

IEEE SDN Initiative: Status Report

Accomplishments and Going-forward

What is the IEEE SDN Initiative

- The IEEE Software Defined Networks (SDN) Initiative is an incubation project under the IEEE Future Direction Committee (FDC).
- An Initiative is a 3-year project (with budget) on new and emerging technologies.
- For SDNI, the 3-year period is 2015-2017. i.e., it will *Graduate* in the December of 2017.

* SDN Initiative is a financial sponsor of CyberC 2015, 2016 and 2017.

FDC 2017 Incubator Maturity



SMART MATERIALS



Incubation

Will Graduate 2017

Graduated

ieee.org/futuredirections

SDNI Accomplishments

- **Edge Automation Platform (EAP):** Develop a new and important SDN-based Framework (Draft)
- **5G Roadmap:** Significant and key contribution. As the SDNI is graduating in 2017, this work will be transferred to the 5G Initiative
- **NetSoft:** established a flagship conference. For 2017, the 3rd NetSoft was held in Bologna, Italy with 150 participants, highlight keynote speakers, panel and best papers
- **NetSoft 2018:** June 25-29, Montreal, Canada
- **SDN Testbed and Toolkit Wiki:** International comprehensive Source of Research and Development
- ***Softwarization* eNewsletter:** Important Source of technical articles on SDN



The global team of experts involved in IEEE 5G are producing programs and activities including...

The 5G Technology Roadmap

short-term (~3 years), mid-term (~5 years), and long-term (~10 years) research, innovation, and technology trends

Publications

IEEE 5G Transmissions podcast series
IEEE Tech Focus
IEEE Talks 5G Q&A article series

Conferences & Events

1st Annual IEEE 5G World Forum in 2018
5G-related IEEE conferences

Education

IEEE 5G Learning Series
IEEE Live Online Courses
Webinar series

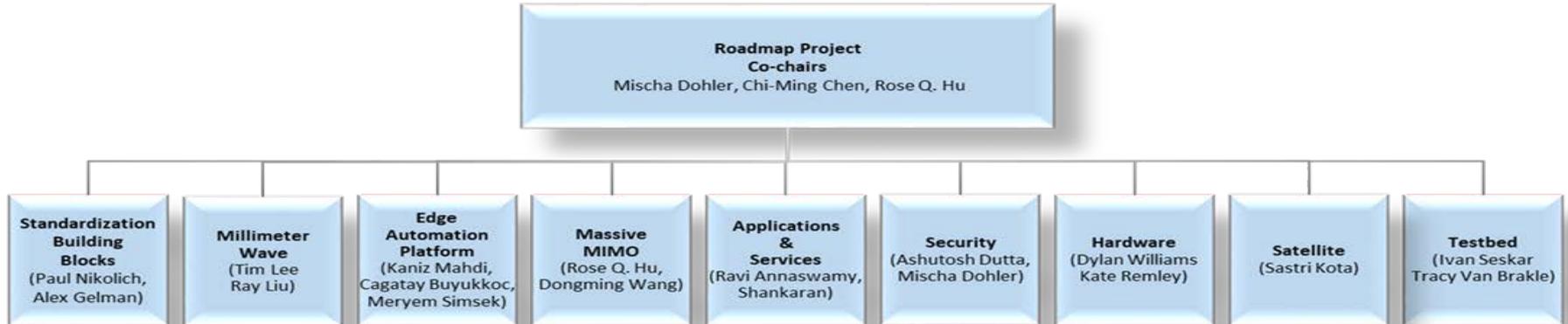
Expert Articles

Published on IEEE 5G web portal and in industry media

Standards

Global, open, and collaborative

The IEEE 5G and Beyond Technology Roadmap Teams



<https://5g.ieee.org/roadmap>

The IEEE 5G and Beyond Technology Roadmap Whitepaper

- **Outlines** the current telecommunications value chain that will need to adapt to changes and opportunities that the introduction of 5G and beyond technologies will bring.
- **Describes key technology trends that** will impact design drivers and challenges for technologies to simultaneously provide wireless communication, massive connectivity, the tactile internet, quality of service and network slicing.
- **Lists future applications** that drive 5G and beyond requirements to provide societal benefits for education, manufacturing, healthcare, smart grid, entertainment, autonomous cars, and smart cities.
- **Highlights technology enablers** that need to be explored in the creation of the roadmap.
- **Summarizes the need** for collaboration among all stakeholders in industry, academia, and standards development organizations in undertaking this high-risk engineering challenge.

<https://5g.ieee.org/roadmap>



For more information

- IEEE Future Directions [ieeefuturedirections](http://ieeefuturedirections.org)
- IEEE SDN Initiative <https://sdn.ieee.org/>
- IEEE 5G Initiative <https://5g.ieee.org/>
- IEEE 5G Roadmap Whitepaper <https://5g.ieee.org/roadmap>
- NetSoft 2018 <http://netsoft2018.ieee-netsoft.org/>

- IEEE 5G Summit <http://www.5gsummit.org/> (First Summit was held in 2015 at Princeton University)
- IEEE 5G Summit Nanjing, Saturday, Oct. 14, 2017
<http://www.5gsummit.org/nanjing/>
- IEEE 5G World Forum 2018, July 9-11, Santa Clara <http://ieee-wf-5g.org/>

IEEE 5G Summit – Oct. 14

<http://www.5gsummit.org/Nanjing>

南京上秦淮假日酒店
Holiday Inn Nanjing Qinhuai South

中国江苏省南京市江宁区秣周东路21号
No.21, Mozhou East Road, Jiangning District Nanjing, Jiangsu
Province, P.R. China

<https://www.ihg.com/holidayinn/hotels/cn/zh/nanjing/nkgghi/hoteldetail>

Co-located with WCSP 2017

<http://www.ic-wcsp.org/>

Oct. 11-13, 2017



IEEE 5G Summit – Oct. 14

Theme: 5G Roadmap & Standards

8:30 – 8:40 Welcome Address

8:40 – 9:20 **Dr. Chih-Lin I 易芝玲**, China Mobile

R16 and Beyond: An Exploration

9:20 – 10:00 **Prof. Fumiyuki Adachi, 安達文幸** Tohoku University 東北大学, Sendai, Japan

Distributed MIMO and Radio Resource Management for 5G Enhanced
Mobile Broadband

10:00 – 10:20 **Coffee/Tea Break**

10:20 – 11:00 **Dr. Yunyong Zhang (张云勇)**, China Unicom

Mobile Internet Development Strategy for Operators

11:00 – 11:40 **Dr. Ian Wong**, National Instruments, USA

A Platform Approach to 5G: From Design to Prototype to Test

11:40 – 12:20 **Prof. Mehmet Ulema**, IEEE ComSoc and Manhattan College, New York, USA

IEEE and 5G: Towards Standardization

12:20 – 13:30 **Lunch**



IEEE 5G Summit – Oct. 14

Theme: 5G Roadmap & Standards

13:30 – 14:10 **Prof. Wen Chen**, Shanghai Jiao Tong University

5G Multiple Access

14:10 – 14:50 **Dr. YiFei Yuan**, ZTE Corporation

Potential technical solutions to grant-free non-orthogonal multiple access (NOMA) for 5G

14:50 – 15:30 **Prof. Feifei Gao**, Tsing Hua University, Beijing

Massive MIMO: where Array Signal Processing Meets Wireless Communications

15:30 – 15:50 **Coffee/Tea Break**

15:50 – 16:30 **Prof. Dongming Wang (王东明)**, Southeast University

5G Large-scale Distributed Antenna Systems

16:30 – 17:20 **Panel: 5G Roadmap and Standards**

Hosted by Prof. Rose Hu and Dr. Chi-Ming Chen,
IEEE 5G Initiative Roadmap Project Co-Chairs

17:20 – 18:00 **Tour/Demo: Southeast University mmWave and Massive MIMO Lab**

Hosted by Prof. Dongming Wang, Southeast University



THANK
YOU . . .

A purple dragonfly with green accents and a small purple flower. The dragonfly is positioned to the right of the text, and the flower is to the left of the word 'YOU'. The dragonfly has a green body and a long, segmented tail. Its wings are purple with intricate patterns. The flower is a simple purple flower with a green stem and leaves.