

## Press release

Versailles, 12 June 2019

### The VEDECOM Institute Unveils Key Results for its Autonomous Vehicle at the IV2019 Demos

*The demonstrations made at the IV2019 event were the opportunity for VEDECOM Institute to unveil key results for its autonomous vehicle. The work, undertaken over three years as part of the European AutoMate project, has led to the sign-off on a level-3 vehicle prototype, fitted with technology modules likely to develop cooperation between the driver and the vehicle. On the basis of mutual communication and observations, the system must be capable of improving both man's trust in machines and road safety.*

#### **Major progress in man and machine working together**

The Automate project was launched in September 2016 and has been led by ten public and private European stakeholders, working on optimising trust and approval between man and machine. With €4.9 million of European Commission funding, it aims to test **an automated driving system that is both cooperative and communicative and where driver and vehicle mutually monitor, help and cooperate with each other in a real partnership.**

The project focused on the human experience and includes some cutting-edge technology: Twenty modules covering perception, managing control of the commands, interpreting human behaviour and predicting changes in the traffic close to the vehicle have been developed. Communication between the vehicle and the driver is established by installing a human-machine interface into the passenger compartment, as well as an augmented reality HMI. A camera behind the steering wheel permanently monitors the driver's face to have true interaction between man and vehicle.

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### **From perception to action: true reciprocity between man and the machine**

The system provides real reciprocity between man and the machine, both in terms of perception and actions. The different sensors are able to interpret human behaviour so that the vehicle can offer help to the driver when that need is felt: lack of vigilance, being distracted, etc. If the conditions allow, the vehicle can then take back driving control. The sensors alert the driver if there is a drop in vigilance or if there are obstacles that are not perceptible to man.

Conversely, the driver can come to the machine's aid in situations that it finds difficult to handle: lack of visibility for overtaking or at a roundabout, etc. Task-sharing can also be envisaged, with the driver managing the steering wheel and the machine the pedals, for example.

### **VEDECOM heavily involved both in developing the technology modules and the human factors studies**

VEDECOM, the major French partner on the project, was allocated a budget of €800,000 to follow through on two key areas: developing and integrating new technologies to the vehicle and human and socio-economic factor studies. In both these fields, the Institute was also in charge of evaluating and approving the technology modules that had been developed. This meant defining the methods and specifying the key performance, operational safety, user satisfaction, response time for taking back control indicators, etc. In fact, as many characteristic and discriminatory variables as it takes to establish human confidence in an automated driving system.

### **Handover of a prototype at the IV2019 event**

The prototype - a VEDECOM autonomous vehicle (developed on the basis of the C4 Picasso) - was handed over at the IV2019 event, which is the big worldwide annual conference on vehicle intelligence matters. This 30<sup>th</sup> edition was in France and the symposium finale was a day of demonstrations on the test tracks at Versailles Satory, a stone's throw from the mobiLAB - around twenty demos of the latest innovation in autonomous vehicle were on display. VEDECOM, co-organiser of the demo day, held a demonstration of its fully automated cooperative driving system that follows the Highway Code. The University of Ulm, Germany, covered driving on rural roads and the FIAT research centre handled suburban roads. Both are partners in the project.

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*“The programme came together today with the handover of a prototype vehicle with an unprecedented onboard system for vehicle-driver communication. It is a major breakthrough in autonomous vehicle development. The next stage will be to move onto a level-4 autonomous vehicle on roads specifically designed for this level of automation”,* said Philippe Watteau, Managing Director of VEDECOM.

The official project handover will take place before the European Commission and all the partners in early September.

### About VEDECOM

VEDECOM is an institute for energy transition (ITE) founded on unique cooperation between firms in the automotive and aviation sectors, mobility ecosystem infrastructure and service operators, academic research bodies and Ile-de-France local authorities. The role of VEDECOM is to forge closer ties between academia and industry. The institute helps them to achieve a high standard of innovation in the area of mobility and, in particular, in electric vehicles, autonomous and connected vehicles and shared energy and mobility infrastructure and services. VEDECOM is a part of the French government’s PIA future investment plan. Its founding members are Cetim, ESIGELEC, ESTACA, IFPEN, IFSTTAR, PSA Group, Renault Group, Safran, UVSQ and Valeo.

**Key figures in 2019 :** over 50 members, 3 research areas and 1 training program, 200 employees, 14 R&D projects, 12 European projects, over 300 publications, 37 patents, 24 copyrighted projects, 70 thesis, 1 business subsidiary, VEDECOM Tech, created in February 2017.

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