IEEE 5G Initiative

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Quick Facts

- More than 421,000 members in more than 160 countries
- More than 114,000 Student members
- 334 Sections in ten geographic Regions worldwide
- 2,116 Chapters that unite local members with similar technical interests
- 2,806 student branches at colleges and universities in over 100 countries
- 1,159 student branch chapters of IEEE technical societies
- 459 affinity groups; IEEE affinity groups are non-technical sub-units of one or more Sections or a Council. The affinity group patent entities are the IEEE-USA Consultants' Network, Young Professionals (YP), Women in Engineering (WIE), and Life Members (LM)
- Has 39 Societies and seven technical councils representing the wide range of IEEE technical interests
- Has nearly 4 million documents in the IEEE Xplore® Digital Library, with more than 8 million downloads each month
- Has over 1,100 active standards and more than 500 standards under development
- Publishes approximately 180 transactions, journals, and magazines
- Sponsors more than 1,800 conferences in 95 countries
IEEE Future Directions Initiatives

**IEEE 5G**

**IEEE brain**

**IEEE DigitalSenses**

**IEEE Software Defined Networks**

**IEEE Big Data**

**IEEE Internet of Things**

**IEEE GreenICT**

**IEEE Cybersecurity**

**IEEE Smart Cities**

**SMART MATERIALS**

**Symbiotic Autonomous Systems**

In incubation at Phase 3

Maturity Level

[ieee.org/futuredirections](http://ieee.org/futuredirections)
- Foster collaboration and connect technical & business communities to IEEE 5G experts and resources
- Be the catalyst for IEEE cross-society activities on 5G
- Establish IEEE as a **Thought Leader** and essential to the 5G community
- To be recognized as the go-to resource for engineering and technology professionals in industry, academia and government working on 5G
- Develop and promote valued programs, products and services for the 5G community
- Present a single IEEE face/voice to the 5G marketplace
- Be a true global 5G initiative capturing the needs of all global regions
- Create a neutral platform/forum where those interested in 5G can engage and collaborate
Recent Background

  - Participation by over 30 volunteers and IEEE staff representing 17 Societies/OUs
    - Communications
    - Computer
    - Solid States Circuits
    - Signal Processing
    - Vehicular Technology
    - Technology and Engineering Management
    - Antenna Propagation Society
    - Instrumentation & Measurement
    - Power and Energy Society
    - Electromagnetic Compatibility Society
    - Intelligent Transportation
    - Microwave Theory and Techniques
    - Standards Association
    - Educational Activities
    - Future Directions
    - Consumer Electronics
    - Council on Radio Frequency Identification
    - Aerospace and Electronic System Society

- Identified Working Groups and Projects for 2016/2017
# 5G Initiative Working Groups

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<td><strong>Define, develop and manage portfolio of offerings/activities including:</strong></td>
<td>eLearning Modules</td>
<td>eNewsletter</td>
<td>Determine, source and manage content placed on portal</td>
<td>Manage Initiative events</td>
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<td>Tutorials</td>
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<td>Ensure that portal is refreshed on a continuous basis</td>
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<td>Webinars</td>
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<td>Supplements to other publications</td>
<td>Determine and manage participation in other events</td>
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<td>Google Hangouts</td>
<td>Special issues in other publications</td>
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5G Initiative Working Groups

**Working Group Scope**

**Standards Track**  
(A. Gelman, P. Nikolich)  
Manage portfolio of activities including:  
- New projects  
- Workshops for needs definition and connection with technology developers  
- Roundtable program for industry leaders  
- Engagement with SDOs and other external organizations

**Content Development Track**  
(B. Das)  
Develop and source content for posting/publication including:  
- By-lined articles  
- Q&As  
- Expert Interviews  
- Whitepapers  
- Scenarios/Use Cases  
- Media Interviews  
- Analyst Briefings

**Community Development Track**  
(J. Irvine, A. Wyglinski)  
Establish and grow a broad IEEE 5G Community including:  
- IEEE Technical Community  
- Collaboratec  
- Twitter  
- LinkedIn  
- Facebook  
- FlipBoard

**Industry Outreach Track**  
(M. Lu, M. Condry)  
Drive engagement with industry including:  
- Partnerships  
- Training  
- Career Development
Technology Roadmap Working Group

Roadmap Project
(M. Dohler, C-M. Chen)

- Standardization Building Blocks
  (P. Nikolich, A. Gelman)
- Millimeter Wave
  (T. Lee, Ray Liu)
- Mobile Edge Cloud
  (C. Buyukkoc, M. Simik)
- Massive MIMO
  Rose Hu, Dongming Wang
- Applications Services
  (R. Annaswamy Shankaran)
- Security
  (A. Dutta, M. Dohler)

- Hardware
  (Kate Remley, Dylan Williams)
- 5G Testbed and Measurement
  (Ivan Seskar, Tracy Van Brakle)

TBD

TBD
2016 Milestones

Initiative Launch
- Convened 2 day kick-off workshop in late Aug.
- Attended by over 30 volunteers/staff representing 16 societies/councils/OUs
- Steering Committee Meeting Nov 17, 2016

Working Group Formation

5G Summits
- Conducted 8 summits across the world: US, China, Germany, India, and Denmark

Roadmap (Workshop at Globecom)
- Launched Technical Working Groups including Standardization Building Blocks, Mobile Edge Cloud, Massive MIMO and Millimeter Wave

IEEE 5G Web Portal
- Launched new portal on 6 October 2016

IEEE 5G Newsletter
- Named Editor-in-Chief, Managing Editor and Assistant Managing Editor

2017 Plans

Roadmap & Workshops
- Develop an IEEE 5G Roadmap Whitepaper and Roadmap modeled after the ITRS Roadmap, OMEC Workshop, ICC 2017

5G Summits (www.5gsummit.org)
- Continue to conduct summits on a global basis, 18 more planned during 2017

Standards
- Inventory, update and track 5G related standards activity across industries

Publications
- Launch an IEEE 5G Tech Focus publication with original content focused on a broad audience,

Web Portal/Content Development
- Refresh the portal on a regular basis with original content including written Q&As, interviews, opinion pieces and podcasts

Community Development
- Establish and build a global, engaged IEEE 5G Community through channels including Collabratec, Twitter and LinkedIn

Education
- Introduce a series of webinars and tutorials

Conferences
- Planning for a WF-5G Conference in July 2018
Seeking Contributors

- Broad range of opportunities
  - Technical Areas – Massive MIMO, mmWave, Mobile Edge Cloud, Security, Applications, Testbed......
  - Functional Areas – Publications, Standards, Education, Roadmap, Content/Community Development....

Contact Us

- Go to the Web Portal - 5g.ieee.org to:
  - Join the 5G Technical Community
  - Indicate your interest in contributing
  - http://5g.ieee.org/contribute