

CONNECTING THE MOBILITY  
WORLD WITH 5G-V2X

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# 5G: From Concepts to Reality

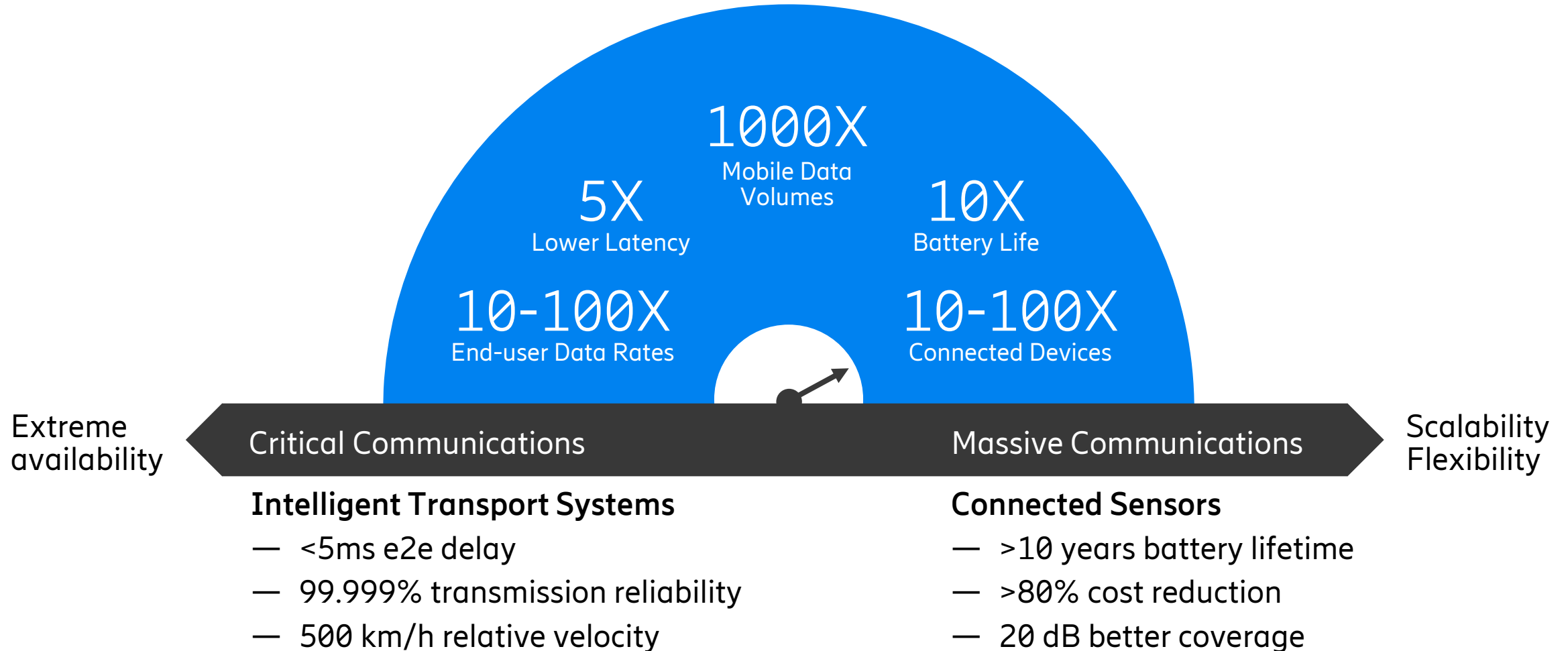
Technology Roadmaps

**Friedhelm Ramme, PhD**  
Business Development Manager,  
ITS, Transport & Automotive,  
Ericsson



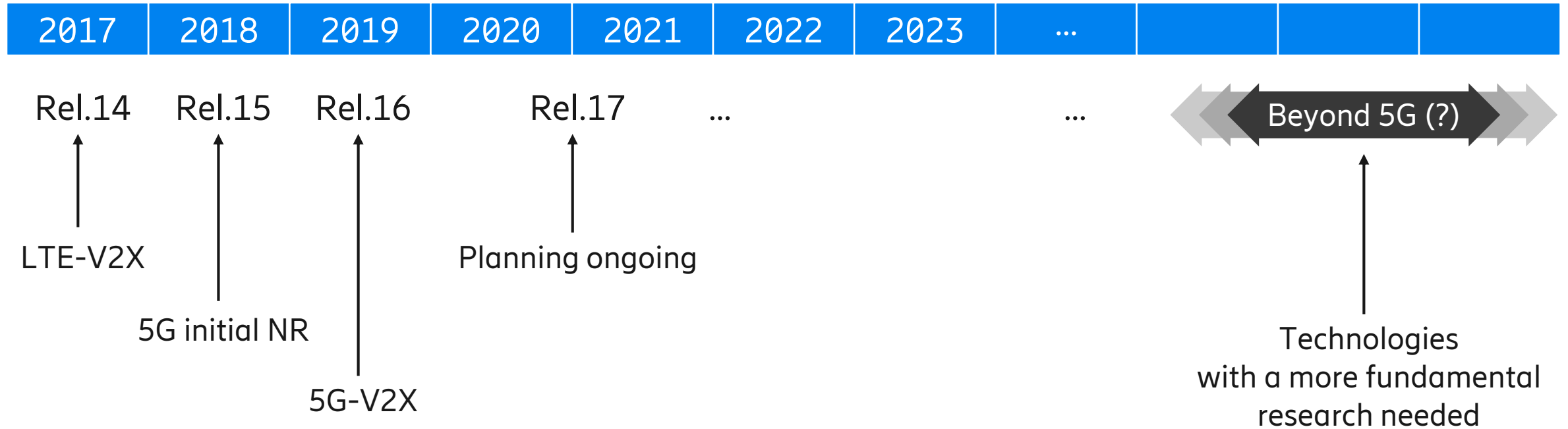
Founding member  
and member of  
the 5GAA board.

# 5G performance requirements



Source: METIS

# 3GPP releases

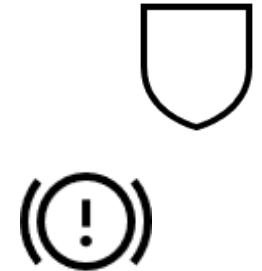


# Applicable tools

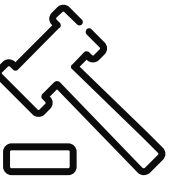
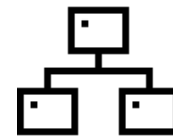
- Vehicle onboard sensors form a tool
- Cat-M and/or NB-IoT is a tool
- C-V2X is another tool
- 5G New Radio another
- 4G/5G Network Slicing is a new tool!



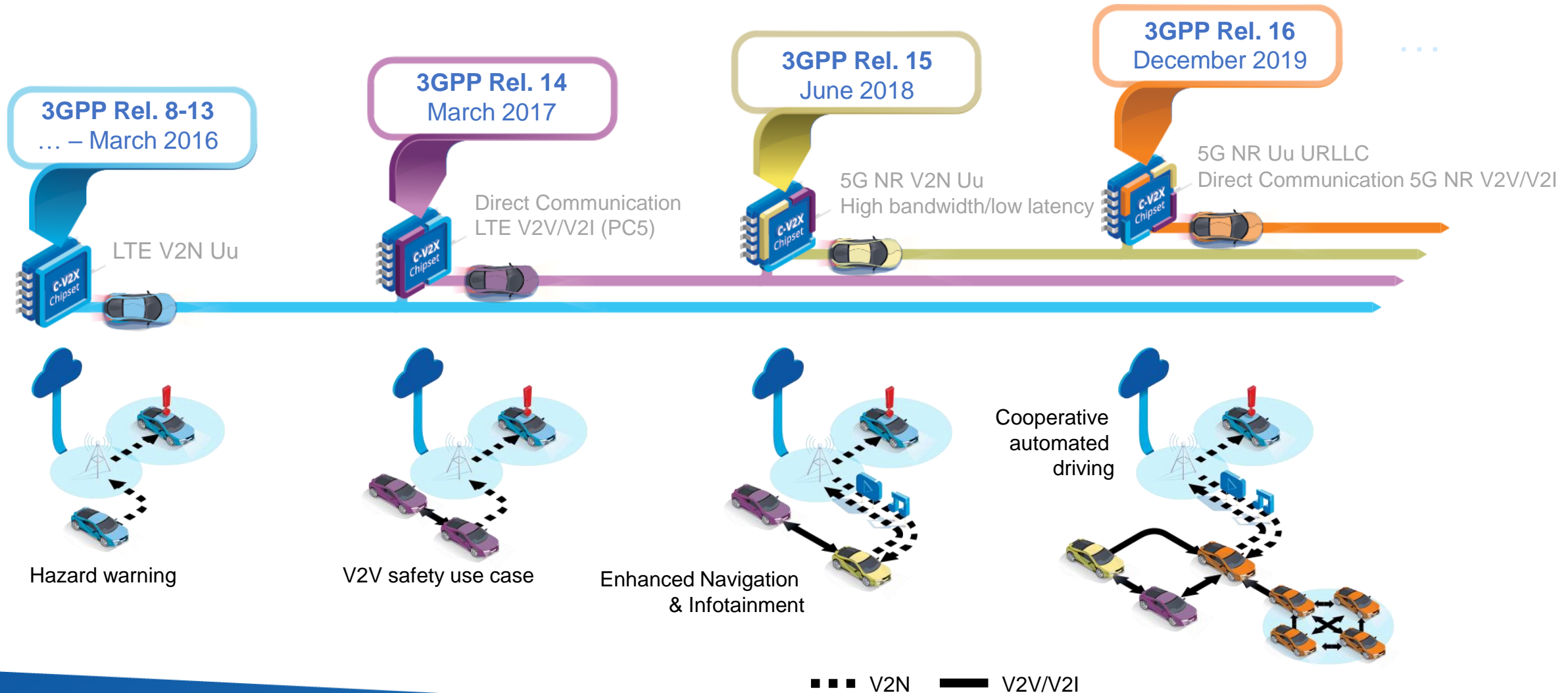
- Lane departure is a problem
- Vehicle safety is another set of problems



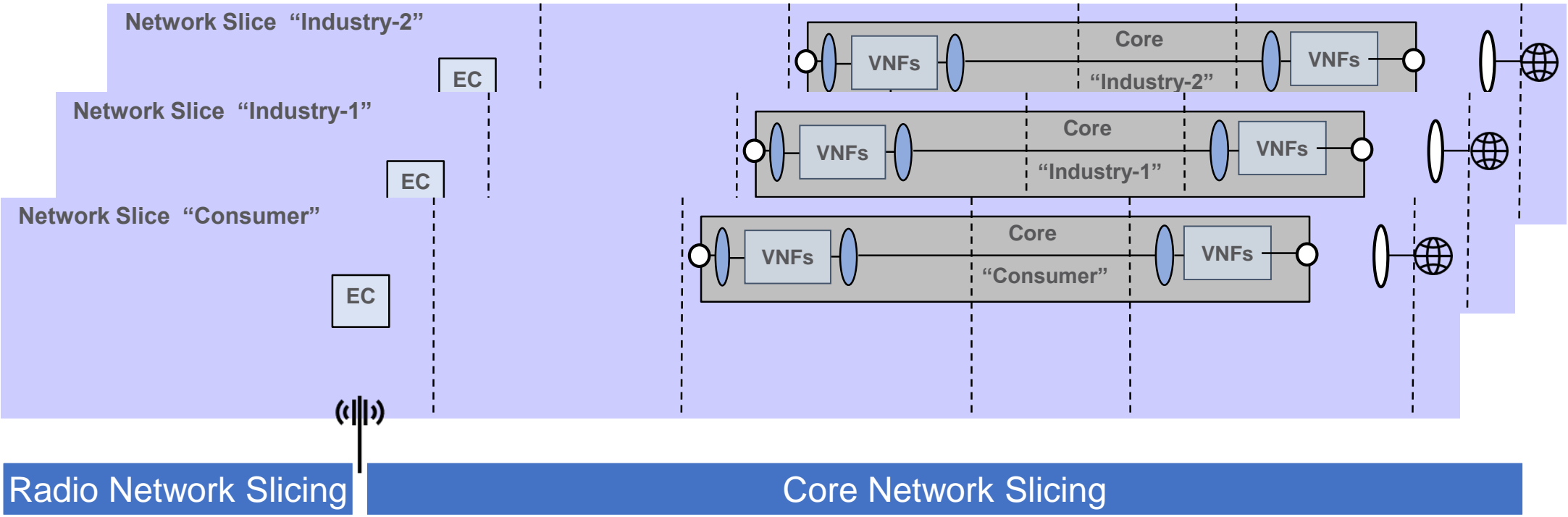
What kinds of challenges could become addressable with what tool?



# C-V2X: Evolution to 5G maintains backward compatibility



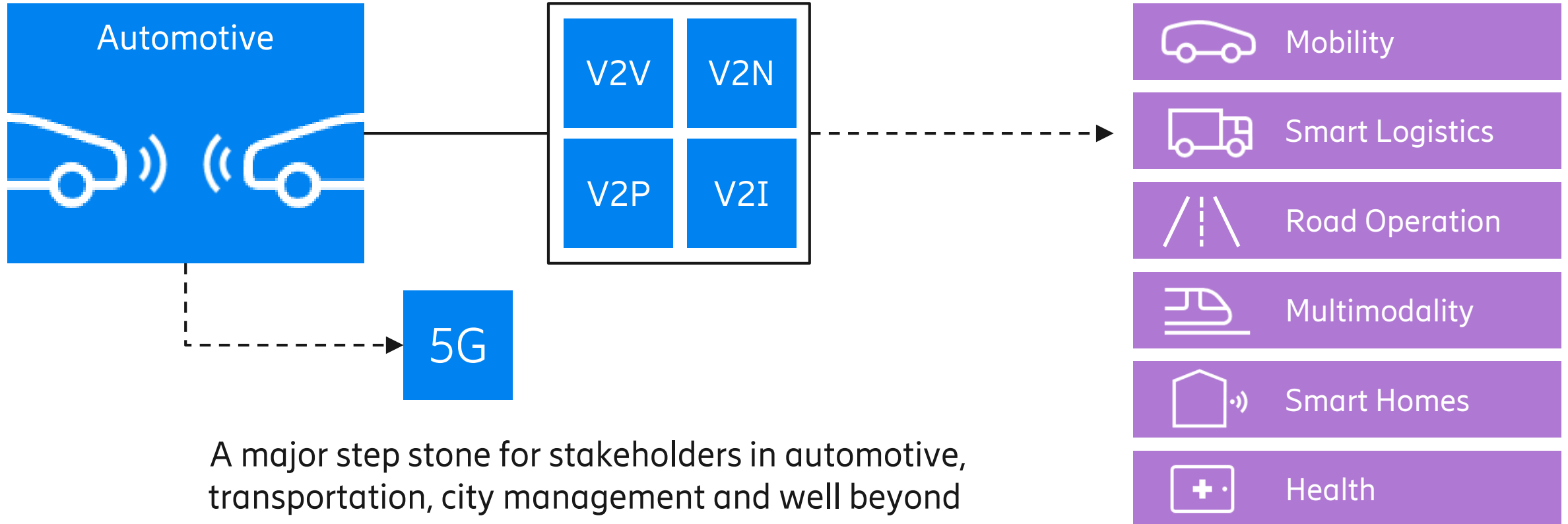
# 4G/5G Network Slicing



Being introduced today, in scope of ongoing network modernization

# Beyond Automotive

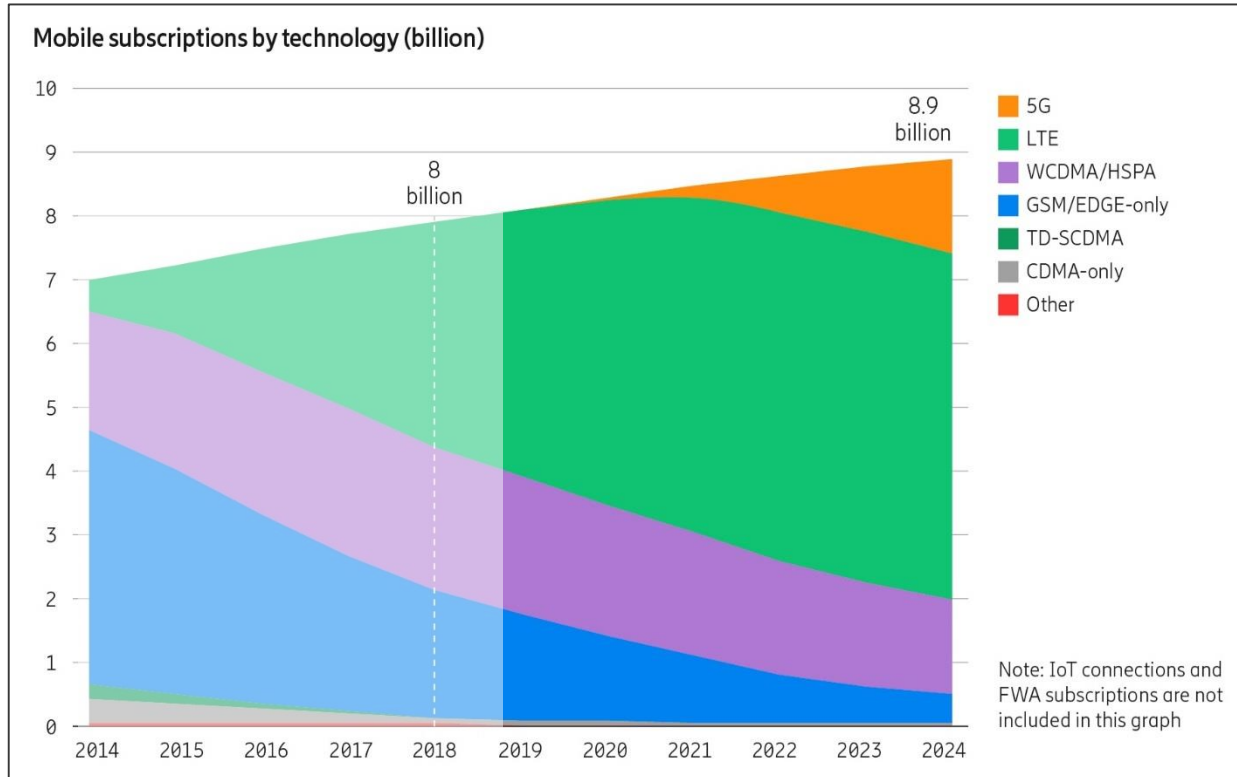
– Other 5G Automotive enabled applications



A major step stone for stakeholders in automotive, transportation, city management and well beyond

# Ericsson Mobility Report

[www.ericsson.com/mobility-report](http://www.ericsson.com/mobility-report)



Ericsson Mobility Report, November 2018

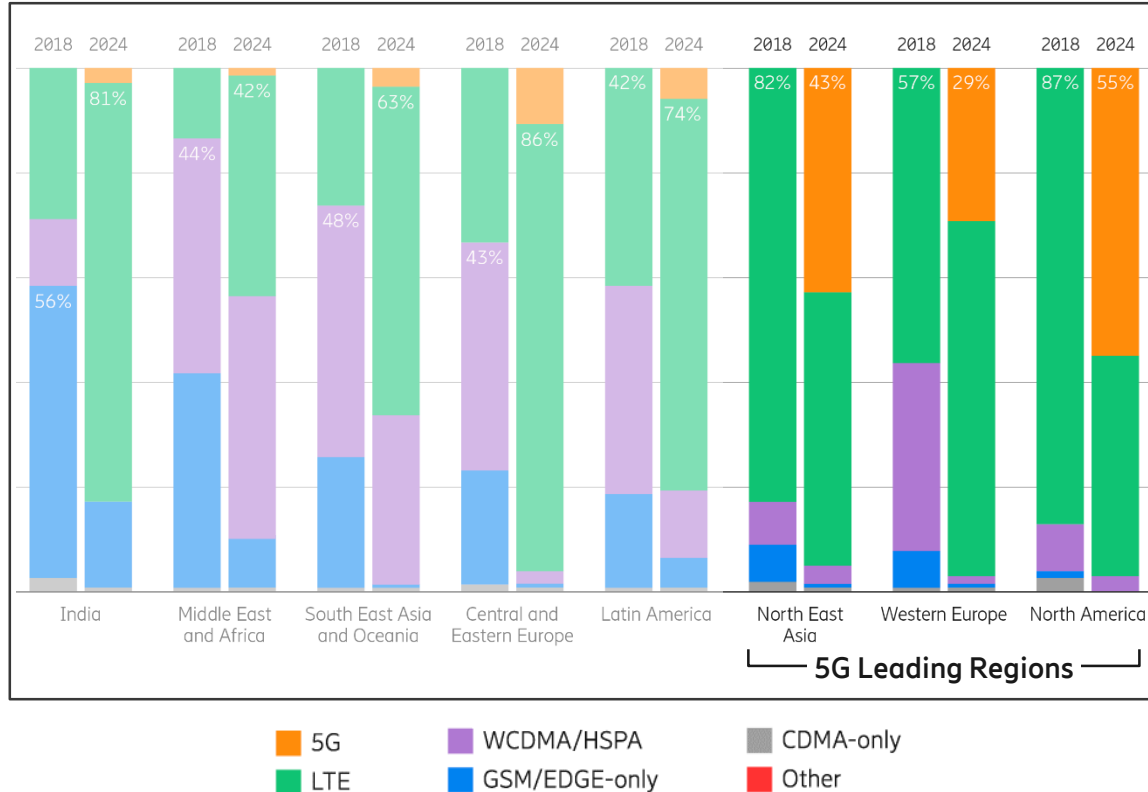
Source: Ericsson Mobility Report | Special edition | January 2019

- A 5G subscription is counted as such when associated with a 3GPP Release 15 device and network
- 5G smartphones become available during 2019, several service providers are expected to commercially launch 5G.
- The additional number of cellular IoT connections is expected to reach 4.1 billion in 2024
- Worldwide, service providers have announced the deployment of 85 cellular IoT networks using Cat-M and/or NB-IoT



# Subscriptions by Region & Technology 2024

Mobile subscriptions by region and technology (percent)



55% of mobile subscriptions in North America are expected to be for 5G in 2024.

# 5GAA working areas

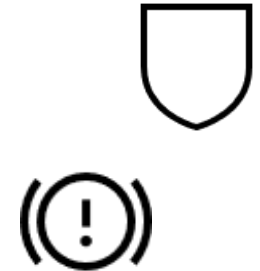


# Applicable tools

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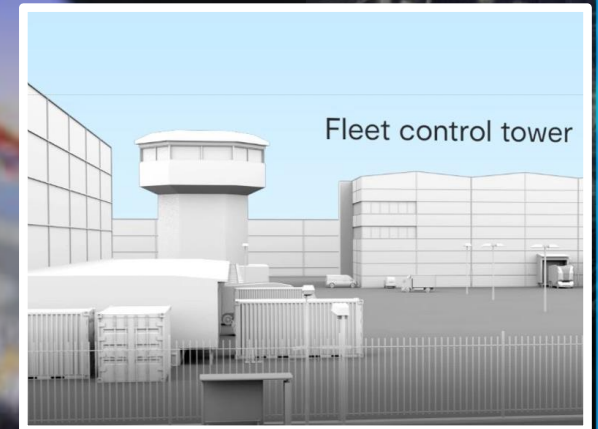
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5G is a capable and global tool-box for advanced industry solutions



CONNECTING THE MOBILITY  
WORLD WITH 5G-V2X



Fleet control tower



Fully autonomous,  
electric truck

Remote  
controllable  
via 5G network  
2.500 km apart

Visit the Ericsson booth at Hall 2, Stand 2060;  
See live demonstrations of Connected Automated Fleet, Remote 5G Driving, and Edge Cloud for Automotive





CONNECTING THE MOBILITY  
WORLD WITH 5G-V2X

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# Timeline for deployment of C-V2X (V2V/V2I)

