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IEEE Future Networks Releases the International Network Generations Roadmap, Helping Developers Identify and Overcome Challenges of 5G and Future Network Deployment

Roadmap spans from 2020 through ten years beyond 5G and presents guidance for the ongoing advancement of network technology

PISCATAWAY, N.J., USA, 25 February 2020 – IEEE, the world's largest technical professional organization dedicated to advancing technology for humanity, and the IEEE Future Networks Initiative today announced the release of the IEEE International Network Generations Roadmap (INGR), First Edition. The INGR is a valuable reference tool that helps identify and reduce technical and engineering risks associated with all aspects of developing and deploying next generation networks through the year 2030.

5G technology is positioned to bring a sea change in networking that will have an impact for years to come, capitalizing on work being done around IEEE in areas like massive connectivity, the tactile internet, Internet of Things, connected vehicles, mobile edge computing, quality of service, network slicing, and more. There are more than 20 IEEE Societies participating in the IEEE Future Networks Initiative. In order to build the appropriate foundation for these applications, the release of the INGR First Edition concentrates on key technology trends that will impact the core 5G and 6G design drivers and challenges.

The INGR will help guide operators, regulators, manufacturers, researchers, government, and other interested parties involved in developing the 5G and, later on, the 6G ecosystems. The INGR First Edition is available to download and includes chapters from nine Working Groups:

- Applications and Services
- Edge Automation Platform
- Millimeter Wave and Signal Processing
- Hardware for mmWave
- Massive MIMO
- Satellite
- Standardization Building Blocks
- Security
- Testbed

“The International Network Generations Roadmap effort is part of the IEEE Future Networks Initiative that recognizes networking is larger than a single technology, standard, organization, or region,” said Ashutosh Dutta, co-chair of IEEE Future Networks and senior scientist at Johns Hopkins University Applied Physics Lab. “IEEE Future Networks is collaborating with the world’s researchers, scientists, engineers, and policymakers from industry, academia, and governments to solve the challenges and reveal the opportunities associated with current and future networks.”

The INGR First Edition will be augmented by six white papers to be released in early 2020 on the topics of deployment, optics, systems optimization, energy efficiency, artificial intelligence / machine learning, and connecting the unconnected. Forecasting at three-, five-, and 10-year horizons with planned annual updates, the INGR emphasizes the need for collaboration among all stakeholders in industry, academia, and standards development organizations in undertaking this high-risk engineering challenge.

To learn more about the INGR, or to download the INGR First Edition, visit the Roadmap page at the IEEE Future Networks web portal: https://futurenetworks.ieee.org/roadmap. Engage through social media by visiting us on Facebook, following us on Twitter, and connecting on LinkedIn or Collabratec.

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