

# BUSINESS INITIATIVES TO ACCELERATE NETWORK TRANSFORMATION

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# THE DATA CENTRIC WORLD

OVER

**HALF** OF THE  
WORLD'S  
DATA

WAS CREATED IN THE LAST

**2 YEARS**

LESS THAN

**2%** HAS  
BEEN  
ANALYZED

# INDUSTRY MEGA-TRENDS

PROLIFERATION OF  
**CLOUD COMPUTING**



GROWTH OF  
**ARTIFICIAL INTELLIGENCE**



CLOUDIFICATION OF THE  
**NETWORK & EDGE**



# 5G - DNA FOR THE INNOVATION PLATFORM OF TOMORROW

**ENHANCED MOBILE  
BROADBAND**



**MASSIVE MACHINE  
TYPE  
COMMUNICATIONS**

**ULTRA-RELIABLE  
AND LOW  
LATENCY**

**BY 2020**



**AVG. INTERNET USER**  
1.5 GB  
OF TRAFFIC / DAY



**AUTONOMOUS VEHICLES**  
4 TB  
OF DATA/DAY



**CONNECTED AIRPLANE**  
5 TB  
OF DATA/DAY



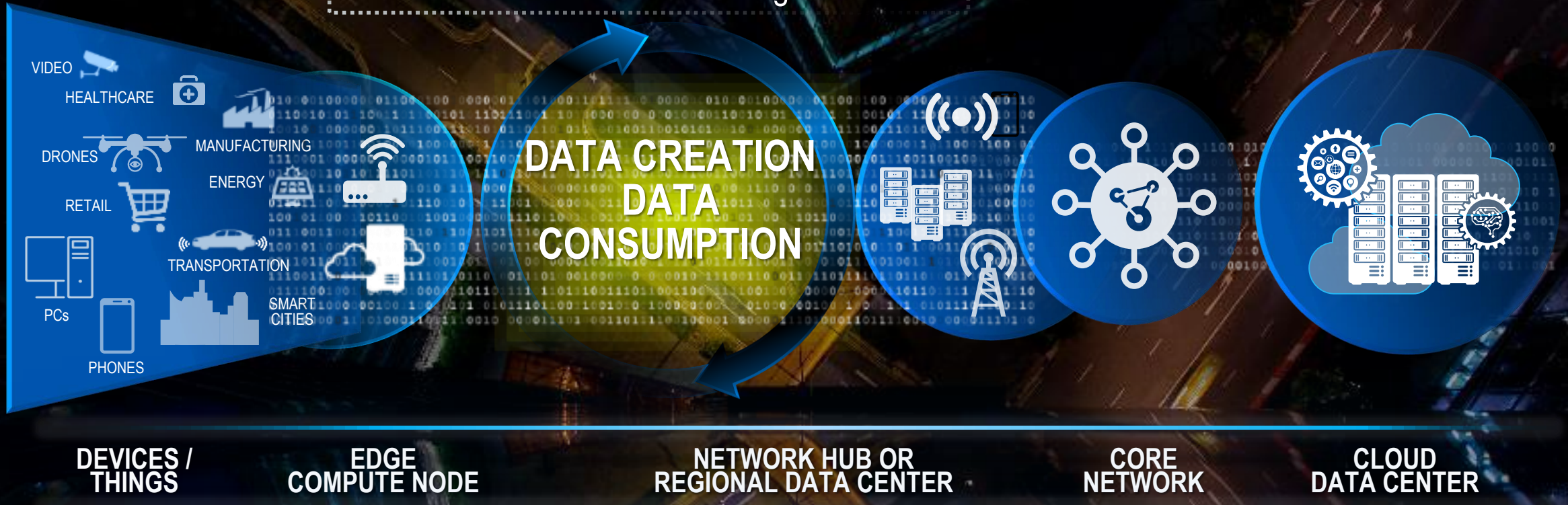
**SMART FACTORY**  
1 PB  
OF DATA/DAY



**CLOUD VIDEO PROVIDERS**  
750 PB  
OF VIDEO/DAY

# SHIFTING TO THE EDGE

By 2022, **45%** of data will be stored, analyzed, and acted on at the edge<sup>1</sup>

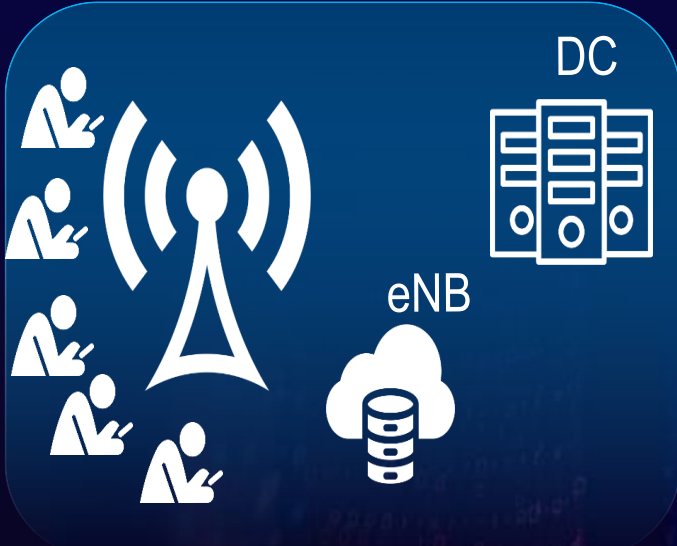


# TAKING ANALYSIS TO DATA

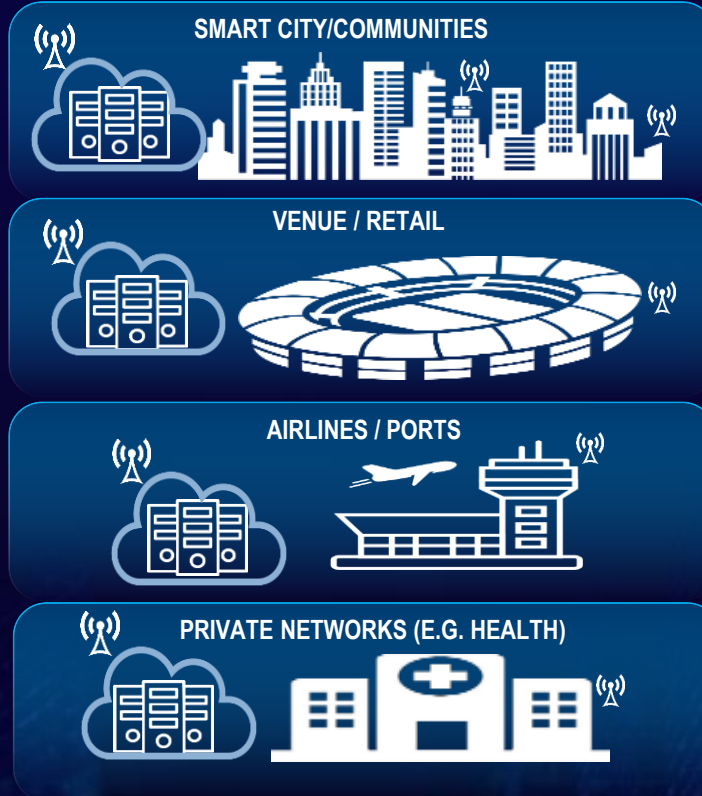
1. Gartner – Edge Computing for Infrastructure / Operations Leaders

# PRIVATE NETWORKS

TODAY'S PUBLIC NETWORK  
GENERAL PURPOSE

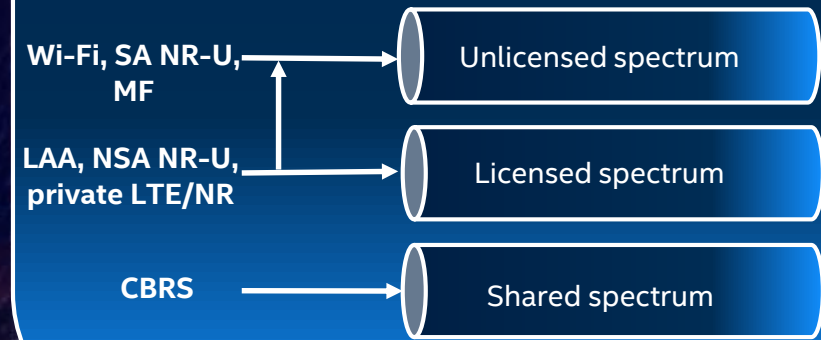
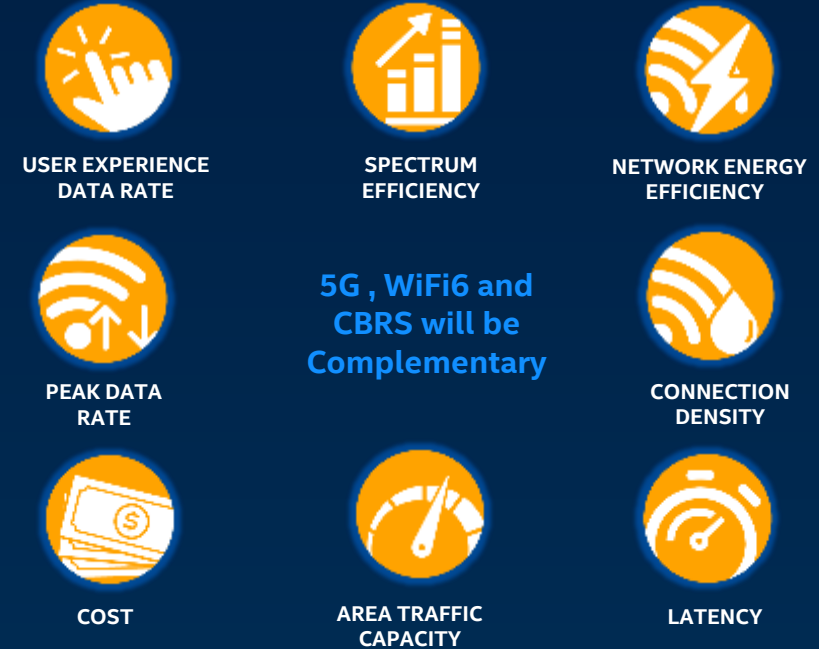


TOMORROW'S PRIVATE NETWORK  
CUSTOM PURPOSE



RESPONSE TIME   SECURITY   COST   PRIVACY   AVAILABILITY   CUSTOMIZATION   CONTROL   SOVEREIGNTY

5G - WiFi6 - CBRS



# USE CASES ADOPTING EDGE



**WAREHOUSE & MANUFACTURING**



**HOSPITALITY & CASINOS**



**TRANSPORTATION**



**CONNECTED CAR**



**RETAIL**



**SMART CITY**



**EDGE CLOUD GAMING**



**INSPECTION & INFRASTRUCTURE**



**SMART STADIUMS**



**VR/AR WITH LOCATION**



**SECURITY, RECOGNITION, SURVEILLANCE**

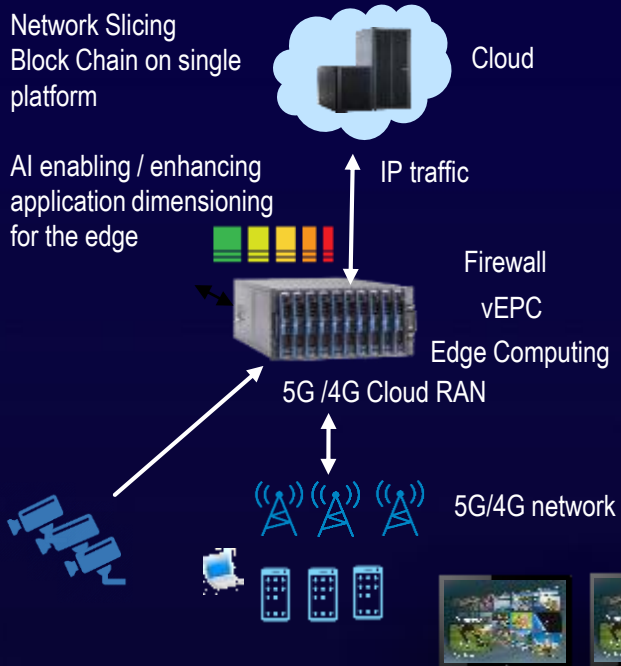
# SMART VENUES

Massive Connectivity demanding capacity  
Vchat/Multi-Angle viewing

Game Data Acquisition and Analysis

Edge Server reduced latency of live video chat from ~30s to ~0.5s

Retail and recommendation opportunities  
Operational and Entertainment services



On PREM



## TRIAL DEPLOYMENT



Adaptive Transcoding



AR/VR Edge for devices/suites



360 VR live broadcasting/replay



Live Video Chat



Gaming



Tracking



Retail, Recommendations Services



Video Security Surveillance (DSS)



Hologram



Crowd Management



Facility Management



CDN Edge for events/Inference





# HOSPITALITY

Streamlined Owners/  
Brands Interactions



## BRANDS



Consolidated Hotel  
Operations



Property Management  
Systems Consolidation



Guest Communications



Lower TCO by using off-  
peak data transfers



Streamlined Owners-  
Brand Interactions



## OWNERS



High Availability



Lower Cost



Faster Franchise Up and  
Run Time



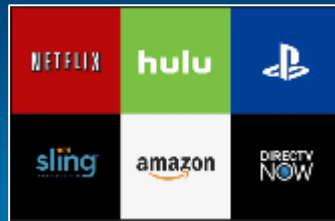
Faster Brand Switching



Optimized Back Office  
Operations



## CUSTOMERS



Video Streaming



Gambling



Live Video Chat



Gaming



Advanced Interaction with  
AR/VR

Higher Guest Satisfaction



# RETAIL DIGITIZATION

**BENEFITS : ADDITIONAL PRIVACY, LOW LATENCY, QOE, CONTROL OF LOCAL CONTENT, HIGHER EFFICIENCIES, WORKLOAD CONSOLIDATION**



TODAY



TOMORROW



## Supporting Applications:

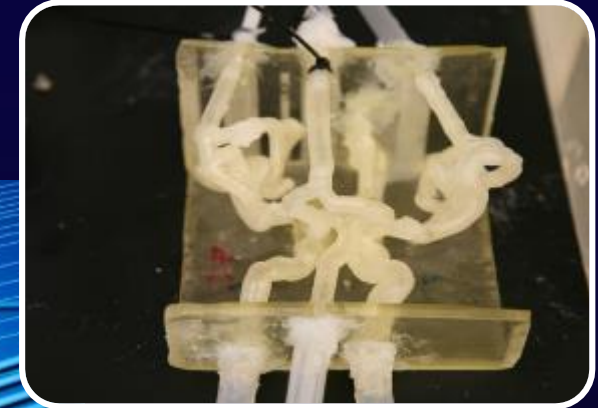


# HEALTHCARE

REMOTE ADVISE



AR SURGERY



REMOTE BROADCAST



3D PRINT SURGERY



REAL-TIME DIAGNOSIS



VR SURGERY

REMOTE SURGERY

REMOTE LIVE EDUCATION



# INDUSTRIAL PRIVATE NETWORK



MANUFACTURING MOVES COMPUTE & ANALYSIS TO THE EDGE WITH AI, BLOCKCHAIN, ...



Metrology



Mobile Robotics



MOM Tablets



Enterprise Security Framework Extended

AR Repair & Assembly



Security AI



Tool Tracking



# SMART CITY

42 Million Visitors  
650K Residents



Casinos



Entertainment



Retail

Big Data

IoT

Video

Analytics

Wi-Fi  
App

Sensors



Innovation District



Transport



Facilities



Safety

Consumer  
Experience

Efficient City  
Operations

Full-proof Public  
Safety



# KEY PAIN POINTS



# REMOVE HURDLES

**BANDWIDTH / CONTROL  
OF CONTENT**



**LOW LATENCY / REAL TIME**



**CONSOLIDATED  
WORKLOADS/  
EASE of USE**



**SECURE MOBILE  
TRANSACTIONS/  
COMMUNICATIONS**



**ADDITIONAL  
SECURITY / PRIVACY**

**INCREASED RELIABILITY**

## PROVIDE

- On prem wireless connectivity & management (private & public)
- Enable multi-tenant secure switching/routing/communications
- Automate manage services / SLAs insure security/privacy



# INTEL'S TECHNOLOGY FOR NETWORK & EDGE

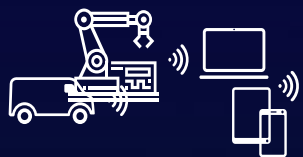
IOT EDGE

ON PREM EDGE

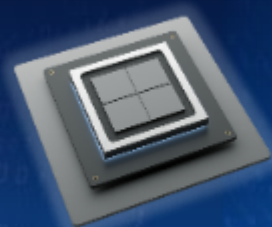
FAR EDGE

CORE

DATA CENTER | CLOUD



COMING 2H'19  
SNOW RIDGE



ACCELERATORS

MEMORY

INTEL OPTANE DC  
PERSISTENT MEMORY



CONNECTIVITY

INTEL ETHERNET  
CONTROLLER



INTEL SILICON  
PHOTONICS



SOFTWARE

OpenVINO  
OPENNESS



# BRINGING 5G TO LIFE TOGETHER

## INVEST

OPEN SOURCE AND STANDARDS



## INDUSTRY COLLABORATION

INTEL® NETWORK BUILDERS &  
INTEL® DEVELOPER ZONE

350+

Members

35+

Comms SPs

100+

POCs/Trials/Deployments  
Based on Member Solutions

13,000+

Developer's Trained  
worldwide

12,000+

Network Builder  
University Program  
Members

50+

Network Edge  
Ecosystem Program  
Members

251,480+

IDZ page views

## ACCELERATING TIME TO MARKET



NFVI

NETWORK FUNCTIONS  
VIRTUALIZATION  
INFRASTRUCTURE



UCPE

UNIVERSAL CUSTOMER  
PREMISES EQUIPMENT

REFERENCE  
ARCHITECTURES:  
NGCO, CORE,  
COMON PLATFORMS

Industry Leading Ecosystem Programs  
Drive 5G & Edge Transformation & Enable Developers





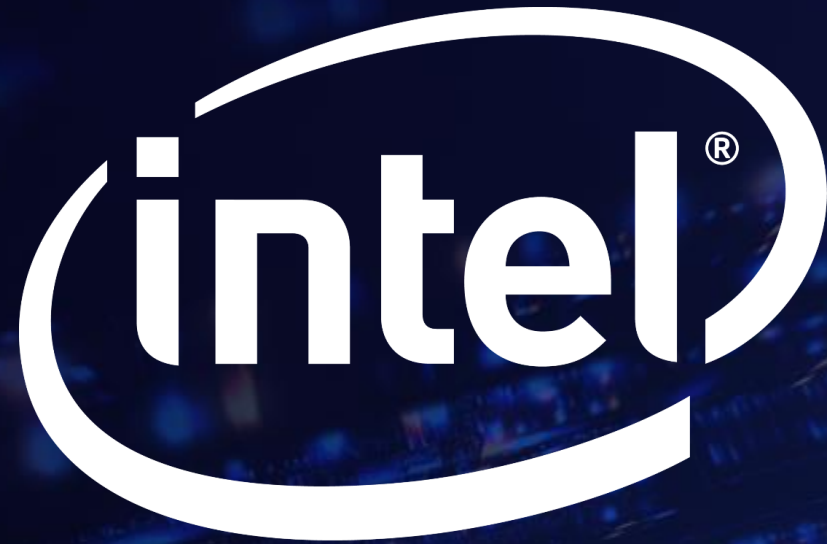
# SUMMARY

- 5G is just not connectivity. It's an innovation platform of tomorrow for enterprises.
- Latency, increased bandwidth and improved coverage are the key 5G elements.
- More and more data will be captured, analyzed and monetized at the edge vs cloud.
- Intel is well positioned with its rich portfolio of products to support end-to-end transformation.
- Multiple use cases across the globe will drive the 5G to reality.

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