Transforming Smart Cities with AI & IoT

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Qualcomm Technologies, Inc.

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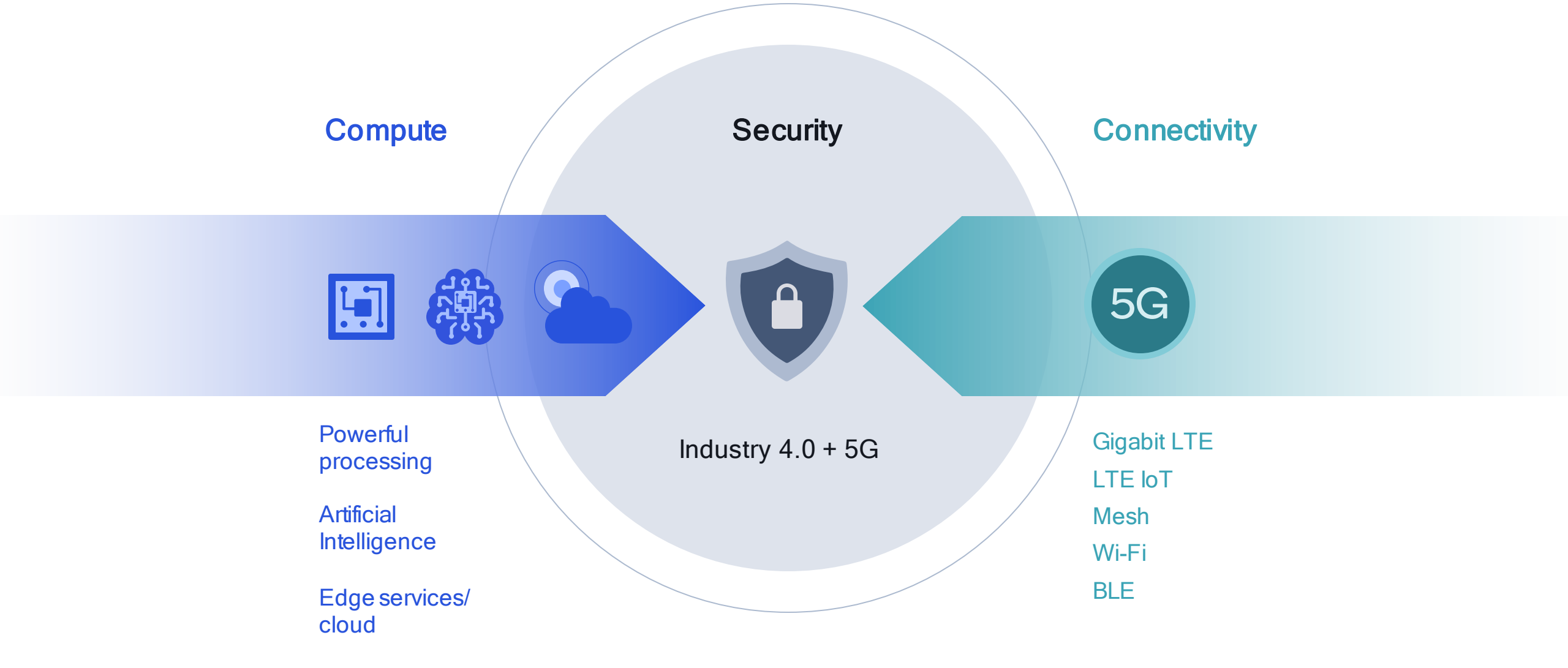
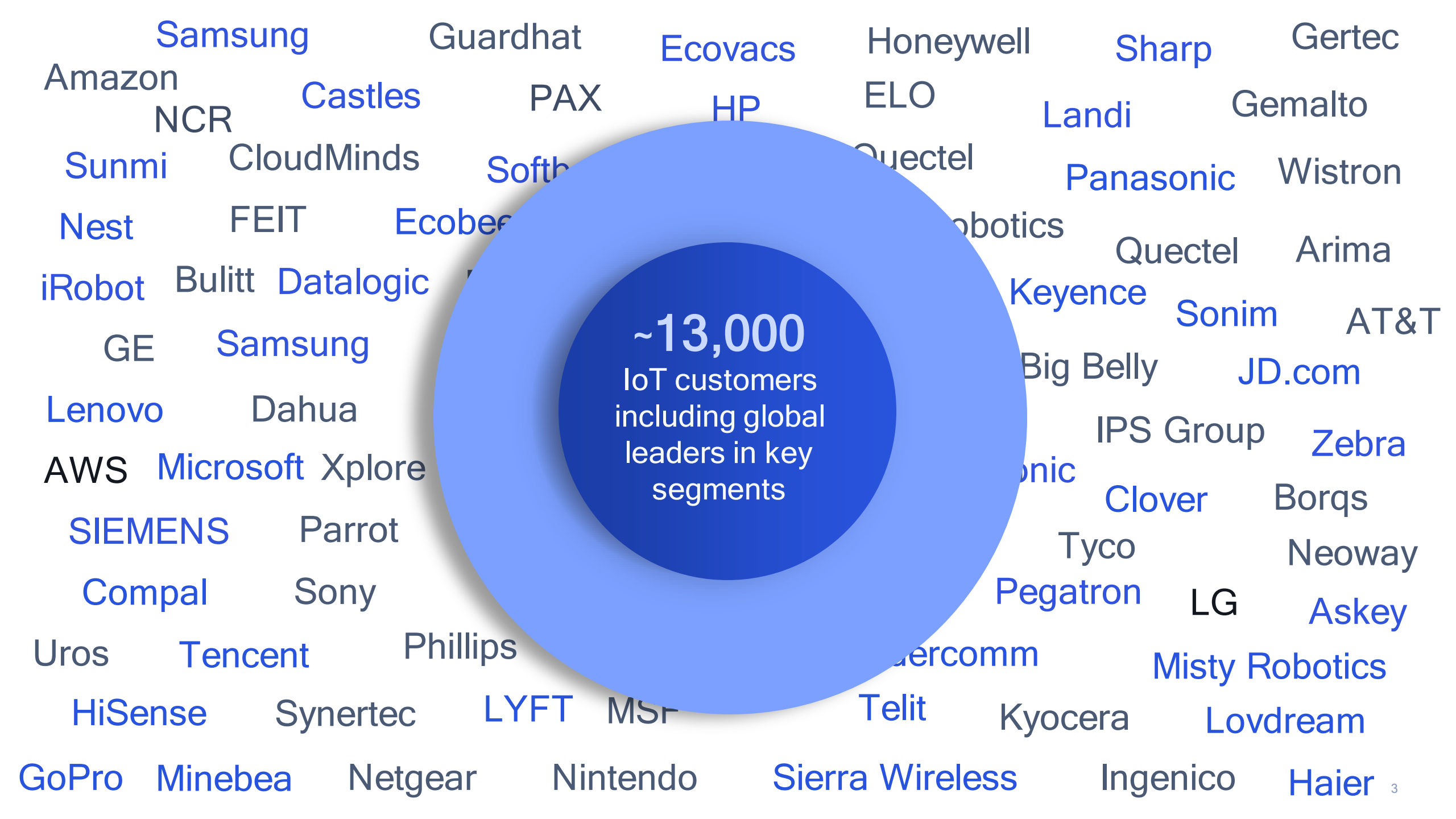
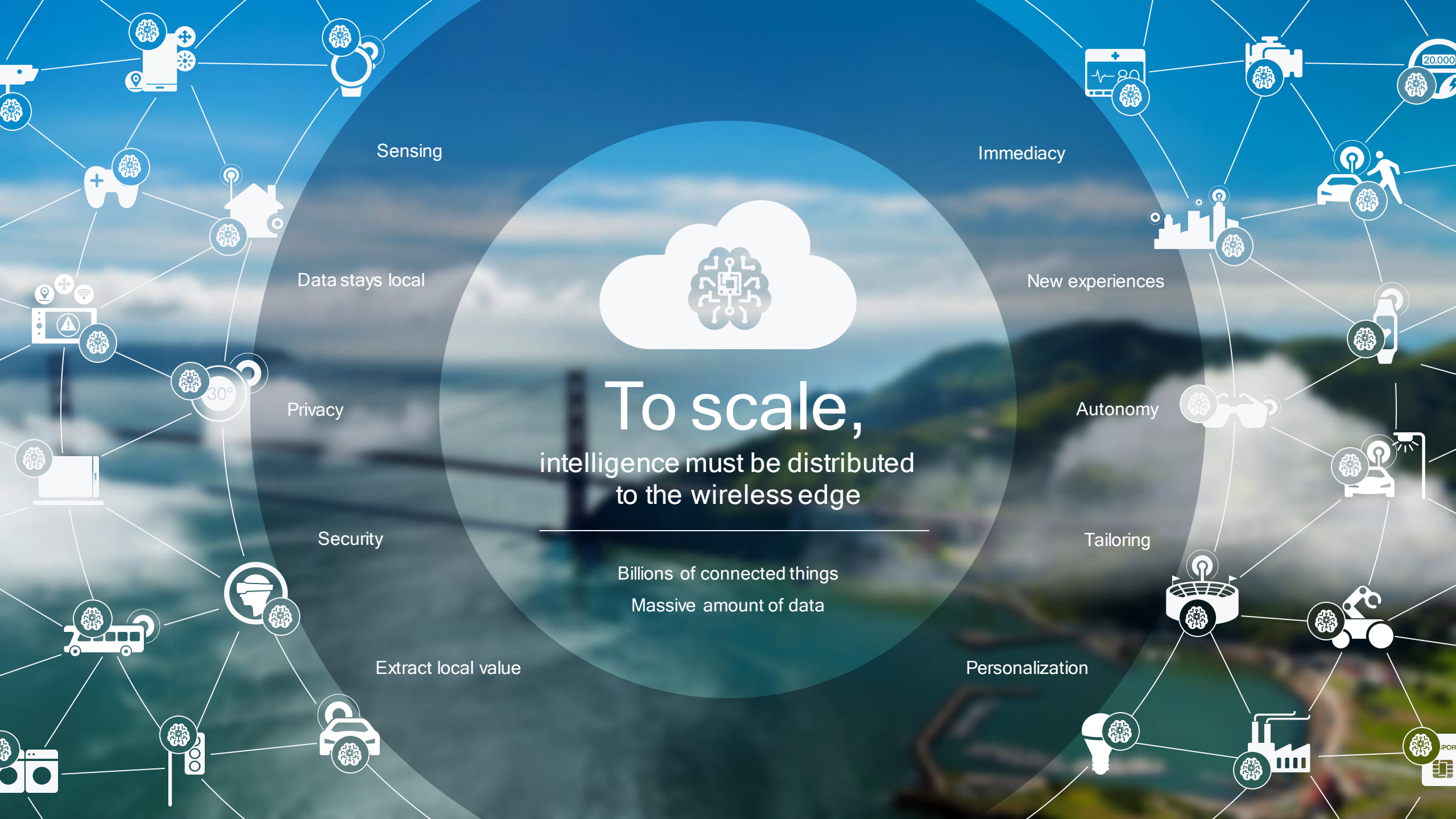
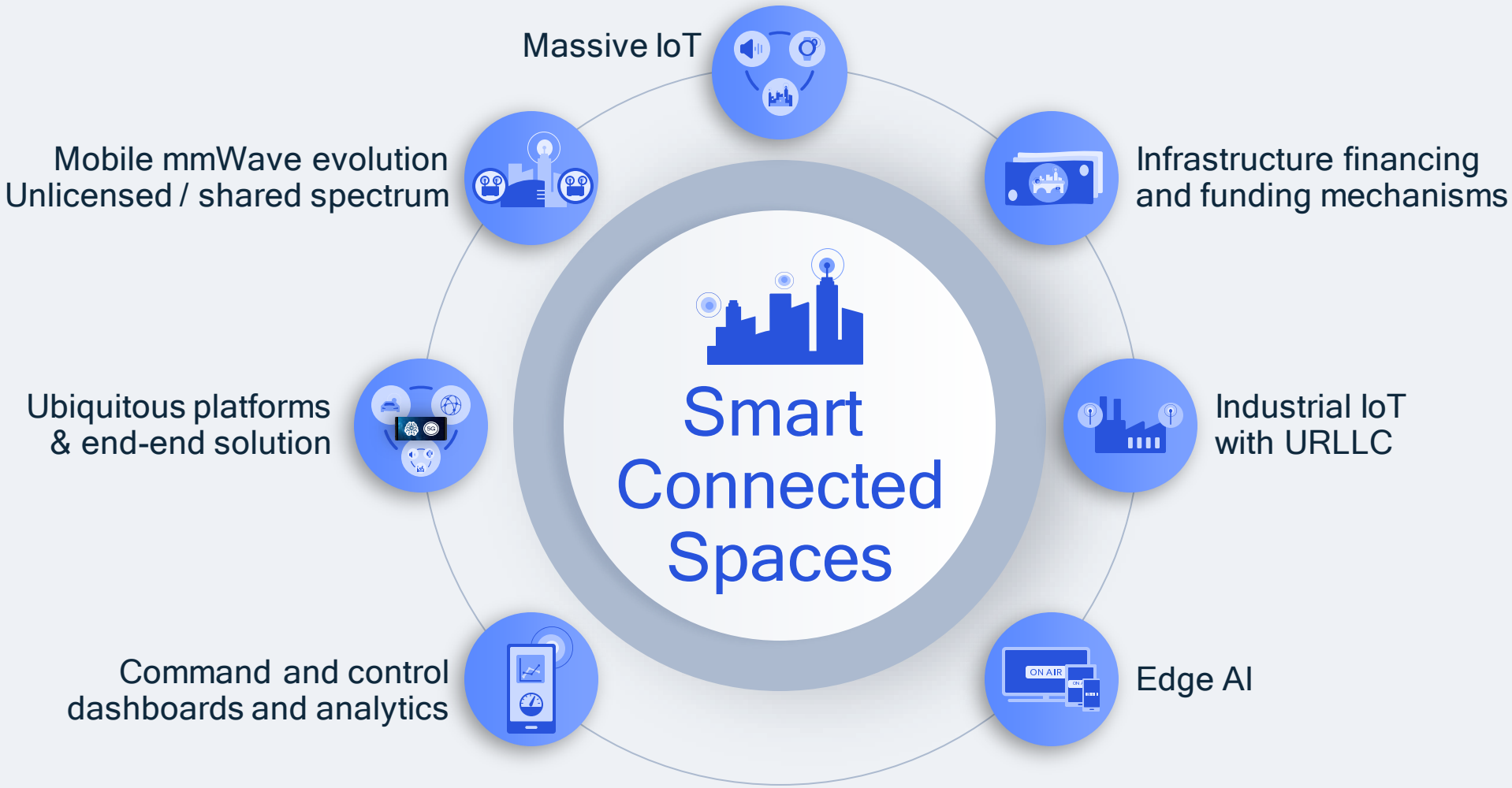


Qualcomm Technologies provides the foundation for future IoT innovation


~13,000
IoT customers including global leaders in key segments
Samsung
Guardhat
Ecovacs
Honeywell
Sharp
Gertec
Amazon
Castles
PAX
HP
ELO
Landi
Gemalto
NCR
Sunmi
CloudMinds
Quectel
Panasonic
Wistron
Nest
FEIT
Ecobee
botics
Quectel
Arima
iRobot
Bulitt
Datalogic
Keyence
Sonim
AT&T
GE
Samsung
Big Belly
JD.com
Lenovo
Dahua
IPS Group
Zebra
AWS
Microsoft
Xplore
nic
Clover
Borqs
SIEMENS
Parrot
Tyco
Neoway
Compal
Sony
Pegatron
LG
Askey
Uros
Tencent
Phillips
ercomm
Misty Robotics
HiSense
Synertec
LYFT
MSF
Telit
Kyocera
Lovdream
GoPro
Minebea
Netgear
Nintendo
Sierra Wireless
Ingenico
Haier


Sensing
Data stays local
Privacy
Security
Extract local value
Immediacy
New experiences
Autonomy
Tailoring
Personalization
To scale,
intelligence must be distributed
to the wireless edge
Billions of connected things
Massive amount of data



Qualcomm Smart Connected Spaces
is at the center of new use cases and verticals

By harnessing the power of digitization…

Smart Connected Spaces

Smart Spaces are the building blocks for Smart Communities

Smart Verticals

Smart Spaces

Smart Spaces

- Smart Shops
- Smart Stations
- Smart Malls
- Smart Display
- Smart Experiences
- Smart Buildings

Smart Transportation

- Smart Stations
- Smart Operators
- Smart Traffic
- Smart Crowd Management

Smart Campuses

- Smart Schools
- Smart Universities
- Smart Stadiums
- Smart Malls

Smart Infrastructure

- Smart Roads
- Smart Hospitals
- Smart Borders
- Smart Airports
- Smart Ports
- Smart Utilities (Power / Water)
- Smart Grid

Smart Manufacturing

- Smart Factory
- Smart Logistics
- Smart Warehousing
- Asset Management

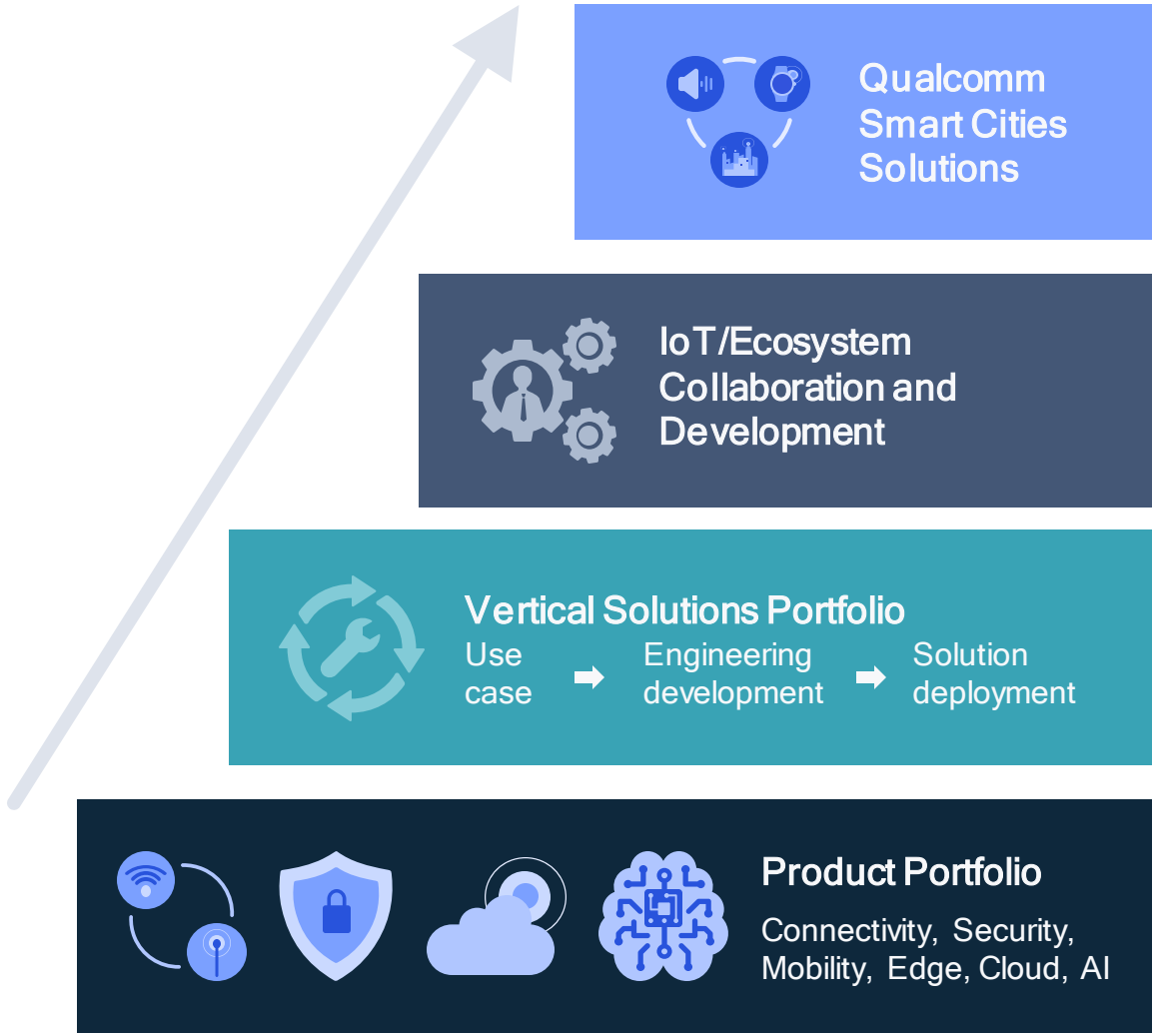
Smart Safety and Security

- Smart Cameras
- Smart Surveillance
- Smart Access

Smart Agriculture

- Smart Livestock
- Smart Farming
- Smart Horticulture

Qualcomm Smart Cities Solutions



Qualcomm Technologies Deliverables

Vertical Expertise

- Intelligent N/W connectivity using Bluetooth, Wi-Fi, 3G, 4G LTE, 5G
- Superfast Edge Processing & AI
- The Intelligent Wireless edge
- City Infra through secured interoperability

Solution Offer Development

- Vertical solution development
- Rapid POC & Deployment at Scale
- On-device AI, processing, sensing, vision, -- augmented by edge cloud
- GTM Acceleration

Large deal capture engagements

- Sales/collaboration enablement
- Vertical community building
- Large ecosystem
- Advancing AI research to make efficient AI ubiquitous
- Complete, end-to-end solution delivered for Smart City verticals for deployment with minimal customization

End-to-end portfolio to enable Smart Spaces

Data Collection and Sensing

Smart Cameras

Third-Party Cameras

Wi-Fi

Infrastructure, Machine and Building IoT Sensors

Business, Social and Operational Data

Edge Processing and Analysis and 5G connectivity

Data Management

Public or Private Cloud

Archive

On-Premises

AI Applications

Video Analytics

Dash Boards

Data Insights

Predictive & Prescriptive Analytics

Geospatial Visualization & Automated Workflows

Smart Spaces

Cities

Retail

Factories

Logistics

Transit

Campus

Stadiums

Airports

Intelligent data operations: Orchestration, Governance, Security, Privacy Protection and Compliance

Qualcomm Technologies Smart City Enablement Platform

IOT-as-a-Service (IOTaaS)

Digitization of high value industries

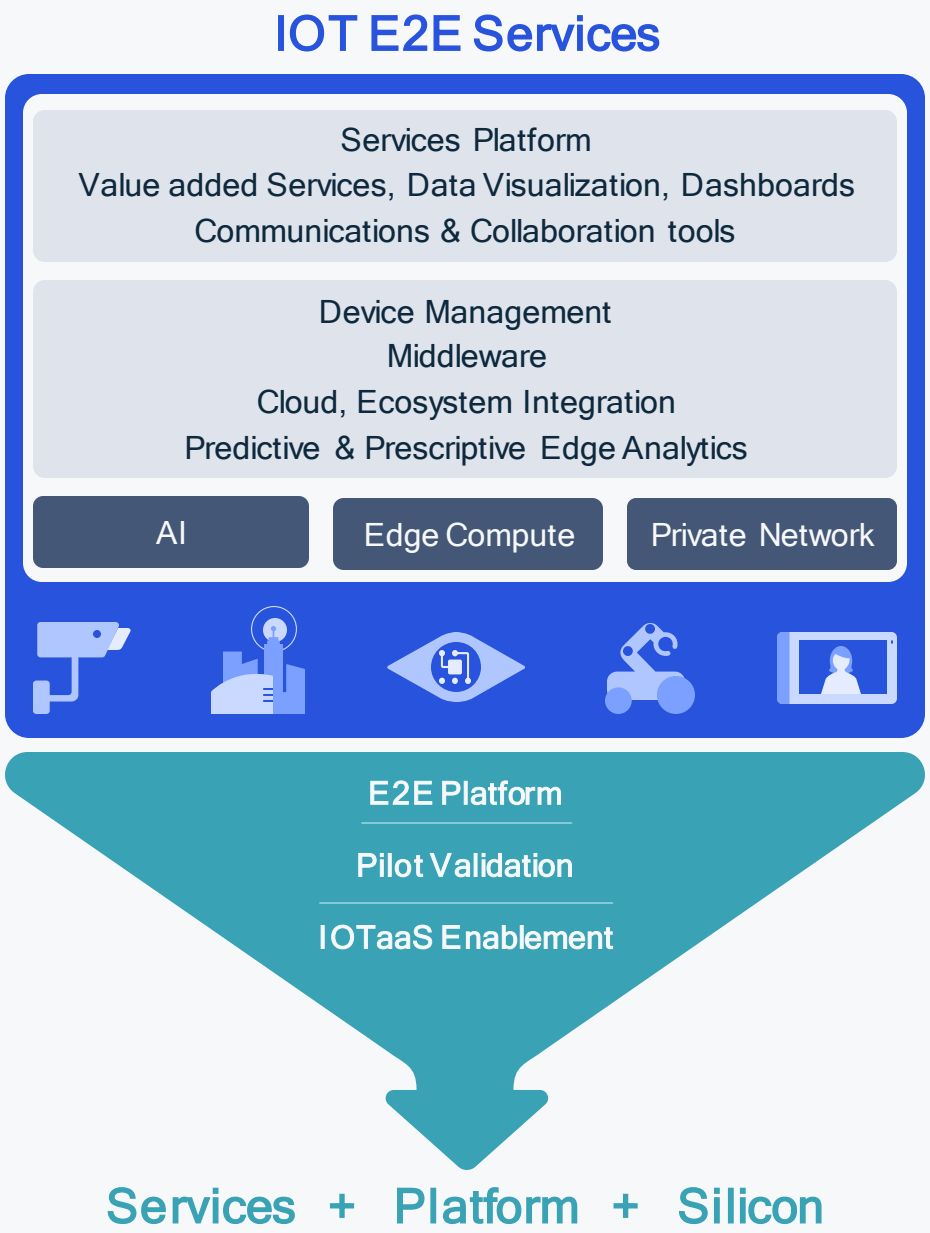
- Solve the difficult use cases
- Ready to deploy solutions and services
- Enable vertical solutions that scale

Add E2E value

- Technology push; Pre-integration; Pre-certification
- Utilize QTI Ecosystem /Silicon

Partner with industry leaders

- IOTaaS customization
- GTM offering to specific industries
- Enable new use cases



Examples of IOTaaS offering

EaaS Touchpoints

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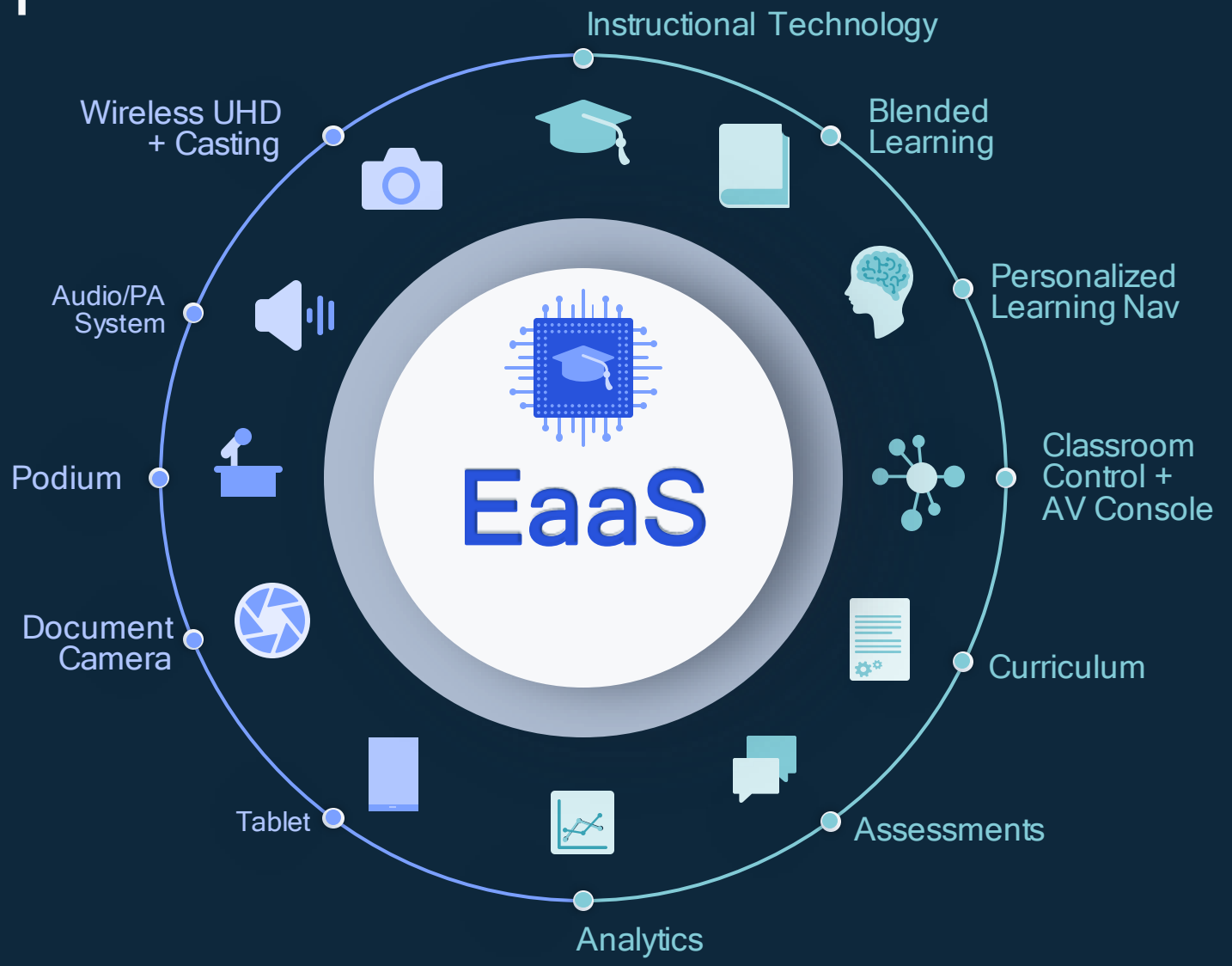
Fully integrated service features for Education

Qualcomm Technologies
Hardware



Qualcomm Smart Cities
Solutions
Suite
Platform
Software

CMaaS
Construction Management as-a-Service

Lack of Digitization:
80% processes are manual
Under utilized Technology

CMaaS
touch points

Construction safety industry is multi-functional

Ripe for disruption

CMaaS

- Hard Hat
- Connected Worker
- Wearable AI Camera
- Thermal Safety Scan
- Digital workflow
- Remote Collaboration
- Connected Health Kiosk
- Drones for inspection
- Perimeter Lidar
- AI Camera for NLOS
- Popup Private Network

SMaaS

Smart Manufacturing as-a-Service

Driving factory digitization with flexible end-to-end manufacturing services.

On-premise edge analytics and data storage

Process monitoring sensors

5G private network

Process monitoring sensors

Smart UHD surveillance

5G private network

Wireless modular equipment

AGV tracking control system

Spools shipped

Precise indoor positioning

Capacity

AR guided belt repair

Conveyor belt repair steps

Performance

Maintenance schedule

Arm lubricants

8.5

Capacity

124

HMI interface

Robot #018

Digital twin

5G cloud connection

Production metrics

8.5

Transfer speed

2.3 Gbps

Performance

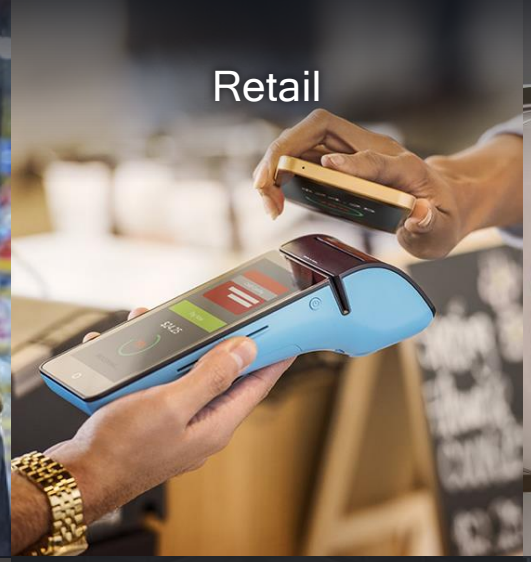
77 34 65 62 76 84 86 79 83 100 89 91

May Jun Jul Aug Oct Nov Dec Jan Feb Mar Apr May

Automated production

Autonomous guided vehicle

Predictive maintenance



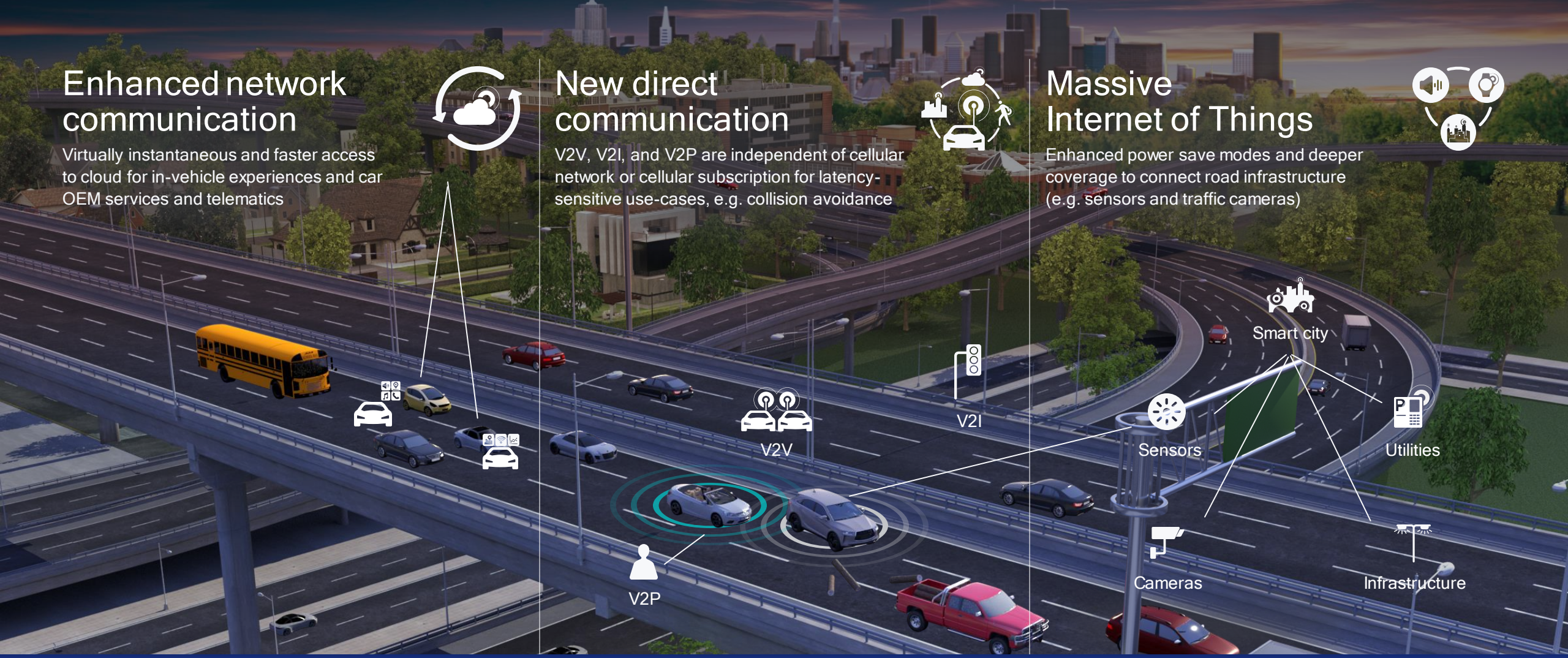
Driving IoTaaS transformation for smart cites and the enterprise

STaaS

Smart Transportation as-a-Service

Our Foundational Technologies

- Artificial intelligence
- C-V2X/5G Connectivity
- Heterogeneous Computing
- Precise positioning



In-vehicle experiences

Road safety

Transportation efficiency

Automated driving

Road services

Evolving wireless technologies to support key transportation use cases

Car connectivity in the 5G era

Heterogeneous connectivity

Secure, virtualized wireless links

Advanced Positioning

Multi-environment implementation

4G/5G is referring to C-V2X network communications (i.e. V2N); C-V2X Direct Communications is referring to V2V, V2I, V2P

Fueling innovation in Vietnam's wireless ecosystem

Technologies

Cellular (5G, 4G, NB-IOT)

Connectivity (WiFi-6, BT5.0)

Hardware, RF design

Machine learning, AI

Smart cameras, vision

Security

Export market know-how

Certification and manufacturing

Initiatives

In-country engineering

Advanced Labs

System/module reference designs

Rapid prototyping

Advanced topics training

Operator launch, optimization

Incubation, research enablement

Partners

VSMART

Bkav

HOMA

VIETTEL

VNPT

Ginnovations

Qualcomm

Thank you

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