Infraestruturas de Portugal

Ligamos destinos

What are the key factors to IP succeed in Horizon 2020

Brussels, 12 December 2017

João Figueiredo
Innovation and New Business
Infraestruturas de Portugal

AGENDA

01 **Infraestruturas de Portugal**

About us

02 **Innovation and New Business**

IP Innovation Plan

03 **EU R&D PROJECTS WITH FUNDING**

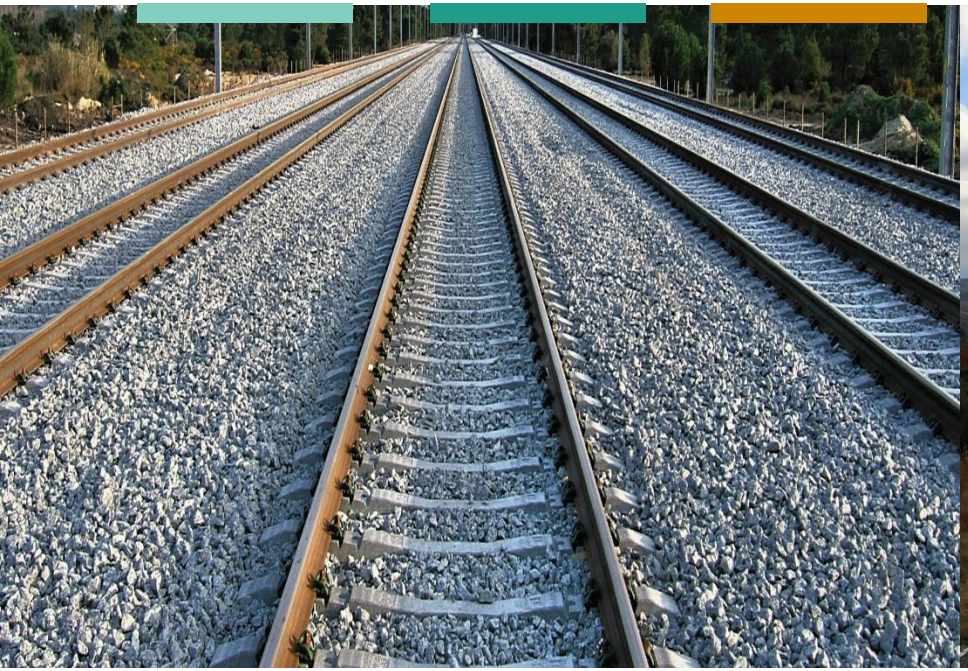
Interest and Experience

Infraestruturas de Portugal

1. INFRAESTRUTURAS DE PORTUGAL

About us

ABOUT US



INFRAESTRUTURAS DE PORTUGAL is the result of the merger between two Portuguese companies: National Railway Network - REFER and National Road Network EP - Estradas de Portugal.

The merger was consummated on 1st June 2015.

INFRAESTRUTURAS DE PORTUGAL

DNA

OBJECT

Conception, design, construction, financing, maintenance, operation, upgrading, extension and modernization of the Portuguese road and rail networks, including, traffic command and control.

VALUES

Our values reflect our commitment to society and the desire for continuous improvement.

Rigor · Transparency · Efficiency

VISION

Infraestruturas de Portugal, a multimodal mobility company, boasting asset management, synergies and new solutions to ensure the delivery of a sustainable, safe and efficient service.

IP GROUP

IP Engenharia

acionistas

Infraestruturas de Portugal **98,43%**
IP Património **1,57%**

IP Património

acionistas

Infraestruturas de Portugal **99,997%**
IP Engenharia **0,003%**

IP Telecom

acionista

Infraestruturas de Portugal **100%**

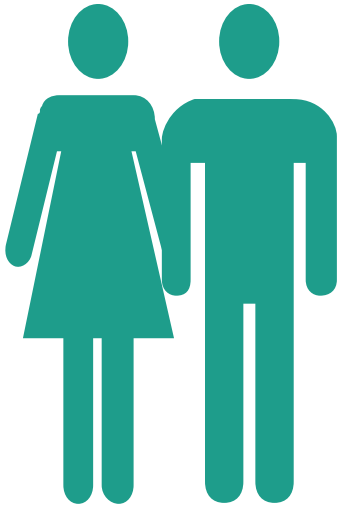
GIL

Gare Intermodal de Lisboa

acionista

Infraestruturas de Portugal **100%**

OUR NUMBERS



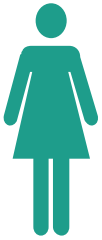
3860

EMPLOYEES

MEN

2934

76%



WOMEN

926

24%

OUR NUMBERS

TRAINS
35,000,000
Trains km/year

ELECTRIFIED RAIL
1,633.7
km of electrified rail

RAILWAY
2,562
km of railway

STATIONS
500
More than 500 stations

GOODS – BY RAILWAY
10,000,000
Tons/year

WORKS OF ART
7,392

SUB-CONCESSIONED NETWORK
1,589
km

NETWORK UNDER DIRECT JURISDICTION
13,664
km

VEHICLES
22,200,000,000
km/year

GOODS – BY ROAD
200,000,000
Tons/year

COMPETENCE CENTERS

STRATEGIC TRANSPORT PLANNING

ENGINEERING PROJECTS

CONTRACTS MANAGEMENT

EXPLORATION, MAINTENANCE

Treat the multimodal mobility (road, rail, ...) as a core service

Integrated Infrastructure and Financial Asset Management

Capturing and monetising new revenue, profit and cash flow opportunities

WHAT MOVES US: MOBILITY

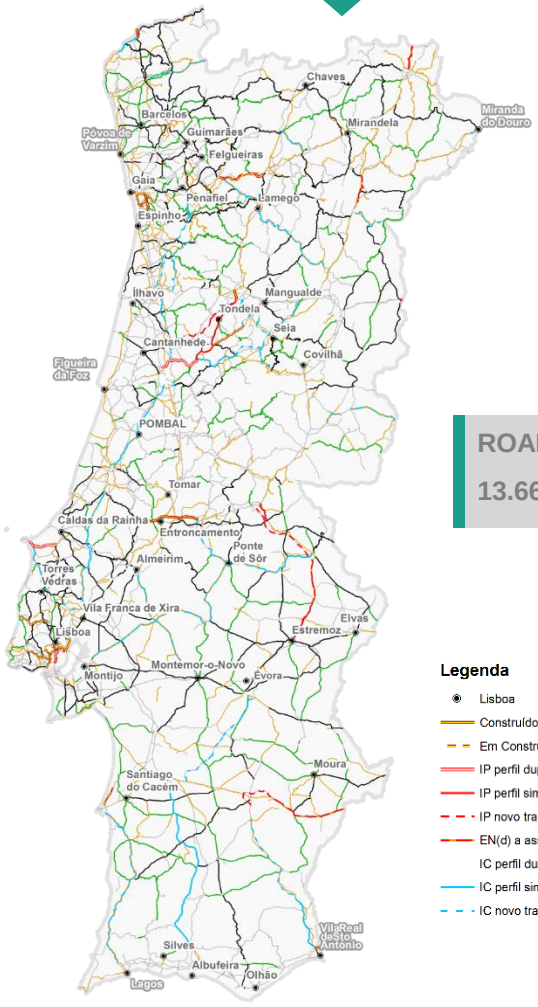
Ensure sustainability, availability, punctuality, transport safety and its conversion into positive monetary impacts for the company

Keep structural focus on efficiency, to ensure a service provision at the lowest possible cost

ABOUT US

Network under concession IP

ROAD NETWORK



ROAD NETWORK:

13.664 km

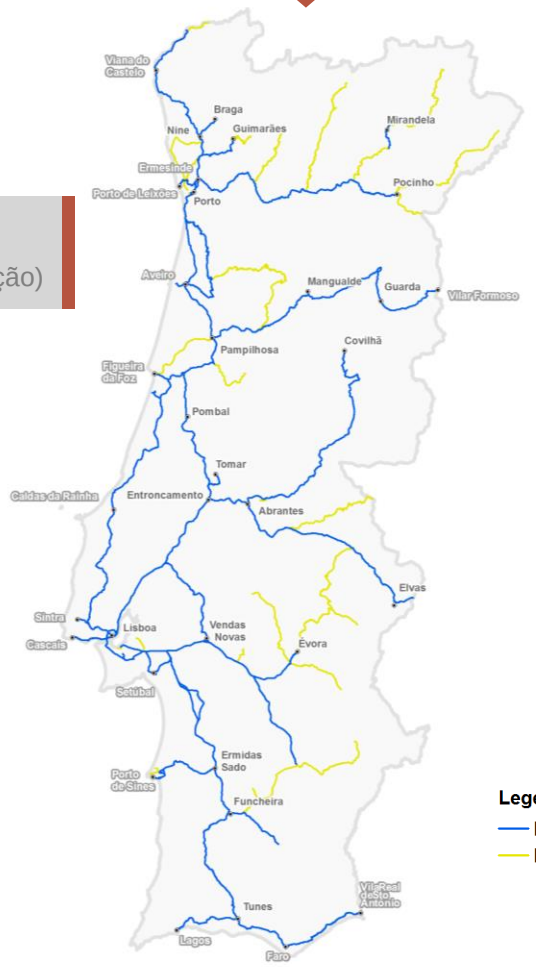
Legenda

- Lisboa
- Construído
- Em Construção
- IP perfil duplo
- IP perfil simples
- IP novo traçado
- EN(d) a assegurar corredor de IP
- IC perfil duplo
- IC perfil simples
- IC novo traçado
- IC perfil simples
- IC novo traçado
- EN a assegurar corredor de IC
- ER a assegurar corredor de IC
- EN(d) a assegurar corredor de IC
- EN perfil duplo
- EN perfil simples
- EN(desclassificadas)
- ER perfil duplo
- ER perfil simples
- Outras Estradas

RAIL NETWORK

RAIL NETWORK:

2.562 km (em exploração)



Legenda

- Rede em Exploração
- Rede Sem Exploração

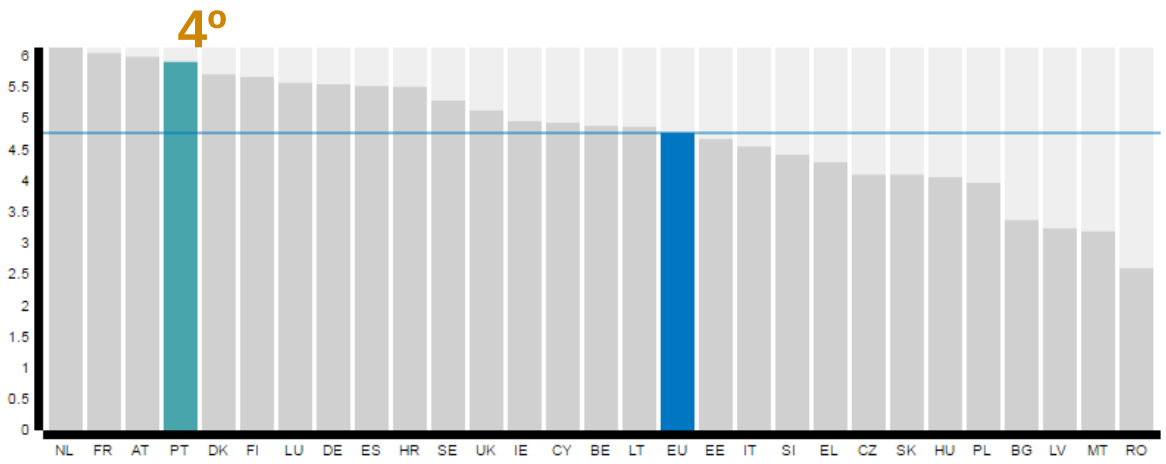
QUALITY OF INFRASTRUCTURES

Quality of roads

Road

Score 2015-2016 : 5.91

EU rank: 4 / 28

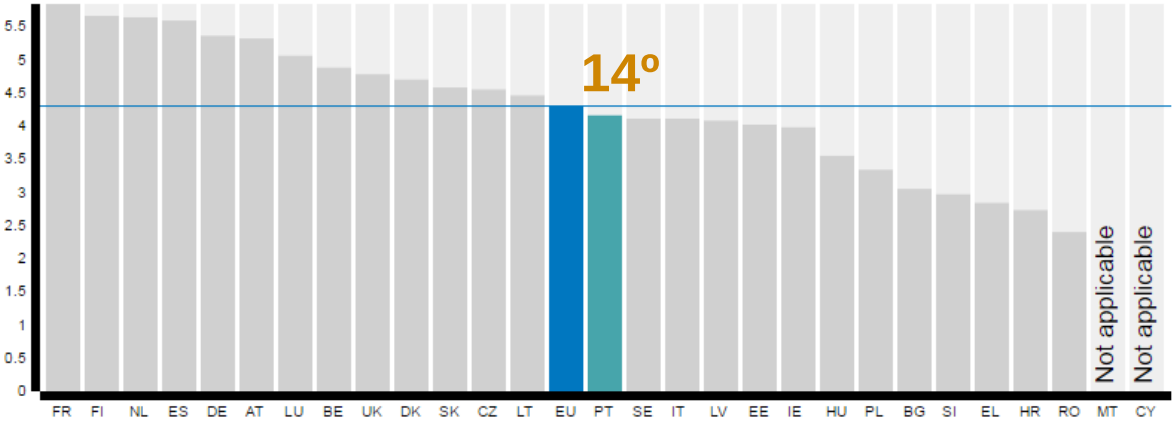


Quality of railroad infrastructure

Rail

Score 2015-2016 : 4.16

EU rank: 14 / 26



Fonte: World Economic Forum

Infraestruturas de Portugal

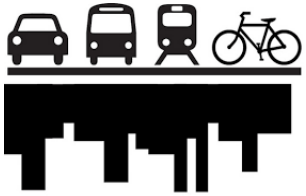
2. INNOVATION AND NEW BUSINESS

IP INNOVATION PLAN

.

IP INNOVATION PLAN

Priority Scientific and Technical Areas



MOBILITY

ASSET MANAGEMENT

ITS

SAFETY

OPERATIONS

INICIATIVAS

1	2	3	4	5	6	7
Interfaces Management	Ideas Management	R&D Projects Management	Innovation Culture	Promotion of Entrepreneur-ship	Innovation Partnerships	Communication Strategy

Infraestruturas de Portugal

3. EU R&D PROJECTS WITH FUNDING

Our Experience and Interest

PORTFOLIO OF EUROPEAN R & D PROJECTS WITH FUNDING

PORTUGAL 2020 | H2020 | LIFE

Define Development Vectors

Capacity4Rail New **materials**, **constructive processes, monitoring** and evaluation of the **operation** and **exploitation** of railway infrastructure

Shift2Rail European program in the railway area which brings operators and the railway industry together in integrated projects

Small Problems - Major Obstacles

Maxbe Strategies for **maintaining axle boxes** for railway vehicles

PEDDIR **Dynamic weighing** and evaluation **of train status**

Lines Monitoring and Mitigating the **Negative Effects** of Infrastructures in **Wildlife**

PORTFOLIO OF EUROPEAN R & D PROJECTS WITH FUNDING

FP7 / CEF

Connectivity, Telecommunications and Information

Ecossian Prevention of **cyber attacks** against critical transport infrastructures

MedTIS & ArcAtlântic **Installation of ITS equipment** in the National Road Network

Scoop **I2V** of C- **ITS** with **technology G5**

EIP++ **Single National Point of Access** to Traffic Information

C–Roads **European Platform for Cooperative Systems of C-ITS,** with several pilots in the national road network

TN-ITS GO Harmonization of information made available in **European road navigation systems**

PORTFOLIO OF EUROPEAN R & D PROJECTS WITH FUNDING H2020

Sensorization and Monitoring of Infrastructures

Infralert Optimized management of **linear infrastructures** through **predictive maintenance based on artificial intelligence**

Bridge SMS Equipment and methodologies for **inspection and monitoring of works of art inserted in aquatic environment**

Business Model and Financing of Infrastructures

Optimum New Model of Dynamic **Toll Price Calculation**

H2020 R & D PROJECTS SUBMITTED

Resilience of Infrastructure to Climate Change

SAFEWAY **Prediction of extreme events** (such as fires or landslides) based on sensor data, users and other sources

R2EXTREME **Minimizing the impacts of extreme events** (such as floods and extreme temperatures) on users through interaction and interconnection between modes of transport and good management practices

FORESEE **Increased mobility resilience at the 25 de Abril Bridge in the face of extreme events,** through a modular, integrated and interactive system of actions with multi-crisis evaluation and support for decision-making

TOPICS OF INTEREST

H2020 – Work Program 2018 - 2020

Calls 2018:

LC-MG-1-1-2018: InCo flagship on reduction of transport impact on air quality
LC-MG-1-2-2018: Sustainable multi-modal inter-urban transport, regional mobility and spatial planning
LC-MG-1-3-2018: Harnessing and understanding the impacts of changes in urban mobility on policy making by city-led innovation for sustainable urban mobility
MG-2-1-2018: Human Factors in Transport Safety
MG-2-4-2018: Coordinating national efforts in modernizing transport infrastructure and provide innovative mobility services
MG-3-3-2018: "Driver" behaviour and acceptance of connected, cooperative and automated transport
MG-4-1-2018: New regulatory frameworks to enable effective deployment of emerging technologies and business/operating models for all transport modes
MG-4-2-2018: Building Open Science platforms in transport research
MG-4-3-2018: Demographic change and participation of women in transport
DT-ART-01-2018: Testing, validation and certification procedures for highly automated driving functions under various traffic scenarios based on pilot test data
DT-ART-02-2018: Support for networking activities and impact assessment for road Automation Subtopic 1) Research and innovation action: Assessment of impacts, benefits and costs of connected, cooperative and automated driving systems

Calls 2019:

LC-MG-1-9-2019: Upgrading transport infrastructure in order to monitor noise and emissions
LC-MG-1-10-2019: Logistics solutions that deal with requirements of the 'on demand economy' and for shared-connected and low-emission logistics operations
MG-2-7-2019: Safety in an evolving road mobility environment
MG-2-9-2019: InCo Flagship on Integrated multimodal, low-emission freight transport systems and logistics
MG-4-5-2019: An inclusive digitally interconnected transport system meeting citizens' needs
DT-ART-04-2019: Developing and testing shared, connected and cooperative automated vehicle fleets in urban areas for the mobility of all
LC-GV-03-2019: User centric charging infrastructure
LC-GV-05-2019: InCo flagship on “Urban mobility and sustainable electrification in large urban areas in developing and emerging economies”

Infraestruturas de Portugal

Ligamos destinos

Rodovia e Ferrovia

Juntos encurtamos distâncias.

Thank You

joao.figueiredo@infraestruturasdeportugal.pt
www.infraestruturasdeportugal.pt

Portugal Transport Day 2017

Get ready for the H2020 Transport Info day

adene

Agência para a Energia

Ana Isabel Cardoso

Project Manager

12/12/2017

Portugal Energia

ADENE – Portuguese Energy Agency

adene
Agência para a Energia

Main Activities

- National **Buildings Energy Performance** Certification System (SCE); National **Intensive Energy Consumption Management System** (SGCIE)
- **Training Academy**
- Energy Efficiency in the **Public Administration**
- **R&D** in **energy** and **water efficiency** and **sustainable mobility**

Energy Labelling System for Fleets

Portugal Energy

- Save Energy
- Energy Observatory
- Energy Information Centre

Portugal Energia

Energy Information Centre & Labelling System for Fleets

adene
Agência para a Energia

	Energy Information Centre	Energy Labelling System for Fleets
Through what?	Online Portal and Physical Centre	Private entities and public administration fleet's
Focus?	Multi-modal (soft modes, public, road and air transports)	Road transport
How?	Carbon footprint for simulated trips	Telematics' data (if available)
Where?	Urban and rural areas	Urban and rural areas
Evaluated impacts?	Energy and environment	Energy, environment and behaviour

Portugal Energia

Intelligent Intermodal Urban Mobility

adene
Agência para a Energia

LC-MG-1-2-2018: Sustainable multi-modal inter-urban transport, regional mobility and spatial planning

Project Idea

Objetive

Develop a decision and evaluation support tool directed to citizens, cities and urban transport operators, in order to: i) perform informed choices of urban routes; ii) adopt flexible modes that best fit personal goals.

Goals

- Map a new socioeconomic computational multi-modal accessibility indicator, focusing on soft modes;
- Measure, simulate and predict soft modes effects and network resiliency;
- Evaluate social and societal benefits;
- Capture economic value derived from the adoption of soft modes.

What do we search?

Partners for pilot schemes to extend and test the model, namely **cities and urban transport operators**.

Portugal Energia

adene
Agência para a Energia

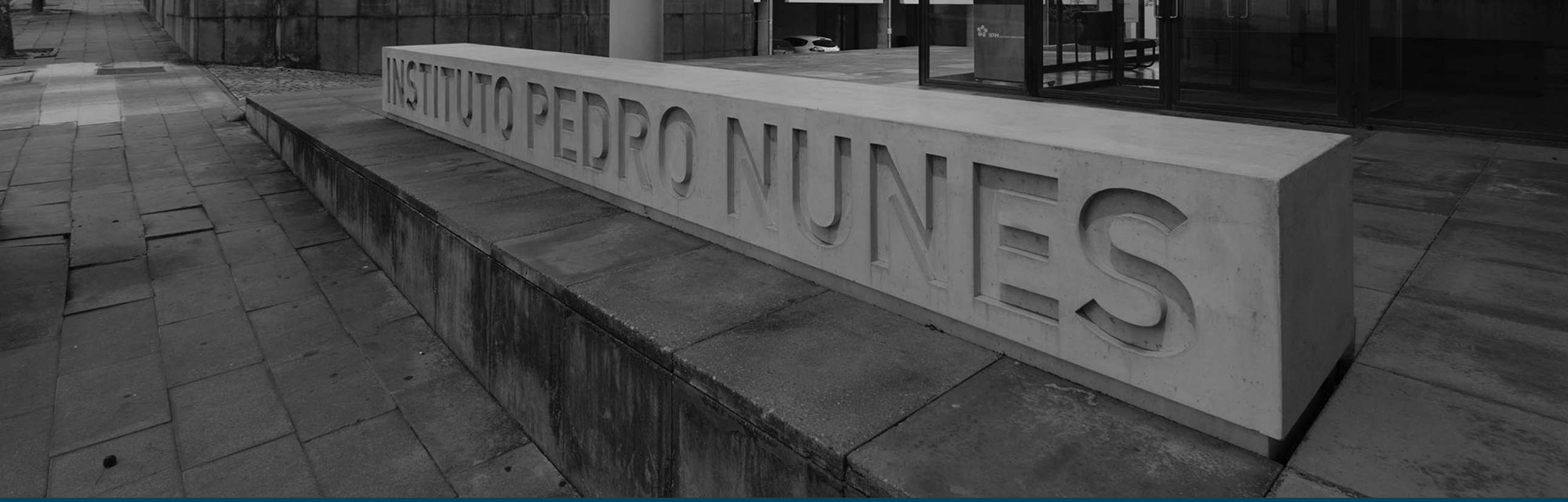
Ana Isabel Cardoso

ana.cardoso@adene.pt

Av. 5 de Outubro, 208 - 2º Piso
1050-065 Lisboa - Portugal

adene.pt

Portugal Energia



CREATED IN 1991 THROUGH UNIVERSITY OF COIMBRA INITIATIVE

PROMOTION OF INNOVATION

INTERFACE BETWEEN RESEARCH AND BUSINESS

COMPOSED BY 41 ASSOCIATES

ENTITIES OF HIGHER EDUCATION AND R&D / PUBLIC ORGANISATIONS / MUNICIPALITIES/ BUSINESS ASSOCIATIONS / ENTERPRISES

21 YEARS OF INCUBATION
(1996 to 2016)

NUMBER OF ENTERPRISES (DEC 2016) **> 269**

NUMBER OF ENTERPRISES IN ACTIVITY **> 75%**

BUSINESS VOLUME (2016) **> 130M€**

% EXPORTS **> 60%**

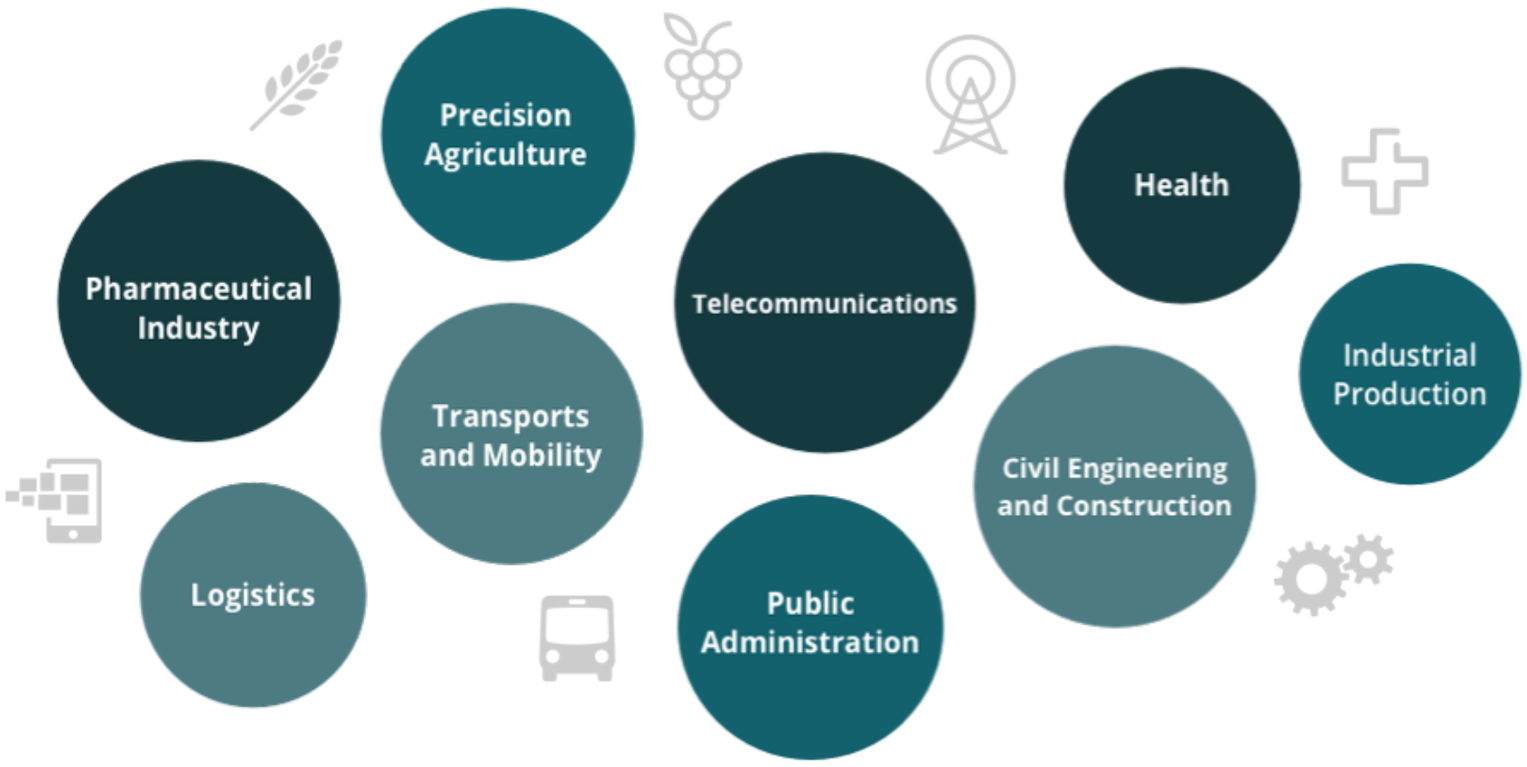
QUALIFIED JOBS CREATED **> 2.000**

LABORATORY FOR INFORMATICS AND SYSTEMS

DOMAINS OF ACTIVITY

The LIS operates in different industries, from telecommunications to mobility and health.

On the right, you can find a list with Some domains of activity:

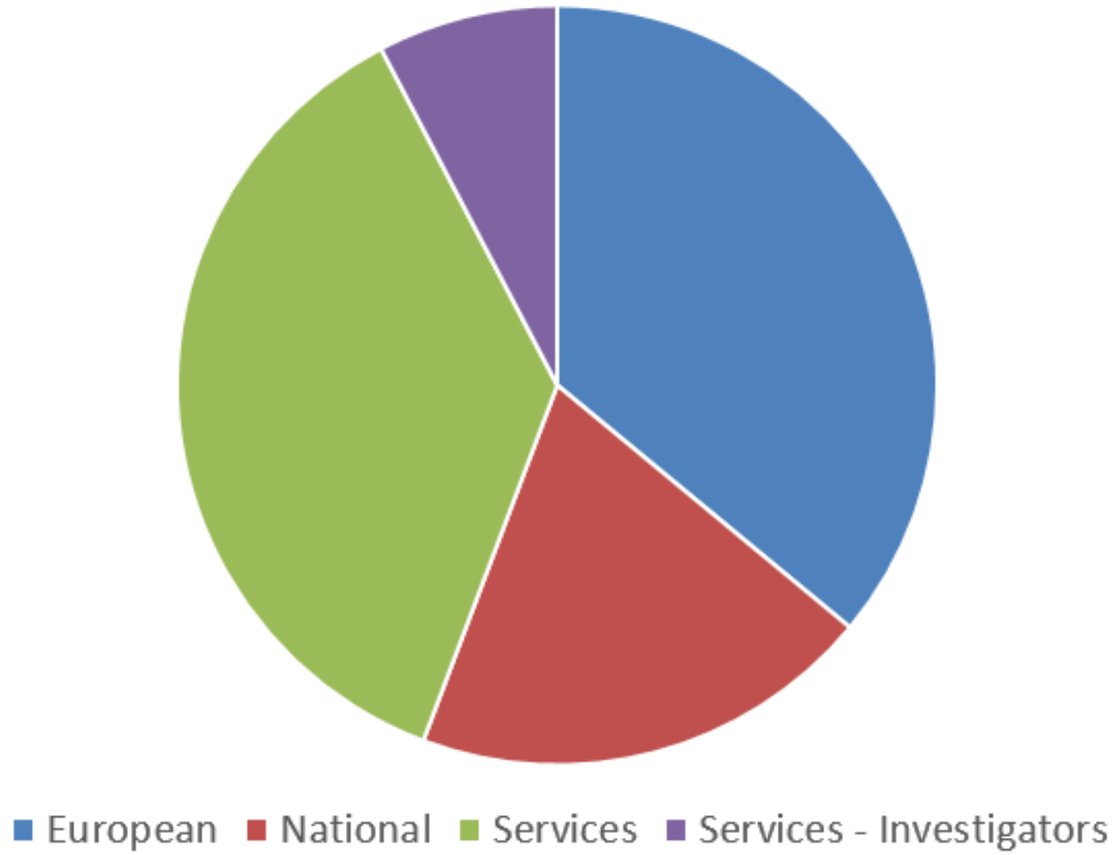


LABORATORY FOR INFORMATICS AND SYSTEMS

DASHBOARD

STAFF AND GRANT HOLDERS	30
PROFESSORS (PhDs)	14
ACTIVE PROJECTS	51

PROJECTS DISTRIBUTION BY TYPE



EUROPEAN PROJECTS

Regular Analysis of Calls
(now scanning H2020 2019)

Calling for Research Competences

Coordination or participation in a proposal (TRL 3, 4)

- Researcher @ CISUC and EfS

A Brussels Partner (role defined dynamically)

- identify opportunities
- build consortium
- spread the word
- establish high level contacts
- integrating the consortium (if applicable)

Coordination or participation in a proposal (TRL 5, 6)

- innovation and knowledge valorisation (including IPR)
- write impact and measures to maximise impact
- software engineering
- solutions design and development
- cascade funding
- business development

Looking forward to sharing challenges !!

Thank You !

Carlos Bento - bento@ipn.pt

CONTACTS
Instituto Pedro Nunes
Rua Pedro Nunes
3030-199 Coimbra, Portugal
+351 239 700 962
info@ipn.pt
www.ipn.pt

PORTUGAL TRANSPORT DAY

PROJECT IDEA H2020 CALL 2018

Q-CITY

Quality management of sustainable multi-modal transport services in metropolitan areas

call topic

LC-MG-1-2-2018 – Sustainable multi-modal inter-urban transport, regional mobility and spatial planning

proponent

INESC TEC, University of Porto

INESCTEC TECHNOLOGY & SCIENCE | ASSOCIATE LABORATORY | COORDINATED BY INESCPORTO PORTUGAL

[contact: Jorge Pinho de Sousa
jorge.p.sousa@inesctec.pt]

PROJECT IDEA H2020 CALL 2018

Q-CITY

- The project combines diagnosis and optimization methods to improve the quality of multi-modal services in urban transport
- A system will be developed to support decision-making of mobility operators and authorities, in planning, monitoring and optimizing multi-modal operations and in the definition of urban policies
- Positive impacts are expected, with an increase of social inclusion and public transport utilization, and a reduction of energy costs and pollutant emissions

PROJECT IDEA H2020 CALL 2018

Q-CITY

- research will be based on a participative process and on data obtained from transport operators and urban contexts
- the project is structured around three main components:
  - visualization and knowledge extraction (data-mining and machine-learning) methods allowing an easy and efficient identification of patterns affecting the quality of services
  - optimization (heuristic) techniques to improve the quality levels of these services
  - information systems to support decision making.

PROJECT IDEA H2020 CALL 2018

Q-CITY

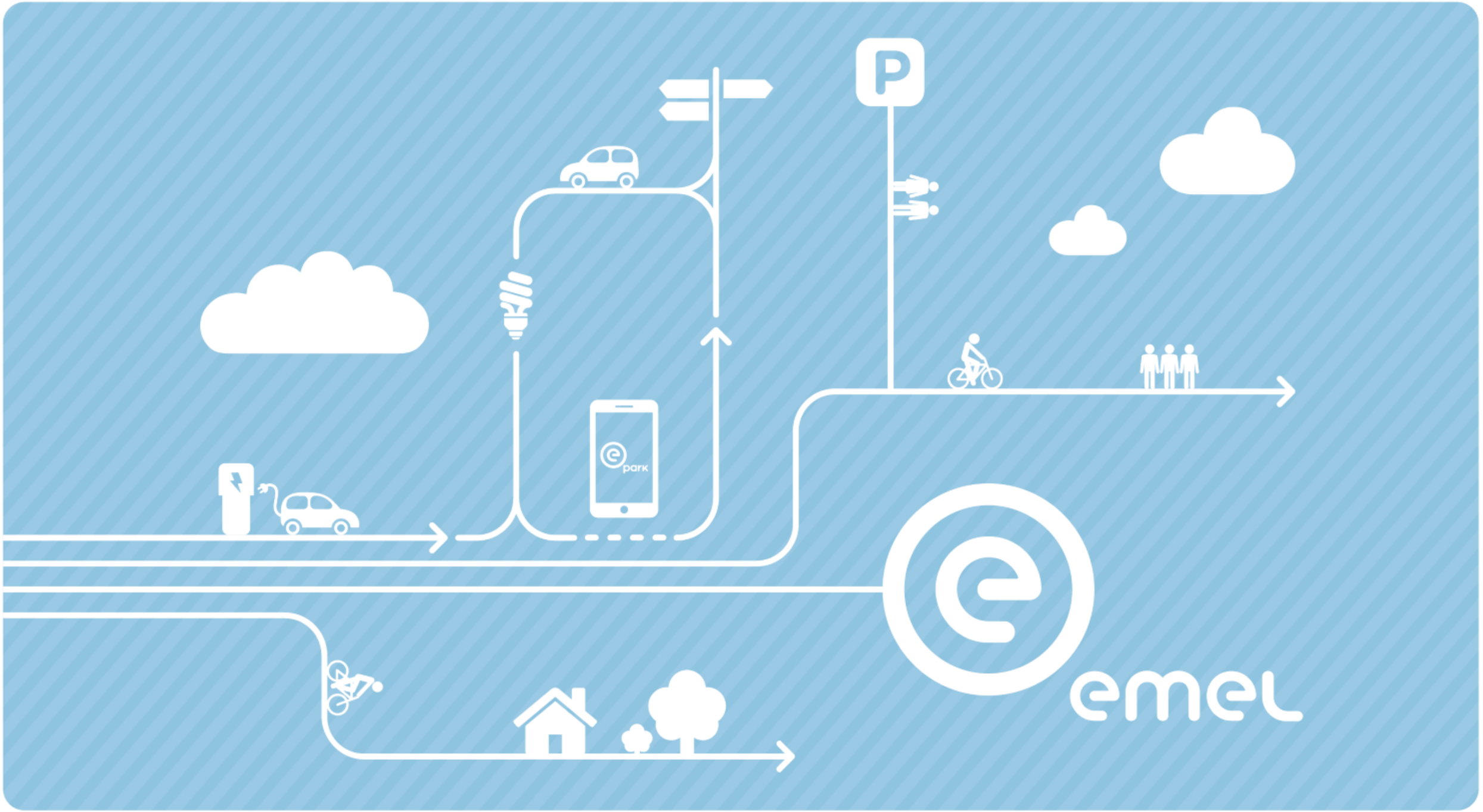
profile of partners sought

- municipalities or authorities of metropolitan areas densely populated with different economic, environmental and social characteristics
- urban planners
- experts in evaluating the social impact of transport
- experts in noise and air pollution modelling

PROJECT IDEA H2020 CALL 2018

INESCTEC
TECHNOLOGY & SCIENCE | ASSOCIATE LABORATORY
COORDINATED BY INESCPORTO PORTUGAL

- INESC Technology and Science (INESC TEC) is an Associate Laboratory with 30 years of experience in R&D and technology transfer. It is a private non-profit research institution having as associates the University of Porto and the Polytechnic Institute of Porto.
- The institute has a long and successful track record in European funded research projects.
- The multidisciplinary nature of the institute's activities is reflected in its multiple research units, providing key and complementary competences in: transportation and logistics; operations management; optimization and decision support systems; information systems; and computer graphics.



Innovative European Projects in Urban Mobility Field

Portugal Transport Day - Get ready for the H2020

Transport Info day

12/12/2017

THE COMPANY

On-street parking

55.000 parking spaces (rotation)
60.000 Resident permit

+ 20.000 parking spaces in the next year

Off-street parking

5000 parking spaces
Car parks
Park & Ride
Resident parks

+ 2500 parking spaces in the next year

Bike-sharing - Gira

1.400 **Bikes**
140 **Dock stations**
Mixed fleet (1/3 conventional + 2/3 electric)

EMEL – Lisbon Mobility and Parking Municipal Company

EUROPEAN PROJECTS

STRAIGHTSOL
Strategies and measures for smarter urban freight solutions

FRevue

SIMON
ASSISTED MOBILITY
FOR OLDER AND IMPAIRED USERS

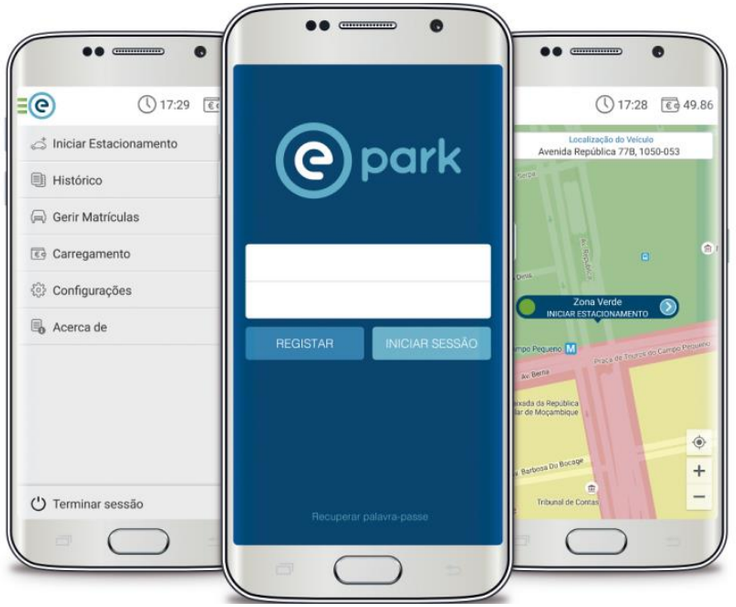
SHARINGCITIES

CLUSTER DOROTHY
URBAN LOGISTICS

C-ROADS

POTENTIAL AREAS OF COLLABORATION

- Smart Parking
- Electric Mobility
- Shared Mobility
- Sustainable Urban Logistics
- Inclusive Mobility
- Innovative & Digital Projects
- Mobility Educational Projects



Possible Calls:

MG-4-5-2019 - **Inclusive digitally interconnected transport system**
LC-MG-1-10-2019 - **Logistics solutions**
LC-GV-03-2019 - **Charging infrastructure**
DT-ART-04-2019 - **Shared, connected and cooperative automated vehicle fleets in urban areas for the mobility of all**

Thank you for the few minutes' time!

Joana Ribeiro

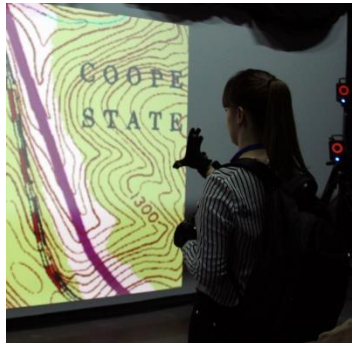
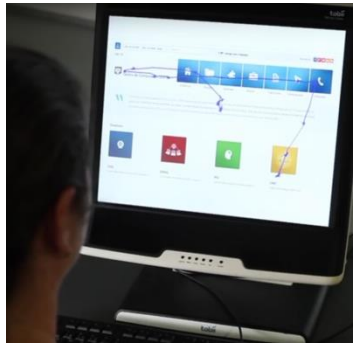
Planning, Management Control and Innovation Department

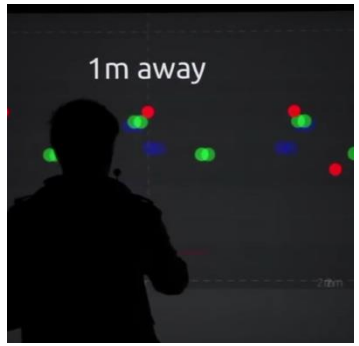
joana.r@emel.pt

www.emel.pt

CCG: Centro de Computação Gráfica

Domain of Applied Research


PIU: Perception, Interaction & Usability

PIU is a domain of applied research within CCG, with a dedicated team that studies **human perception, human factors and ergonomics, human behavior and interaction with technology, and usability**. The main goal of PIU is to develop human-centered studies and to participate in the creation of new products that contribute to a more adaptive, usable, and comfortable utilization, as well as products that help with health/rehabilitation, safety, and entertainment.

R&D

Human Factors and Road Safety; Usability; Visual Perception, Intermodal Processing (visual, audio, haptic, proprioceptive); Virtual Reality and Immersive Systems; Auralization Models/Binaural Sound; Biological Motion.

MARKET

Use of the audiovisual CAVE-like system; Analysis and consultancy on Ergonomics, Usability, and Comfort - User Centered Services; Software Usability and Interaction Tests.

Carlos Silva

Development Coordinator

MSc Experimental Psychology and Cognitive Sciences // PhD in Informatics

LABS

New HMI Concepts

Human Factors

Simulator

Behavioral Analysis

Safety and

Interference Studies

Driver Monitoring

Driver State

H2020 participation

Calls H2020

PIU is preparing participation in two proposals on

Smart, green and integrated transport:

MG-2-1-2018: Human Factors in Transport Safety

Deadline: Phase 1: 30 January 2018 / Phase 2: 19 September 2018
Indicative budget: 4 to 8M € (Max Budget: 18M)

MG-3-3-2018 - "Driver" behaviour and acceptance of connected, cooperative and automated transport

Deadline: Phase 1: 30 January 2018 / Phase 2: 19 September 2018
Indicative budget: 3 to 4M € (Max Budget: 12M)

Looking for Consortium partners

Mainly:

- Industrial Partners (OEMs; Tier 1,...);
- End-users Associations;
- Municipalities;

Some partners already involved:

- CEA-List (FR)
- INESC TEC (PT)
- IFE (NW)
- BMT Group (UK/PL)
- Lund School of Aviation (SE)
- CTAG (ES)
- FFE (ES)
- ... And more...

H2020 participation

MG-2-1-2018: Human Factors in Transport Safety

Goal: Increase the body of knowledge on human factors // develop new design guidelines for interface systems // Target Human factors challenges in elderly and disabled populations // suggest usability solutions for automated and connected vehicles >> ***Increase EU citizens mobility***

MG-3-3-2018 - "Driver" behaviour and acceptance of connected, cooperative and automated transport

Goal: Propose guidelines for the design and development of user-friendly HMI systems // Generate specific standards/recommendations for different CAT vehicles // Contribute to amends to legislation/regulatory aspects // Increase public uptake and acceptance // Guide the adaptation of infrastructure >> ***HMI Development for autonomous / semi autonomous vehicles in the 4 contexts (Road, Railway, Air, Sea)***

Looking for Consortium partners

Mainly:

- Industrial Partners (OEMs; Tier 1,...);
- End-users Associations;
- Municipalities;

Some partners already involved:

- CEA-List (FR)
- INESC TEC (PT)
- IFE (NW)
- BMT Group (UK/PL)
- Lund School of Aviation (SE)
- CTAG (ES)
- FFE (ES)
- ... And more...

MASAI MOBILITY
COMMUNITY

MASAI

PROVIDING SEAMLESS INTEGRATION OF MOBILITY AND TOURISM TO ESTABLISHED STAKEHOLDERS AND START-UPS

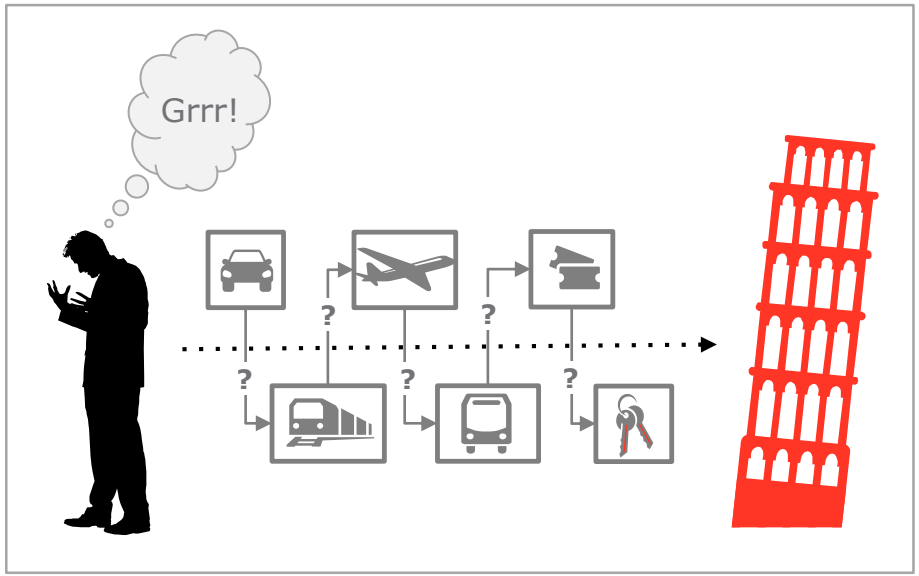
MOBILITY BASED ON AGGREGATION OF SERVICES AND APPLICATIONS INTERCONNECTION

PROBLEM: TRAVEL TODAY | UNCONNECTED INFORMATION IN DISPERSED APPS

The Traveller wants…

… an easy and pleasant way to travel from A to B and book services.

But actually gets…



…a very **complex** customer journey due to various dispersed and **not interconnected** applications.

MASAI receives funding from the European Union's H2020 programme under Grant Agreement 636281

STRATEGY: CREATING VALUE BY CONNECTING THE BRICKS TOGETHER

Structuring

Data & Ontologies

Structuring

Interfaces & APIs

Support Bots/AI: from natural language to structured data

Seamless Discovery

of Services

Combine existing

APPs and services

MASAI receives funding from the European Union's H2020 programme under Grant Agreement 636281

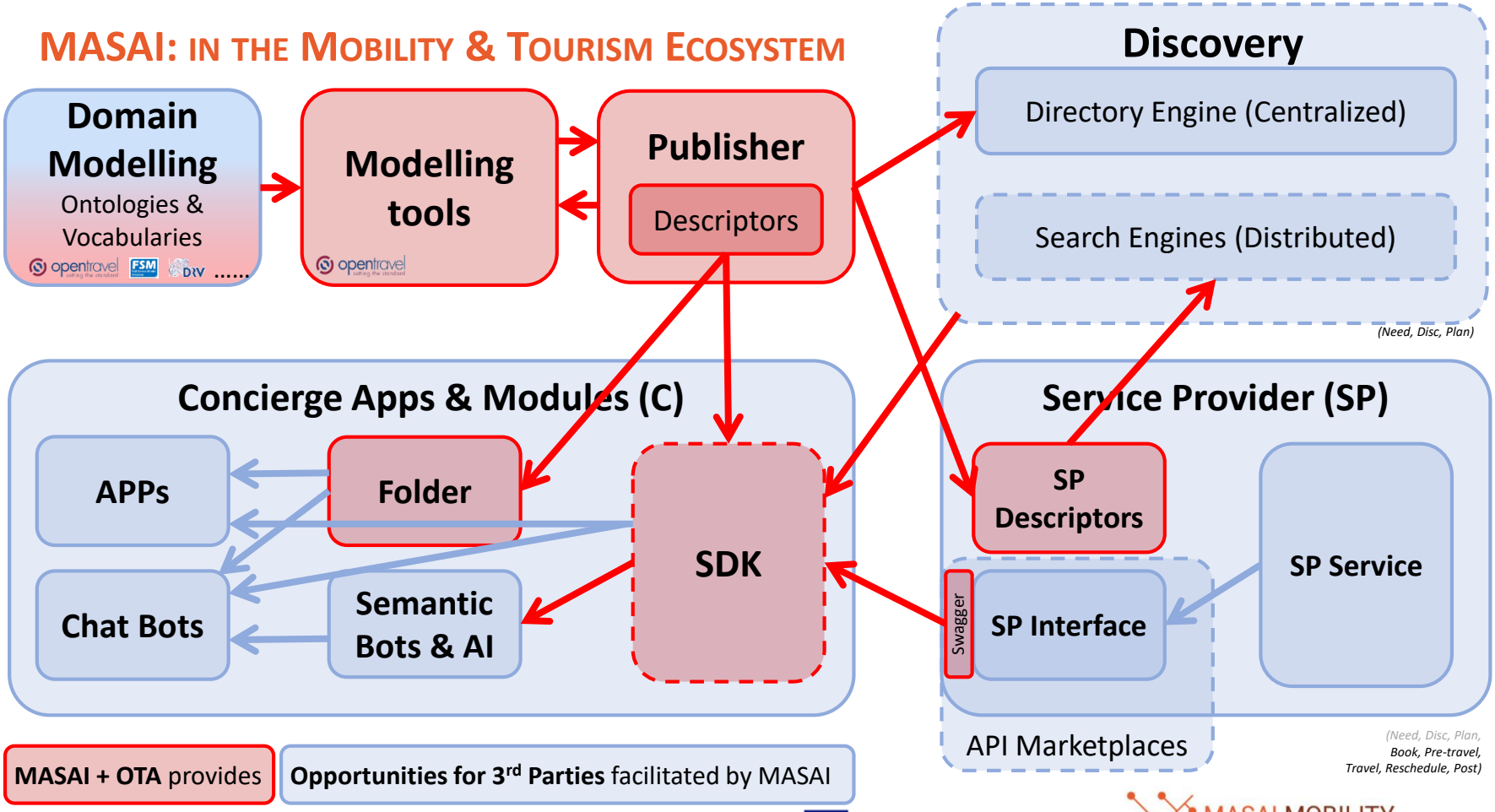
contact@masai.solutions
http://masai.solutions

MASAI provides technology, tools and specifications to the travel, mobility and tourism sector

MASAI MOBILITY COMMUNITY

ENABLING A PERSONAL CONCIERGE INTO EVERYONE'S POCKET

MASAI: IN THE MOBILITY & TOURISM ECOSYSTEM

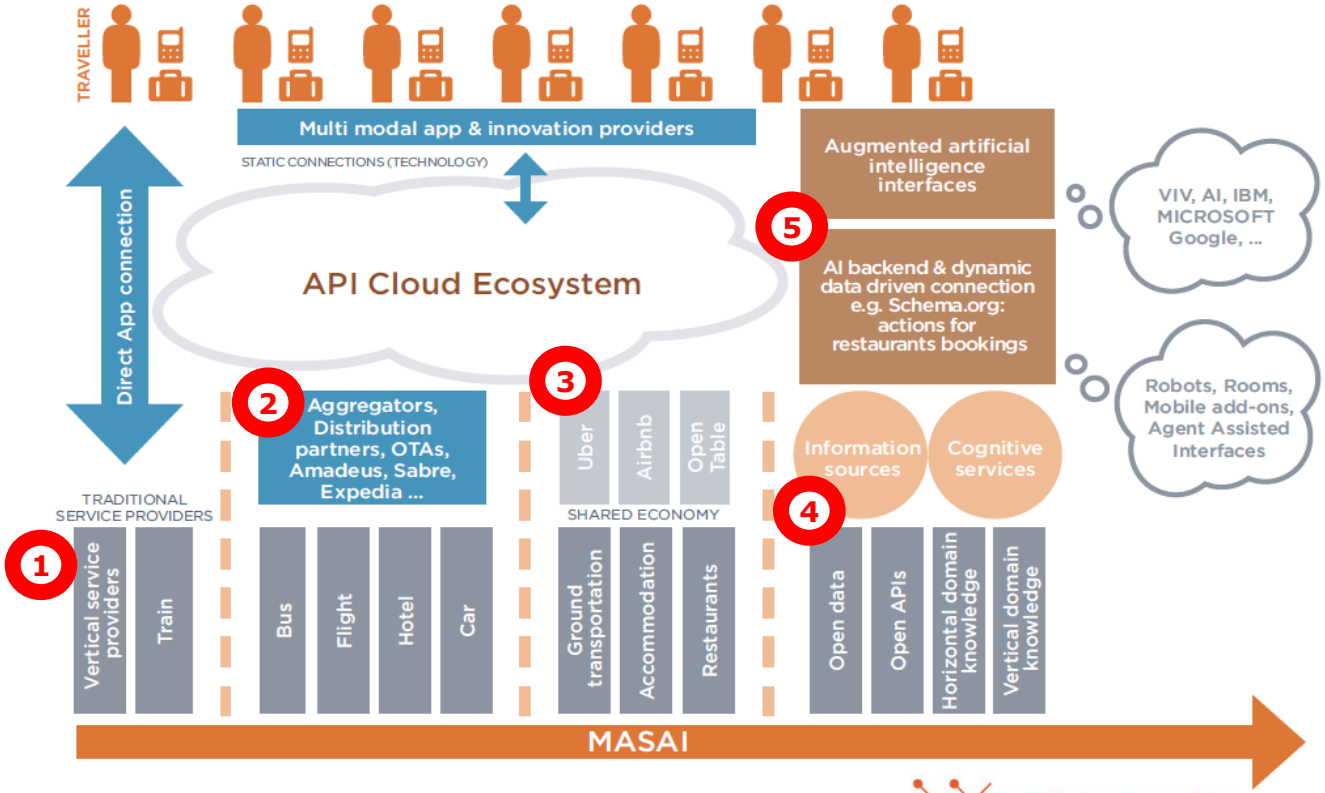


MASAI receives funding from the European Union's H2020 programme under Grant Agreement 636281

MASAI Business Positioning | Support to Different Business Models

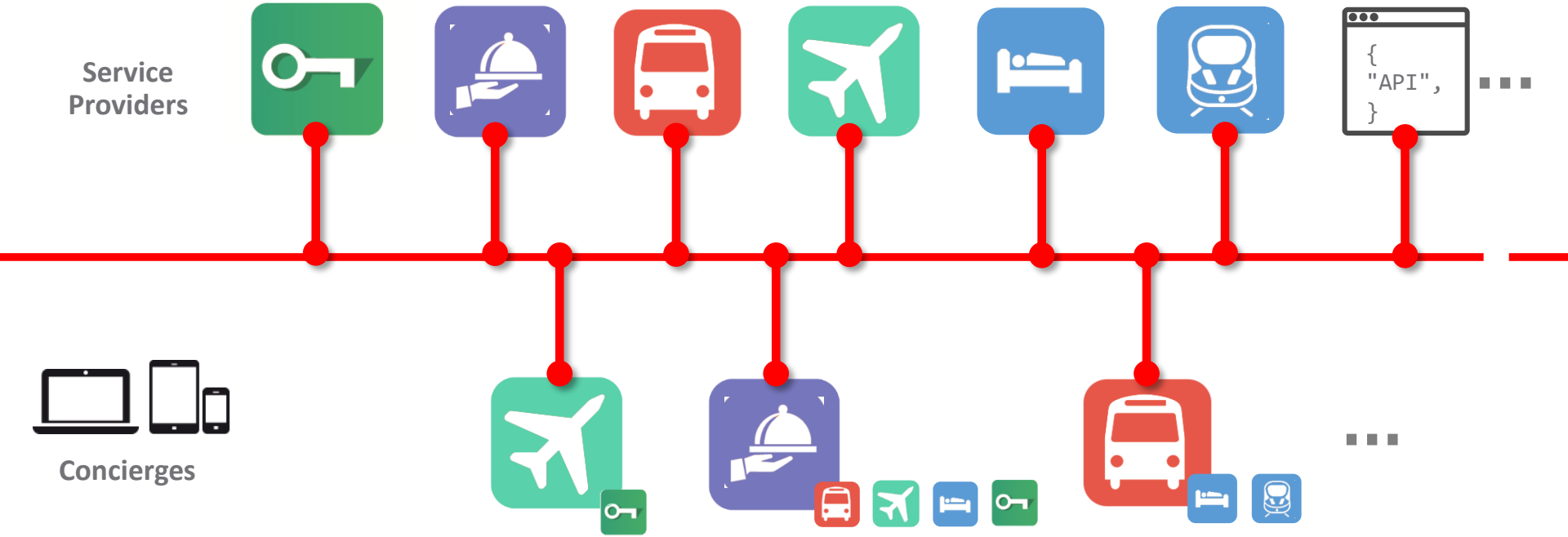
Concierges can seamlessly integrate with:

1. **Traditional** SPs
2. **Aggregators** of SPs
3. **Shared Economy** SPs
4. **Other Data**, APIs, domains
5. **AI & Bot**, **Chats**…



MASAI receives funding from the European Union's H2020 programme under Grant Agreement 636281

CONCEPT | ANY CONCIERGE CAN SEAMLESSLY AGGREGATE SP'S



MASAI receives funding from the European Union's H2020 programme under Grant Agreement 636281

contact@masai.solutions
http://masai.solutions

MASAI provides technology, tools and specifications to the travel, mobility and tourism sector

MASAI MOBILITY COMMUNITY
ENABLING A PERSONAL CONCIERGE INTO EVERYONE'S POCKET

Major achievements and tangible results accomplished

- **Tools for modeling, publishing, discovery, several integration modes**
  - Allowing seamless integration between concierges/MaaS and service providers

- **M2C Website to make results available**
  - to educate and to allow the self-registering and usage of the tools by any interested member that wants to test the solution.

- **M2C community establishment and dynamic promotion**
  - through cooperation with
    - Service providers and concierges, institutional stakeholders (municipalities, tourism departments),
    - Start-ups, entrepreneurship & innovation programs, to spread the Gospel within innovative field solutions
    - Other standardization initiatives (OTA, IATA, FSM, DRV, Fi-ware, other H2020 projects…)
  - allowing the creation of a sustainable process for convergence of multiple verticals.

MASAI receives funding from the European Union's H2020 programme under Grant Agreement 636281

contact@masai.solutions
http://masai.solutions

MASAI provides technology, tools and specifications to the travel, mobility and tourism sector

MASAI MOBILITY COMMUNITY
ENABLING A PERSONAL CONCIERGE INTO EVERYONE'S POCKET

MASAI MOBILITY COMMUNITY, A SUSTAINABLE ORGANISATION

START UPS

WORKGROUPS, HACKATHONS, PILOTS

SPECS, TOOLS & OPERATING SOLUTIONS!

MASAI MOBILITY COMMUNITY

opentravel setting the standard

DRV

FSM Full Service Model Initiative

...

SERVICE PROVIDERS CONCIERGES, DEVELOPERS

EXISTING STANDARDS & MODELS

MASAI receives funding from the European Union's H2020 programme under Grant Agreement 636281

contact@masai.solutions
http://masai.solutions

MASAI provides technology, tools and specifications to the travel, mobility and tourism sector

MASAI MOBILITY COMMUNITY

ENABLING A PERSONAL CONCIERGE INTO EVERYONE'S POCKET

What can MASAI Mobility Community provide in a new project ?

- **Main opportunities in H2020 call (not exhaustive)**
  - **LC-MG-1-2-2018: Sustainable multi-modal inter-urban transport, regional mobility and spatial planning**
  - **MG-4-1-2018: New regulatory frameworks to enable effective deployment of emerging technologies and business/operating models for all transport modes**
  - **MG-4-5-2019: An inclusive digitally interconnected transport system meeting citizens' needs**
- **Open, plug & play, dynamic and inclusive of all services mobility is feasible, and adopted by piloting and deployment community (without EC direct funding) – Let's consolidate !!!**
- **Focus on the standardized mechanisms and simple generic tools and not on building another static platform - Let's cooperate !!!**
- **Focus on maximizing benefits from existing initiatives rather than on inventing another standard - Let's optimize !!!**
- **Complementary to more static approaches, but more in the background = less visible, less buzz, less sexy - let's be efficient**

MASAI receives funding from the European Union's H2020 programme under Grant Agreement 636281

THANK YOU FOR YOUR ATTENTION

MASAI receives funding from the European Union's H2020 programme under Grant Agreement 636281

contact@masai.solutions
http://masai.solutions

MASAI provides technology, tools and specifications to the travel, mobility and tourism sector

MASAI MOBILITY COMMUNITY

ENABLING A PERSONAL CONCIERGE INTO EVERYONE'S POCKET

TRANS FORMATION

Horizon 2020

Work Programme
2018-2020

11. Smart, green and integrated transport

2. Safe, integrated and resilient transport systems

MG-2-1-2018: Human Factors in Transport Safety

Managing simultaneously customer focused project and technological change as a tool for a better transport culture

Project proposal

December 2017

TRANS/FORMATION
76, avenue Parmentier, F-75011 Paris
Tél : + 33 607 963 753 - E-mail : jeanfrancoisrevah@gmail.com
www.transformation.fr

Jean-François Révah

Addressing Human factor as a lever for improving global performance

- Human resources are the most important costs source in Transport industry
  - In spite of increasing automation, drivers and customer-facing teams are and will be very numerous
  - The move from "*transport era*" to "*mobility as a service*" makes bigger the need for both automation and human service, at the same time
- Public and private socioeconomic research addresses very few specific aspects of human managing in passengers' transport industry
  - Human factor is still addressed as a budget cost and a technical constraint, or as the weak link and critical factor in Transport Safety
  - Instead of a resource or a lever for improving global performance
- Thirty years of consulting in the sector carry useful lessons
  - Analysing sources of colective resistance to change in order to identify effective levers

"Address acceptance of technological and social change"

- Fortunately, Horizon 2020 mentions : « *Necessary to understand and address bottlenecks in organisational acceptance of technological and social change* »
  - Actually, peculiarities of the sector are heavy : working conditions of drivers and customer-facing teams, partitioned organization, compartmentalized communication, technocratic corporate culture,…
  - The consequences are severe : strikes, accidents, injuries, insurances costs, loss of production, loss of quality, failure in strategic and sustainable change
  - Competition is harder with new asset-light and low-cost competitors (car sharing, ridesharing, open data and connected taxi services, …)
- Horizon 2020 highlights the need to "*support the transfer of best practice within the EU and in neighbouring countries and ensure a better transport culture*"
  - A critical issue : which are the best practices ? And why ?
  - Social innovation is part of the answer : best practices know how to combine customer-focused and technological projects to overcome specific resistance to change in the transport industry

A proposal to contribute to *"ensure a better transport culture"*

- A cross-examining team whose goal would be to analyze global or partial success stories from a multi-disciplinary and a multinational point of view
  - *Success story* : customer focused project supported by technological innovative tool, developed through intense cooperation mobilizing customers-facing teams
  - *Multi-disciplinary and multinational team* : leading change in transport industry, developing innovative telematics tools for customers and personal, understanding expectations of passengers
- Examples of business cases
  - In Barcelona (Spain), innovative marking route system
  - In Berlin (Germany), a corporate communication campaign
  - In Copenhagen (Denmark), a renewed communication form
  - In Porto (Portugal), a new proximity management
  - In Saint-Etienne (France), a new customer service relationship

UNIVERSIDADE NOVA DE LISBOA

"To pursue scientific research, technical development, high-level training and the creation of new technological innovation centres and small size industries."

GROUP FOR RESEARCH GRIS IN INTEROPERABILITY OF SYSTEMS

Research on ITS – OPTIMUM

Pilot 1 – Proactive Charging Schemes for freight transport

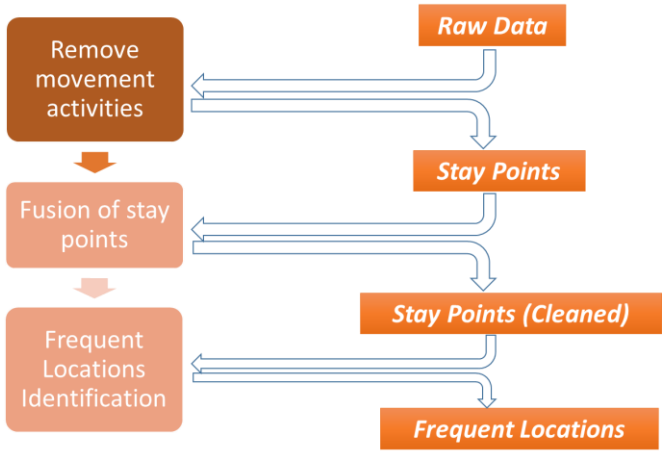
- **Aim:** OPTIMUM will develop dynamic charging models for road use by **freight vehicles** based on real-time conditions of the transport network and test the solution on a fleet of **10 Luís Simões freight trucks** in **Portugal**.
- **Rationale:** OPTIMUM's **dynamic charging model** will combine **historical** and **real-time data** collected and produce a model that will incorporate a multitude of variables.
- The model will be integrated in the OPTIMUM platform and provide, in due time, actionable information to the end user (highway authority and logistics operator) in order to enable a **suitable operational planning**.

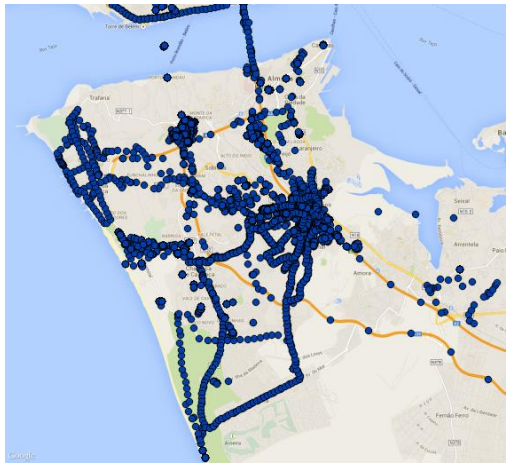
http://optimumproject.eu/

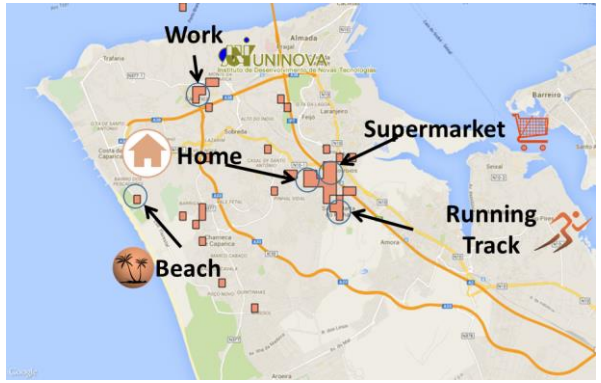
Spacio-Temporal Analysis

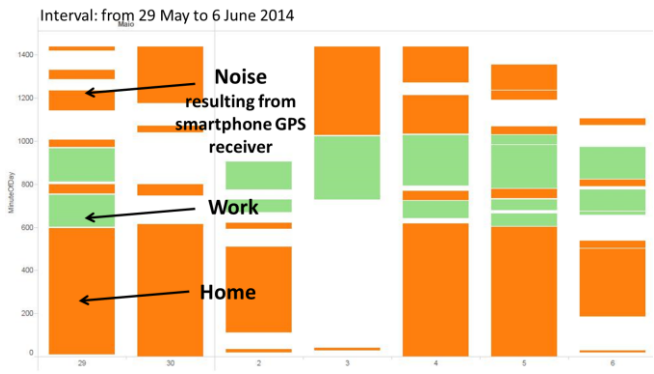
Understanding Personal Mobility Patterns for Proactive Recommendations

- Focus on mobility supported by **vehicles.**
- **Proactively** interact with daily commuters.
- Providing **personalized notifications/suggestions** whenever an **expected** or **unexpected** event occurs, which could heavily influence normal traffic behaviour.
- Knowing **where commuters are** and predict **where they are moving**. i.e. to analyse their **typical mobility movements (patterns)** in a **non-intrusive** way!









CEIIA

ENGINEERING AND
PRODUCT DEVELOPMENT

Leading Mobility Transformation

Portugal Transport Days
Brussels

12.December.2017

ABOUT US

Vision: To lead innovation in mobility industries from Portugal

CEiiA accelerates innovation through selected partnerships in the aeronautics, automotive, smart mobility, oceans and space industries

+250
Engineers

+10
Years in complex projects

Largest R&D investment in Portugal
(nonprofit organizations – IPCTN 2016)

CEiiA

SMART MOBILITY

4Scale – Incubator and Accelerator
for mobility start-ups

Technology Valorization

Integrated and
Agnostic Platform -
mobi.me

Mobility services for
different operators

Systems R&D

MOBILITY

Products R&D

Mobility and
connected devices

Regulation vs. Technology

Colab – Smart Cities Collaborative Lab –
Technology Free Zones, Living Labs

CEiiA

SYSTEMS

Mobi.me - Integrated and agnostic mobility management platform

Mob-I Foz do Iguaçu (BR)

Ecoelétrico Curitiba (BR)

Conect-ME Minas Gerais (BR)

CPFL Campinas São Paulo (BR)

Mob-I ONU (BR)

Ecomóvel Brasília (BR)

MOBI2GRID (PT, ES)

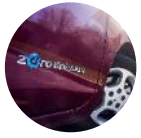
MOBI.Europe (PT, ES, FR, NL, IE)

Sharing Cities (PT, UK, IT, FR, PL, BG)

GreenWay (TR)

MOBI.E (PT)

ECOMOB – APA (PT)



UberGreen (PT)

Municipality of Porto (PT)

Municipality of Cascais (PT)

eCooltra Motosharing Barcelona, Madrid (ES), Roma (IT), Lisboa (PT)

Smart mobility service for eCanter (JP)

COOPERATION INTERESTS

New technologies and structures

- MG-3-1-2018: Multidisciplinary and collaborative aircraft design tools and processes
- LC-GV-01-2018: Integrated, brand-independent architectures, components and systems for next generation electrified vehicles optimized for the infrastructure
- MG-3-06-2020: Next Generation Multifunctional and Intelligent Aerostructures – from manufacturing to maintenance and recycling

Systems and vehicles for the interoperability and sustainable transports

- **LC-MG-1-1-2018: InCo flagship on reduction of transport impact on air quality. Topic C) Sensing and monitoring emission in urban road transportation system**
- LC-MG-1-2-2018: Sustainable multi-modal inter-urban transport, regional mobility and spatial planning
- **LC-MG-1-9-2019: Upgrading Transport Infrastructure in order to monitor noise and emissions**
- LC-GV-04-2019: Low-emissions propulsion for long-distance trucks and coaches
- LC-MG-1-10-2019: Logistics solutions that deal with requirements of the “on demand economy” and for shared-connected and low emission logistics operations
- MG-2-9-2019: InCo Flagship on Integrated multimodal, low-emission freight transport system and logistics

Best practices, legislation and regulation

- **MG-4-1-2018: New regulatory frameworks to enable effective deployment of emerging technologies and business/operating models for all transport modes**
- LC-MG-1-3-2018: Harnessing and understanding the impacts of changes in urban mobility on policy making by city - led innovation for sustainable urban mobility
- MG-3-3-2018: "Driver" behaviour and acceptance of connected, cooperative and automated transport
- LC-MG-05-2019: InCo flagship on “Urban mobility and sustainable electrification in large urban areas in developing and emerging economies”
- LC-GV-03-2019: User centric charging infrastructure
- DT-ART-04-2019: Developing and testing shared, connected and cooperative automated vehicle fleets in urban areas for the mobility of all

MOBINOV :: Cluster Automóvel

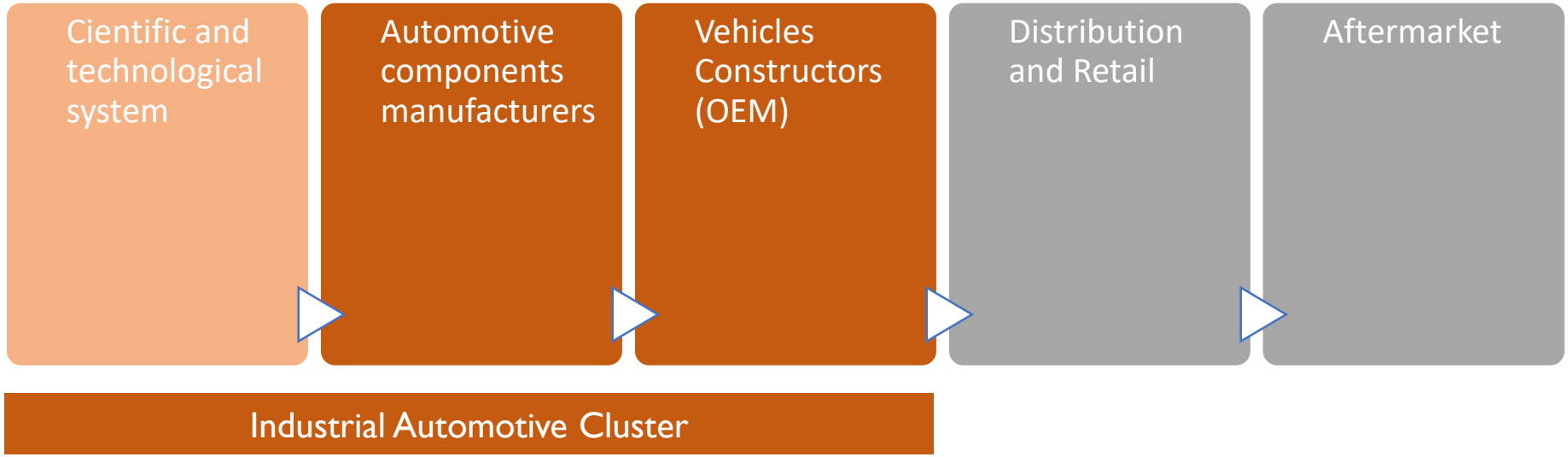
PORTUGAL

Portuguese Automotive Industry

Profile and Trends

The **Mobinov Cluster** promotes the convergence of various players in the national automotive industry, including global manufacturers and suppliers present in Portugal, national suppliers, associations and knowledge centers and universities, around an ambitious action plan and structured in programs aimed at the development of this industry.

Car Industry Value Chain



Vision

Portugal as a **reference in the research, design, development, manufacture and testing** of automotive industry products and services

- Reinforcing the competitiveness of the automotive sector, promoting the **increase of exports and its internationalization,** by positioning **our industry in the global market in a competitive and distinctive way**, taking advantage of what we have best in our country, like our flexibility and our talent;

- Prepare a **new cycle of the automotive industry** on a trajectory for the "car as a service", and other automotive global trends.

To promote the growth of the national automotive sector through initiatives and mobilizing projects that strengthen international competitiveness ...

.... through innovation, increased value added, national incorporation and exports of components and complete vehicles, through increased cooperation and coordination between enterprises, associations, public administration bodies and entities of SI&I.

The road to 2020 will be marked by an acceleration in the production of vehicles in Portugal, with the perspective that the constructors more than double the number of units produced annually.

33%	• Increase in exports
11%	• Increase in workers
27%	• Increase in GAV