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CONSUMERLAB

10 HOT CONSUMER TRENDS 2017

An Ericsson Consumer Insight Summary Report
December 2016

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CONTENTS

METHODOLOGY

The insights in this report are mainly based on an online survey of 7,138 advanced internet users in Berlin, Chicago, Jakarta, Johannesburg, London, Mexico City, Moscow, New York, San Francisco, São Paulo, Shanghai, Sydney, Tokyo and Toronto that was carried out in October 2016.

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 fitness trackers, smart watches and virtual reality headsets.

Correspondingly, they represent only 27 million citizens out of the well over 200 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.

Some trends also rely on insights from other studies that have been conducted by Ericsson ConsumerLab during 2016. When such data has been used, source information is given separately on each page.

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 representatives throughout Ericsson's global presence, developing an international understanding of the ICT market and business models.

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

TRENDS 2017: REALITY TIME

The internet has shifted from being a predominately text-based source of information to one that is comprised of 70 percent video traffic. This is no wonder, since our brains are hardwired to understand the world graphically. For example, a study from MIT says we only need 13 milliseconds to identify an image.[1] That is about 10 times faster than we are able to move our eyes.

Ericsson ConsumerLab research shows that online video consumption is rising every year. Video is also viewed increasingly on the move and in real time, with video calls, online games and live event broadcasts. Recently, we have also seen user generated real-time broadcasts moving into the mainstream, for example with Facebook Live.

Going beyond real time, several of the trends for 2017 point towards everything around us increasingly being interpreted as moving images. Cars start understanding the world graphically when they become autonomous, as do many artificial intelligence (AI) powered robots and Internet of Things (IoT) applications.

This means that rather than just real time, we should start talking about reality time.

40% of advanced internet users would like a computer with VR/AR as its main interface

Virtual reality (VR) is currently the fastest growing form of video traffic, with Cisco predicting that it will grow 61-fold between 2015 and 2020.[2] When video literally means the world, computing power will be directed at our visual cortex rather than our fingertips.

VR and augmented reality (AR) are key features of the major Q1 2017 update to Microsoft Windows 10. And in fact, more than 40 percent of advanced internet users we have surveyed would like a computer with VR/AR as its main interface.

But our research clearly indicates that these technologies must be truly mobile to become popular. As an early VR adopter complained to us: "I have wires coming out of my head." Wires simply must go. At the same time, 70 percent do not want to worry about charging mobile device batteries all the time.

Hence, as consumers increasingly rely on IoT devices, and begin moving within VR/AR – and in autonomous, AI controlled cars – demand for battery-friendly, high speed, near-zero latency connectivity is set to grow rapidly.

Reality time means it is time for 5G networks.

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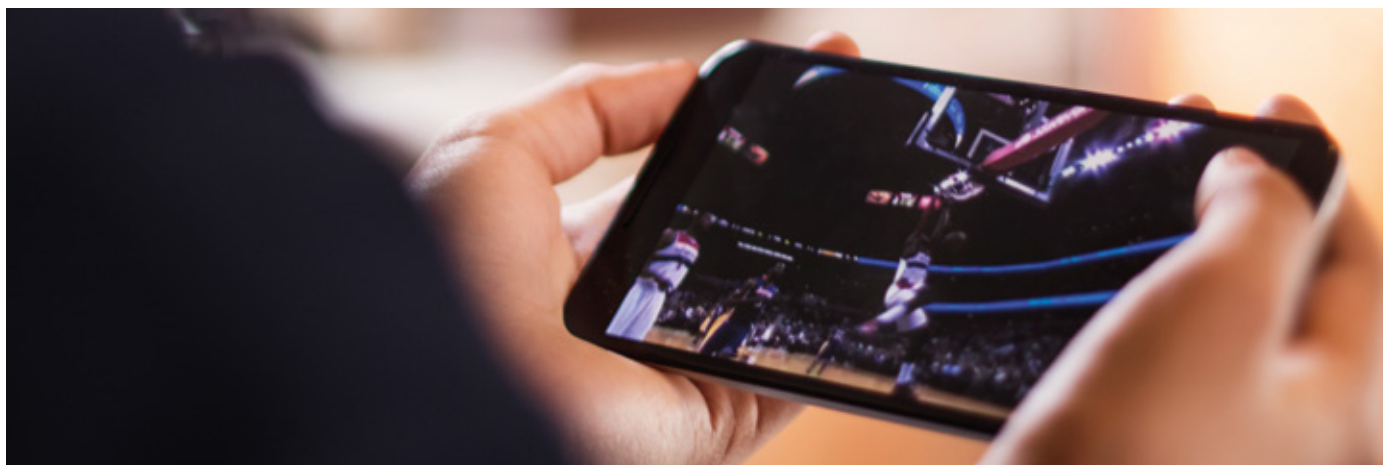
[1] news.mit.edu/2014/in-the-blink-of-an-eye-0116
[2] Cisco Visual Networking Index: Forecast and Methodology, 2015–2020 White Paper, Cisco, 2016

1. AI EVERYWHERE

The idea that a manmade creature could gain awareness has been around for a very long time – it can be seen in folklore about anthropomorphic golems, and AI sci-fi stories, for example. In modern science, the idea of creating a digital brain was already around in the 1940s.

Today, AI research and development is booming all over the world, from Tokyo to San Francisco. And stories about how AI can help us build a flourishing society or – at the other end of the spectrum – instill fear through the rise of the machines, are seen everywhere in media.

But AI is no longer a sci-fi story. Today AI technology has many applications. It is behind the recommendations that streamed media services make based on consumption habits, in the assistants in our phones and as advisors in areas such as healthcare and legislation. And consumers believe it is here to stay.

More people want an AI advisor at work than those who do not

Not only do advanced internet users want assistants to support their daily life, they also see that AI could help the companies they work for. More people want an AI advisor at work (35 percent) than those who do not (24 percent). And even though more than two in five are against it, almost one in four would even like an AI as a leader of a company.

But while consumers see possibilities with AI, they also worry about risks; almost half of respondents are concerned that AI robots will soon make a lot of people lose their jobs.

Almost half are concerned that AI robots will soon make a lot of people lose their jobs

Still, if you can't beat them, join them. A third would rather technologically enhance their own intelligence than rely on an AI assistant, and almost as many want to upload their minds to the internet and become AIs themselves. While that may or may not become possible, the very thought points to an existential dilemma consumers are already starting to face.

Having AI as a separate trend makes sense as people now see AI spreading. At the same time, many of the other trends contain AI aspects – further evidence that AI is everywhere.

Figure 1: Consumer willingness to interact with AI in different contexts
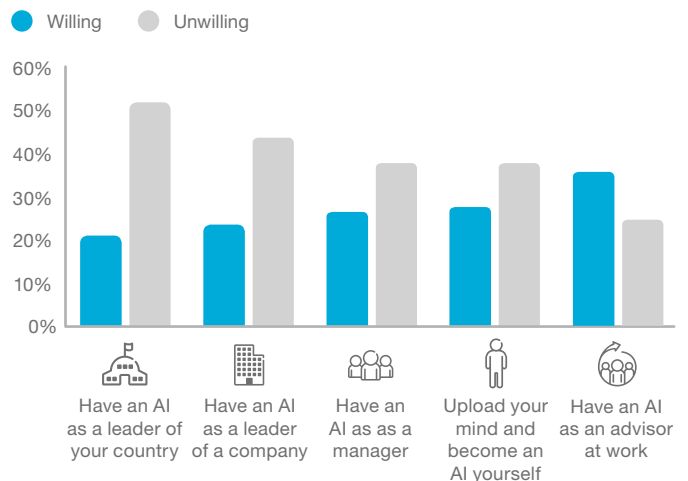
Source: Ericsson ConsumerLab, 10 Hot Consumer Trends 2017, 2016
Base: 7,138 advanced internet users aged 15–69 in Berlin, Chicago, Jakarta, Johannesburg, London, Mexico City, Moscow, New York, San Francisco, São Paulo, Shanghai, Sydney, Tokyo and Toronto
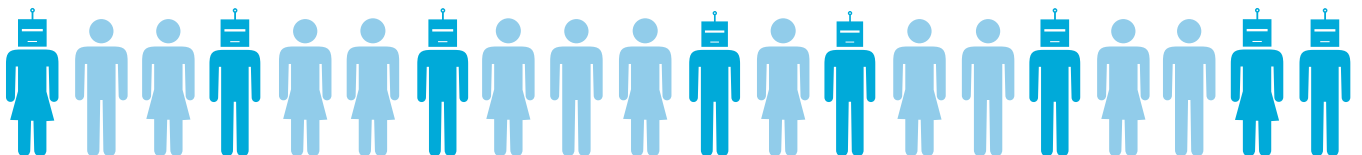
2. SETTING THE PACE FOR INTERNET OF THINGS

IoT is rather abstract and may be difficult for consumers to relate to. But as they increasingly use automated applications, they are gradually discovering how IoT can support their needs. In this way, consumers set the pace for IoT adoption.

Many already have apps on their smartphones that remotely control media playback, house alarms and even unlock cars or steer drones in flight. Smartphones may also be key to IoT beyond the remote control paradigm.

A large majority believe multiple wearables and sensors will help them interact with other devices and physical things around them

As two in five advanced internet users believe their phones will soon learn what we do and perform activities for us automatically, smartphones could soon interact with a wealth of other devices on our behalf.

One in two smartphone owners believes they will be able to talk to household appliances.[3] Furthermore, almost three in four believe multiple wearables and sensors will help them interact with other devices and physical things around them.[4]

Having some tasks performed by IoT could free up our time

Although a future full of machines performing the same activities as humans may seem cold and sterile, the opposite may also be true. Almost half of smartphone owners surveyed say they spend too much time in front of computer and smartphone screens, and just as many say they also have family members with the same issue. Having some tasks performed by IoT instead could free up our time.

Here is your ticket, sir.

TICKETS

12:01

Two in five believe smartphones will learn their habits and perform activities on their behalf automatically

3 10 Hot Consumer Trends 2016, Ericsson ConsumerLab, 2015
4 Wearable Technology and the Internet, Ericsson ConsumerLab, 2016

3. PEDESTRIANS DRIVE AUTONOMOUS CARS

A quarter of pedestrians would feel safer crossing a street if all cars were autonomous

If you read the news, self-driving car technology seems to be developing at a rapid pace. Not only are major manufacturers promising autonomous drive functionality within only a few years, Tesla is already installing (albeit not yet enabling) full self-drive capability in all cars.[5]

As autonomous cars will ultimately make drivers extinct, we need to shift perspective away from drivers when talking about the future car market. Since it is predicted that autonomous driving could make car sharing the basic mode of transportation[6], taking the perspective of car owners also seems uncertain. Furthermore, although the passenger perspective remains valid, a lot of traffic today is about transporting goods rather than people. Therefore, the most valid consumer perspective in traffic might actually be that of the pedestrian. When crossing a street, pedestrians are more vulnerable than other traffic subjects.

For this reason, one in four pedestrians would already feel safer today if all cars were autonomous.[7] And 65 percent of those who say so would also very much prefer to have an autonomous car rather than one they have to drive themselves.

Interestingly, many advanced internet users also want self-drive functionality when walking. Two in five want their phone to warn against obstacles, and one in three even wants street signs and lights embedded in pavements. It won't save lives, but at least it could help pedestrians avoid bumping into each other because their eyes are locked onto their smartphone screen.

One in three wants street signs and lights embedded in pavements

[5] www.cnbc.com/2016/10/20/tesla-fully-self-driving-car-watch-video-could-pick-you-up-from-across-the-country.html
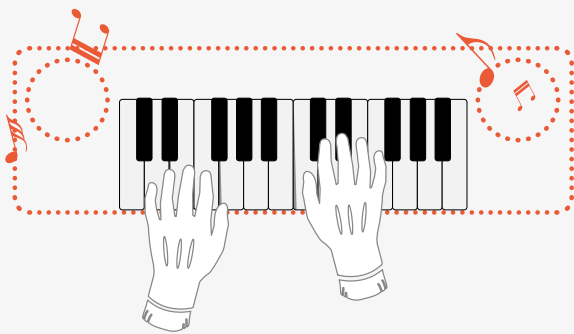[6] www.govtech.com/transportation/Driverless-Cars-Could-Reduce-Traffic-by-80-percent.html
[7] 25, 329 smartphone users in 17 countries, Ericsson ConsumerLab, 2016

4. MERGED REALITY

Half of respondents are already interested in gloves or shoes that allow you to interact with virtual objects

Although VR and AR today are still focused on gaming, our research shows that people want to use such technologies for more everyday activities. But for such broader use, they express a strong need for physical, virtual and augmented realities to merge into one seamless reality.

People express a strong need for physical, virtual and augmented realities to merge into one seamless reality

Just like internet use has become inseparable from many physical activities, the same may happen with VR and AR. For example, early adopters who have played table tennis in a room-scale VR environment have come to realize that in the not-so-distant future, the table tennis world champion and the table tennis VR champion may be the same person.

However, early VR adopters say that the mixed reality experience of today creates contradictions by not being merged with the real world. VR lets users go anywhere in virtual worlds, but by blocking the physical view, it makes it near impossible to go anywhere in the real world. VR also isolates users in experiences that need to be shared with friends in the real world to fully enjoy. Although VR and AR now offer up fantasy, making the everyday more fantastic is what consumers are really seeking.

In this sense, consumers need a more coherent experience, and many in fact believe a merged reality will happen soon. Almost four out of five of those who use both fixed and mobile VR believe these experiences will be indistinguishable from physical reality in only three years. Furthermore, three in five of them already consider online meetings to be like meetings in real life, while less than a third of non-VR users think so. Half of the respondents are also interested in gloves or shoes that allow you to interact with virtual objects as if they were part of the physical surroundings

It actually makes a lot of sense to compare it to how the internet has already become inextricably embedded in shopping, media use, social interaction, leisure, work and learning. In fact, four out of five of those who use both fixed and mobile VR think both VR and AR will be used as commonly as the internet in only three years.

Almost four out of five VR users believe VR will be indistinguishable from reality in only three years

5. BODIES OUT OF SYNC

When trains started to appear in the late 1820s in England, prospective passengers worried that the human body was simply not built to withstand movement at such incredible speeds – around 15 miles per hour at the time. In fact, some even thought it would not be possible to breathe. Although they were completely wrong in the details, they were intriguingly right in a more abstract sense. When inside vehicles, our brains are easily confused when some senses detect movement while others don't. So even with 200 years of motorized transportation, we still get car sick; in fact one in five feels nausea in cars or buses every week, even today.

Consumers believe car sickness will become even worse with autonomous cars. When we all become passengers, we will want to read, watch movies, join in video conferences and more while on the road. Hence, as many as 3 in 10 foresee using car sickness pills in autonomous cars.

As many as 3 in 10 foresee using car sickness pills in autonomous cars

But car sickness is no longer just about the car. As we are now starting to move in alternate realities, we begin fooling our senses in new ways. Among early adopters of VR, for example, motion sickness experiences are very common, and people are trying to find their "VR legs" just like sailors had to find their sea legs.

Consequently, one in three survey respondents said they want VR/AR motion sickness pills. In fact, more than half of those who use both fixed and mobile VR even say it is acceptable for parents to give children such pills.

One in five feels nausea in cars or buses every week, even today

Humans continue to want to do more things, and technological remedies to help our bodies adjust will multiply. As an example, two out of five want implants that adjust blood values, oxygen, enzymes and hormones to help the body adapt to sports, work and other activities.

A third want motion sickness pills for use with VR and AR technology
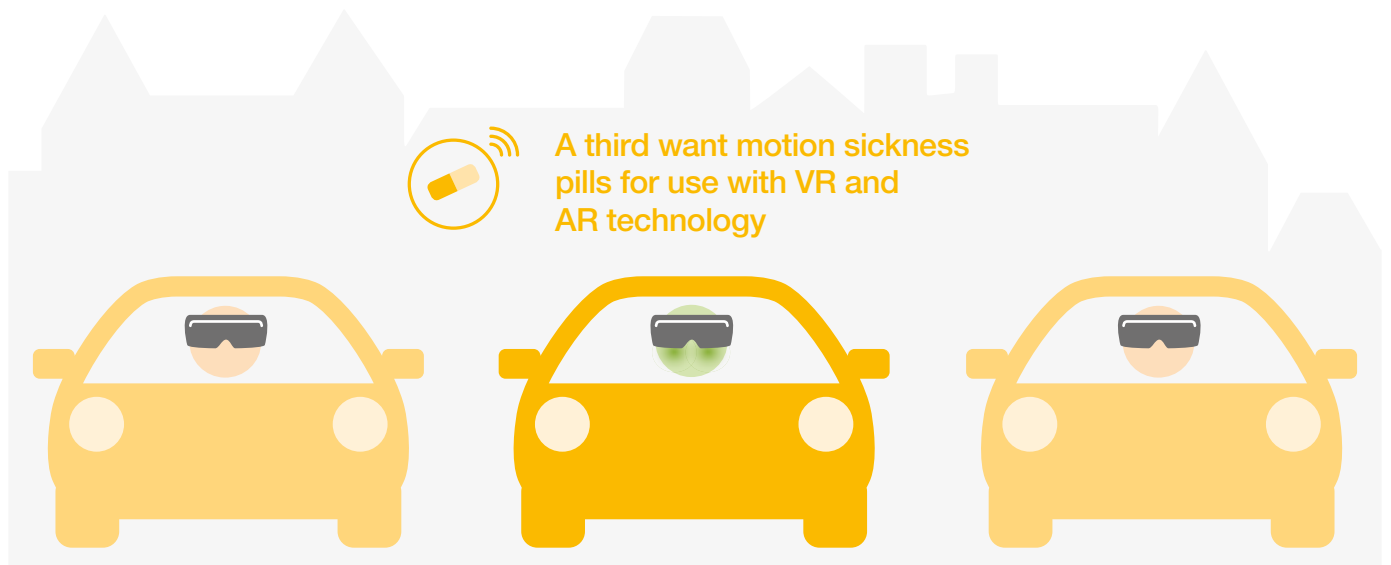
6. THE SMART DEVICE SAFETY PARADOX

Consumers increasingly rely on their devices to help them out of dangerous situations

Nowadays, we take our phones everywhere we go. If we get lost we can call, text, look up information on the internet or navigate using GPS – all with our phones. For example, more than half of smartphone users already use emergency alarms, tracking or notifications on their smartphones. Another three in five have emergency contacts stored in their phone.

But what happens if you lose your phone while still looking for your destination? Or you have an accident in a remote area of town while your phone is not charged?

In many ways the basic features of your smartphone can make you safer – and around two in five citizens in five major cities surveyed agree.[8] But here's the paradox: three in five of those who say so take more risks because they rely on their phone to keep them safe.
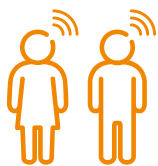
One in three smartphone users believes they will wear at least five wearables beyond 2020

The smartphone may just be the starting point. As it happens, one in three smartphone users believes they will wear at least five wearables beyond 2020. Not only that, but three out of five smartphone users are confident that wearables will have uses beyond health and wellness.[9] The next area of interest is in safety and security, such as items like panic buttons, smart locators and identity authenticators.

**Three in five of those who think their phone makes them safer take more risks**

Given current behavioral tendencies, reckless behavior could greatly increase in only a few years' time. Consumers increasingly rely on their devices to help them out of dangerous situations rather than trying to avoid ending up in such situations in the first place.

[8] Public Safety Goes Personal, Ericsson ConsumerLab, 2016
[9] Wearable Technology and the Internet, Ericsson ConsumerLab, 2016

7. SOCIAL SILOS

For some time, search and social network algorithms have been accused of hindering users from coming across news and information beyond their own interests. This limits users' chances of being exposed to opposing ideas, which will also limit people from getting a diversified view of the world.[10]
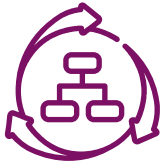
Social networks increasingly separate different groups in closed-off social silos

But, it is, in a way, more shocking that people take steps to achieve the same effect even when algorithms won't do the trick. In an increasingly globalized world, it may feel good to know that there are many like-minded people around, creating so-called echo chambers where groups repeat and amplify similar ideas. The combined effect is that rather than connecting people all over the world, social networks increasingly separate different groups in closed-off social silos.

More than a quarter values their contacts' opinions more than politicians' viewpoints

One out of three states that social networks are their prime source of news

As many as one out of three states that social networks are their prime source of news, and only one out of four thinks that established news channels and newspapers can always be trusted to be accurate. In fact, 28 percent say that their contacts are a more reliable source of information than what is said on TV, radio and in newspapers. This line of thinking extends to political views as well. More than one in four thinks their contacts' opinions are more important than what politicians say. And nearly half of those who say so are willing to have an AI as a political leader, pointing to a lack of trust in society.
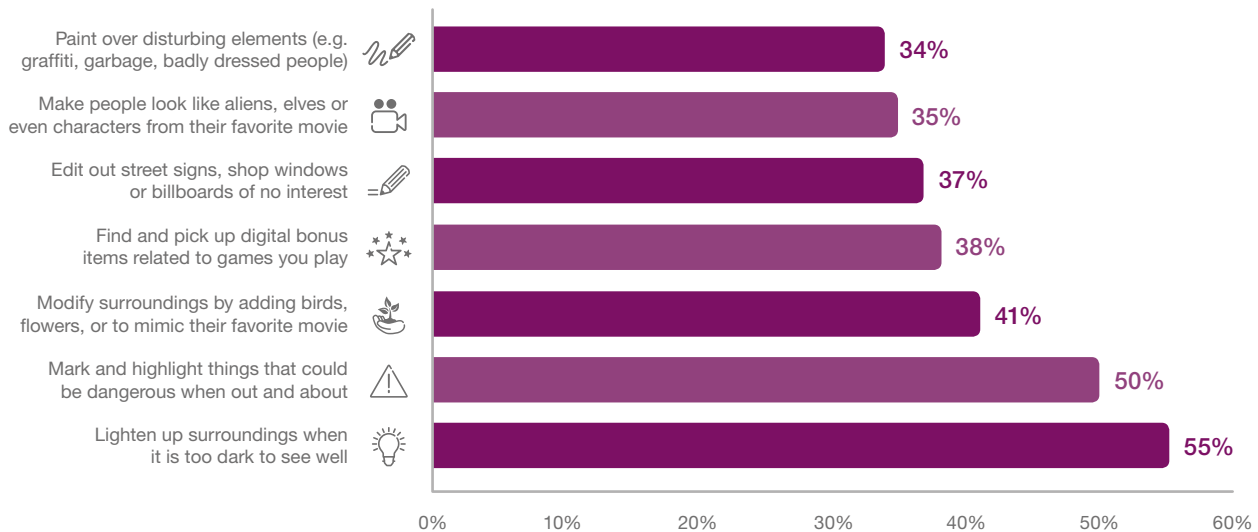
Half of those who value contacts' opinions over those of politicians would be willing to have an AI as a political leader

Going forward, there is a risk that the walls of these social silos will become ever more impenetrable, as one out of four on a weekly basis continues to un-friend people or refuse invites on social networks because of the other person's opinions.

[10] Pariser, Eli. The Filter Bubble: What the Internet Is Hiding from You, (New York, May 2011)

8. AUGMENTED PERSONAL REALITY

Figure 2: Consumer interest in different applications for AR glasses

Application	Percentage
Paint over disturbing elements (e.g. graffiti, garbage, badly dressed people)	34%
Make people look like aliens, elves or even characters from their favorite movie	35%
Edit out street signs, shop windows or billboards of no interest	37%
Find and pick up digital bonus items related to games you play	38%
Modify surroundings by adding birds, flowers, or to mimic their favorite movie	41%
Mark and highlight things that could be dangerous when out and about	50%
Lighten up surroundings when it is too dark to see well	55%

Source: Ericsson ConsumerLab, 10 Hot Consumer Trends 2017, 2016
Base: 7,138 advanced internet users aged 15–69 in Berlin, Chicago, Jakarta, Johannesburg, London, Mexico City, Moscow, New York, San Francisco, São Paulo, Shanghai, Sydney, Tokyo and Toronto

In early 2016, few consumers knew what AR was and even fewer had tried it out. But in the course of just a few weeks, AR became the talk of the whole world, with hundreds of millions of people hitting the streets to play Pokémon GO. The story of Pokémon GO really proves that a new technology can become mainstream overnight.

Now consumers want to use that same technology to customize their very experience of reality. We are already accustomed to receiving personalized search results, media feeds, advertising and even spam. We can also customize settings on everything from phones to cars, but this may be just the beginning.

The majority would like to use AR glasses to illuminate dark surroundings and highlight dangers

For example, the fact that more than half of advanced internet users would like to use AR glasses to light up dark

surroundings in order to highlight potentially dangerous people approaching may not be surprising. But more than one in three would also like to edit out disturbing elements around them, such as graffiti, garbage, or even badly dressed people. At least as many would like to erase street signs, uninteresting shop windows and billboards. This could be a real nightmare to brands that do not manage to capture consumer imaginations – they might simply be wiped from view for good.

Although this changes the fundamental way we perceive reality around us, it doesn't stop there. Instead consumers want to use AR to change the world into something that reflects their own personal moods. Around two in five want to change the way their surroundings look and even how people appear to them.

Almost as many would like to have AR glasses that let you find and pick up digital game items, like in Pokémon GO. It is very likely that this will not be the only game to become integrated in people's physical reality.

More than one in three would like to edit out disturbing elements around them

9. THE PRIVACY DIVIDE
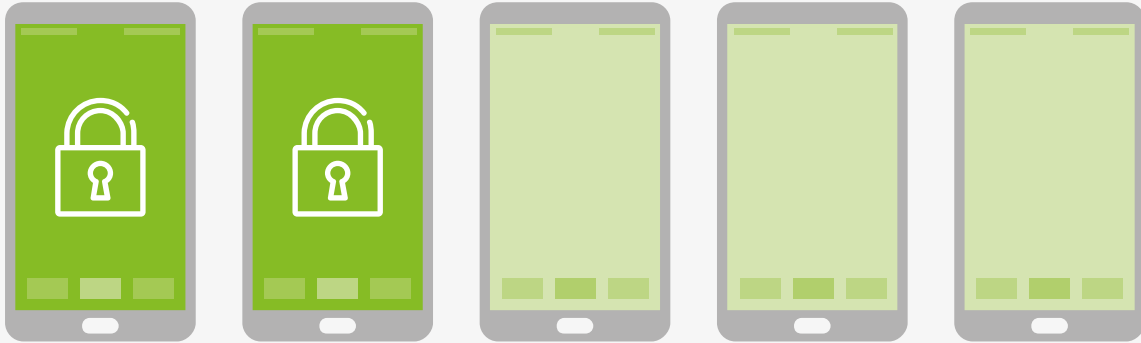
Two in five want to use encrypted services only. Another 46% say they need the encrypted protection these services offer

Although privacy has been debated for some time, the heat of the debate is only set to increase. Some people only want to use encrypted services, whereas others believe that all encryption can be hacked and the idea of privacy no longer exists.

Most major messaging apps now offer end-to-end encryption and some even have it as the default setting. This is good news to many, as two in five want to use encrypted services only. Another 46 percent say they really need the encrypted protection these services offer.

But consumers are divided over this. One in three advanced internet users believes that governments should be able to access any personal data including their own, in order to fight crime and terrorism. And 45 percent think that companies should always comply when authorities ask for data about their customers for such purposes.

One in three believes that governments should be able to access any personal data in order to fight crime and terrorism

In fact, almost half of advanced internet users would like to just have reasonably good privacy across all services. Reasonable privacy can be difficult to define. It might be more about the feeling of control, as three in five just want a notification if someone eavesdrops.

And who are we protecting our information from? Given that more than half do not know what tracking information their devices send to various companies or what it is used

for, it seems that those who provide you with the best encryption also collect the most information about you.

This might explain the loss of faith in privacy. Shockingly, more than one out of three believes privacy is over, and that in the future, all information about people, organizations and governments will be available publicly.
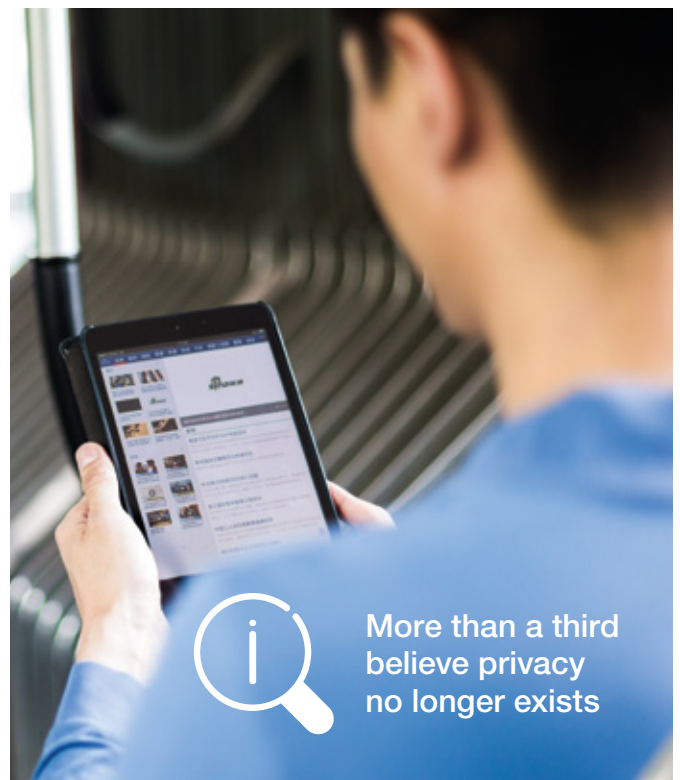
More than a third believe privacy no longer exists

10. BIG TECH FOR ALL

When the morning bus is late, commuters routinely consider alternatives – take the train, use an app to share a taxi, commute digitally? As a result, consumers easily make comparisons across industries that companies may not have considered. The internet is opening up the ability for people to compare almost anything.

As a consumer, if you give Google your position, Google helps you find the quickest way to the supermarket. Similarly, if you give the supermarket your position, you may want it to show you the quickest way to the product shelf you are looking for.
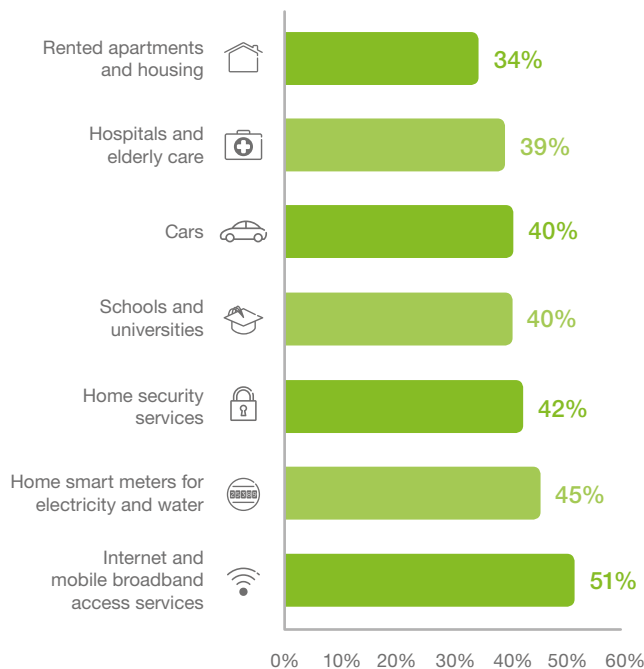
More than two out of five are interested in having the biggest IT companies provide them all the products they need

Hence, more than two out of five advanced internet users are interested in having the biggest IT companies provide them all the products they need, across all types of product categories – from care to cars.

As a result, traditional companies need to reinvent themselves as IT companies very quickly. In fact, three in four advanced internet users who are open to the idea believe the biggest five companies will provide all products they need in only five years' time.

Given that almost half think such IT companies know more about them than anyone else, these companies may indeed be better positioned to develop new products and services. However, such intimate consumer knowledge could also become an integrity concern and backfire: two in five advanced internet users today already would pay to ensure personal data is never used without their consent.
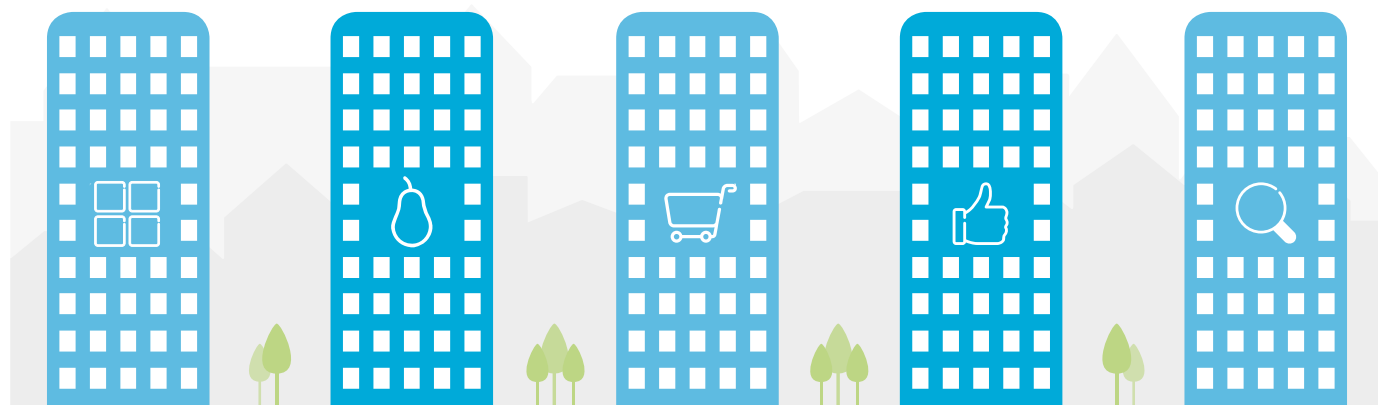
Figure 3: Percentage of consumers who are very interested in the biggest five IT companies providing different services

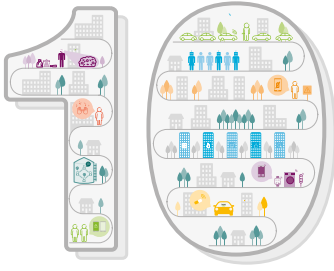| Service	Percentage
Rented apartments and housing	34%
Hospitals and elderly care	39%
Cars	40%
Schools and universities	40%
Home security services	42%
Home smart meters for electricity and water	45%
Internet and mobile broadband access services	51%

Source: Ericsson ConsumerLab, 10 Hot Consumer Trends 2017, 2016
Base: 7,138 advanced internet users aged 15–69 in Berlin, Chicago, Jakarta, Johannesburg, London, Mexico City, Moscow, New York, San Francisco, São Paulo, Shanghai, Sydney, Tokyo and Toronto
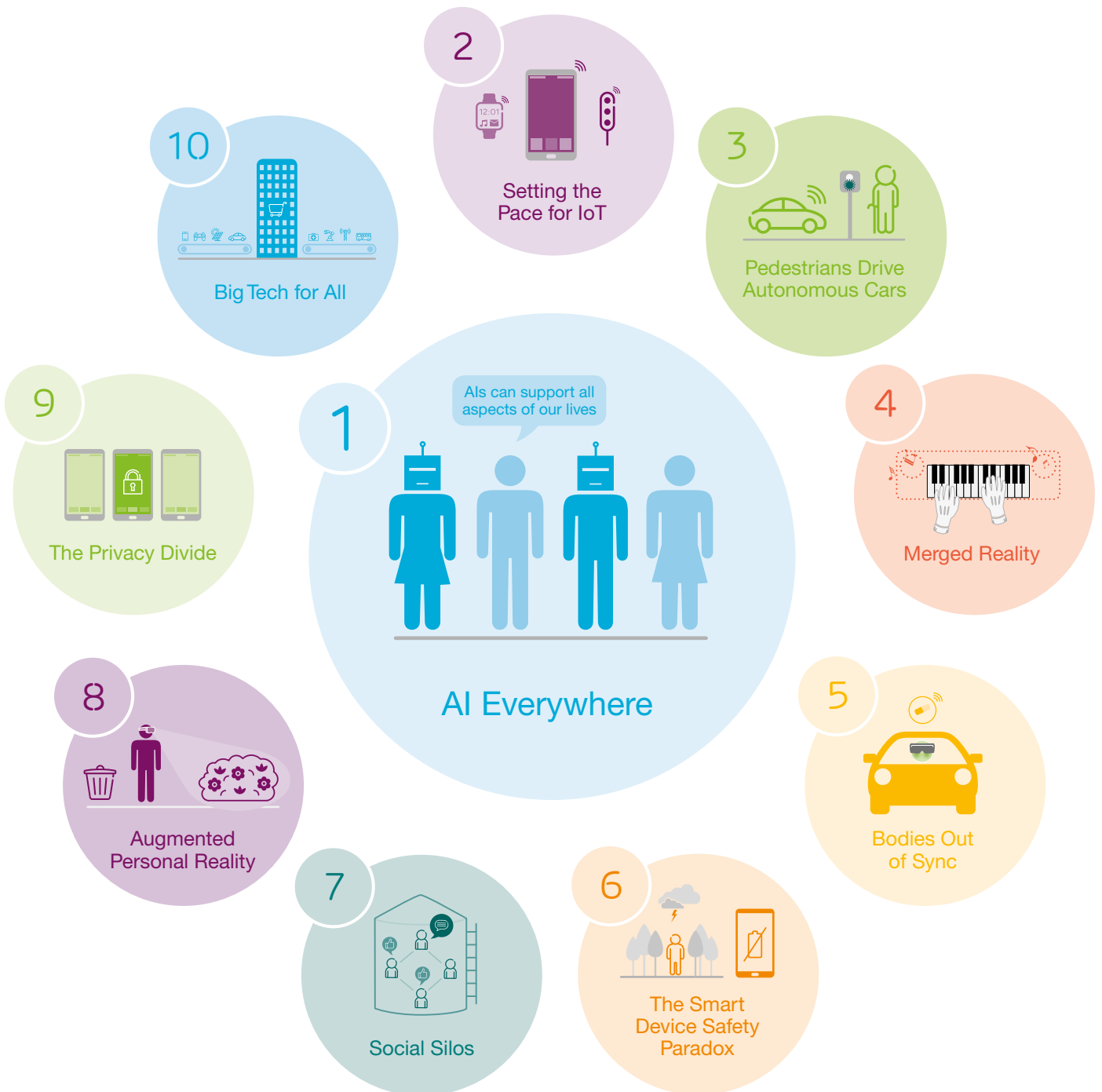
Almost half think big IT companies know more about them than anyone else

10 HOT CONSUMER TRENDS 2017

2 Setting the Pace for IoT

3 Pedestrians Drive Autonomous Cars

10 Big Tech for All

9 The Privacy Divide

1 AIs can support all aspects of our lives

AI Everywhere

4 Merged Reality

8 Augmented Personal Reality

5 Bodies Out of Sync

7 Social Silos

6 The Smart Device Safety Paradox

1. AI Everywhere

AI is spreading beyond assistants – actively influencing people's daily lives and workplaces

2. Setting the Pace for IoT

Consumers are increasingly using automated applications, influencing overall IoT adoption

3. Pedestrians Drive Autonomous Cars

Autonomous cars could replace drivers – and pedestrians say this would make them feel safer

4. Merged Reality

Advanced VR users think virtual, augmented and physical reality will fully merge in only three years' time

5. Bodies Out of Sync

As autonomous cars and virtual and augmented reality become more common, consumers see motion sickness increasing

6. The Smart Device Safety Paradox

Phones help keep us safe, but consumers take more risks because they rely on smart devices

7. Social Silos

People turn their social networks into silos, limiting their exposure to opposing ideas

8. Augmented Personal Reality

Consumers want to use AR to customize the way the world looks around them

9. The Privacy Divide

Some people only want to use encrypted services, but others believe privacy no longer exists

10. Big Tech for All

Most advanced internet users believe that in five years they will buy everything from the biggest five IT companies

Ericsson is the driving force behind the Networked Society – a world leader in communications technology and services. Our long-term relationships with every major telecom operator in the world allow people, business and society to fulfill their potential and create a more sustainable future.

Our services, software and infrastructure – especially in mobility, broadband and the cloud – are enabling the telecom industry and other sectors to do better business, increase efficiency, improve the user experience and capture new opportunities.

With approximately 115,000 professionals and customers in 180 countries, we combine global scale with technology and services leadership. We support networks that connect more than 2.5 billion subscribers. Forty percent of the world's mobile traffic is carried over Ericsson networks. And our investments in research and development ensure that our solutions – and our customers – stay in front.