5G FutureG Initiative Overview

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DoD 5G – Future G Initiative - Overview

Innovate, accelerate, and deploy dual-use next generation wireless technologies to master the connectivity of everything Objectives:

- 5G Prototyping & Experimentation
 - To accelerate development and deployment for military operations
 - Eight military use cases at fourteen military installations





(Remote Training)

Next Gen Range

(Future Training Ranges)



(Expeditionary Advanced Base

Ops)

EABO Wireless Comms



Telementoring (AR/VR Guided Medicine)



Emergency Services (Pierside Communications)

- Securing 5G
 - Enable military operations over untrusted networks
 - Understand and mitigate the risks and vulnerabilities of 5G for military ops
- Innovate Beyond 5G
 - Create NextG technologies to influence future wireless standards
 - Invest in NextG to help US regain leadership in wireless technologies
- Reinforce these thrusts with interagency and international partnerships



DoD 5G Strategy & Activities

Promote Technology **Development**

Assess, Mitigate, and **Operate Through 5G Vulnerabilities**

Influence 5G **Standards** and Policies

Hosting 5G Demonstrations – Prototype and experiment from nets to apps **RF Technology** – Leverage US millimeter wave expertise **Dynamic Spectrum Sharing** – Evaluate sharing for key DoD systems **Open Architecture & Virtualization** – New architectures for innovation & security Workforce Development – DoD expertise for 5G and beyond

Threat Intelligence – Understanding adversaries' capabilities Minimizing 5G Infrastructure Risks – Mitigate supply chain vulnerabilities **Operate Through** – Use 5G globally despite adversary capabilities 5G Security Assessments – Discover, assess, and mitigate vulnerabilities Cybersecurity and Zero-Trust – New architectures for in-depth security

Standards Bodies – DoD-wide engagement w/ 5G organizations, e.g., 3GPP Advanced Spectrum Management – Modernize policies to be dynamic 5G-Enabled Concepts of Operation – Modernize DoD telecom use **Technology Control Measures** – Review foreign investments, export controls

Engage Partners

International Allies and Partners – Supply chains, assessments, experiments Industry Engagement – Engage with 5G industry ecosystem **Congressional Engagement** – Strengthen incentives, fix open market distortions



5G FutureG Initiative Roadmap





5G Experiments at 16* Locations





Operate Through Summary





Innovate Beyond 5G (B5G) Summary





Open 5G Activities

• Exploring Open 5G with interagency partners

- Open interfaces (e.g. ORAN) , not necessarily open source
- Open Stack 5G Challenge in collaboration with National Telecommunications and Information Administration (NTIA)
 - NTIA issued Notice of Inquiry (NOI) in January, responses currently being evaluated, aiming for solicitation in 1Q FY22
 - Challenge published April 06, 2022
- Enable end-to-end experimentation aligned to DoD CONOPs
- DARPA and OUSD(R&E) collaborative project
 - Multisite Open Programmable Secure 5G (OPS-5G)
 Joint Independent Testing Option (MOJITO)
 - Testing at NIWC PAC and multiple DoD 5G sites



DoD 5G Summary

- The 5G Initiative is moving out smartly to meet its major objectives.
- Lessons learned from initial procurements (use of OTAs and purchasing leadingedge tech) are being applied to expedite and clarify later procurements.
- OUSD is making a concerted effort to recognize and address the global needs of the Combatant Commands and the Services.