

DEVELOPMENT OF AUTONOMOUS VEHICLES

THE
FRENCH
STRATEGY



“ This strategic framework will act as the government’s basis for the development of self-driving vehicles. This development should be undertaken so as to improve mobility for all our citizens throughout the country, and draw upon the efforts of every stakeholder with a role to play in the transformation.”

**Anne-Marie Idrac, Senior Head of National Strategy
Development of self-driving vehicles**



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DEVELOPMENT OF DRIVERLESS VEHICLES: KEY ISSUES



TAKING INTO ACCOUNT THE EXPECTATIONS OF CITIZENS AND TERRITORIES

The services offered via autonomous vehicles must be adapted to the needs of citizens and local regions. Being linked to new forms of car-sharing and on-demand transport, these services could blur the lines between individual and collective transport. Developing autonomous vehicles also means encouraging the implementation of new economic models with regard to local mobility policy, and the ability to deploy adapted infrastructures. In this respect, the role of local authorities is vital.



ENSURING SAFETY

Autonomous vehicles must comply with the safety expectations of users and of society in general, in terms not only of road safety but also cyber-security and the protection of personal data.



ENCOURAGING ACCEPTANCE

In order to ensure the development of autonomous technology, it is important for the change to be accepted by all stakeholders involved. Several aspects must be taken into account: safety, suitability for use, impact on transport options and their environmental/employment impact.



DEVELOPING COMPETITIVENESS AND EMPLOYMENT

The development of these types of vehicles must benefit innovative sectors, from both a technological and industrial standpoint. The challenge here will be to facilitate experimentation while also encouraging the development and control of technology used for detection, data processing and geo-localization. The strategy implemented must also lead to economic gains for local regions.



PROMOTING EUROPEAN AND INTERNATIONAL COOPERATION

The international context is characterised by strong competition between industrial players and territories.

France is responding to international rules for road traffic and technical vehicle regulations. In this context, European cooperation must act as a driving force in the development of safe technology.

At the European level there are several key aspects to consider: the development of technical regulation for vehicles, but also the financing of an European program for research, innovation and experimentation.

THE 10 PRIORITY ACTIONS FROM THE GOVERNMENT

1. Constructing a framework for 2020 - 2022 to allow the use of personally-owned self-driving cars, as well as public transport vehicles and highly-automated freight delivery vehicles. Where necessary, the driver training, traffic and responsibility may also need to be adapted.

2. Establishing a national framework for the validation of automated public transport systems. Developing technical regulations and a framework for approval that would apply specifically to self-driving vehicles at the European and International level.

3. Updating technical regulations to integrate issues such as cybersecurity, and developing methods for threat analysis via a working group between the Government and industry.

4. At the Government's initiative, defining rules for data sharing and establishing tools and evaluation methods used to validate vehicle systems.

5. Design a national program for experimentation for all self-driving vehicles, with the involvement of both industrial sectors and local governments. This program must enable the development of system validation tools. The "Future Investment Program" will be mobilized in order to support the approach and maintain the financial support of the national government.

6. Constructing a framework by 2019 that will facilitate the exchange of data produced by these vehicles, thereby contributing to improving road safety, traffic management, infrastructure maintenance and the development of mobility services.

7. Preparing one or several plans for the deployment of connected infrastructures, in particular via the analysis of the suitability of various technologies based on different use-cases and road networks.

8. Encourage and assist with the development of high-precision digital mapping, identifying actions that can be pooled.

9. Implementing a system to monitor individual and social perception and the acceptability of self-driving vehicles, in order to identify critical issues (including ethical concerns).

10. Carry out a detailed analysis of the impact of driverless technology on employment and job-skills requirements.



3 EXAMPLES OF USES FOR SELF-DRIVING VEHICLES



FREIGHT TRANSPORT

**Charles Poutiers, Technical Director,
Mail and Parcel Service of the French Post Office (La Poste)**

“ La Poste delivers to town centres using vans, cars and post trolleys. At the same time, the number of parcels being delivered is going up, while the amount of letters is decreasing. In light of this dual observation, we’re experimenting with self-driving electric trolleys that could facilitate deliveries and make it easier for our teams to operate. This would allow the post carrier to free up their movements and detect the presence of pedestrians in the street. Tested in Nantes and Rueil-Malmaison, the system was well-received by our teams, and shows that self-driving vehicles can complement human activity.



PUBLIC TRANSPORT

**Mathieu Dunant,
Director of Innovation for the RATP public transport group**

“ We’re experimenting with a self-driving shuttle service in the Bois de Vincennes forest park, which has so far carried some 50,000 passengers. With a capacity of six seated spaces, these vehicles serve five stops over a route of just under 2 kilometers. For each journey, passengers are welcomed by an RATP conductor, whose role is to inform passengers and guarantee their safety on board the shuttle, which is completely self-driving. The service acts to supplement the existing public transport network, as it allows passengers to access new stops, adding another link in the local transport chain. The trial phase has shown high levels of passenger satisfaction.



PASSENGER CARS

Luc Marbach, Managing Director of ITE VEDECOM

“ We’re working on vehicles that will allow drivers to use time spent in traffic jams, or on the motorway, for productive purposes, with the added bonus of enhanced safety. Our role involves conducting research on the perception of environment, location, communication with infrastructures and the selection of actions in all situations, not to mention interactions with pedestrians, and validating our progress with experiments on test tracks and then in real conditions.”

DEVELOPMENT OF SELF-DRIVING VEHICLES IN FRANCE KEY DATES

2014

Industrial roadmap for the development of autonomous vehicles

2015

Initial experiments with autonomous shuttles

2018

- Strategic framework for public action for the development of autonomous vehicles
- Presentation of the transport orientation strategy bill

2020-22

Deployment of highly automated vehicles