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IDENTIFYING 6G Focus Areas for DHS

A proactive focus on emerging opportunities and threats associated with 6G development and deployment can enable DHS to prepare the homeland security enterprise to safely transition to the next generation of connectivity.

Standards Development

The role of the U.S. in the **development of global 6G protocols is critical to support security and economic interests** by ensuring compatibility and consistency across nations.

- Proactive U.S. leadership in 6G standards development can help influence rules that are beneficial to U.S. interests
- Involvement of law enforcement groups including DHS in 6G standards development can protect national security and geopolitical interests

Resiliency

As an increasing number of mission-critical devices are transitioned to connected operations, **the availability, reliability, and capacity of 6G networks to rapidly recover** from disturbances is critical for DHS users.

- DHS collaboration with industry and research centers can support development of end-to-end encryption of DHS systems
- DHS support for cybersecurity measures targeting 6G-enabled smart infrastructure and autonomous vehicles can protect mission-critical capabilities

Supply Chain

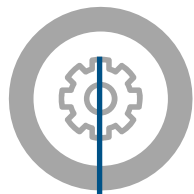
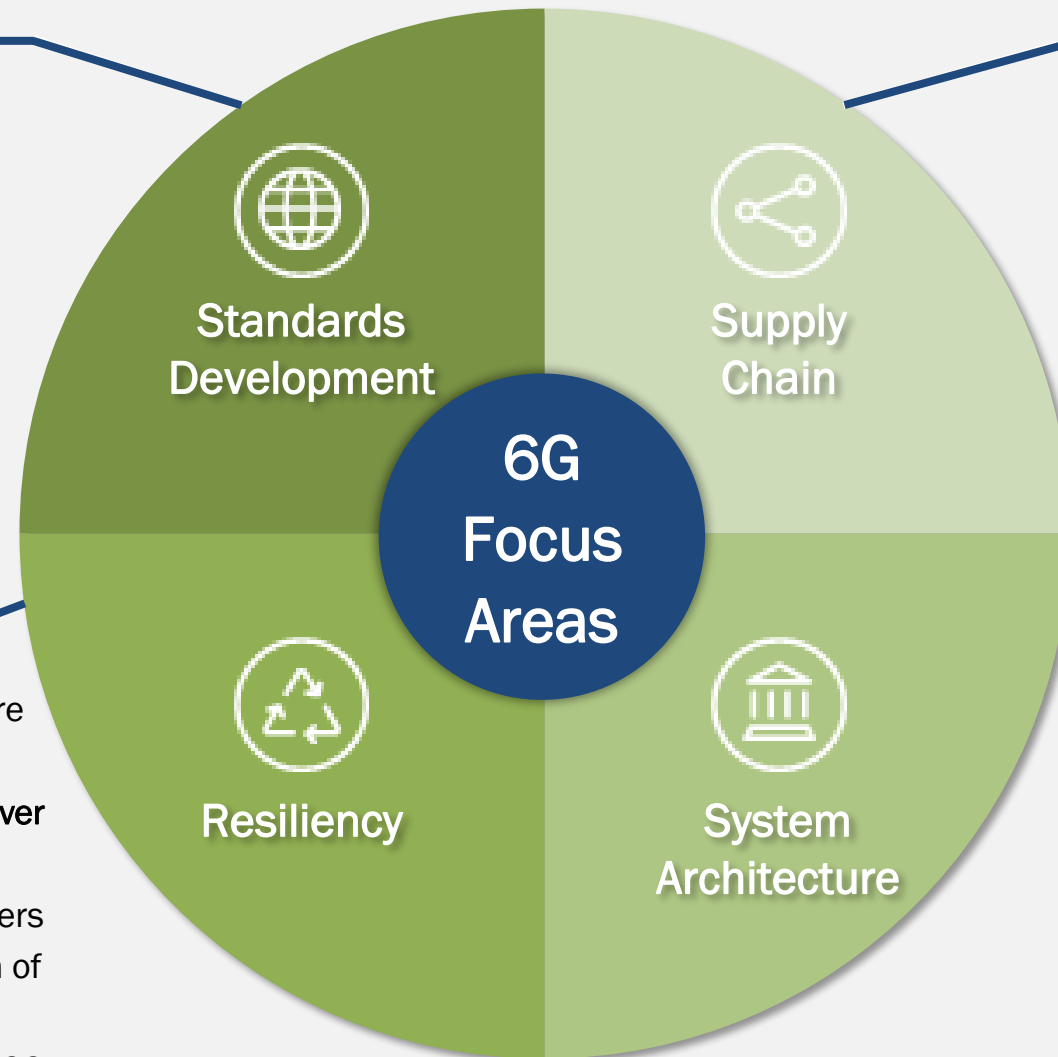
With the potential for the connection of billions of 6G devices, there is an **increased risk for untrusted or counterfeit components to be introduced** within the ICT supply chain.

- DHS support for audits on development, production, and delivery channels of lower-tiered suppliers with weaker security controls can reduce supply chain risks
- DHS deployment of analytics and monitoring tools can enhance ICT supply chain visibility

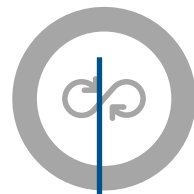
System Architecture

In addition to supply chain security risks, future ICT **system architectures for 6G may introduce an increased attack surface** for malicious actors to exploit.

- The addressing of legacy security vulnerabilities in previous generations of wireless networks can support a secure 6G deployment
- DHS focus on emerging threat vectors in 6G system architectures can mitigate risks of future cybersecurity incidents



Understanding Technical Advancements of 5G



Comparing Applications of 4G, 5G, and 6G



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