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A new era has begun, I'm talking about 5G. this is the fastest speed we have ever known for wireless tech and it continues to marry IoT in ways we have yet to see. Our newsletter this month brings you 6 new IoT trends and explains 5G -Computer Village

## **6 Key IoT Trends and Predictions for 2019**

By DataArt -December 14, 2018

The Internet of Things (IoT), once a niche technology for startups, is now a technology on which billion-dollar enterprises are building their futures. IoT has already changed the way we live. There's a great deal on the horizon. Here are the six top IoT

IoT Practice experts at the global technology consultancy DataArt present these IoT predictions for 2019 as the main trends to watch.

### **1. Edge Computing**

Devices will become more and more powerful enabling local data processing and AI capabilities. It will reduce data transfers volumes and cloud dependencies and will provide more flexibility and agility for business. Edge computing will significantly affect those industries where immediate action is needed based on complex real-time data analysis (manufacturing, public security) and where cloud connectivity may be restricted (shipping and logistics).

### **2. The Security Race Heats Up**

The race will be on to develop the most secure IoT solutions: a key step towards the transformation of the industry. Industry experts will focus on tackling the major security concerns and vulnerabilities surrounding IoT that have thus far subdued widespread adoption.

### **3. Big Players Will Dominate**

We will see intensified competition from industry giants such as AWS, Microsoft, and Google, as large IoT platforms become the norm. These big players will acquire a large portion of the market and will continue to increase their footprint organizations flock to them for the promise of simplification at scale. While big IoT platforms battle for market share, we'll see smaller players focus on niche areas to survive (e.g. data movement, industry-specific challenges, certain types of devices, etc.).

### **4. Smart Device Applications Will Continue To Rise**

As the vast majority of companies move important systems to the cloud, more and more are choosing a hybrid approach, with multiple vendors. In the coming years, cloud engineers will develop solutions at scale that are a mix of both in-house technology and outside systems -- going beyond Amazon engineers working on AWS or Microsoft engineers working on Azure.

### **5. Automotive Business Models Will Shift**

Data is becoming the lifeblood of the automotive industry. The automotive industry will continue progressively to adopt IoT technologies to enable vehicles to seamlessly gather and monitor data and communicate with smart city services and other vehicles. As a result, the automotive industry will shift further toward data-driven business models. We can see the shift specifically with OEMs (original equipment manufacturers)

that are investing significant amounts of money in innovative startups to analyze and process data.

## 6. The Era of 5G Dawns

5G networks—already one of the most anticipated technology trends in the industry—will usher in a new era for IoT. They will support an increasingly interconnected world that will drive IoT innovation further. It will allow gathering, managing, and analyzing data almost in real-time. 5G will also significantly broaden the IoT market into areas where time and bandwidth speed are crucial, unlocking unrealized revenue and potential.

### Conclusion

In a few years, IoT has had a profound effect on everyday life. The hotly anticipated rollout of 5G promises dramatically to alter the IoT space in the coming year. From reshaping how we drive to managing our cities to transforming entire industries, only time will tell whether these IoT predictions for 2019 will bear out, but the IoT Practice experts at DataArt are confident in their conclusions.

*-Written by Igor Ilunin, Head of IoT at DataArt*

<https://www.iotforall.com/6-key-iot-trends-and-predictions-for-2019/>



### WHAT IS 5G?

5G stands for fifth-generation cellular wireless, and the initial standards for it were set at the end of 2017.

The G in 5G means it's a generation of wireless technology. While most generations have technically been defined by their data transmission

speeds, each has also been marked by a break in encoding methods, or "air interfaces," which make it incompatible with the previous generation.

- 1G was analog cellular.
- 2G technologies, such as CDMA, GSM, and TDMA, were the first generation of digital cellular technologies.
- 3G technologies, such as EVDO, HSPA, and UMTS, brought speeds from 200kbps to a few megabits per second.

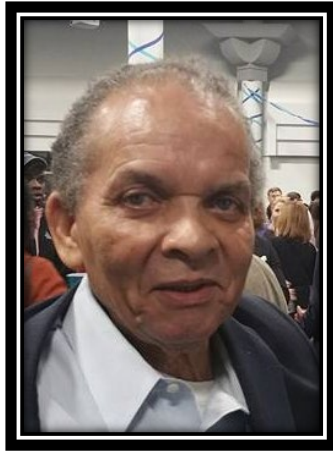
- 4G technologies, such as WiMAX and LTE, were the next incompatible leap forward, and they are now scaling up to hundreds of megabits and even gigabit-level speeds.

5G brings three new aspects to the table: greater speed (to move more data), lower latency (to be more responsive), and the ability to connect a lot more devices at once (for sensors and smart devices).

## **WHAT ARE THE OBJECTIVES OF 5G?**

- Like other cellular networks, 5G networks use a system of cell sites that divide their territory into sectors and send encoded data through radio waves.
- The goal is to have far higher speeds available, and far higher capacity per sector, at far lower latency than 4G.
- 5G home internet is also much easier for carriers to roll out than house-by-house fiber optic lines. Rather than digging up every street, carriers just have to install fiber optics to a cell site every few blocks, and then give customers wireless modems.
- The first round of 5G phones will only support some of the 5G systems being used in the US. They will not support low-band, FDD networks, such as T-Mobile's 600MHz and AT&T's old 3G spectrum. So if broad 5G coverage is more important to you than top speeds in urban areas, you may want to wait for phones that support those networks during the second half of the year.
- The top ideas included a game streaming service; a way to do stroke rehab through VR; smart bandages that track your healing; and a way for parents to interact with babies who are stuck in incubators. All of these ideas need either the high bandwidth, low latency, or low-power-low-cost aspects of 5G.
- Another aspect of 5G is that it will connect many more devices. Right now, 4G modules are expensive, power-consuming, and demand complicated service plans, so much of the Internet of Things has stuck with Wi-Fi and other home technologies for consumers, or 2G for businesses. 5G will accept small, inexpensive, low-power devices, so it'll connect a lot of smaller objects and different kinds of ambient sensors to the internet.
- The biggest change 5G may bring is in virtual and augmented reality. As phones transform into devices meant to be used with VR headsets, the very low latency and consistent speeds of 5G will give you an internet-augmented world, if and when you want it. The small cell aspects of 5G may also help with in-building coverage, as it encourages every home router to become a cell site.

*-By Sascha Segan December 14, 2018 9:44AM EST  
<https://www.pcmag.com/article/345387/what-is-5g>*



**Computer Village**  
Executive Director - Don Holt

Don has been on the battle field for youth development and education for over 30 years. Retirement from Xerox only gave him more time for his passion. Don Holt is an “Unsung Hero” and advocate for youth, education and the black community.

“Don continues to stress the importance of IoT as a major component for the growth of young people associated with job stability and economic success in our community.”



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