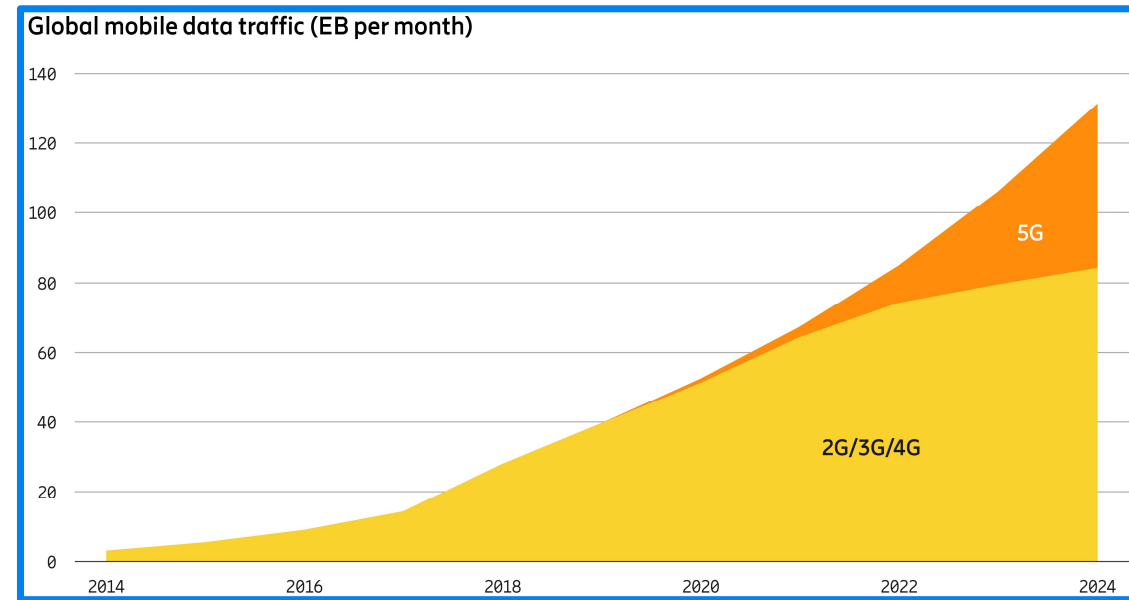
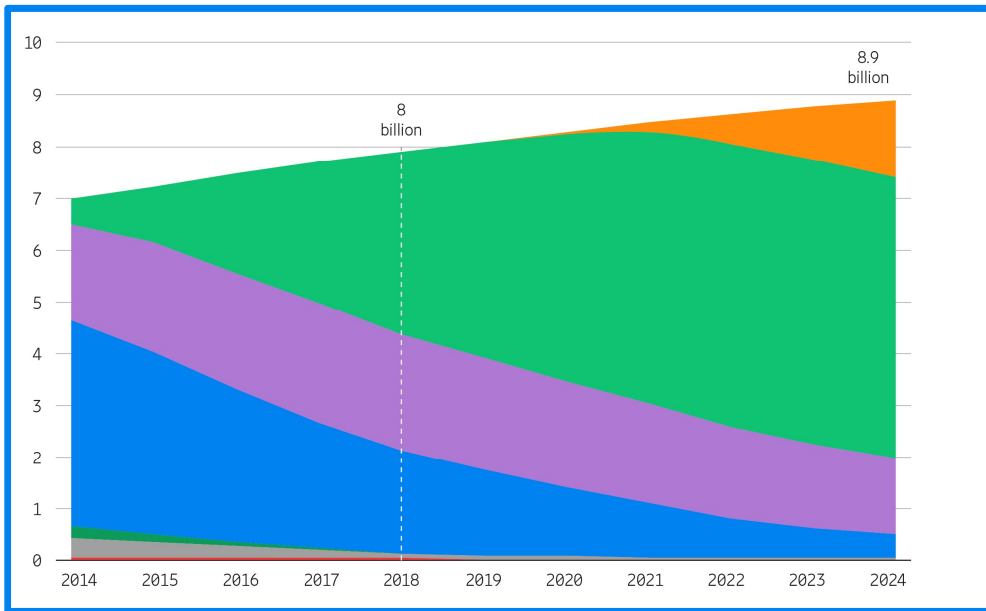


# 5G, new services with slicing



Viktor Arvidsson  
*Ericsson*

# 5G momentum



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

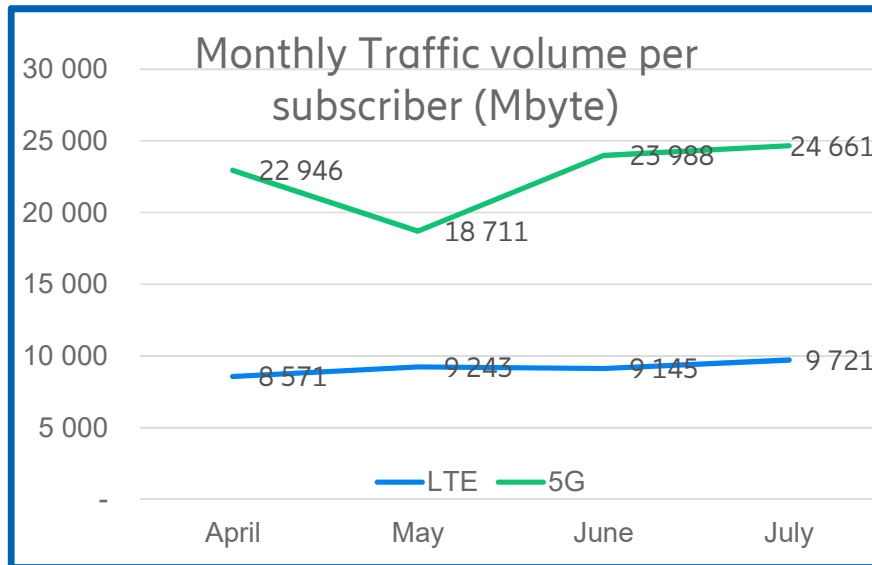
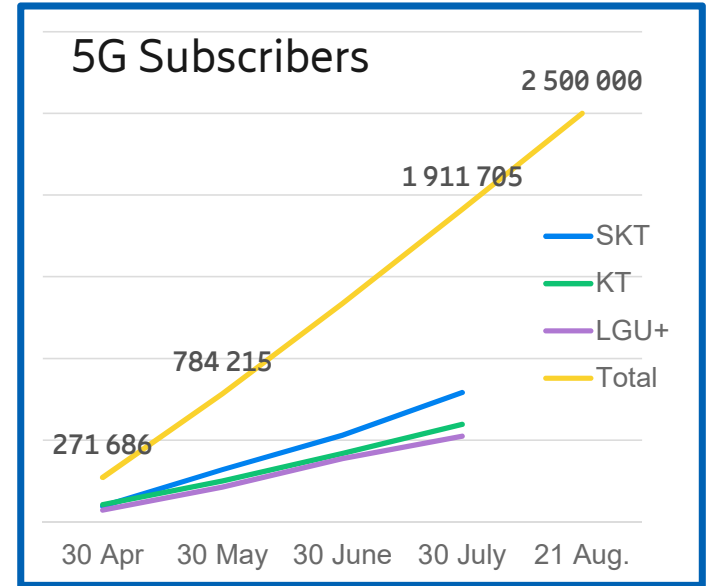
# Korea update

- Excellent 5G take up
- Significantly higher ARPUs
- Much higher traffic



SKT					
LTE plan	Price (KRW)	Data	5G plan	Price (KRW)	Data
Small	33,000	1.2GB	Slim	55,000	8G (+1Mbps)
Regular	43,000	2GB (+400Kbps)			
Medium	50,000	4GB (+1Mbps)			
Large	69,000	100GB (+5Mbps)	Standard	75,000	150G (+5Mbps)
Family	79,000	150GB (+5Mbps)			
Data Infinity	100,000	Unlimited	Prime	95,000	200G (Unlimited)
			Premium	125,000	300G (Unlimited)

- Low-range: start with 67% higher than lowest LTE  
 - Mid-range: around median level of LTE  
 - High-range: slightly lower than entry premium LTE, but 25% higher than highest LTE

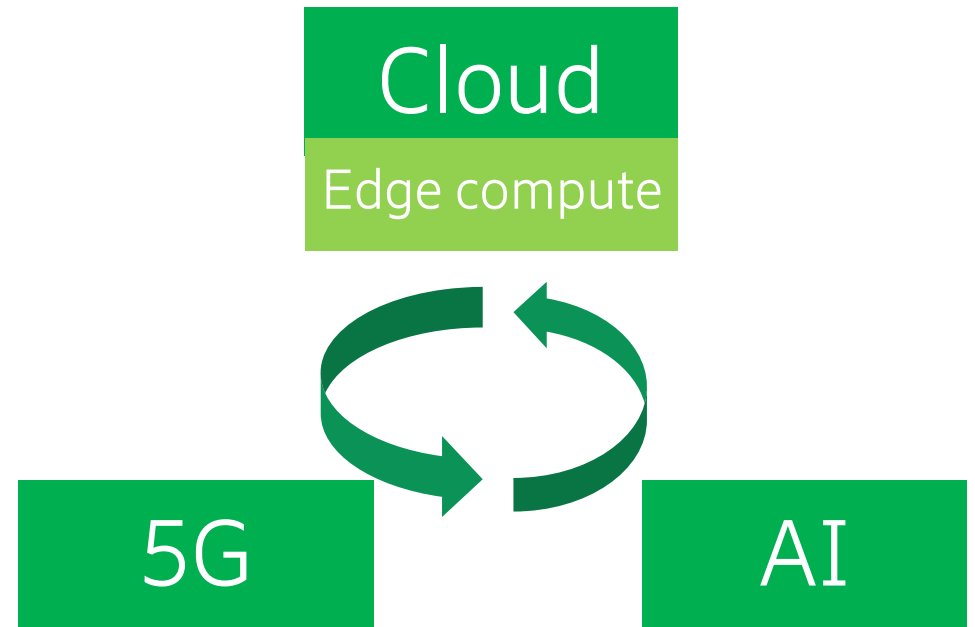


# 5G performance

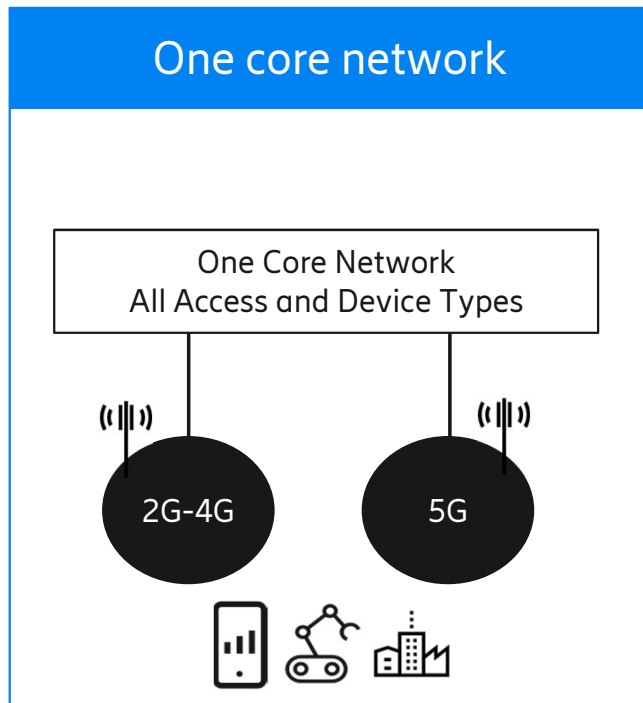
1-20 Gbps Maximum peak rates	
1 ms Latency	99.9999% Availability
500 kph Mobility	1 m Position accuracy
1 M/km <sup>2</sup> Device connection density	10 years Battery life

IoT

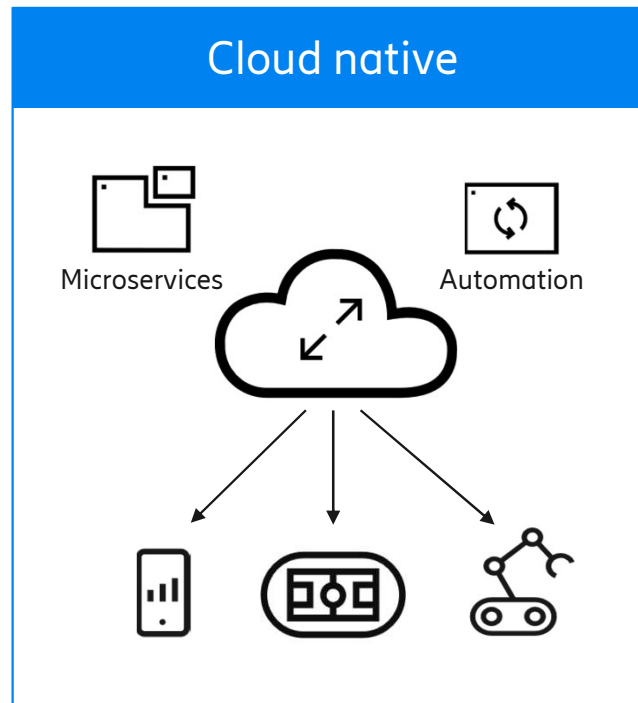
# Technological ecosystem ≡



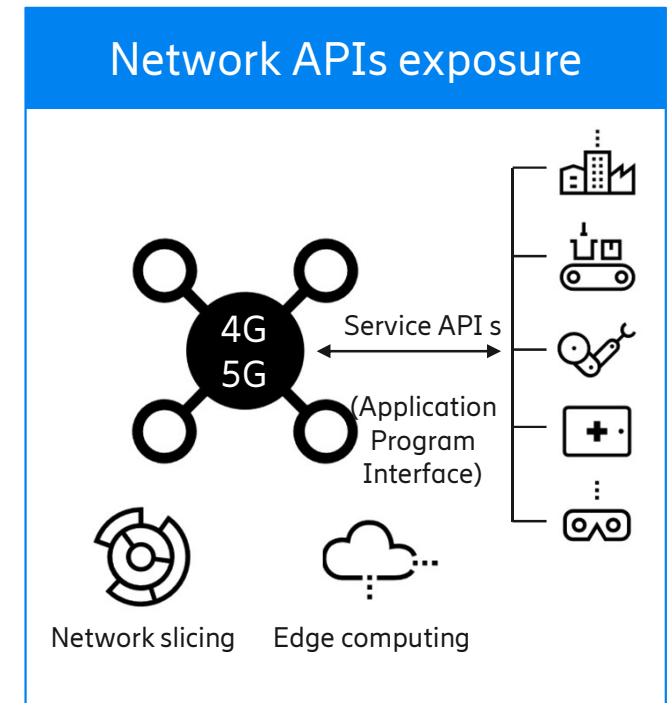
# Network evolution: Addressing customer demands



Manage growth with CAPEX efficiency



Reduce OPEX and operational inefficiencies



Grow revenue with agility and speed



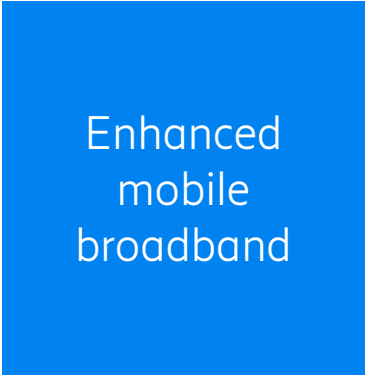
# Network Slicing

— Large span of requirements and customer segments



## Drivers for slicing

- Tailored customer offerings
  - Address new needs
  - Premium pricing
- Flexibility and agility
  - Improved Time To Market
- Reduced risk
  - Isolated configurations
  - Tenant separation



Enhanced  
mobile  
broadband



Fixed wireless  
access



Cellular IoT

# 5G wide-area service requirements – next 5 years?



	Edge Computing	Network Slicing	Throughput	Latency (Round Trip Time)
Fixed Wireless Access (residential, SoHo)		●	>100 Mbps	Internet service
Enterprise VPN (secure VPN service)		●	>10 Mbps	<100 ms
Public Safety (security, body cameras)	●	●	>10 Mbps	<50 ms
Connected Car (telematics, infotainment)		●	>5 Mbps	<100 ms
Low latency service (mobile gaming)	●	●	>10 Mbps	<20 ms
Broadband IoT (AR, surveillance)	●	●	>10 Mbps	<20 ms

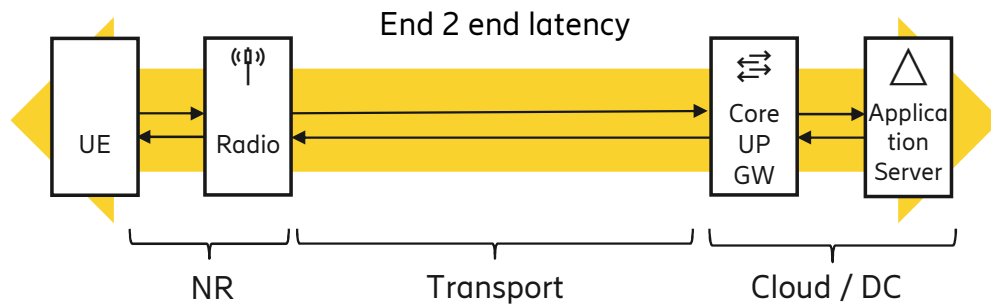
Ultra-low Latency  
(1-5ms)

Low Latency  
(5-20ms)

Normal Latency  
(20ms+)

Many 5G wide-area services have QoS needs that require Edge Computing and Network Slicing

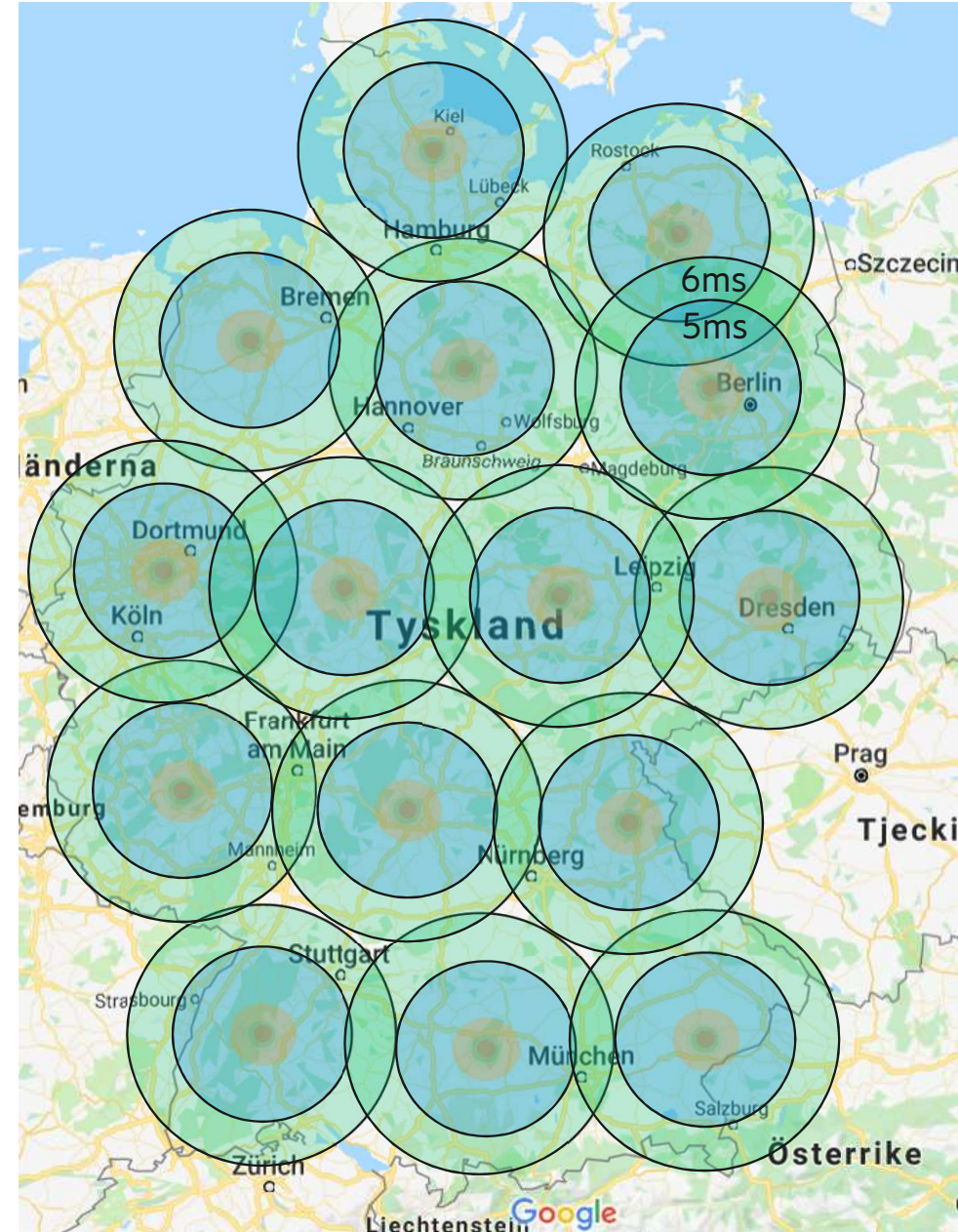
# Low latency with Distributed Cloud Example - Germany



## Assumptions:

- Application Servers located at the Core User Plane (UP) GW sites
- Transport delay: 1ms RTT per 30km
- LTE delay: 14ms RTT
- NR (New radio) delay: 3ms RTT (Round Trip Time)

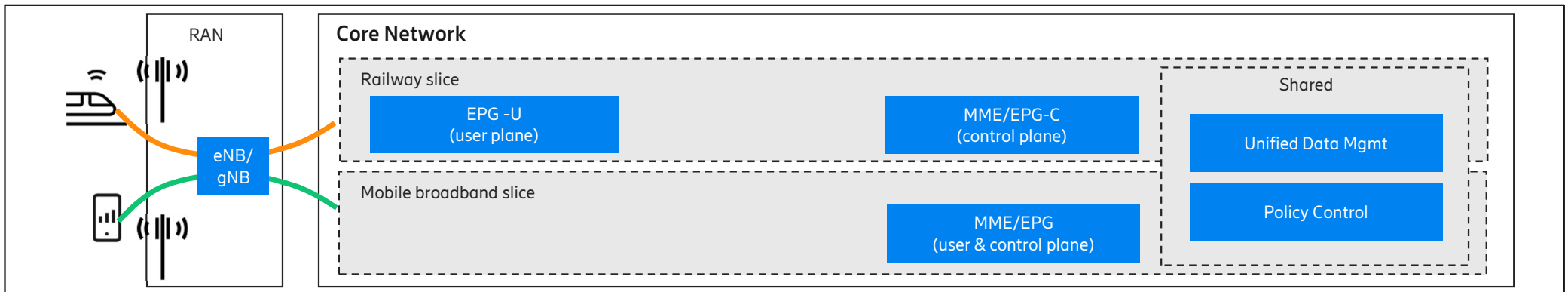
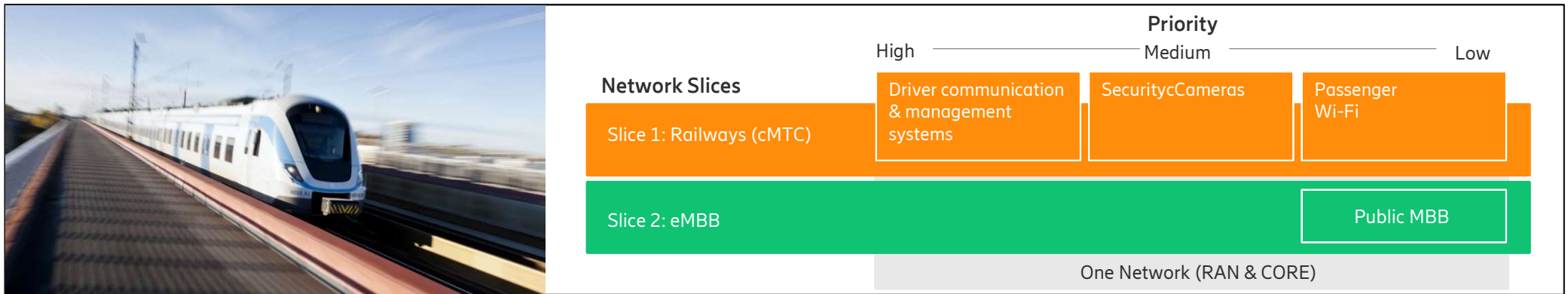
5-6 ms RTT nationwide latency can be achieved by ~ 15 Core sites, which would be sufficient for many 5G services





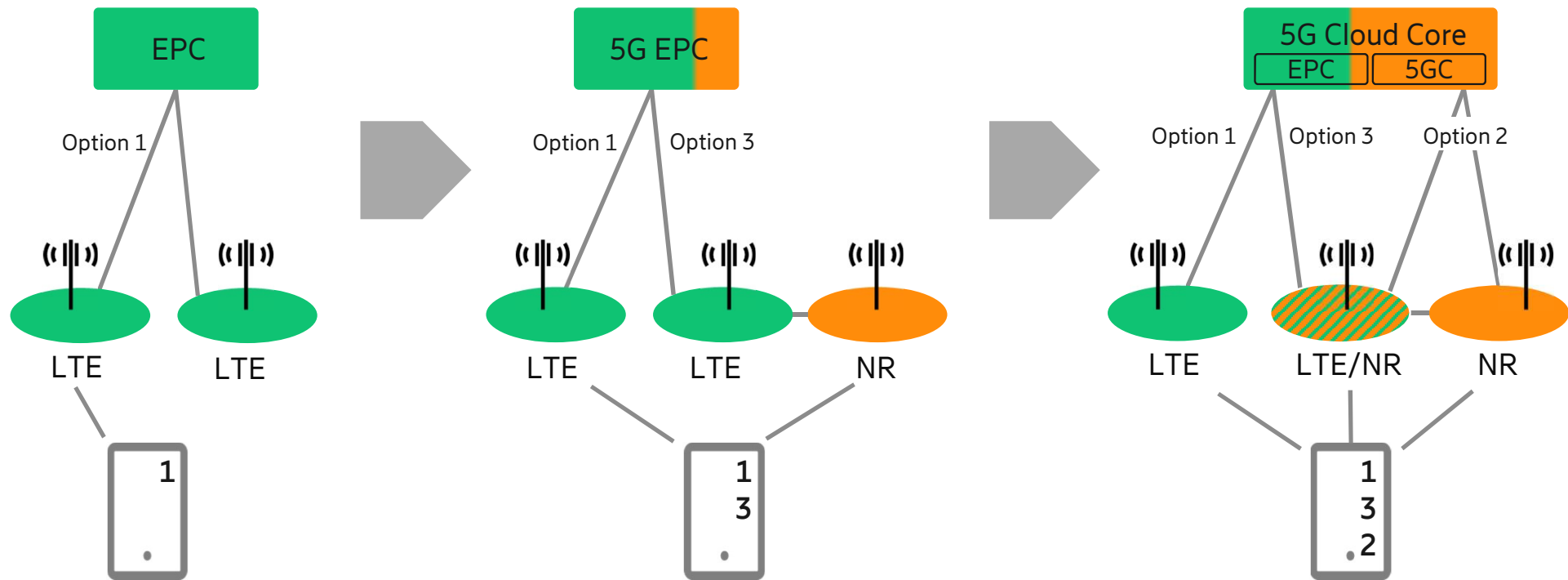
# Example

## – Network Slicing for railways



MME: Mobility Management Entity  
EPG: Evolved Packet Gateway

# Ericsson 5G Cloud Core: key enabler for 5G



# Why 5GC (5G Core)



## Enhanced service capabilities

- Improved network slice isolation and security (NSSF), Network Slice Selection Function
- One Core for all access types (incl fixed)

## Enable new revenues

- Multiple network slices per device (e.g. eMBB + AR/VR gaming)  
car diagnostics + video streaming)
- Support for IoT use cases with non-SIM devices

## Service Based Architecture (SBA)

- IT architecture principles
- Fast service creation on 5GC VNFs (Virtual Network Functions)
- Base for future 3GPP core standards evolution

## Optimized interworking with 5G NR

- Reduced signaling
- Lower control-plane latency
- Only standardized solution for NR-SA (New Radio – Stand Alone)

