The next-generation connectivity standard can improve augmented reality training, telemedicine and combat readiness.

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The Defense Department is in the midst of its second tranche of 5G testing and experimentation and is hoping to begin the wave of prototyping in 2021, as several of the tranche’s solicitation deadlines near on Nov. 15 and in December.
The second tranche, which DOD announced this past June, looks to enhance wireless connectivity, network interoperability and security, and offer greater augmented reality and virtual reality training capabilities to seven military sites, DOD Research & Engineering Technical Director for 5G Joseph Evans said at Wednesday’s ACT-IAC virtual event.

More specifically, the department will conduct 5G experiments on the following bases:

- Naval Station Norfolk will evaluate connectivity on ships and piers
- Joint Base Pearl Harbor-Hickam will evaluate enhancement of aircraft mission readiness
- Joint Base San Antonio will evaluate telemedicine and augmented reality support for medical maintenance and training
- The National Training Center at Fort Irwin and Fort Hood, as well as Camp Pendleton, will look at wireless connectivity on training for tactical operations and combat operations centers
- Tinker Air Force Base will evaluate bidirectional spectrum sharing in DOD and the private sector

“[There’s] really a wide range of types of experiments as part of [the] tranche," Evans said, "including how do you do that as those capabilities become more distributed and mobile."

At Joint Base San Antonio and other remote locations, he wants to launch a 5G core security experimentation network across those sites, leveraging multiple vendors, building interoperability and figuring out how to best verify security across those environments, Evans added.

The tranche experiments also aim to improve overall 5G-enabled immersive training and education at Tinker Air Force Base, Evans said. With COVID-19 pushing many at military education facilities to learn and train remotely, 5G networks are critical to aiding in pandemic-induced pivots.
“The DOD has a large number of schoolhouses and other training facilities for the force,” Evans said. “How do you enhance those for 5G, particularly in environments that we’re facing now, where we need to use telecommunications means in order to disperse that training because of COVID?”

Most of experiments across the second tranche are largely in the white paper stage of their solicitations, Evans said, although some will reach this stage within the next couple of months.

Two of the solicitations for three sites (Camp Pendleton, Naval Station Norfolk and Joint Base Pearl Harbor-Hickam) are already being solicited through the Information Warfare Research Project consortium, which held an industry day in October.

For the rest of the experiments, the white paper deadlines are as soon as Nov. 15, but may be pushed back into December, Evans said.

As the second tranche ensues, it builds on the first wave of 5G technology experimentation and prototyping that began last year, which occurred at five other military sites. Those efforts largely looked to improve augmented and virtual reality training for combat purposes, smart warehousing and report logistics, and improved command and control capabilities.

The tranches overall stem from the DOD 5G Strategy, which provides a broad 5G development roadmap across the military.