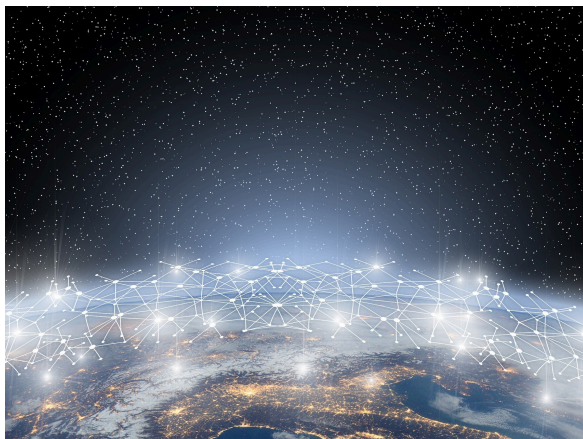


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Smart city: enthusiasm but caution on new 5G technology

5G networks no doubt have the technological specs necessary to power smart cities, but without careful design and planning the complexity of integrating everything from traffic to health care could prove overwhelming



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Long-touted advances of smart cities may finally become reality with the increases to wireless network speeds and bandwidths promised by the switch to 5G. Seamless integration of our homes, cities and utilities can change the way we interact with everything from grocery stores to doctors.

The 5G upgrade will make some smart city applications, which until now were only possible in principle, a reality. Applications like autonomous public transport, smart energy

and utility grids and remote/in-home connectivity to medical services and assistance for example.

While it has been easy to envision these applications, previous networks were inadequate and couldn't carry the amount of data needed, reliably or quickly enough. Massive increases in the speed and capacity of 5G networks, coupled with practices like network slicing (where multiple virtual networks each customised for specific tasks can be created and supported by a common physical infrastructure), could create the network environment to support a true smart city. With the speed and data capacity issues potentially solved, it will be important to ensure the connectivity of the upgraded networks.

"Aside from speed, the connectivity of the networks is a very important aspect," says

Dr. Knud Skouby, from the Center for Communication, Media and Information Technologies at Aalborg University in Copenhagen. Unbeknownst to most, our devices are constantly jumping between networks as we move through a city, for example connecting to Wi-Fi upon entering a building. This creates a risk for connection problems. A lost connection on a phone call is annoying but, “when it’s a fully autonomous car in a complicated traffic situation it is not only annoying, it could be a catastrophe,” remarks Skouby. 5G offers better connectivity that can mitigate and perhaps eliminate these risks.

However, as Dr. Skouby points out, there are still some unexpected challenges associated with upgrading to a truly smart city. “5G is the engine that can make this possible but to make it useful we have to think about how it will be built.”

Planning how and which systems will connect or talk to each other is a massive undertaking involving engineers, data scientist programmers and governments. If the many separate systems and software are not designed properly, the promises of efficiency and speed cannot be kept. Considerations concerning the integration of hardware like sensors, antennas and fibre optics cable are another planning challenge.

Facilitating smart city and 5G infrastructure could create a huge demand for public real-estate. Alex Gamota, Sr. VP and General Manager for the ICT Division of BigBelly, a provider of smart waste bins and other smart city platforms, cautions that this space needs to be carefully allocated. “Think of a streetscape where you have a traffic sign, often times that pole will have several signs on it. If you had stand-alone structures for each application, there won’t be enough real-estate,” he explains. Cooperation between the caretakers of public spaces and utilities and private companies will be a necessity. “Real-estate and public space is a scarce commodity,” says Gamota. Therefore a clever use of existing infrastructure is needed to “help us maintain our streetscape.”

Read the full article: <http://www.remourban.eu/news--events/news/smart-city-enthusiasm-but-caution-on-new-5g-technology.kl> 

Schlüsselbegriffe

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