



# CIRCIE 2019

## Challenges for the Islands in the era of the Circular Economy

*Green Mind: GREEN and smart Mobility INDustry innovation*

*Dr. Georgia Aifadopoulou*

*Hellenic Institute of Transport*

Under the auspices of



# SMile 2019

## 6th Sustainable Mobility & Intelligent Transport conference





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## Who we are?

### CERTH

no.17 in the top-50  
list of research  
organisations in  
terms of EU funding



**CERTH**  
CENTRE FOR  
RESEARCH & TECHNOLOGY  
HELLAS



HELLENIC INSTITUTE  
OF TRANSPORT  
CERTH/HIT

### CERTH/HIT

- established in **2000**
- scientific team: **100 members**
- successfully participated in more than **280 projects**
- currently participating in **more than 30 European and national projects**

HIT's main objective is the  
conduct and support of **applied  
research** activities in the field  
of **transportation** in Greece

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## **HIT's role in the development of sustainable mobility systems**

HIT is responsible for:

- Sustainable Urban Mobility Plan (SUMP) specifications
- Capacity building to cities for SUMP implementation



HIT's services also include:

- Revision of terms of reference as member of ELTIS editorial board
- ITS implementation for sustainable mobility
- Intelligent logistics
- Smart mobility Living Lab
- Proof of concept of new smart mobility and smart city services and support of innovative entrepreneurship

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# Green & Smart Mobility is a «producer & consumer» of innovation

**ICT- Technology** supporting «seamless accessibility» to

- Transport infrastructure and services
- Intermodality

**Smart transport Infrastructure** for all

- Passengers (inclusive transport)
- Freight (smart cargo)

**Reducing environmental impact** through

- Better mobility management (transport demand management),
- Infrastructure use & services “optimization”, (supply management)

**Physical Internet &  
Internet of Things**



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# Green & Smart Mobility is a «producer & consumer» of innovation

## Intelligent Transport systems-ITS implementation for

- *Connected user centric transport systems*
- *Efficient Operation*
- *Reduced environmental impact*
- *User Facilitation & behavior change in using transport infrastructure & services*
- *Safe & secured transport achievement*
- *Rational maintenance and operational cost*



**Mobility as a Service &  
Smart systems integration**





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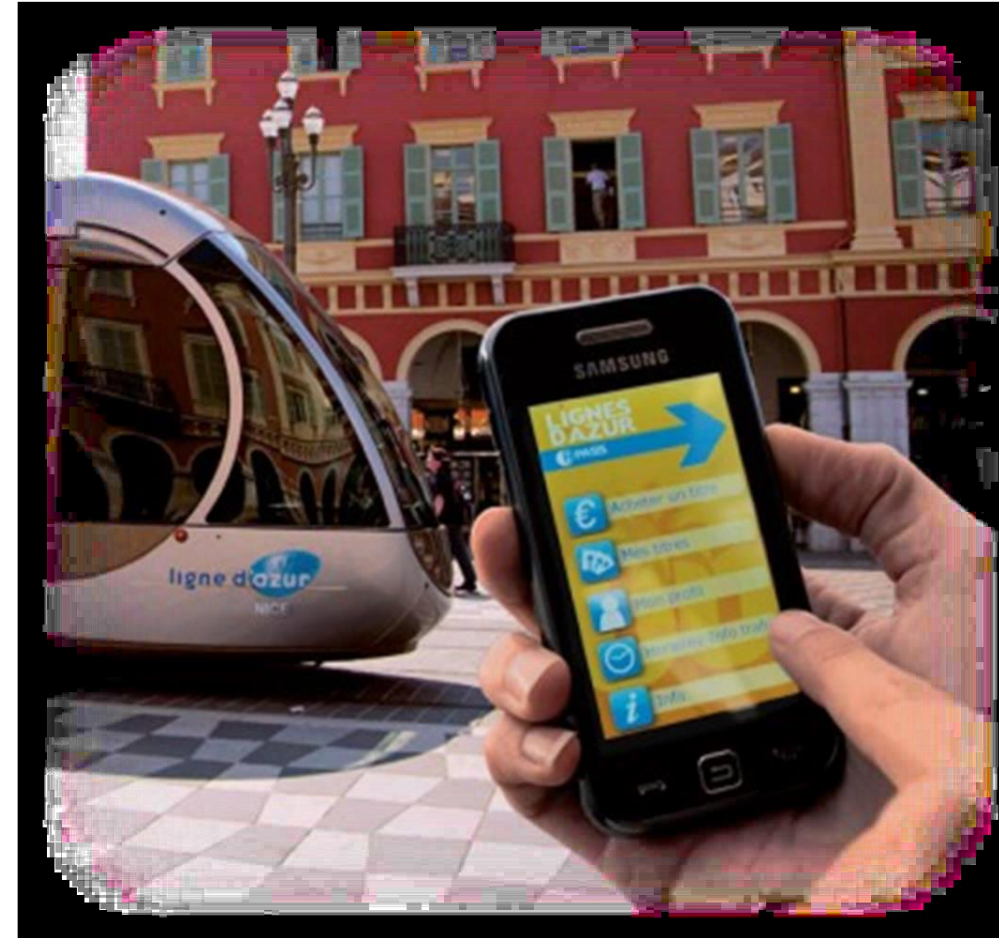
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## How we will innovate?

We need to

- *Build ecosystem*
- *Define all (new) players*
- *Enhance dialogue among all*
- *Coordinate isolated initiatives*
- *Capitalize results & create synergies*
- *Define new cooperation schemes*
- *Define innovation areas in smart mobility field*
- *Build capacity to companies*



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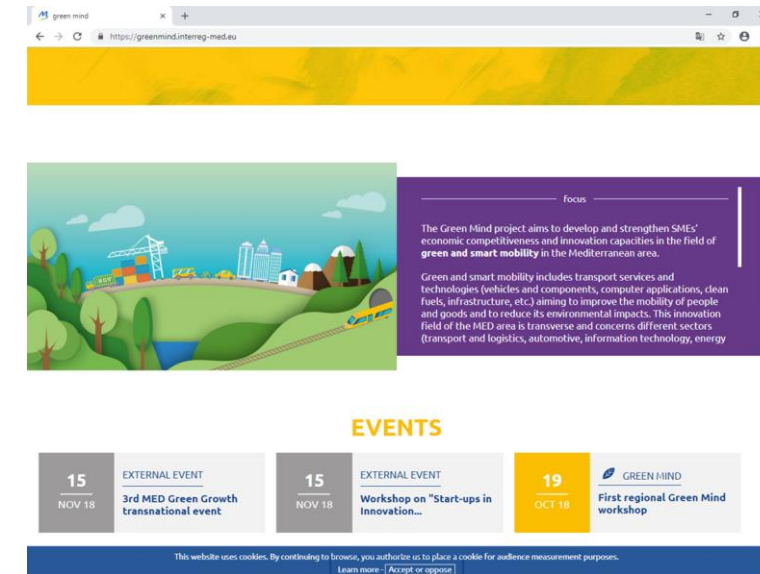
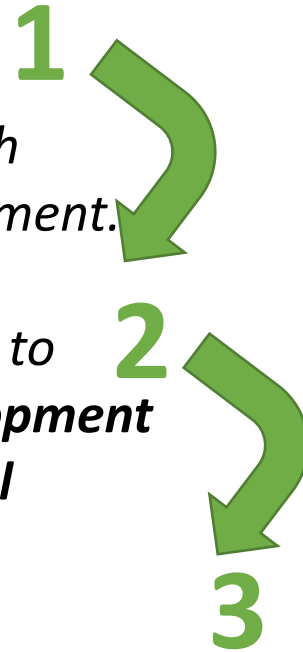


## GREEN Mind – project idea

Green Mind supports **businesses** investing in green & smart mobility products/services, & **public authorities** and research institutes for being involved in innovative products development.

Green & Smart mobility is defined as the answer to the need to **reduce transport externalities**, a **driver of economic development** in the MED area, and an industry with high **growth potential**

Green & smart mobility is **transversal** to different sectors and connected to key **mobility innovation** areas such as clean fuels & infrastructures, automated vehicles & smart infrastructures, ICT, MaaS and movel business models.







# The role of Green Mind in regional innovation

*“Green mind strengthens the transnational activities of clusters to support SMEs systems in exploiting and identifying **market opportunities** and tapping the raising demand for green and smart mobility **products and services** in key mobility sectors such as transport and logistics, automotive, energy and IT”*







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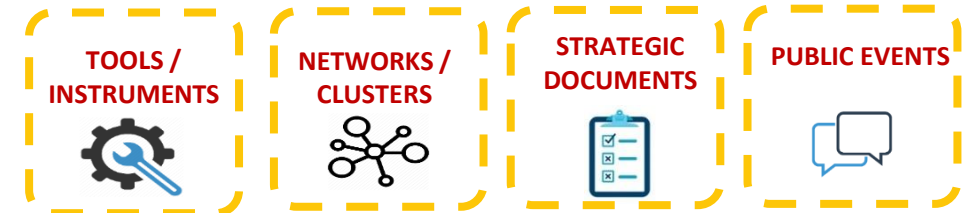
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## GREEN Mind – project objectives

Strategic objective is **strengthening the networking activities, competitiveness and innovation of SMEs** by:

- *Shaping and testing three transnational services about **market intelligence, public funding screening and B2B matching***
- *Creating a new **transnational innovation network***
- ***Transferring the results** of the tested services to non-partner **clusters** and **SMEs**, local **authorities** and **academics***



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## GREEN Mind – project partnership

1. **SIPRO** – Development Agency – Ferrara, Italy **(LP)**
2. **HIT/CERTH** – Hellenic Institute of Transport/Centre for research and technology Hellas – Thessaloniki, Greece;
3. **ASCC** – Andalusia Smart City Cluster – Malaga, Spain;
4. **AFT** – Occitanie Regional Delegation – Toulouse, France;
5. **IDA** – Istrian Development Agency - Pula, Croatia;
6. **SERDA** – Sarajevo Economic Regional Development Agency – Sarajevo, Bosnia and Herzegovina;
7. **eZAVOD** – Ptuj, Slovenia;
8. **SDC** - County of Split-Dalmatia – Split, Croatia.



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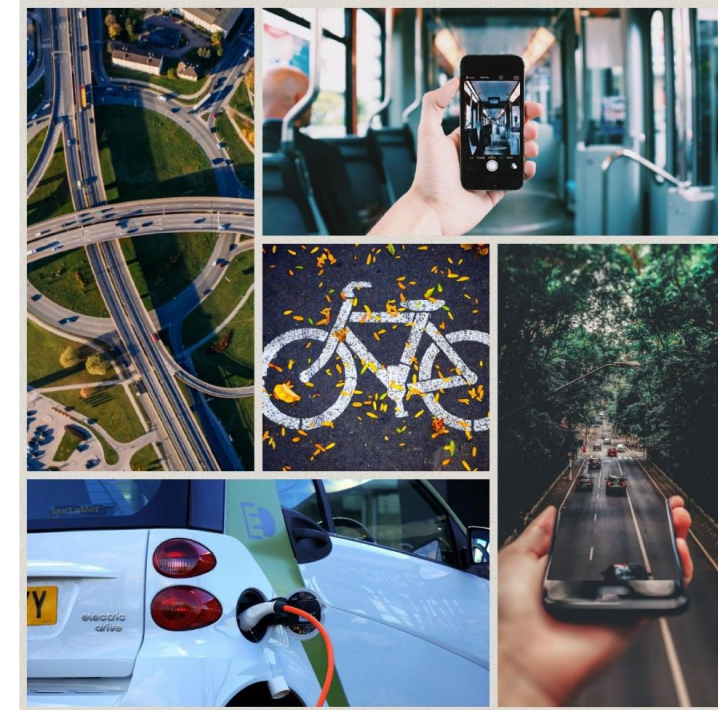
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## Green Mind – methodology for regional innovation take-up

A six-step approach:

- ✓ STEP 1. Map current **market situation** by defining regional operational sectors, mobility priorities and innovation status
- ✓ STEP 2. Identify and engage regional mobility **stakeholders**
- STEP 3. Understand regional stakeholder situation by **identifying their needs**
- STEP 4. **Intervene** with the three services to build stakeholder innovation capacity and boost their competitiveness potential
- STEP 5. Evaluate the methodology and its results for **re-assessment**
- STEP 6. Develop **regional solutions** and **transnational services** and methodologies



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## Initial results – Central Macedonia

### ICT: Strong SMEs industry & research community

- Critical mass of businesses,
- inherent nature of innovation,
- export orientation,
- opportunities for exploitation
- of new digital tools, strong
- research base, horizontal
- technologies applicable
- throughout the economy

### Aristotle University of Thessaloniki



**CERTH/ITI**

**TECHNOPOLIS**  
THESSALONIKI ICT BUSINESS PARK



**Established Businesses**

**Technopolis  
ICT cluster**

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## Initial results – Central Macedonia

### ITS:

- Smart vehicle & infrastructure management
- Cooperative ITS: vehicle – infrastructure communication
- Mobility as a Service – connected user
- Connected ITS systems (expected)



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## Initial results – Central Macedonia

### Thessaloniki ITS test bed & smart mobility living lab



Public transport system

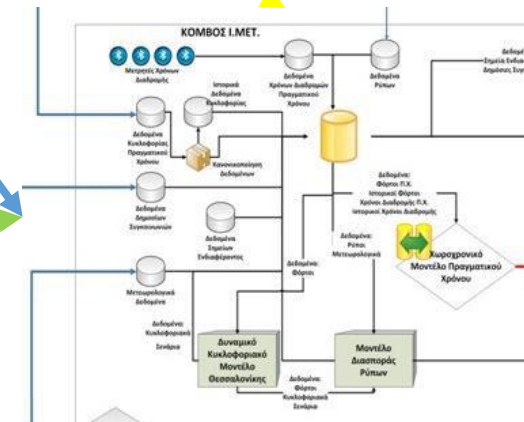


Traffic control system

### Floating car data



Cooperative ITS



User







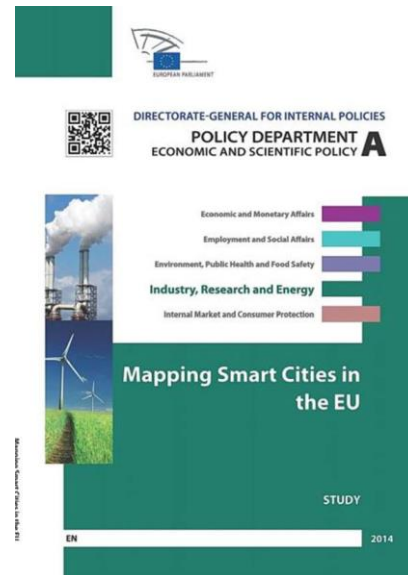
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## Initial results –Central Macedonia

### High standard research and innovative SMEs



### Partner-up with other regions



### Develop innovation infrastructure

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# Green & smart mobility sectors in the regions

## Infrastructure providers

- ✓ Transport infrastructures and services
- ✓ Change of models (intermodality, sharing economy)

## Vehicle providers

- ✓ Electric vehicles (i.e. cars, motorcycles and bicycles)

## Operation system providers

- ✓ Inter-connected and user-related transport systems
- ✓ Safe transport
- ✓ Rationalization of maintenance and operating costs
- ✓ Systems for the reduction of environmental impacts





## Participating Regions innovation performance

- There is a **gap** in **innovation performance** between the participating countries

Country	Research/ education	Business activity	Innovation context	Innovation outputs	General description
Bosnia and Herzegovina	moderate	modest	modest	modest	modest
Croatia	moderate	moderate	moderate	moderate	moderate
France	leader	strong	strong	strong	strong
Greece	strong	moderate	moderate	modest	moderate
Italy	moderate	moderate	moderate	moderate	moderate
Slovenia	leader	strong	moderate	moderate	strong
Spain	strong	moderate	moderate	moderate	moderate







## Participating Regions innovation performance

- The regions foresee regional development through similar **regional mobility priorities**

	Sarajevo	Jadranska Hrvatska	Emilia-Romagna	Occitanie	Central Macedonia	Eastern Slovenia	Andalucía
<b>I. Research and Innovation Strategies for Smart Specialization</b>							
A. Innovation	●	●	●	●	●	●	●
B. Research	●	●	●	●	●	●	-
C. Knowledge	-	●	-	-	●	-	-
D. Transport/Mobility	-	●	●	●	●	●	●
a. Infrastructure/Networks	-	○	-	-	○	○	○
b. Green mobility (eco, low-carbon)	-	○	○	○	○	○	○
c. Smart mobility (i.e. ITS, automated)	-	○	○	○	○	○	○
d. Social mobility (i.e. incentives, safety)	-	-	-	○	-	○	○
e. Logistics	-	○	○	-	○	○	○
f. Business competitiveness	-	-	○	-	○	-	○
E. Human Resources	-	-	-	-	-	○	-
●,○: (sub) category focus   -: lack of focus   no data: lack of data							



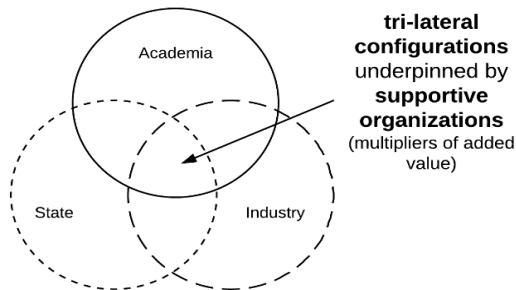


## Participating Regions innovation performance

- The need to engage stakeholders from the triple-helix+1 have been established for the development of regional **green & smart mobility eco-systems**

1. Industry
2. Academia
3. Authorities

+ Supportive organizations (i.e. chambers, clusters, innovation hubs)





## Pilot actions – Interventions

**Implement methods for  
accelerating innovation  
in smart mobility SMEs**

**Create a smart & green  
mobility cluster**

### PILOT 1

#### MARKET INTELLIGENCE

Facing the challenges and taking advantage of the opportunities within a market, means to know how the market actually works.

The market intelligence pilot aims at helping SMEs understand the needs of the green and smart mobility market, assess their current position within it, and re-position themselves by exploiting its needs and new openings.

### PILOT 2

#### PUBLIC FUNDING SCREENING

Limited access to finance has been identified as the most important drawback for most enterprises and especially for SMEs.

The Public Funding Screening Pilot aims at researching the accessible founding sources of the available EU, national and local funds and guiding SMEs in the process of applying and accessing these funds.

### PILOT 3

#### B2B MATCHING

In business practice, finding the partner that matches your needs is always a challenging task.

The B2B Matching pilot aims at developing the structure within which SMEs match their needs and diffuse their offerings at regional and transnational level.

### SUSTAINABILITY PLAN THROUGH: CLUSTERING NETWORKING

In contemporary globalized societies, companies need to cooperate in order to overcome the increased global competition and diversified customer base. Following the implementation of the pilots, the participating SMEs are organized in local clusters and a transnational network to increase their accessibility to important resources and capabilities.

A transferable model that integrates the three pilot services

Delivering policy support programme to mainstream the project results







## GREEN Mind – Expected results (1/3)

Green Mind output is three-fold as it deals with:

- **SMEs** to become more **competitive** and **innovative** by supporting them understand important mechanisms of the market and exploit its openings;
- **Regions** to reach their **strategic goals** by contributing to the successful realization of their priorities and specialization strategies;
- **Academia** to research and develop the future **innovation trajectories** in the green and smart mobility





## GREEN Mind – Expected results (2/3)

### NETWORKS / CLUSTERS



- **GREEN Mind transnational innovation network:** newly created transnational innovation network of SMEs, research bodies, authorities, clusters

### TOOLS / INSTRUMENTS



- **GREEN Mind service test:** the delivery of 3 types of services to 200 SMEs in sectors related to green & smart mobility
- **GREEN Mind operational services model:** transferable model of transnational services for SMEs based on pilots results and evaluation





## GREEN Mind – Expected results (3/3)

### STRATEGIC DOCUMENTS



- **Regional and macro-regional policy support programme:** a policy oriented support programme consisting of meetings and policy support documents to improve policy making for SMEs in the green & smart mobility industry

### PUBLIC EVENTS



- **GREEN Mind transfer & take up programme:** series of transfer meetings with cluster organizations in the MED area to foster the adoption of the services model on transnational SMEs services



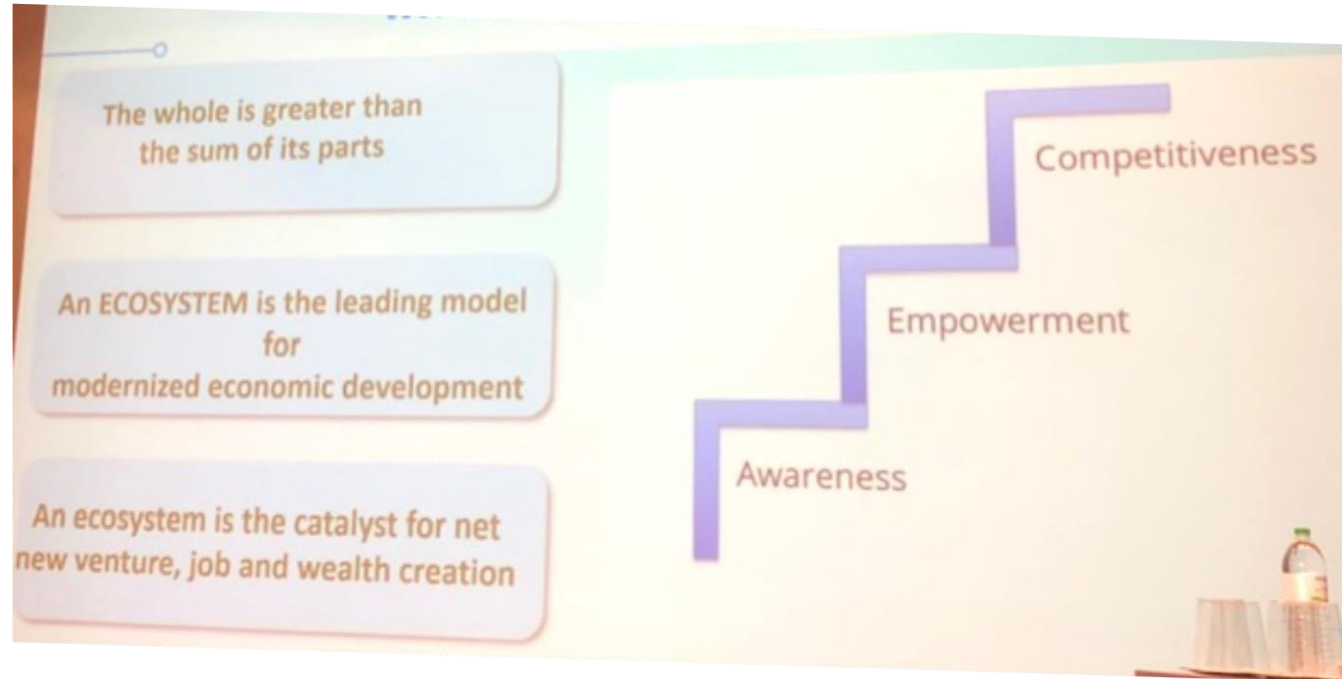




## Innovation Ecosystem



## GREEN Mind – Stimulating the local mobility ecosystems



Sign cooperation MoU/agreements and enhance & enrich current smart mobility Living Lab objectives & operations



# Thank you for your attention



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