

What's next for the smartphone in a rapidly changing market?

October 21 2014, by David Tuffley



What's in store from the future smartphone? Credit: Flickr/Andreas Nadler, CC BY-NC-ND

It should be no surprise to anyone that many smartphones may have been designed to last about 24 months – the length of a typical contract with a network service provider. After all, it is a fast-moving, high-turnover market and [planned obsolescence](#) is how it is kept moving.

Being high turnover means new models with new features can be brought to market and readily consumed by users conditioned to want the latest and greatest.

This is not necessarily a bad thing. It simply means that we will see a lot of new capabilities in the smartphones coming onto the market in the next few years.

Some things are not that far off and there is plenty of speculation about what else is to come. So what are smartphones of the future going to be like?

Your devoted personal assistant

There is a shift from smartphones being a communications device to a multi-function, voice-controlled computer that helps you run more and more aspects of your life.

It's already a [cloud-connected digital personal assistant](#) that knows you, but it will grow to communicate with the computer in your car, at home, in the office, at the shopping mall and elsewhere.

It is likely to spend more time in your pocket too, as peripheral devices such as [heads-up displays](#) and [watches](#) bring the package into the wearable technology domain.

It can be downright dangerous to see the lack of situational awareness that many people have as they walk about city streets with eyes glued to their smartphones, crossing the street without looking and bumping into others passing by.

Master remote control

Modern life is cluttered with remote controllers for a growing number of gadgets. And with more devices becoming endowed with smarts of their own and wirelessly connected to the web, the major players are already creating master control apps such as Apple's [Homekit](#) that will group devices into categories, or "suites" and allow all kinds of operations to be performed.

Apple's senior vice president of software engineering Craig Federighi says in the video below to tell them to "get ready for bed", and your smarthome-connected devices will make the garage door close, the doors lock and the lights dim.

One hotel chain is already talking about allowing you to be able to [lock and unlock doors](#) with your smartphone, so expect it to replace dedicated cards in a growing number of situations.

Health management

There is already a thriving market for smartphone-synced devices that monitor various aspects of your health; heart rate, distance covered and calories burned to name a few. And this is just the [beginning](#).

In the coming years we are likely to see the growth of integrated [health management](#) applications that knows your history and receives data from sensors embedded in your watch and the things you wear, all of which lets you keep tabs on your health status and environmental conditions.

The smartphone becomes your personal physician that advises you in real-time how to stay healthy.

Computational cameras

The technology of image capture is moving from digital to computational.

Smartphone cameras of the future will likely incorporate something like Nvidia's paradigm-shifting [Chimera](#) platform.

This emulates the human eye by being able to focus fast, track objects and compensate for adverse lighting, all of which will combine to produce amazingly life-like photos and videos.

Augmented reality

Augmented reality (AR) technology allows you to point your smartphone at a scene in the physical world, and the image on the screen is overlaid with all kinds of interesting information that has been retrieved from a database.

It's your own personal tour guide and teacher, and it is a [technology](#) just waiting for a good heads-up display to make it really useful. AR has been around for awhile, but is about to become much better.

Greatly extended battery life

Lithium-ion, a revolutionary new battery technology being developed by [researchers at the University of Illinois](#) has the potential to extend battery life up to 2,000 times beyond what current batteries can provide.

Even with heavy use, your phone might go weeks or months between recharges.

There is also work in progress on [kinetically charged batteries](#) that use the energy of movement to keep the battery charged.

5G for superfast data and pervasive Wi-Fi

There is still a lot of life left in the current 4G mobile network, but when it does finally give way to [5G](#), the new network will offer superfast and efficient data transmission, possibly up to 100 times that of the fastest 4G, according to [Huawei](#).

At those speeds, you could download a hi-definition feature film to your smartphone in less than a second.

Wi-Fi is also likely to become pervasive with the phasing in of [new technologies](#) such as Hotspot 2.0 and Next Generation that will allow you to stay in wireless contact almost anywhere you roam.

3D screens and holograms

With several 3D models already on the market ([LG Optimus 3D](#), [Motorola MT810](#) and [Samsung AMOLED 3D](#)) it is not difficult to see this trend continuing in the short to medium term.

Beyond 3D screens, there is talk of [holographic smartphone displays](#) in the not-too-distant future.

Ten, twenty years from now

Much of this will be here in the next five years. But how about ten years from now?

Some [futurists](#) are predicting LCD displays that you can have on your regular glasses or in [contact lenses](#), enhanced virtual keyboards and voice control replacing physical keyboards and integrated miniature devices small enough to fit into watches and jewellery that never need charging.

As wild as it sounds, we may well eventually have direct mind control over the smartdevices that are integrated, even implanted with consent into our physical selves.

Managing without your second brain

With smartphones morphing into powerful, multi-function computers that are moving closer to the centre of our lives, perhaps the biggest problem is not technological but psychological.

When the thought of being without your [smartphone](#) creates anxiety, it is time to switch it off and go for a walk in the forest or along the beach.

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