International Network Generation Roadmap (INGR) Worksheet

This worksheet is intended to facilitate and frame the information for the INGR roadmap document. The questions are used to shape the high-level vision of next-generation networking supporting tecnhnologies today, 3 years, 5 years, and 10 years from now. The Roadmap Timeline Chart can be used to organize the current and future states, their needs and challenges, and possible solutions to meet those needs.

Working Group Vison:

* What does this working group envision 10 years from now for Future Network Generations?
* What is the big picture for the Working Group roadmap?
* This question is to explore what a successful industry might look like if all challenges were met, and all enablers and technologies were developed in a timely fashion.

Scope of Working Group Effort

* What topics does this section of the roadmap cover?

Linkages and Stakeholders

* Who is impacted by this Working Group roadmap topic?
  + List all the types of organizations and specific entities (such as standards, consortia, partnerships, regional research hubs, government agencies, suppliers, operators, end users, as well as type of industries, etc.)
  + Who/what are the other enabling technologies and organizational capabilities (education, regulators, infrastructures, policy, etc.)?
* What is the team’s perspective regarding the most important questions that can be answered by this roadmap in 10 years?

Working groups

1. Applications & Services
2. Artificial Intelligence/Machine Learning
3. Connecting the Unconnected
4. Deployment
5. Edge Automation Platform
6. Energy Efficiency
7. Hardware
8. Massive MIMO
9. Millimeter Wave
10. Optics
11. Satellite
12. Security
13. Standardization Building Blocks
14. Systems Optimization
15. Testbed

Download this worksheet at: bit.ly/INGRWorksheet

Email Completed Worksheet to: 5GRoadmapInfo@ieee.org

Roadmap Timeline Chart

| **Name (be brief)** | **Current State (2019)** | **3 years (2022)** | **5 years (2024)** | **10 years (2029)** |
| --- | --- | --- | --- | --- |
| **State of technology** | *<describe current state - 2019>* | *<describe future state - 2022>* | *<describe future state - 2024>* | *<describe future state - 2029>* |
| **Most significant challenges** | *<list most significant challenges today>* | *<list most significant challenges at expected at this time>* | *<list most significant challenges at expected at this time>* | *<list most significant challenges at expected at this time>* |
| **Potential gaps in standards** | *<list gaps today>* | *<list standards possibly needed at this time>* | *<list standards possibly needed at this time>* | *<list standards possibly needed at this time>* |
| **Need #1** *<identify need to achieve each of the states listed in first row>* |  |  |  |  |
| **Challenge(s) to meet Need 1** |  |  |  |  |
| **Possible Solution for Challenge** |  |  |  |  |
| **Need #2** |  |  |  |  |
| **Challenge(s) to meet Need 2** |  |  |  |  |
| **Possible Solution for Challenge** |  |  |  |  |
| **Need #3** |  |  |  |  |
| **Challenge(s) to meet Need 3** |  |  |  |  |
| **Possible Solution for Challenge** |  |  |  |  |
| **Need #4** |  |  |  |  |
| **Challenge(s) to meet Need 4** |  |  |  |  |
| **Possible Solution for Challenge** |  |  |  |  |
| *Add additional rows as needed* |  |  |  |  |