

# 5G and DAS

## What the Future Holds for Indoor Networks

5G is the fifth-generation wireless technology for digital cellular networks. It will help support the massive growth of the Internet of Things (IoT) and enable devices, machines, and objects to communicate with each other seamlessly through the convergence of mobile communications and computing.

**4G**

### 4G TOWER

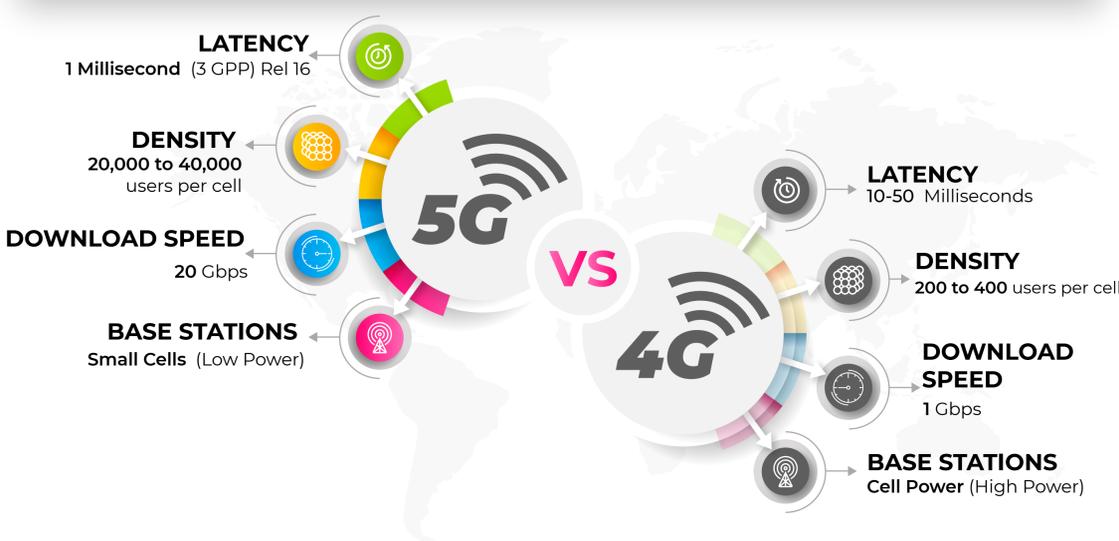
2,000 devices with some traffic delays

### 5G TOWER

2+ million devices with negligible delays.\*

**5G**

### Technical Comparison: 4G vs 5G



**100x faster**



**5x more responsive**



**100x more devices**

## Not just an evolution, but a revolution in technology

The most revolutionary technological upgrade since the advent of the internet will require expanding and upgrading existing network infrastructure, particularly indoors, to ensure reliable 5G in-building coverage.

### DAS and Small Cell can work together to reduce the cost of deployment, cabling, and space requirements



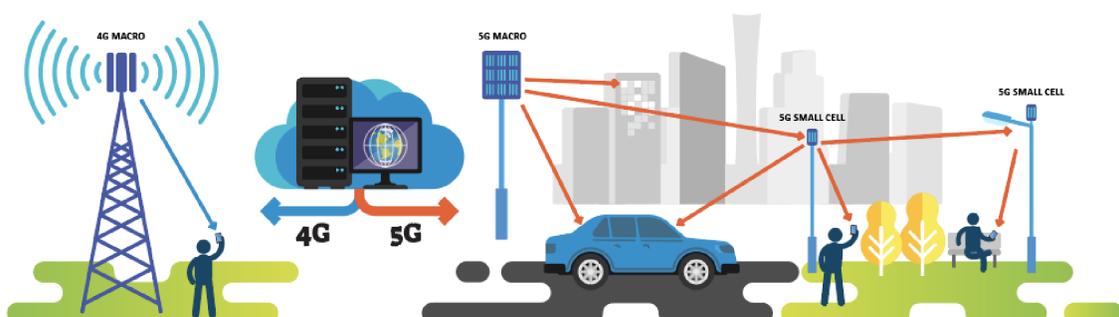
#### DAS

A Distributed Antenna System works like a system of cell towers scaled down to engage smaller antennas inside a building, creating a network to deliver signal indoors.



#### SMALL CELLS

Small Cells connect directly to the carrier network over an internet connection to generate a high-quality signal across various frequency bands.



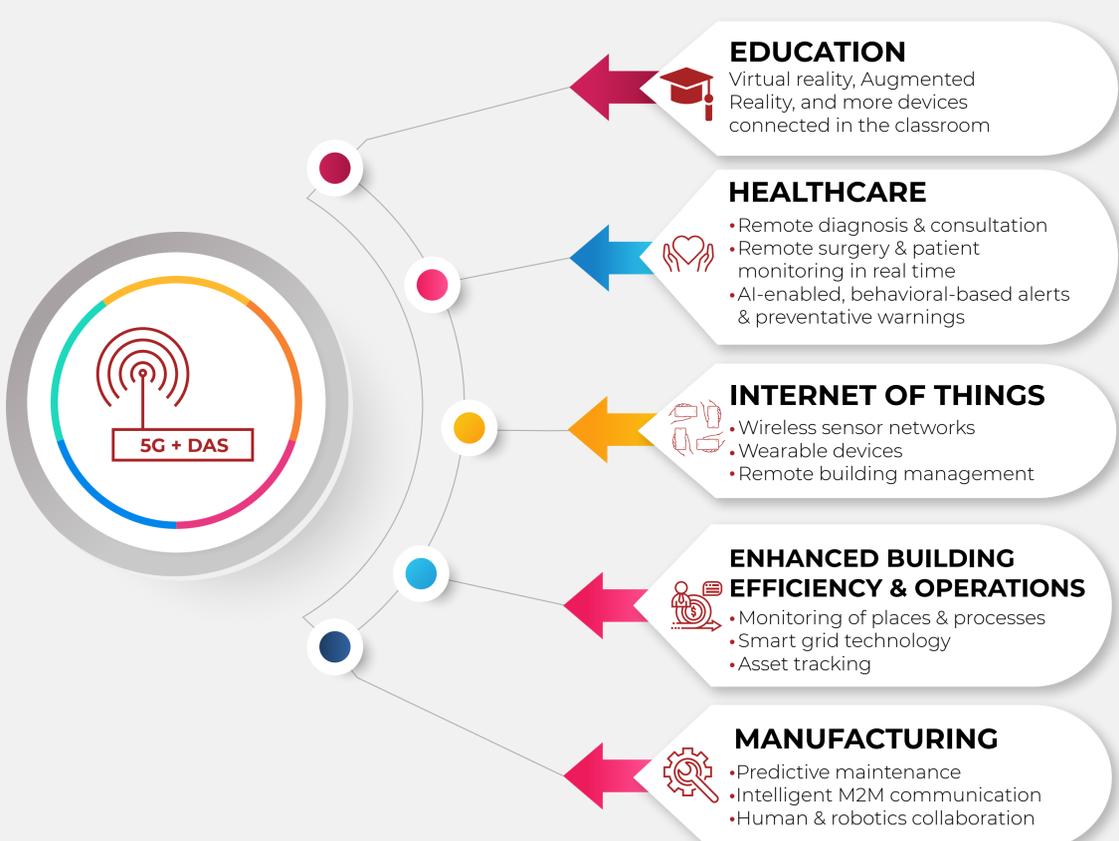
#### DAS

- A Distributed Antenna System works like a system of cell towers scaled down to engage smaller antennas inside a building, creating a network to deliver signal indoors.
- Supports tens of thousands of users and can reach extended distances with singlemode fiber

#### Small Cells

- Small Cells connect directly to the carrier network over an internet connection to generate a high-quality signal across various frequency bands.
- Supports 64-128 users and extends from 5,000-12,000 square feet

### 5G and DAS enable an explosion of new applications



### Let NCS Guide Your Internal 5G Connectivity

Don't hesitate to speak to a member of our dedicated DAS team today to discuss your facility's requirements. To learn more about our team's capabilities, visit us at [www.ncs-tx.com](http://www.ncs-tx.com).

\*per square mile  
\*\*Many DAS systems installed before 2019 cannot be directly upgraded to support 5G NR (New Radio) due to millimeter wave frequencies.