Qualcomm

5G and the Wireless Edge Transformation

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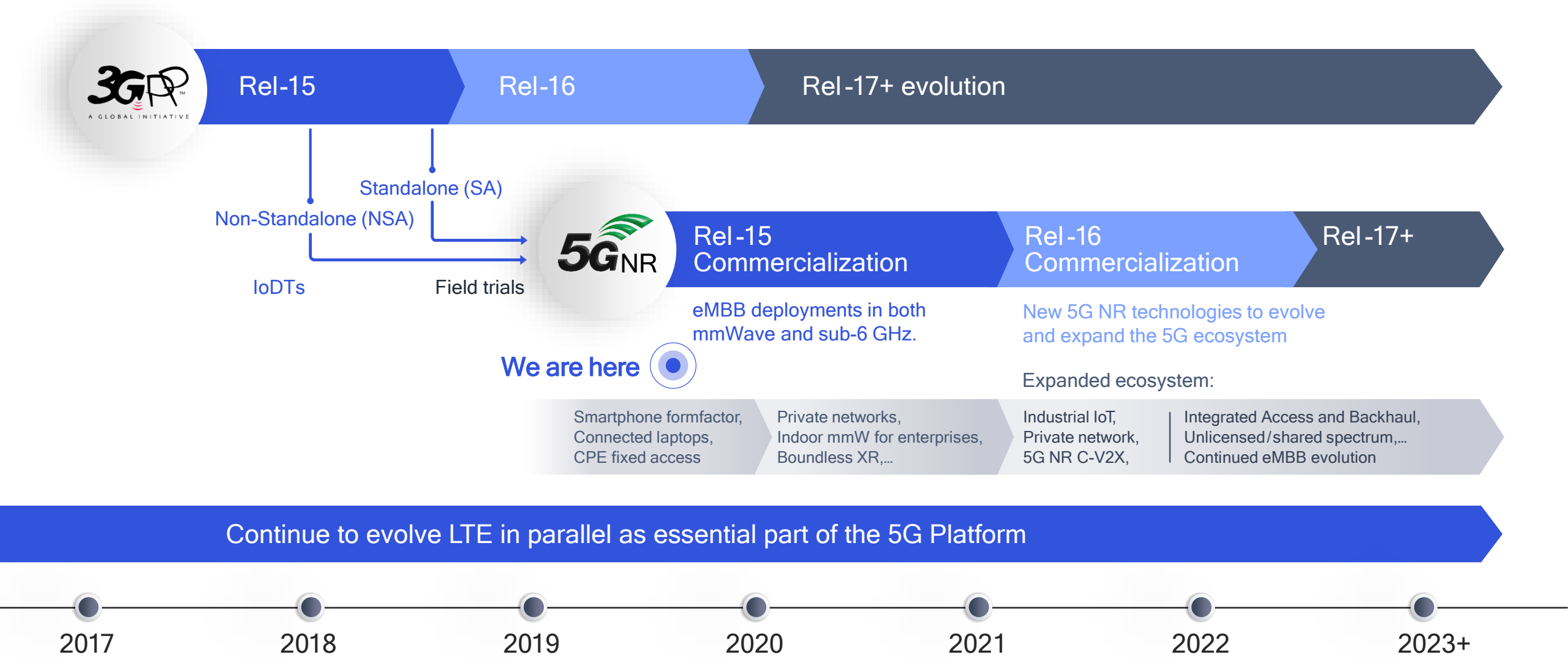
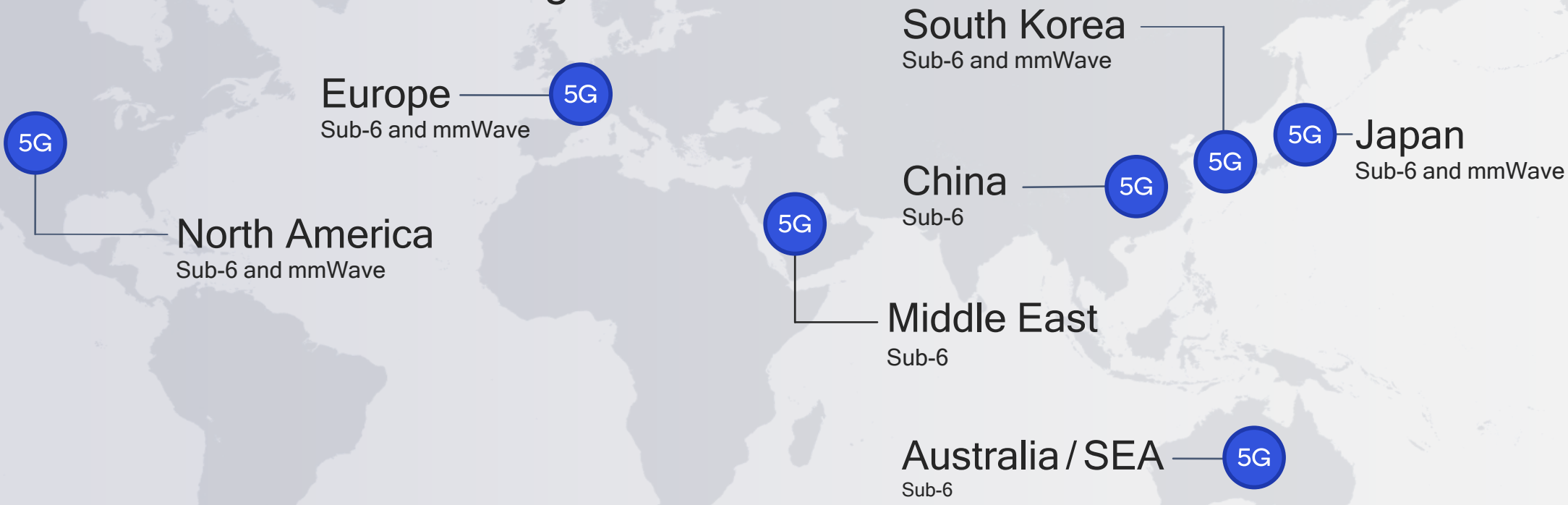
A unifying connectivity fabric for society
Like electricity, you will just expect it everywhere
5G
Multi-gigabit speed
Scalable to extreme simplicity
Ultra-low latency
Virtually unlimited capacity
Extreme reliability
On-device intelligence

Driving the 5G roadmap and ecosystem expansion



2019 is the year of 5G

Global commercialization moving faster than 4G



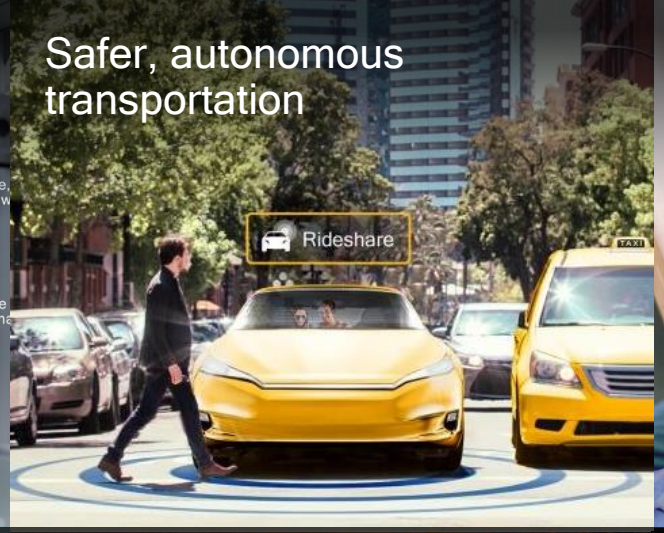
Comparison of Year 1 announcements

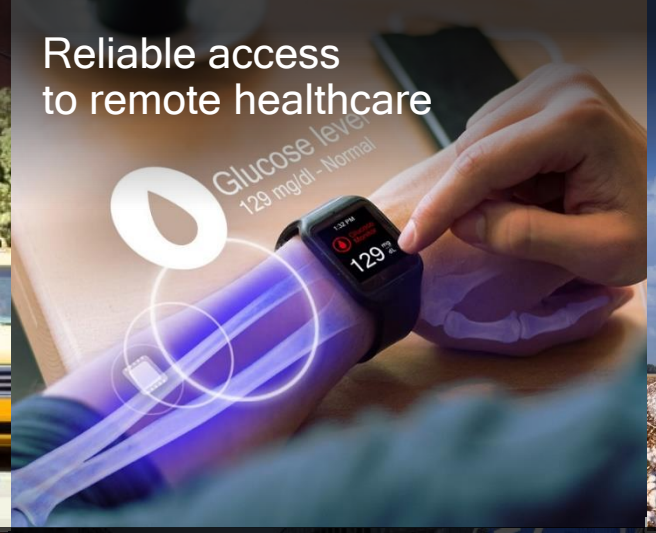
4G

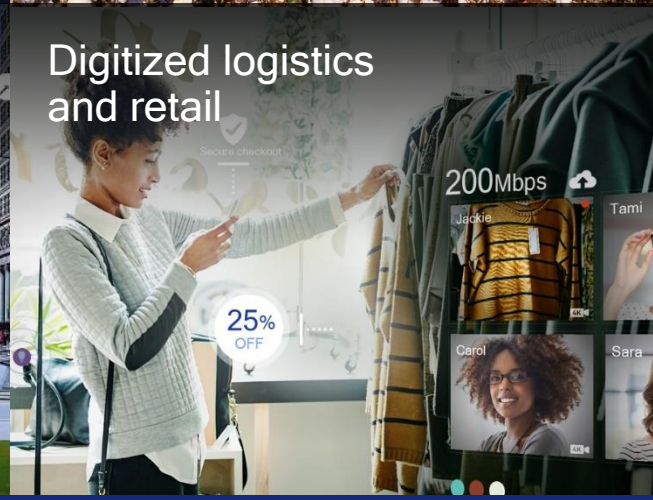
- 4 Operators launched
- 3 OEMs launched

5G

- 20+ Operators launched
- 20+ OEMs launched







5G

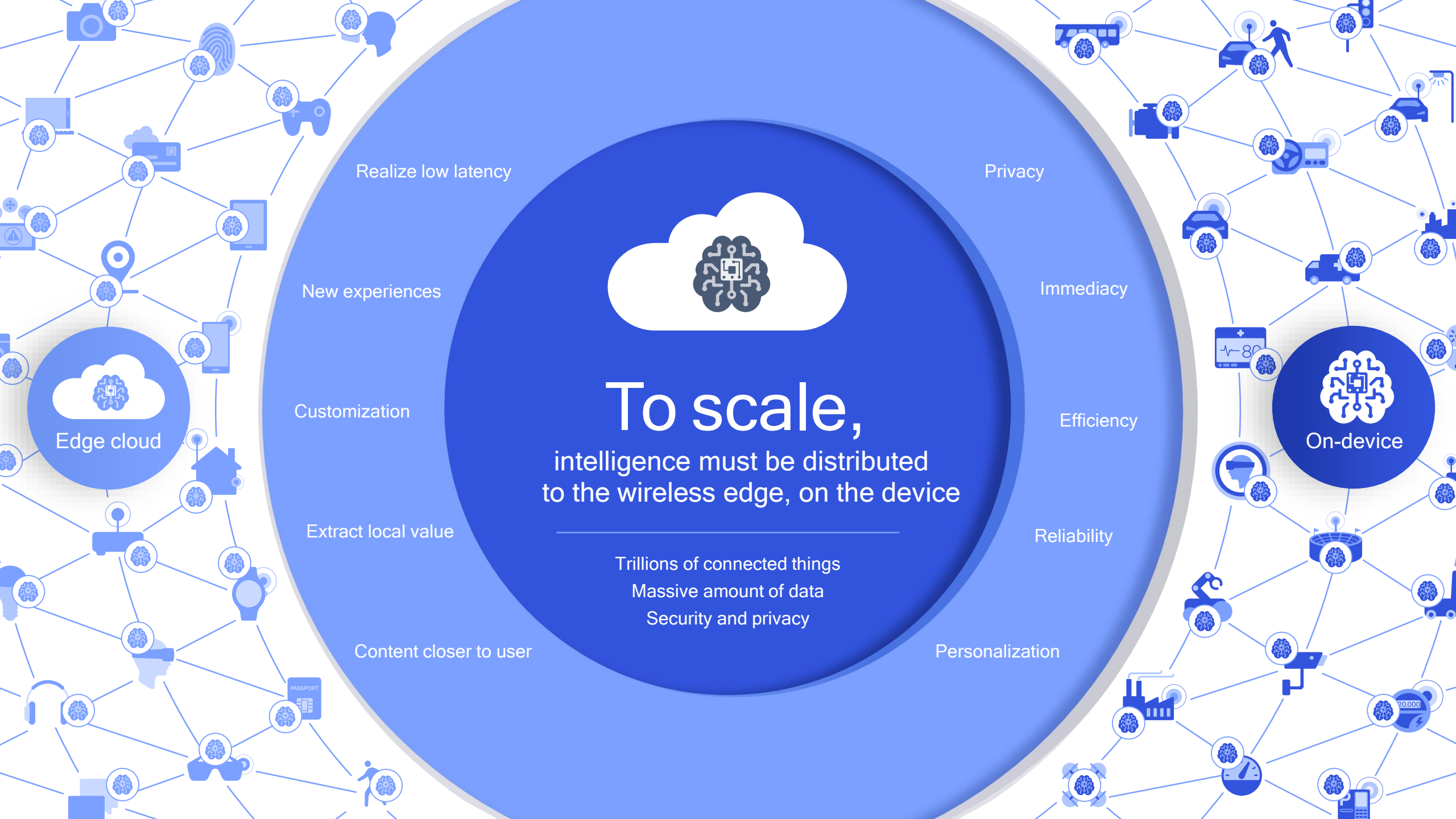
5G will expand the mobile ecosystem to new industries

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


Realize low latency
New experiences
Customization
Extract local value
Content closer to user
Privacy
Immediacy
Efficiency
Reliability
Personalization
Edge cloud
On-device
To scale,
intelligence must be distributed
to the wireless edge, on the device
Trillions of connected things
Massive amount of data
Security and privacy

Transforming the wireless edge

Delivering new and enhanced services with 5G + AI

Cloud

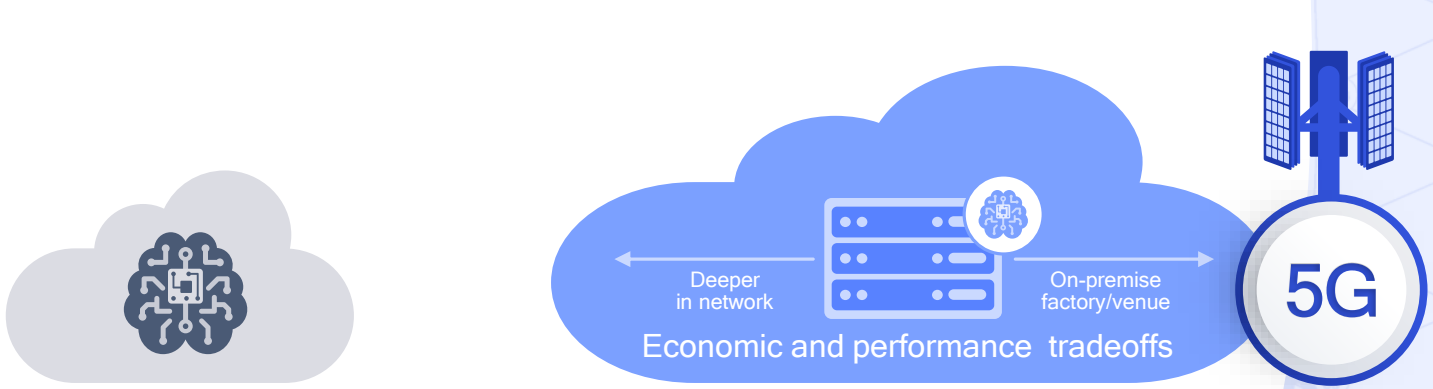
Big data, AI training, less delay sensitive content, storage,…

Augmented by edge cloud

Compute/processing, content, control, storage,.. closer to user[1]

Driving the best possible on-device capabilities

Sensing, processing, security, intelligence



Latency could be over 100s ms today

Latency as low as 1 ms

Cooperation between operators, infra vendors, OEMs, content providers, cloud providers,…


Industrial IoT with URLLC


Smarter transportation with C-V2X


Immersive boundless XR


Instant cloud access, gaming

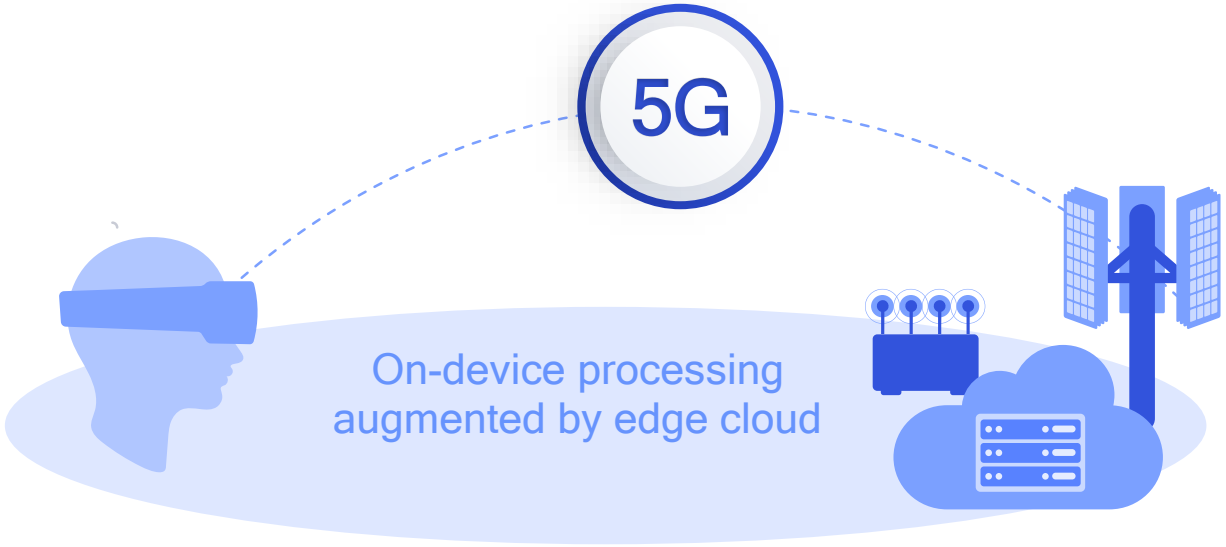

On-device virtual assistant

Future services unknown today

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

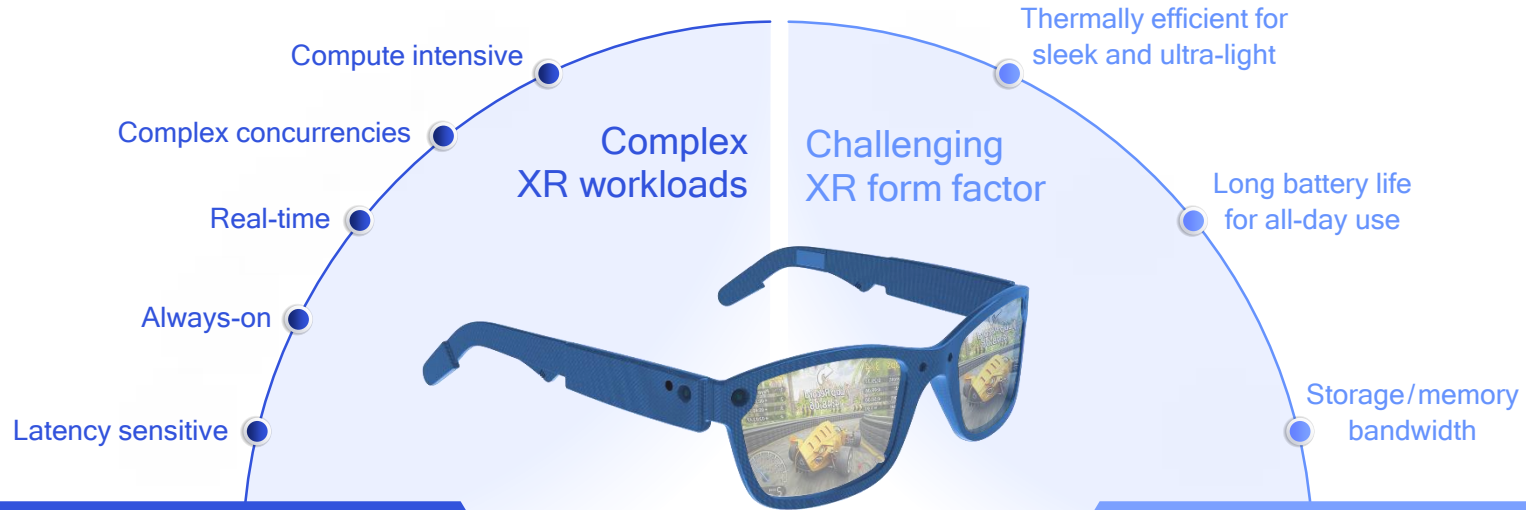
We are doing this today

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

Optimized under strict power, thermal, size constraints

Premium experiences today that continuously improve

Split rendering

5G

Low latency

High capacity

Reliable link

Augment by edge cloud processing

Significant higher power envelope–beyond PC class

Augment on-device rendering with edge cloud rendering

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Thank you!

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