

SYMBIOSIS OF 5G TECHNOLOGY AND INTERNET OF THINGS

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Today, the world is on the cusp of a new technological revolution in wireless networks, triggered by the launch of the fifth generation of mobile communications (5G technology). This mobile communications standard is characterised by high internet speeds (up to 25Gbps) with minimal signal transmission delays (less than 2 – 5ms). The Internet of Things (IoT) is another equally breakthrough technological phenomenon of recent years. The IoT concept has the potential to revolutionise business, society and the management of virtually any technological process. However, there are still many obstacles in the way. Fortunately, these can be overcome by combining IoT with 5G technology. The symbiosis of these concepts will dramatically change business and society, providing unique opportunities for smart devices to interact.

5G network technology is the key driver of crucial progress in IoT in the following ways:

1. Higher data rates and lower latency – 5G technology improves the IoT with faster data rates and lower latency, which can enable new real-time applications and services, and make the IoT more efficient and responsive.

2. More bandwidth – 5G technology provides more bandwidth to connect more devices to the network, making it an ideal choice for IoT.

3. Increased battery life of IoT devices – 5G networks can help increase the battery life of IoT devices because 5G consumes less power than other wireless technologies.

4. Improving the security of IoT devices – 5G technology can help improve security of IoT devices by providing more secure connectivity and better data encryption.

5. Improving coverage for IoT devices – 5G technology can help improve coverage for IoT devices by providing a stronger and more reliable signal.

Thus, by integrating 5G technology, there will be a significant increase in IoT efficiency in the years to come. 5G networks will help improve the performance, reliability and security of connected devices. 5G will provide a faster communication environment, resulting in devices being able to coordinate and complete tasks faster. It will also provide an ultra-low latency network, increase battery life and improve coverage of IoT devices. Finally, because 5G has high bandwidth, more devices can be connected to an IoT network without any loss of quality.

At the first glance, the impact described is one-sided: IoT is the donor and 5G the acceptor. In fact, however, only the radical increase in subscriber density typical of IoT and other new consumer types ensures the payback of 5G, makes it a true commercial technology and facilitates further 5G evolution. Hence, there is a relationship of mutual benefit, i.e. 5G – IoT symbiosis.

As a whole, 5G and IoT together with Artificial Intelligence and Cloud Computing, Big Data and Analytics, Robotics and Mechatronics became integral part of the future digital transformation of the world.