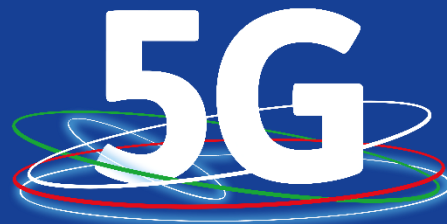


The Way towards the
Internet of Things: Open
Standards vs Silos
Florence, 15/11/2019

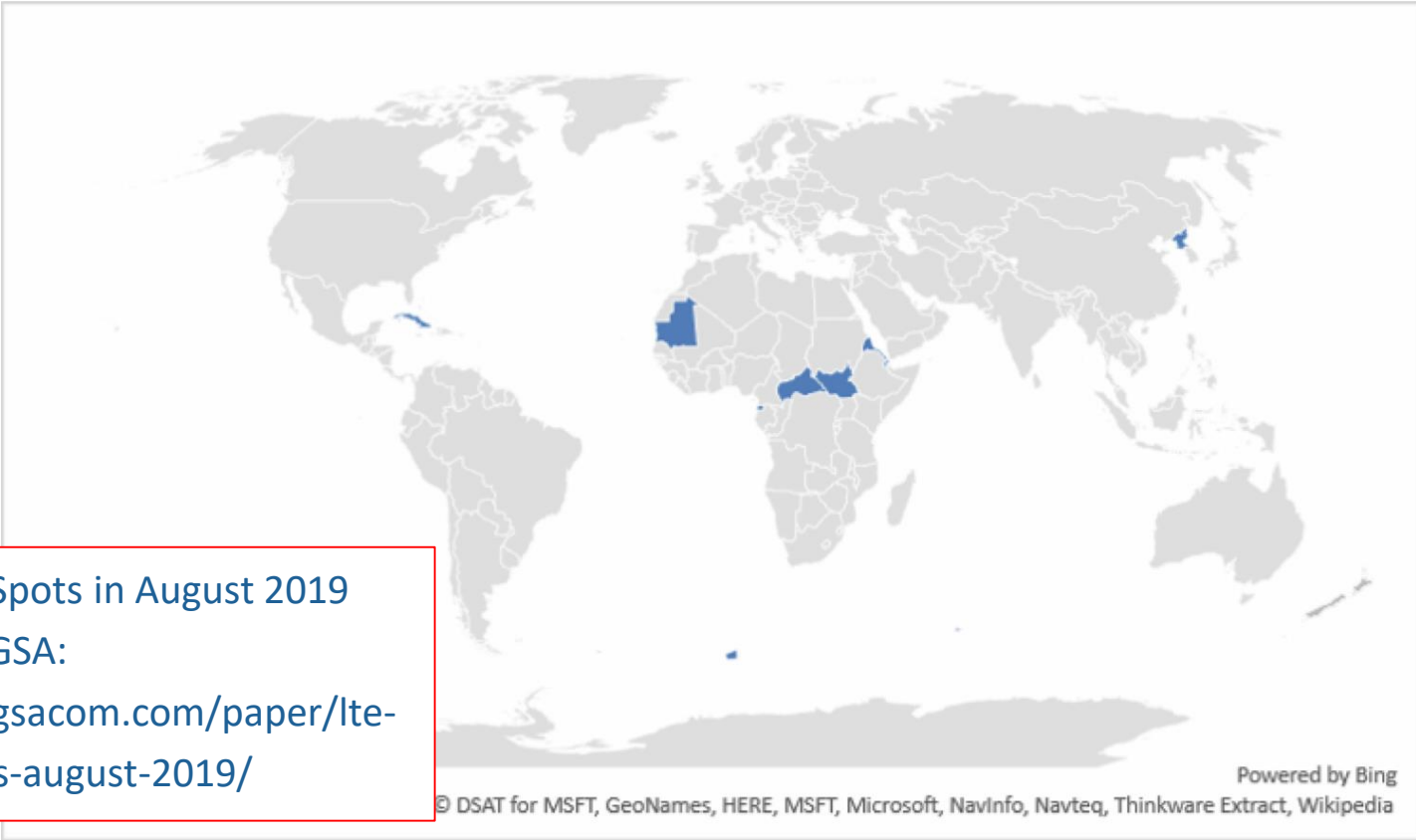
Panel III The industrial Internet of Things: Self-Driving Vehicles

Giovanni Romano
Standard Coordination

 **TIM**

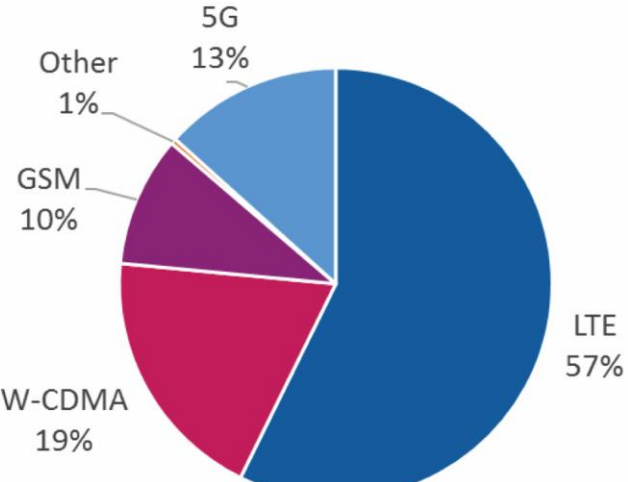


LTE ecosystem: the force of numbers



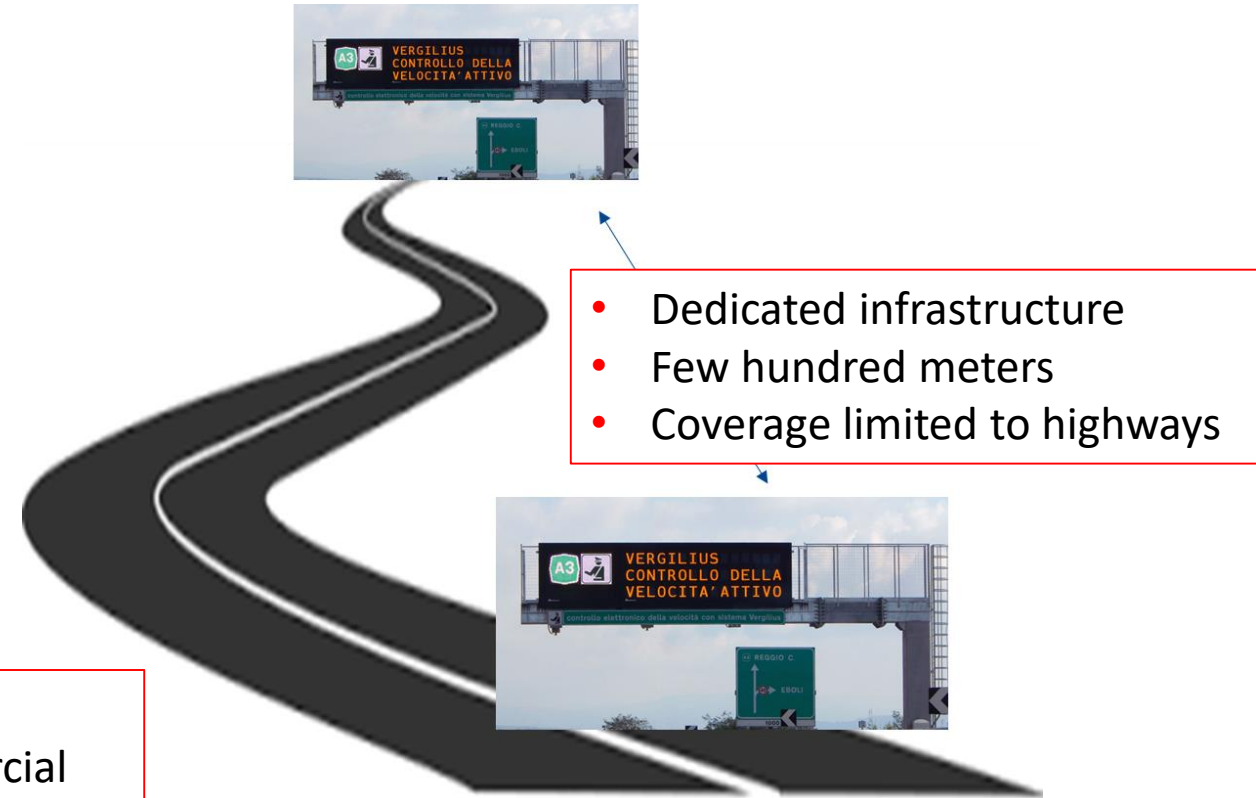
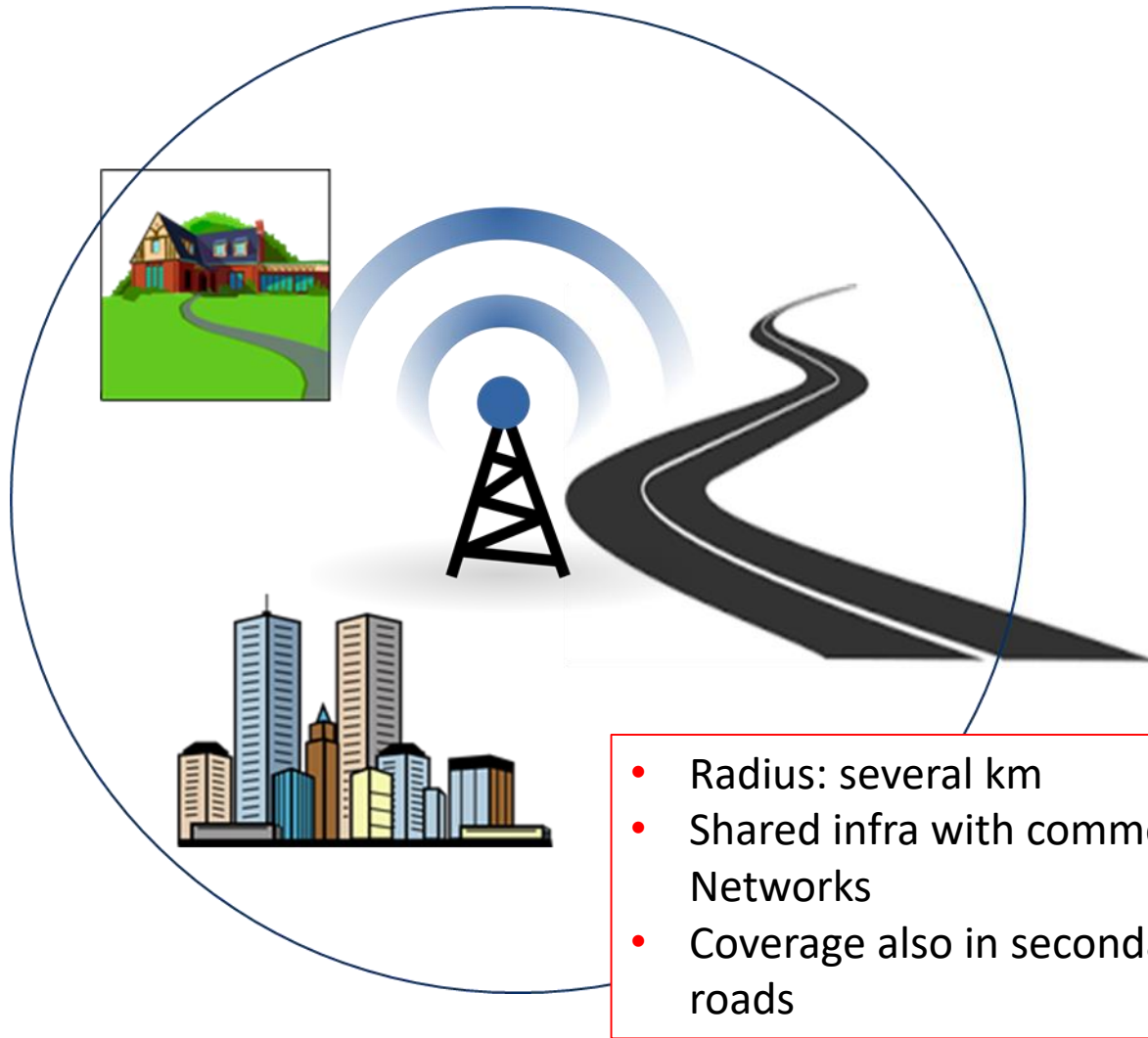
LTE NotSpots in August 2019
Source GSA:
<https://gsacom.com/paper/lte-notspots-august-2019/>

End of 2Q 2019: nearly 4.7 billion LTE subscriptions Worldwide
Source GSA and Ovum:
<https://gsacom.com/?s=5G+Forecast+%26+LTE+Subscriptions%3A+Ovum+Data+Q3+2019> Source of data – Ovum WCIS provided to GSA on 17 September



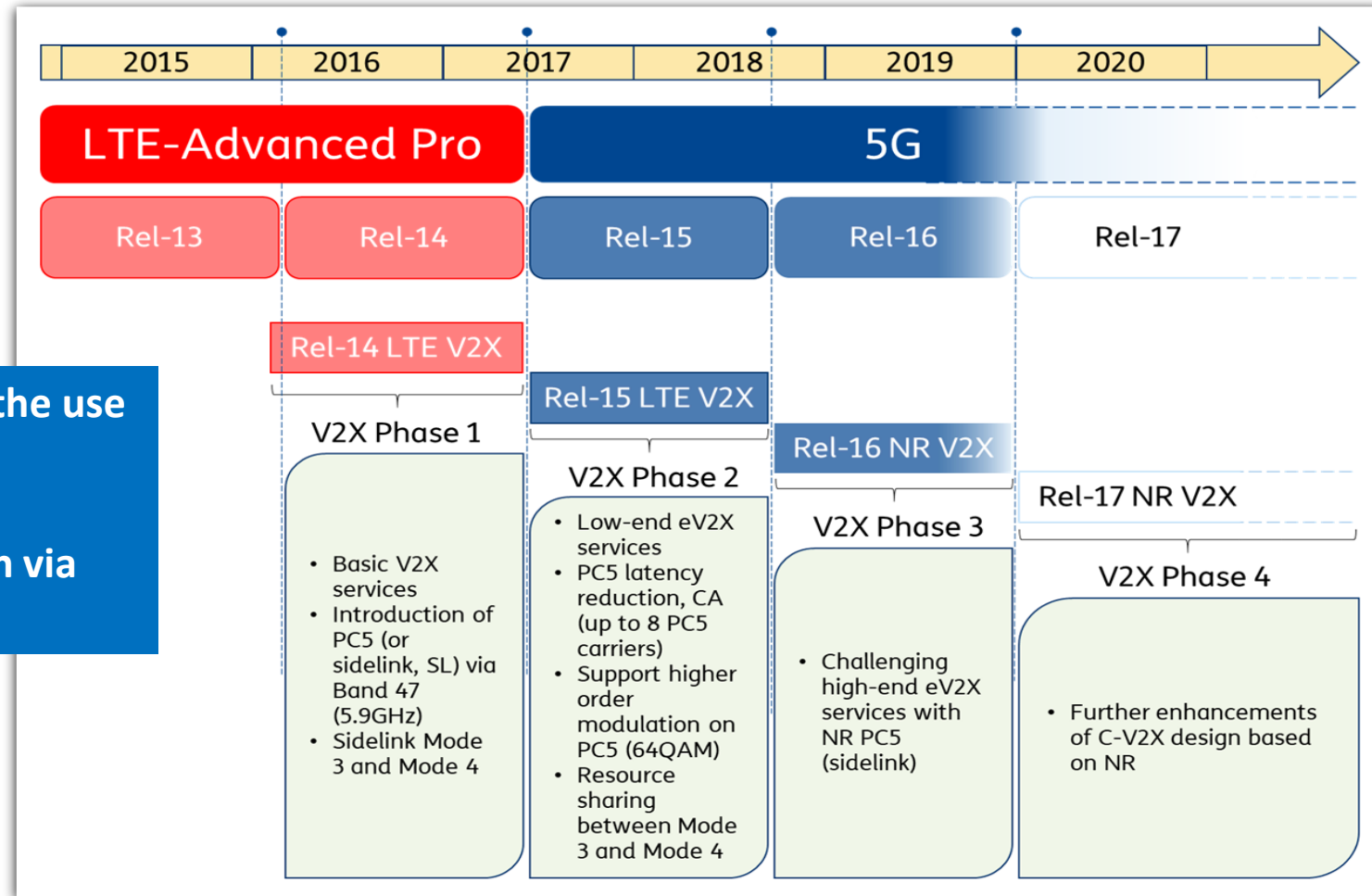
Mobile subscriptions forecast in 2023

C-V2X: exploiting existing infrastructure



3GPP C-V2X

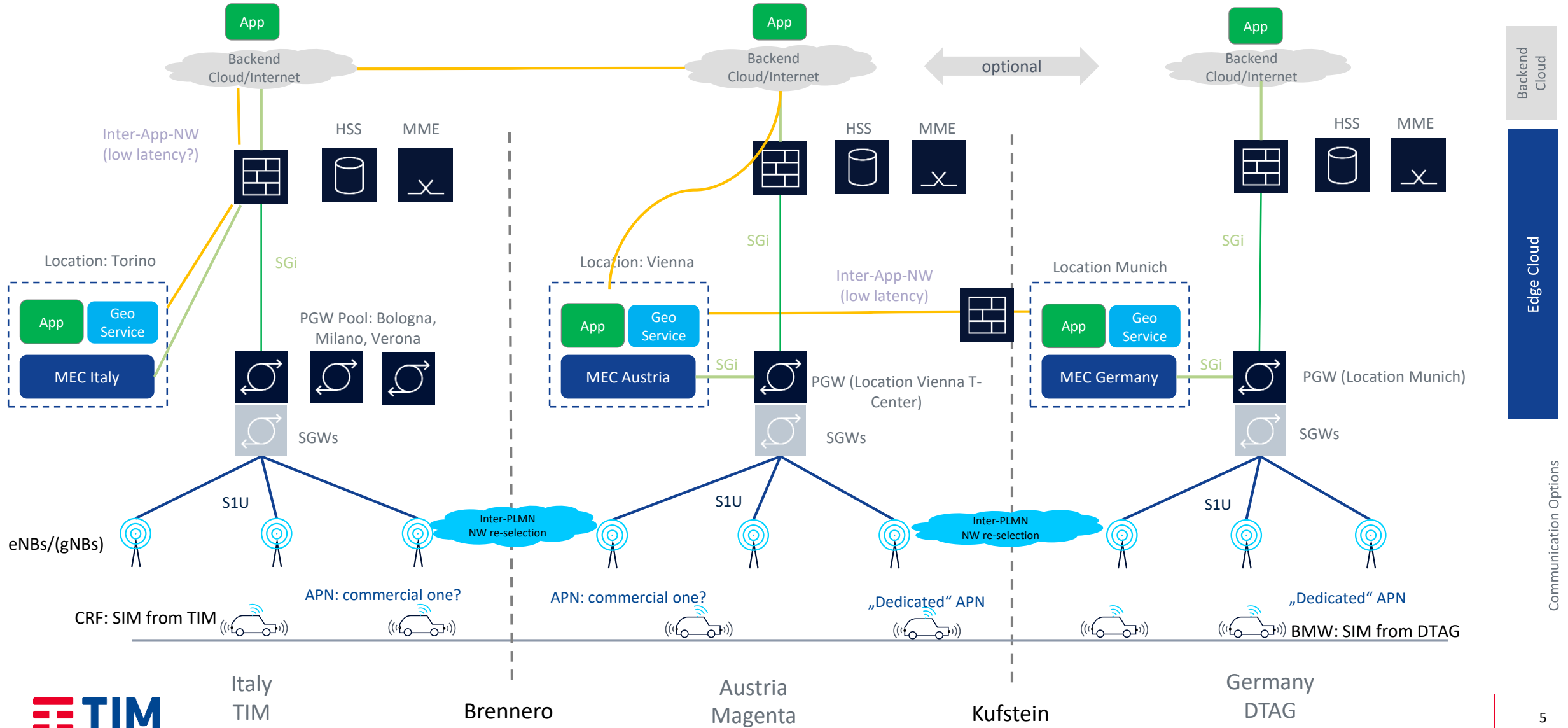
Note: most of the use cases can be supported by communication via the network



- 3GPP defined radio solutions dedicated to C-V2X applications starting with Rel 14 (2017)
- LTE C-V2X and NR-C-V2X are two complementary radio interfaces, designed to address different use cases: basic safety (LTE) and advanced use cases (NR)

5G CARMEN Cross-country and cross-operator scenario

Internet/SGi
Inter-MEC
Mobile Backhaul



5G Verticals

Areas	Smart Manufacturing	Public Transport	Energy & Utilities	Public Safety	Media & Entertainment	Automotive
						
Use Case	Self-guided industrial vehicles Cloud Robotics Structural Monitoring Augmented reality Control Logic Remotization	Smart Airport Smart Port Smart Parking Connected bus	Water metering Smart Locking	Wearable Cam Smart Surveillance Video Analytics	360° Videos Museum tours Smart Stadium	Smart Road

A structured Go to Market to drive the transition from the 'trial phase' to commercial



5GAA Conference

'The 5G Path of Vehicle-to-Everything Communication: From Local to Global'

Torino, Museo Nazionale dell'Automobile, 14/11/2019

5GAA members Fiat Chrysler Automobiles (FCA), Audi, Continental, Magneti Marelli, TIM, Vodafone, Ericsson, Harman (Samsung) and Qualcomm who will showcase the current state of C-V2X and the future of 5G technology

Open Roads Use Cases

Starting point: Piazzale Fratelli Ceirano, Turin

- Demonstration | [VRU at crosswalk with camera, VRU on the road \(bike\)](#)
TIM, Turin City Council, Links Foundation, Luxoft
- Demonstration | [Urban Georeferenced Alert](#)
Fiat Chrysler Automobiles (FCA), Links Foundation, Politecnico of Turin, SWARCO, TIM, Turin City Council, 5T
- Demonstration | [Forward Collision Warning \(FCW\), Intersection Movement Assist \(IMA\)](#)
Fiat Chrysler Automobiles (FCA), Harman
- Demonstration | [Emergency Electronic Brake Light \(EEBL\), Stationary Vehicle Warning \(SVW\)](#)
Fiat Chrysler Automobiles (FCA), Continental, Qualcomm

Lingotto Test Track

Via Nizza 294, Turin

- Demonstration | [Sensor sharing, Event-triggered road info, VRU protection, Event-triggered data sharing with RTA](#)
Audi, Ericsson, Italdesign, KTH, Pirelli, Qualcomm, TIM, Tobii
- Demonstration | [See-through](#)
Fiat Chrysler Automobiles (FCA), Marelli, Vodafone, Vodafone Automotive





TESTFEST·results·presentation·workshop¶

Venue:·ERTICO·ITS—Europe,·Avenue·Louise·326,·1050·BRUSSELS,·Belgium¶

Tel:·+32·(0)2·400·0700;·Website:·www.ertico.com¶

Date:·16·December·2019¶

Meeting· objective:· The· purpose· of· the· workshop· is· to· present· the· results· of· the· interoperability· trials· (remote· TESTFEST)· between· pilot· sites,· the· synergies· with· SynchroniCity· and· also· to· discuss· further· actions· after· the· LSP,· i.e.· in· relationship· with· standardisation· activities· on· IoT· (e.g.· OneM2M).¶

AGENDA¶

TIMEX	DESCRIPTIONX
11:00·(10·mins)X	Welcome·and·agendaX
11:10·(20·mins)X	AUTOPILOT·remote·TESTFEST·concept·and·preparationX
11:30·(60·mins)X	TESTFEST·results·per·pilot·site/test·pairingX
12:30·(45·mins)X	LUNCHX
13:15·(30·mins)X	TESTFEST·results·per·pilot·site/test·pairing···continuedX
13:45·(45·mins)X	Visualization·if·parking·and·traffic·data·from·selected·pilot·sitesX
14:30·(15·min)X	COFFEE·BREAKX
14:45·(45·mins)X	Synergies·with·SynchroniCity—Merging·of·dataX
15:30·(30·mins)X	Conclusions·and·final·remarksX

THANK YOU

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