



AN INCREDIBLE DECADE FOR THE SMARTPHONE: WHAT'S NEXT?

The Future of Mobile is in Combining
Devices, Content, and Services

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Introduction

2016 will go down as the year when the smartphone market stopped growing.

Across the markets tracked by Kantar Worldpanel ComTech – including the US, Great Britain, Germany, France, Italy, Spain, China, Australia, and Japan – smartphone sales between 2015 and 2016 dropped by 2%. As the smartphone industry matures, fewer consumers are moving between brands and ecosystems – and market growth has increasingly relied on replacing existing devices, rather than bringing in large numbers of new buyers.

A major challenge facing manufacturers is motivating smartphone owners to upgrade their devices. 2016 proved to be a year of slow and sometimes rocky innovation among vendors. This has meant lower customer demand as brands tried and failed to convince consumers to upgrade to the latest devices.

Success in the new smartphone economy will require fundamental changes in tactics used by vendors to market devices and services to potential customers.

Device and Services Marketing Tactics

Entice buyers to purchase device upgrades more frequently by recognizing changing buying behavior

Draw consumers into new technologies that enhance the smartphone experience

Offer consumers a more complete user experience, which includes compelling services and content

Over the past few years, several carriers and manufacturers have introduced “early upgrade” programs to stimulate growth in the market, but these have not yet had a major impact on customer behavior. The way customers are purchasing devices is evolving, and marketing programs are not addressing changing consumer desires as effectively as they should.

Attracting consumers further into a vendor’s ecosystem is another way to stimulate growth. It can be demonstrably proven that consumers who own more than one device from the same brand are generally more loyal to that vendor, compared to those who own

only one. Among iPhone owners in the US in 2016, loyalty to the Apple iPhone was 92%. For those consumers who also owned an iPad, iPhone loyalty increased to 96%. A similar phenomenon exists among Samsung smartphone owners – loyalty to the phone alone was 67%, increasing to 74% if the consumer owned both a Samsung phone and tablet.

Wearables were expected to be the next big mobile technology, promising to expand the smartphone ecosystem to the wrist. However, judging from disappointing sales results, vendors were far more excited by the potential than were consumers.

Virtual reality (VR), augmented reality (AR), the growing importance of artificial intelligence (AI), and virtual assistants may help stimulate future growth. But without more compelling applications for these technologies, they may end up being more hype than substance. What the market needs is a satisfying combination of technology, content, and services that make consumers lives easier, rather than adding complexity with no significant benefits.

Convincing Consumers to Purchase More Frequently

Consumers are Buying Differently

The speed of smartphone innovation has slowed considerably in the past few years, and consumers are holding on to their phones for longer than ever. In 2016 in the US, the average consumer kept their smartphone for 23 months before upgrading, up from 21 months in 2014. In EU5, the life cycle increased similarly. Bucking that trend was Urban China, where the smartphone life cycle remained at 20 months.

Smartphone Life Cycles by Country (Number of Months)

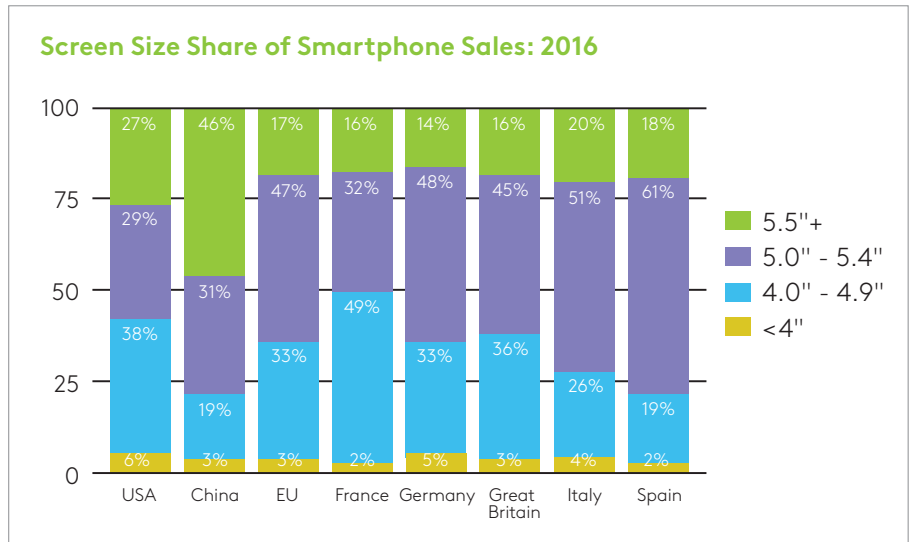
	USA	China	EU5	France	Germany	Great Britain	Italy	Spain
2016	22.7	20.2	21.6	22.2	20.3	23.4	21.6	20.5
2015	21.6	19.5	20.4	21.6	18.8	23.5	17.7	20.0
2014	20.9	21.8	19.5	19.4	18.2	22.0	18.7	18.2
2013	20.5	18.6	18.3	18.0	17.1	20.0	18.6	16.6

Source: Kantar Worldpanel ComTech February 2017

As consumers buy less often, vendor revenues fall. This issue has been compounded by the fact that few basic feature phone owners are left in developed markets, and even fewer are willing to upgrade to a smartphone. In Urban China, just 18% of feature phone owners surveyed in December 2016 are willing to purchase a phone in the next year.

Two trends have become clear. First, as consumers have upgraded their devices, they have opted for premium models. This has become a hot area for competition and innovation, in terms of quality of material and design. Full metal and glass designs are making their way down the value chain into low- and mid-range devices. Camera performance has been an area of strong focus over the past year, with dual cameras making a return after HTC tried that with limited success with the M8.

Consumer reception to these innovations has been positive, but owners had already been happy with smartphone camera quality for some time. Large screen devices have soared in popularity, with 46% of Chinese smartphone sales now dominated by devices with a 5.5-inch or larger screen. In the US,

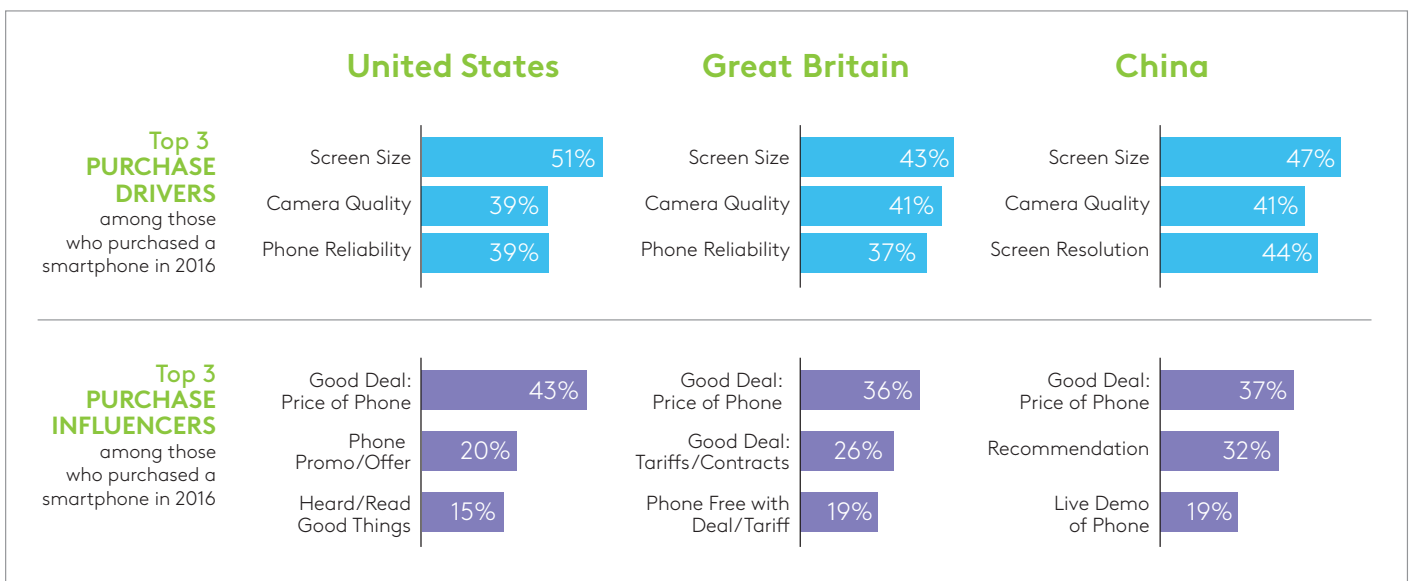


over a quarter of the devices sold had a screen size of 5.5 inches or larger, while in Europe this share was smaller, at 17%. European consumers have been opting for more 5-inch to 5.4-inch devices, representing 47% of smartphones sold in EU5 in 2016. The leading driver of purchase across US, China, and Europe is the size of the screen, followed by the quality of the camera.

Second, consumers have started to adjust their purchasing behavior, increasingly looking for the best value on these premium devices. Internet sales continue to increase in total market share, along with

shopping through value-based websites like Amazon and eBay. In the US, a third of smartphone sales were made online in 2016, up from 27% in 2014, while 34% of purchases in Urban China were transacted online.

Getting a good deal on the price of a phone has a powerful influence on purchases, especially in premium-focused markets like the US and Great Britain, where 43% and 36% of buyers cited that as their leading decision criterion.



Chinese vendor Huawei is successfully taking advantage of these behavioral changes, offering premium specs at mid-range prices. A good value proposition has led Huawei to become the third largest manufacturer in the European market, and they are hoping to make an impact in the US with their Honor series.

Android One will make its entry into the US in 2017. Previously, Android One had been targeted to developing regions only, but the Alphabet brand evidently sees a gap in the mid and low ranges. These devices may represent a unique opportunity as value for price becomes a larger concern to consumers.



Stimulating Growth through Early Upgrade Programs

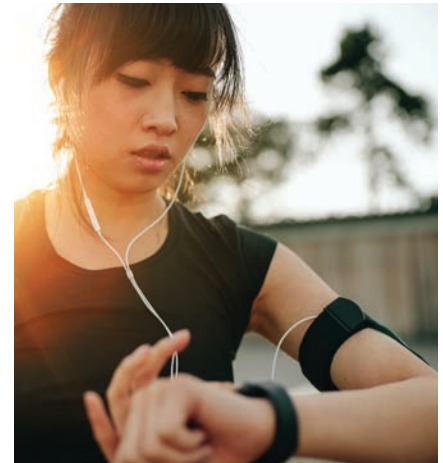
In contrast to shifting consumer behaviors are carrier's efforts to encourage early upgrades. These programs are designed to convince consumers to upgrade their devices on a more frequent basis – usually every 12 months – improving revenues and keeping customers locked into a specific smartphone vendor and carrier.

In the US, where these plans were first introduced, 48% of consumers who acquired a smartphone in 2016 reported signing up for an early upgrade plan, while 28% did not know whether they were on a plan that allows them to upgrade early. However, as can be witnessed from the lengthening life cycle of smartphones, these programs have failed to make a significant impact, since the value proposition to the consumer remains somewhat unclear.

Manufacturers feel that carriers have not worked hard enough to convince customers to take advantage of the carrier's own upgrade offers. In response, both Apple and Samsung now offer branded upgrade plans directly to consumers. These programs enable manufacturers to earn higher gross margins through direct-to-consumer sales, but as sales from these channels remain a small part of the overall smartphone business, sales momentum still rests firmly with the carriers rather than the manufacturers.

In a world of saturated markets and increasing similarity of competitive offerings, the days are gone when consumers could easily be convinced to change their devices. If early upgrade plans are to succeed, attention needs to be paid to how consumers are shifting their purchasing behavior. As a starting point, vendors need to make these programs easier to understand, and must more clearly convey the benefits to consumers.

Additionally, manufacturers must start to shift away from evolutionary different high-priced devices into more attractively priced models with technologically disruptive innovations.

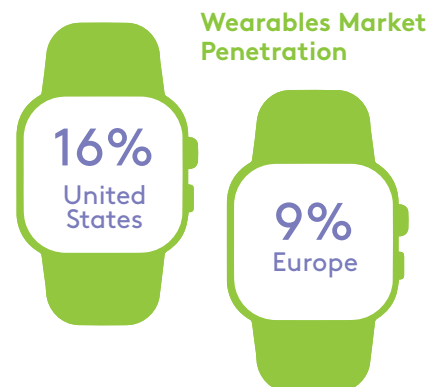


Drawing Consumers into New Technologies

Why the Wearables Experiment Did Not Work

As the smartphone market reached maturity and sales slowed, vendors had a fundamental financial need to maintain closer connections with consumers. Expectations were high that wearables could fill this role as a natural extension of the smartphone ecosystem. Some experts even expected smartwatches to become as popular as phones, but since most watches have no ability to operate independently from a phone, this turned out to be wishful thinking.

Wearables have achieved healthy levels of adoption in some geographies, but barely got started in others. In the US, over 40 million Americans (16%) now wear an activity tracker or smartwatch. Penetration in Europe is far lower, at 9%.



The brands experiencing significant growth are those with a well-executed and specialized focus. Garmin, for example, with its strong reputation among serious sports enthusiasts, is experiencing a second wave of growth driven by its attention to individual needs through niche products, rather than a one device fits all approach. Wearables continue to appeal to health and exercise enthusiasts, but have not gained much traction beyond that.

The convenience of using a smartwatch for notifications relayed from a smartphone has not proved to be that compelling for consumers, and it may be an attempt to solve a problem that consumers were not aware they had. Ultimately, these devices have made consumers' lives more complex than more simplified – and that is why they have not lived up to expectations.

Sluggish sales of smartwatches have resulted in Lenovo's Moto and Microsoft both announcing in late 2016 that they would stop production of their wearables. Jawbone ceased production in May 2016, and early-riser Pebble was acquired by Fitbit, which recently announced it is laying off 6% of its workforce.

Technology developers can take a lesson from this – a solid use case is essential for a new device to become a successful extension of the smartphone ecosystem.

Innovations on the Horizon

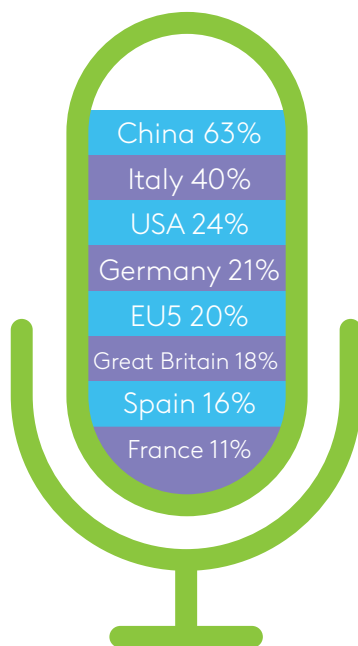
The Promise of a Full-Fledged Virtual Assistant

Personal assistants like Siri, Google Now, and Cortana have been available in smartphones for a few years, but usage beyond settling

bar room arguments has been limited. The introduction of the Amazon Echo and Google Home over the past couple of years has reinvigorated this space, with the promise of a truly intelligent machine that makes it easier to do everything from playing music to buying home supplies.

In the US and EU5, fewer than 25% of smartphone owners used a virtual assistant in the past month. In China, however, usage hovers around 63%, offering a glimpse of what the future can hold if the assistant concept is done well.

Usage penetration of virtual assistants, December 2016 (% used in the past month)



With the integration of Amazon Alexa no longer limited to the Echo, along with a partnership with Huawei, and the indication that Google Assistant, currently limited to the Home and Pixel line of products, will replace Google Now across Android devices, this space can be expected to become an important battleground for vendors in 2017.

Virtual Reality Comes Into its Own

There are also indications that VR and AR are becoming a growing battleground for mobile vendors. Tethered VR remains out of reach for many consumers, due to the combined cost of a VR display and a processor powerful enough to run it.

With its 2016 introduction of Daydream virtual reality, and Project Tango, Google is set to compete aggressively in the mobile VR and AR space against Facebook's Oculus, which currently powers Samsung Gear VR.

Asus is preparing to release its Zenfone AR, the first phone to combine the power of Daydream VR and Project Tango. Microsoft's HoloLens remains in developer-only mode, with hints of a consumer-ready version in 2018.

HTC is planning to introduce a mobile version of its popular Vive desktop VR system, and Apple's Tim Cook continues to articulate his company's interest in augmented reality.

In Scandinavia, 3% of consumers reported owning a VR headset at the end of 2016, with the highest penetration in Sweden, at 4%. Considering the 5% of the population that owns a smartwatch, and 9% that own a fitness band, this relatively high penetration for a new technology like VR shows promise for what could become a strong category.



Compelling Services on Top of Revolutionary Technology

While manufacturers must work hard to bring the right products to market at the right price, we have reached the point where services are more important than hardware; Hardware features alone are no longer going to sell devices. Devices will have to be positioned as part of an array of products and services.

Apple is a prime example of a device maker offering content and services, and is now generating a higher share of revenue from services than some of its hardware offerings. Apple Music was launched in 2015 and, more recently, expanded to include video, with the company announcing it will soon introduce two original shows.

LeEco found success in China by partnering with major networks and content providers to offer live streaming of television content on their phones. The company is currently working on similar partnerships and services as it expands its US footprint with LeEco Live, including MGM, Lionsgate, Sling TV and others.

Content must play a part in every future hardware push, particularly if mobile VR/AR is going to be offered. There must be a compelling use case, whether that consists of games, music, videos, or something more.

Accomplishing this may involve developing a unique service. But more likely this will include leveraging partnerships with established content providers like Netflix, Hulu, or Amazon – or with content producers, as LeEco has done in deals with movie studios – or with telecoms providers like AT&T, Verizon, Comcast, and others.

This level of corporate focus and interest bodes well for VR, but there are some major issues that need to be addressed, from both a technological and commercial perspective:

1. VR has not caught on with the average consumer. This is more to do with the tethered devices currently available on the market vs. what is expected in the mobile space – but, caution is advised. Outside of gaming, VR has found a limited use case.
2. There is longer-term optimism for AR. However, its technological development in terms of a mobile headset is well behind VR, and social issues abound, currently making it more promising in the enterprise market than among consumers.
3. Smartphones were not designed to dissipate the heat generated when they power VR headsets for extended periods of time. When heat buildup causes thermal throttling to kick in, VR headsets start to lag and cause users to experience VR sickness. Until these critical issues are resolved, VR and AR usability with an attached smartphone will make extended use impossible.

Looking at the introduction of Lenovo's Phab 2 Pro in mid-2016, the first dual-camera lens device to feature Project Tango, one potential strategy for immediate revenue growth could come from the use of augmented reality as an extension of the smartphone, without the use of a headset – as seen with Pokémon Go. Dual cameras are featured in many of the top 2016 models, and are required for AR to work. This could drive upgrades throughout the next few years if compelling content becomes available.

As mobile VR/AR grows, screen size will remain at the top of the feature preference list, since delivering the most realistic user experience relies on devices with large AMOLED screens. This bodes well with current market trends, as sales of 5.5"+ screens boom. However, the high-resolution requirements and AMOLED screens present a challenge to manufacturers wanting to lower their cost of production. As with any newer technology, economies of scale need to be achieved before the cost of putting an AMOLED screen in a smartphone comes down. This means that all vendors will need to commit to the idea that AMOLED is truly better than LCD, even if they do not intend to move into the AR/VR space. If televisions are any indication of industry movement, this will take some time, but it is achievable.

Looking Ahead: Future Opportunities

The smartphone industry has had an incredible decade of growth, but that time is drawing to an end. Margins have flattened, consumers now perceive a parity of product offerings, and new players are bringing high-spec products to market at mid-tier price points.

Having the latest whiz-bang tech is no longer enough to drive profits that excite shareholders. The successful mobile companies of tomorrow will advance an array of offerings that creatively combine devices, content, and services.

Smartphone companies have to sharpen their pencils and their supply chains to compete and retain their customers.

Most manufacturers – and their carrier partners – have dedicated themselves to offering early-upgrade incentive programs. To optimize the success of these efforts, marketers must carefully link them with what they know about buyer behavior.

Competition in the area of digital personal assistants is heating up. Device companies and technology providers should define their game plan and partner up quickly.

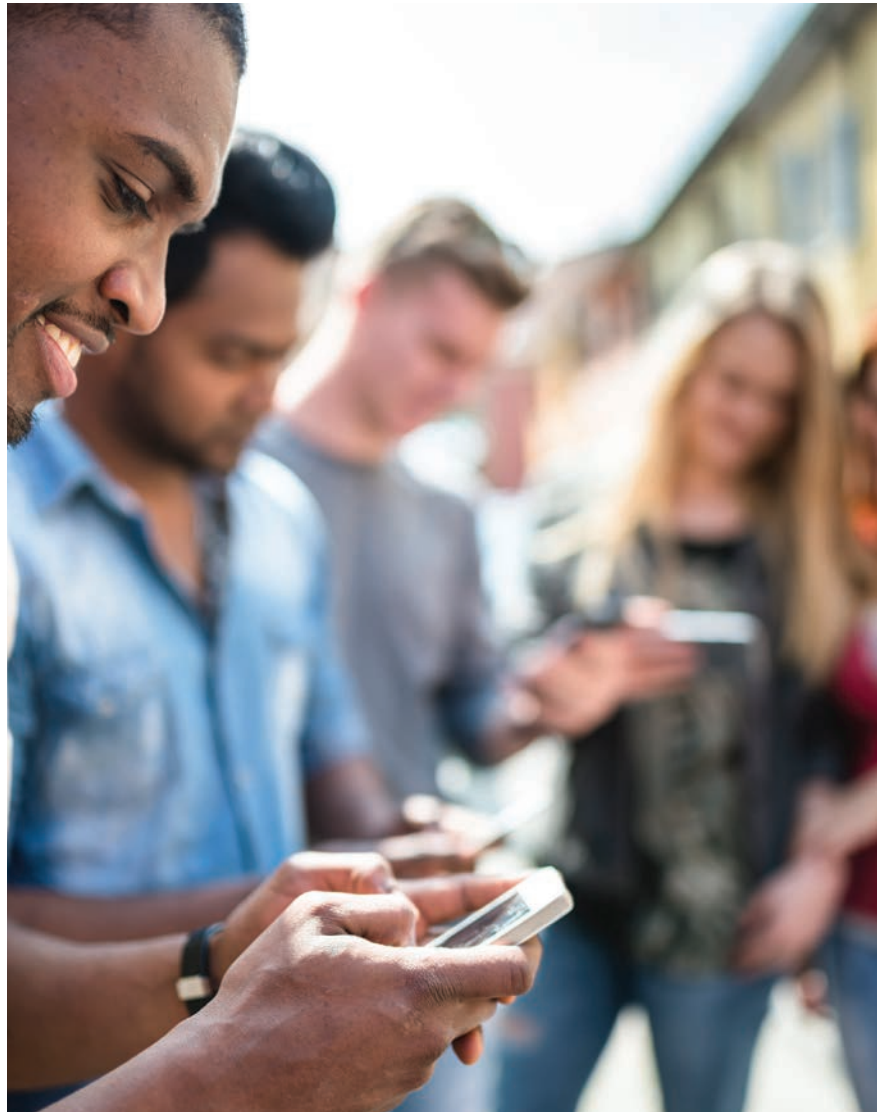
Mobile VR and AR are shaping up to become the big thing that wearables never became.

Success in this area will go to those who can deliver a device powerful enough to provide a strong VR experience at a price that will not scare buyers away.

For companies in the mobile space, the days of business as usual are gone. If mobile manufacturers want to preserve the global brands they

have worked so hard to build, they must trail blaze new, innovative offerings, and nurture fertile, new partnerships. If they fail to do this, they can be sure that a rival will.

The opportunity is there for the taking.



The successful mobile companies of tomorrow will advance an array of offerings that creatively combine devices, content, and services

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Lauren Guenveur is an experienced technology analyst specializing in identifying mobile trends and insights across 19 markets, including the US, EU5, China, and India. Her role focuses on delivering strategic insights and delighting clients at some of the largest tech companies on earth. She covers the areas of go-

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Guenveur's commentary on mobile trends is in high demand among the global media. Her insights have appeared in the Wall Street Journal, Financial Times, Bloomberg News, CNN, eWeek, Fortune, ITWire, New York Post, PC Magazine, Venture Beat, Wireless Week, Yahoo Finance, ZDNet, and many other outlets.

Prior to joining Kantar Worldpanel in 2012, Guenveur worked for four years in research at Ipsos, in the financial services sector. She holds an MBA from Stony Brook University.

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About this Report

The data cited in this report is based on research extracted from the Kantar Worldpanel ComTech global consumer panel. ComTech is the largest continuous consumer tech

research tracking panel of its kind in the world, conducting over one million interviews per year in Europe alone. ComTech tracks mobile phone, tablet, wearable, connected home and wireline behavior – including purchases, bills/airtime, source of

purchase, and usage. It also delivers additional data to promote an understanding of the drivers of share changes, and consumer insight market dynamics. All consumer data in this release excludes enterprise sales.

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