5G's

ability to provide latencies of less than 10 milliseconds will see the data centre industry preparing itself for its arrival

For low-latency applications to be successful, you need more than just 5G. You also need to process these applications' data close to their sources using edge computing technologies like edge data centres. With edge computing you can avoid sending data back and forth from an edge device to a remote data centre. This significantly reduces latency and enables these new, low-latency 5G applications to reach their full potential.

5G Networks will cover 40% of the World by 2024, handling 25% of all mobile traffic data (vxchnge.com)

$4.2 Billion

Gartner forecasts that worldwide 5G network infrastructure revenue will double in the next year, with revenue set to reach $4.2 billion in 2020. These capabilities will boost the uptake of billions of edge-based connected devices, creating a demand for flexible user-centric networks and driving compute and storage resources closer to both users and the devices.

HEALTHCARE

BT in partnership with West Midlands 5G and University Hospital Birmingham demonstrated the potential for 5G connected ambulances, bringing together virtual and augmented reality along with haptic wearables. Through a VR headset, the clinician can view a high-definition feed enabling them to visualise in real-time what the paramedic is seeing, and direct them through the haptic glove.

RETAIL
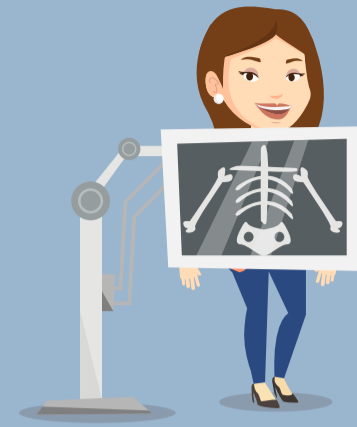
The higher connectivity speeds, open up opportunities for innovations such as overlaid visuals via customers pointing their smartphones at products, the use of 3D technology or even in-store sensors to trigger recommendations and tailored advice. Retailers will be able to interact with their customers in ways that wouldn't have been possible before.

PUBLIC SECTOR

5G networks will power the sensors and devices that support cities' mobility networks. This will give rise to connected autonomous vehicles and intelligent transportation networks. All of which will reduce the number of vehicles on the road.

VR can make lessons more immersive and keep students engaged, but it involves transmitting huge amounts of data, particularly if headsets are wireless - which results in lag that can be distracting or frustrating. With 5G, teachers will be able to share rich virtual experiences with their classes, exploring the solar system, the human body, the structure of a flower and the ocean floor without leaving their seats.

EDUCATION

IMPACT ON DATA CENTRES

CONTENT WILL BE EASILY ACCESSIBLE BY USERS

Considering users spend most of their time on smartphones, a rise in the speed of the networks means they will be able to access the content in lesser time. Users will not have to wait for buffering of videos or waiting for web pages to get loaded. Even the time-sensitive material will be easily accessible, making them end up with more free time even after going through all the available content. This will bring pressure on the data centers to make more content available on the network and manage them.

DATA EFFICIENCY WILL INCREASE

It is also found that the 5G network will enhance data efficiency. It will serve the users with nearly 100 times higher transmission rate than that observed with 4G networks. This will make it necessary for the data centres to look forward to introducing operations that could manage resource-intensive data without compromising on the energy consumption and cost factor.

STORAGE REQUIREMENTS WILL INCREASE

As discussed above, 5G technology will bring forth the need for more content in the market. With an increase in this demand, the need for higher storage will also come in the limelight. Data centres will turn towards Cloud and other technologies to store and manage ample data.

INFASTRUCTURE WILL BE TWEAKED

5G technology will bring a similar effect on data centres as the advanced technologies like Artificial Intelligence, and AR/VR brought on the industry. The technology will boost the flow of highly-robust and engaging user experience, which will make it necessary for the data centres to improve their processes and infrastructure to deal with such highly-innovative content and technologies. A market prediction has revealed that 5G mobile technology will make data centres and other networking companies to invest around $326 billion on IT infrastructure by the year 2025, which will be approximately 56% of their total expenses.

MORE LOCAL DATA CENTRES WILL NEED TO BE SET UP

5G technology, coupled with the Edge computing concept, will encourage gathering and processing of data at local nodes rather than transferring the whole to the centre of the cloud and then, provide useful content to the users. This concept will add pace to the entire process and reduce the tension on the transmitting wires and methods. However, at the same time, it will bring the requirement for a higher number of local data centres.