



SAVARI™

Co-operative Infrastructure for Automated Driving

ITU-SAE workshop on intelligent transport
systems

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About Savari



Two major trends

Major transportation trends*

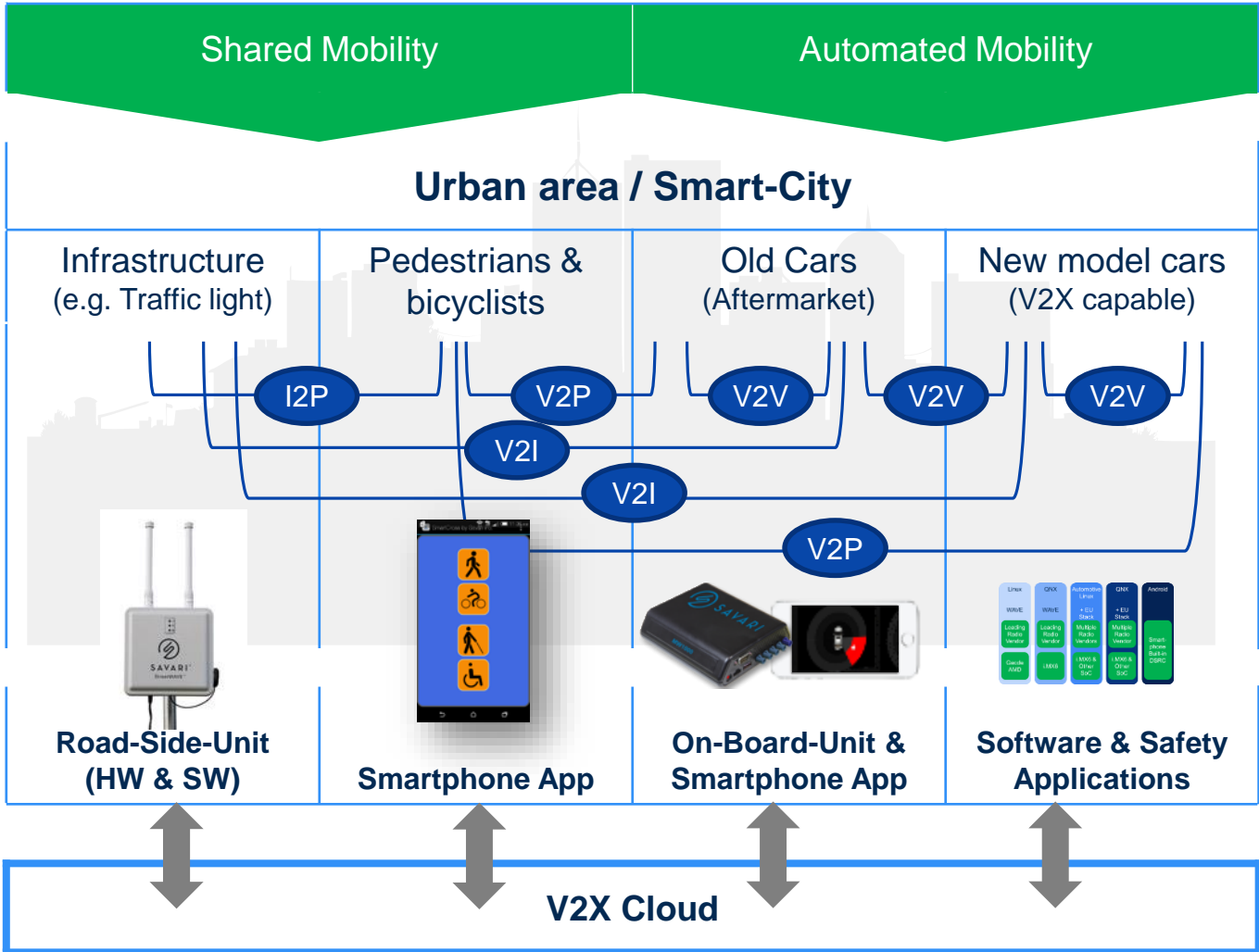
Where will trends unfold?

What and who will be impacted?

Types of **V2X** communication:
 I = Infrastructure
 P = Phone
 V = Vehicle
 All communication is bidirectional

Frontend solutions

Backend solutions



Legend: Arrow = real time information sharing & analytics

Transportation Data Sources

1

Traffic Controllers

Real time data



2

LIDAR Data

Traffic Perception



3

Camera Data

Analyze pedestrians, cars



4

Pedestrians

Smart phone



5

Traffic Centers

Centralized



Connectivity - Infrastructure

802.11p or ITS-G5

Efficient spectrum usage requires two radios. Bandwidth availability is limited to 10MHz channel.

Spectrum dedicated for 5.9GHz (802.11p or ITS-G5), potential sharing with unlicensed WiFi devices

Management/Procurement of road side units dedicated to public agencies

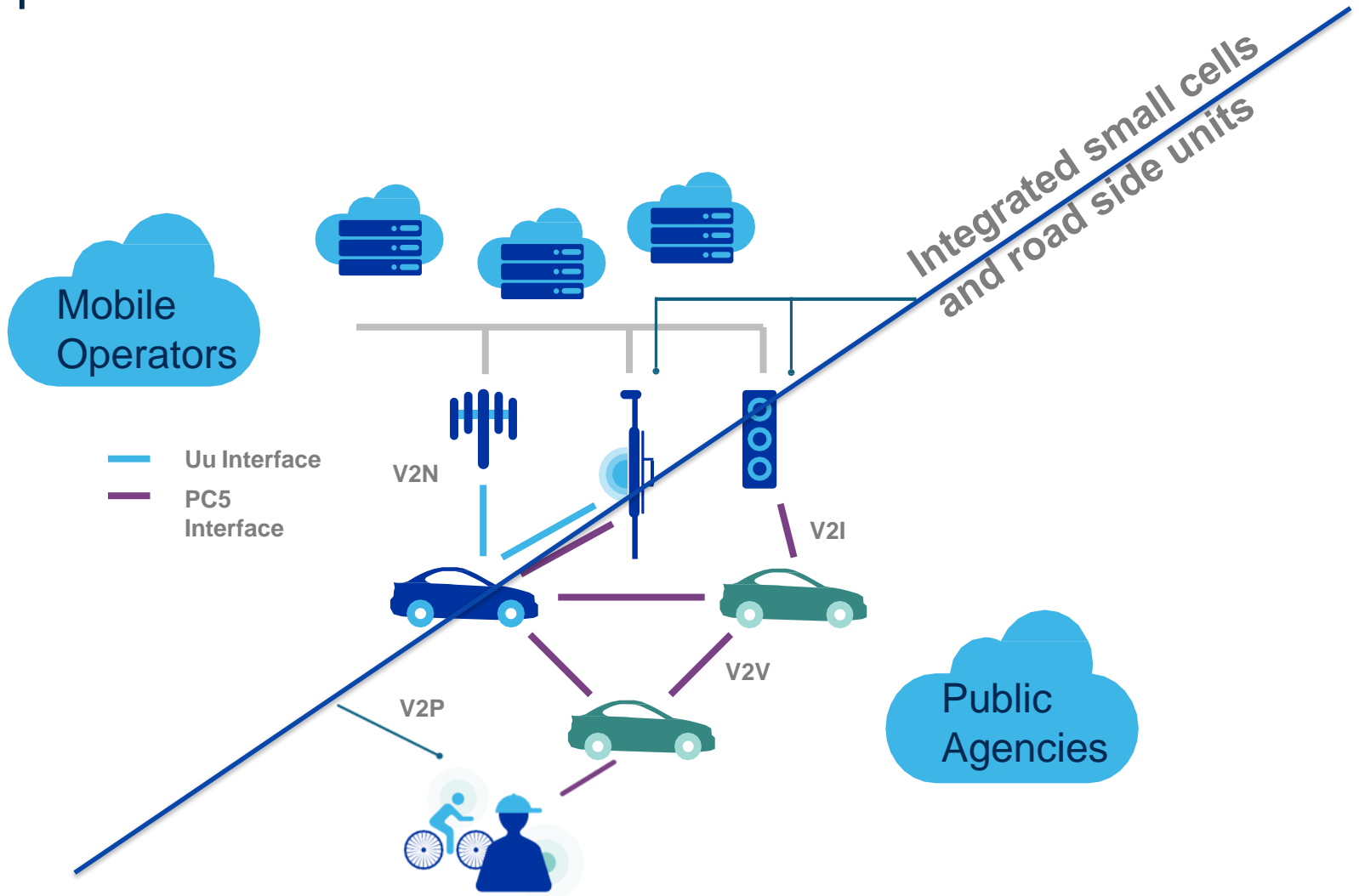
Cellular V2X (4G/5G)

Single radio to support both V2V and V2I. Bandwidth is limited to 20MHz channel.

Spectrum goes beyond 5.9GHz (PC5), which is licensed spectrum (Uu), allows for extended business models

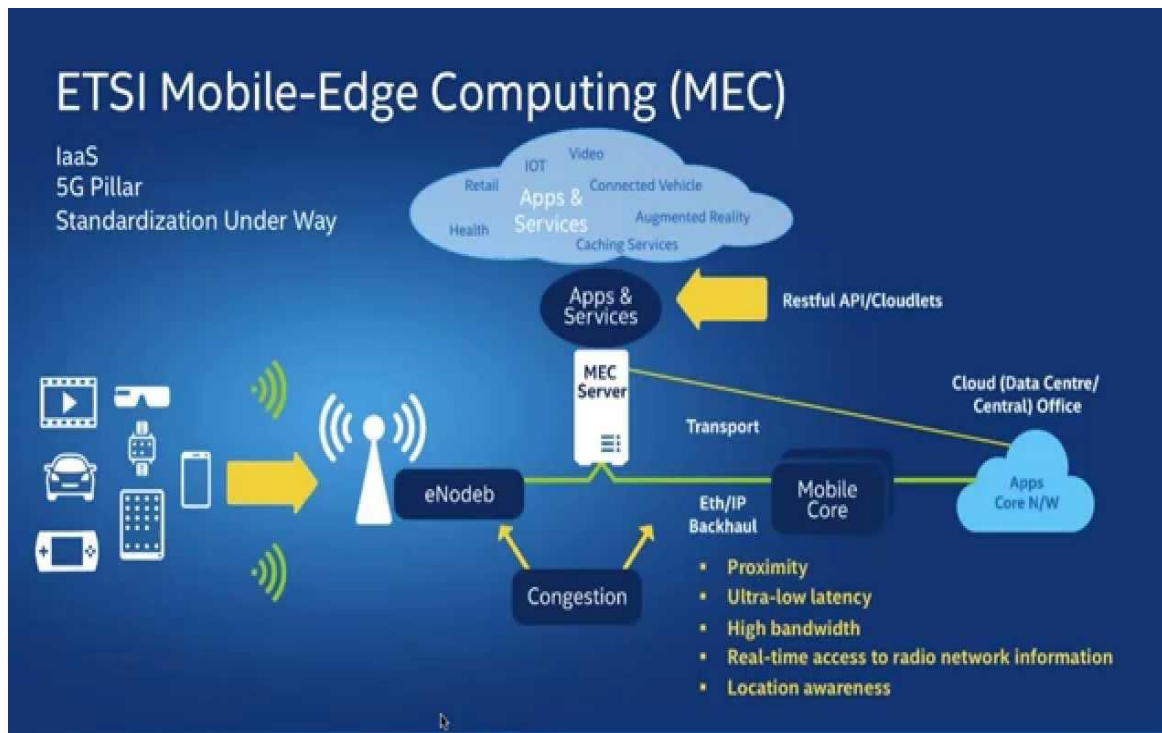
Integrated road side units and small cells allow for lower cost of deployment; Procurement integrated with mobile operators network

Co-Operative Infrastructure



Application Deployment

Architecture



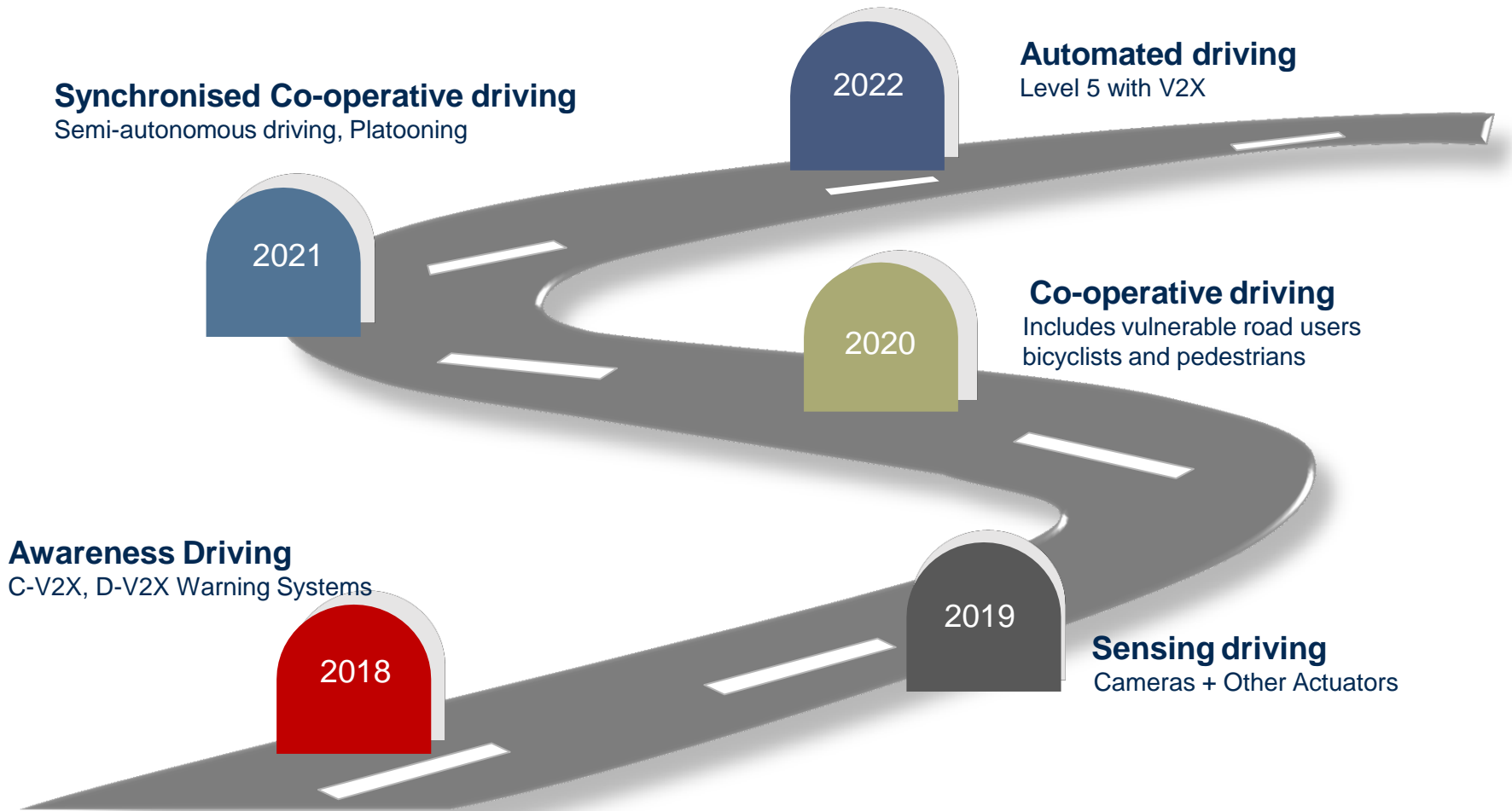
Use Cases

**Real Time
Situational
Awareness**

Intersection
Movement
Assist

HD
Sensor
Sharing

Roadmap to Automated Driving



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