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CONSUMERLAB



10 Hot Consumer Trends 2018

An Ericsson Consumer Insight Summary Report
December 2017

Methodology

This report presents insights based on Ericsson's long-standing consumer trends program, now in its seventh year. The quantitative results referred to in the report are based on an online survey of 5,141 advanced internet users in Johannesburg, London, Mexico City, Moscow, New York, San Francisco, São Paulo, Shanghai, Sydney and Tokyo that was carried out in October 2017.

Respondents were advanced internet users aged 15–69, who have an urban early adopter profile with high average use of new digital technologies such as intelligent voice assistants, virtual reality headsets and augmented reality applications.

Correspondingly, they represent only 30 million citizens out of around 180 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 them important to understand when exploring future trends.

The voice of the consumer

Ericsson ConsumerLab has more than 20 years' experience of studying people's behaviors and values, including the way they act and think about ICT products and services. Ericsson ConsumerLab provides unique insights on market and consumer trends.

Ericsson ConsumerLab gains its knowledge through a global consumer research program based on interviews with 100,000 individuals each year, in more than 40 countries – statistically representing the views of 1.1 billion people.

Both quantitative and qualitative methods are used, and hundreds of hours are spent with consumers from different cultures. To be close to the market and consumers, Ericsson ConsumerLab has analysts in all regions where Ericsson is present, developing a thorough global understanding of the ICT market and business models.

All reports can be found at:
www.ericsson.com/consumerlab



Tomorrow, your devices will know you

Imagine you have just arrived home from work. You wave your hand, and the lamp turns on, flashing the light in greeting. The home speaker begins to play music, but when you give it an exasperated look, it turns off. You make a coffee, but grimace because it's too bitter. The coffee machine immediately offers to add sugar or milk.

Two things are conspicuously absent from this vision of a not-too-distant future. One is an appliance with switches and knobs, and the other is a smartphone full of remote control apps.

Our research indicates that consumers are increasingly moving towards a paradigmatic shift in how they expect to interact with technology. Ever more things are becoming connected, but the complexities of how to control them all are a different matter.

On the one hand, alternative yet equally good user interface solutions for simple functions have existed for much longer than we've had electronic gadgets. A Westerner who experiences an Asian

meal for the first time soon finds out that the user interface to that meal is a pair of chopsticks rather than a knife and fork.

On the other hand, mass-market acceptance of digital technology has made the proliferation of user interfaces practically infinite. Every new device with a screen adds new user interface variations, which are then multiplied by the number of apps within each gadget.

Today you have to know all the devices. But tomorrow all the devices will have to know you.

If consumers continue to be faced with the prospect of learning and relearning how to use devices in the face of an

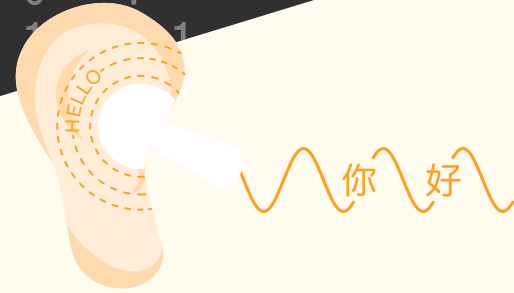
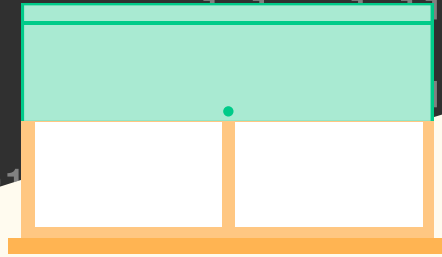
ever-increasing pace of technological change, they will become increasingly reluctant to buy in to the future.

We might already be close to that breaking point. The current generation of "flat" user interfaces do not use 3D effects or embellishments to make clickable interface elements, such as buttons, stand out. It is difficult for users to know where to click. As a result, they navigate web pages 22 percent slower.¹ For this reason, our trends for 2018 and beyond focus on various aspects of more direct interaction between consumers and technology.

With 5G, connectivity is set to become ubiquitous. This might sound simple, but it involves a huge technology upgrade; devices must be able to relay complex human interaction data to cloud-based processing, and respond intuitively within milliseconds. The Internet of Things (IoT) must provide interoperability between all devices, and allow for mobility. Network availability also needs to be maintained, so that devices do not suddenly go offline and lose their human-like capabilities.

¹ <https://www.nngroup.com/articles/flat-ui-less-attention-cause-uncertainty>

10 Hot consumer trends 2018



01 Your body is the user interface

More than half of current users of intelligent voice assistants believe we will use gestures to interact with tech just like we do with people.

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02 Augmented hearing

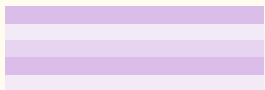
63 percent of consumers would like earphones that translate languages in real time.

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03 Eternal newbies

46 percent say the internet allows them to learn and forget skills faster than ever.

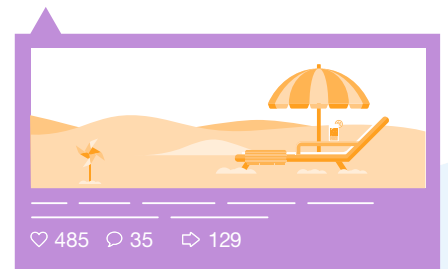
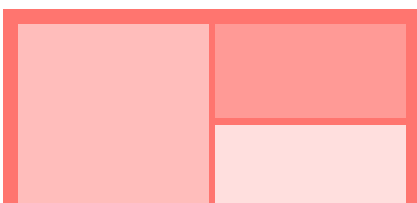
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04 Social broadcasting

55 percent think influential groups are using social networks for one-sided broadcast messages.

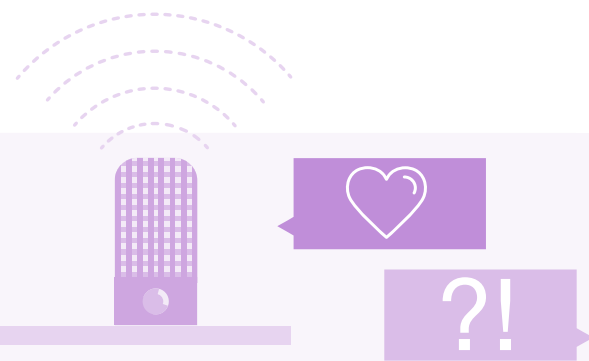
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05 Intelligent ads

More than half of AR or VR users think ads will become so realistic they will eventually replace the products themselves.

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06 Uncanny communication

50 percent of respondents think not being able to tell the difference between human and machine would spook them out.

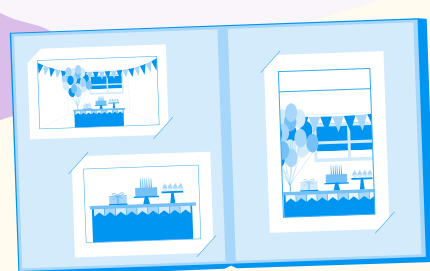
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07 Leisure society

40 percent say they would like a robot that works and earns income for them, freeing up their leisure time.

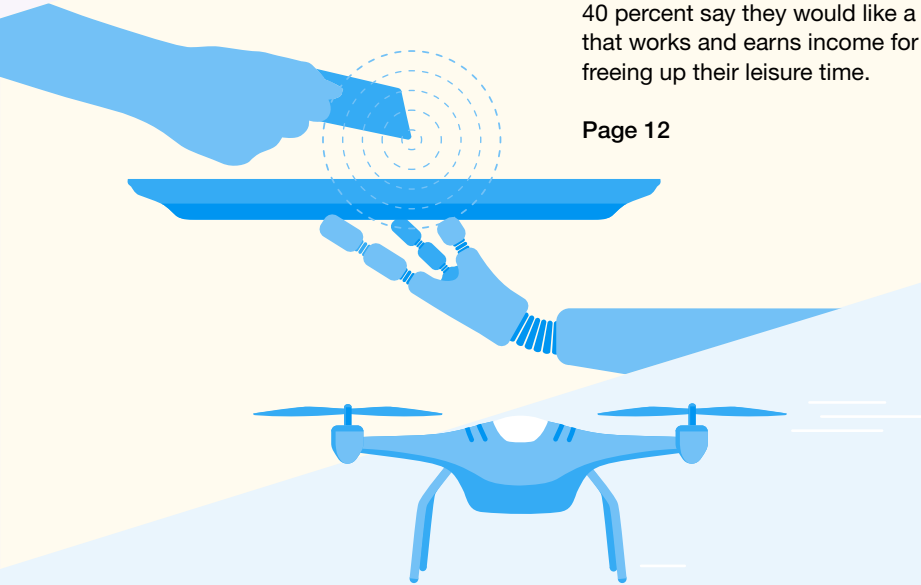
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08 Your photo is a room

Three out of four believe that in only five years they will use virtual reality to walk around in smartphone photos.

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09 Streets in the air

39 percent think their city needs a road network for drones and flying vehicles.

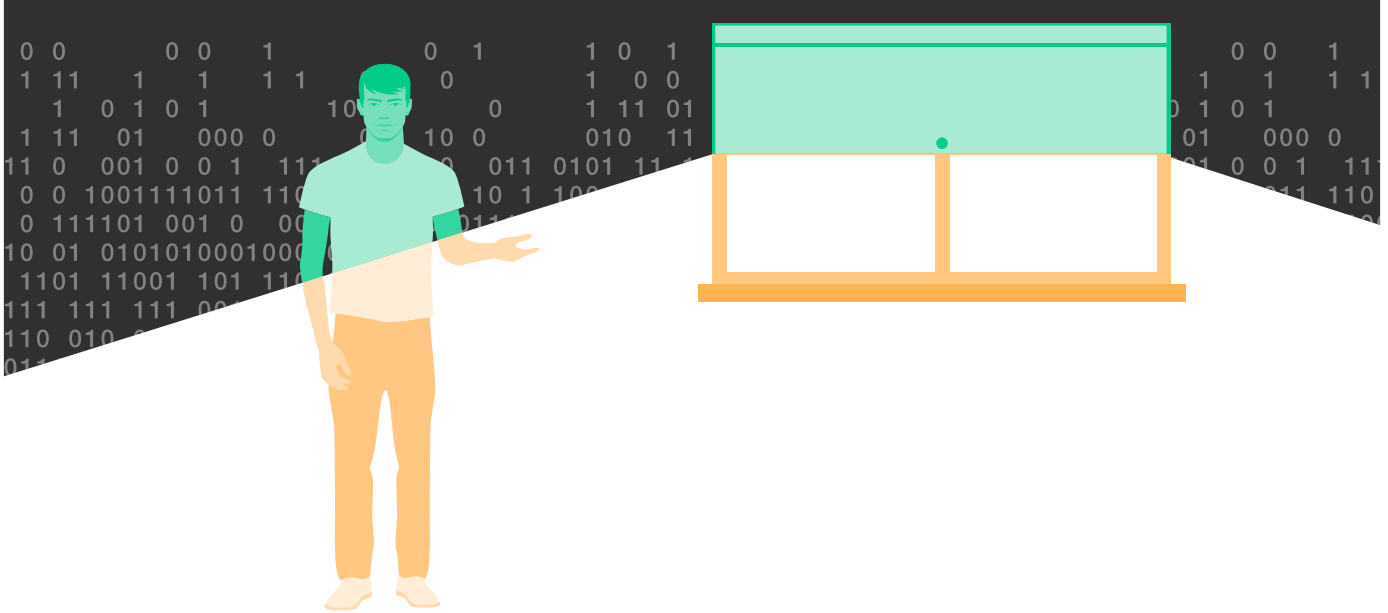
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10 The charged future

More than 80 percent believe that in only 5 years we will have long-lasting batteries that put an end to charging concerns.

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#01 Your body is the user interface



Digital tech is beginning to interact on human terms.

Consumers who already use intelligent voice assistants are leading a behavioral change. In fact, more than half of them believe we will use body language, intonation, touch and gestures to interact with tech just like we do with people; two out of three think this will happen in only three years.

Today, smartphones are almost synonymous with internet use. But when consumers increasingly interact with other types of tech, they may well start to think about a general need for connectivity.

Given that one in three intelligent voice assistant users think that eventually they will not be able to open doors, cook food or even brush their teeth without an internet connection, it is clear that reliable connectivity will become all-important.

But it may also be necessary to think about what we will use less because of this change. Potentially, we will have a reduced need for smartphone-based remote control apps.

And although the keyboard and mouse are universally present and accepted by almost everyone today, 81 percent of intelligent voice assistant users actually believe such traditional input devices will be a thing of the past in only 5 years. Will we miss them? If direct interaction turns out to be more convenient, we certainly won't.

There are many other interfaces that will also be replaced by direct interaction and a reliance on connectivity. For example, the advanced internet users in our survey voted self-driving cars as the next tech gadget that people everywhere will eventually buy. This means not only the end of steering wheels and pedals, but also that cars will have to directly interact with pedestrians. For example, how does someone waiting at a crossing know when they can go if there is no driver in the car to gesture to them?

More than half

More than half of current users of intelligent voice assistants believe we will use body language, intonation, touch and gestures to interact with tech just like we do with people.

#02 Augmented hearing

In the near future, we might find that we use wireless earphones all day long – and even sleep with them in too.

Many smartphone makers are now abandoning the headphone jack in favor of digital multi-function ports, in a way forcing consumers to seek out wireless alternatives instead. Some accept this change, while others do not; but all might agree that the headphone jack represents an analogue era that we no longer live in.

This means when consumers are upgrading their phones they also need to upgrade their earphones. And just as people expect new functions in a phone, it turns out that they expect new functions in earphones too.

Today, earphones are already used not only to enable sounds but also to block them out. For example, noise-cancelling functionality has been serving this dual purpose for some time.

We use headphones and earphones to select what we want and do not want to hear.

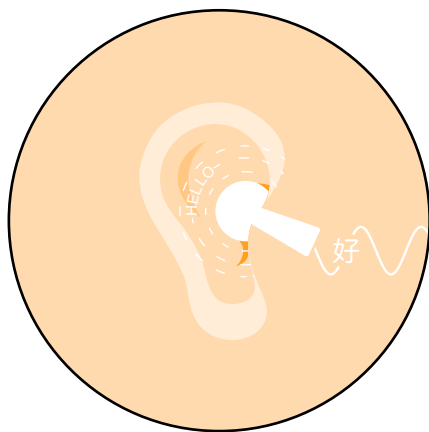
It is therefore not surprising that half of all advanced internet users surveyed think that earphones that let you select which people in a room you want to hear clearly, and which people you want to mute, will be mainstream in only three years. But for that to become a reality, earphones will need to be more aware of our intentions and allow for more direct user control.

Furthermore, such functionality can be applied in many situations. In fact, 81 percent believe earphones that charge wirelessly, so that you never have to take them out at all, will be mainstream in only 5 years.

The most anticipated functionality for such earphones is real-time translation of all languages, desired by 63 percent of respondents. But 52 percent also want to block out the sound of snoring family members in order to sleep.

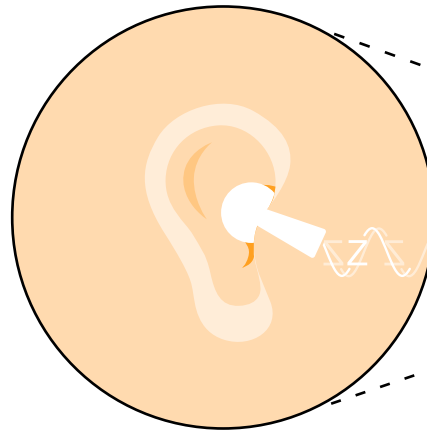
81%

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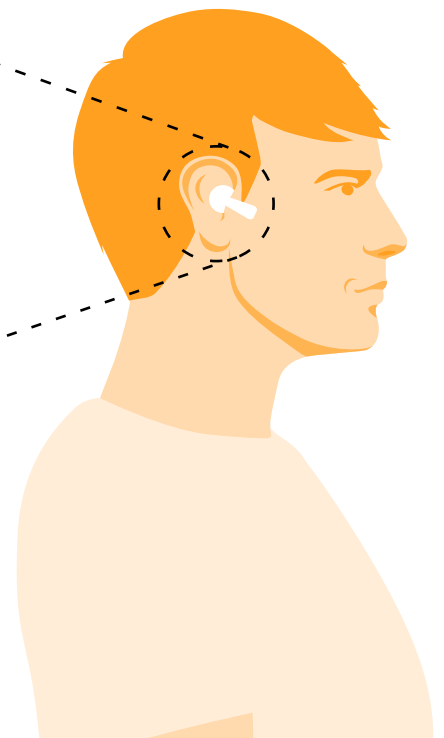
63%

63 percent of consumers would like earphones that translate languages in real time.



52%

52 percent also want to block out a family member's snoring.



#03 Eternal newbies



As many as 30 percent of respondents say new technology makes it impossible to keep their skills up to date. This means some of us feel like total beginners even when performing everyday routine tasks.

Generally, we learn skills only at the moment we need them. Already today, almost half say they often just search the internet for how to do things, because they have either forgotten or because there is a new way to do it anyway.

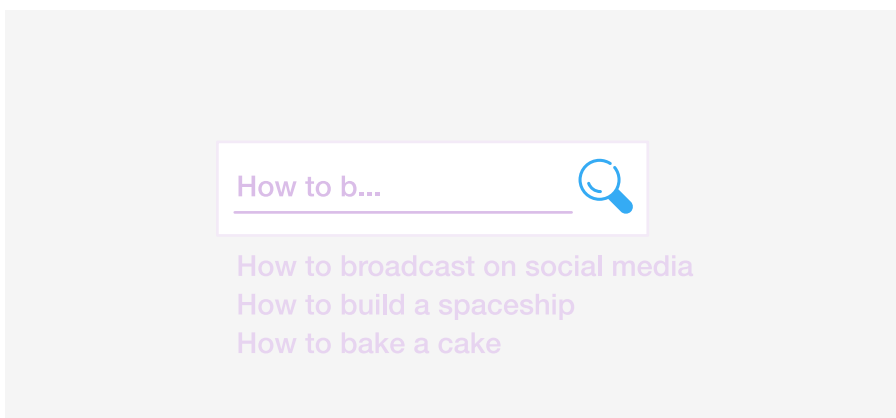
The pace of technological change is increasing almost every day, and it is easy to feel stress at not being able to keep up. For some, this is probably manifested as a feeling of helplessness.¹ But for many, it may present an opportunity. In fact, almost half of consumers think technology will make learning even advanced professions much quicker. On the other hand, endeavors to learn and relearn

will be a never-ending rat race, with 55 percent believing that technological change will accelerate the pace of change in skills needed at work.

Luckily, the internet can also help consumers cope with this new situation. As many as 46 percent say the internet allows them to learn and forget skills at a faster pace than ever before.

46%

46 percent say the internet allows them to learn and forget skills faster than ever. We use skills only at the moment we need them.



¹ For example, this seems to be the perspective in Kevin Kelly's book *The Inevitable* (Viking, 2016)

#04 Social broadcasting

Social media promised user-driven two-way communication, giving voice and power to individual consumers and redressing the balance between senders and receivers. However, social media is now being overrun by one-sided broadcasters.

Influencers with money buy followers and those with the right know-how use artificial intelligence (AI) bots to fill social media with traditional broadcasting messages – turning social media back into a platform of one-way communication.

Consumers are well aware that social networks are increasingly becoming the scene for standardized broadcast messages that are more designed to spread an opinion than to invite dialogue and reciprocity. Fifty-five percent think influential groups use social networks to broadcast their messages, and a similar number think politicians use social media to spread propaganda. Thirty-nine percent think celebrities pay to get more followers, while as many are getting tired of requests from companies to rate them and like them online. In fact, one in three confess that they do not really read other people's status updates, implying they do not necessarily pay attention to what they see online anyway.

On the other hand, half of the advanced internet users surveyed say AI would be useful to help check whether facts stated on social networks are true or false. The same number of respondents would also like to use AI to verify the truthfulness of what politicians say.

We humans sometimes favor automated communication over spontaneous dialogue. Messaging apps in smartphones and smart watches are already offering lists of predefined answers that we use to reply even to our nearest and dearest. As many as 41 percent of those who currently use intelligent voice

assistants would even want to use AI to automate their email replies.

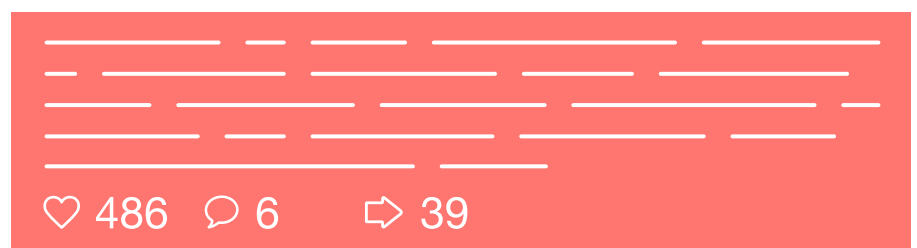
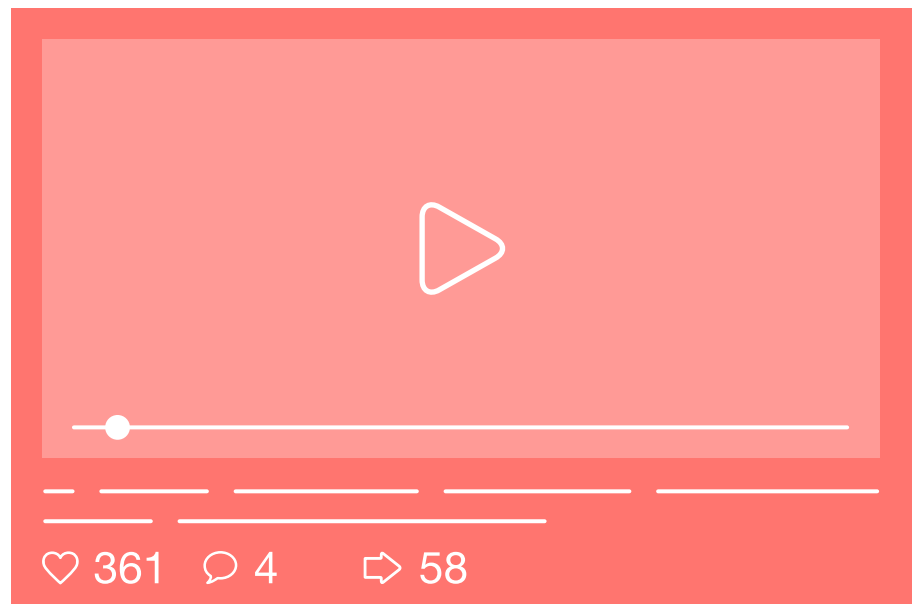
Even though we may find it acceptable to give impersonal, machine-like responses to others, we must realize that we are also receiving them in return.

The question as to whether we humans really want to engage in sustained dialogue still remains open.

What would happen if we leave all dialogue to machines instead? Given that as many as 38 percent of those who currently already use intelligent voice assistants would like to use AI to write social network status updates, this is a question that needs to be answered. Would a world where only AI assistants interact allow for a better exchange of opinion?

55%

55 percent say influential groups use social networks to broadcast their own messages.



#05 Intelligent ads

Ads might become too smart for their own good.

Consumers have a love-hate relationship with advertising. In our study, 40 percent say they do not mind advertising if it means they get free services, whereas just over a third say they actually dislike ads.

This tension will remain, as the online advertising industry will certainly jump at the chance to create more direct interaction with consumers. Simultaneously, consumers themselves also see an opportunity to employ cutting-edge tech to make ads less invasive. For instance, 6 in 10 want to employ AI to block out online ads.

Speaking of AI, 42 percent think companies will use it to make intelligent advertising that knows exactly how to persuade us to buy things. On its own, that would leave people quite exposed to commercial exploitation. But at the same time, 6 out of 10 consumers expect to be able to use AI for price comparisons, thus helping them to select other suppliers.

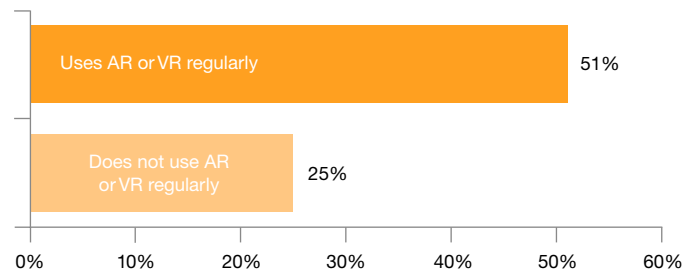
This could cause issues, with consumers becoming reliant on an electronic assistant for their purchases. For example, 57 percent of current intelligent voice assistant users would like an AI to help them with everyday shopping. But many already use a voice assistant that has been developed by an advertising company or retailer.

However, some believe the urge to provide compelling experiences might eventually cause ads to defeat their own purpose. Today, only a proportion of

consumers use premium versions of smartphone apps when free versions exist. However, ads using augmented reality (AR) and virtual reality (VR) will gain app-like functionality and could in essence turn into free versions of the products or services themselves. For this reason, more than half of current AR or VR users think ads will eventually replace the products being advertised. For example, you might experience a beach destination in a VR ad and realize you do not need the actual vacation anymore.

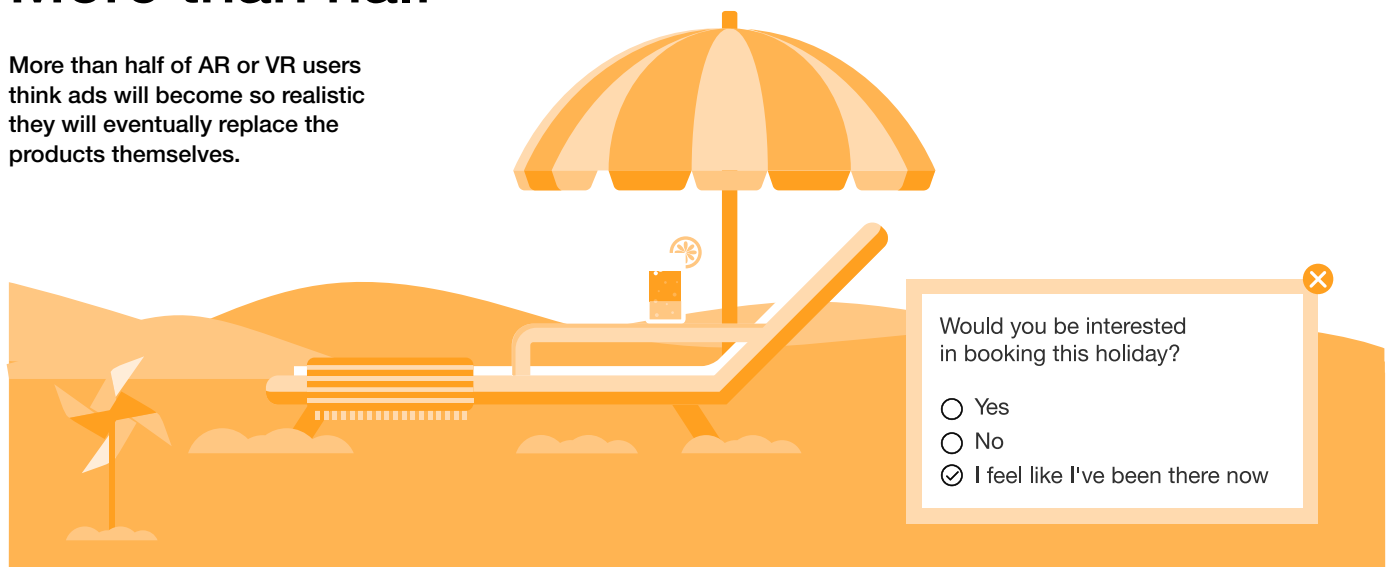
How much do you agree or disagree with the following statement?

Ads that use new technology such as augmented and virtual reality (AR and VR) could become so realistic that they replace the products that are being advertised

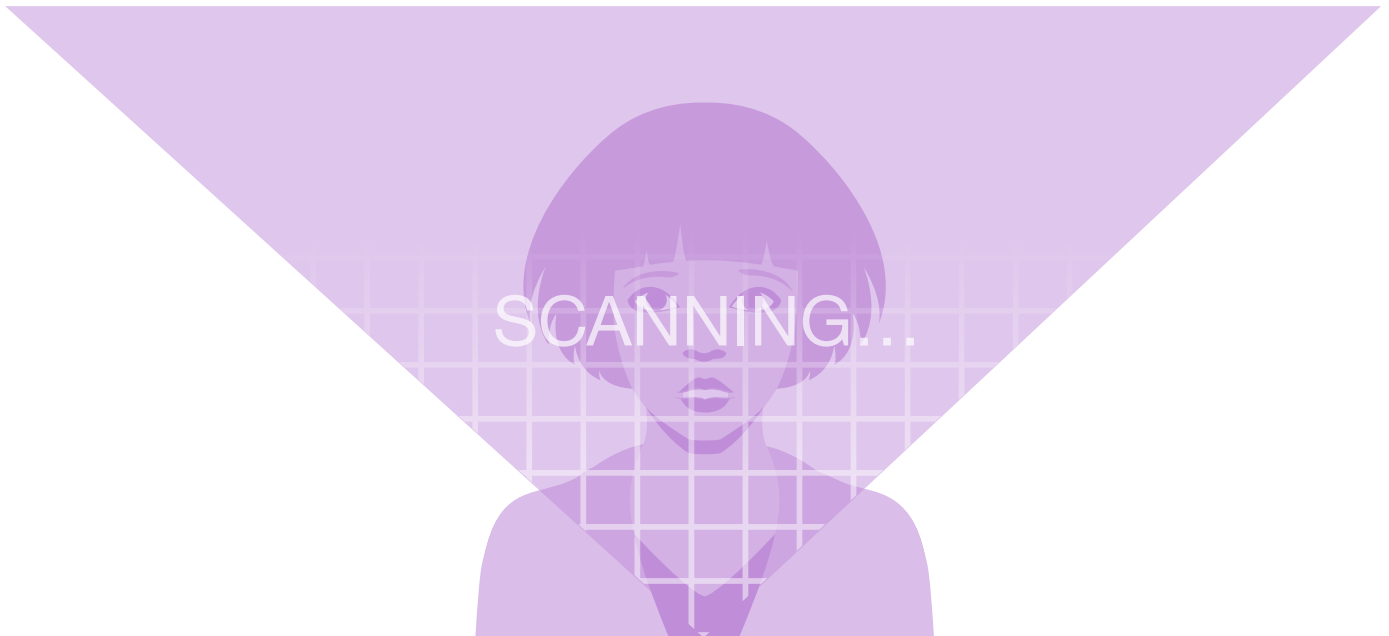


More than half

More than half of AR or VR users think ads will become so realistic they will eventually replace the products themselves.



#06 Uncanny communication



Machines that mimic human communication can make us feel surprisingly awkward.

One thing that we have all been practicing since the day we were born is communication with other humans. Obviously, this also makes us experts at knowing when an interaction, even a familiar one, is not quite human after all.

Although people quite easily assign human characteristics to toys, phones and pets, we can quickly become suspicious if the objects become too human-like. For example, some people who have visited the Madame Tussauds wax museum or any similar place might recall how their feelings shifted from wonder to dislike when looking at the figures on display. The fact that researchers are now creating AI-enabled robots that mimic human expression down to the slightest detail¹ may not necessarily improve our aversion to things pretending to be human.

A future where we move towards more direct communication with devices all around us will be full of pitfalls. Will machines communicate just like humans if they grow up communicating with us? Or will humans refuse to interact if machines become too similar to us?

In our research, 50 percent of respondents said that not being able to tell the difference between human and machine would spook them out. In other words, the feeling of uncertainty alone would be enough to create a negative reaction. This has implications for automation of some processes that are already well underway. For example, as many as one in three say they would avoid contacting companies that use intelligent robots in customer service.

Most likely, the smartphone is the first device that will expose consumers to these issues. Today, we already use biometric data, such as fingerprints or

even facial recognition, to unlock the screen. But if the smartphone were to use such information interactively, many will feel uneasy; almost half of consumers said they would be spooked out by a smartphone that constantly watches their face. And as many as 40 percent say that it would be spooky if their smartphone sees when they are happy, sad or bored and responds accordingly.

A natural instinct in such situations might be to try to hide your face. And indeed, one in three would like to wear glasses that make it impossible for facial recognition software in their smartphone or social network to recognize them.

If consumers were to develop such mistrust of their personal devices and communication services, they would also soon doubt similar technology used on a societal level. Thus, one in three would also like to wear glasses that make it impossible for surveillance cameras to recognize them.

¹ <https://www.wired.com/2017/10/hiroshi-ishiguro-when-robots-act-just-like-humans>

#07 Leisure society

Creating the freedom to engage in leisure may be more important than the need to preserve work.

One in five students and working people in our study believe robots will take their jobs before they retire. Some people certainly look to such a future with trepidation, whereas others may be looking forward to a day that is free from the boredom and stress of the daily work routine.

In any case, those who think robots will take over their jobs are outnumbered by the 32 percent who do not think they need a job to find meaningful things to do in life. Furthermore, almost 4 in 10 believe their hobbies may also develop into new sources of income. For this reason, it is rather likely that more people will face a situation where work and leisure become more intertwined and income is garnered from many different sources.

At the core of this is of course the strong tie between work and income. If that connection is severed, more people would be willing to forgo work. In our research, 49 percent said they are in fact interested in a universal basic income, and as many as 1 in 3 think

it is OK to not have a job as long as their economic situation is not hurt.

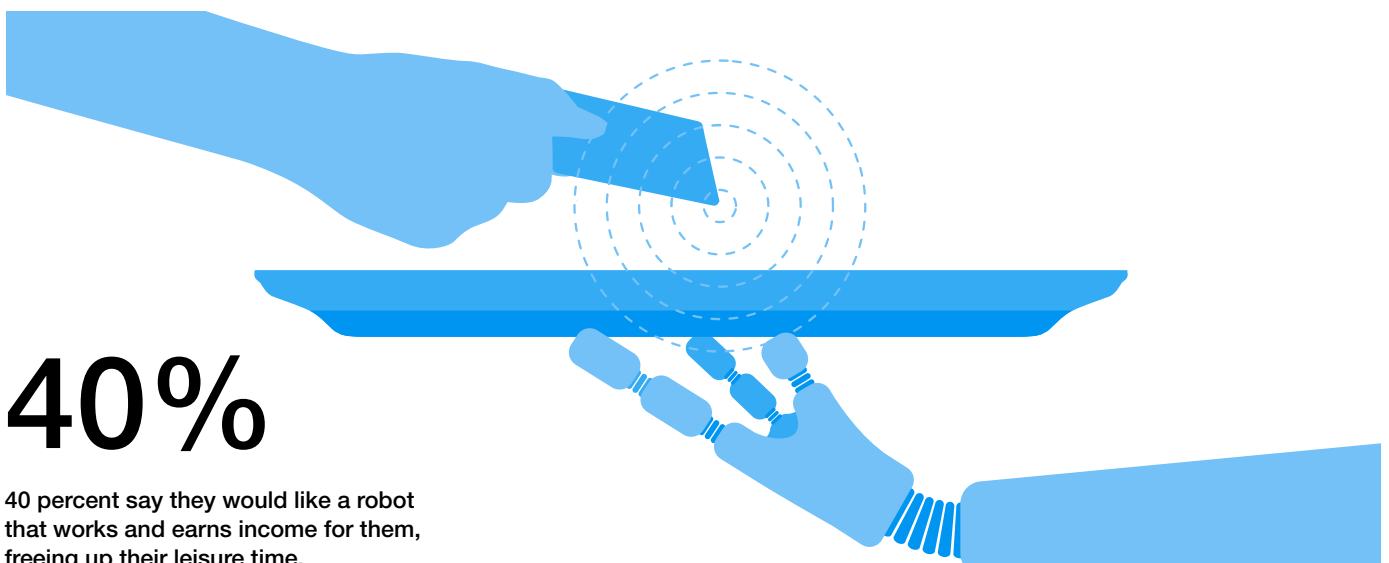
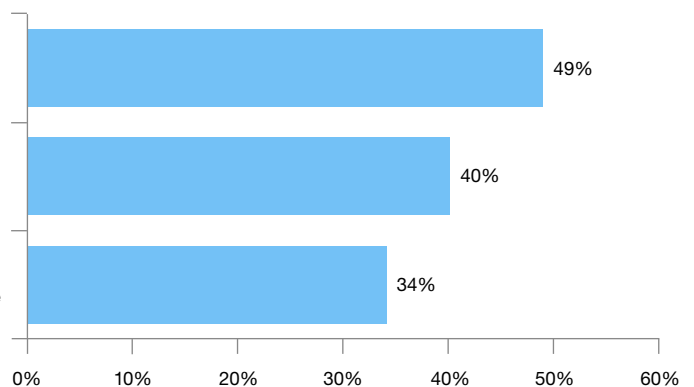
But is it realistic to believe that income will be separated from work? The alternative may be to have robots work for you rather than having them take your job. An example could be a taxi driver who would rather manage a few self-driving taxis than drive himself. Forty percent say

they would indeed like a robot alter ego that works and earns income for them.

But both of these scenarios would lead to fewer humans actually working. Are we then heading towards a leisure society? In fact, one in three would like having everything handled by intelligent robots, giving them all the free time they could ever want. And almost a quarter of respondents even see a future where intelligent robots take control of everything.

What would be your interest in the following?

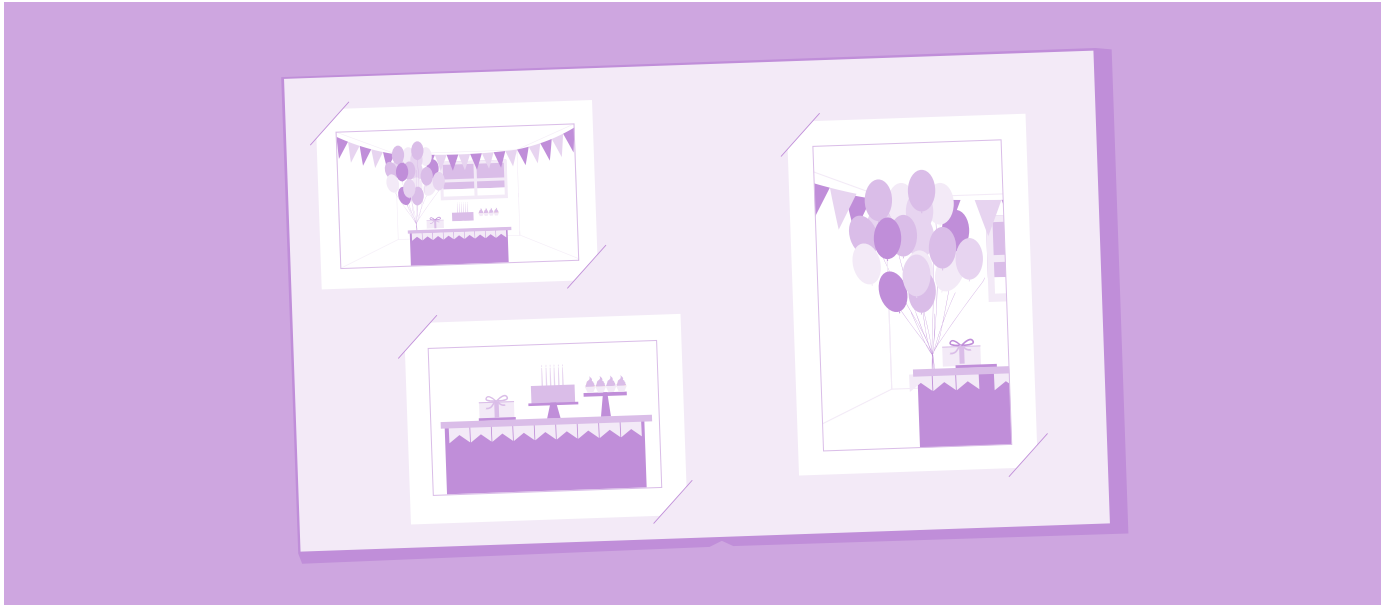
- A universal basic income, meaning that you get a monthly salary whether you work or not
- A robot alter-ego that goes to work for you and earns an income for you
- Having everything in your life handled by intelligent robots, giving you all the free time you could ever want



40%

40 percent say they would like a robot that works and earns income for them, freeing up their leisure time.

#08 Your photo is a room



Our photos are memories we have captured to revisit time and again, but they may be turning into rooms we can freely walk around in.

Smartphones are the most popular cameras ever. Not because they are necessarily the best quality, but because they are always there when you need them. When that memorable moment suddenly happens, the smartphone is with you.

For this reason, our memories have changed from physical photo albums stowed away in a cabinet, to digital albums on our smartphones. However, new technologies such as light field photography are changing the nature of photos themselves, and we will soon be able to revisit our memories from more angles than a flat picture frame allows.

Three out of four consumers believe taking photos at events such as weddings or birthdays and revisiting them in VR as if you were one of the guests will be commonplace in only

five years. As many think we will also do this on holiday and at parties by then.

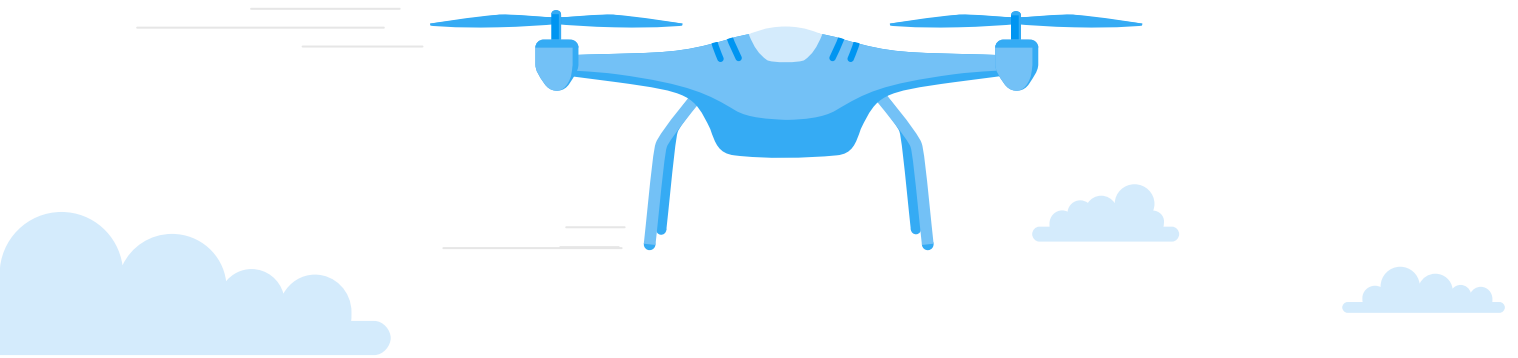
In order to do this, one in two already want a smartphone camera that lets you capture everything around you in 3D. Those who are currently using AR or VR have a higher level of interest in this area, with 56 percent even wanting contact lenses with built-in AR or VR functionality.

But if photos become rooms, consumers will also need to be able to manipulate objects in these rooms. In this light, it is not a big surprise that as many as 55 percent of those currently using AR or VR would also like gloves or shoes that allow you to interact with virtual objects.

3 out of 4

Three out of four believe that in only five years they will use virtual reality to walk around in smartphone photos.

#09 Streets in the air



City streets are getting so crowded that citizens are looking to the skies for relief.

Urbanization keeps accelerating, as cities become increasingly powerful drivers of the global economy. But whereas cities not only contain the majority of the earth's population, and consume an even higher proportion of its natural resources, cities in fact only occupy one percent or less of the land area worldwide.¹ Cities are, in other words, extremely space-challenged places.

Yet, from the perception of space, cities seem to be inhabited by people who have not realized there is a third dimension; apart from a few airplanes, the skies above are mostly empty.

But as city populations continue their extensive growth, this might change. Already today, 39 percent think their city is so congested that it needs a road network in the air for drones and flying vehicles.

Obviously, city dwellers recognize that new layers of streets in the air would cause some disturbances in airplane traffic, and would also increase overall street noise. But an even bigger concern, voiced by 38 percent, is the possibility of drones actually falling on their heads.

Hence, there would need to be a way of knowing where drones fly, so that citizens could take similar precautions as when they cross streets on the ground. Therefore 55 percent of current AR or VR users would like an AR smartphone app that visualizes these air corridors.

The fact that 4 out of 10 respondents are interested in using flying taxis might reveal more about current frustration levels among city dwellers than it does about the most economically viable type of transport.

A more potentially likely near-future scenario may be that competition to increase the delivery speed of consumer purchases takes to the air. For example, almost half of respondents want drones that deliver takeout food so quickly that the dishes are still hot when they arrive. Given the extreme environment of the world's largest cities, this could happen quicker than you might imagine. In fact 77 percent think most online retailers will use drones in order to minimize delivery times in only 5 years.

39%

39 percent think their city needs a road network for drones and flying vehicles.

38%

38 percent worry a drone would fall on their head.



¹ <https://www.pwc.nl/en/topics/megatrends/urbanisation.html>

#10 The charged future

A connected world will require mobile power. Keeping the power flowing will be as critical as maintaining connectivity; if either goes down, instant disruption will ensue.

There are of course many aspects to how we will power our hyper-connected lives. Sustainability of resources might be one reason why consumers now rate electricity as the most popular energy source – 48 percent even think electricity should power airplanes.

Another aspect is convenience, which could explain why consumers have high expectations of batteries. Fifty-six percent of advanced internet users expect smart battery technology to fundamentally change how we power everything from phones to cars.

For many consumers, their smartphone's battery doesn't last a day without dying, and 71 percent want long-lasting batteries that they don't need to worry about charging. The same percentage of respondents also want batteries you can fully charge in minutes, just in case.

Consumers have been asking for batteries such as these for years, but now more than 80 percent of respondents believe they will be mainstream in only 5 years. One in two even thinks charging batteries using radio signals in the air around us will be commonplace in only three years.

It might be the renewed focus on electricity in general, and electric cars in particular, that makes people believe innovation in battery technology will pick up speed. As many as 63 percent want electricity to power cars, whereas only 33 percent prefer either oil or gas. Still, one in three believes fuel cars will not easily be replaced, indicating that there could still be some speed bumps ahead on the road to a fully charged future.

56%

56 percent of advanced internet users expect smart battery technology to change how we power everything from phones to cars.



Ericsson is a world leader in communications technology and services with headquarters in Stockholm, Sweden. Our organization consists of more than 111,000 experts who provide customers in 180 countries with innovative solutions and services. Together we are building a more connected future where anyone and any industry is empowered to reach their full potential. Net sales in 2016 were SEK 222.6 billion (USD 24.5 billion). The Ericsson stock is listed on Nasdaq Stockholm and on NASDAQ in New York.

Read more on www.ericsson.com