ASECAP DAYS

PARIS 2017

The role of road infrastructures in the smart mobility era

JORGE LOPES – BRISA

29-31 May 2017

www.asecapdays.com

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ASECAP

Association Européenne des Concessionnaires d'Autoroutes et d'Ouvrages à Péage

QUESTIONS

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What is the role of road infrastructures in the Smart Mobility era?

Is that possible to build up smart mobility without smart infrastructures?

The New Era Features and Trends

THE NEW ERA MAIN FEATURES

CONNECTED CARS

Equipped with sensors
Sense the physical internal and external environment
Internet access
Interact with other vehicles and entities

AUTONOMOUS VEHICLES

(automated self-driving vehicles or robotic cars)
Operate without a human driver

Automated platooning is one of the first steps toward automated driving

DRIVING FORCES

AVAILABLE TECHNOLOGY	New technology available at low prices 5G communications – Internet of things Artificial intelligence Smart sensors
HIGH-TECH PLAYERS	30 companies permitted to test autonomous vehicles (Apple, Google, Tesla, Uber, Bosh, Toyota, Mercedes, Ford, Volvo, …)
NEW MOBILITY CONCEPTS	Sharing society Increasing changes in urban customers

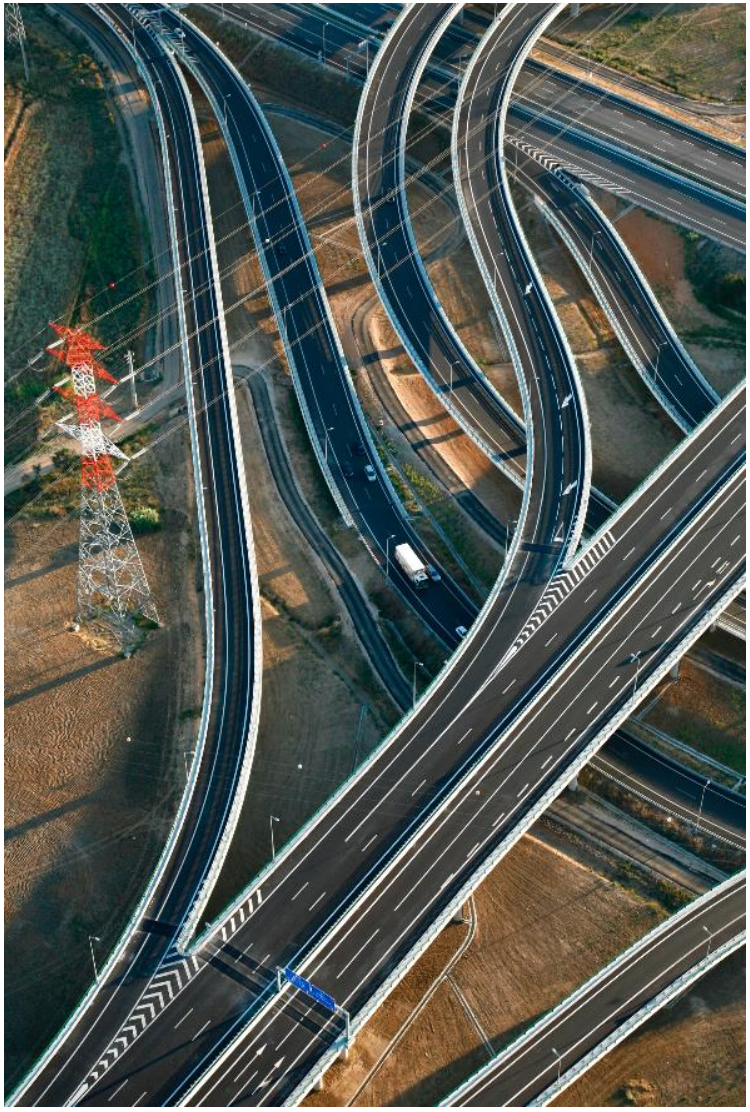
Evolving regulatory and policy constraints

ADDRESSING ISSUES

LEGISLATION AND REGULATIONS	Decarbonization Self-driving vehicle - legal entity Data ownership and privacy Cyber-Security Liability and insurability
COLLABORATION	European-level initiatives – Declaration of Amsterdam New partnerships for R&D (OEMs, suppliers, new entrants) Testing on public roads
INFRASTRUCTURES	Adaptable, Automated and Recycled

The role of Road Infrastructures

WHY INFRASTRUCTURE MATTERS?



Connects people and goods

Enables trade

Powers businesses

Social and economic development

Backbone of a healthy economy

OPERATING SKILLS TODAY

Capacity and demand management

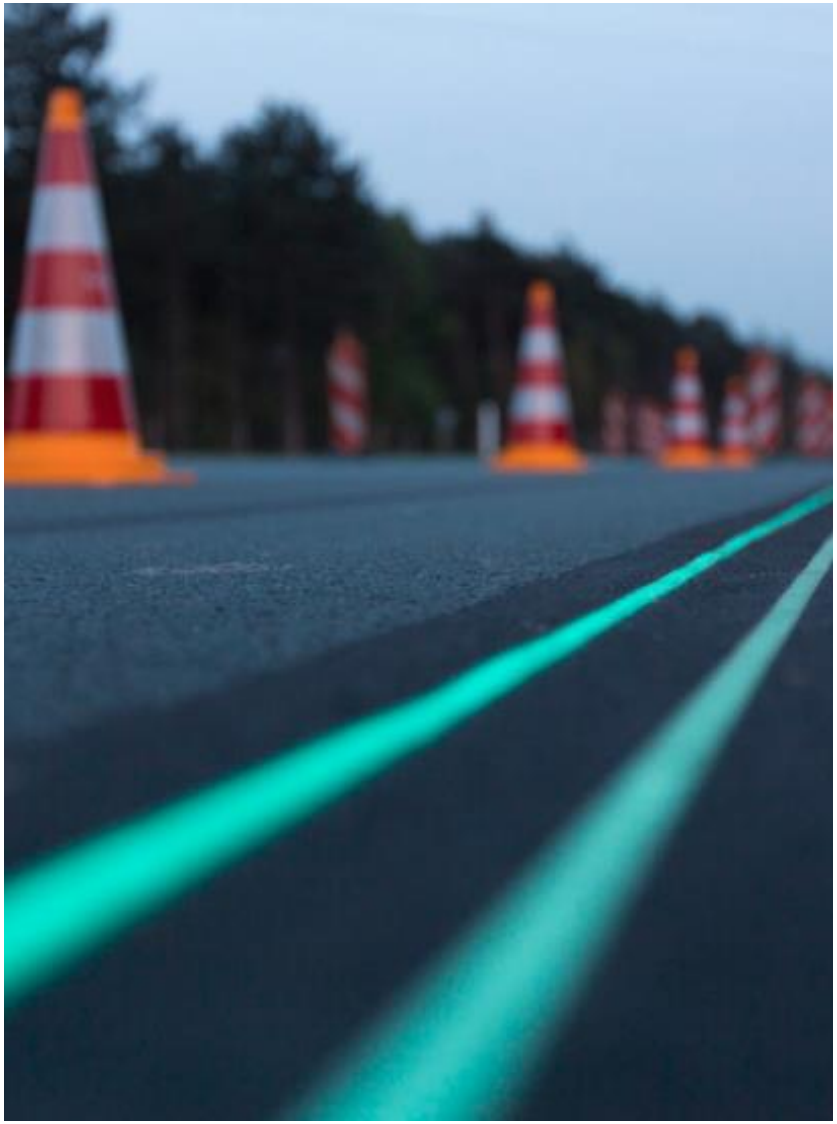
Traffic control and safety demand management

Incidents/accidents response management

Traveller information and guidance

Reactive to proactive approach

OPERATING SKILL TOMORROW (?)



Smart sensors, remote sensing

V2I, I2V, I2I, 5G communications

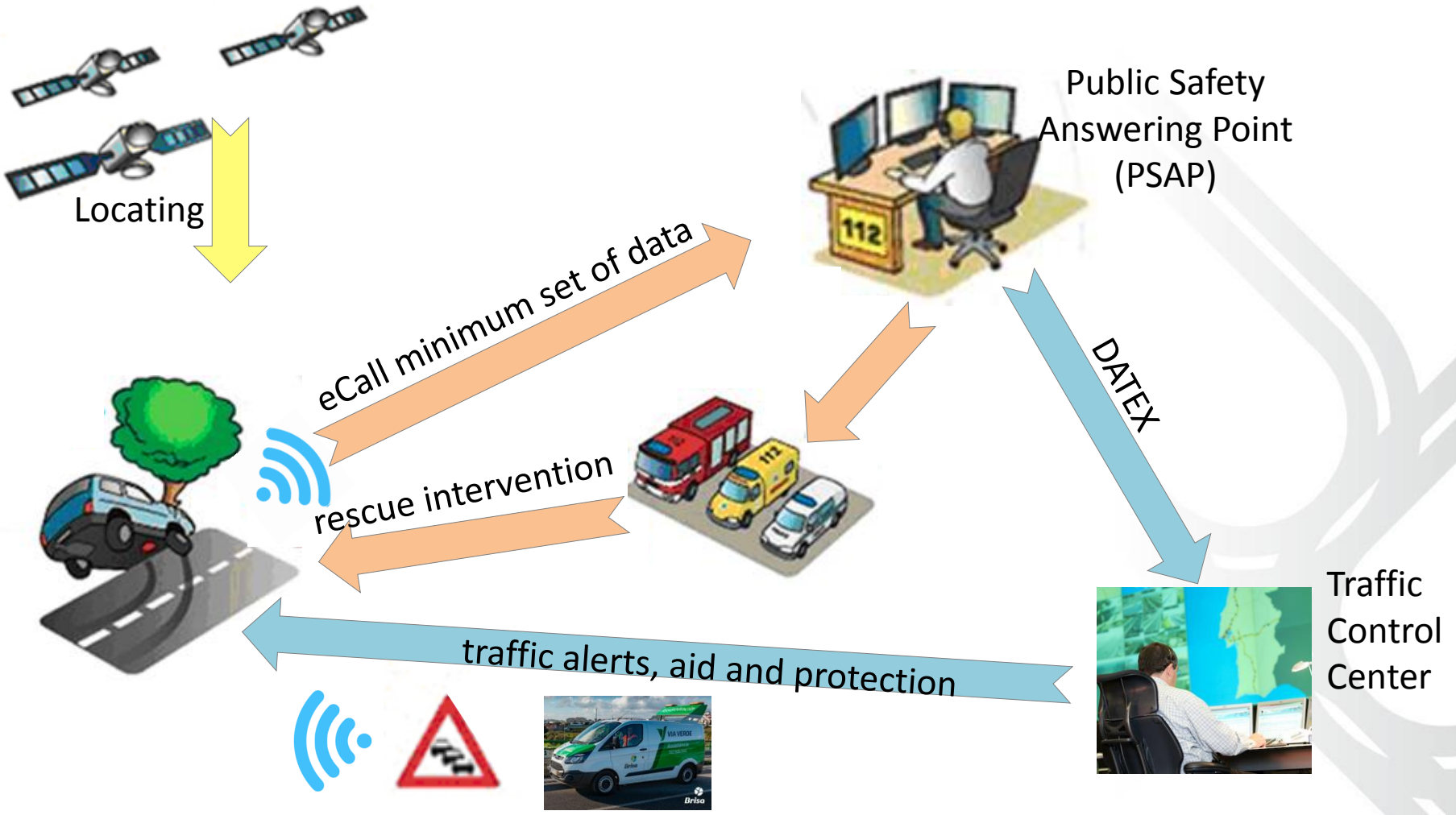
IOT architecture

External/Social data integration

Advanced analytics

Initiatives at Brisa

eCall Full INTEGRATION



eCall in all new cars from April 2018

BRISA'S INTELLIGENT MOTORWAYS

THE PLATOONING ROAD

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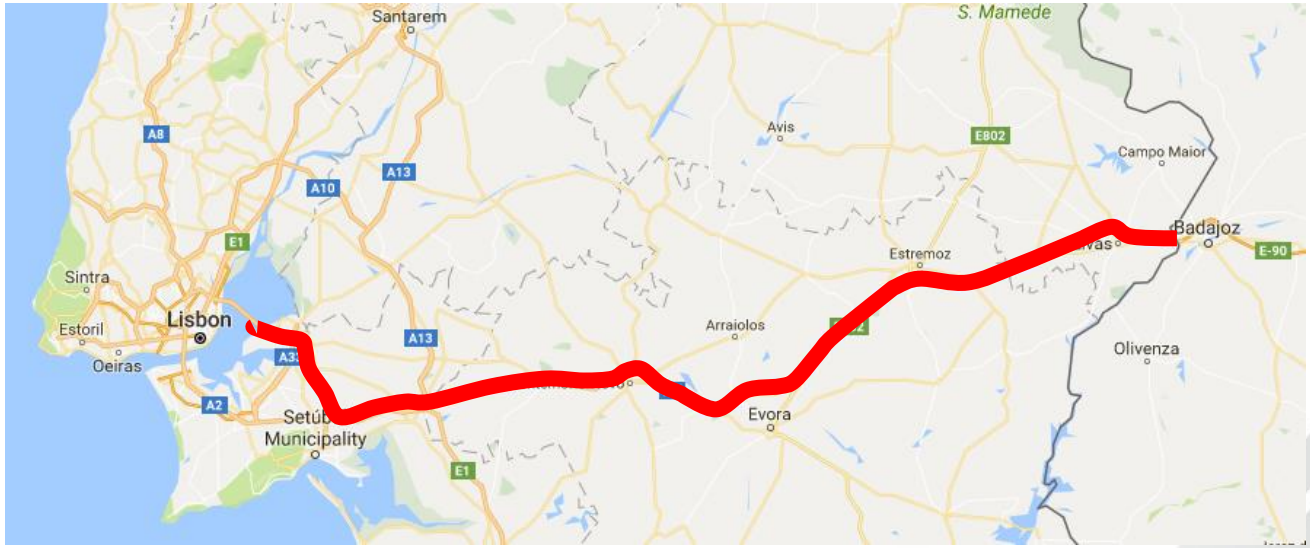
Lisbon-Badajoz (Spain border) corridor

190 km

5,000 AADT



Smart sensors

V2I, I2V, I2I, 5G

IOT

Analytics

Test bed for truck/car platooning

THE HOLIDAY ROAD

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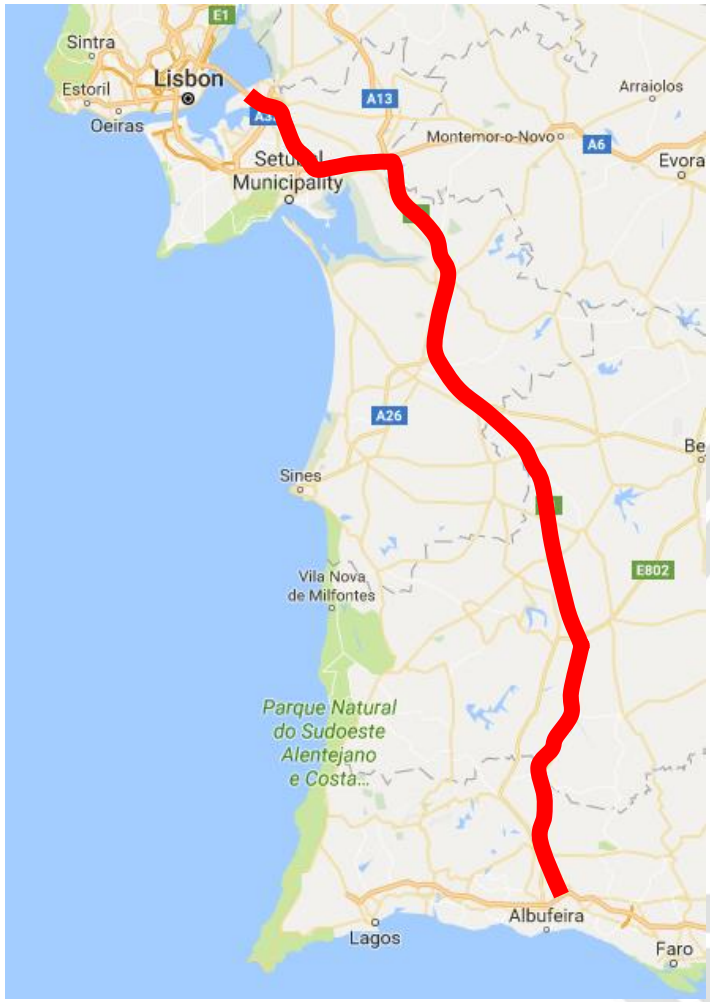
Lisbon-Algarve coast corridor

250 km

16,000 AADT

Test bed for autonomous driving



BRISA'S INTELLIGENT MOTORWAYS

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C-ROADS project proposal

2 M€ investment

Work Plan 2017-2021

Conclusions

CONCLUSIONS

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What is the role of road infrastructures in the Smart Mobility era?

It continues to be the system's backbone and will be at the heart of the "Smart Mobility" era.

Is that possible to build up smart mobility without smart infrastructures?

Yes, but it won't be the same.

Intelligent infrastructure will be required to collect, process and disseminate a vast amount of data in real time and provide the most effective transportation services to businesses and citizens alike.

The role of road infrastructures in the smart mobility era

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Anda consigo.

A-to-Be