

Technology of the future: Everything you need to know

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In the future, hyper automation, distributed cloud, functional block chain and human augmentation are only a few of the largest developments in these technologies that can power both transformation and optimization initiatives.

According to Gartner, 70 % of businesses would experiment with immersive technologies for consumer and business use by 2022, and 25% would have them deployed in output. Furthermore, by 2024, low-code application development will be responsible for more than 65 percent of operation in application development.

Internet for everyone

It seems like we can't survive without the internet, but just about half of the world's population is still connected. There are several explanations for this, including economic and social reasons, but for others, since they have no connection, the Internet is simply not available.

Google is increasingly attempting to address the issue by using helium balloons to beam the internet to remote places, while Facebook has scrapped plans to use drones to do the same, which means that companies such as Hiber are stealing a march. By launching their own network of shoebox-sized microsatellites into low Earth orbit, they have taken a different approach, waking up a modem plugged into your computer or tablet when it flies over and delivers your data.

Their satellites orbit the Earth 16 times a day and groups such as the British Antarctic Survey are now using them to provide internet connectivity to the very poles of our world.

A new era of computing

By 2025, quantum computing will have evolved out of its infancy, and major real-world challenges will be resolved by the first generation of consumer devices. The simulation of complex chemical reactions, a powerful tool that opens up new avenues in drug production, will be one of the main applications of this new kind of machine. The creation of novel materials with desired properties, such as better catalysts for the automotive industry that curb pollution and help combat climate change, will also be aided by quantum chemical calculations. The production of pharmaceuticals and performance materials is currently heavily dependent on trial and error, meaning it is an iterative, time-consuming and terribly costly operation. It could soon be possible for Quantum computers to change this. They will significantly shorten product development cycles and reduce the costs for R&D.

Robotic retail

Historically, many businesses have turned robotics around, although a few select markets have remained relatively unchanged-such as grocery retail. Grocery retailing will no longer look the same with the use of a modern robotics application called 'micro-fulfillment'. This 100-year-old, \$5 trillion industry will be disrupted by the use of robotics downstream at a 'hyper local' level (as opposed to the conventional upstream application in the supply chain) and all its stakeholders will face major change. Retailers can work on efficiency at a higher order of magnitude, which will result in positive and lucrative returns (unheard of at the moment) in the online grocery market. This technology also provides customers with wider access to food and a better customer proposition: speed, variety of goods and prices. Micro-fulfillment centers are situated at the store level in current (and usually less productive) real estate and can run 5-10% cheaper than a brick and a brick and mortar store. We predict that value will be equally captured by retailers and consumers as online.

Closing the wealth gap

Improvements in AI would eventually bring the masses within reach of access to wealth formation. The foundation of wealth management has been financial advisers who are experience workers: using personalized techniques to transform a small nest egg into a larger one. As information workers are costly, access to wealth management has always meant that to maintain and expand your wealth, you already need to be wealthy. As a result, wealth management has traditionally been out of the control of those most in need of it. Artificial intelligence is developing at such a rapid pace that the techniques used by these financial advisors will be available to the masses through technology and therefore affordable. Much like you don't need to know how near-field communication works to use ApplePay, to be able to make their money work for them, tens of millions of people won't have to know modern portfolio theory.

Self-driving trucks

Before we ever saw one on the highways, we were almost used to the notion of driverless vehicles. The fact is, you might well see a lot of driverless trucks. Logistics make the world go round, after all. They're going to be easier to service than standard rigs, driving smoother and therefore consuming less power. Computers never get tired or need breaks in comfort, so they're going to run longer routes. And to reduce wind resistance, they could drive in convoys, nose-to-tail.

These possibilities are already being discussed by companies like Mercedes and Peloton, and if the expected gains materialize, freight companies might upgrade whole fleets overnight. On the downside, it might put drivers out of work immediately, and even workers set up at the truck stops to support them, but several businesses have said that the trucks would always need a human passenger to ensure that their freight is safe.

Tactile virtual reality

A prototype system that aims to bring contact within the scope of VR has been created by researchers from Northwestern University using a flexible material fitted with small vibrating components that can

be connected to the skin. In other instances, the device, referred to as epidermal VR, may also be beneficial, from a child touching a monitor relaying the gesture to a family member residing elsewhere, to helping people with amputations regain their sense of contact.

In gaming, when a strike happens on the corresponding body part of the game character, it might warn players. The architecture of the team features 32 vibrating actuators on a thin silicone polymer 15 cm by 15 cm that sticks without tape or braces on the skin and is free of large batteries and wires. To pass the data, it uses near-field communication (NFC) technology, which is used today for mobile payment in many smartphones.

The result is a small, lightweight device that can be worn and used indefinitely without restrictions, "says the project's worker, Professor John A Rogers." Scientists hope that the technology will eventually make its way into clothes, enabling people with prosthetics to wear VR shirts through their fingertips that communicate contact.

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