



Developing an Agile Standards Process for 5G in DoD and NATO

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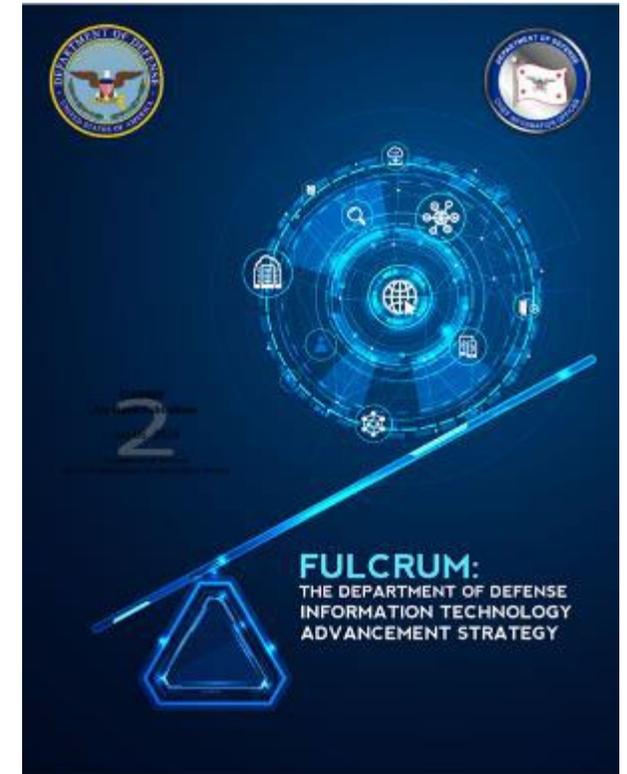
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Fulcrum: DoD IT Advancement Strategy



- LOE 1: Provide Joint Warfighting IT capabilities
 - To expand strategic dominance of U.S. Forces & mission partners
- LOE 2: Modernize information networks and compute
 - To rapidly meet mission and business needs
- LOE 3: Optimize IT governance
 - To gain efficiencies in capability delivery and enable cost savings
- LOE 4: Cultivate a premier digital workforce
 - Ready to deploy emerging technology to the warfighter





About the 5G Cross Functional Team

Charter, Mission, and Transition to DoD CIO



Our Charter – SecDef empowered Team to:

- Advise the Secretary of Defense and other senior leaders on the acquisition, sustainment, and operation of 5G.
- Support public-private partnerships between DoD and industry regarding 5G.
- Coordinate activities including research and development, implementation and acquisition, warfighting concept development, industrial policy and commercial outreach, and interagency and international engagement relating to 5G.

Our Mission:

- Advance adoption across the Department of commercially available 5G and next-generation technologies, capabilities, security, and applications.

Our Vision – From R&D to Operationalizing 5G:

As DoD's focus shifts from R&D to enterprise implementation of 5G, DoD CIO is leading efforts to:

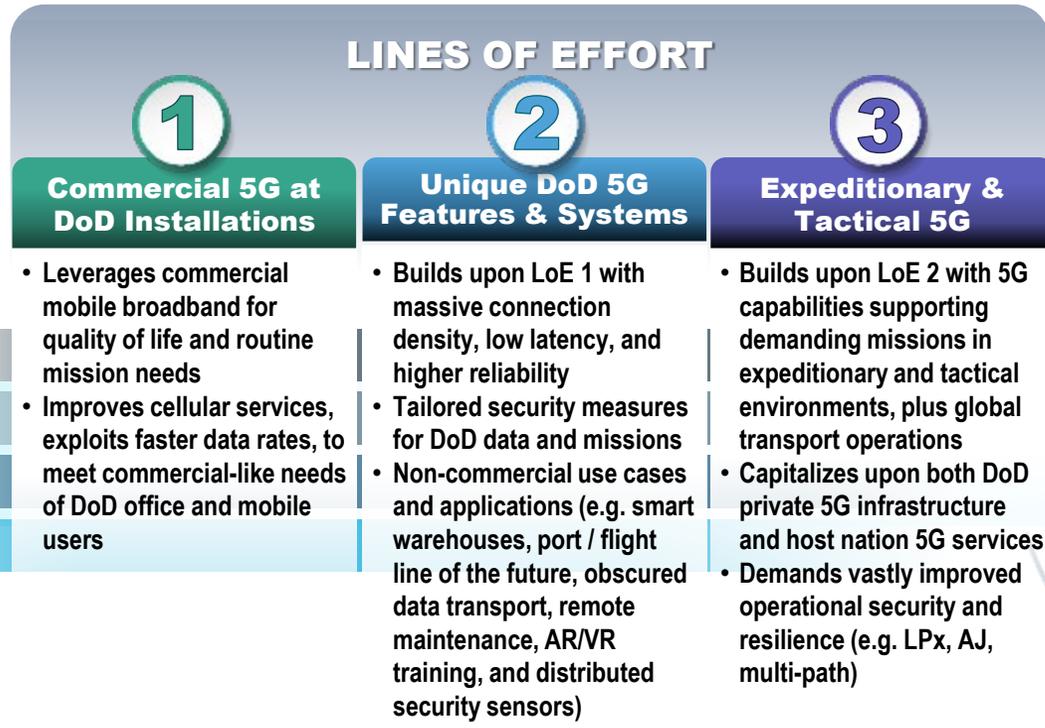
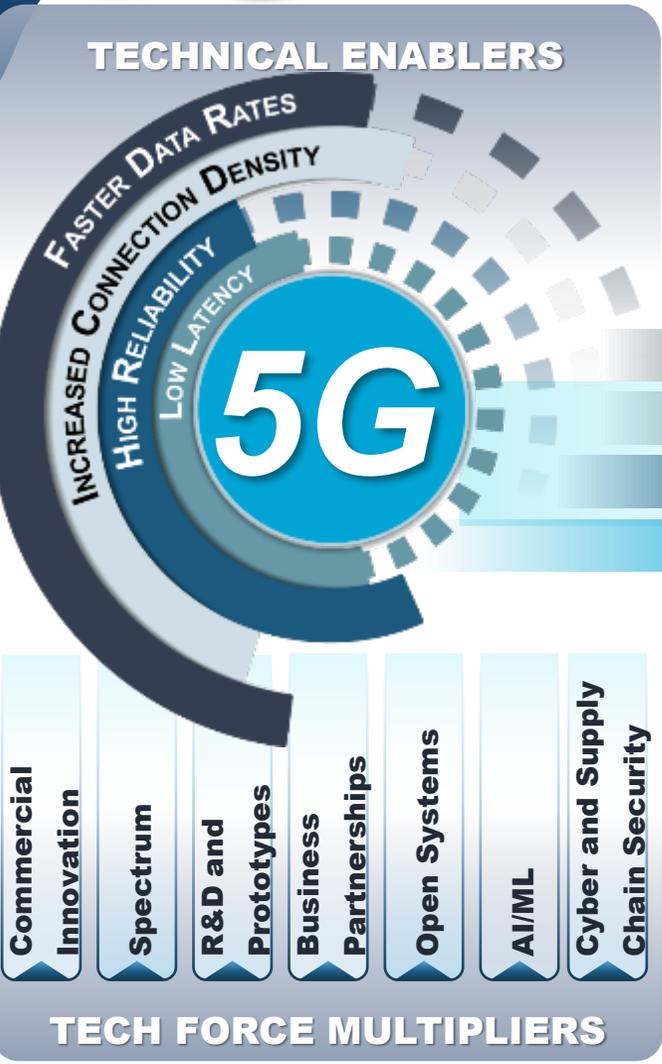
1. Field mature 5G capabilities to the warfighter
2. Accelerate Open Radio Access Network (Open RAN) architectures in DoD
3. Contribute to international standards development organizations.



DoD 5G Vision



The central challenge for DoD is to Adopt, Develop, and Deploy commercial technology for asymmetric warfighter advantage



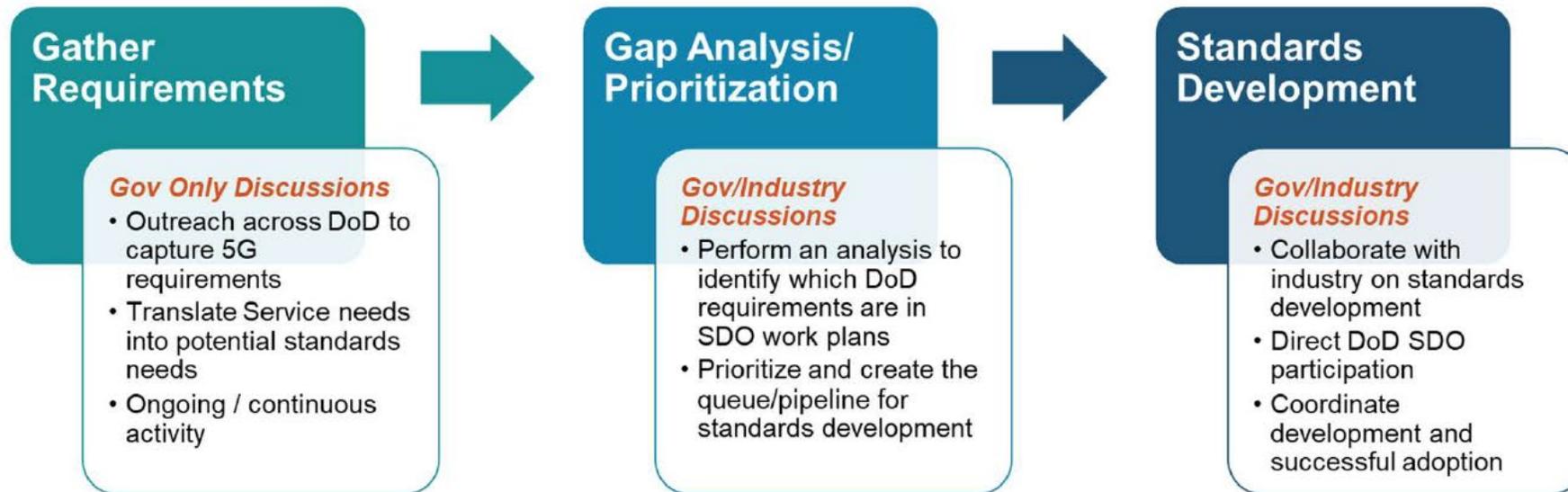
2020 Signed Memo Issued for Standards Engagement Plan



DoD International Standards Strategy for 5G and Beyond



(U) Identifying DoD Requirements for Standards



- **DoD participation in standards bodies directly and via proxy representation**
 - DoD 5G Standards Strategy guides a coordinated 5G standards engagement effort
 - Partnering with industry, FFDRC's, not-for-profits, academia, civilian agencies, and independent researchers to optimize and enhance the breadth of expertise participating in international standards development



DoD International Standards Engagement for 5G



- Selective, targeted engagements by DoD organizations since 2019:

DoD CIO (Lead for DoD 5G standards engagements)

- 3GPP/ATIS: Represented at 3GPP and ATIS standards meetings primarily by FFRDC and industry partners
- ITU: Part of the government delegation that attends the World Radiocommunication Conference (WRC)

OUSD(R&E)

- 3GPP: Partnership with National Spectrum Consortium (NSC) brings participants from government, academia, and industry

National Security Agency (NSA) Cybersecurity Directorate

- 3GPP/ATIS: Combination of government and contractor participation
- O-RAN Alliance: Security Working Group participation via FFRDC support

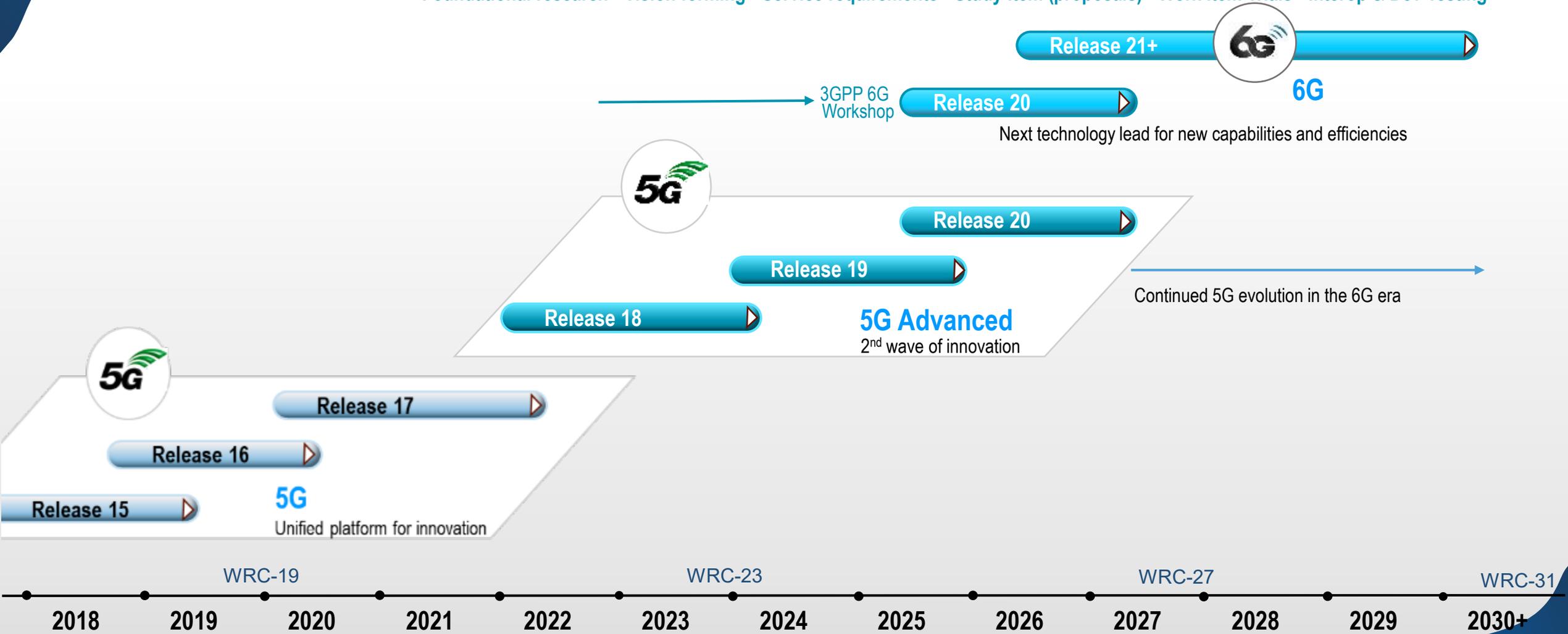
- DoD standards contributions to international wireless standards-setting bodies in FY23:
 - Developed and submitted nine (9) 5G 3GPP Release 18 commercial standards contributions and seven (7) Release 19 standards study topics
 - 3GPP standards contributions include multi-hop device-to-device mobile ad hoc networks (MANET), improved 5G and satellite spectrum coexistence, and mobile Integrated Access and Backhaul (IAB)



5G to 6G Evolution



Foundational research - Vision forming - Service requirements - Study Item (proposals) - Work Item Trials - Interop & Dev Testing





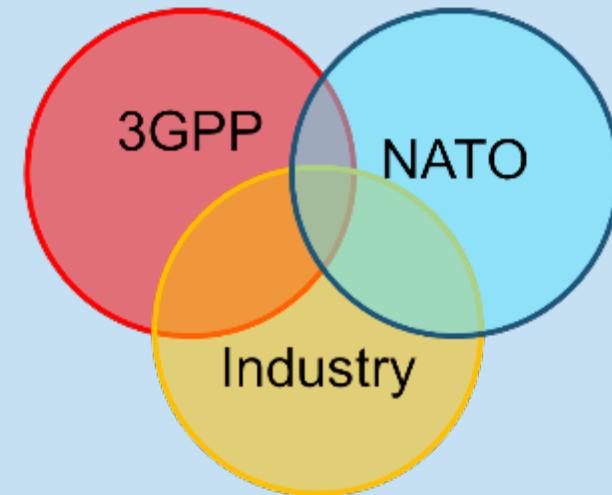
NATO Wireless Comms (5G/6G) Standardization Project (IST-220)



- **IST-220 Experiment:** Develop and demonstrate a new organizational approach and process for agile standards development in NATO
- Strategic Goals
 - Leverage 3GPP processes to meet NATO interoperability needs
- Objectives
 - Institute a NATO process for international/civilian cellular communications standards engagement
 - Complete 5G civilian commercial standards development
 - Initiate 6G civilian commercial standards engagement - position NATO allies to lead on military capabilities needs
 - Replicate the model - extend the process to other emerging ICTs that are critical to NATO
- Status
 - 5G Standardization Proposal approved
 - Quarterly Research Task Group Meeting Cadence

IST-220 Bottom Line:

A voluntary public-private-research collaboration aimed at leveraging intersecting NATO, industry, and 3GPP standards processes to meet NATO communications and information standardization needs

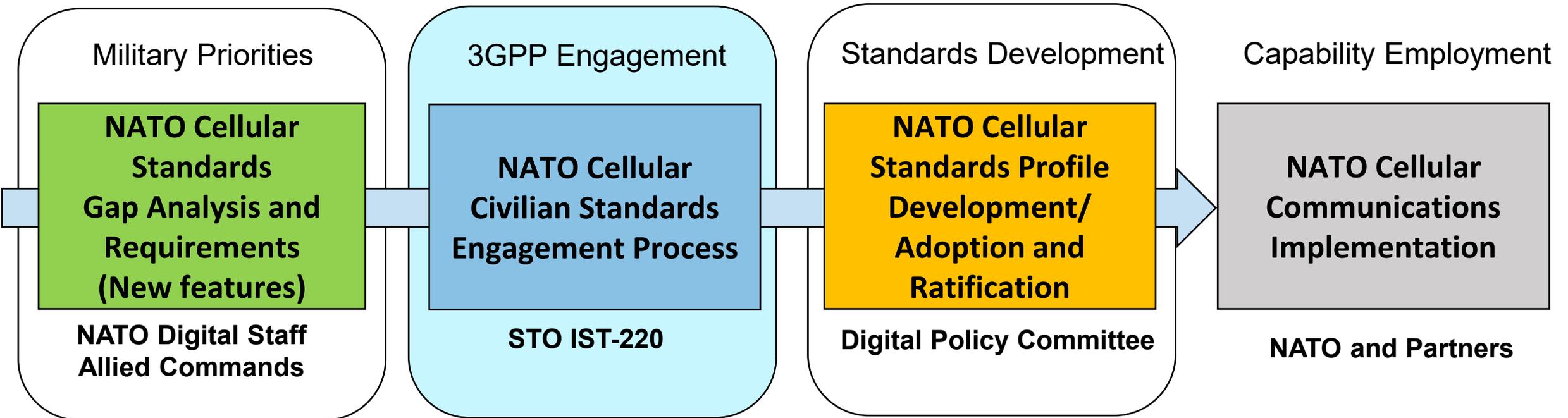




Building an Agile Standards Process for NATO 5G Standardization



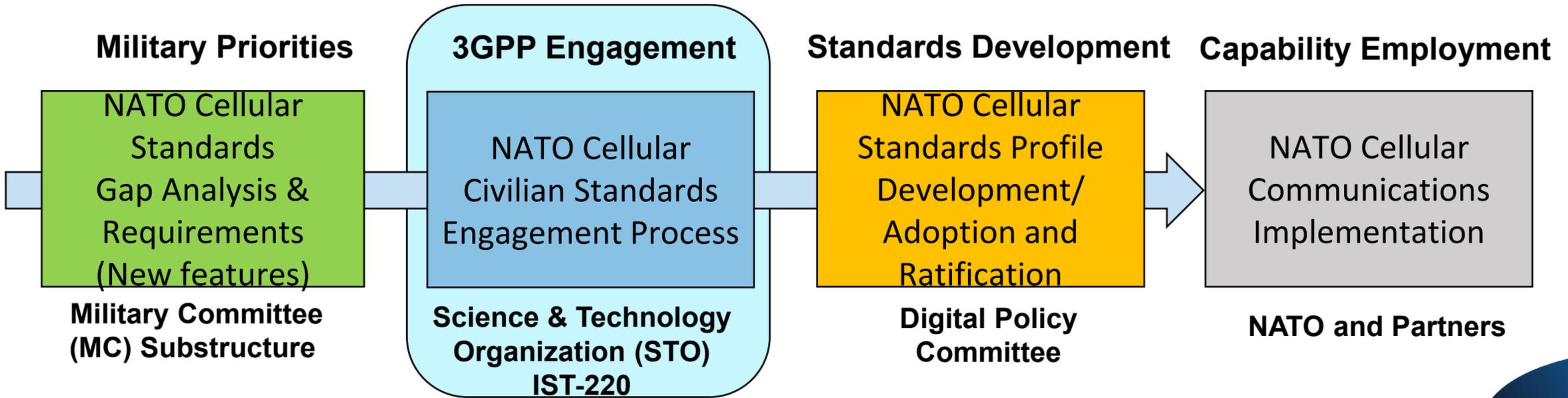
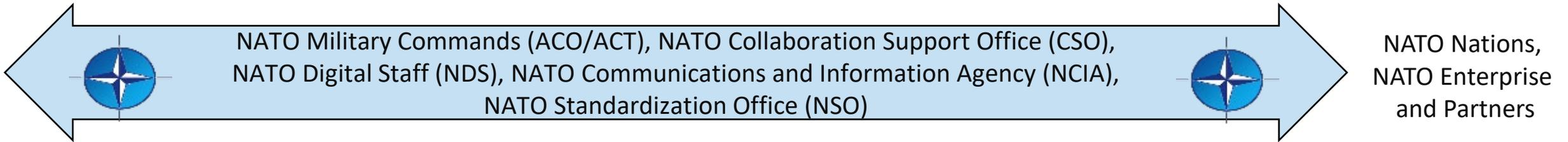
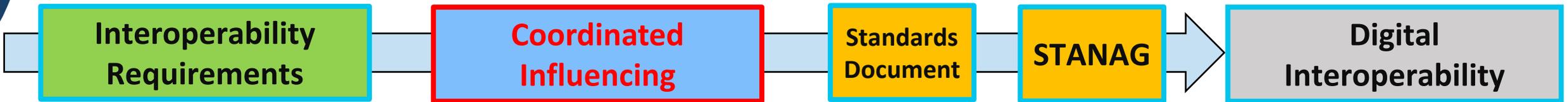
IST-220 Research Task Group (RTG) Operating Concept:



Establish roles and responsibilities, relationships and coordinating mechanisms, and information flows and cadence to build streamlined standardization processes and deliver standards artifacts



Building an Agile Standards Process for NATO 5G Standardization





Opportunities for Engagement Industry, Academia, Government



- DoD Objectives:
 - Rapid innovation and application of advanced technologies
 - Cost-effective capability development
 - Interoperable, resilient, and secure military communications
- Partnering Opportunities:
 - Advocate for joint development and adoption of militarily-relevant standards across regional standards organizations and 3GPP
 - Build understanding of vulnerabilities, risk, and mitigation approaches
 - Dialogue on identification of common, collaborative military applications
 - Collaborate on military 5G experimentation and prototyping



Questions and Discussion



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Questions?