

5G E A INTERNET DO FUTURO

9º CONGRESSO
COMITÉ PORTUGUÊS DA URSI

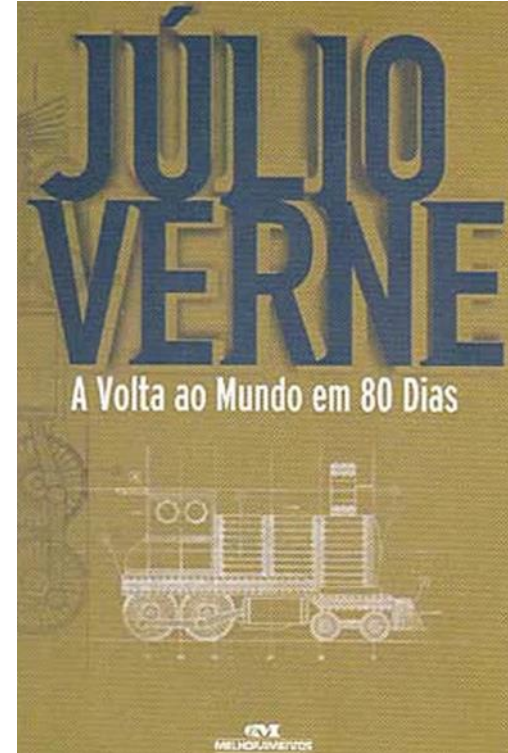
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Transport and Mobility in the digital era

Jorge Lopes
Dec 4, 2015



What is there in common?



Both travelled 40,000 km.

Sustainable mobility



“The ability to meet the needs of society to move freely, gain access, communicate, trade and establish relationships without sacrificing other essential human or ecological values today or in the future.”

Sustainable mobility challenges

Mitigate congestion

Improve safety

Reduce emissions

Reduce transport-related noise

Preserve and enhance mobility opportunities



Solutions

Planning

Mobility management

Vehicle technologies

Qualitative management



Mobility management

Demand management



Supply
management



Operations management
and control



Vehicle technologies

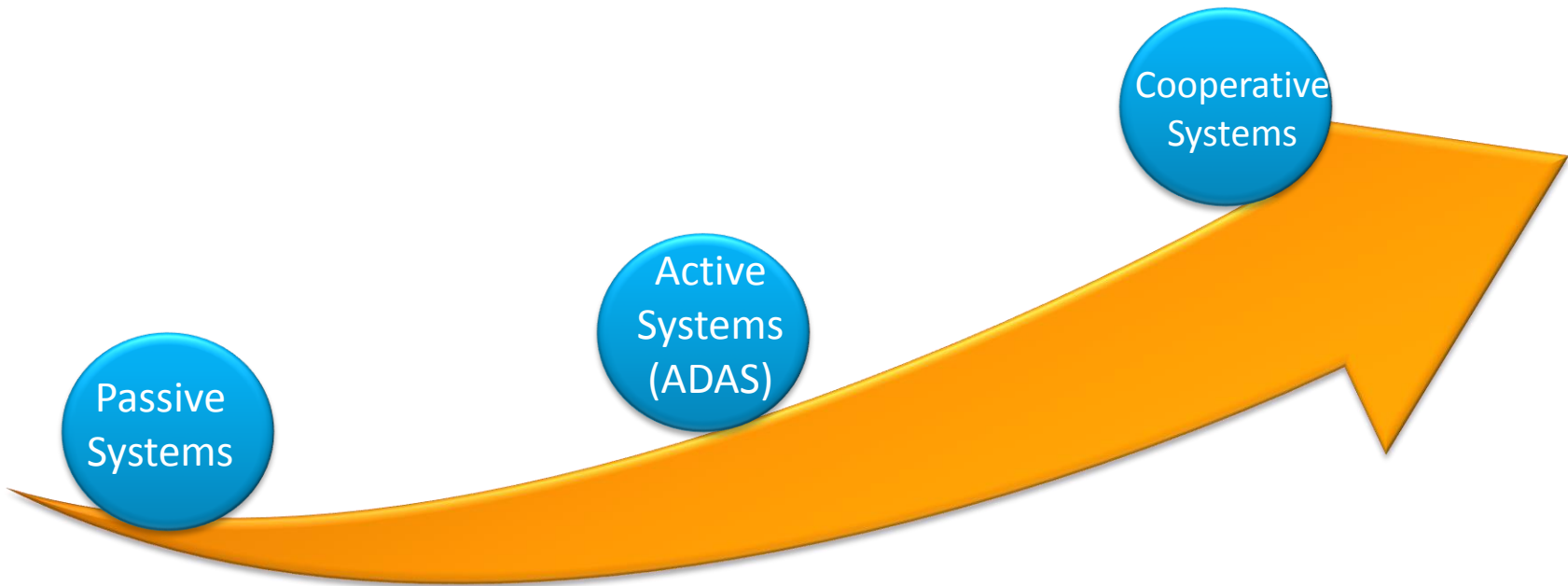
Driver assistance



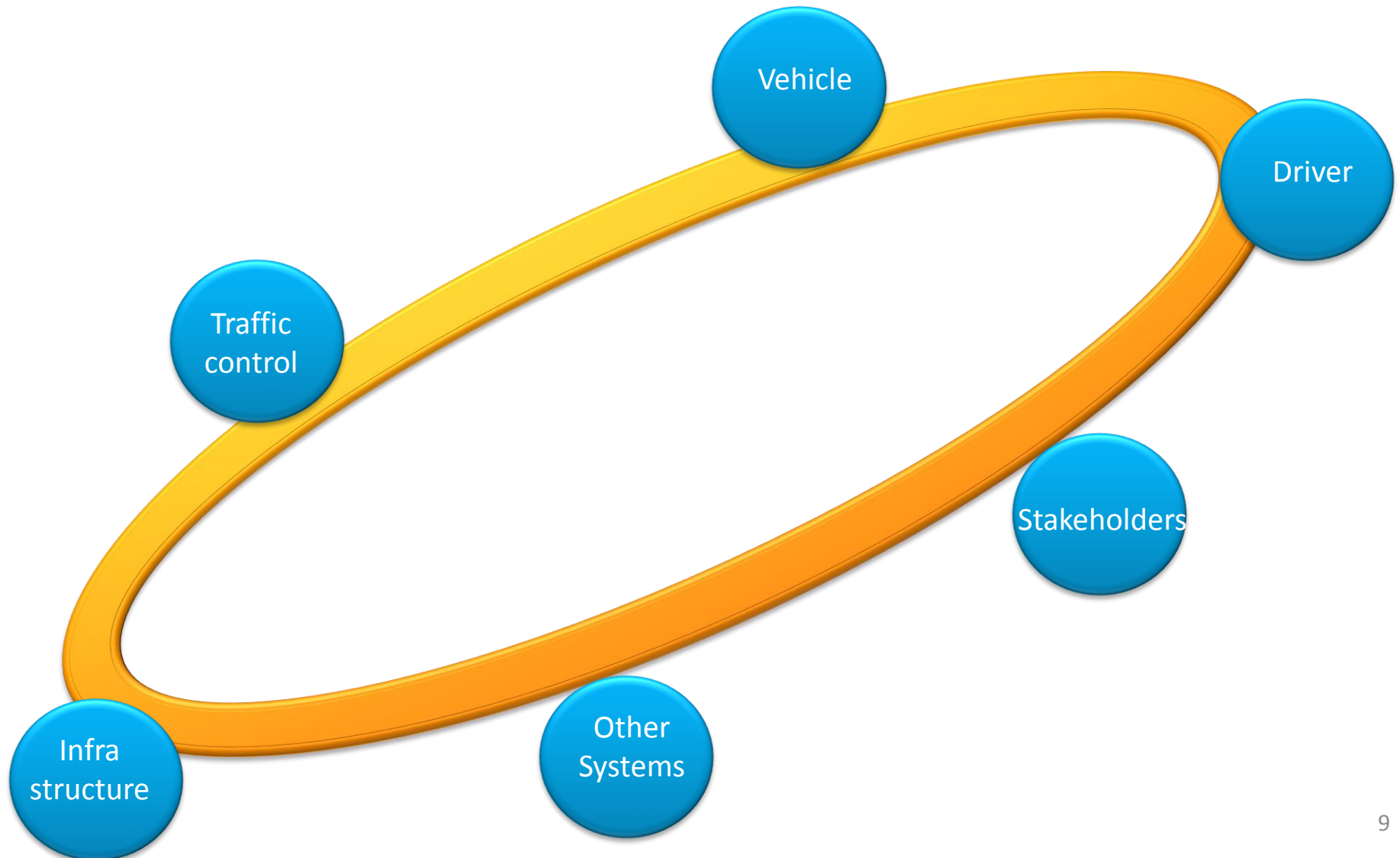
Autonomous driving



Car safety evolution

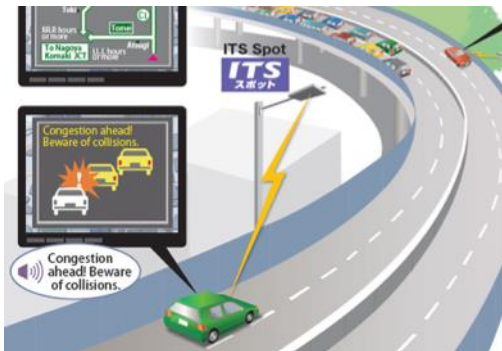


Cooperative Mobility Ecosystem



Cooperative Mobility Services

Hazard Notification



Driving Safety Support



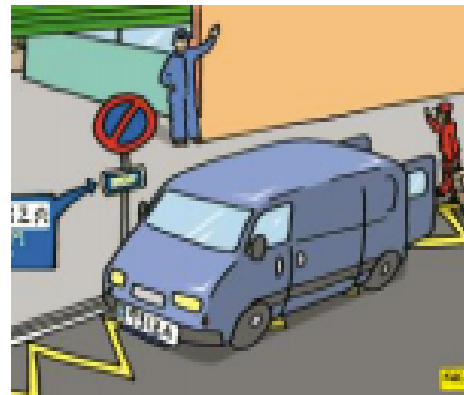
Driving Assistant



Route guidance and multimodal planning



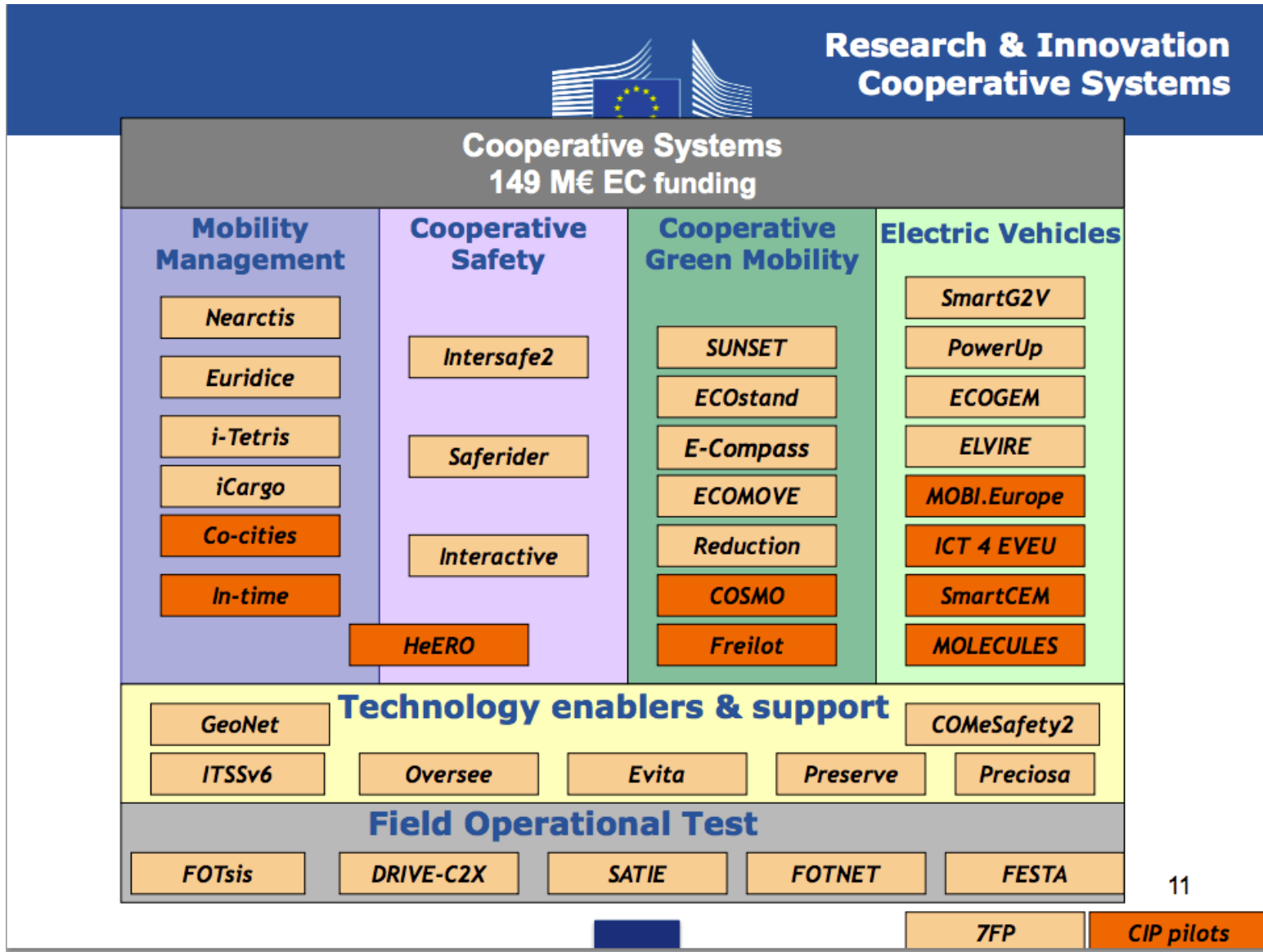
Improve infrastructure usage



Other Value-added Services



EC funding R&D initiatives



ICSI - Intelligent Cooperative Sensing for Improved Traffic Efficiency

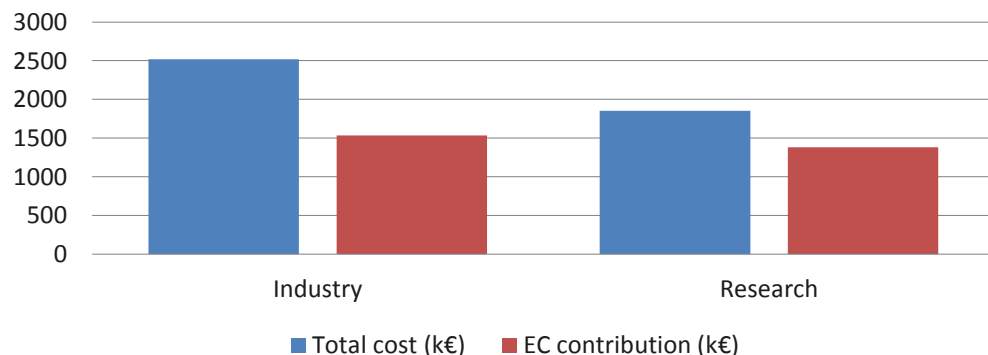


Cooperative mobility - connecting infrastructures, vehicles and drivers for efficient mobility.

Collaborative R&D project to design, develop and demonstrate the importance of vehicle-infrastructure cooperative systems to improve safety and traffic efficiency.



Start date	November, 2012
End date	June, 2016
Budget	4,3 M€
EC contribution	2.9 M€



Consortium		
1	INTECS Informatica e Tecnologia del Software S.p.A.	Italy
2	Brisa Inovação e Tecnologia, S.A.	Portugal
3	CNIT - Consorzio Nazionale Interuniversitario per le Telecomunicazioni	Italy
4	CNR-ISTI - Institute of Information Science and Technologies	Italy
5	University of Deusto (Bilbao)	Spain
6	Forthnet S.A.	Greece
7	Faculty of Traffic and Transport Sciences, University of Zagreb	Croatia
8	Ikusi – Angel Iglesias S.A.	Spain
9	Instituto de Telecomunicações, Pólo de Aveiro	Portugal
10	ObjectSecurity Ltd.	U.K.

ICSI Field Operational Tests (FOT)

Evaluating Improved Cooperative Sensing (ICSI) in real-world environments

FOT 1 - Inter-urban Area - Lisbon



FOT 2 - Urban Area - Pisa



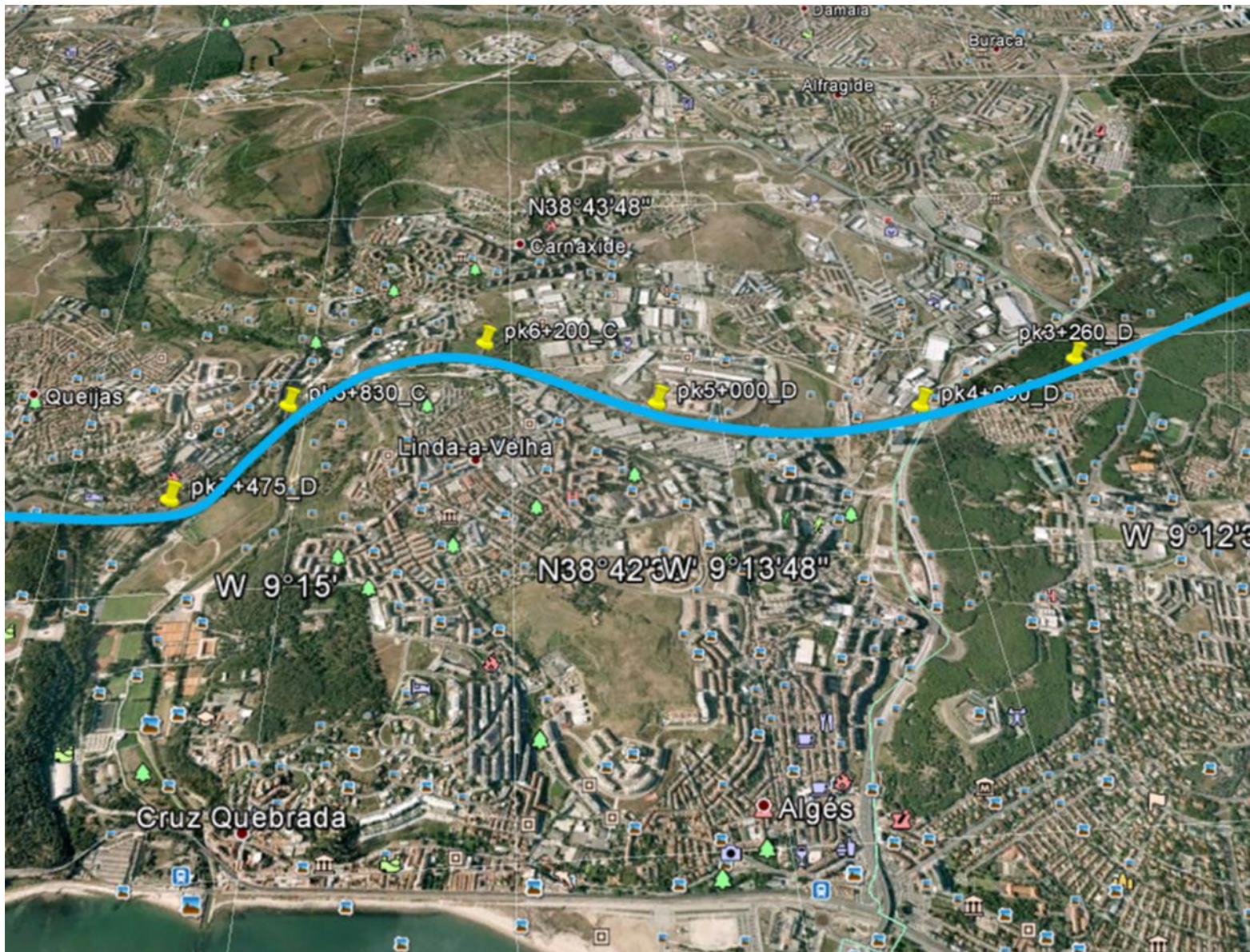
ICSI FOT 1 - Objectives

Design, develop and implement an improved **cooperative sensing (ICSI) solution** for the selected environments;

Integrate the ICSI solution with **existing traffic operations and information systems** for advanced management strategies;

Evaluate the transportation system **performance** with the ICSI solution.

ICSI FOT 1 – Sites location



ICSI FOT 1 – Site installation



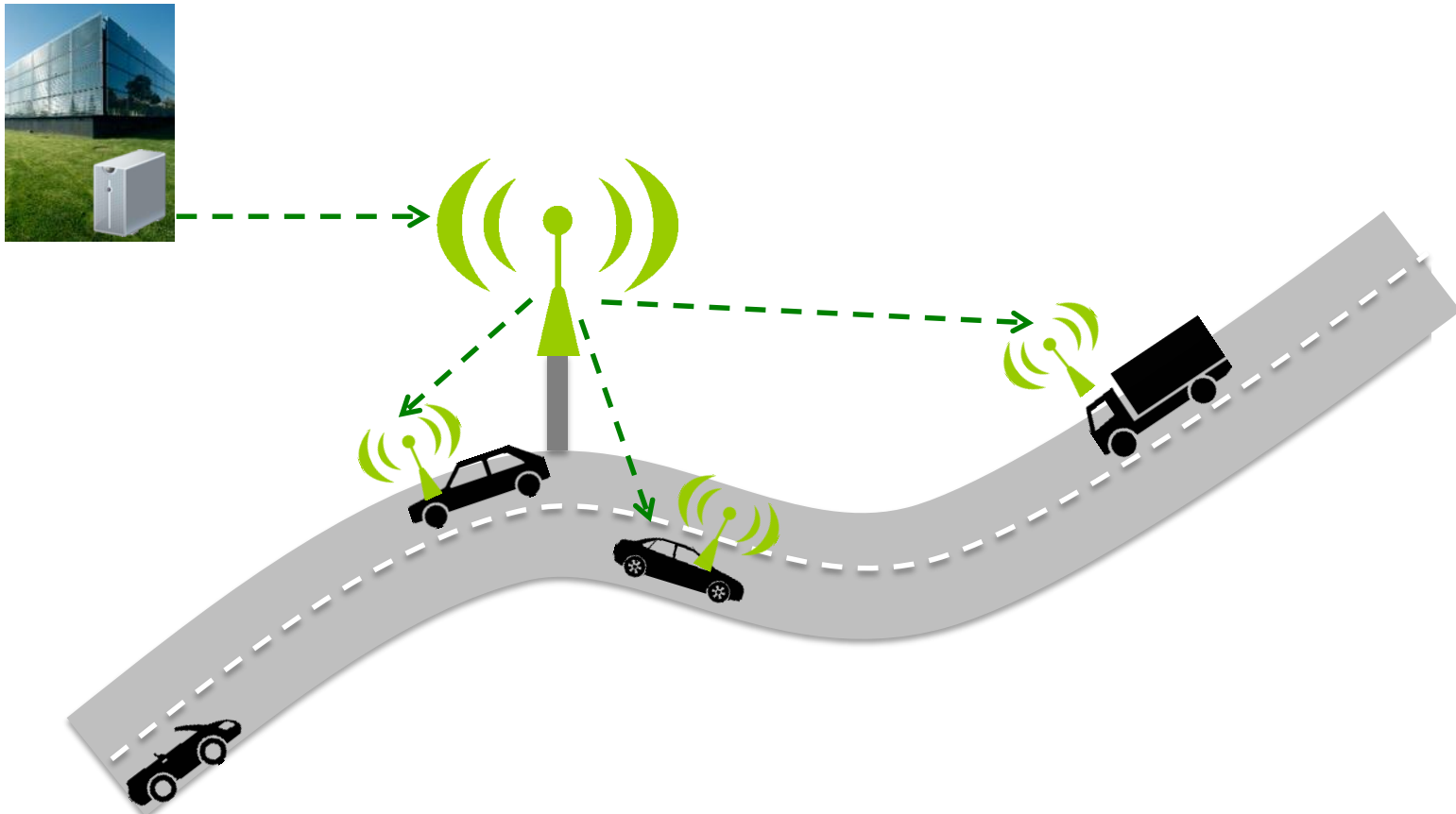
ICSI FOT 1 – Application Scenarios

Context	#	Scenario	Description
En-route traveler information	S1	Dynamic traffic information	Travel time, accidents, congestion, adverse weather, incidents, road works
	S2	Route guidance and intermodal support	Route guidance and traveler/passenger information
	S3	Wrong Way Warning	Wrong way driving warning
	S4	Emergency Vehicle Warning	Alert for emergency vehicle presence
Service area	S5	Gas prices	
	S6	Available services and prices	Restaurants, ...
	...		

ICSI FOT 1 – Application Scenarios

Scenario S1 - Dynamic Traffic Information

Travel time, accidents, congestion, adverse weather, incidents, road works, ...



Extended Case Study Area for Cooperative Mobility Lisbon



Work plan

2015

- Q3 – Install road infrastructures
- Q4 - Systems integration and tests

2016

- Q1 - Operational tests
- Q2 - Evaluation and report

Conclusions

The arrival of the “information everywhere” age would have opened up new opportunities to make the existing transportation system far more efficient and user friendly.

The technological developments offer the prospect of a very different paradigm – mobility centered around the user.

The transportation system of the future will be built on collaboration between the surrounding systems for better, more liveable world.



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