5G: THE NEW GENERATION OF MOBILE NETWORK

You probably already heard something about 5G. But, do you know exactly what it is and its main differences from other mobile networks already available? Basically, we can say that 5G is the next generation of mobile networks that can be used to connect people, devices, objects, and machines virtually.

This new technology comes with a set of advances that will be able to improve the quality and the speed of connections as we know, such as:

Speed increase: 10 times bigger than 4G, getting to 10Gbps.

Low latency: with the goal for 1 millisecond.

More efficiency: it can be 90% bigger than 4G

bwtech

With all these improvements, 5G can revolutionize industries and bring technology even closer to our day-to-day activities. You must be thinking: but how? Take a look:

Improved broadband: with its higher network speed, the 5G technology can make 4K videos load almost instantly.

Internet of Things (IoT): the possibility to connect multiple devices and get data from one to another quickly with the low latency response will really begin to become something tangible for a lot of people. Also, autonomous vehicles and smart houses will be possible.

Public infrastructure: 5G will make the use of sensors to keep track of traffic analysis, water supply, drains flood, and even know when the street lights are out, even more efficient and reliable.

Another important point that stands out, is the dissemination of studies that indicate that the 5G network may reach 30% of the mobile network user base in 2025.

bwtech

How can 5G be used?

As we've seen before, the 5G technology can support a set of different connection services. But there are three main times that its use can be more easily perceived. Take a look:

Mobile broadband: 5G will turn possible new immersive experiences with virtual reality (VR) and augmented reality (AR), making them faster, with uniform data rates, low latency, and a more affordable cost-per-bit.

Mission-critical communications: industries will be transformed with ultra-reliable, available, and low latency links that will make remote control possible for infrastructure, vehicles, and medical procedures.

IoT: it will be possible to connect multiple sensors virtually, with the ability to scale down in data rates, power, and mobility providing extremely lean and low-cost connectivity solutions.

bwtech

Use cases

Below there's a list of services and products that can explore this new technology and make good use of 5G in different situations throughout our daily routines and lives:

Autonomous vehicles

To assure the proper functioning of autonomous vehicles, it is necessary to have a network with a low latency time index and high reliability, so that the controls related to the identification of other vehicles, people and sensors can work in the best possible way.

Emergency situations communication

In emergency situations, a highly reliable network is extremely necessary. This makes it possible to establish fast and direct communications between the different parties involved so that the necessary relief efforts are guaranteed as quickly as possible.

bwtech

Use cases

Intelligent industries

The automation of industrial services can be enhanced with the use of a 5G network, since low latency and high reliability are required to guarantee the operation of controls on machines.

The use of 5G with machine learning and artificial intelligence can create entire factories where human presence is not even necessary.

Smart cities

With the use of equipment distributed in essential services in cities, they can increasingly become intelligent spaces. This will be possible thanks to the exchange of information between these devices that are capable of identifying regions with needs such as electricity, water supply, garbage collection, etc.

bwtech

Use cases

Healthcare

Due to the low latency that 5G networks have, it will be possible for healthcare industries to use even more technology in their activities. Remote control devices can be used for diagnosis and treatment, which could help hospitals in hard to reach areas or with the lack of some specific professionals, and even perform robotic surgery.

The technology's higher speed also brings the possibility for a connection between an ambulance and a hospital. This will make them able to share information about patient status even before they get to the hospital, giving more time for doctors and professionals to make more accurate treatment and arrangement decisions.

Use cases

Virtual reality and augmented reality games

Gaming industries and a set of other segments can benefit from the application of virtual reality (VR) or augmented reality (AR) due to the increasing number of products that can make the connectivity between the real and virtual worlds possible.

AR can make it possible for users to get instructions on how to operate an object in multiple kinds of industries and even make remote operation control possible. Object and product recognition can also be available with the use of mobile phones, turning the shopping experience even more attractive to consumers.

The gaming industry can make good use of 5G too. It can happen mainly with the VR possibility for game users to share and interact with in-game spaces, change positions with the use of body and controllers.

VR can also benefit events all over the globe, giving participants 360-degree videos of the event happening in other countries or regions or even a shared presence with the use of depth cameras. Even virtual meetings can become a possibility that might change the way new businesses are made.

Conclusion

The 5G network was globally deployed in November 2019, but in 2020 this topic gained a lot of buzz. That happened because that's when we began to hear about a host of 5G phones and the networks really started to expand the value of wireless communication.

A study by IHS Markit said that by 2035, 5G networks will support up to 13.2 trillion worth of sales and 22.3 million jobs. And that is something to keep an eye on. 5G Americas also released a white paper identifying some emerging services that 5G will make possible and bring a wide range of use, such as: home broadband replacement, cloud gaming and others.

There is a lot to be done in the meantime, and this new technology is not available everywhere yet. So, we will see many innovations and developments around 5G in the future as well as new use cases and its spread across the globe.

Bwtech has the experience and the know-how to support you in your journey towards 5G. Currently, there are several operators in different countries using Bwtech's planning and optimization tools to design, monitor and optimize their 5G multi-vendor networks.

Want to know more about our solutions? Feel free to get in touch with us! You can send an e-mail to **hello@bwtech.com** and we will talk soon.