



and



IEEE 5G

present

The Innovation Revolution



Launched August 2016

Technical Activities Board Funded

18 Participating Societies/OUs



Goals/Objectives

- 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

5G is not only evolutionary, providing higher bandwidth and lower latency than current-generation technology; more importantly, **5G is revolutionary**, in that it is expected to enable fundamentally new applications with much more stringent requirements in latency and bandwidth.

Welcome to the Innovation Revolution

5G is an enabler of exciting use cases that will transform the way humanity lives, works, and engages with its environment.

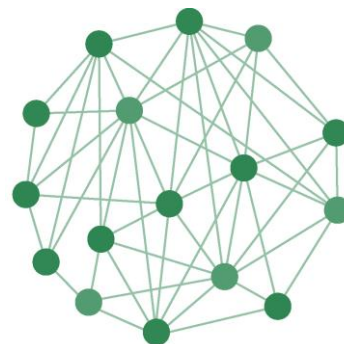
5G will be



**Bandwidth
100s of Mb/s**



**Latency less
than 1ms**



**>30Gbps throughput
and >1 million
connected devices**



**Massive broadband
that delivers
gigabytes of
bandwidth on
demand**



...assisting our transportation needs...



**INTER-VEHICLE
SENSING**



**INTER-VEHICULAR
COMMUNICATION**

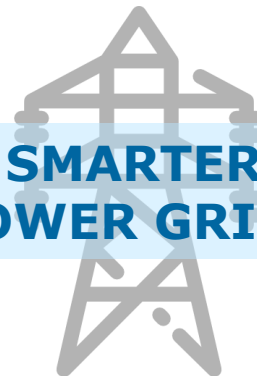


**DRIVERLESS
TRANSPORT**

...and completely improving our daily lives.



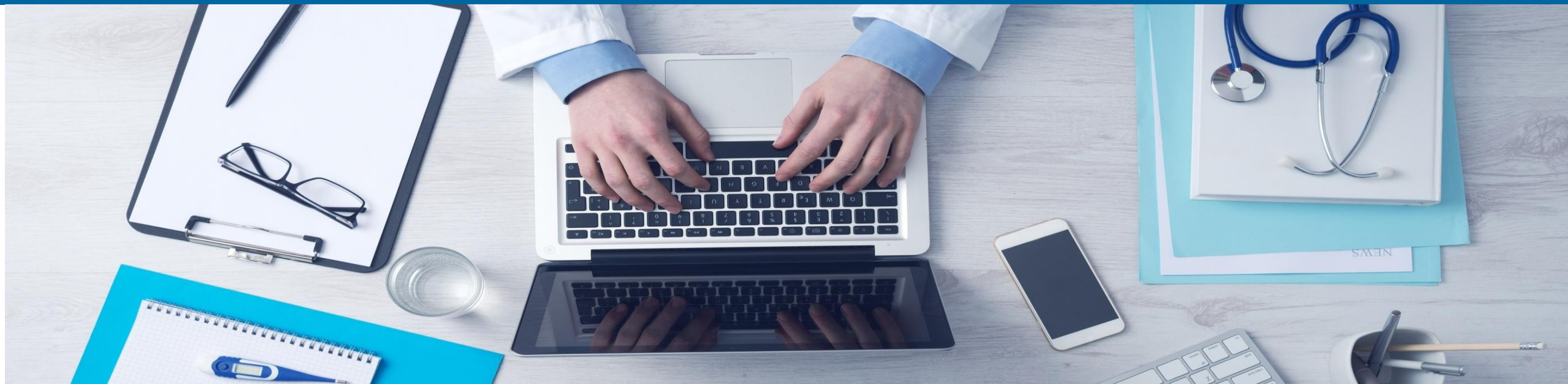
**SMARTER
TRAFFIC SIGNALS**



**SMARTER
POWER GRIDS**



**EVEN SMARTER
HOMES**



ZERO DISTANCE
from patient to accessible
healthcare



**CONTAGION
CONTAINMENT**
Fast awareness and
global collaboration



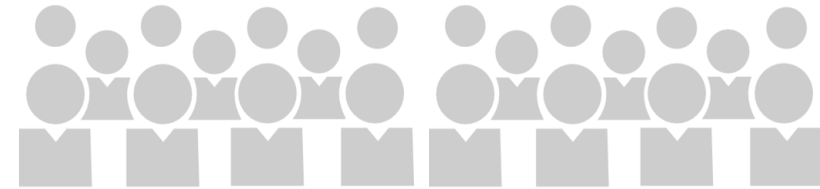
MOBILE ER
Real-time response to
trauma anywhere



will impact every industry



...and spark the innovation of unforeseen industries for decades to come



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

5G Initiative 2017 Milestones – as of September 2017

Education

- Executed Three Tutorials
 - Bangalore, India; January 2017
 - Edison, NJ; April 2017
 - Shanghai, China; July 2017
- Conducted 3 Webinars
 - 5G - What is it and what new applications are driving it's formation
 - 5G mmWave Revolution and New Radio
 - A look at the companies and organizations working to make 5G a commercial success
- "Understanding 5G" eLearning Course in development

Publications

- Published three Issues of IEEE 5G Tech Focus Newsletter; 4 articles/issue
- Special report on 5G in March 2017 Issue of The Institute

Web Portal/Content Development

- Published 5 Q&A articles with IEEE 5G Experts
- Launched IEEE Transmissions Podcast Series – 3 completed to date

Roadmap

- Whitepaper to be published; September 2017
- Initial Roadmap Workshop conducted at ICC 2017

Community Development

- Web Portal traffic growing steadily at 15%/month – 5K+ visitors/10K+ page views monthly
- Collabratec Community increased to 8K+ members
- Technical Community, Twitter. Facebook growing at 10%/month

Conferences/Events

- Announced Initial IEEE World Forum on 5G conference July 9-11, 2018 in Santa Clara, CA.
 - Call for Papers; June 2017
- Collaborated with ComSoc on 10+ 5G Summits Worldwide YTD
- IEEE 5G and Beyond Testbed Workshop in Toronto

Standards

- Creation of 5G standards database across multiple societies
- First 5G Standards Forum Meeting (October 9)

Industry Engagement

- Conducted 5G Industry panels at WOCC 2017 and ISIE 2017
- Delivered talks and keynotes at multiple conferences, Section Congress

5G Initiative Plans for rest of 2017 and 2018

Education

- ▶ Conduct additional Tutorials
- ▶ Conduct Monthly Webinars

Publications

- ▶ Publish four Issues of IEEE 5G Tech Focus Newsletter
- ▶ Work with societies to publish special issues of society magazines on 5G

Roadmap

- ▶ Develop Technology Roadmap

Community Development

- ▶ Continue to grow all communities and engage members

Conferences/Events

- ▶ Conduct 5G World Forum Conference in July
- ▶ Support/Collaborate 5G Summits

Marketing/Re-Branding

- ▶ Publicize a new brand, logo, and messaging for the 5G Initiative

Standards

- ▶ Conduct Standards Forum workshops enabling all societies to propose new 5G standards projects

Industry Engagement

- ▶ Initiative sponsored panel at ITSC 2017

Testbed

- ▶ Explore Rutgers WINLAB as pilot 5G testbed and create a consortium of Testbeds for IEEE

Coffee Break – Please Stand By – Will Resume soon

Time	Speaker	Affiliation	Talk Title
8:00	Registration		
9:00	Ashutosh Dutta	IEEE Volunteer	Welcome Address
9:10	Abhimanyu Gosain	Northeastern University College of Engineering	Keynote: Platforms for Advanced Wireless Research: Exploring Characteristics of Future Research Testbeds
9:40	Abhay Karandikar	Indian Institute of Technology	Towards Frugal 5G: A Case Study of Palghar Test-b
10:00	Mischa Dohler	King's College London	5GUK --- World's First 5G National Trial
10:20	Ari Pouttu	Oulu University	Oulu 5G Test Network (5GTN) - 5G is Coming- What is missing?
10:40	Coffee Break		
11:00	Sofie Pollin	KU Leuven	5G Creativity: Flexible Radios in Flexible Networking Configurations
11:20	Wuxiong Zhang	Shanghai Institute of Fog Computing	Parallel Channel Sounder for MIMO Communications
11:40	Christoph Thiemmler	Edinburgh Napier University	Relevant 5G Application Scenarios in the Health Domain
12:00	Sarah Yost	National Instruments	Building Complex Systems with COTS Software Defined Radios
12:20	Lunch		

1:00	Ivan Seskar	Rutgers University	ORBIT 5G PILOT Testbed
1:30	Tracy Van Brakle	ONF	ONAP Open Wireless Lab
1:50	Ilie-Daniel Gheorghe-Pop	FOKUS	5G Ready Testbeds: Enabling Early Prototyping and Experimentation
2:10	Christian Esteve Rothenberg	University of Campinas	Towards a comprehensive, sustainable wiki catalogue of testbeds and open source toolkit
2:30	Konstantinos Alexandris	EURECOM	Open5G testbed: Live Cloud RAN deployment in SophiaCampus
2:50	Ivo Maljevic	Telus	Riding the Waves: TELUS mmWave Trials
3:10	Ashok Sunder Rajan	Intel	4G, 5G Workloads and Capacity Implications
3:30	Coffee Break		
4:00	Amitava Ghosh	Nokia Bell Labs	5G Experimental System @ high mmWave band (70 GHz)
4:20	John Kaewell	InterDigital	5G Testbed Key Attributes
4:40	Xavier Fernando	Ryerson Communications Lab	Optical Techniques for 5G Wireless Networks
5:00	Prakash Suthar	Cisco Systems	5G Ready Platforms
5:20	Wrap-up		

Organizing Committee – Roadmap Testbed Working Group

Ashutosh Dutta

Gerhard Fettweis

Timothy Lee

Eileen Healy

Thomas Magedanz

Chrysa Papagiani

Ivan Seskar

Tracy Van Brakle

Byung Yi

Harold Tepper

Theresa Cavrak

Elora Ponter

Whether you are a platform provider, operator, manufacturer, or service/content provider, there is a path for you and your business to be seen, heard, and make an impact in 5G



...contribute to the inaugural IEEE 5G World Forum conference. 9-11 July 2018 in Santa Clara, CA...

...contribute to our publication, IEEE 5G Tech Focus...

...lead an IEEE 5G use case or infrastructure project.

GETTING INVOLVED IS EASY...



Visit
5G.IEEE.ORG
to learn more,
join, and get
involved.

... ADVANCING 5G NEEDS YOU

THANK YOU

and

JOIN US FOR THE INNOVATION REVOLUTION



LEARN MORE AT
[5G.IEEE.ORG](https://5g.ieee.org)