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@qualcomm_tech

Flash Memory Summit 2019

Qualcomm

5G and the Wireless Edge Transformation

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A unifying connectivity fabric for society

Like electricity, you will just expect it everywhere



Scalable to extreme simplicity

Multi-gigabit speed

Ultra-low latency

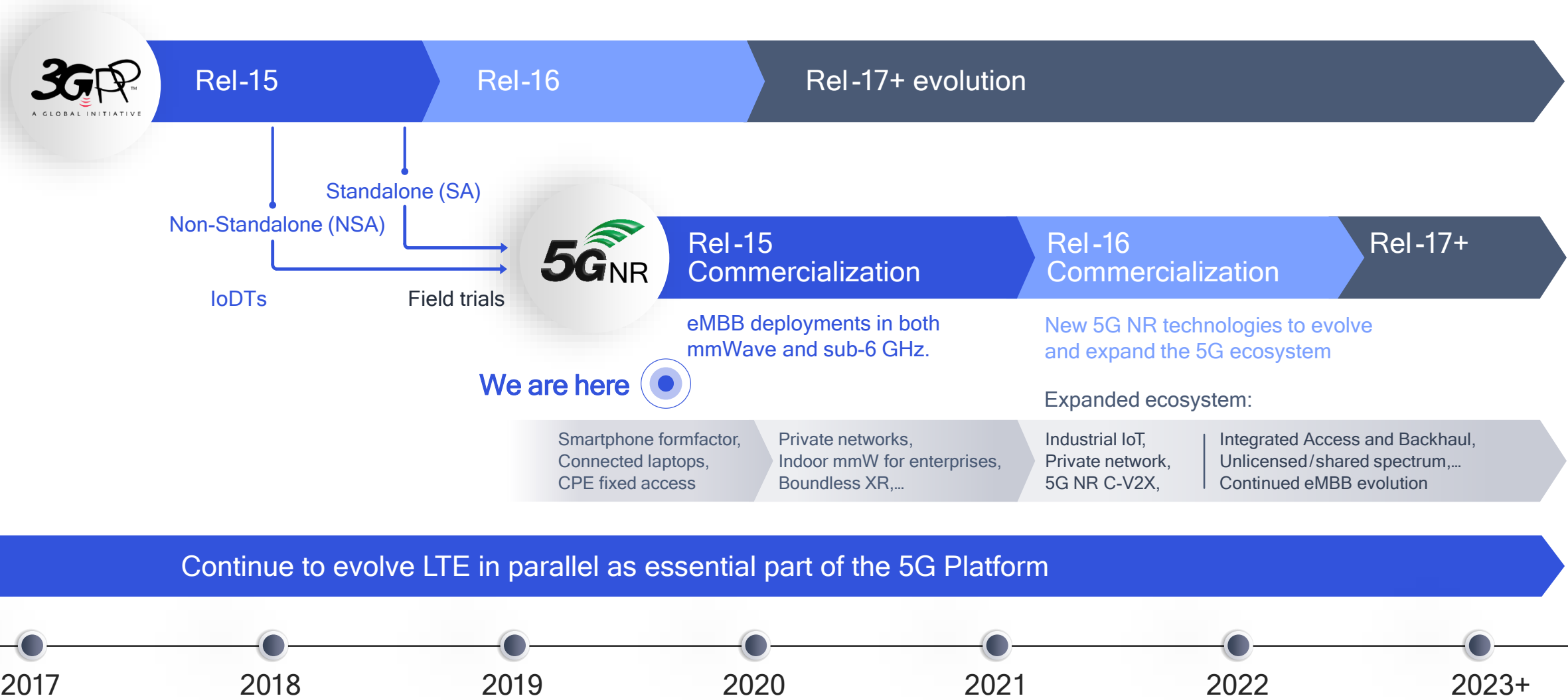
Virtually unlimited capacity

Extreme reliability

On-device intelligence

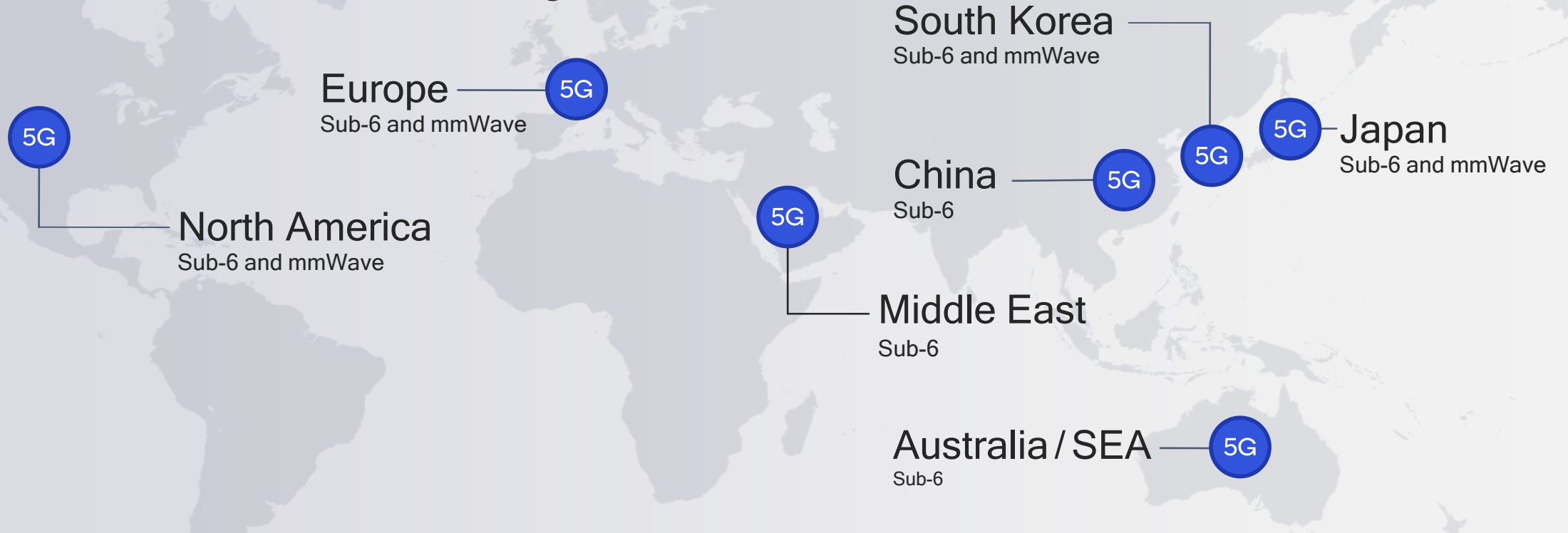


Driving the 5G roadmap and ecosystem expansion

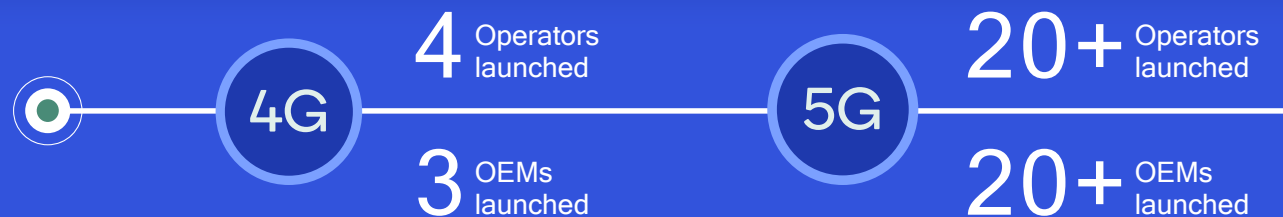


2019 is the year of 5G

Global commercialization moving faster than 4G



Comparison of Year 1 announcements



Enabler to the factory of the future



XR Guided execution

Ultra reliable, low-latency connection

Dynamic factory reconfigurability

Real-time supply chain visibility

5G NR Private network

Predictive maintenance

Safer, autonomous transportation



Rideshare

Reliable access to remote healthcare



Glucose level 129 mg/dl - Normal

Precision agriculture



Autonomous

On-device intelligence

Unfettered surveillance

Ubiquitous always-available connectivity

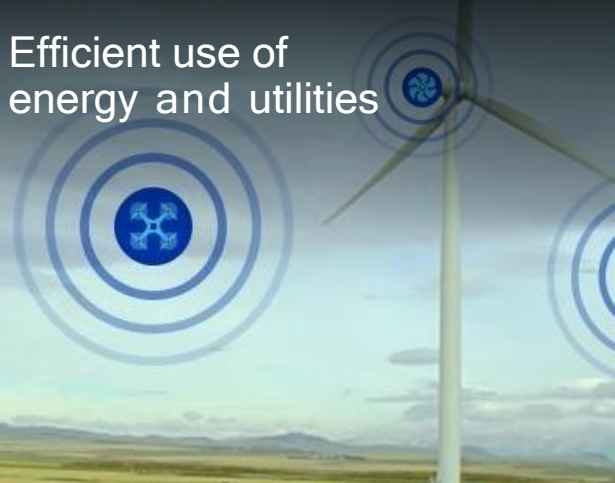
Edge intelligence

2,476.3

Extreme mobile broadband

Pests detected

Efficient use of energy and utilities



Private networks for logistics, enterprises, industrial,...



Sustainable smart cities and infrastructure



Multi-gigabit speed

Ultra-low latency

Virtually unlimited capacity

Extreme reliability

5G

Digitized logistics and retail



200Mbps

25% OFF

Jackie

Tami

Carol

Sara



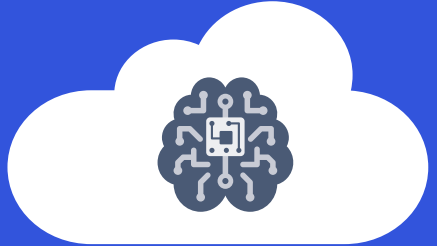
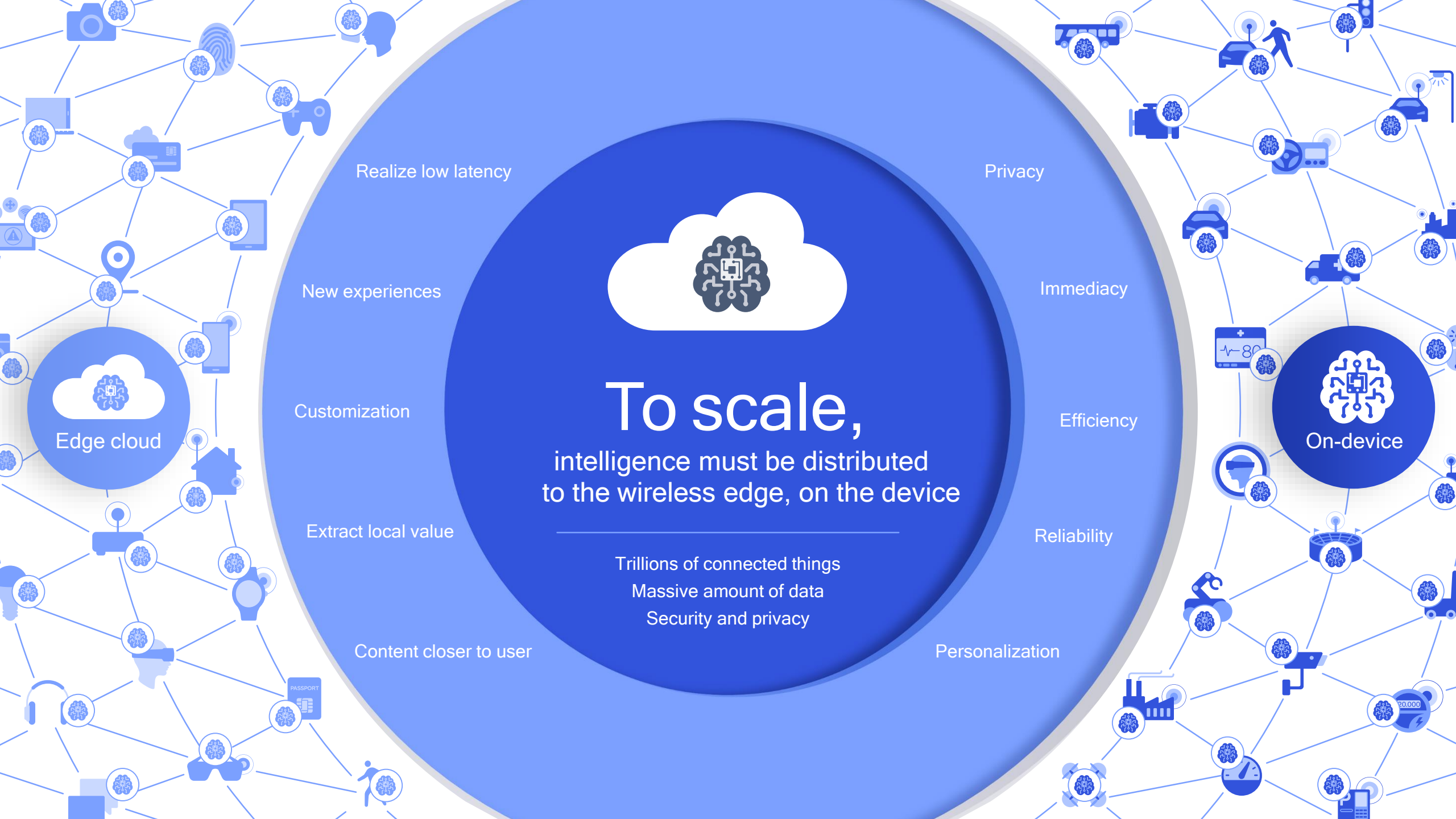
5G will expand the mobile ecosystem to new industries

Powering the digital economy

>\$12 Trillion

In goods and services by 2035*

* The 5G Economy, an independent study from IHS Markit, Penn Schoen Berland and Berkeley Research Group, commissioned by Qualcomm



To scale, intelligence must be distributed to the wireless edge, on the device

Trillions of connected things
Massive amount of data
Security and privacy

Realize low latency

Privacy

New experiences

Immediacy

Customization

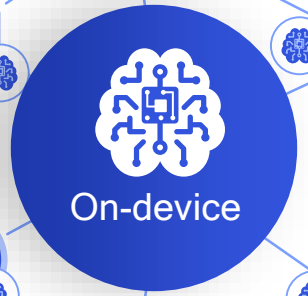
Efficiency

Extract local value

Reliability

Content closer to user

Personalization



Transforming the wireless edge

Delivering new and enhanced services with 5G + AI

Cloud

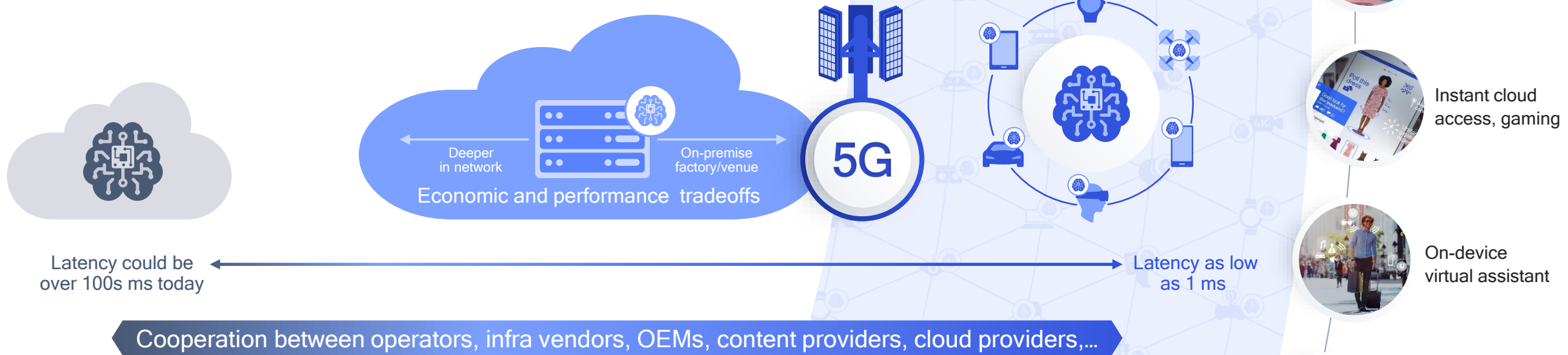
Big data, AI training, less delay sensitive content, storage,...

Augmented by edge cloud

Compute/processing, content, control, storage,.. closer to user¹

Driving the best possible on-device capabilities

Sensing, processing, security, intelligence



1. Such as distributed/virtualized core, distributed packet gateway functionality for low latency, mobile edge compute, related to MEC Multi Access Edge Computing as defined by ETSI

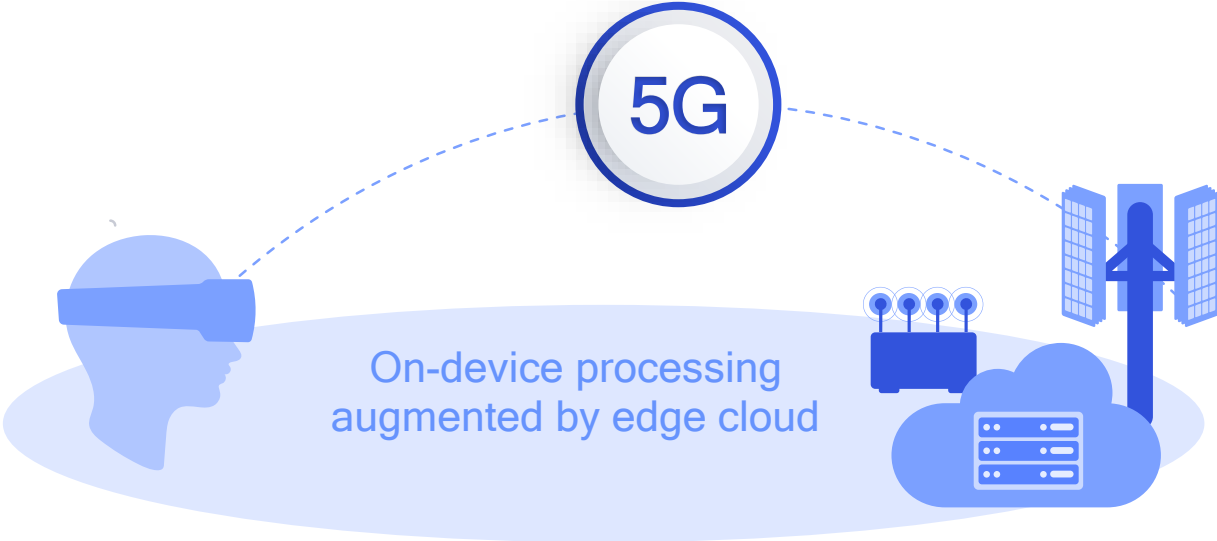
Boundless XR – the best possible XR anywhere



On-device processing,
access to rich content

Premium XR anywhere

- Efficient on-device processing to deliver immersive XR
- Utilize connectivity for less time-sensitive content and downloads
- We are doing this today

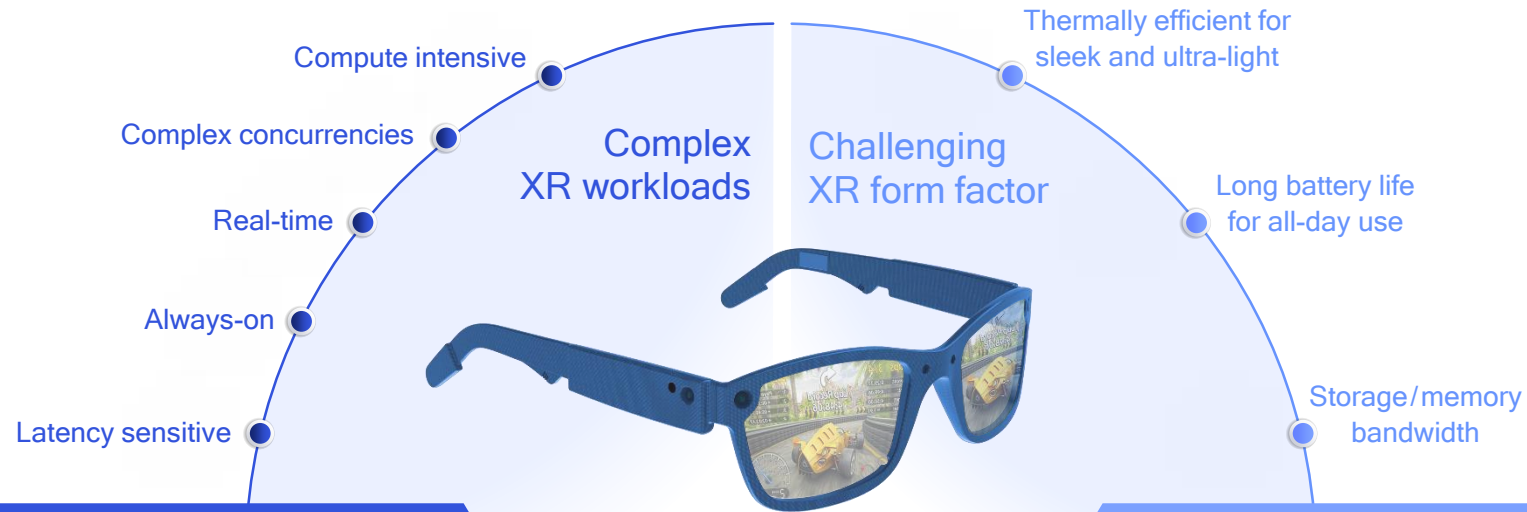


On-device processing
augmented by edge cloud

Photorealistic graphics and visuals

- Enhanced experience where possible with new split-rendering architecture
- On-device processing augmented by compute located at cloud edge over 5G connectivity

A new era in distributed processing



Essential on-device processing

Split rendering

Augment by edge cloud processing

Optimized under strict power, thermal, size constraints

Premium experiences today that continuously improve



Low latency
High capacity
Reliable link

Significant higher power envelope—beyond PC class

Augment on-device rendering with edge cloud rendering



Thank you!

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