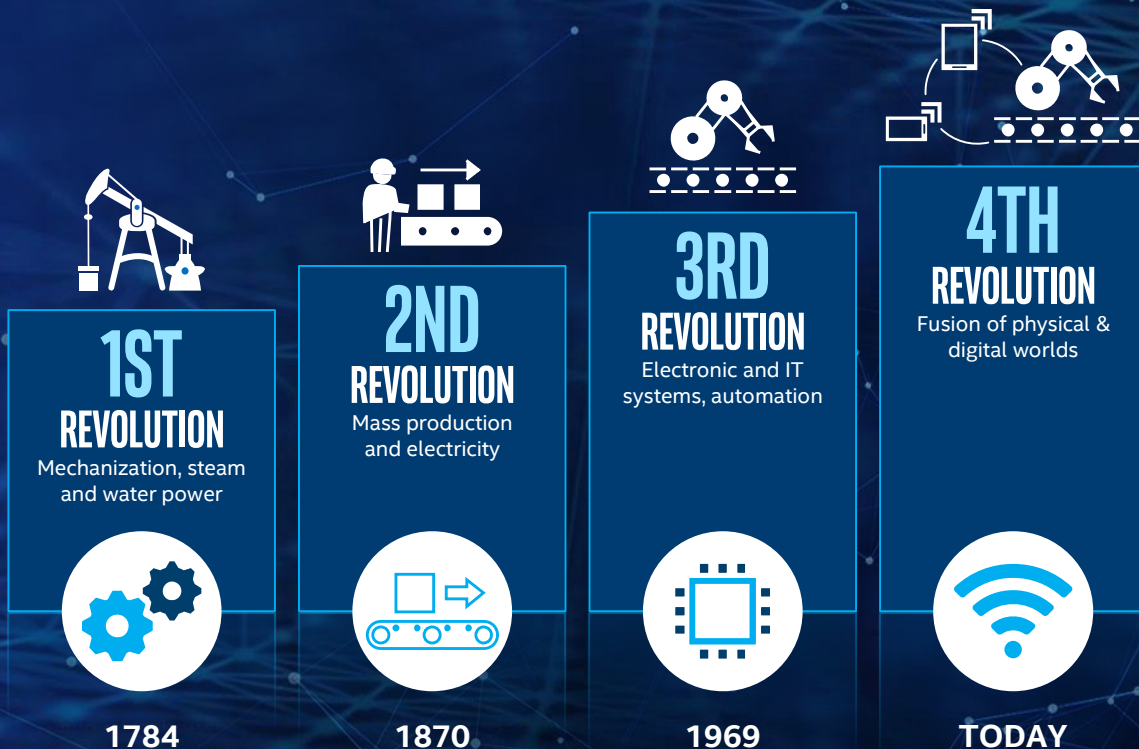


NETWORK TRANSFORMATION & WIRELESS BIG DATA COMMUNICATIONS

Dr. Geng Wu
Intel Fellow

5G IS THE FOUNDATION OF THE 4TH INDUSTRIAL REVOLUTION





**AUTONOMOUS
VEHICLES**



HEALTHCARE



**EMERGENCY
SERVICES**



**INSTANT
TRANSLATION**



**SMART
CITIES**



**SMART
AGRICULTURE**

NEW CHALLENGES NEW USE CASES



MANUFACTURING



**SUPPLY CHAIN/
LOGISTICS**



**VIRTUAL AND
MERGED REALITY**



MOBILE OFFICE



CONNECTED HOME



SMART MEDIA

3 PHASES OF IOT:



CONNECTED



SMART



AUTONOMOUS

SOFTWARE DEFINED + AI

DATA CENTRIC NETWORKS AND AI FUEL FUTURE GROWTH

EVOLUTION TO NETWORK SLICING CAPABILITY

NETWORK VIRTUALIZATION

EDGE/DEVICE NETWORKING

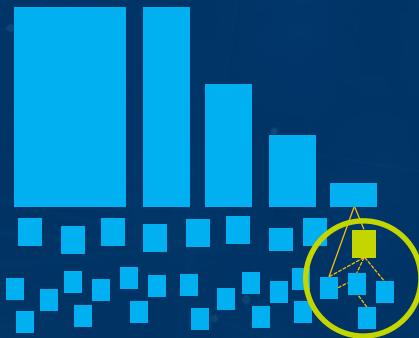
COMPUTE + COMMUNICATION



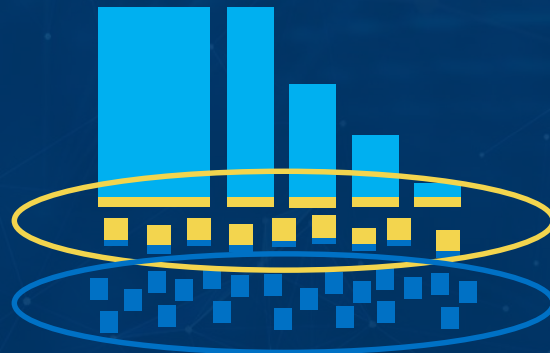
ONE BIG NETWORK
MOBILE BROADBAND (MBB)



VERTICAL NETWORK SLICING
EMBB + VERTICALS



LOCAL-SCALE NETWORKS
TERMINALS -> NETWORKING NODES



HORIZONTAL NETWORK SLICING
EMBB + VERTICALS + CONSUMERS

ESSENTIAL TECHNOLOGIES FOR FUTURE GENERATIONS

Sliceable Application

AI for Unprecedented UX

Sliceable Network

Networking + Computing + Storage + Control

Sliceable Air Interface

eMBB + IoT + Wi-Fi Slices

Network Vertical Slicing

MEC Horizontal Slicing

Data Centric Networking

Moving Node/Cluster

UDN Small Cells

URLLC

Radio Convergence

Spectrum Regulation

5G WIRELESS STANDARDS

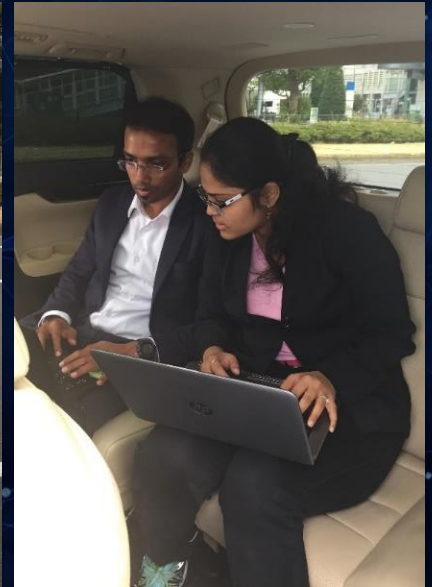
INTEL HOLDS LEADERSHIP POSITIONS IN MANY STANDARDS ORGANIZATIONS



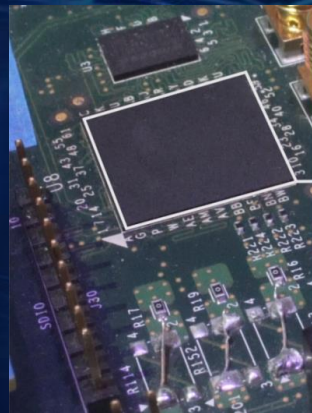
5G CONNECTED CAR FIELD TRIAL IN TOKYO



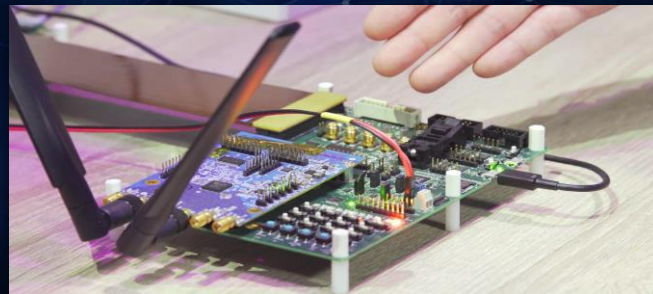
THE WORLD'S FIRST
1GBPS CONNECTED CAR



DEMONSTRATING 5G+ AND BEYOND



- DIRECT LINK + SIDE LINK
- LOW LATENCY
- ALWAYS-ON, ALWAYS-SEE, ALWAYS-LISTEN
- SELF-CONTAINED FRAME STRUCTURE, DYNAMIC DUPLEX
- NR FORWARD COMPATIBLE



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