart signal locator that guides you to spots with optimal coverage even in crowded areas. In fact, 83 percent predict this service to be available by then.

But wherever you are, intelligent machines should be able to improve connectivity regardless. Thus, 8 in 10 think that there will be a network-based device accelerator that intelligently improves device performance within this time frame.

As we stated in our 2019 trend report, The Internet of Senses, AR/VR may have evolved significantly by 2030 to also include touch, smell and even taste. For this to happen, connectivity must become increasingly intelligent to make sure users do not suffer from unsynchronized sensory experiences or nausea-inducing network lag. Regular users of AR/VR may be more attuned to such issues, since 95 percent want to use connectivity bots themselves. However, it should be noted that 6 in 10 think connectivity gofers could also affect them negatively, compared to only 37 percent among those who neither use nor plan to use AR/VR. This indicates that the exact way connectivity is enhanced and how, for example, personal data is treated, remains of utmost importance.

Baddie bots

Even unpleasant uses of technology can be seen as opportunities by some.

According to an old 16th-century saying, one man's meat is another man's poison – and that holds as true in the digital world as ever before. Those who do not wish others well can use digital technology in ways that pose various threats. In other words, digital products will be available that have the implicit potential – or even explicit purpose – to do harm. We will call them baddie bots here, and as it happens, 93 percent expect at least one type to be available by 2030.

This could be cause for alarm. As it turns out, regular AR/VR users may see this as an opportunity, perhaps as they are already most comfortable in roaming across digital realms. As many as two-thirds of this group want to use a baddie bot for their own purposes, compared to only one-quarter of those who neither use nor plan to use AR/VR.

In fact, the most wanted baddie bot is a robot that is trained by its owner to perform burglaries or attack people on the streets, which 37 percent of current AR/VR users want to use in the future. In addition, almost one-quarter of them would like to use an AI device to take over credit cards and smart cards, pick electronic car locks, empty vending machines and hack smartphones. And to send a chill down your spine, as many would also use a drug and loot selling bot that employs military-grade encryption to communicate with its owner in case it gets caught. One might argue that technology is neutral, but in either case, it seems people are not.

According to 77 percent of respondents, the baddie bot concept most believed to exist in 2030 are hacking bot-networks that learn the behaviors of your devices in order to infiltrate and take control over all your logins without you ever finding out.

In addition, a full three-quarters predict networked phishing bots to be available too, that can scam you with personalized attacks using analysis of your online behaviors, videos and photos.

On the basis of these predictions, the need for a standardized ethics framework for AI seems more urgent than ever.

77%

More than 7 in 10 consumers predict hacking bot-networks that learn your device behaviors to take control without you finding out.

If you can't join them, beat them.

Media creators

Consumers predict that by 2030, mass media will increasingly be influenced by automation.

Today, automated bots already dynamically translate websites between languages, and collect and edit news articles. But by 2030, will our increasingly digital mass media continue to be produced primarily by humans, or will connected intelligent machines play a much bigger role?

Our analysis of early adopters of consumer technology in major cities across the world indicates that there is indeed a media creation race between humans and machines. But, it is too early to announce winners. Whereas one in five prefer humans over AIs in more than half of the eight media creation concepts we tested, another one in five prefer AIs over humans.

We humans are still favored when it comes to music, with 65 percent preferring humans as writers and performers of popular music. Interestingly, AR/VR users stand out here, with as many as 47 percent preferring AIs in this role – potentially an effect of the current popularity of rhythm games in VR. However, media creation remains the domain for human creativity also outside of music, with 60 percent preferring human movie producers.

At the other end of the spectrum, 62 percent would prefer the game consoles themselves to make original games based on their previous gaming behavior. In addition, 57 percent want to be able to ask adverts directly for advice, rather than having to turn to human salespeople. An advert for a gym membership could, for example, advise on training shoes or workout clothing.

However, the idea that media will be increasingly automated is widespread, particularly when it comes to curation – not only do three-quarters believe that the aforementioned advisory adverts will exist by 2030, but as many also foresee personal media brokers that curate fully individualized media experiences for music, movies, books, games and news by then.

In addition, although picked as the least likely concept to come into existence by 2030, 6 in 10 nevertheless think that there will be artificial musicians that are doing better in the hit charts than humans.

62%

Game consoles that can make original games based on a user's past gaming behavior are preferred by over 6 in 10 consumers.

Curating your content.

Bossy bots

Machines are becoming better at advising us in everyday life – maybe even too good?

Our electronic devices are increasingly collecting data about us. Over time, this gives them a deeper perspective on our behaviors than we have ourselves; where humans are forgetful, connected intelligent machines have nearly infinite memory. As a result, automated technology will increasingly become better at giving us advice, to the point where it will be more convenient for many to just heed the device than to think of alternative action.

Much advice given to us by machines will not be particularly controversial. For example, 76 percent think an AI home manager that guides all the family's shared and personal electronic devices for optimal household comfort will be available by 2030. Maybe it could adaptively delay the coffee machine from brewing coffee at a preset time for that one morning you oversleep and spend a few extra minutes in the shower.

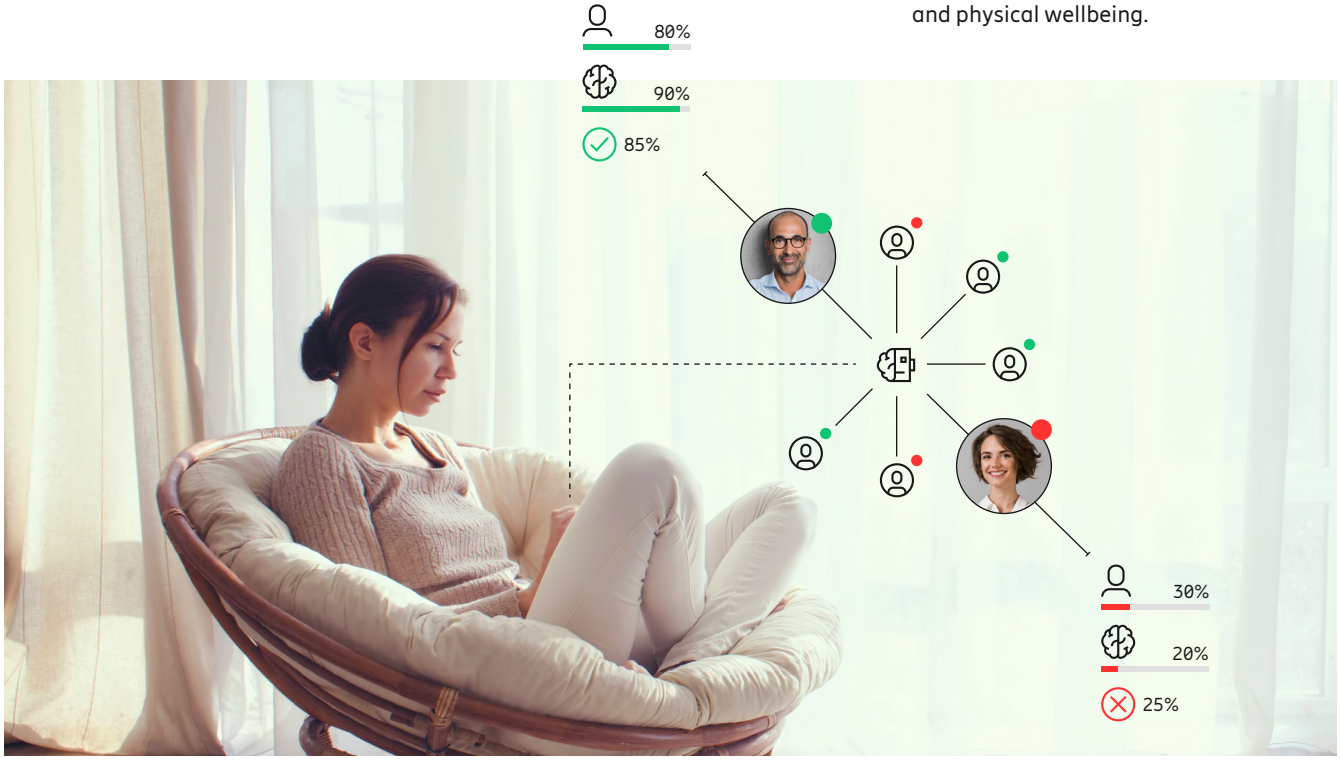
However, some advice could also become decidedly pesky, giving you the feeling that your connected intelligent devices are bossing you around. As many as 74 percent predict there will be wearables that keep track of alcohol consumption on nights out, blocking funds and car keys if they have had too much to drink.

Such bossing about could also transfer into the workplace, with 27 percent saying that they are willing to have an AI adviser at work, which is just marginally more than the 26 percent who say they are not willing. Interestingly, white-collar workers are more willing than other groups, with 31 percent agreeing to the idea. In contrast, only 21 percent of students find the idea agreeable, indicating that younger generations might be less enthused by intelligent technology than those who are currently in the workforce.

Such divergent tech opinions may be more polarized in the future; among those willing to have an AI adviser at work today, 71 percent state a higher willingness for having one in 2030; whereas 61 percent of those not willing today, say they will be even less willing by 2030.

Given such challenges, maybe it is not surprising that 3 in 10 say that a decade from now, AI will be everywhere and people will increasingly find themselves without any meaningful tasks. Potentially as a reaction, equally as many think that by then, turning off your personal AI assistant will be a way of showing independence in the same way that young people refuse to listen to their parents.

But there are also positive signs. For example, 7 in 10 believe that by 2030 social network AIs will understand your personality and build up a circle of friends that is good for your mental and physical wellbeing.



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