



### North American Trends Beyond 5G

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### About the Next G Alliance



- > Founded in 2020 to advance North American mobile technology leadership.
  - > Work encompass the full lifecycle of research and development, manufacturing, standardization and market readiness.
  - > Strong emphasis on technology commercialization.
- > 80+ members from industry, academia, and government
- > 40+ publications

### Access NGA's 6G Library:



### State of 5G in North America



- > All major U.S. and Canadian Mobile Network Operators have deployed standalone 5G
- > Primary 5G use cases deployed in public MNOs are traditional mobile broadband and fixed wireless access (FWA)
- > Private 5G deployments are limited in both U.S. and Canada
  - Most U.S. private cellular deployments utilize 4G LTE in the CBRS band, but 5G CBRS numbers are growing
  - > There are comparatively few Canadian private 5G networks, but numbers grow using both MNO spectrum and Non-Competitive Local Licensing (NCLL) spectrum
- URLLC and mMTC use cases have not taken off, however the industry is optimistic that this may increase with 5G Advanced
  - > North American operators want to maximize the return on their 5G investments and are seeking additional opportunities to monetize 5G services

# NGA Objectives





#### Leading Authority on 6G in North America

• Continuing outreach and growing NGA's profile as the leading authority on 6G in North America with both government and industry



#### Market Development and Vertical Engagement

• Building relationships with end users and identifying the ecosystem necessary to make 6G a commercial success for everyone in the value chain



#### Gap Identification, Mitigation, and Correction

• Ensuring that 6G is a complete solution that can meet current needs of the ecosystem while promoting future innovation



#### Roadmap for Future Technology

 Continuing NGA's pre-standardization work to identify novel features and enhancements for future releases of 6G

## Key Work Areas



- Vertical Market Development The NGA Market & Applications Working Group is conducting use case analysis for several verticals, beginning with Electrical Utilities, Public Safety, and Agriculture, with the goal of understanding industry-specific requirements and identifying 6G technologies that are useful across multiple industries
- > 6G Spectrum Recommendations With the passage of the One Big Beautiful Bill Act (OB3), the 6G spectrum expectations in the U.S. have changed dramatically with the exclusion of 3.1-3.45 GHz and 7.4-8.4 GHz. NGA's Spectrum Working Group is evaluating options for remaining federal and non-federal spectrum that can be repurposed for full-power commercial use.

## 6G R&D Funding Landscape



- > The passage of OB3 has resulted in the cancellation of one of the flagship U.S. programs for wireless R&D: the Public Wireless Supply Chain Innovation Fund, removing about \$1 billion USD of expected R&D funding
- > The U.S. National Science Foundation has seen cutbacks as well, but programs such as the VINES program have persisted.
  - > Delays in program awards are expected due to the recent U.S. Government shutdown
- > In 2024, Canada signed an agreement with the European Commission to allow Canadian companies and academic institutions to participate in Horizon Europe programs, which would allow them to participate in European funding programs such as 6G SNS

### Summary



- North America is entering a new phase of 6G development, driven by recent standardization efforts and goals to maximize return on investment.
- > NGA and its members are driving forward a commerciallyfocused R&D agenda to ensure that operators of all sizes can innovate and maximize the monetization potential of 6G.
- > The R&D funding landscape in the U.S. has become uncertain, but there is hope given that the current administration has signaled interest in driving U.S. and allied leadership in 6G.



Building the foundation for North American leadership in 6G and beyond