

The Future Of Smartphone

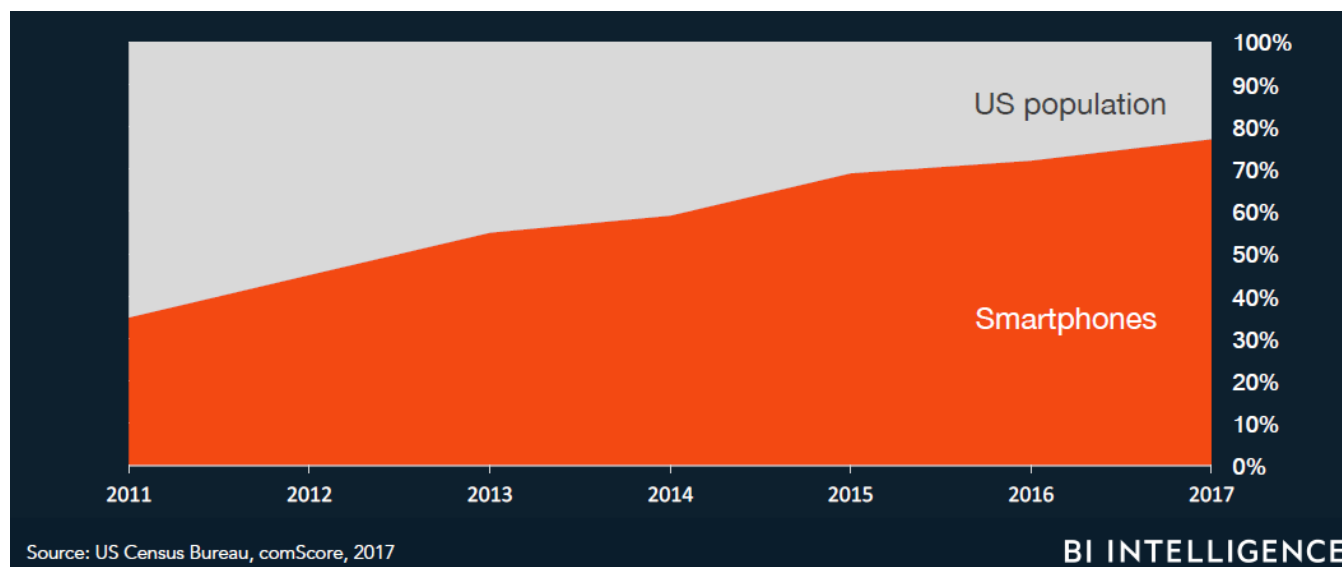
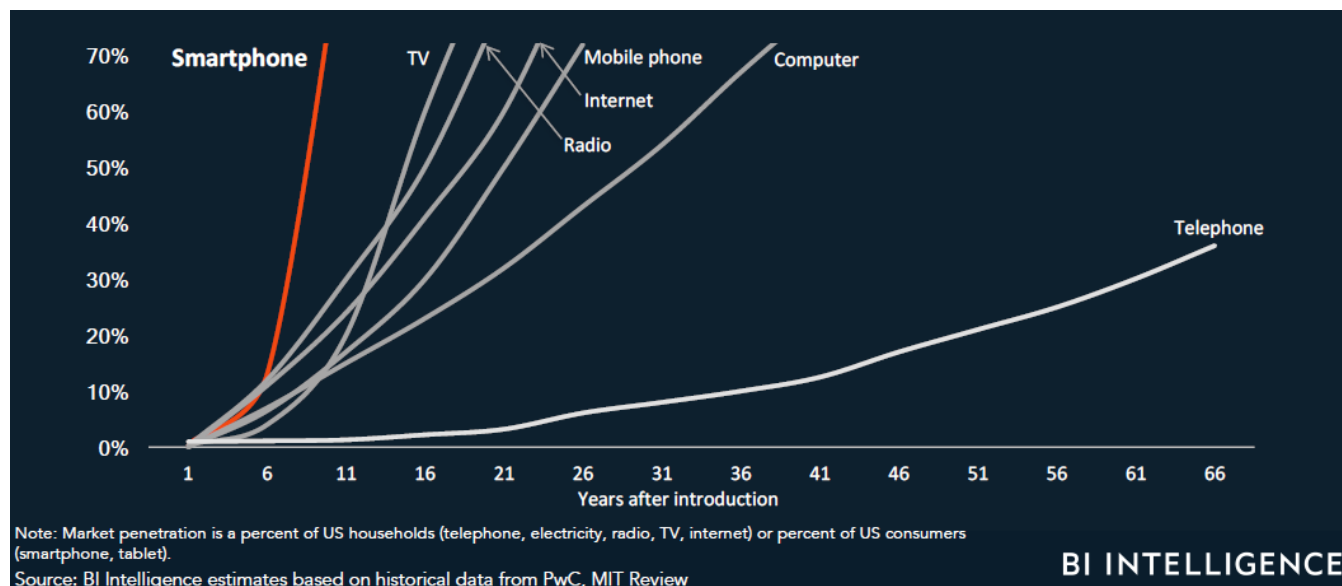




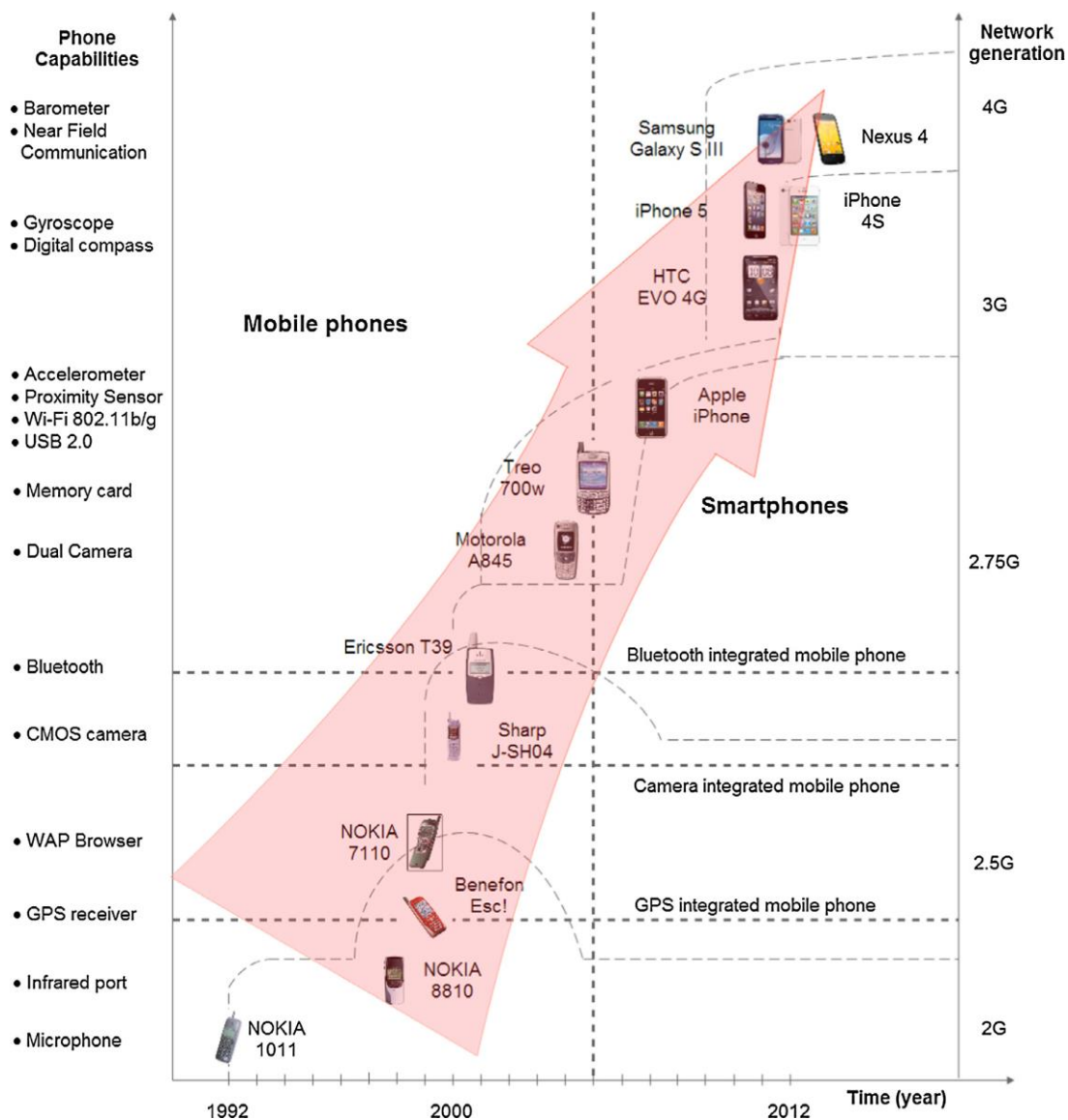
SUMMARY

Mobile technologies had an exponential growth in the last 20 years, with the development of more communication interfaces and the integration of sensors on smartphones. Apple, Samsung, Google and other tech companies in the mobile market thrive to make their products more. However, the global smartphone market is expected to slow considerably over the next few years. BI Intelligence estimates the global market will hit about 2.1 billion units shipped in 2021. Microsoft's Alex Kipman recently told Business Insider that augmented reality could flat-out replace the smartphone, the TV, and anything else with a screen. Meanwhile, Magic Leap CEO Rony Abovitz also says his company's mysterious goggles will, one day, be able to replace "your phones, your televisions, your laptops, your tablets." Technology reporter Matt Weinberger also suggest new technologies, like augmented and virtual reality, voice-activated assistants, and physical gestures, will eliminate the need for a smartphone. Will the smartphone one day cease to exist? What key features that we could expect in the future of smartphones?

Development of Smartphones



The study released by BI Intelligence showed smartphone had the fastest penetration rate compared to other developments, including telephone, radio, TV and internet. It takes only around 9 years after introduction to be adopted by 70% of U.S. population. Smartphones become even more essential to our daily lives in the future.



Source: [State of the art and future developments of measurement applications on smartphones](#)

The figure above shows the evolution of mobile phone vs the number of integrated sensors and the mobile network standard since 1992 to 2012. Meanwhile, from the article 'State of the art and future developments of measurement applications on smartphones', the 5G network will integrate different wireless technologies. The 5G phone will have software for an adaptive wireless communication and new error control schemes that can be downloaded from the Internet. Smartphone interfaces got better and more efficient in their intention of showing content in the best of ways. The phone will communicate with different wireless technologies at the same time.

Features of Smartphones in future

- **AR and VR**

AR devices are not much of a trend these days, but in the near future, AR devices will create a new industry which will combine with a number of different fields, including entertainment, transport and telecommunication. Goldman Sachs predicts that by 2025 the Augmented Reality market will touch \$80 billion. Games such as Pokémon Go have already given some idea of how enjoyable Augmented Reality can be. Facebook CEO Mark Zuckerberg claimed that augmented reality could replace anything with a screen. AR makes available more information for us users by combining computer data to what we see in real life. Smartphones like Samsung's Galaxy S8 can already function as VR viewers when connected to headsets.



Source: [Samsung](#)

- **Foldable displays**



Source: [Samsung](#)



Phones that unfold into seamless full-screen tablets have been long rumored. Samsung has previously said it hopes to introduce a foldable phone, but there's no indication Samsung plans to release a device with a foldable display in 2018. Smartphone manufacturers are working on Organic Light-Emitting Diode (OLED) technology, while some companies even have plans on make wearable smartphones for the masses. For instance, Nokia is currently conducting research on their concept device. In Future, smartphones may be able to be folded, bent, scrunched and shrunk in all kinds of ways.

- **3D Screens & Holograms**



Source: [World Industrial Reporter](#)

A team of scientists from RMIT University and the Beijing Institute of Technology have designed the 'world's thinnest' hologram. It is said the hologram is capable of being integrated into everyday products such as smartphones. Smartphone companies are now moving from 2D to 3D for the smartphone screen. The basic idea of applying hologram technology in a smartphone is to project a 3D image inot space at at certain distance away form the device. Future technology will be able to project 3D holograms into the air above.

- **Artificial Intelligence and Machine Learning**

Artificial intelligence (AI) will 'fundamentally change' the smartphone, with the technology to transform phones to their next iteration, according to Huawei's consumer head of software and intelligence engineering. The AI will fundamentally change the phone from the smartphone to the intelligent phone. AI on smartphones is one of the big trends to look out. Every main developer in the industry says their devices use the power of artificial intelligence, or more specifically, machine learning algorithms. Smartphone developers are working mostly on in relation to AI is the capability to detect subjects. AI will improve efficiencies between the user and their phone across text, voice, image, video, and sensors. British chip design firm ARM now wants to put the power of AI into every mobile device. ARM expects to find their machine learning processor in devices by early 2019.

Other Forms of Smartphones in future

- Smartwatch



Recently, the report from Bloomberg¹ mentioned Apple's intention to include an LTE chip in the next generation Apple Watch 3. Some of the new models for the Apple Watch will be equipped with LTE chips and can literally do most of the things a smartphone does. With Internet connectivity, the smartwatch will be to perform all the necessary activities in an informative interface. Would the smartwatch replace the smartphone as a primary device in the coming days? An article published by DECCAN CHRONICLE² suggests the smartwatch with Internet connectivity, can do everything a phone can do in a more practical way and make the smartphone a secondary device.



Source: Smart watch future technology come on 2019 – 2020 , <https://www.youtube.com/watch?v=nXoiNFDEmXA>

In the future, smartwatches could house potent hardware to house foldable displays or even holographic displays to show more in a smaller form factor.

- Smart glasses



Apple Inc. and Amazon.com Inc. are both developing their own smart glasses. Bloomberg reported Intel Corp. plans to sell a majority stake in its augmented reality business³, which aims to start offering smart glasses to consumers as soon as this year. The glasses are called Vaunt, on the inside of the stems sits a low-powered class one laser, as well as a processor, an accelerometer, a Bluetooth chip to link with your smartphone and a compass. While future models might be equipped with a microphone and access to smart assistants like Alexa or Siri. However, this project is in the very early stages of development.



CONCLUSION

Smartphones is an integral part of every person's life. The development of smartpone AI creates a new era of mobile technology. Technology will continue to disrupt all manner of industries. The continuous efforts by companies gave birth to smartphone technology. Consumers want the smartphone to be as neat as possible, out of the box, really, without all the add-ons. The opportunity for smartphone suppliers will be in wearables. The evolution of mobile phones has been swift. What will the next generation mobile network look like?

Endnotes

¹Apple to launch watches that can make calls: Bloomberg

<https://uk.reuters.com/article/us-apple-watch/apple-to-launch-watches-that-can-make-calls-bloomberg-idUKKBN1AK2FG>

²Smartwatches are the future of smartphones, 7 August, 2017

<https://www.deccanchronicle.com/technology/gadgets/070817/smartwatches-are-the-future-of-smartphones.html>

³Intel Is Said to Plan Sale of Majority Stake in AR Glasses Unit, 2 February, 2018

<https://www.bloomberg.com/news/articles/2018-02-01/intel-is-said-to-plan-sale-of-majority-stake-in-ar-glasses-unit>

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