



THE 5G BUSINESS POTENTIAL

INDUSTRY DIGITALIZATION AND THE UNTAPPED
OPPORTUNITIES FOR OPERATORS

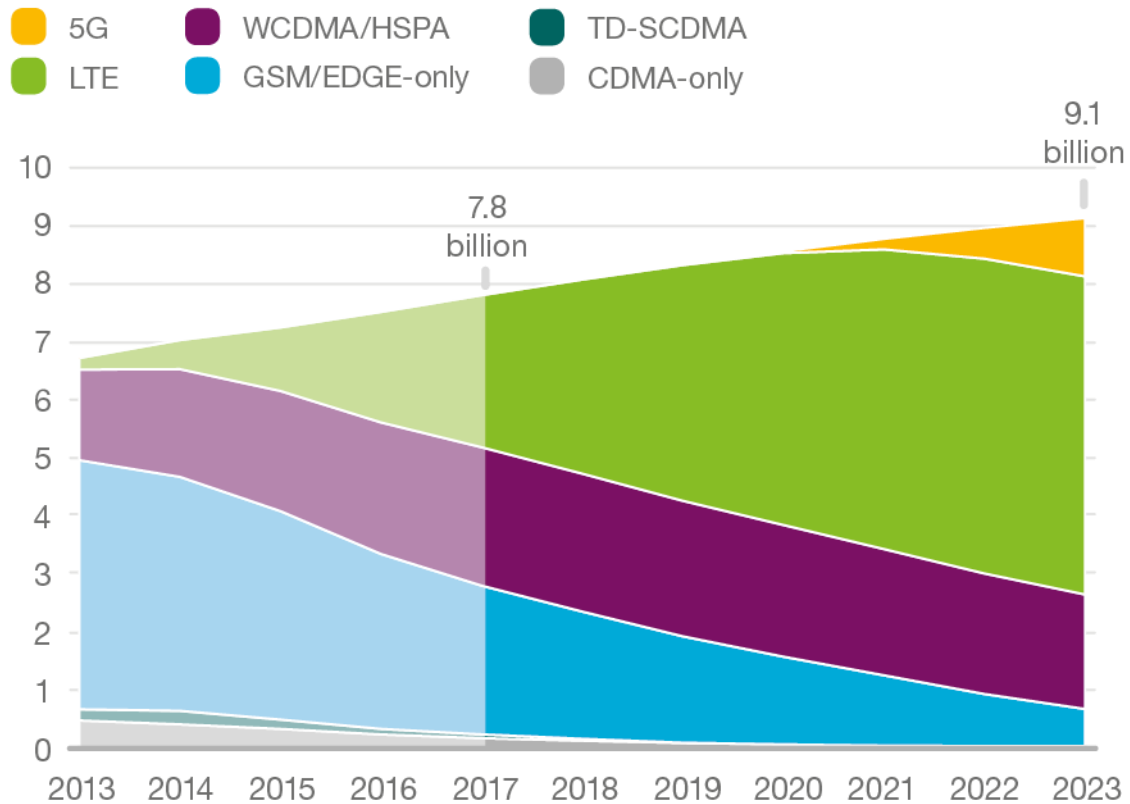
Jose Luis Ayala
ERICSSON

2018-05-15

LTE dominant radio access technology globally



Mobile subscriptions by technology (billion)



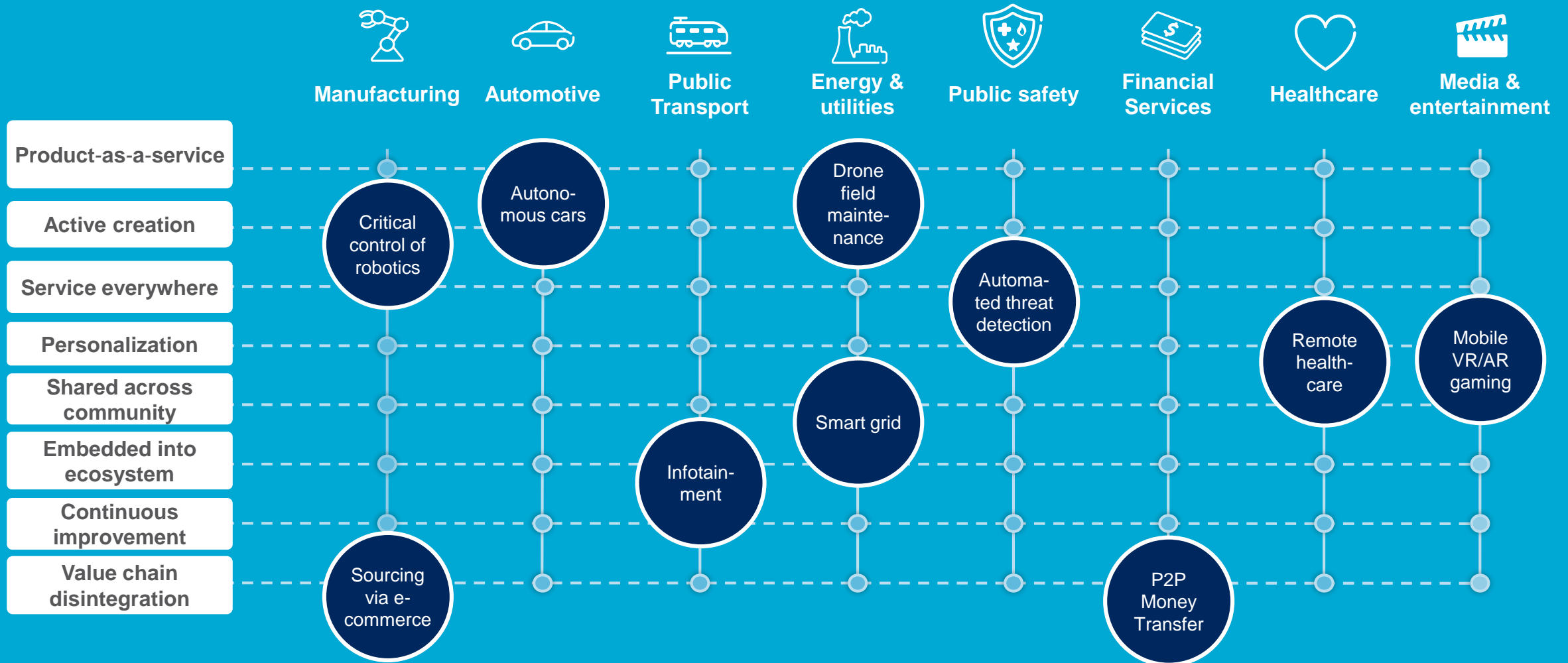
- Continued strong traffic growth - 8x traffic increase until 2023
- LTE Mainstream bands of 700 MHz, AWS and 2.5 GHz are key to handle traffic growth
- First commercial networks based on standalone 5G NR in 2019
- Major 5G deployments from 2020
- 1 billion 5G subscriptions on eMBB by 2023

A 5G subscription is here counted as such when associated with a device that supports NR as specified in 3GPP Release 15, connected to a 5G-enabled network

Note: IoT connections and Fixed Wireless Access (FWA) subscriptions are not included

All industries will face transformations

- 5G value in multiple areas

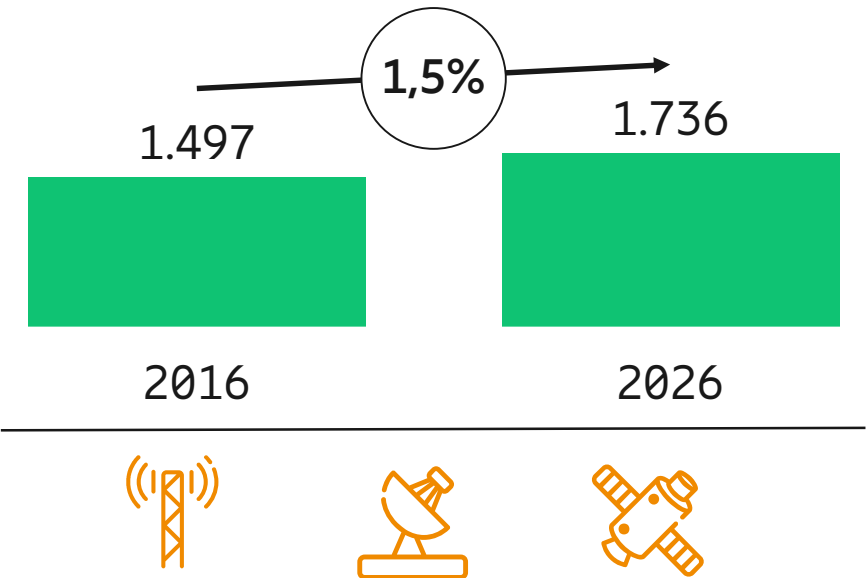


With industry digitalization, new fast growing revenue pools emerges



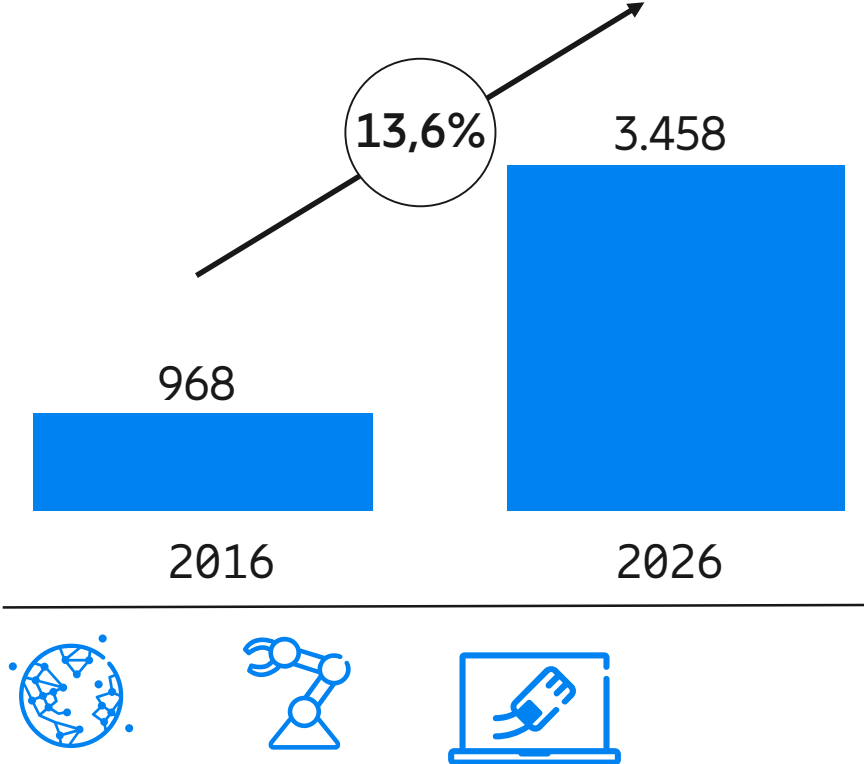
Challenge: Current operator service revenues

USDbn
CAGR
16'-26'



Operator to seize emerging revenue potential

Opportunity: Digitalization revenues for ICT players



* Digitalization revenues for ICT players from 10 key industries
Source: Ericsson and Arthur D. Little

5G Spectrum principles



- Global & regional harmonization of spectrum is important
- Timely availability for 5G spectrum in 2019/20 requires regulatory framework now
- Combine low, mid, and high bands to provide efficiency, coverage and capacity
- Bandwidth required per Operator in low (20-40 MHz), mid (~100MHz) and high (>500MHz) bands
- To benefit for society, auctions should maximize spectrum usage (not state revenue) and stimulate investments in infrastructure
- Spectrum should be available for immediate use after auction

5G Spectrum trade-off



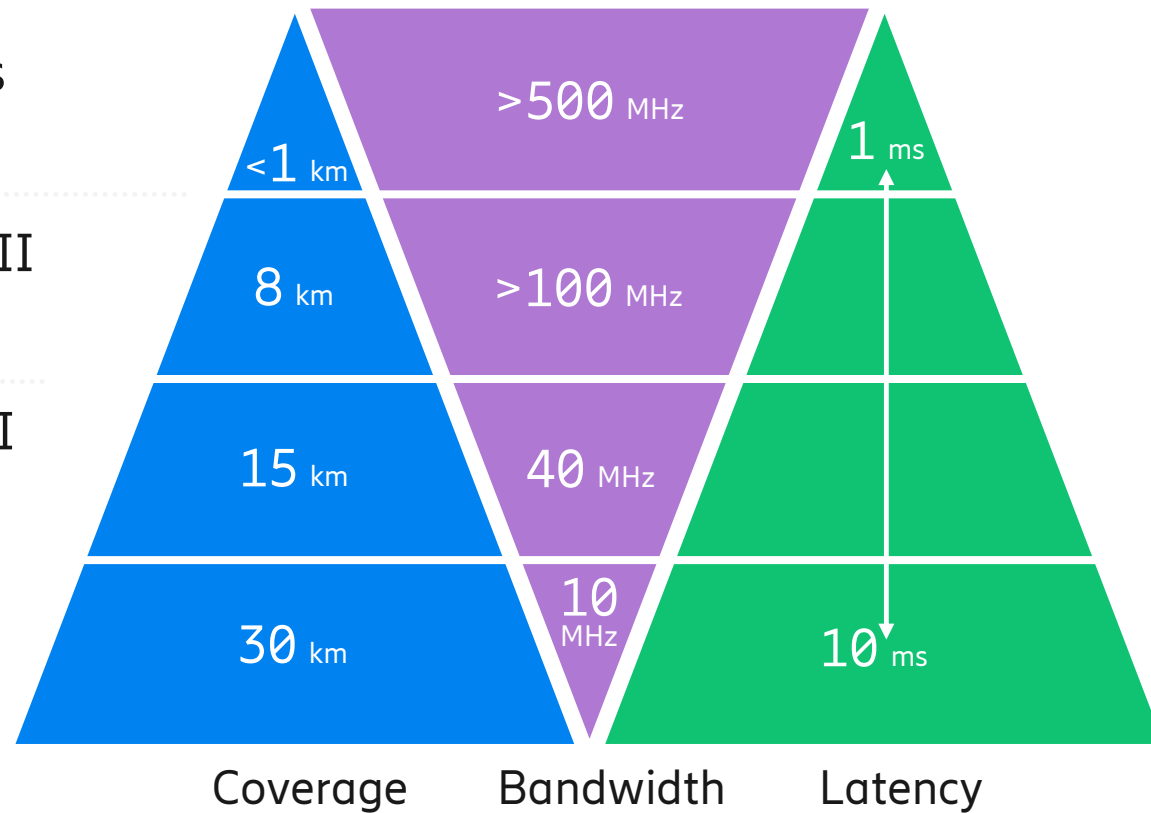
“There are major fundamental trade-offs between capacity, coverage, latency, reliability and spectral efficiency in a wireless network. Due to these fundamental limits, if one metric is optimized for improvement, this may result in degradation of another metric.”

High bands
(24 GHz – 40 GHz)
New

Mid bands II
(3.5 GHz – 8 GHz)
New

Mid bands I
(1 GHz – 2.6 GHz)
Legacy

Low bands
(Sub – 1 GHz)
New/legacy



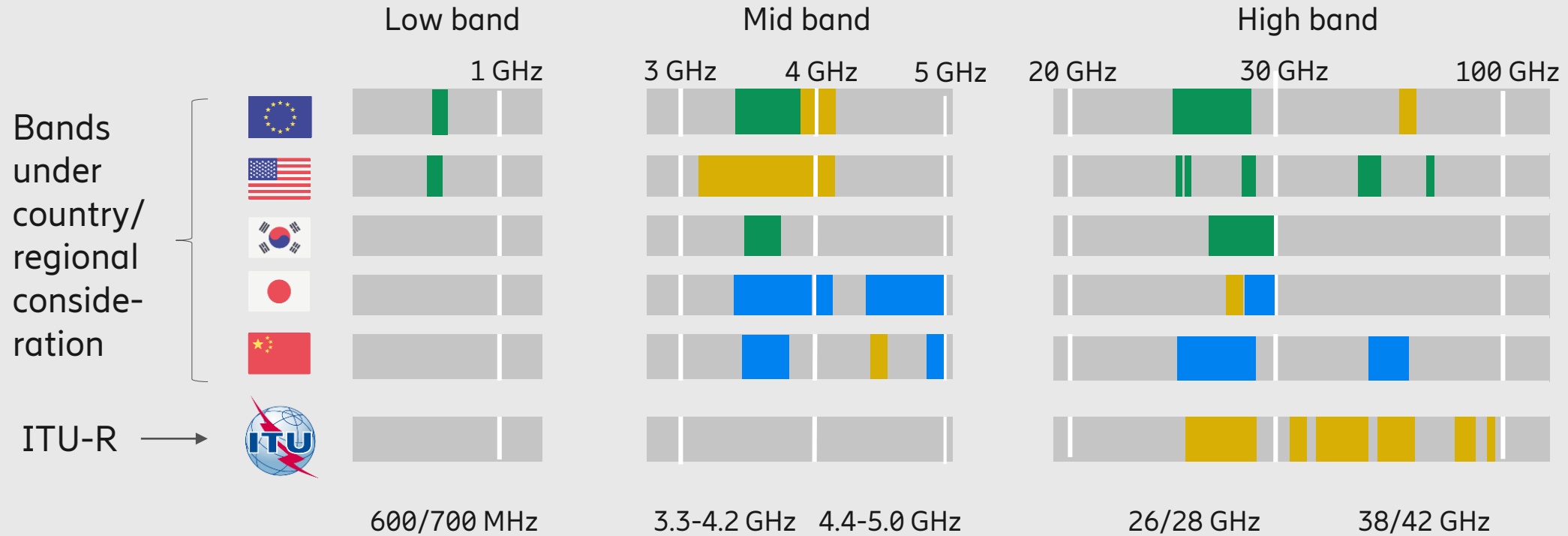
High capacity
hotspot /
dense urban

Moderate
capacity
Wide area /
outside-in
coverage

Source: IEEE – A survey on Low latency towards 5G RAN, Core network and Caching solutions.

5G possible frequency bands and timings

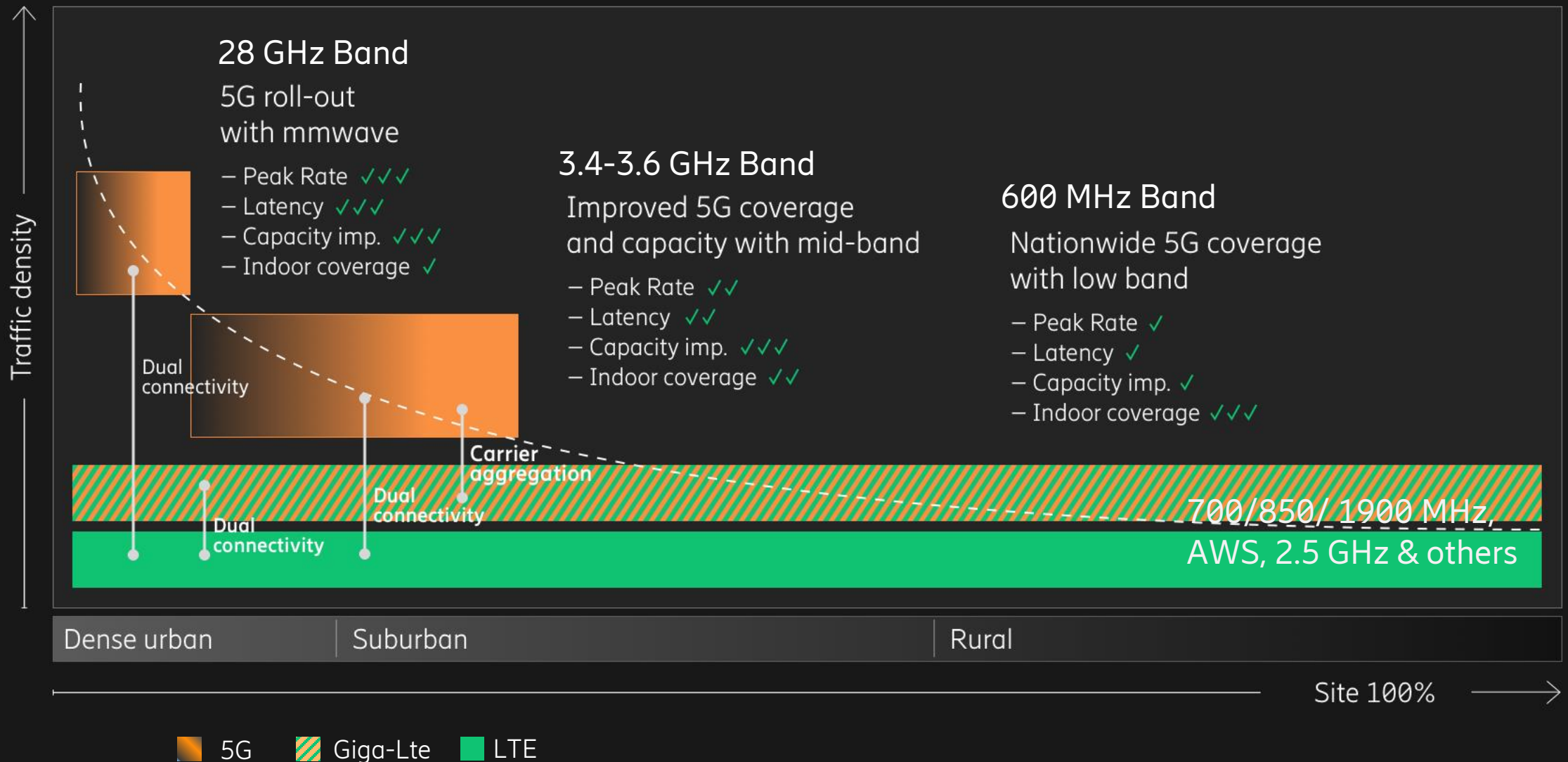
- two parallel tracks



■ 2018-2019
 ■ ~2020
 ■ >2020

The frequency bands and availability reflects current assumptions and are based indications from different countries/regions

Example of 5G spectrum strategy in Mexico by 2020



Summary



Do not wait do engage

- 5G is starting to happen now
- 5G use cases are explored in real industry environments, using existing and future technology
- Regulatory frameworks must be ready for 5G roll-out in 2019 and beyond

Consider a 5G National Plan for Mexico

- Pave the way for 5G in industries, drive requirements, and market readiness
- Provide Operators necessary conditions to explore 5G technology, new bands, and use cases
- Define 5G spectrum roadmap with sufficient amounts of spectrum in timely and cost-effective way
- Continue obtaining industry insights via Public Consultations
- Address key policies, e.g., security, data privacy, infrastructure deployment, IoT industries cooperation
- Lead regional cooperation in Latin America



