

Future Mobile 5G

The 5th Generation of mobile networks — 5G — will be a **software-defined, data-powered network** with **blazing fast** Internet speeds. **5G technology will help us connect more devices faster, enable lower latency uses, increase battery life and handle more data – like surging video growth on mobile networks.**

5G promises to take people places they've never been by unlocking new experiences such as augmented reality, virtual presence, connected cars, real time activities such as gaming, and enhancing experiences such as telemedicine and connected homes.



Enhanced Mobile Broadband

Explosive wireless network growth “**from 20 million devices to 20 billion devices**”



Internet of Things (IoT) Connectivity

The 5G network will be able to provide for massive IoT, from connecting sensors telling farmers when they need to water their fields to a city better managing traffic flow.



Low Latency Applications

5G's ultra-low latency will be essential for applications that require real time communications such as certain telemedicine applications, robotics, real time gaming, and the use of live maps for navigation.

Economic Impact of Wireless Network Investment¹

\$275 Billion
INVESTMENT

3 Million
NEW JOBS

\$500 Billion
GDP GROWTH

Small Cell Deployment

**Spectrum Bands Above
24 Ghz (mmWave)**

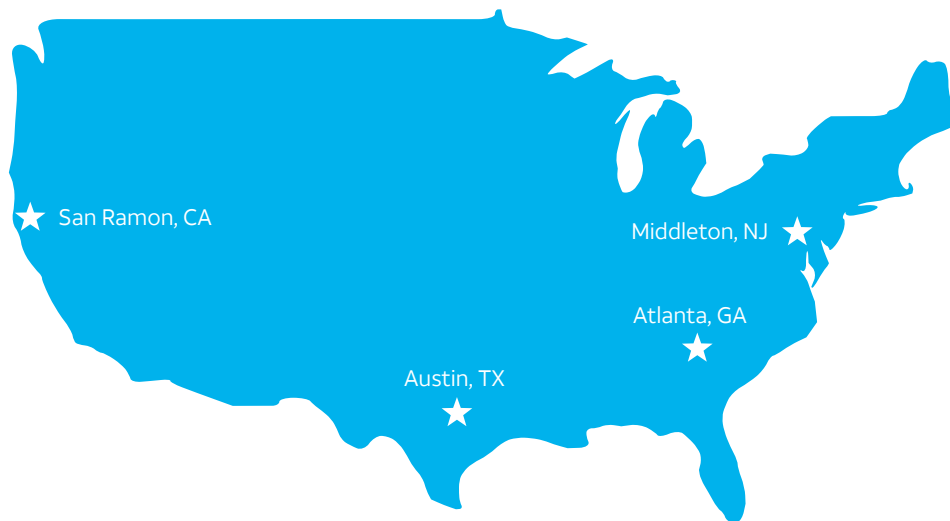
**Ultra-high data rates and
reliability**



Evolution of 5G

AT&T is in a unique position to support next-generation applications quickly and efficiently thanks to our Software-Defined Network, Big Data and Open Source network approach, combined with our **broadband build-out commitment to millions of locations** throughout the United States.

AT&T tech trials help pave the way for future 5G industry standards for 5G, as well as allow AT&T to deliver fast speeds and high network performance. In labs testing, AT&T has reached speeds up to 15 Gbps with fixed wireless 5G.



Trials test mobile and fixed wireless solutions operating in mmWave spectrum.

AT&T Austin 5G Tech Trials

Late 2015 - Started 5G lab work

May 2016 - Began testing 5G services and equipment

Nov 2016 - Launched industry's first 5G business trials using mmWave technology

June 2017 - Expanded fixed wireless 5G trials to include residential customers streaming DIRECTV NOW, at speeds up to 1 gigabit per second

AT&T expects to be the first U.S. company to introduce mobile 5G service in a dozen markets by late 2018.

5G Evolution Markets

Trials help accelerate commercial deployments in the **28 Ghz and 39 Ghz bands**.

AT&T plans to launch 5G Evolution markets in Indianapolis, IN and Austin, TX offering twice the speeds of our 4G LTE network.²

5G Standards

AT&T is one of the top North American contributors to 5G industry standards and collaborates with over a dozen global technology companies.

Technical standards work accelerated in 2017 - paving the way to launch standards-based mobile 5G services to customers by the end of 2018.

5G Policy

Policymakers should **adopt sound spectrum policy and licensing approaches** in the spectrum bands above 24 Ghz. Policymakers should ensure that 5G infrastructure can be deployed quickly and efficiently.

Citations

1. 5G Messaging and Accenture Strategy 2017 5G Report, According to a new report from Accenture, commissioned by industry group CTIA. Deploying the next generation of high-speed 5G wireless networks could create up to three million jobs and add approximately \$500 billion to U.S. GDP through direct and indirect potential benefits. Accenture Strategy, Smart Cities: How 5G Can Help Municipalities Become Vibrant Smart Cities at pg. 1 (2017) (describing economic impacts of 5G deployment).
2. Claim based on AT&T standard 4G LTE 5G Evolution average download speeds. Available in select areas only. Requires capable device.

