éco-système des acteurs de la mobilité urbaine

Jérôme PERRIN, Directeur Scientifique, Renault

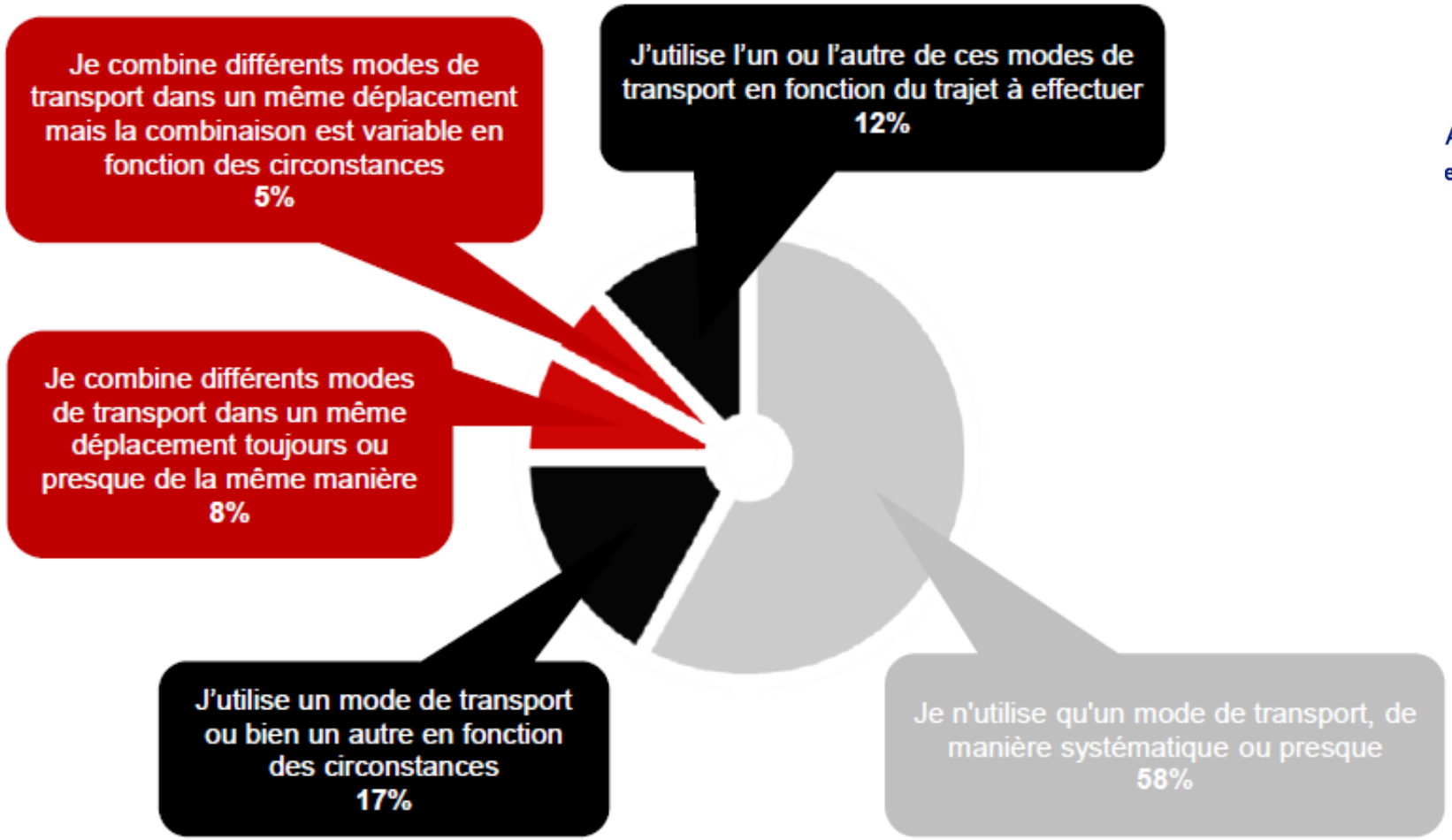
PLAN

- **L'Observatoire des mobilités émergentes (ADEME)**
- **Gestion multimodale et intermodale en ville (Projet Européen OPTICITIES)**
- **ERTRAC Roadmap on Urban Mobility**
- **European KIC on Urban Mobility / U-MOVE proposal**
- **EUCAR perspective on Urban Mobility**
- **L'Alliance Renault-Nissan-Mitsubishi**
- **3 innovations Renault pour la mobilité urbaine**

OBSERVATOIRE DES MOBILITÉS ÉMERGENTES

ADEME

Agence de l'Environnement et de la Maîtrise de l'Energie



Monomodalité - Multimodalité - Intermodalité

pratiques monomodales, multimodales et intermodales dans les trajets du quotidien. Source : L'ObSoCo, Chronos / ADEME, SNCF, 2016

SATISFACTION DES USAGERS / MODES DE TRANSPORT

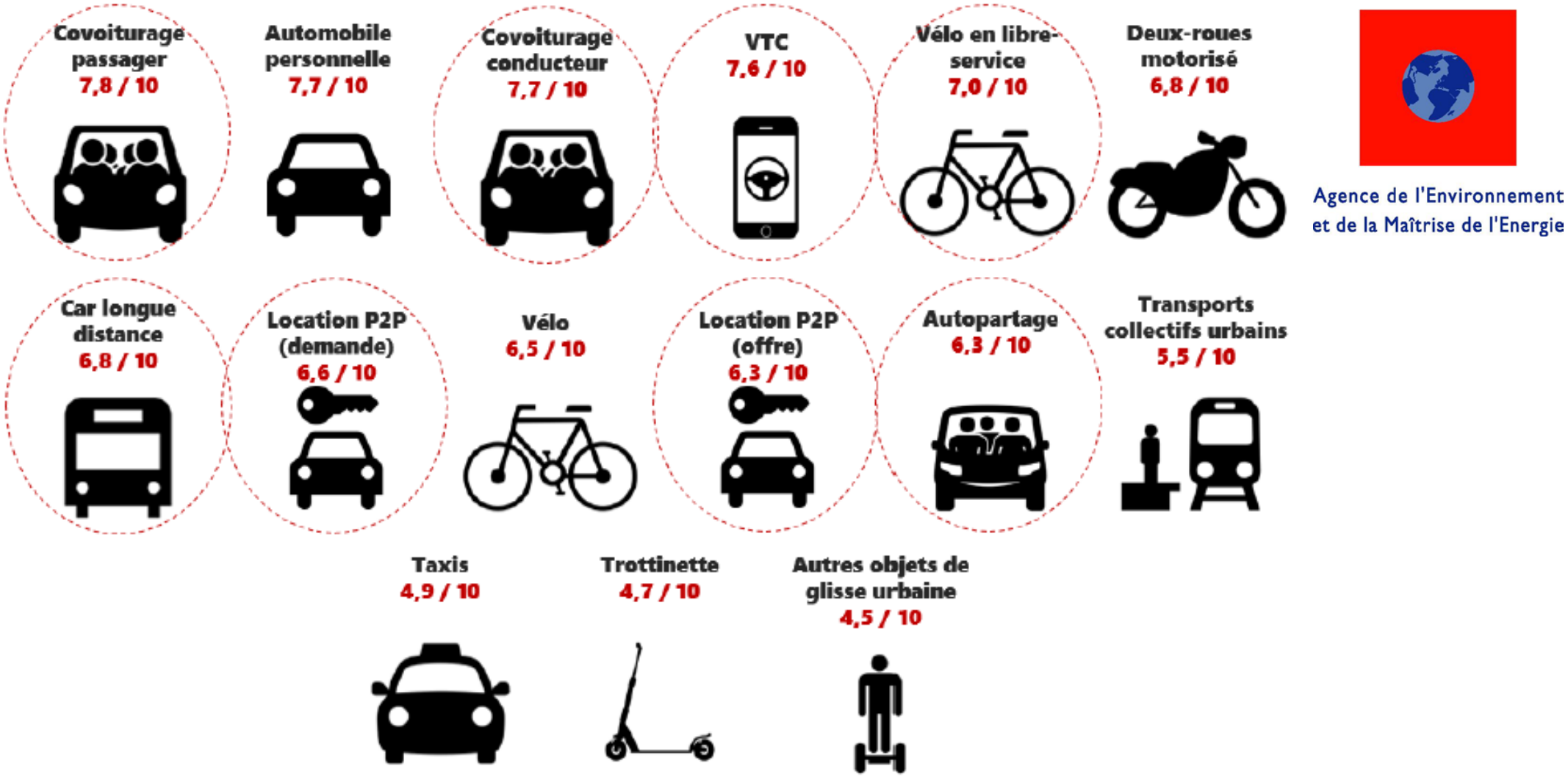


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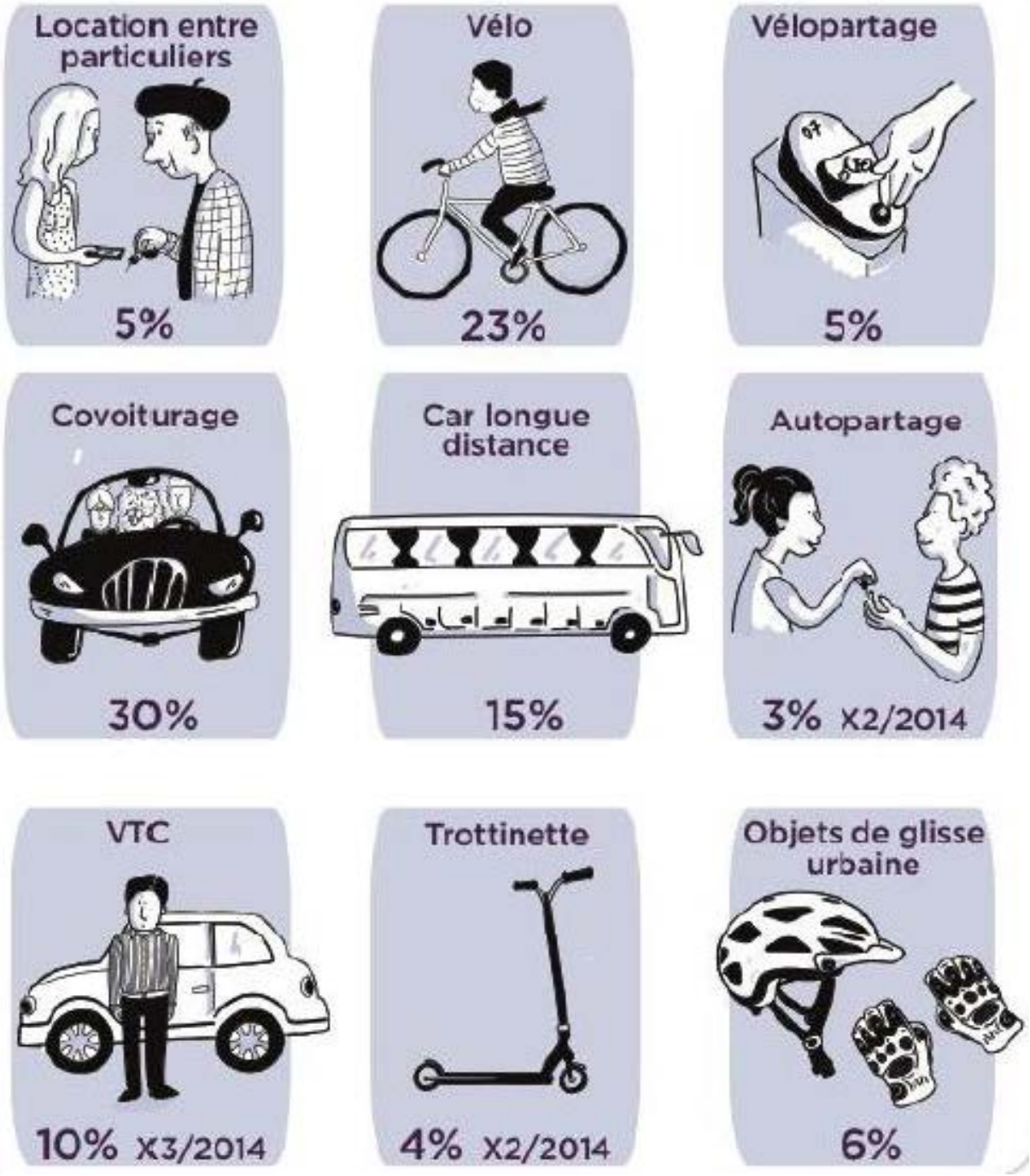
Figure 6 : satisfaction des usagers en fonction des différents modes de transport. Source : L'ObSoCo, Chronos / ADEME, SNCF, 2016



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LES PRATIQUES DE MOBILITÉ ÉMERGENTES SE CONSOLIDENT DEPUIS 2014

TYPOLOGIE DES FRANÇAIS / PRATIQUE DES MOBILITÉS ÉMERGENTES

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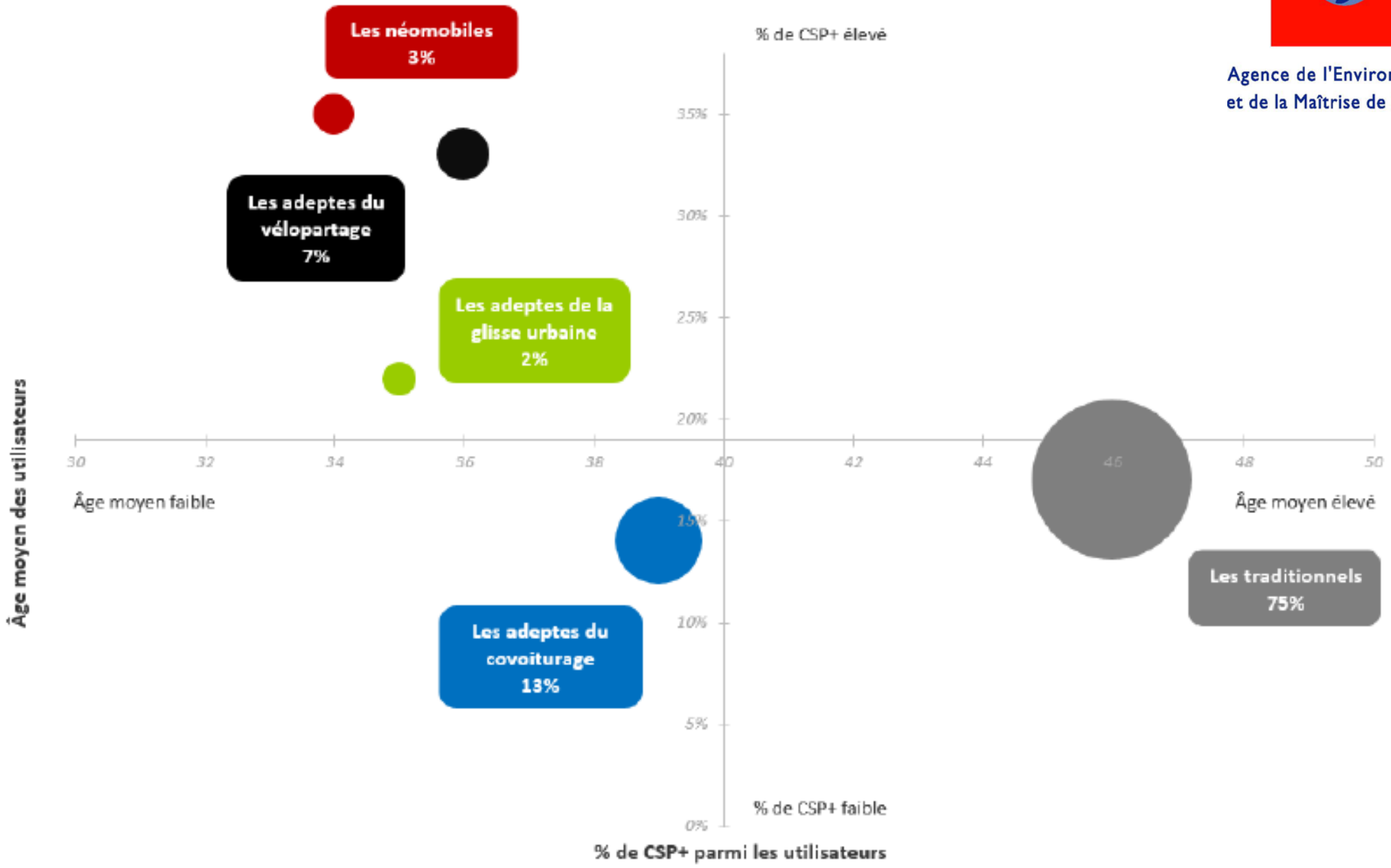
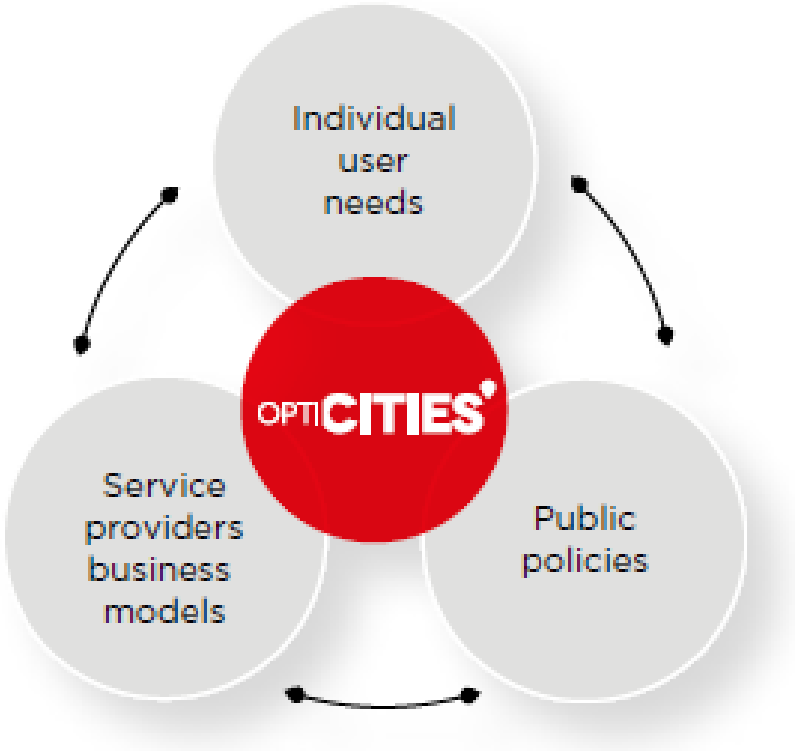
Agence de l'Environnement et de la Maîtrise de l'Energie



GESTION MULTI/INTERMODALE DE LA MOBILITÉ EN VILLE

OPTICITIES
ENHANCING SMART MOBILITY

URBAN
ITS SERVICES



3 years
2013-2016

EU FP7 PROJECT

25
partners

- 6 cities
- industries and service providers
- academics
- experts and networks involved in urban Intelligent Transport Systems

GESTION MULTI/INTERMODALE DE LA MOBILITÉ EN VILLE

OPTICITIES
ENHANCING SMART MOBILITY

13M€
budget

- Supported by a 9M€ funding envelope allocated by the European Commission through the FP7 framework programme

3.6
million m²
public space
gain

4 **Experimentation fields**

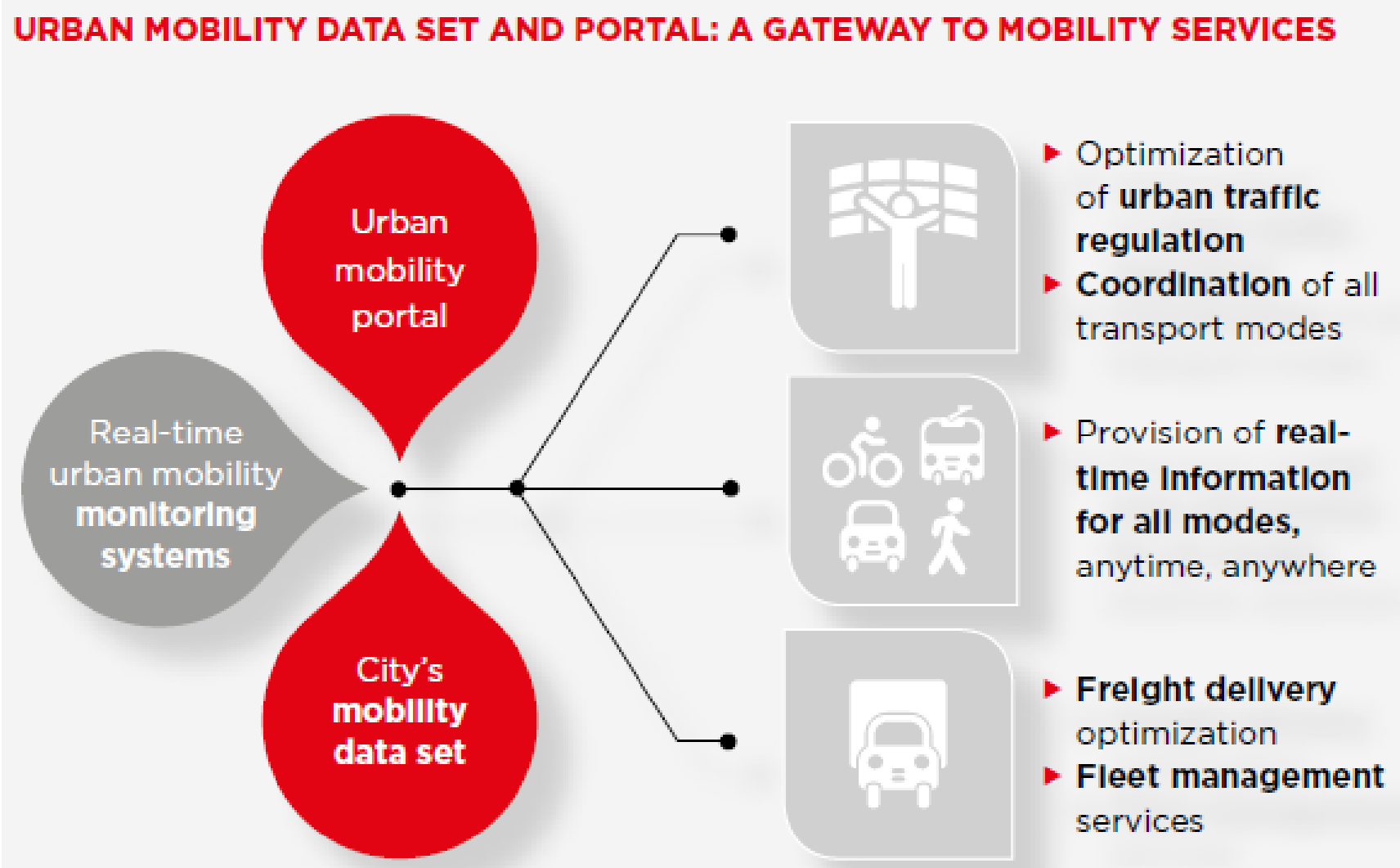
- Urban data creation and use
- Decision support tools for network managers
- Traveller information services
- Freight information services.

Impacts and benefits

- Modal shift: **6% towards soft and public modes** by 2020
- Public space management: **gain of 3.6 million m² public space**
- Traffic congestion decrease and optimised road network operations: reduction of **1.5 million tonnes of CO_2** per year
- Promotion of a European ITS market for urban mobility thanks to interoperable solutions
- Optimisation of urban freight operations.

GESTION MULTI/INTERMODALE DE LA MOBILITÉ EN VILLE

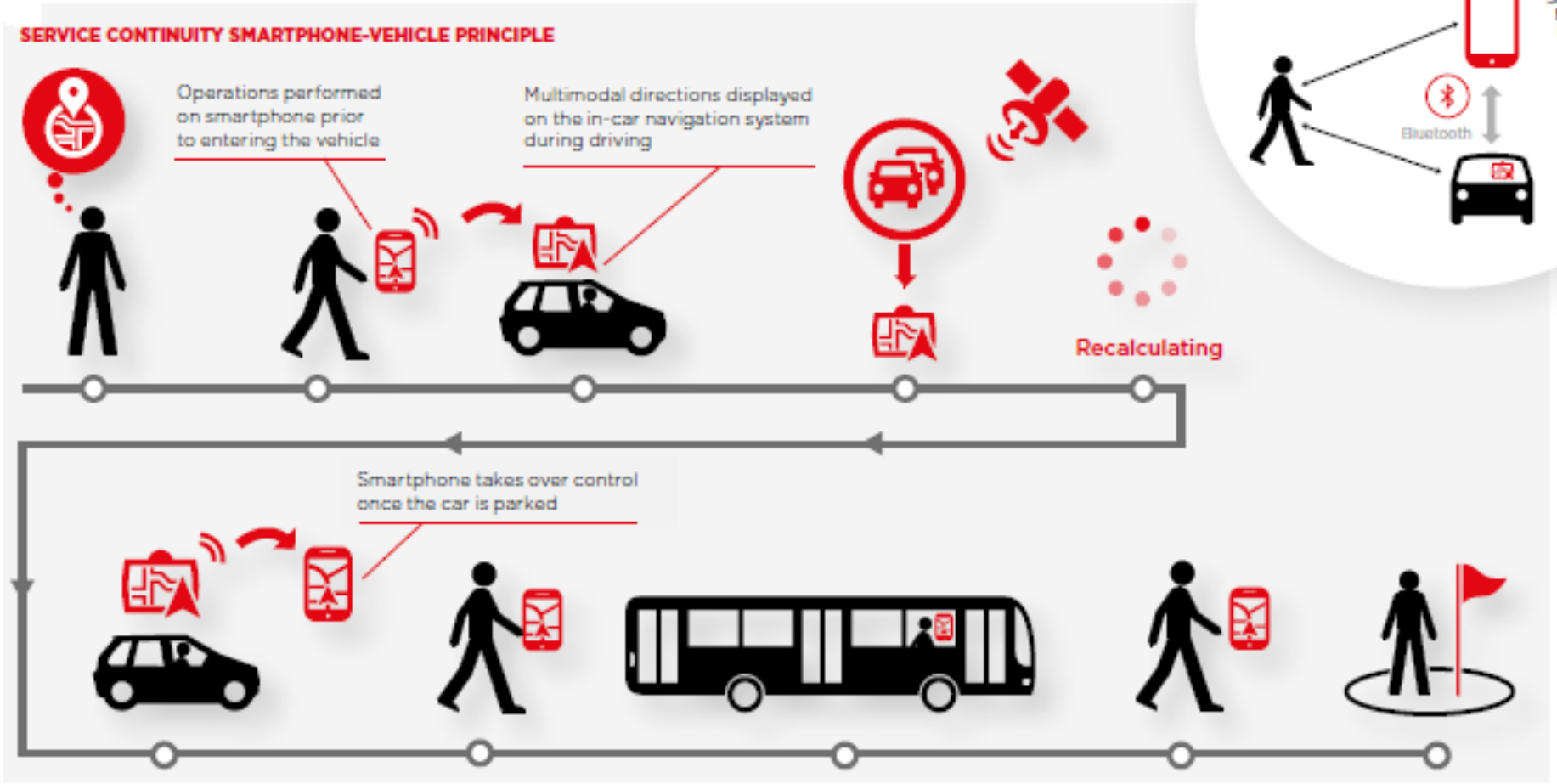
OPTICITIES
ENHANCING SMART MOBILITY



GROUPE RENAULT

GESTION MULTI/INTERMODALE DE LA MOBILITÉ EN VILLE

OPTICITIES
ENHANCING SMART MOBILITY



GROUPE RENAULT

ERTRAC roadmap on Urban mobility

Feb. 2017

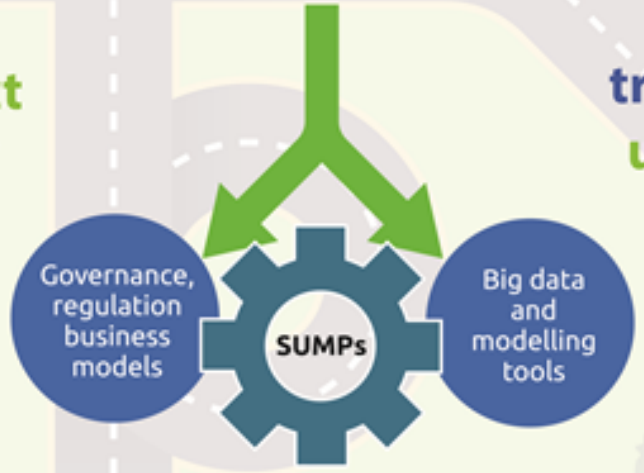
Urban mobility is vital to European society in providing access to services for passengers and goods and supporting economic growth. European cities face similar challenges and perceive similar trends. At the same time, transport demand continues to rise. To manage this increasing demand as well as tackle related societal challenges, a wide range of complementary mobility solutions and services adopting innovative user-centric, smart, multimodal and intermodal approaches, is required.

The new ERTRAC Integrated Urban Mobility roadmap identifies research priorities related to urban mobility and freight delivery with the aim to achieve a more convenient, competitive, sustainable and resource-efficient mobility system.

Which major challenges affect urban mobility?

- Air quality
- Carbon footprint (energy use)
- City dynamics
- Pressure on availability of space and congestion

SUMPs = Sustainable Urban Mobility Plans



Which major trends influence urban mobility?

- Demographic changes
- Sharing economy
- Digitalisation (including automation)

How to achieve sustainable urban mobility?

Urban mobility solutions and services to be prioritised for European research and innovation

MANAGEMENT

Management related solutions
- Demand management
- Integrated urban mobility and network management
- Integrating urban mobility within overall European transport chains

SERVICES

Service related solutions
- Integrated information
- Integrated payment
- Integrating urban freight and passenger mobility

INFRASTRUCTURE

Infrastructure
- Land use and transport interactions
- Smart interchanges
- Optimised use of infrastructures

MODAL SOLUTIONS

Modal solutions
- Clean fuels and vehicles
- Active and light travel modes

European Institute of Innovation & Technology

https://eit.europa.eu

European Institute of Innovation and Technology

Become the leading European initiative that empowers innovators and entrepreneurs to develop world-class solutions to societal challenges, and create growth and skilled jobs.

- 1st EU initiative bringing together the three sides of the 'knowledge triangle': business (companies and SMEs), education institutions and research centres.

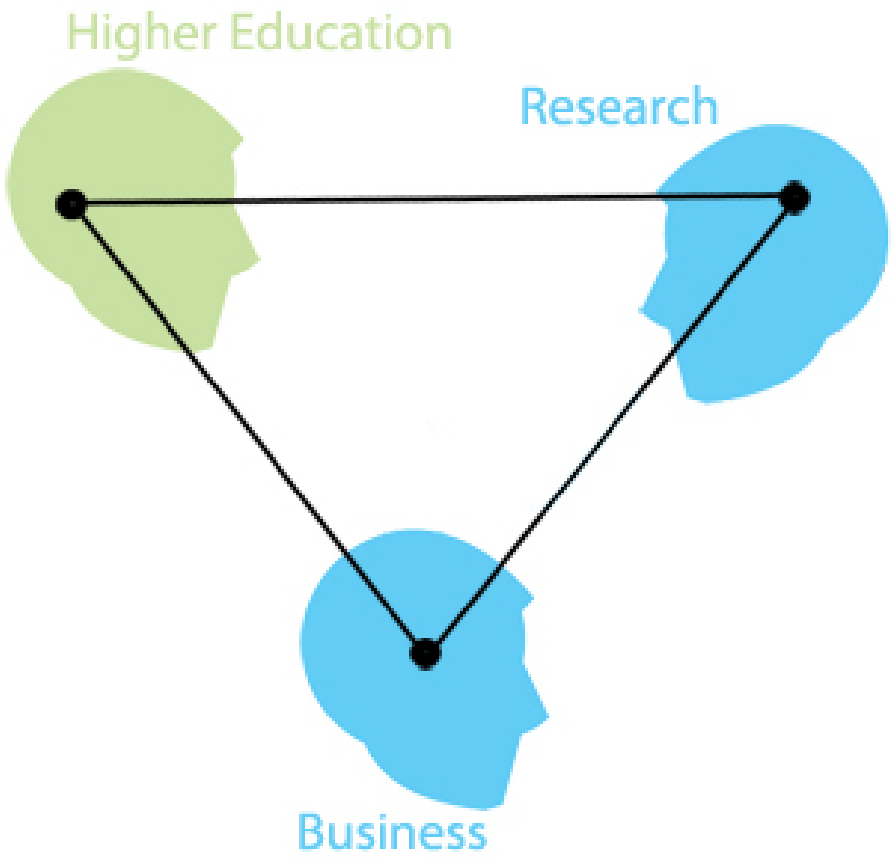
- aim to increase the cooperation and integration between higher education, business and research to facilitate the transition from:

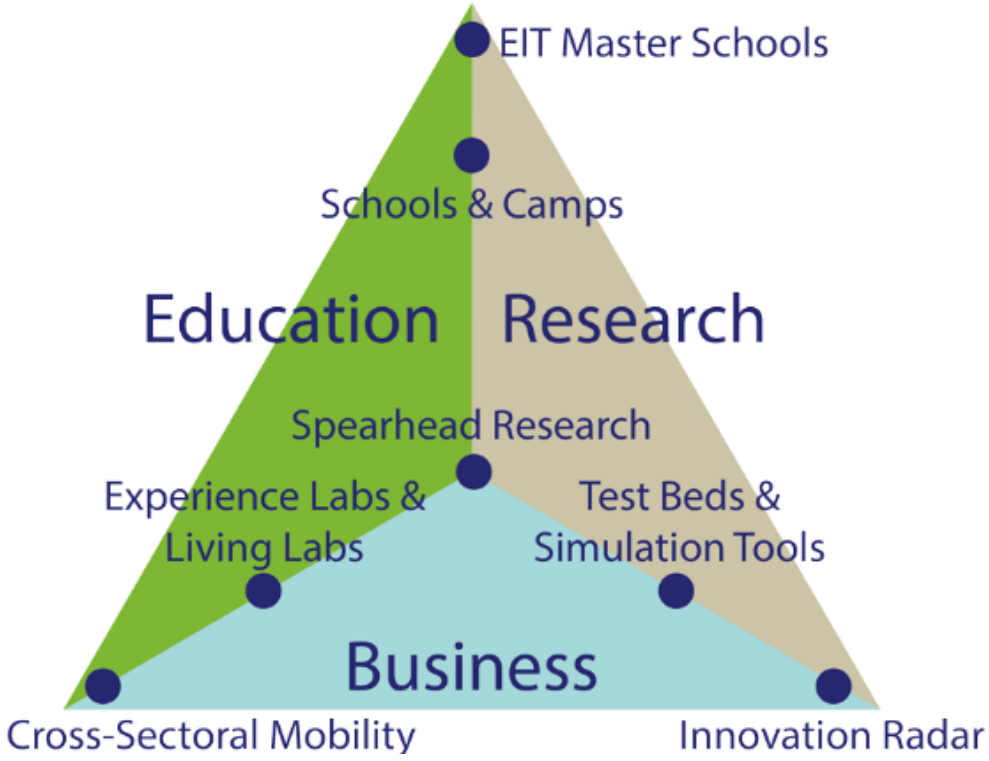
student to entrepreneur

idea to product

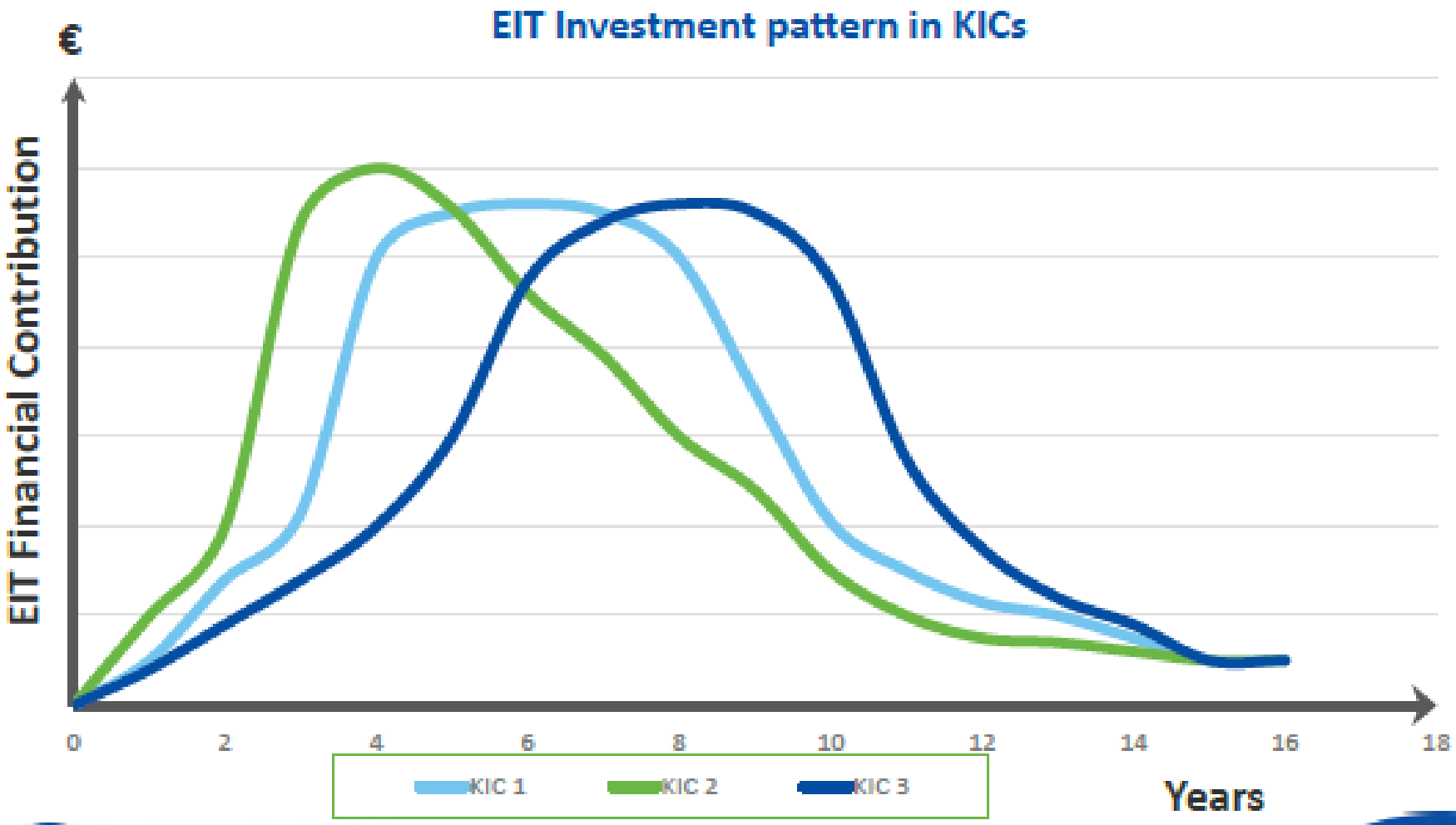
lab to customer

Knowledge Innovation Community triangle





EIT Approach to Financial Sustainability

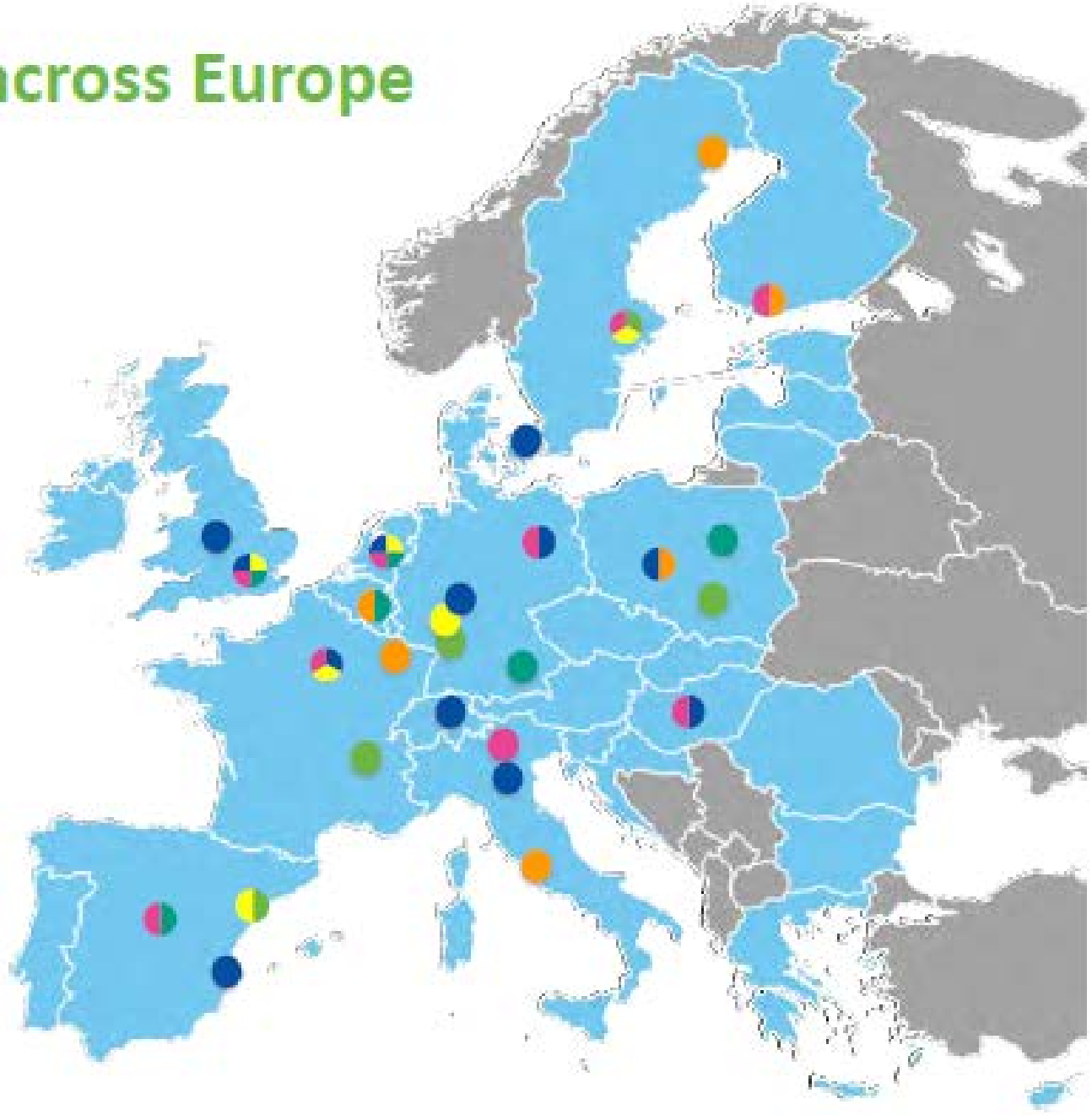


European Institute of Innovation & Technology

EIT Community across Europe

Innovation Hubs:

- EIT Climate-KIC
- EIT Digital
- EIT Food
- EIT Health
- EIT InnoEnergy
- EIT Raw Materials



European Institute of Innovation & Technology

EIT's 2018 Call for KIC Proposals

EIT Urban Mobility*

Smart, green and integrated transport

EIT Manufacturing relaunch in 2018*

Added-value manufacturing

European Institute of Innovation & Technology

* Subject to the outcome of the EIT's mid-term evaluation by the European Commission.

Urban mobility: a cross-cutting challenge

NAVYA

Fully autonomous vehicles

PLUGSURFING

App for electric vehicle drivers

LILIUM AVIATION

Vertical take-off and landing jets

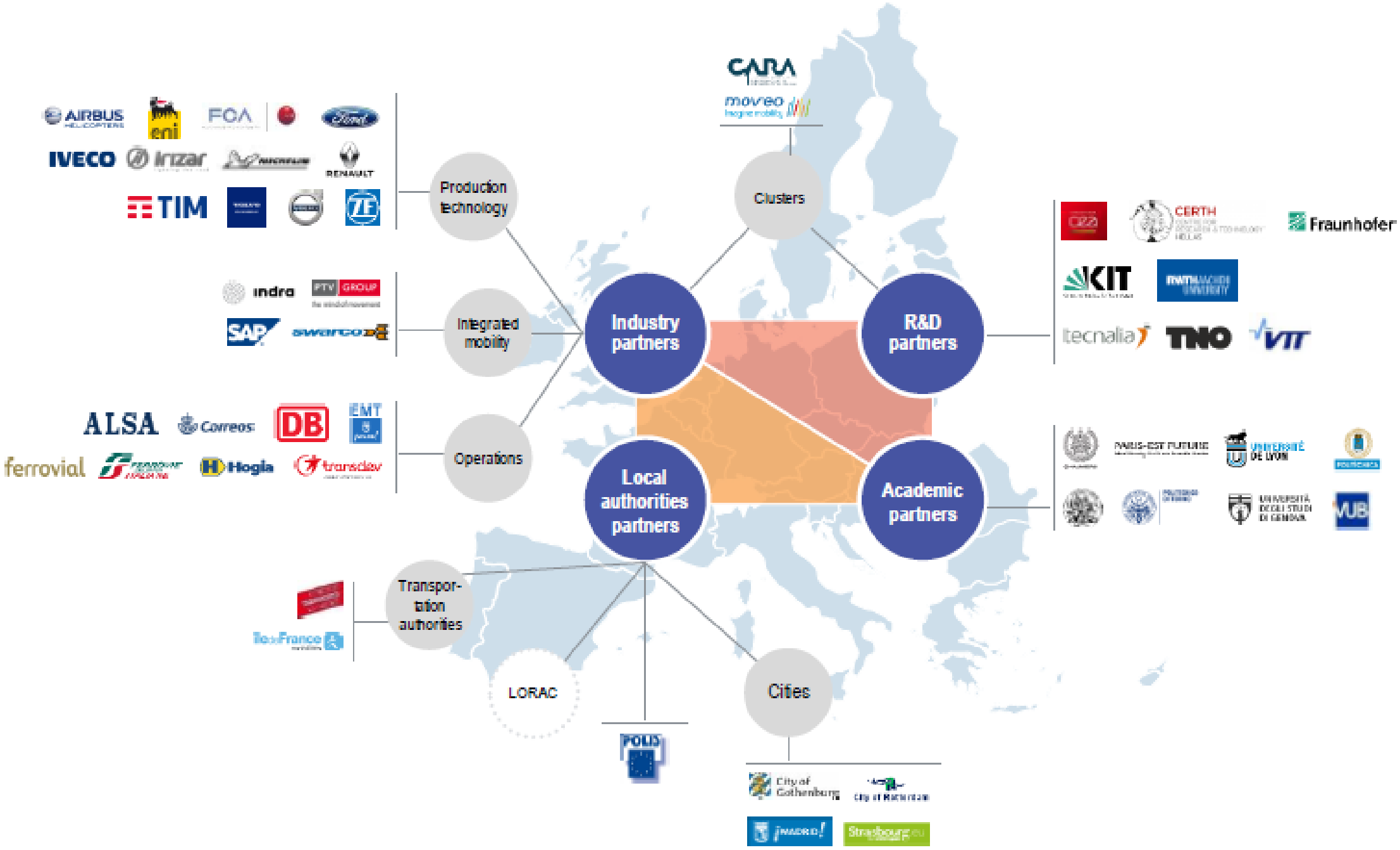
ENERVALIS

Cloud-based software

European Institute of Innovation & Technology

U-MOVE proposal for the KIC on Urban Mobility *(Jul. 2018)*

U-MOVE partnership



U-MOVE vision and key objectives

Vision	Focus	Sub-focus	U-MOVE contribution to high-level impacts by 2030
Inclusive mobility 	Accessible to all	Regardless of localization	**Modal transfer** from private car use towards other modes by **15-20 % points**
		Regardless of capabilities	**100% of new transport services** accessible to disabled & elder people
		Regardless of income level	Share of **transport cost in the total household expenditure decreased by 1% point**
	User-friendly	Fast	Average **trip duration** decreased **by 10%**
		Convenient	**User satisfaction** increased **by 10 % points**
Sustainable mobility 	Green		**Zero transport pollutant** and CO2-free logistics solutions in city centres For the whole metropolitan area: - **CO2** emissions reduced **by 15%** - **PM10** (particulate matter) reduced **by 20%** - **NOx** (nitrogen oxides) reduced **by 10%**
	Safe		**Fatalities and injuries** on European urban roads **reduced by 10% to 15%**

EUCAR perspective on Urban Mobility *(Dec. 2018)*

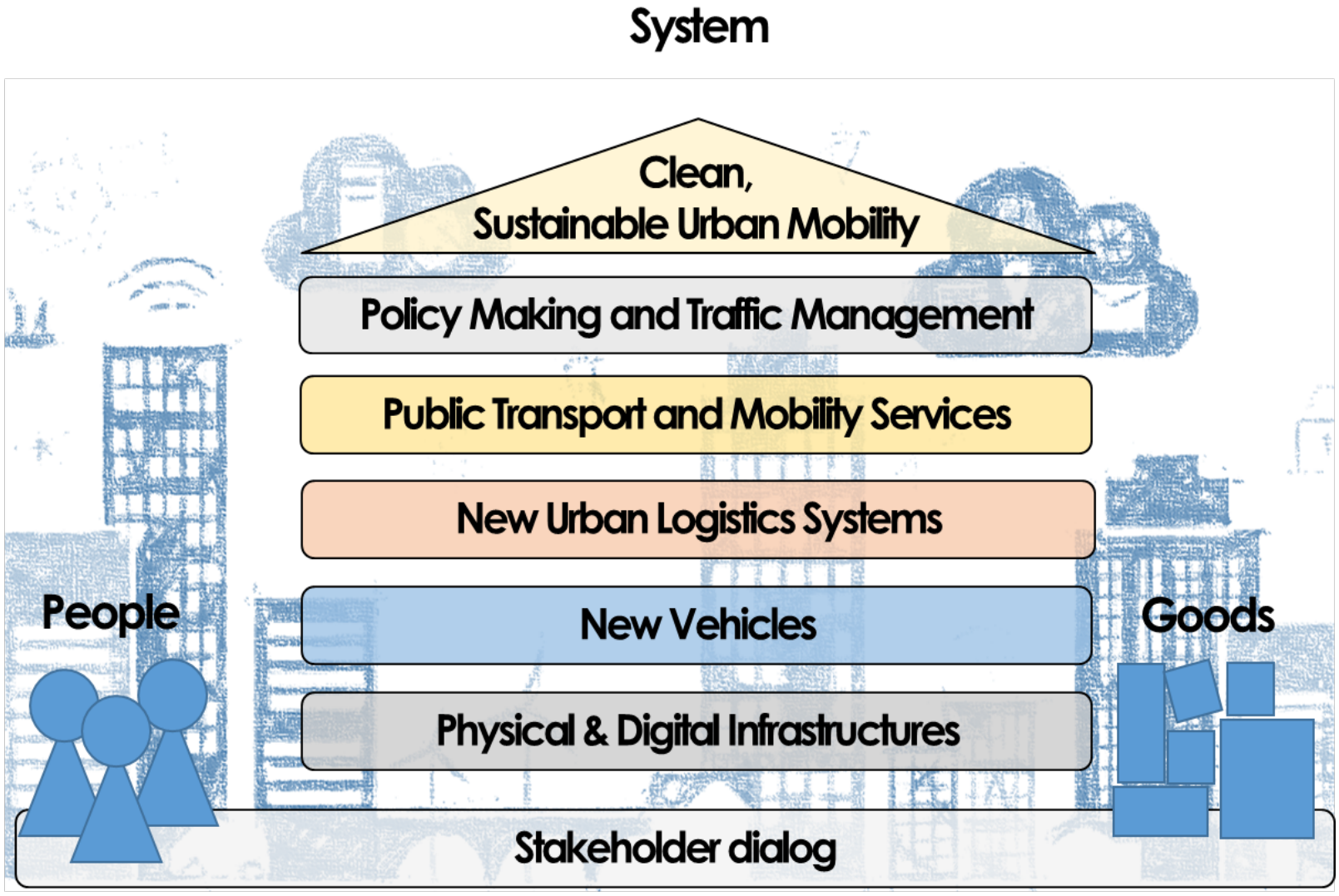
EUCAR perspective on Urban Mobility

EUROPEAN COUNCIL FOR AUTOMOTIVE R&D

- One single stakeholder cannot solve the challenges alone
  A holistic approach and multi-stakeholder collaboration is essential
- Cities have different challenges
  Cities come in various forms and sizes. A toolbox and platform for tailored solutions is required
- User and citizen focus
  One solution does not fit all, address the multiple needs that exist
- Vehicles and mobility solutions cannot be designed for single cities
  Develop flexible and scalable solutions. Take advantage of economy of scale and preserve the integrity of the internal market
- European competitiveness
  New solutions should be developed, tested and deployed in Europe while keeping their export potential in mind

EUCAR perspective on Urban Mobility

EUROPEAN COUNCIL FOR AUTOMOTIVE R&D



L'ALLIANCE RENAULT-NISSAN-MITSUBISHI

RENAULT NISSAN

18 years of cooperation

Sept. 15, 2017 - Renault, Nissan and Mitsubishi Motors announce a new 6-year plan: ***Alliance 2022***

…

RENAULT NISSAN MITSUBISHI

10.7 millions cars sold in 2017 in 10 brands

In the Top 3
world largest automakers

GROUPE RENAULT

RENAULT · DACIA · Renault Samsung Motors · ALPINE · LADA

NISSAN & MITSUBISHI

NISSAN · INFINITI · DATSUN · VENUCIA · MITSUBISHI

strategic partnerships

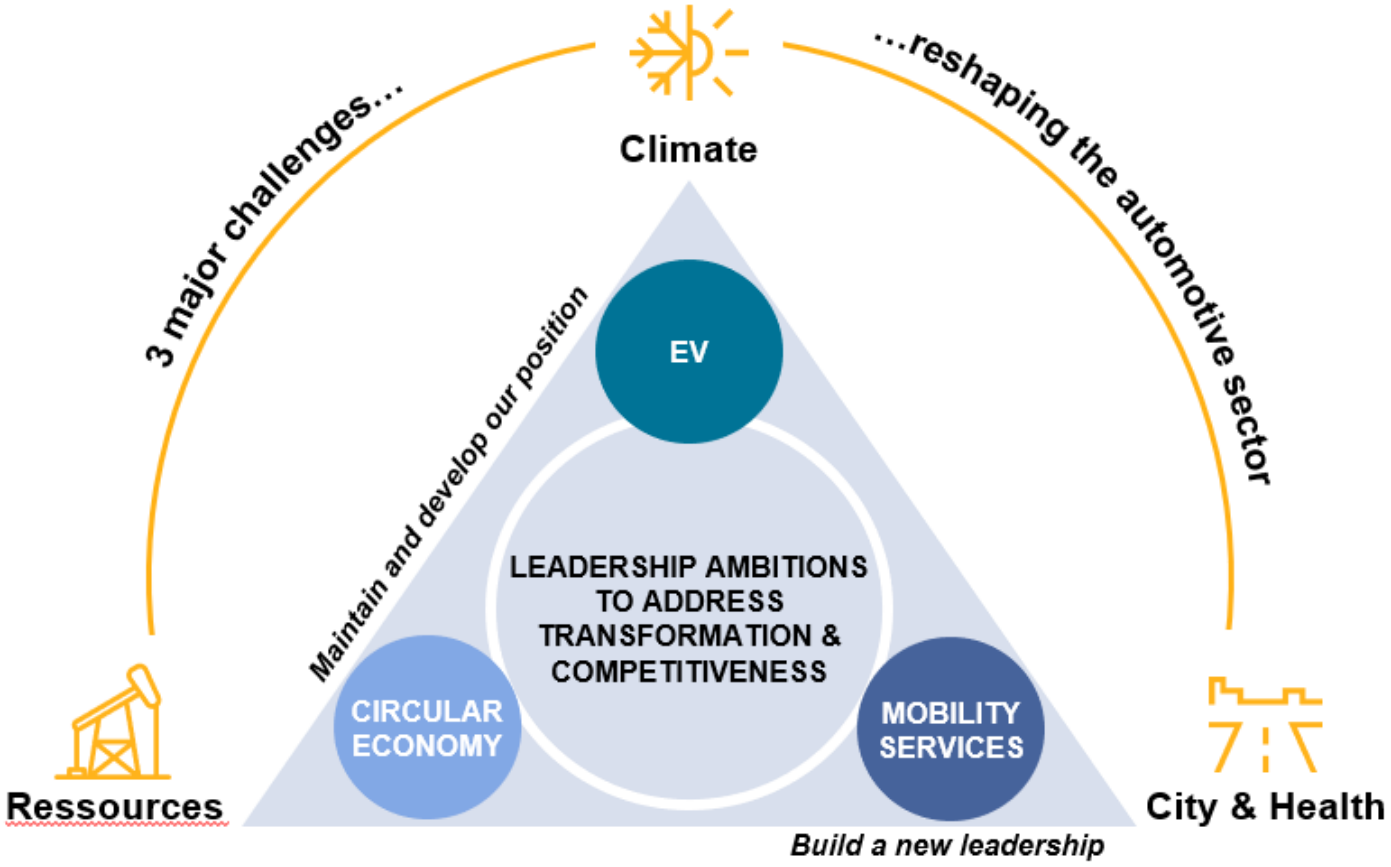
DAIMLER · DFM · DONGFENG

	Jan-Dec 2017	YOY
Volkswagen	10,741,500	4.3%
RENAULT NISSAN MITSUBISHI	10,740,059	6.2%
TOYOTA	10,466,451	2.9%

source : https://dailykanban.com

ENVIRONMENT: A LEVER TO BRING INNOVATION FORWARD AND EXPAND INTO NEW MARKETS

RENAULT NISSAN MITSUBISHI



Reduction of Carbon Footprint by 25% until 2022 in line with COP21

ELECTRIC MOBILITY

RENAULT NISSAN MITSUBISHI

GROUPE RENAULT
DRIVE THE FUTURE

8
PURE EV MODELS
ALL BUILT
ON ALLIANCE PLATFORMS

20%
OF LINE-UP
ZERO EMISSION VEHICLES

NEW SEGMENTS COVERED

100%
E-COMPONENTS
SHARED

CONNECTED, AUTONOMOUS & SHARED MOBILITY

RENAULT NISSAN MITSUBISHI

CONNECTED SERVICES

100%

connected in key markets
as of 2022

*AD = Autonomous Drive

AUTONOMOUS VEHICLES

15 AD models

2019
AD* level 2 on Renault B-segment

2022
Ready for AD level 4

MOBILITY SERVICES

marcel · Yuso Fleet · DeNA · KARHOO · transdev · RCI MOBILITY

- Partnership approach for mobility services
- **Ride-Hailing RoboTaxi** operations by 2022

INCLUSIVE, RESPONSIBLE & SUSTAINABLE MOBILITY

GROUPE RENAULT MOBILIZES ITSELF AND MOBILIZES ITS STAKEHOLDERS TO DEVELOP INCLUSION AND RESPONSIBLE MOBILITY

By committing to INCLUSION, Groupe Renault fosters a model of socially responsible growth based on diversity, social business, education

MOBILIZE
FOR INCLUSION & RESPONSIBLE MOBILITY

By committing to RESPONSIBLE AND SUSTAINABLE MOBILITY, Groupe Renault fulfills its primary responsibility to preserve environment and act for road safety

RENAULT MOBILIZ
GARAGE SOLIDAIRE

INNOVATIONS RENAULT POUR LA MOBILITÉ URBAINE

Low-cost on-the-road inductive contactless charging for urban mobility

paradigm shift for urban mobility

- **EV with large battery**

- **dense charging spot infrastructure**

- **EV with small battery (→ affordable EV)**

- **continuous charging (→ charging free UX)**

infrastructure cost (estimate for Paris)

- **1800 M€ : 600 000 spots, 3k€/spot**
- **500 M€ : 2 M€ per road km**

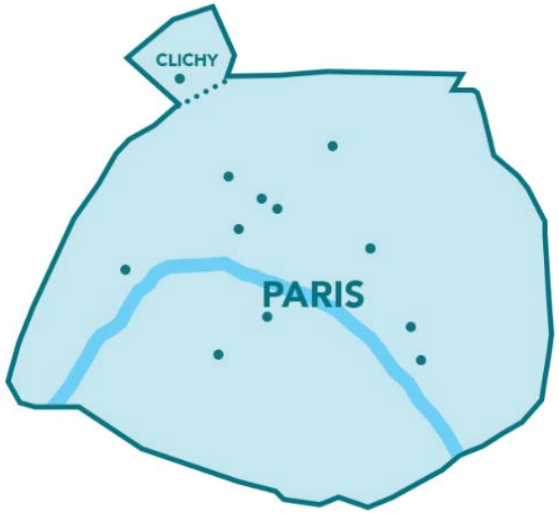
On-going demonstrations to be continued ...

INNOVATIONS RENAULT POUR LA MOBILITÉ URBAINE

First free-floating electric car service in Paris

moov'in.paris **partnership with a car rental company** ada

www.moovin.paris



INNOVATIONS RENAULT POUR LA MOBILITÉ URBAINE

Autonomous electric robotaxis FoT in Rouen and Saclay areas

transdev

partnership

INSTITUT VEDECOM
DU VÉHICULE DÉCARBONÉ ET COMMUNICANT ET DE SA MOBILITÉ

Ez-Go robotaxi concept

DRIVE THE FUTURE

PROVIDE SUSTAINABLE MOBILITY FOR ALL TODAY AND TOMORROW