



# T-MOBILE CONNECTS THE SPACE NEEDLE

Seattle’s Space Needle — built for the 1962 World’s Fair — is a world-renowned tourist destination and iconic symbol in the city skyline. To enhance visitors’ experience, the owners launched a comprehensive renovation project to update the physical systems of the 55-year-old structure, creating a floor-to-ceiling glass observation deck and dining area. Because guests like to share their visit to the landmark structure with selfies and social media posts, renovations also included building a robust wireless network. The owners asked T-Mobile to deploy a neutral-host distributed access system (DAS) to guarantee connectivity and bandwidth for visitors.

### The Challenge

The Space Needle posed design and installation challenges. Aesthetically, the antennas could not detract from the glass viewing environment and there was limited space for equipment and cabling. This was also a high-risk venue, with much of the work performed at 500-600 feet above ground. T-Mobile installation crews had to work around the on-going renovations and tourists since the building was open to the public during construction.

### The Solution

T-Mobile designed a unified wireless infrastructure architecture, based on the CommScope ION-E solution, to streamline deployment and minimize equipment needs. Universal access points (UAPs) deployed throughout the structure support multiple operators’ and public safety networks. The UAPs allow

installation with power-over-Ethernet cables, which eliminates electrical wiring to each unit and simplifies maintenance. T-Mobile interfaced the cables to a new fiber optic line it installed to provide fronthaul from the top of the structure to the headend in the basement. T-Mobile also installed a new multi-operator GPS system to ensure all visitors have 911 access.

### The Results

The DAS ensures a high-quality user experience even if the venue is full of visitors using network services from multiple operators. T-Mobile customers are enjoying typical data speeds of 127 Mbps (downlink) and 40 Mbps (uplink). T-Mobile is sharing the fiber capacity with the Space Needle, which is using the infrastructure to support data, phone and security applications, major media events and annual fireworks shows and LED lighting.

## QUICK FACTS

### Venue

The Space Needle

### Goal

Robust wireless coverage and capacity

### Success Metrics

- T-Mobile data speeds:
- 127 Mbps (downlink)
  - 40 Mbps (uplink)

### Technology

Neutral-host distributed antenna system (DAS)

### For More Information Contact

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