



# TODAY'S OPPORTUNITIES IN LTE/5G RAN DEPLOYMENTS

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# NEW APPLICATIONS STRESS EXISTING WIRELESS SYSTEMS



**LOW-POWER  
CONNECTED DEVICE  
GROWTH VIA IOT**

**500B** connected devices by  
2030<sub>1</sub>



**ENHANCED  
MOBILE  
BROADBAND**

**400M** enhanced mobile  
broadband subscriptions by 2024<sub>2</sub>



**ULTRA-LOW  
LATENCY AND  
RELIABILITY**

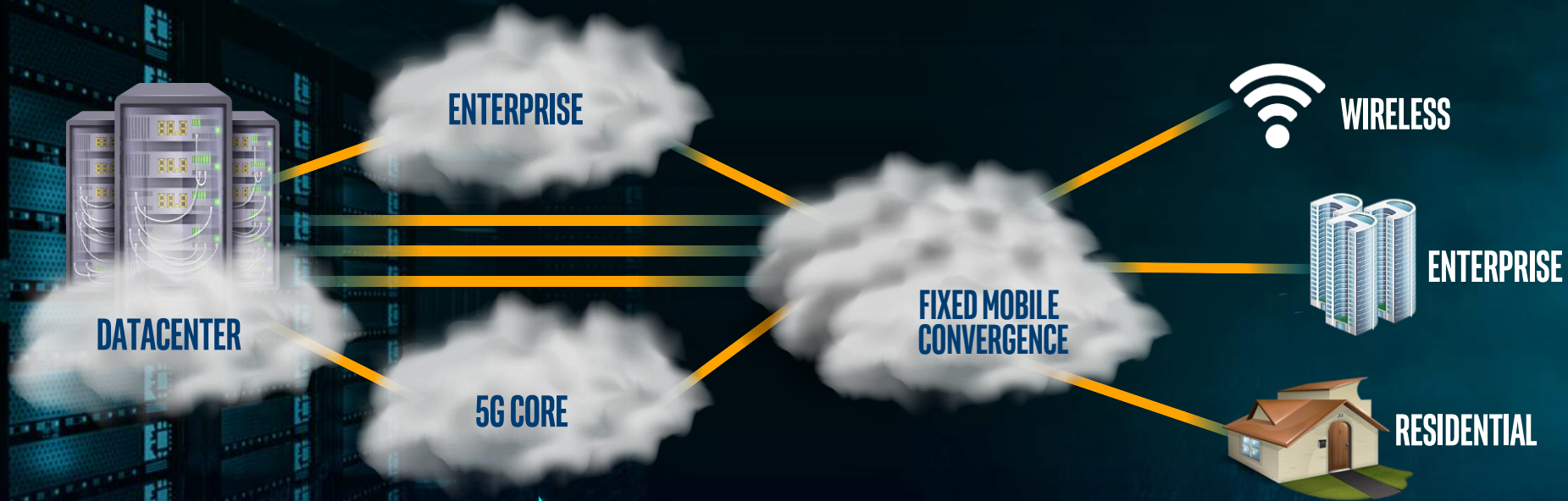
**33.6M** fully autonomous cars  
by 2040<sub>3</sub>

1. <https://www.cisco.com/c/dam/en/us/products/collateral/se/internet-of-things/at-a-glance-c45-731471.pdf>

2. 2019 Ericsson Mobility Report

3. IHS Markit

# JOURNEY TO NETWORK TRANSFORMATION



**MOVE TO STANDARD SERVER**

**VIRTUALIZATION AT CORE NETWORK**

**VIRTUALIZATION AT EDGE OF THE NETWORK**

# NEXT GEN RAN SOLUTIONS



**RADIO HEADS**   **BASE STATION**   **SMALL CELL**   **VRAN**

### ACCELERATION SOLUTIONS

Intel® FPGA   ASSP   Intel® eASIC™ Silicon   VPU   Custom

### ADJACENT TECHNOLOGIES

Intel® Ethernet Controller   Intel® Silicon Photonics   Intel® OPTANE™ DC PERSISTENT MEMORY   Intel® OPTANE™ DC SOLID STATE DRIVE   Intel® QuickAssist Technology

**INTEL BRINGS TOGETHER THE PRODUCTS, ECOSYSTEM & INFLUENCE TO ENABLE  
NEXT GENERATION RAN ARCHITECTURES**



# ENTER 5G NR – A TRULY UNIFIED AIR INTERFACE

## 5G NR

Sub-1 millisecond  
delay end-to-end  
for low latency apps

**RESPONSIVE**

10 to -5 packet error  
rate/BLER .0001 for  
ultra reliable apps

**RELIABLE**

Up to 20Gbps DL  
via mmWave for  
extreme mobile  
broadband

**POWERFUL**

**FLEXIBLE**

Subcarrier spacing,  
scalable numerology  
enable deployment  
in new scenarios

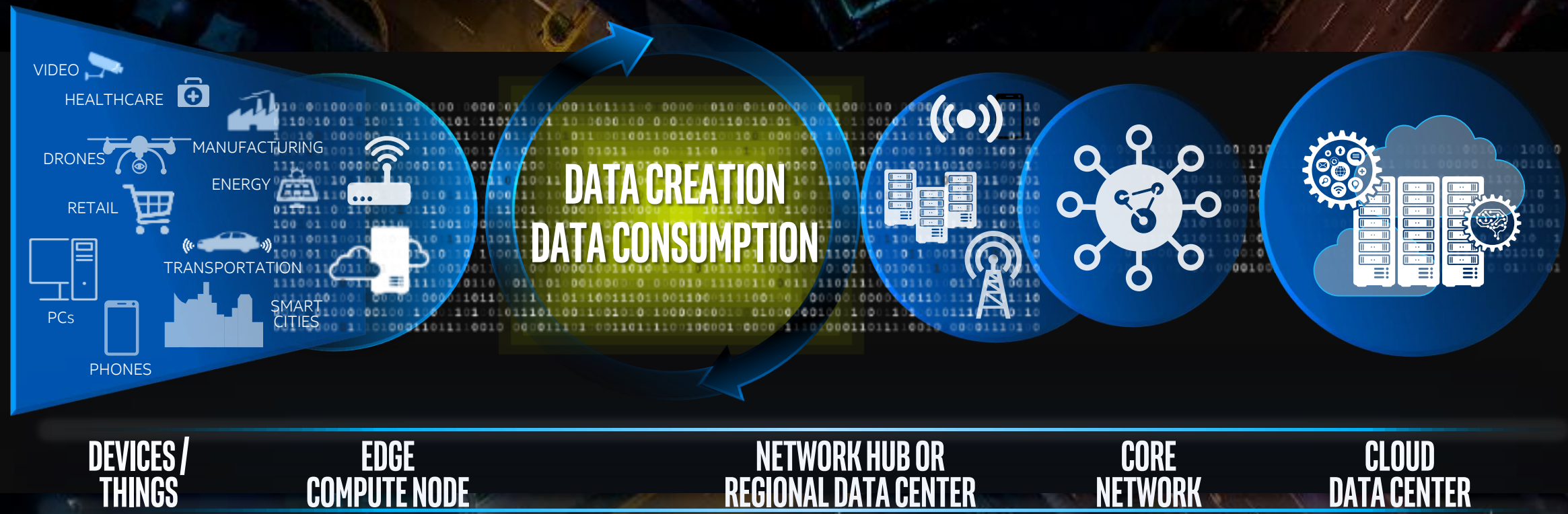
**SCALABLE**

Supports new bands  
up to 52.6GHz

**EFFICIENT**

Dynamic TDD  
delivers better  
resource utilization

# NETWORK TRANSFORMATION FOUNDATIONAL TO EDGE & 5G



**DEVICES / THINGS**

**EDGE COMPUTE NODE**

**NETWORK HUB OR REGIONAL DATA CENTER**

**CORE NETWORK**

**CLOUD DATA CENTER**

**INTELLIGENT EDGE: MOVE, STORE & PROCESS CLOSER TO THE USER**

# VIRTUOUS CYCLE OF IOT & NETWORK EDGE

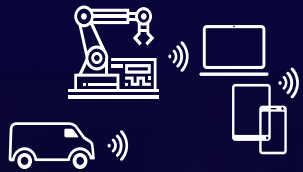
DEVICES | THINGS

EDGE NODE

REGIONAL DC

CORE

DATA CENTER | CLOUD



**DRIVERS FOR EDGE**  
LATENCY, BANDWIDTH  
SECURITY, CONNECTIVITY



VIRTUALIZED

SOFTWARE-DEFINED

CLOUD-READY

LATENCY = <5 MS

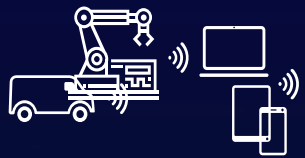
LATENCY = <10MS

LATENCY = <40MS

LATENCY = <100MS

# INTEL'S END TO END TECHNOLOGY FOR 5G & EDGE

DEVICES | THINGS



ACCESS | EDGE



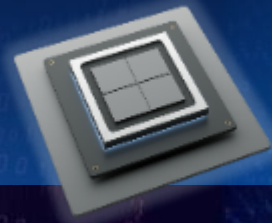
CORE



DATA CENTER | CLOUD



COMING SOON  
SNOW RIDGE



ACCELERATORS

MEMORY

INTEL OPTANE DC  
PERSISTENT MEMORY



CONNECTIVITY

INTEL ETHERNET  
CONTROLLER



INTEL SILICON  
PHOTONICS



SOFTWARE

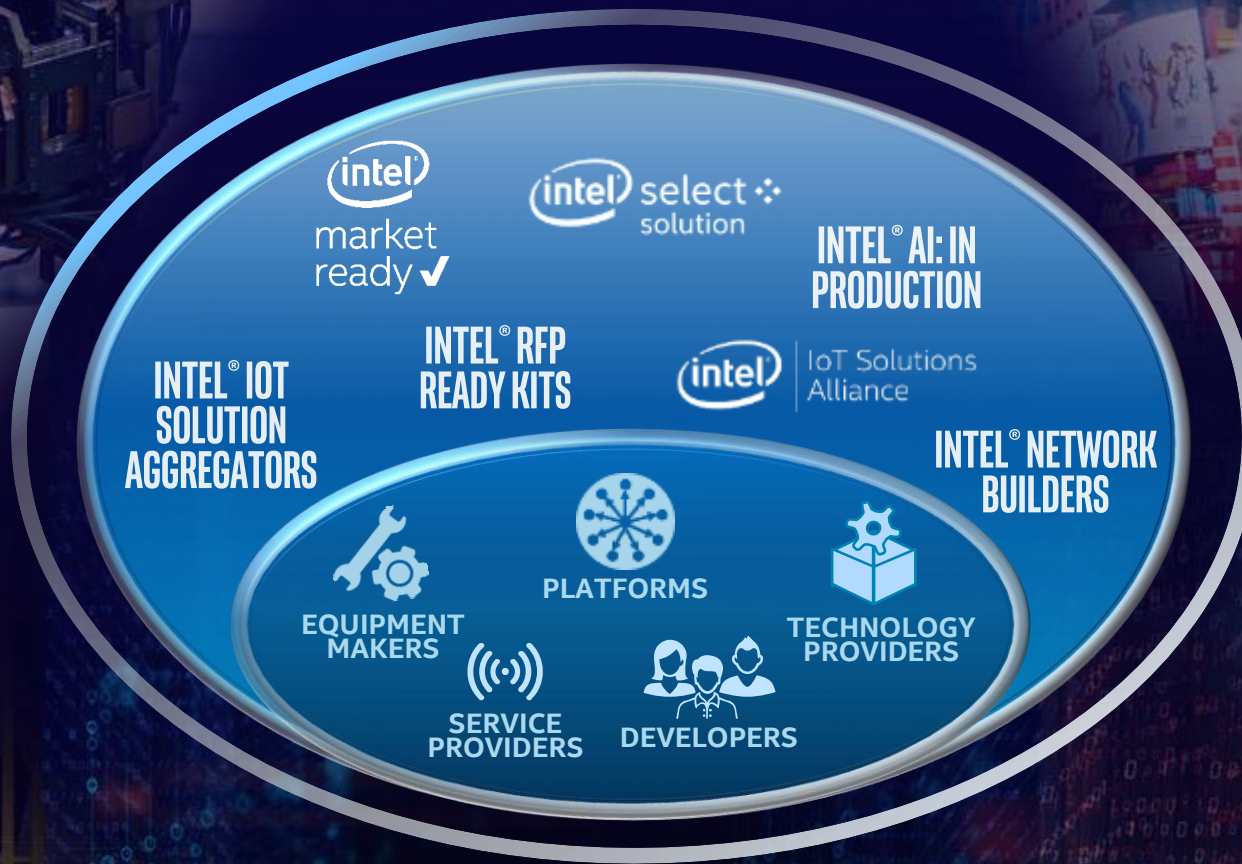
OpenVINO  
OPENNESS





# WINNING TOGETHER WITH THE ECOSYSTEM

UNMATCHED ECOSYSTEM • ACCELERATE DEPLOYMENTS • DELIVER BUSINESS RESULTS



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