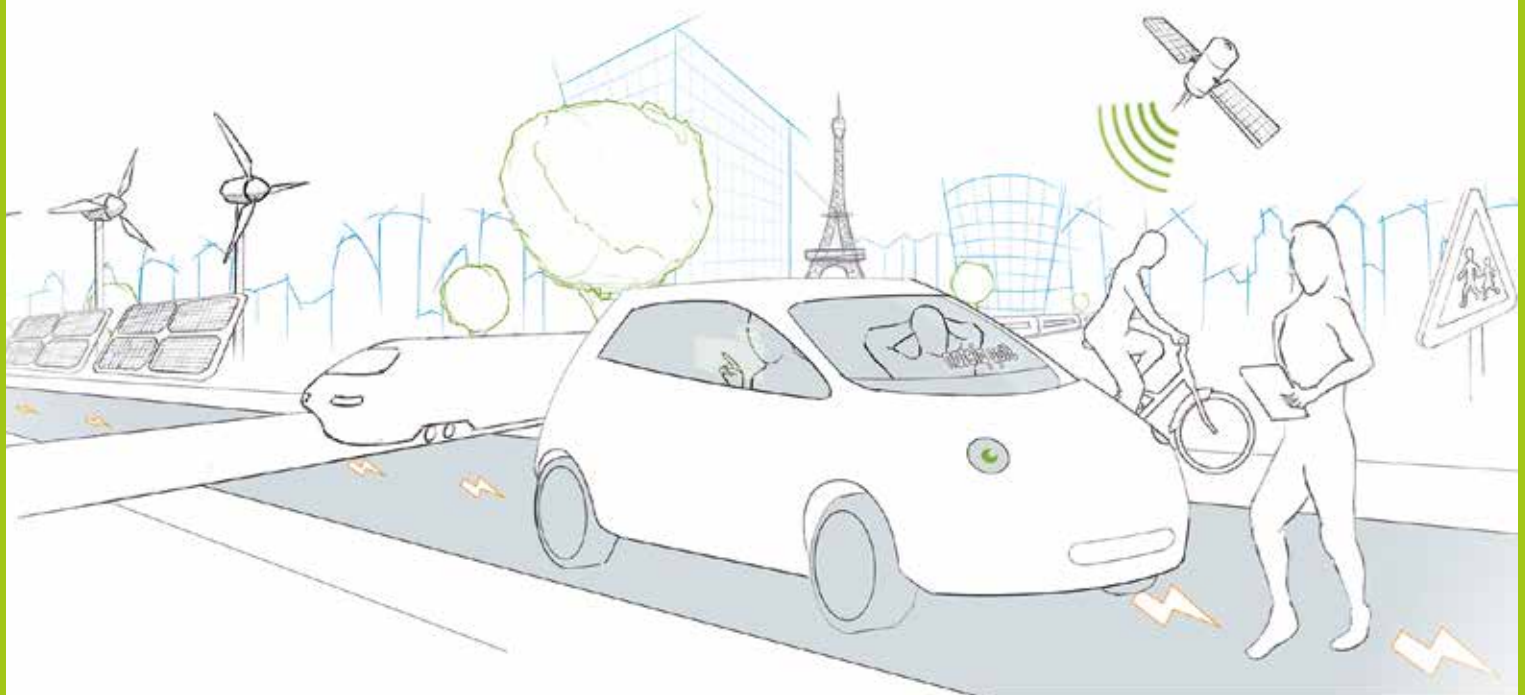




## Towards sustainable mobilities



DRIVING DELEGATION  
AND CONNECTIVITY



VEHICLE  
ELECTRIFICATION



SHARED MOBILITY  
AND ENERGY





## VEDECOM, A COOPERATIVE RESEARCH HUB

Created in February 2014, VEDECOM is an **Institute for Energy Transition (ITE)** dedicated to individual, carbon-free and sustainable mobility, established as part of the French governmental plan, 'Investment for the future'. It contributes to the 'Autonomous vehicle plan', which is part of the 'Nouvelle France Industrielle' (NFI).



Supported by the competitive cluster Mov'eo since 2010 and by its 10 founders, VEDECOM is a partnership-based foundation that belongs to Université de Versailles Saint-Quentin-en-Yvelines. **More than 50 members**, which comprise firms in the automotive and aerospace sectors, mobility ecosystem infrastructure and service operators, academic research bodies and Ile-de-France local authorities, **work together in an unprecedented partnership.**



## RESPONDING TO THE CHALLENGES POSED BY THE ELECTRICAL AND AUTONOMOUS VEHICLE AND THE TOMORROW'S MOBILITIES

VEDECOM is an **operational actor of innovation, research, and training**, aiming to foster responsible mobility and transport, and generating activity and employment.

VEDECOM's **mission** is to develop **disruptive technologies with transversal vision of the new habits of mobility**, fostering **durable**, that is to say **ecological, autonomous and shared** forms of mobility all the while conferring major competitive advantages onto its members and ecosystem.

A **cooperative center of excellence**, VEDECOM aims to become the **pioneering reference French research institute in new mobility at the global level**. Specifically, it focuses on three domains : electric vehicles, communicative and autonomous vehicles, and mobility and energy-sharing technologies - It brings together the best industrial and academic actors that international mobility research has to offer.

## OURS VALUES: COOPERATION, INNOVATION AND COMPETITIVENESS



In 2016, VEDECOM welcomed into its ranks the **City on the Move Institute (IVM)**, to complete its approach with social sciences and humanities. The IVM seeks to acquire greater knowledge of the lifestyles, the current changes in territories in urban, architectural, social and cultural aspects.



In 2017, VEDECOM created the commercial subsidiary **VEDECOM Tech**, reinforcing VEDECOM's link between its research and the market at larger by:

- **Promoting** the Institute's physical and intellectual production, transforming it into various commercial services or products.
- **Consolidating** innovation strategies in a way that is receptive to market demand.



## 3 FIELDS OF RESEARCH, 1 TRAINING PROGRAM

VEDECOM carries out R&D on technology readiness levels (TRL) from 2-3 up to 6-7. To carry out this mission, VEDECOM is developing ground-breaking technologies and a cross-cutting vision in three major fields for **sustainable, safe, efficient and affordable mobility for individuals and goods**.

To support the emergence of new forms of mobility solutions, VEDECOM offers initial and ongoing training systems, scientific mediation and dissemination of knowledge.



### ELECTRIFICATION OF VEHICLES

Sharply reduce the environmental footprint of individual vehicles, bringing electric vehicles from a niche market to the mass market through three actions:

- reducing cost of ownership thanks to technological breakthroughs in power electronics and electric engines
- increasing the radius of action via dynamic inductive charging
- incorporating electric vehicles into smart grids and deploying smart charging



### SELF-DRIVING AND CONNECTIVITY

Introduce a major technological breakthrough: namely the method of movement of increasingly automated vehicles, with or without driver. The aim is to considerably improve the safety and fluidity of traffic, by adopting vehicles that introduce new mobility uses (multi-modality, automatic parking, etc.) and make them appealing.

The challenge is to offer safe sustainable mobility, making use of time spent waiting in traffic. This means carrying out research on vehicle equipment, software and connectivity, but also removing regulatory, legal, economic and societal obstacles.



### SHARED MOBILITY AND ENERGY

The aim of this field of research is to ameliorate road-sharing, optimise parking space and manage electric (or 'plug-in') vehicle battery charging systems by developing digital mobility services (traffic forecasting, dynamic carpooling, etc.). These services are likely to encourage new uses that are more environmentally-friendly and to have a positive impact on household budgets thanks to the development of multimodal travel and the sharing of vehicles (carsharing, carpooling). Upstream of these actions, research is being carried out by a 'New usage Laboratory' to observe and analyse mobility on the ground.



### TRAINING

As an approved training institution, VEDECOM designs and hosts for its whole ecosystem training modules in order to support the actors of the automotive and mobility sectors with the acquisition of new knowledges. These trainings are deployed within three axes:

- Technical expertise modules: "research advances, we give back"
- Support and management of the ecosystem for the changes linked with the new technologies and new mobility uses
- Awareness actions for public surrounding the arrival of innovative mobility solutions.



## GOVERNANCE

As a foundation, the VEDECOM Institute is governed by a board of directors comprised of its founders and donors.

The Board delegates governance to a **Bureau** of 15 members, which is chaired by Rémi Bastien. It relies on a **Strategic and Scientific Orientation Advisory Committee** (COSS) and three Domain Committees that correspond to the Institute's three fields of research.

### Board of Directors

40 ex-officio members +  
20 qualified individuals

1 Strategic and Scientific  
Orientation Advisory Committee  
3 Domain Committees

### Bureau

15 members:  
10 founders +  
5 members



Rémi Bastien,  
Chairman of the Board  
and of the Bureau



### Operational department

The Chief Executive Officer  
and a management committee

Philippe Watteau,  
CEO



## KEY FIGURES



**200 Employees**  
25 nationalities

**150 R&D collaborators** including  
**45 PhD Students** (30%)  
**75 doctors** (50%)



**30 millions**  
per year



**50 members**  
and partners

**300 publications**  
since 2014, of  
which 134 in 2018

**37 patents**

**70 thesis**

**24 copyrighted softwares**



**3 research fields**  
More than 50 research subjects

15 projects as part of the project  
"Investment for the Future"

15 projects launched since 2014  
in the context of public or  
community funding



Vehicle  
Electrification

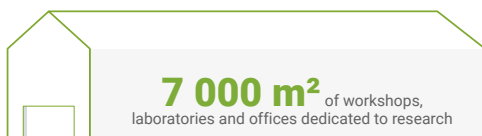


Driving delegation and  
connectivity



Shared mobility and  
energy

**1 TRAINING PROGRAM**



**7 000 m<sup>2</sup>** of workshops,  
laboratories and offices dedicated to research



# A NEW RESEARCH MODEL TO MAKE PROGRESS TOGETHER

The Institute's strength lies in its ability to bring together high-level players from the private and public sector, collaborating to develop new technologies that are responsive to the mobility challenges of the future.

## For industrial partners

- Build, with VEDECOM, future mobility scenarios
- Strengthen technological expertise and train employees
- Optimise Research & Development costs
- Make use of test platforms

## For academic partners

- Support research on applied technology projects
- Benefit from test sites and equipment
- Involve VEDECOM in French and European projects
- Develop training courses in our three strategic areas

## For local authority partners

- Help entrench innovation in sustainable personal mobility
- Boost the appeal of the regions with regards to development
- Benefit from experiments

## AN ECOSYSTEM UNITING MORE THAN 50 MEMBERS

### Founders members:



### Companies

- **Automotive industry:** PSA ▲, RENAULT ▲, VALEO ▲, CETIM ▲, MICHELIN, FAURECIA, CONTINENTAL, FAAR, NEXYAD, UTAC, EP TENDER, ELVIA
- **Aeronautics and space:** SAFRAN ▲, APSYS (Airbus), CNES
- **Transports, road development and mobility solutions:** AREP (SNCF), RATP, TRANSAMO (Transdev)
- **Road infrastructures:** 3M, NEAVIA (Lacroix), COFIROUTE (Vinci)
- **Communications infrastructures, suppliers and telecommunications operators:** NOKIA, MARBEN, YOGOKO, KUANTIC
- **Digital services and simulation:** ATOS, EGIS, ESI-CIVITEC, INTEMPORA, OPENDATASOFT, PTV, FARECO
- **Insurance:** FFA, MATMUT
- **Energy:** EDF
- **Logistic:** LA POSTE

### ACADEMICS

- **Universities:** UNIVERSITE DE VERSAILLES SAINT QUENTIN ▲, UNIVERSITE DE CERGY PONTOISE
- **Schools:** ESTACA ▲, ESIGELEC ▲, ECE Paris, CENTRALE SUPELEC, TELECOM PARIS TECH, ECAM-EPMI, UTC, STRATE
- **Research organisations:** IFSTAR ▲, IFPEN ▲, INRIA, CEA LIST

### LOCAL AUTHORITIES

- **Local authorities:** VERSAILLES GRAND PARC, ST-QUENTIN-EN-YVELINES, PARIS-SACLAY (EPAPS)
- **Public institution:** CEREMA

▲ Founders members

## OTHER VEDECOM'S PARTNERS

- **Collaboration:**
- **Support:**

# AT THE HEART OF THE INNOVATIVE MOBILITY SOLUTIONS CLUSTER AT PARIS SACLAY

VEDECOM moved into the mobiLAB in late 2018, at the heart of the Innovative Mobility Solutions cluster, in the Satory-Ouest neighbourhood of Versailles, next to the test tracks and a course for experimentation on open roads. The mobiLAB brings together research teams and consolidates all innovation and validation systems.

VEDECOM now has three locations:



- The mobiLAB, head office in Versailles

- ▶ Research offices and simulators
- ▶ Mobility Spot comprising LE HUB, a space for creativity and sharing, LE FAB for modelling, and THE WORKSHOPS for pre-industrial prototyping
- ▶ Laboratories

- Hall A, close to the mobiLAB and tracks

- ▶ Charging Workshop
- ▶ Electrical machines Prototyping workshop
- ▶ Reliability and Electronic power laboratory

2 allée des Marronniers, Versailles, France. Les Marronniers bus stop.

- L'Institut pour la Ville en Mouvement VEDECOM (City on the Moove)

10 rue des Halles, Paris 75001 - Metro station: Châtelet-les-Halles



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