5G is not just a network upgrade—it will help create a new application paradigm and pave the way for a new breed of network-intelligent applications that enable developers to solve problems previously out of reach.

These modern connected apps will use software-defined 5G technology to communicate and interact with the network, leveraging APIs to deliver a high-performance, optimized user experience.

### 5G characteristics

**Massive machine-type communications (M-MTC)**
- Provides wireless connectivity for billions of devices for scenarios such as smart cities or connected vehicle applications.

**Ultra-Reliable Low Latency Communications (URLLC)**
- Addresses mission-critical use case like AR-assisted surgery where the reliability and security of the 5G network (vs. Wi-Fi), along with low latency for instant response to events, is required.

**Enhanced Mobile Broadband (eMBB)**
- Offers greater bandwidth for apps that need to optimize video streaming and AR/VR performance for the fastest, most enhanced user experiences.

### Two ways to implement and deploy modern connected apps

**5G Private MEC**
- **How it works:** The organization designs and deploys the 5G network with end-to-end integration with the Azure Cloud and edge.
- **Use it for:** High security; enterprise control of 5G network in use cases such as video analytics, real-time robotics, and mixed IoT use cases at a global scale.
- **Where you'll find it:** Apps for highly secured large facilities such as airports, manufacturing, oil rigs, and transportation hubs. Think image recognition, predictive maintenance, or remote training apps.

**5G Public MEC**
- **How it works:** Operators provide all the 5G network infrastructure, Azure provides the edge and cloud services, developers focus on app logic.
- **Use it for:** Secure, reliable, high-bandwidth connectivity between applications that target consumers in industries such as media streaming, connected vehicles, and telehealth.
- **Where you'll find it:** Smart cities, faster lower-latency gaming and immersive metaverse apps, augmented experiences, and more.

### High-level architecture of a 5G connected app

With the new modern connected app paradigm, compute can happen on the edge or in the cloud. Either way, Azure is there to help.

### 5G enables applications based on cloud-native distributed architecture deployed on the edge close to the 5G infrastructure, in addition to the cloud, for new solutions that demand very low latency.

### Did you know 5G enables new application architecture paradigms?
- **Growing demand for low latency connectivity is driving large infrastructure investments.**

### Ready to learn more about how Microsoft is helping developers embrace 5G?
- Read the blog: How developers can benefit from the new 5G paradigm at aka.ms/New5GParadigm
- Sign up for news and updates aka.ms/ModernConnectedApps

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**$20 BILLION USD** cumulative six-year enterprise spending on business apps that need 5G

**75%** compound annual growth rate