



ERICSSON

5G

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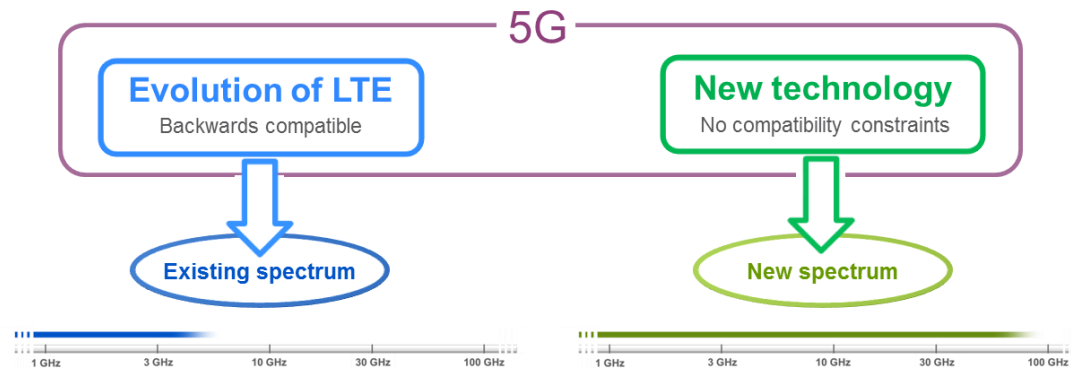
5G WIRELESS ACCESS



More than just bigger and better mobile broadband



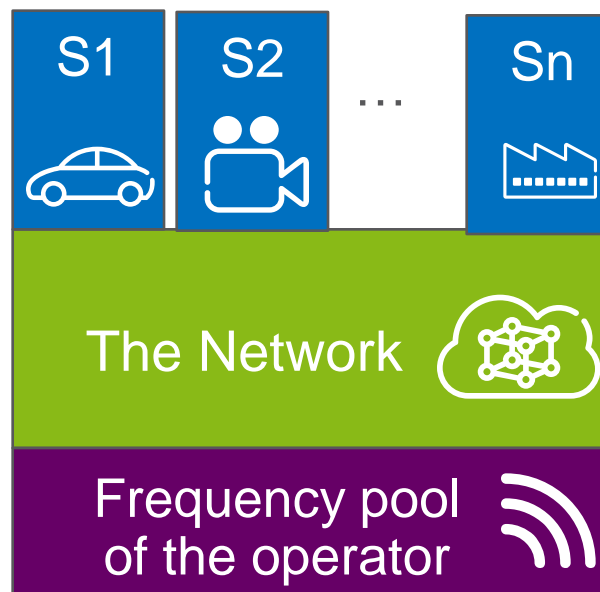
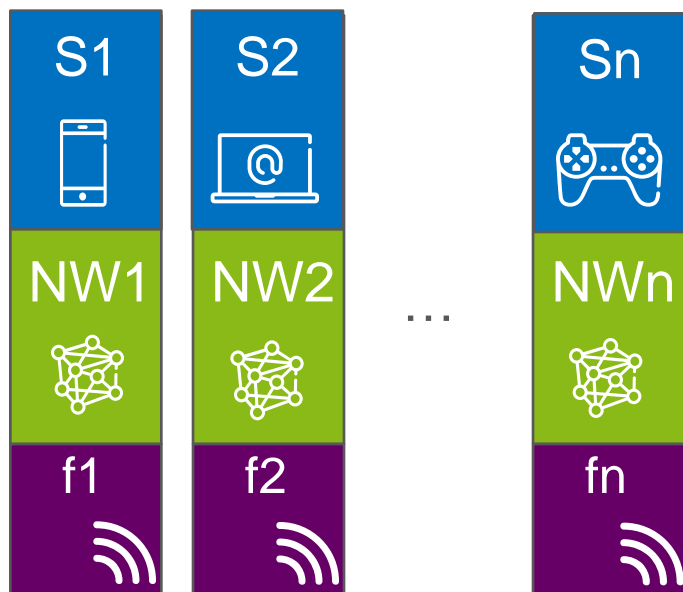
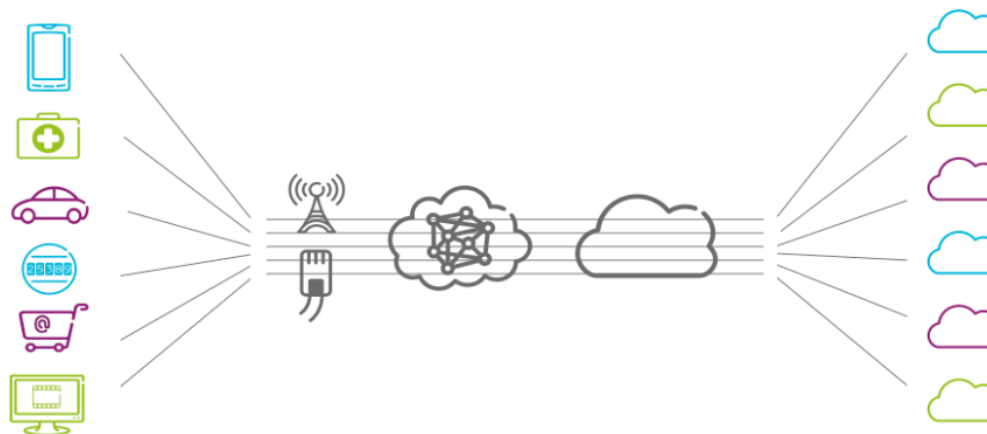
Evolution of existing technology + new radio-access technology



- High data rates everywhere
- Very low latency
- Massive number of devices
- Very low device cost and energy consumption
- Ultra-high reliability, availability, and security
- ...

– Affordable and Sustainable –

ONE NETWORK – MANY INDUSTRIES

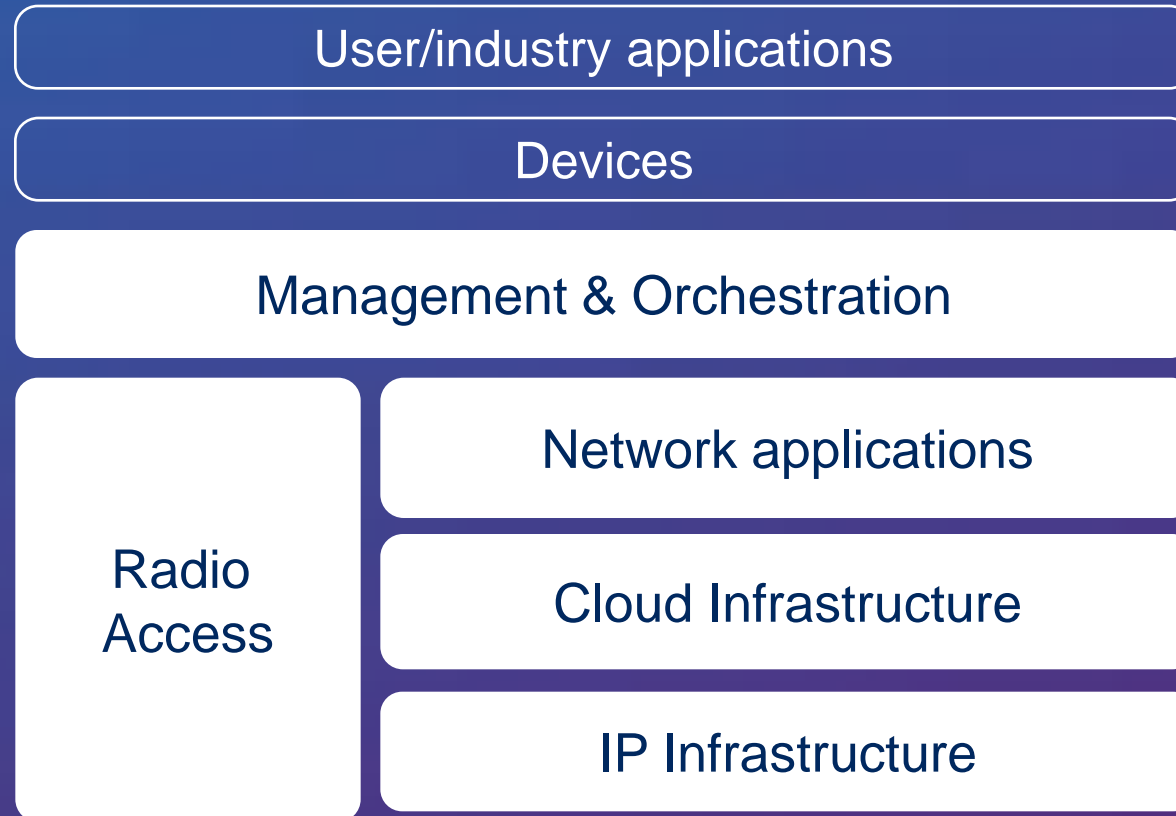


- Allow for service innovation
- Connectivity network available for “all” use cases (avoid dedicated systems)
- Avoid industry-specific spectrum allocation

5G NETWORK



Sustainability



Security



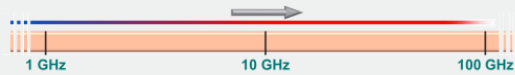
Scope of 5G

5G – SOME KEY TECHNOLOGY AREAS



Extension to higher frequencies

Complementing lower frequencies for extreme capacity and data rates in dense areas



Spectrum flexibility

Flexible duplex

FDD and TDD
Dynamic TDD
Full Duplex

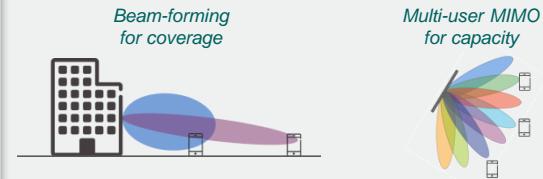
Spectrum sharing

Unlicensed
Shared licensed
Network sharing

Complementing
dedicated
licensed spectrum

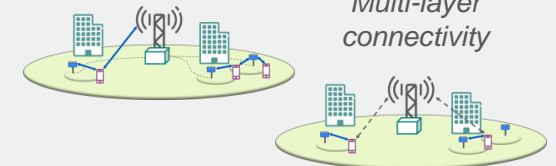
Multi-antenna technology

For higher as well as lower frequencies



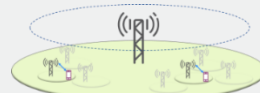
Inter-site cooperation

Multi-site
transmission/reception



Ultra-lean design

Minimize transmissions not related to user data
Separate delivery of user data
and system information

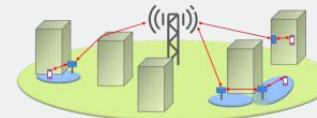


Higher data rates and
enhanced energy efficiency

Access/backhaul integration

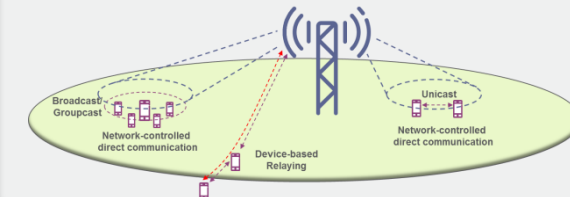
Same spectrum resource for
access and backhaul

Same technology for access and backhaul



Device-to-device communication

D2D under network control



5G – SPECTRUM

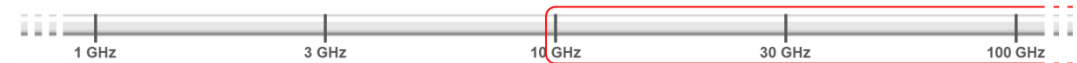


Dedicated licensed spectrum

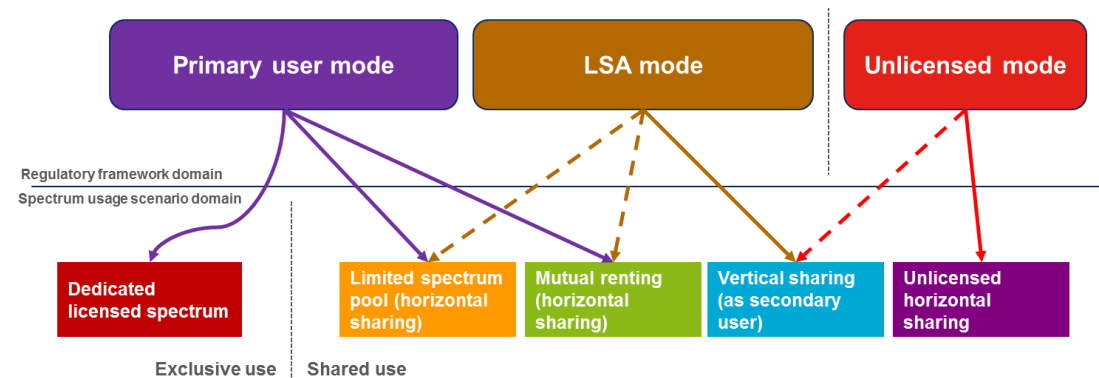
- › Will remain the backbone of IMT
 - Controlled interference ⇒ “Guaranteed” quality
 - Efficient at high load
- › Complemented by unlicensed spectrum
 - To get access to more spectrum
 - WiFi or unlicensed LTE

Spectrum sharing

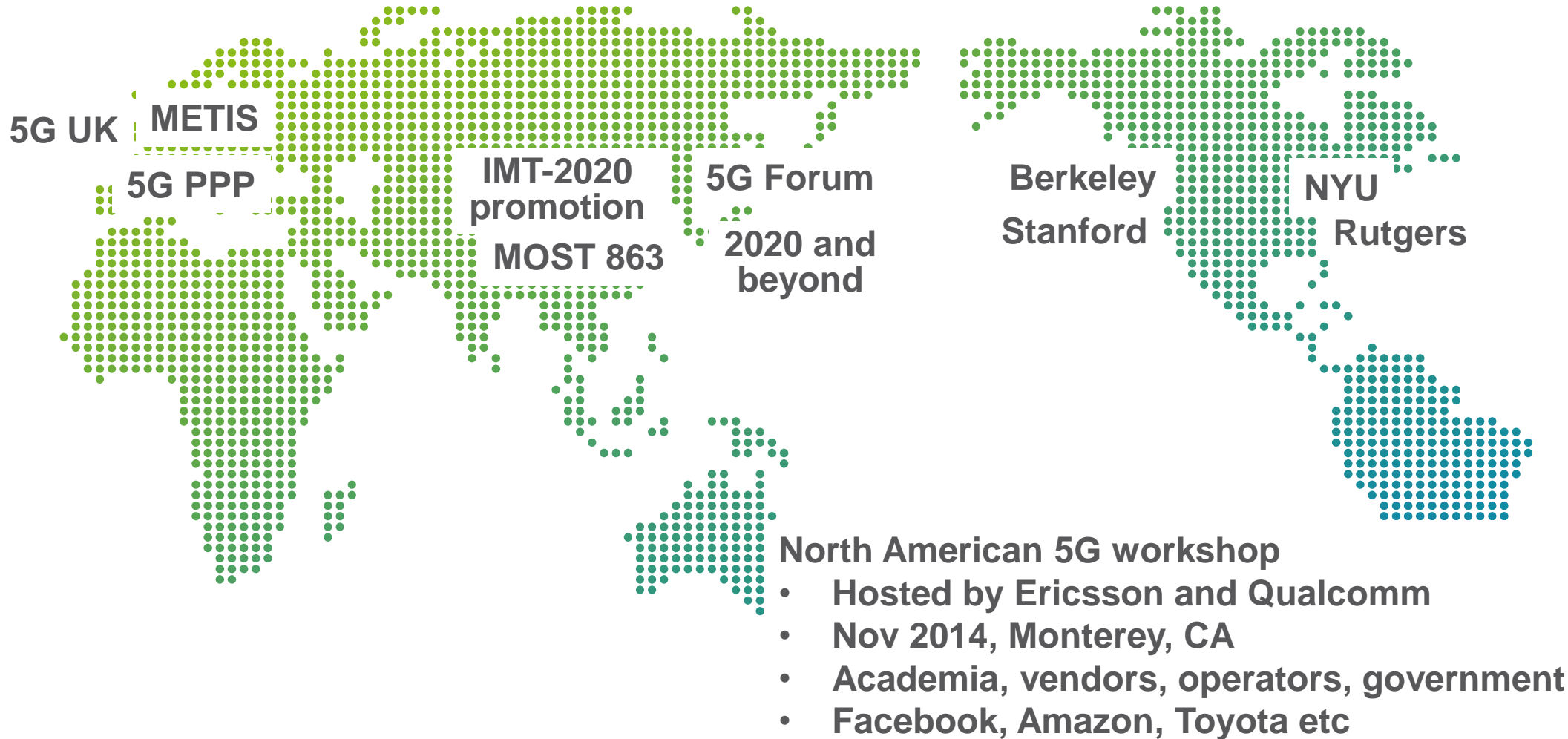
- › Becoming more relevant for very wide bandwidths in dense deployments
 - Difficult to find dedicated spectrum for multiple operators
 - More dynamic traffic variations



- › Unlicensed
- › Shared licensed spectrum



SOME RESEARCH INITIATIVES





Thank you!