



# PNNL Verizon 5G Lab

Verizon is teaming with Pacific Northwest National Laboratory (PNNL) to support the Lab's mission to tackle some of the world's greatest science and technology challenges in areas like national security, energy efficiency, and scientific discovery. PNNL is the first U.S. Department of Energy national laboratory with Verizon 5G. The new 5G lab will be created on the PNNL campus in Richland, Washington.

## Why 5G?

5G is the fifth generation of mobile technologies. It will provide the communication fabric required to connect many advanced technologies, such as those in artificial intelligence and the Internet of Things (IoT). 5G is the nexus where these technologies will come together in new and exciting ways to transform and shape our world.

### KEY 5G FUNCTIONALITY INCLUDES THE FOLLOWING:

- » enhanced mobile broadband
- » ultrareliable low-latency communications
- » massive machine type communications

## Addressing Challenges

The PNNL Verizon 5G lab will address the following challenges facing 5G:

- » potential disruption on established practices across industry, including power generation and utilities, transportation and transportation security, communication infrastructure, first-responder networks, and agriculture
- » 5G implementation options
- » spectrum availability
- » data provenance and uninterrupted secure communications
- » integration with advanced scientific discovery and national security missions

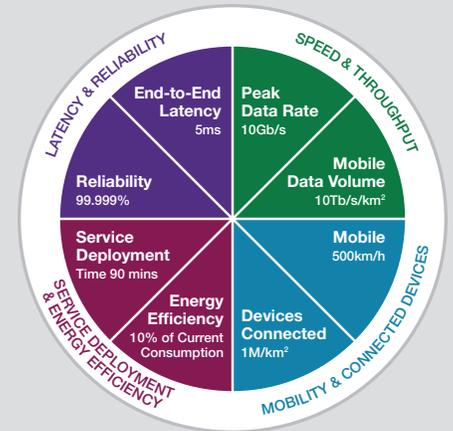


» Floor plan rendering of the new 5G lab at PNNL.

## Why PNNL?

Verizon partnered with PNNL on its 5G lab because PNNL provides the following:

- » leadership in advanced mobile communications research and development for federal sponsors
- » continued commitment to delivering effective solutions and insight to federal sponsors and valued partners
- » strategic approaches to advanced mobile communications (including 5G) that are tightly linked to its work in cybersecurity
- » innovations benefitting chemistry, Earth sciences, first responder needs, and more



» 5G capabilities.



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