

# Welcome and 5G Summit Overview

**Debabani Choudhury**  
**Intel Labs**

**IEEE 5G Summit, Honolulu, HI**  
**June 5-6, 2017**

# IMS2017 5G Summit

- A Successful Collaboration Between two IEEE Societies:
  - MTT-S and ComSoc
- Covers Various Aspects of Emerging 5G Technologies: Spectrum, Fog Computing, Network, PHY, Architecture, System, Antennas, Circuit, Test and Measurement
- Live Streaming of the two day event by IEEE TV.
  - Check back with IEEE.tv for On Demand videos

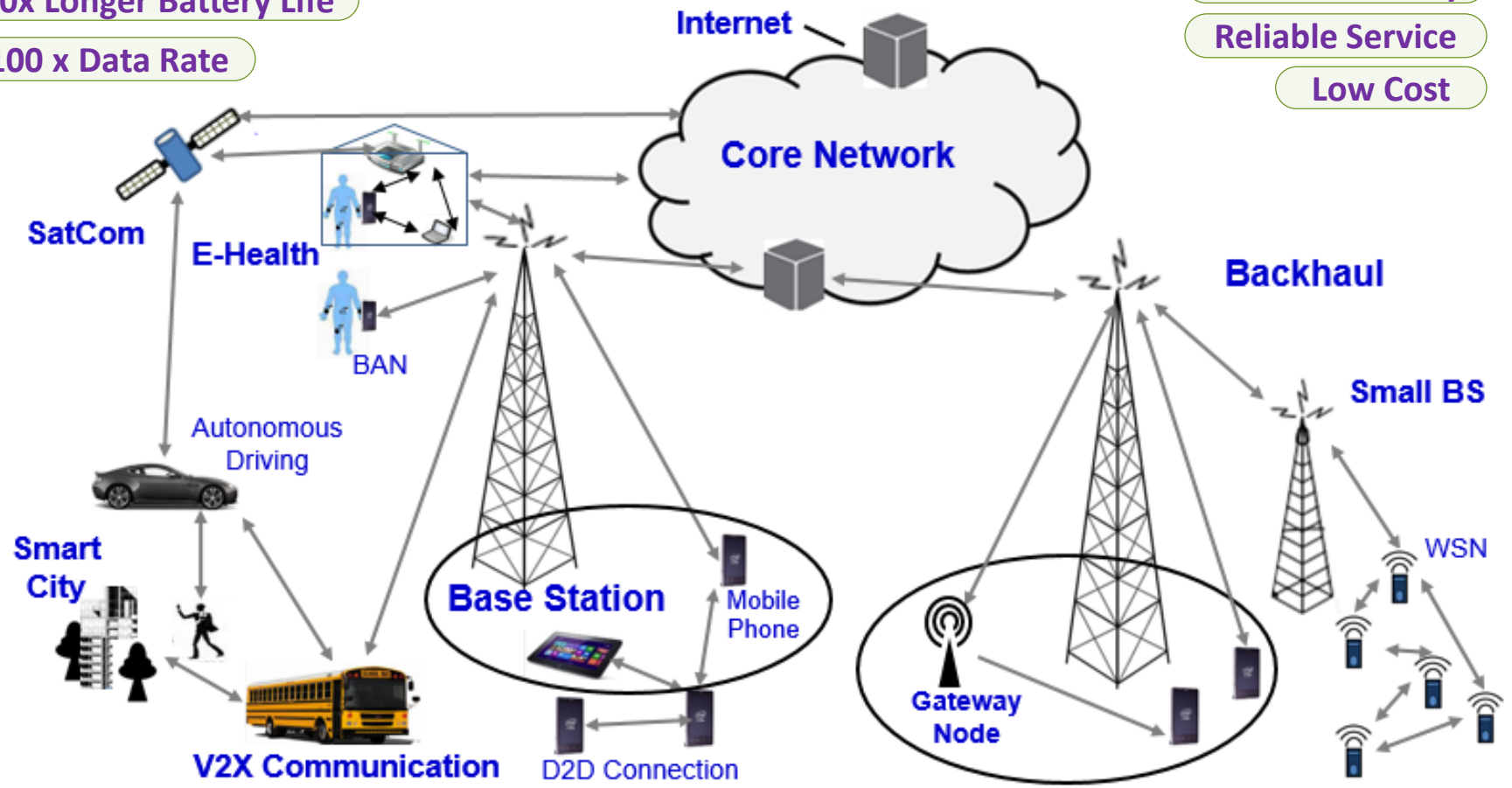
- IMS2017 5G Summit Organizing Committee:
  - Debabani Choudhury, Intel Labs
  - Doug Zuckerman, Vencore Labs
  - Joy Laskar, Maja Systems
  - Tim LaRocca, NGC
  - Ashutosh Dutta, 5G Initiative and AT&T
- Wayne Shiroma, IMS2017 Chair
- Amanda Scacchitti, Elsie Vega, Nannette Jordan, Monte Watanabe, Heather Sweeney, Adam Greenberg, Rob Fish
- Patronage by Keysight and IEEE 5G Initiative
- Stephen Esker, Brad Kloza, IEEE.tv

# 5G Landscape: Some Key Metrics and Targets

- >10 Billion Connected Devices
- 1000 x Higher Capacity
- 10x Longer Battery Life
- 100 x Data Rate

10 x QoE

- Ubiquitous Connectivity
- 100 x Energy Efficiency
- ~1 msec Latency
- Reliable Service
- Low Cost



- 13:00-13:05 **Welcome Address and 5G Summit Overview**  
Debabani Choudhury, Intel Labs
- 13:05-13:35 **Keynote: Fog Computing, its Applications in Industrial IoT, and its Implications for the Future of 5G**  
Flavio Bonomi, Nebbiolotech
- 13:35-13:55 **5G: New Spectrum, More Security and Opportunities for New Ideas**  
Henning Schulzrinne, FCC-CTO / Columbia University
- 13:55-14:15 **DOCOMO's 5G Trials Using Variety of Spectrum Bands**  
Yoshihisa Kishiyama, NTT-DOCOMO
- 14:15-14:35 **Living on the Edge – How 5G is Going to Enable the Medical Internet of Things Big Time**  
Christoph Thuemmler, Edinburgh Napier Univ., UK
- 14:35-14:45 **Coffee Break**
- 14:45-14:50 **5G Initiative Overview**  
Ashutosh Dutta, IEEE 5G Initiative Co-Chair and AT&T
- 14:50-15:10 **5G Journey: Path Forward**  
Vida Ilderem, Intel Labs
- 15:10-15:30 **Channel Modeling for 5G mmW Systems**  
Andreas F. Molisch, University of Southern California
- 15:30-15:50 **Full Duplex Wireless: From Fundamental Physics and ICs to Complex Systems, Networking**  
Harish Krishnaswamy, Columbia University
- 15:50-16:30 **Panel Session: 5G Start Up Ecosystem–Network to Components**  
Moderator: Joy Laskar, Maja Systems;  
Arogyaswami Paulraj, Stanford University; Nitin Jain, Anokiwave; Khurram Sheikh, Kwikbit

- 13:00-13:05 **Welcome and Overview on Day - 2**  
Debabani Choudhury, Intel Labs and Ashutosh Dutta, AT&T
- 13:05-13:35 **Keynote: Emerging Research Tracks in Massive MIMO**  
Arogyaswami Paulraj, Stanford University
- 13:35-13:55 **Massive MIMO in 3GPP: from LTE to New Radio**  
Amitava Ghosh, Nokia Bell Labs
- 13:55-14:15 **Vehicle-to-X Communication for 5G - A Killer Application of Millimeter Wave**  
Robert Heath, UT Austin
- 14:15-14:35 **Advanced Multicarrier Waveforms for 5G and Beyond**  
Hanna Bogucka, Poznan University of Technology
- 14:35-14:45 **Coffee Break**
- 14:45-14:50 **Standardization of 5G-Related Technologies in IEEE**  
Robert Fish, IEEE ComSoc - VP Industry Standards and Activities / Princeton University
- 14:50-15:10 **Low Complexity Reflector Antenna Array (RAA) Architecture**  
Ali Sadri, Intel
- 15:10-15:30 **RFIC/CMOS Technologies for 5G, mmW and Beyond**  
Ali Niknejad, UC Berkeley
- 15:30-15:50 **5G Radio Design for Mobile Products**  
Kamal Sahota, Qualcomm
- 15:50-16:30 **Panel Session: 5G Test and Measurements**  
Moderator: Kate Remley, NIST  
Malcolm Robertson, Keysight; Jason White, NI;  
Chris Scholz, Rohde Schwartz; Jon Martens, Anritsu