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Ready, steady, game!

Is augmented reality (AR)
the next level of gaming?

An Ericsson ConsumerLab insight report
March 2019

Contents

Figure 1: Coverage map

■ Quantitative research   ○ Qualitative research

○ Stockholm, Sweden
○ London, UK
France
○ San Francisco, US
South Korea
China
○ Tokyo, Japan
○ São Paulo, Brazil

Methodology

Quantitative data was collected from seven markets. Over 7,000 online interviews were held with people aged 15–69 in Brazil, China, France, Japan, South Korea, the UK and the US. While all respondents use internet and/or online services at least weekly for leisure purposes, almost all use the internet on a daily basis. This study is representative of 676 million people.

Qualitative insights were gathered through 58 face-to-face interviews in London, Stockholm, San Francisco, São Paulo and Tokyo. Respondents all played video games and had an internet connection at home.

This ConsumerLab report explores the video gaming experience. It does not include any gambling-related activities.

About Ericsson Consumer & IndustryLab

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

Our knowledge is gained in 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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A whole new (AR) ball game

Consumer media habits are constantly evolving. New devices and services enable consumers to rapidly shift their expectations and behaviors. The way entertainment is accessed, consumed and purchased has changed dramatically in a short period. This report looks closely at video gaming and how augmented reality (AR) could enable the next level of immersive gaming.

The way entertainment is accessed, consumed and purchased has changed dramatically in recent times

Key insights

Have mobile phones killed the importance of gaming?
— Gaming is bigger than ever, driven by the growth of mobile gaming, and now makes up 26 percent of all media consumption hours.
— Even if today's teenagers spend more time gaming, they no longer think it is as important; importance now peaks with 25 to 34-year-olds.

10 percent of consumers log half of all gaming hours
— Game time is heavily skewed to a small group of people.
— AR is interesting also to non-gamers; 35 percent of non-gamers express interest in AR gaming. This is significant, given that 23 percent of consumers are non-gamers.

The AR gaming mobility paradox: gamers reject mobile phones but embrace mobility
— Two out of three respondents (66 percent) are interested in AR gaming, but one in three AR gamers say holding a mobile device is not good enough for AR gaming.
— 43 percent are very interested in AR sports, and 1 in 4 consumers say they will use AR when exercising in the next 5 years.

An immersive AR experience can make games matter again
— Almost 4 out of 10 AR gamers agree that AR gaming will be more interesting with better and more immersive games, access to lower-cost AR glasses and better batteries.
— Among current AR gamers, 6 out of 10 list immersive experience as a key driver for playing AR games.

Virtual objects that stay put change everything
— Almost half of consumers agree that it would be particularly interesting if virtual objects remained where you "placed" them.
— The promise of digitally decorating your room, creating a digital sculpture or even designing a house triggers the minds of gamers and non-gamers alike.

AR gaming makes AR part of everyday life
— When gamers start accepting digital objects in the real world, these habits will lead to an acceptance in other areas too. Two thirds of gamers say they will increase usage in the next 5 years.

Gaming in the new media world

Since the advent of the internet, media habits have been in a
state of flux, changing the way we discover, acquire and consume
content. Today's cloud-based services enable us to stream and
download whatever we want, anytime, anywhere.[1]

**Video gaming less important
than music and video**
In our study, 8 out of 10 consumers
surveyed watch TV and video at least
daily, while 5 out of 10 play video
games with the same frequency.
However, music reaches the highest

level of use, with only 4 percent stating
that they never listen to any music.
We also found 55 percent of respondents
perceive music as very important, while only
23 percent see video gaming as important.
Given that the total share of gamers
is significantly smaller than that of music

listeners, the overall lower importance
makes sense. When comparing the level
of importance among users of each media
type, music still comes out on top, with
57 percent of listeners saying it is very
important, compared to only 39 percent
of gamers saying the same for gaming.

Figure 2: Frequency of usage and importance of each media type (a) and percent that think each media type is very important (b)
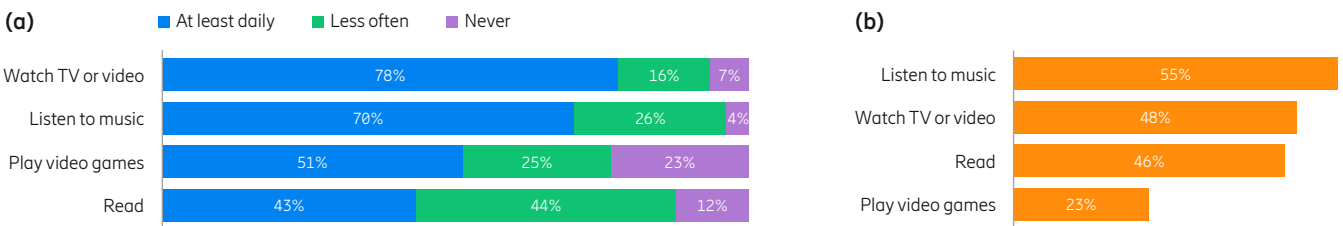
Base: Internet users aged 15–69 in Brazil, China, France, Japan, South Korea, the UK and the US
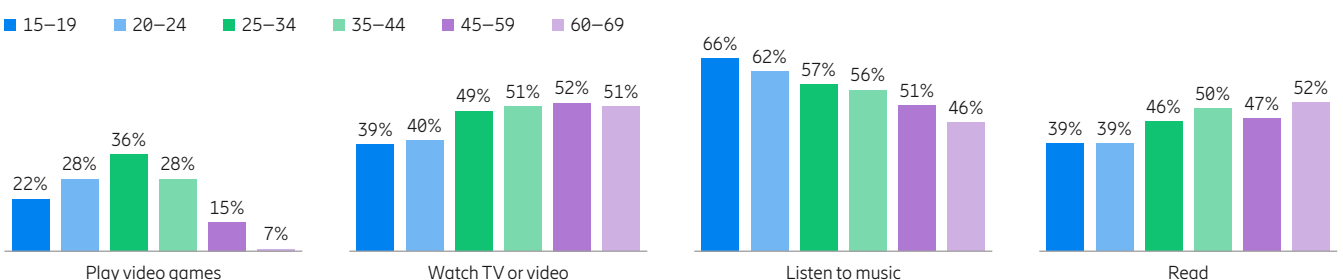Source: Ericsson ConsumerLab, Ready, steady, game! (March 2019)

**Have mobile phones killed the
importance of gaming?**
The way people consume media differs
a lot based on age and life stage. This
is more so for video gaming than other
media. Gaming is bigger than ever, driven
by the growth of mobile gaming, and
now makes up 26 percent of all media

consumption hours. However, teenagers
don't think games are as important, but
play anyway. To them, games are now
so ubiquitous in their mobile phones
that they think of them more as a way
to kill time than something of personal
importance. Those who have entered the
"married with kids" life stage who feel

gaming has the highest importance.
However, it is unlikely that this demographic
profile will remain over time, as these
gamers are likely to continue to have a
higher interest in gaming even as they
grow older. This in turn means that the
video game profile may eventually resemble
the TV and video watching profile.

Figure 3: Percent that think each media type is very important, by age group

Base: Internet users aged 15–69 in Brazil, China, France, Japan, South Korea, the UK and the US
Source: Ericsson ConsumerLab, Ready, steady, game! (March 2019)

[1] Our 2013 gaming report (http://mb.cision.com/Main/15448/2245603/661656.pdf) concluded that it was highly likely that the gaming industry would undergo an evolution
similar to other media. Today, we clearly see that much of what was anticipated has indeed come to fruition.

Evolving game habits

There are many different gaming devices – almost one-third
of gamers play on all four of the devices we cover in this report:
smartphones, tablets, PCs and game consoles.

In order to better understand gamers, we
have created six different segments based
on our research into consumers' actual
gaming habits and attitudes (Figure 4).

**10 percent of consumers log
half of all gaming hours**
The most invested video gamers can
be found in the Extreme Multi-gamer
segment. They play video games across
all platforms and, while they make up only
10 percent of the population, still account
for almost half of all the time spent on video
gaming (Figure 5a). With the advent of
AR, this could change, since 36 percent of
non-gamers express interest in AR gaming.
This is significant, given that no less than
23 percent are non-gamers (Figure 5b).

Big Screen Centrics spend a significant
portion of their total gaming time on
the PC and TV screen, while the Mobile
Centrics mostly game on a mobile device.
Time Killers play significantly fewer
games and play on smartphones, mainly
to pass time. Social Centrics also play a
lot less than the Extreme Multi-gamers,
but their gaming takes place across
several devices, and playing games with
others is much more important to them.
Finally, Light Gamers stand for a marginal
portion of total gaming, and this segment
seldom plays more than a single game.

From the margins to mainstream
Overall, video gaming is becoming more
and more mainstream. What was once
thought to be the sole province of teenage
boys has today become a hobby shared
across age groups and genders. While the
highest penetration of gaming can still be
found among 16 to 24 year old boys, with
90 percent playing video games at least
weekly, 45–59-year-old women also make
up a significant player base, with half of them
playing video games at least once a week.

Figure 4: Gamer segmentation – total gaming time spent on each gaming device (percent)
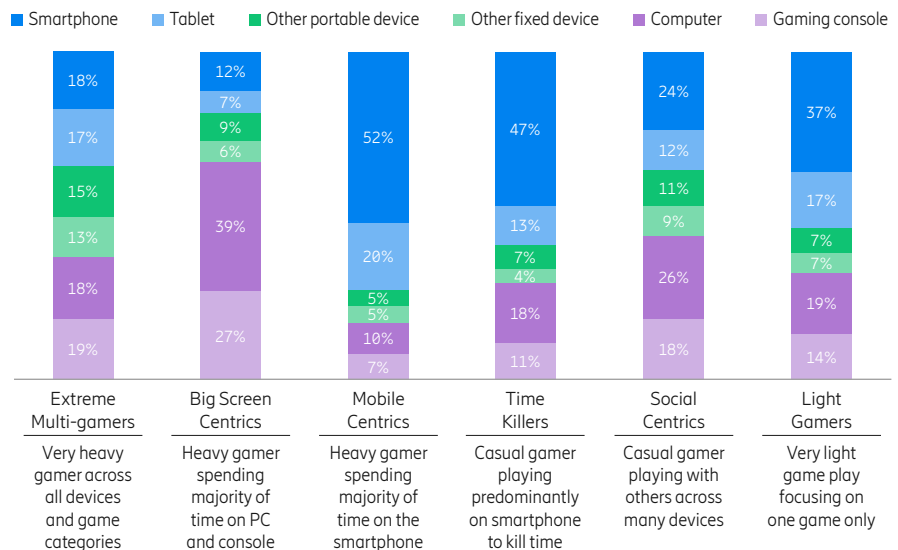
Base: Internet users aged 15–69 in Brazil, China, France, Japan, South Korea, the UK and the US
Source: Ericsson ConsumerLab, Ready, steady, game! (March 2019)

Figure 5: Share of total gaming hours (a) and share of population per segment (b)
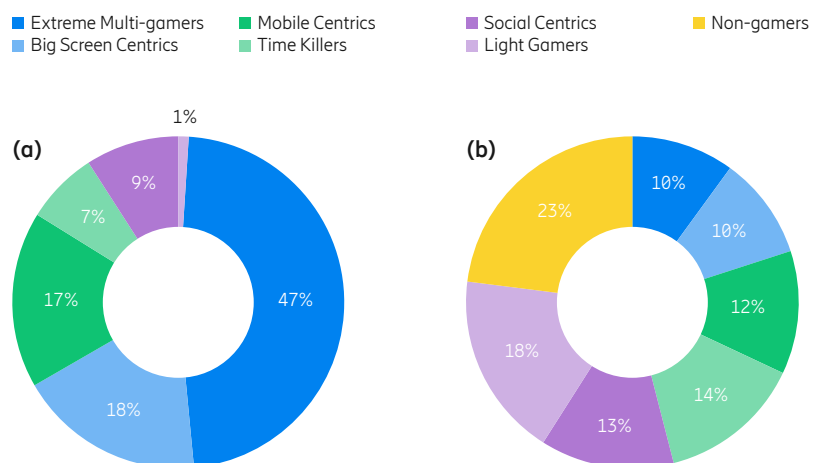
Base: Internet users aged 15–69 in Brazil, China, France, Japan, South Korea, the UK and the US
Source: Ericsson ConsumerLab, Ready, steady, game! (March 2019)

To game or not to game?

People play video games for many different reasons, and these reasons vary between gamer segments.
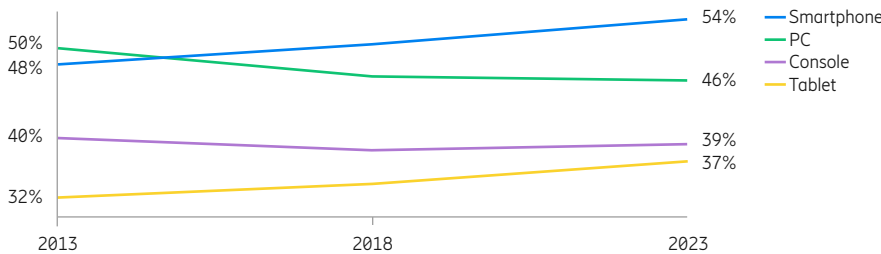
Shifting gaming devices
The smartphone has already overtaken the PC as the main gaming device, when measured by reach. According to consumers' own estimates, the foothold of mobile gaming platforms will increase whereas fixed platforms will decrease.

By 2023, 54 percent of respondents expect to play smartphone games every week, by 2023, an increase of more than 12 percent

since 2013. Similarly, weekly tablet gaming is expected to reach 37 percent, an increase of 16 percent. Console gaming will remain largely unchanged, and only the PC will lose traction, shrinking to 46 percent, which is a decrease of 8 percent. Although we can only guess which mobile platforms will be mainstream in 2023, consumers in our qualitative studies point to glasses using AR as the most expected development.

Where people play their video games is changing too. Smartphones have pushed gaming outside of bedrooms and living rooms. Consumers now play games everywhere, as can be seen in Figure 7. In particular, gaming while commuting is something that one in five gamers do on a weekly basis. However, the majority of all gaming still occurs at home, particularly during the evening and night.
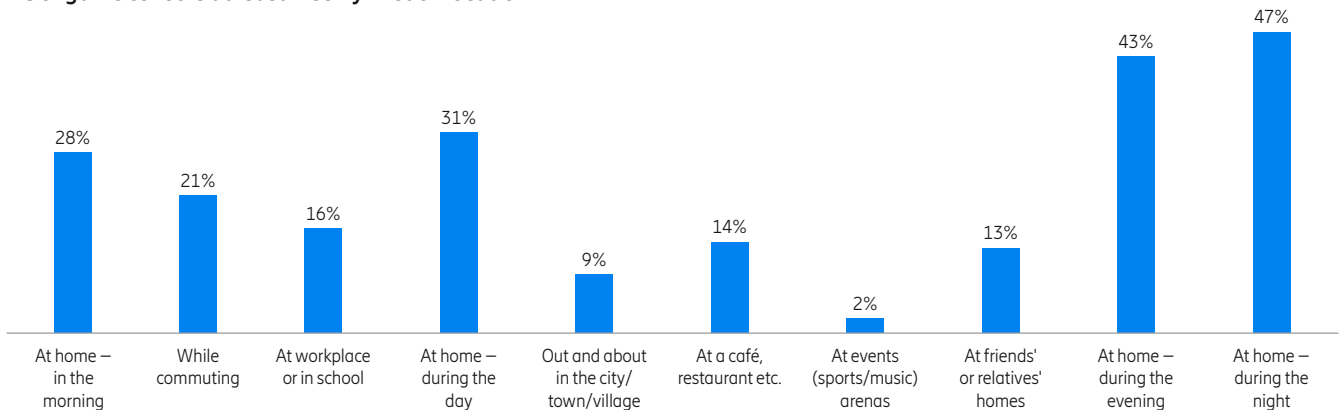
Figure 6: People who played video games at least weekly in 2013 and 2018, and believe they will play at least weekly in 2023 (percent)

Base: Internet users aged 15—69 in Brazil, China, France, Japan, South Korea, the UK and the US
Source: Ericsson ConsumerLab, Ready, steady, game! (March 2019)

> "When I play games, it really gives me the chance to escape from reality."
>
> Kyle, 28, US

Figure 7: Percent of consumers that play on smartphone, tablet, PC or game console at least weekly in each location

|									
28%	21%	16%	31%	9%	14%	2%	13%	43%	47%
At home – in the morning	While commuting	At workplace or in school	At home – during the day	Out and about in the city/ town/village	At a café, restaurant etc.	At events (sports/music) arenas	At friends' or relatives' homes	At home – during the evening	At home – during the night

Base: Internet users aged 15—69 in Brazil, China, France, Japan, South Korea, the UK and the US
Source: Ericsson ConsumerLab, Ready, steady, game! (March 2019)

Figure 8: Percent of each gamer segment that agrees each factor is important for a great gaming experience
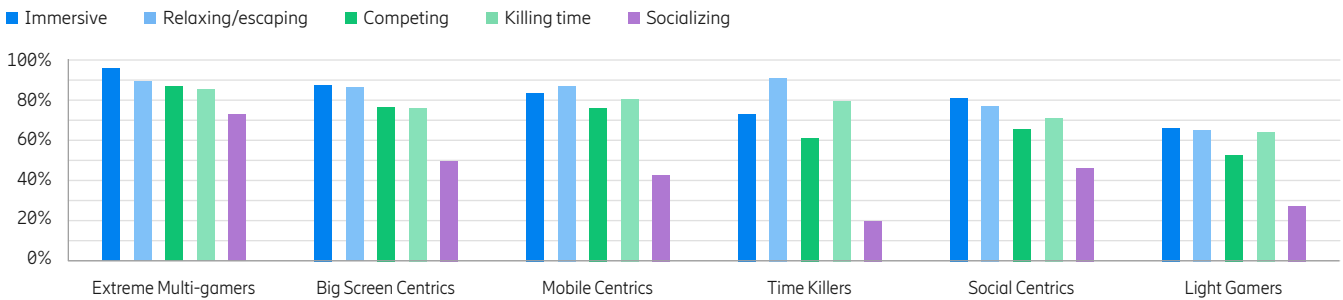
■ Immersive ■ Relaxing/escaping ■ Competing ■ Killing time ■ Socializing

Base: At least weekly gamers on smartphone, tablet, PC or gaming console, aged 15–69 in Brazil, China, France, Japan, South Korea, the UK and the US
Source: Ericsson ConsumerLab, Ready, steady, game! (March 2019)

Reasons for gaming vary significantly between segments (see Figure 8). Extreme Multi-gamers think many factors are very important, given their high investment in gaming overall, with 95 percent agreeing that game immersion is very important, closely followed by the opportunity to escape and relax. Time Killers are less likely to rate immersion as important, but instead escapism and killing time come out on top, something they share with Mobile Centrics. Even among the Social Centrics, socializing does not score highest, but it does rank higher for them than for the other casual and light gamer segments and is even on par with the heavy gamer segments. Only the Extreme Multi-gamers place significantly higher importance on social gaming.
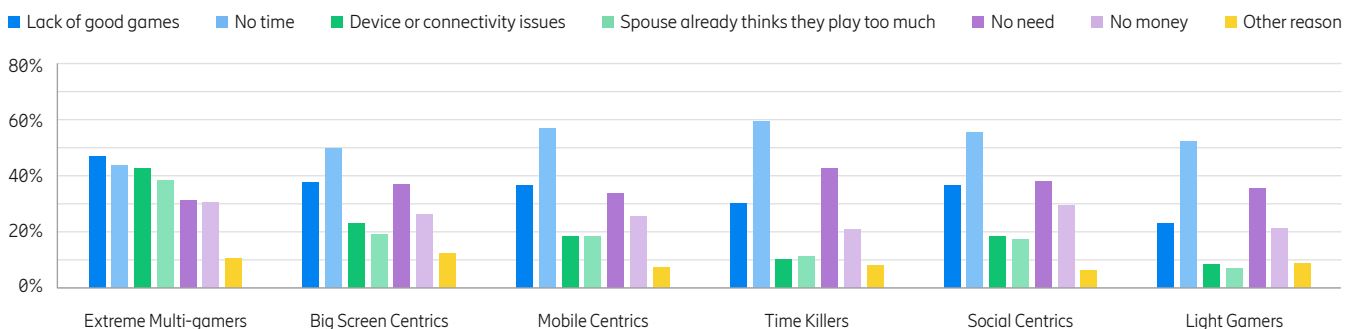
Several factors hold gamers back from gaming more (Figure 9). For Extreme Multi-gamers, not having access to enough good games is the top reason, followed by a perceived lack of time, even with their significant usage compared to others. However, 38 percent of Extreme Multi-gamers say their spouses think they play too much.

For all other gamer segments, lack of time is the top reason for not playing more than they do. This is particularly visible for the Time Killers group, where a large portion of their gaming takes place in spare moments throughout the day. Unless their lives change, the situations where they feel they can game are already utilized.

Virtual reality gaming lessons learnt
To understand the role of AR, we need to first look at virtual reality (VR) gaming. Today, gamers have the option of playing video games in an immersive 360-degree experience through a wide range of VR devices, ranging from high-end PC and game console headsets to low-cost, smartphone-powered goggles. It would seem that VR is the next step in the gaming evolution, but so far VR gaming has hardly made a dent in the overall gaming ecosystem. A lack of affordable, high-quality VR headsets is one reason, and a lack of good VR games is another. The cables tethering high-end headsets with a PC or game console is another challenge.[2]

Figure 9: Gamer segments that agree with reasons to not play more video games (percent)

■ Lack of good games ■ No time ■ Device or connectivity issues ■ Spouse already thinks they play too much ■ No need ■ No money ■ Other reason

Base: At least weekly gamers on smartphone, tablet, PC or gaming console, aged 15–69 in Brazil, China, France, Japan, South Korea, the UK and the US
Source: Ericsson ConsumerLab, Ready, steady, game! (March 2019)

[2] Ericsson ConsumerLab, Merged reality (June 2017), https://www.ericsson.com/en/trends-and-insights/consumerlab/consumer-insights/reports/merged-reality#ladenwithchallenges

AR promises the (real) world, but can it deliver?

Hardly anyone could have missed the hugely successful launch of Pokémon Go in 2016. Even though this was not the first video game to include a central AR component, it was the first to really bring AR to the masses.

Pokémon Go is still the second highest grossing smartphone game in the world,[3] and also increased its revenue in 2018 compared to the previous year by 35 percent.[4] Overall, mobile AR software is estimated to generate more revenue than VR by 2021.[5]

So, just how well does AR fit with the needs and expectations of gamers? The main driver for AR gaming is relaxation and escapism. Unsurprisingly, immersive gaming also scores high, as does social gaming, with close to half of AR gamers agreeing.

An immersive AR experience can make games matter
Currently, AR gamers are both intrigued by the promises of AR and disappointed by the delivery. Almost 4 out of 10 AR gamers agree that AR gaming will be more interesting with better and more immersive games, access to lower-cost AR glasses and better batteries. Almost six out of ten AR gamers list immersive experience as a key driver for playing AR gamers.
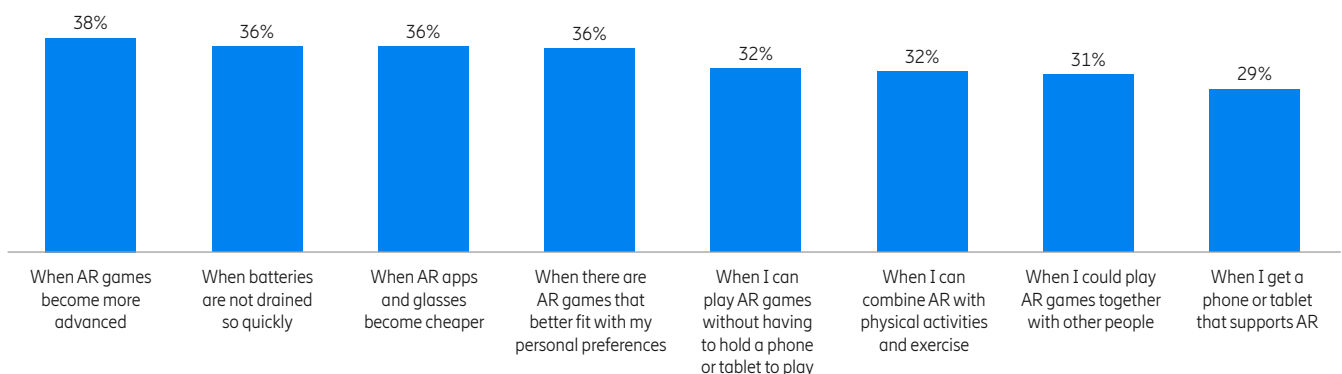
AR looks set to become a key component of mainstream entertainment, with 48 percent of all consumers saying they will use AR across different media types, including gaming, in the next 5 years.

Interestingly, 7 out of 10 AR gamers think that AR opens up a totally new video gaming experience, and almost as many agree that it will change how video games are played in the future.

> "As a kid, I had Pokémon cards and played those. I was excited when they released the game, and I downloaded it right away. In the past few months, I've been playing a ton because they've updated it."
>
> Katherine, 29, US

Figure 10: Changes that would make AR games more interesting

When AR games become more advanced	When batteries are not drained so quickly	When AR apps and glasses become cheaper	When there are AR games that better fit with my personal preferences	When I can play AR games without having to hold a phone or tablet to play	When I can combine AR with physical activities and exercise	When I could play AR games together with other people	When I get a phone or tablet that supports AR
38%	36%	36%	36%	32%	32%	31%	29%

Base: AR gamers aged 15–69 in Brazil, China, France, Japan, South Korea, the UK and the US
Source: Ericsson ConsumerLab, Ready, steady, game! (March 2019)

[3] www.superdataresearch.com/us-digital-games-market, November 21, 2018
[4] www.sensortower.com/blog/pokemon-go-revenue-december-2018, January 2, 2019
[5] www.superdataresearch.com/xrupdate, October 19, 2018
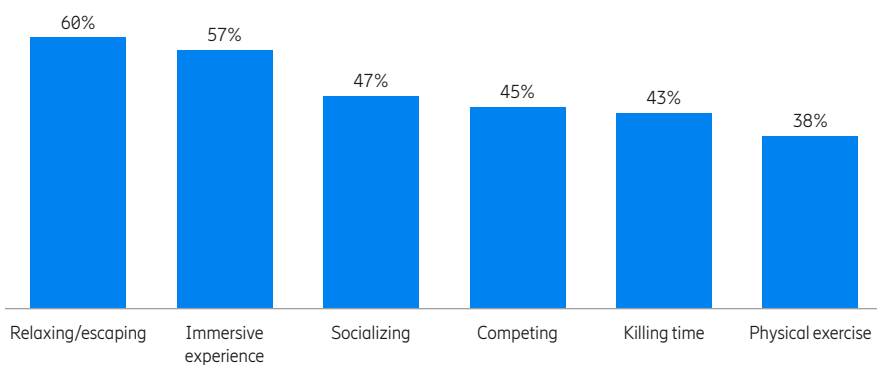
The main driver for AR gaming is relaxation and escapism

"At the moment, there's no depth to an AR game. It's literally like: 'Okay, I can fight Kylo Ren, and then if I close and reopen it, he is going to do the same motions again.' I feel that AR is still in its infancy."

Mitch, 28, UK

Figure 11: AR gamers that agree with each reason to play AR games (percent)

Base: AR gamers aged 15–69 in Brazil, China, France, Japan, South Korea, the UK and the US
Source: Ericsson ConsumerLab, Ready, steady, game! (March 2019)

The AR gaming
mobility paradox

AR gaming is interesting to two out of three respondents (66 percent), who want to play not only to at home, but also when out and about. However, for an AR gaming revolution to happen, there are several essential criteria that need to be fulfilled.

The current platforms of AR gaming, using a smartphone or tablet as a way to experience the augmented world, will not be acceptable for much longer. In fact, one in three AR gamers say holding a mobile device is not good enough for AR gaming. Consumers also complain about the limitations in the field of view. This paradox, where gamers reject mobile phones, but embrace mobility, could be solved with AR glasses that are affordable and look like normal glasses, so that people feel they can wear them in public without causing a scene.

AR and physical exercise
Even though there is a physically active component to Pokémon Go, this is not a key driver for most current gamers. In an AR-enabled future, gyms and fitness centers will be able to improve indoor training. Consumers can get an immersive experience of jogging or cycling as if they were on the beach, in the woods or on a country road.

Roughly one in four say that they will use AR when doing exercise in the next five years. Nearly half agree that multiplayer AR sports, like playing football or badminton, with a human opponent operating virtually would be very interesting.

Virtual objects that stay put change everything
Consumers are especially interested in virtual objects that remain available after the gaming session has finished, e.g. building a virtual house or virtually decorating your room. Half of consumers

> "If AR glasses look reasonably like normal glasses, I would not hesitate to wear them all the time."
>
> Sumiko, 27, Japan

agree persistent objects are an important part of these types of video games, and only one in ten disagree. Playing AR games with persistent virtual objects could dramatically change how consumers think about gaming.

Persistent virtual objects could change the way consumers think about gaming

Figure 12: Interest in different AR activities for gamers and non-gamers (percentage)
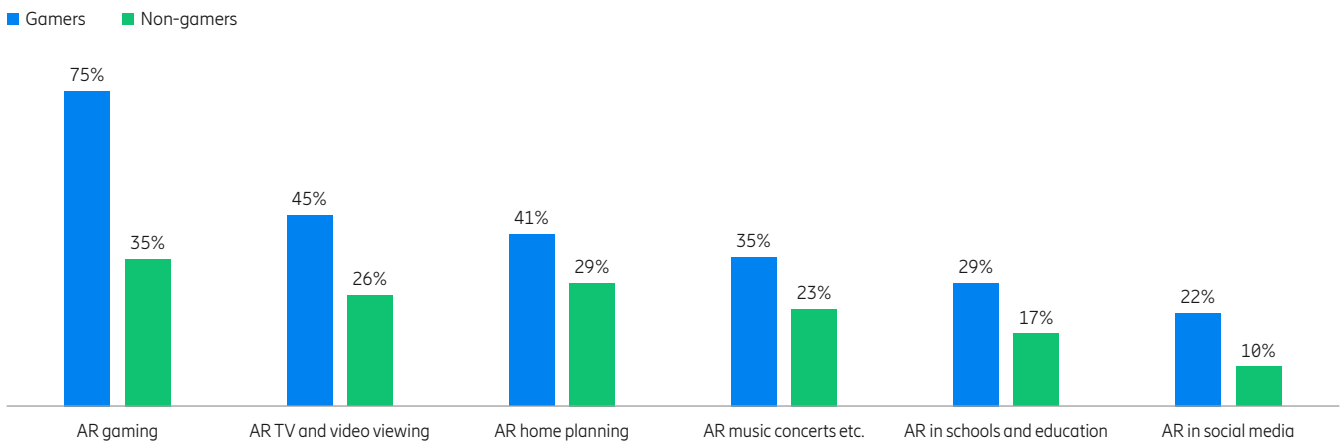
■ Gamers   ■ Non-gamers

Base: Internet users aged 15—69 in Brazil, China, France, Japan, South Korea, the UK and the US
Source: Ericsson ConsumerLab, Ready, steady, game! (March 2019)

Social AR gaming is going to be key
Playing games together is a fundamental human social activity. Over time, the type of games played have changed.

Today's video games are no different when it comes to the need and expectation for a social experience, even though the games are now played online.

In the years to come, social gaming will continue to grow. Just under one-quarter of PC and game console gamers say that they play more multiplayer games today than they did 5 years ago. Looking forward, 20 percent believe they will play more multiplayer games in the next 5 years.

AR gaming makes AR part of everyday life
When gamers start accepting digital objects in the real world, these habits will lead to an acceptance in other areas too. For example, 45 percent of gamers are interested in using AR glasses to watch TV and video, and almost as many say they would use AR to plan their homes. Looking forward, as many as 67 percent of gamers say they will increase their AR usage in the next 5 years. It's clear AR is poised to make its mark on society and media consumption is going to be a key component on the augmented road ahead.

Is AR the next level of gaming?
Given that three out of four gamers are interested in AR gaming and one in three non-gamers also show interest, pronouncing AR as the next level of gaming might be too simplistic. It is true that AR could potentially return gamers to the immersive experience they might have lost with today's comparatively simple mobile games, especially if AR glasses become a reality. But maybe the key to understanding what will happen lies in the increasing overlap between gaming and other activities in AR.

Although AR is part of the future of gaming, gaming is not the only future for AR. When multiplayer AR games move out into our physical surroundings and persistent digital objects of various kinds start appearing all around us, the whole world becomes a potential game platform while remaining the place for other activity as well. In that sense, AR might be the next level of everyday life and not just the next level of gaming.

> "It would be really cool, in the AR world, to have a dinner party with your friends and invite them to your home, but you're having a dinner party in Morocco, and you cook Moroccan-style dishes, but everyone is in a reality that looks like we're actually there. That would be amazing!"
>
> Deborah, 27, US

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