

How Does 5G Work?

5G or fifth-generation mobile promises blazing speeds (up to 10 Gbps) and nearly zero latency (~1 millisecond), enabling technologies like self-driving cars, internet-of-things devices and remote surgery. But 5G's high-band spectrum requires hundreds or thousands of transmitters to keep signals strong and unimpeded—ideal for cities and towns but less useful in rural areas. Here's how it works.

● 5G device ● Base station ● Antenna

Remote surgery using robotics

Personal health monitoring device

Base Station

Base stations with hundreds of antennas inside collect signals from transmitters and relay them to the core network.

Antenna

A network of transmitters ensures direct, close connection to devices.

5G antenna array

5G Device

As 5G proliferates, nearly all wireless devices will be enabled to use the network.

Ultra-fast internet on handheld devices

Internet-of-things (IoT) devices

Self-driving car

Extremely accurate GPS