

INNOVATION DAYS

22 & 23 JUNE 2017

AVA

AUTONOMOUS VEHICLE FOR ALL

on the road

On board the safe and intuitive  
autonomous car

INNOVATION  
BY PSA  
GROUPE

What will **change** with the autonomous car?

Will I be able to **choose whether to drive or be driven?**

**When will cars offer fully autonomous driving?**

What else will I be able to do in a self-driving car?

Will a **driver's licence** still be required?

Can I **trust** all of these **technologies**?

How will the car be able to **see better than me?**

Will some automated features emerge **in the near future?**

How will the autonomous car be **protected from hackers?**

Will the autonomous car be **safe and reliable?**

**Will I still be able to drive my car?**

How can the autonomous car make the **right decisions?**  
How does its **intelligence** work?

When will I be able to **sleep** instead of driving?

**Will the Highway Code change?**

Will the **design** of self-driving cars be different?

Who will be **responsible** in case of accident?

What **changes in regulations** are needed?

## The autonomous car, a challenge for society and a technological achievement

The autonomous car goes beyond the imagination. It inspires dreams, hopes, questions and fears all at once; the same emotions that come with anything new.

The autonomous car is a **promise of freedom**. It frees drivers from a number of constraints such as traffic jams, the monotony of motorways, parking, etc., while giving them **time** to enjoy their trip in a different manner by reading, working, watching a film, relaxing, sleeping or enjoying family time. The driver will embrace a whole new travelling experience, full of new sensations.

The self-driving car is a major development in **road safety**. It will eliminate human error, which is currently the cause of more than 90% of accidents, while making roads safer.

The self-driving car is a **technological achievement that is emerging gradually**. The first automated features, such as cruise control, have already been on the road for several years. They are evolving in order to assist drivers more effectively in the driving process; they are slowly yet naturally entering into the new practices and habits.

The autonomous car **makes everyday life simpler**. 72% of French people believe that innovations in the field of mobility, such as self-driving cars, will have positive consequences on their everyday lives. (*Source: IPSOS & BCG survey, April 2017*)

The self-driving car clearly confirms that **the automotive industry is constantly innovating and evolving** to address new expectations. It depicts the car of tomorrow.

During these Innovation Days "**On board the safe and intuitive autonomous car**", Groupe PSA shows its expertise on the development of technologies made for self-driving cars and **answer the questions** it may raises.

These technology breakthroughs are gradually emerging with the roll-out of the **AVA program "Autonomous Vehicle for All"** which aims to provide a safe and intuitive autonomous car offering a whole new driving experience. This program includes an offering and a technology with different autonomous driving levels as well as intuitive and easy-to-use interfaces for all. Groupe PSA is seeking to provide the answers to the hopes and queries arising from the autonomous car. Welcome to PSA's Innovation Days!

**Gilles Le Borgne**  
Executive Vice President, Quality and Engineering, Groupe PSA

## SOMMAIRE

The autonomous car, where do we stand? ..... **page 03**

What technological solutions are there  
for a safe and reliable autonomous car? ..... **page 14**

What regulatory and legal changes are needed? ..... **page 21**

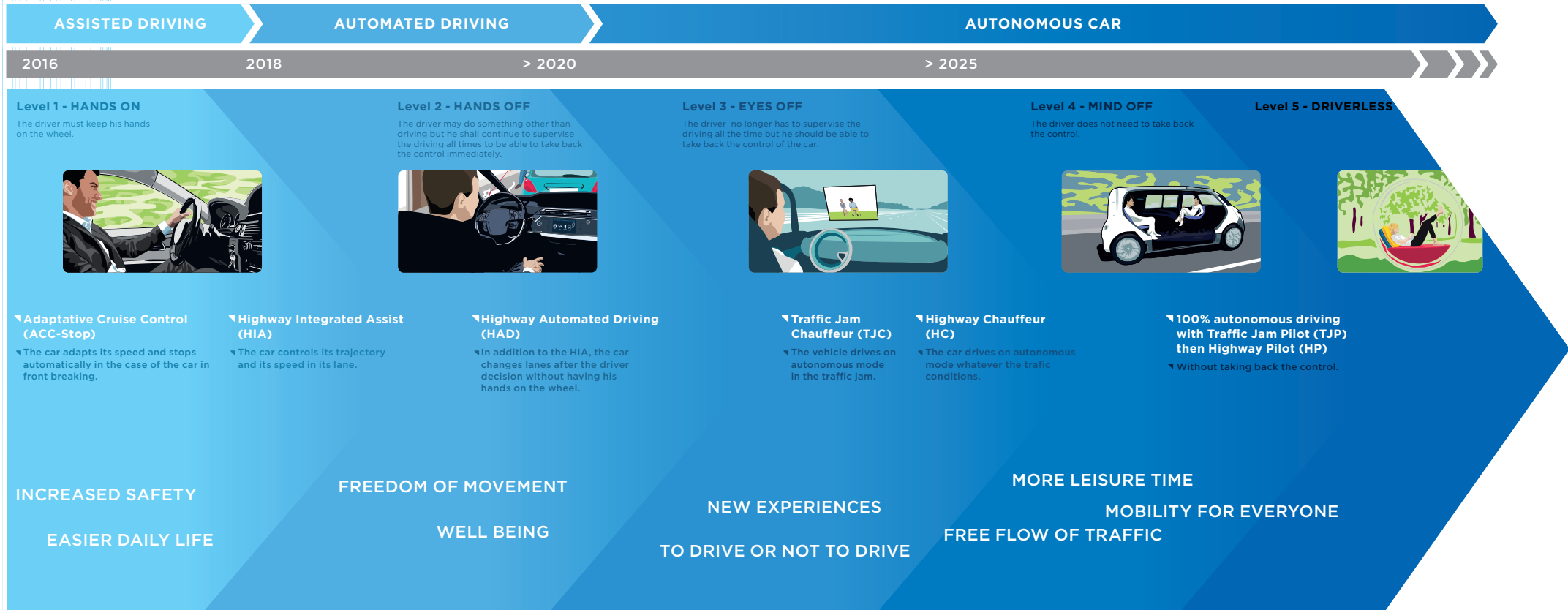
The autonomous car, a promise of freedom ..... **page 26**

The Vélizy Technical Centre,  
place where the autonomous car is designed ..... **page 28**

Media contacts ..... **page 29**

# THE AUTONOMOUS CAR, WHERE DO WE STAND?







The AVA program "Autonomous Vehicle for All" brings together a large range of features leading gradually to the partial, and later total, delegation of the driving to the car itself, when the driver wishes so.

- The AVA program covers a period running from **today until post-2030**.
- This program involves:
  - **Solutions "for all"** offering different levels of autonomous driving to address customer expectations. This offering covers all three brands, Peugeot, Citroën and DS;
  - **Technologies "for all"** with intuitive and easy-to-use interfaces.
- **Through its AVA "Autonomous for All" program, Groupe PSA is committed to making the autonomous car safe and intuitive to offer new driving experiences to its customers, by making everyday life simpler, offering them time for other activities, and by giving them the freedom to choose to drive or to delegate the driving in complete confidence.**



Groupe PSA's AVA prototypes

- From 2020, the autonomous car will:
  - offer the driver the freedom to **use his time differently and release him from the constraints** of driving (when driving becomes monotonous, in case of traffic jams, for parking manoeuvres, etc.),
  - play a role in **reducing the number of accidents** and will guarantee even **more safety**;
- On the long term, the autonomous car will:
  - **smooth traffic flows** by communicating with other vehicles and infrastructure,
  - help to **reduce fuel consumption and emissions**,
  - allow **mobility for everyone everywhere**,
  - **reduce the parking spaces** in towns.

Groupe PSA is currently testing prototype models on open roads in Europe. They are equipped with self-driving features that will be available post 2020.

Groupe PSA is the first car manufacturer to have tested the autonomous car on open roads in France from July 2015 onwards and the first to have performed experiments with non-expert people behind the wheel since March 2017.

- 20 prototypes are currently operated by the Group and its partners.
- As of today, 125,000 kilometres have been travelled in self-driving mode (levels 2 to 4) on European motorways.
- Around 100 "non-expert" people have already tested Groupe PSA's demonstration models since March 2017. This experience enables them to test the delegated driving feature and more easily imagine themselves in the automotive future. The Group is taking these different reactions into account in its ongoing work.

*"This heralds a truly relaxed future!"*

*"One can foresee a great deal more liberty; during the hours wasted in traffic jams, going on holiday or to work, we will be able to spend our time differently. That's wonderful!"*

## WHAT FEATURES ARE ALREADY FORESHADOWING THE AUTONOMOUS CAR?

The autonomous car is equipped with smart technologies that perform all the driving processes without human intervention, and make the right driving decisions.

Today, Groupe PSA's vehicles are equipped with the initial "technology building blocks" foreshadowing tomorrow's self-driving car:

- New generation of **assisted driving** features deployed on Peugeot and Citroën brand vehicles;
- Driver-supervised **automated driving** features to be launched at the beginning of 2018 by the DS brand.

### FOR THE CITROËN BRAND: DRIVER ASSISTANCE SYSTEMS, A PILLAR OF THE CITROËN ADVANCED COMFORT® PROGRAM

*"Comfort is Citroën's hallmark. With the Citroën Advanced Comfort® program, Citroën is taking another step forward in offering a global and modern approach to comfort. The development of intuitive driver assistance systems is at the heart of this program: they provide the driver with an ever-greater sense of well-being and safety in everyday driving conditions. As a result, they represent a first concrete step towards the self-driving car, foreshadowed by the Grand C4 Picasso AVA prototype whose comfort is recognised by everyone who has been able to try it."*

**Linda Jackson**  
Chief Executive Officer, Citroën Brand

For Citroën, comfort is a hallmark which is not limited to smoothing out the road or to comfortable seats, but encompasses a set of features that make you feel great in a Citroën: shock absorption, acoustics, seats, luminosity, on-board comfort, ease-of-use and freedom of mind.

These specific aspects were presented in 2016 as part of the **Citroën Advanced Comfort®** program which has four objectives:

- protecting occupants from external disturbances so that the inside of a Citroën feels like a cocoon. That's **driving comfort**;
- facilitating the on-board experience thanks to the spacious interior, practical storage and a clever layout. That's **living comfort**;
- ensuring peace of mind by organising information so as to display what is really useful to the driver and by providing a peaceful and relaxing internal atmosphere. That's **comfort of mind**;
- smoothing the processes for using the car and its equipment thanks to intuitive technology, assistance features that are useful on a daily basis and continuous digital connectivity between the occupants and the car. That's **functional comfort**.

Driver assistance systems are an integral part of the last objective. Citroën is therefore committed to all intuitive technologies that **enable to make driving easier** and peacefully enjoy each journey. A first concrete step towards the self-driving car, many useful and effective driver assistance systems are available in the range from C1 to SpaceTourer, making for **safer and more relaxed driving**. Depending on the model, you are offered:

- features to assist the driver during the most unpleasant and dangerous periods of driving (motorway journeys, traffic jams and so on): Active Safety Brake, Adaptive Cruise Control with Stop Function, Active Blind Spot Monitoring System, Active Lane Departure Warning, Speed Limit Recognition and Recommendation. The vehicle supports the driver's reactions, making driving smoother.
- Features helping the driver to manage complicated manoeuvres: Park Assist, which can be combined with 360 Vision. Reassured, the driver can rely on the vehicle to help him through the most stressful situations.



Active Safety Brake



Adaptive Cruise Control with Stop Function

## FOR THE PEUGEOT BRAND: A ROLL-OUT OF DRIVER ASSISTANCE SYSTEMS IN ALL MARKET SEGMENTS

*"The PEUGEOT brand has undertaken its move upmarket with the support of leading and recognised products. Quality and technology are an integral part of the strategy, providing our customers with significant advances in image and residual value. Driver assistance systems are now widely deployed throughout our range and the association with PEUGEOT i-Cockpit® demonstrates the new benefits that the brand will continue to study as part of its plans for the autonomous car."*

**Jean-Philippe Imparato**  
Chief Executive Officer, Peugeot Brand



New Peugeot 3008 SUV

As renewals take place, all models from the Peugeot range provide access to a number of driving assistance systems, thus initiating a proactive approach to driver assistance systems for all.

- In **A Segment**: the PEUGEOT 108 offers Active City Brake, Lane Keeping Assist or reversing camera.
- In **B Segment**: the PEUGEOT 208 and 2008 offer Active City Brake, Park Assist, reversing camera or connected 3D navigation with voice recognition.
- In **the C1 and K1 Segments**, including on their utility vehicle versions:
  - the PARTNER offers Active City Brake and reversing camera;
  - The new TRAVELLER and EXPERT have Active Cruise Control with Distance Alert, Active Safety Brake, Blind Spot Monitoring, the VisioPark 1 reversing camera (image on a 7-inch touch screen with 180° aerial view and a rear view zoom system), Active Lane Departure Warning, Sign Recognition with on-screen speed display, driver attention warning, automatic headlights and connected 3D navigation with voice recognition.
- With the recent launches of the PEUGEOT 3008 and 5008 SUV and the presentation of the new 308 Sedan and 308 SW, the **C Segment** has now been completely renewed and offers all the driver assistance systems of Groupe PSA's AVA program.

The new **PEUGEOT i-Cockpit®** in the 3008 and 5008 provides drivers with driving information within their field of vision with the 12.3-inch **digital display**.

With this fully optimised information display, the PEUGEOT i-Cockpit® allows the driver to truly own these new features. PEUGEOT i-Cockpit® is therefore the ideal driver's cockpit for enhancing the use of driver assistance systems for all.



PEUGEOT i-Cockpit®

## FOR THE DS BRAND: LAUNCH OF THE FIRST AUTOMATED DRIVING FEATURES IN THE DS 7 CROSSBACK

*"With the levels of excellence provided by French savoir-faire, the entire DS range brings together refinement and technology. The first car in our second generation of models, the DS 7 CROSSBACK goes the extra mile. Its new driver assistance systems increase driver safety and serenity. They enable automated driving 'under driver's supervision'."*

**Yves Bonnefont**  
Chief Executive Officer, DS Brand



New DS 7 CROSSBACK SUV

Although the first generation of the DS (DS 3, DS 4, DS 5) already had equipment such as Active City Brake, Blind Spot Monitoring and Active Lane Departure Warning systems, the DS 7 CROSSBACK, available from January 2018, will be the first Groupe PSA's vehicle to offer **automated driving features** 'under driver's supervision'.

### • DS CONNECTED PILOT : "drive or be driven"

This innovation totally assists the driver (he should keep his hands on the wheel) and enables him to take back control of his vehicle at any time. The system controls the speed of DS 7 CROSSBACK with respect to the car in front and positions it precisely within its road lane in accordance with the driver's usual practices. Activate at speeds of up to 112mph/180 kmh, according to the national speed limit legislation. It controls the vehicle speed's and course of the driver. The feature is particularly useful in traffic jams or on the motorways.

### • DS PARK PILOT : "easy parking"

With this new assistance technology, the DS 7 CROSSBACK parallel or reverse parks itself without manual use of the steering wheel or pedals. The vehicle is able to identify a parking space corresponding to the dimensions of DS 7 CROSSBACK, simply by driving past spaces at a speed of up to 18mph/30kmh. The driver then uses the touch screen interface to indicate how he wish to park in reverse with the parallel, or bay, parking manoeuvre: all the driver needs to do then is to hold down the "Park" button and wait for the "magic" to happen.

### • DS NIGHT VISION : "the end of the night"

Thanks to an infrared camera in the front grille, the equipment detects the presence of pedestrians or animals on the road up to 100 metres away. The driver views the scene in infrared on the digital display and sees the dangers identified framed in yellow or red according to the level of criticality.

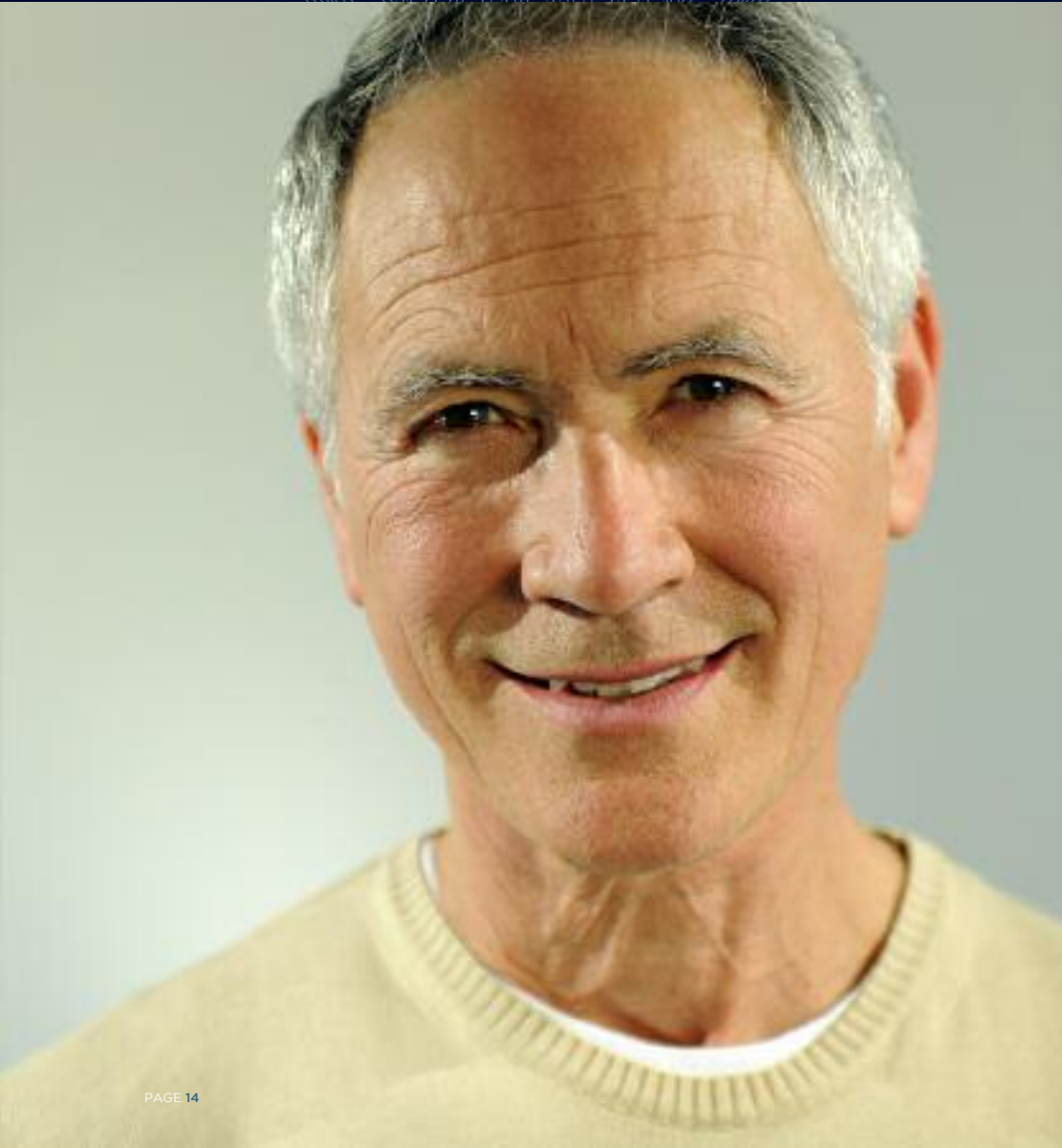
### • DS DRIVER ATTENTION MONITORING : "preventing inattention"

This function identifies any reduction in the driver's level of concentration by means of an LEDS infrared camera placed above the steering wheel, backed by a second camera at the top of the windscreen. This equipment continuously monitors: the eyes for signs of tiredness (blinking), the face (looking away) and head movements for signs of distraction and the course steered by the car in its road lane (deviations or steering movements by the driver). As soon as the system detects an anomaly in one of these factors, it automatically activates a sound alert and visual warning on the central console.





## WHAT TECHNOLOGICAL SOLUTIONS ARE THERE FOR A SAFE AND RELIABLE AUTONOMOUS CAR?



### A SAFER AUTONOMOUS CAR THANKS TO A NEW ELECTRONIC ARCHITECTURE

Groupe PSA is designing a New Electronic Architecture, the NEA, the true nervous system of connected and self-driving car of tomorrow. In particular, it ensures the safety and reliability of self-driving cars.

- From 2020, all vehicles designed on the EMP2 platform will be equipped with NEA. NEA will then gradually be rolled out to all of the Group's cars.
- NEA provides access to all of the car's automation and connectivity features with the maximum level of operational safety and data protection (cyber security).
- NEA is an ingenious and revolutionary piece of design:
  - the architecture is **modular** so that, according to customers' requirements, the level of equipment and the on-board electrical and electronic capability of the vehicle and its purchase cost can be adjusted;
  - the architecture is **scalable** so that innovations can be added without revising the electronic architecture, thus allowing them to be rapidly available to customers.
- The "over-the-air" connected NEA allows customers to perform some of their vehicle's maintenance operations, to enhance the available functionalities and to access new services in complete safety, without having to go to a dealership.

**Groupe PSA's safe and intuitive self-driving car will be developed using this new electronic architecture.**



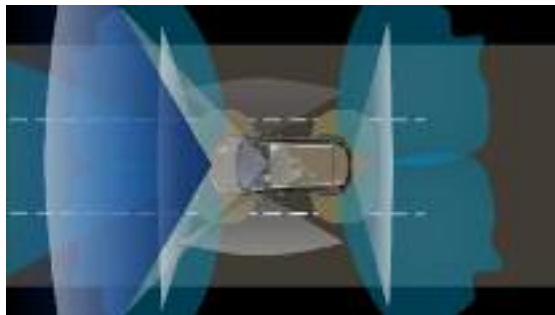
NEA, Groupe PSA's New Electronic Architecture

## AN AUTONOMOUS CAR WHICH SEES EVERYTHING AND SEES IT BETTER THAN THE DRIVER

The self-driving car's perception of its environment is better than that of a human being. The detection ability of the self-driving car's set of technologies is greater than that of the human eye.

- **360° vision and at up to 200 metres** in front is ensured by more than 20 sensors using different technologies: a ring of 12 ultrasonic sensors, 6 cameras, 5 radars and 1 laser-scanner. This equipment enables the systems reliability to be increased thanks to information redundancy.
- The **accurate positioning** of the car and the **early recognition of the road type** are possible thanks to high definition mapping.
- **Connectivity with neighbouring cars and infrastructure** (Car-to-Car and Car-to-Infrastructure communication) complements the sensor technologies in order to better anticipate non-visible road dangers.

These detection technologies guarantee the robustness and relevance of the information processed by the NEA. This is the initial information which is indispensable in order for the self-driving car to understand its changing environment and for it to make the best driving decisions.



A 360° view provided by ultrasonic sensors, radars, cameras and laser scanner

## AN AUTONOMOUS CAR WHICH MAKES THE RIGHT DECISIONS

The self-driving car's intelligence is based on:

- **combining the data** gathered by all the cameras, radars and lasers devices that enable dynamic mapping of the environment in real time;
- **decisions** to activate systems by means of **automatic driving algorithms** comprising millions of lines of code entirely controlled by Groupe PSA;
- **the speed of information** communicated to the **microprocessors controlling the components** of the vehicle (steering, braking system and powertrain).

Since 2013, **Groupe PSA has been developing its own algorithms**; these algorithms feature **built-in artificial intelligence building blocks**. On the grounds of responsibility and safe operation, Groupe PSA seeks to control the design of the self-driving car control software. From 2015, the first of the Group's vehicles was equipped with several tens of thousands of lines of code which aggregated the information from different sensors. Today these thousands of lines of code are completely controlled by Groupe PSA and are built into self-driving prototypes.

These algorithms are built and validated using data from numerous physical and digital tests:

- **open road tests** of the Group's prototypes vehicles: several hundreds of thousands of kilometres have been travelled and complemented by field data acquired with our partners. These trials enable to factor in all critical situations in order to develop the algorithms and validate their associated solutions.
- **Trials using digital simulation** enabling the modification of the real-life situations tested.

The vehicle will always benefit from the latest driving algorithms thanks to the remote over-the-air updating of the software.

## AN AUTONOMOUS CAR WHICH CLEARLY AND EASILY COMMUNICATES WITH THE DRIVER

The fact that the car becomes autonomous means that **reinforced communication between the driver and the car** must take place in order to create a trustful relationship.

The driver is still in control on-board and decides whether he wants to drive or delegate driving to the vehicle.

**The Man Machine Interface (MMI)** of the self-driving car is therefore one of its key features.

- At all times, the autonomous car **allows the driver to see and understand unambiguously what the car is doing** thanks to information on its screens.
- It **warns the driver if he or she must take back control**. It ensures that the driver is able to take back control at any time thanks to the sensors inside the vehicle.
- It **communicates clearly and intuitively with the driver**, and does this by providing multiple information related to autonomous driving, services and connected navigation.



The IVI (In-Vehicle Infotainment), an essential component for processing data and communicating with the driver

The NEA will also be equipped with an IVI 2020 (In-Vehicle Infotainment) next generation **multimedia microprocessor**. It will simultaneously process all data in order to transmit the right information to the driver at the right time. With the arrival of self-driving and connectivity features, the amount of data processed is increasing. Thanks to the IVI, NEA can process ten times more information than the current architecture (115 MB/second compared to 12M MB/second).

## A RELIABLE AUTONOMOUS CAR

**The safety of passengers in a self-driving car is at the heart of Groupe PSA's priorities.** This is why the NEA is designed for a maximum level of reliability, particularly in terms of operating safety. Today, 90% of accidents are due to human error. The autonomous car will improve road safety and reduce the number of accidents due to human error.

- **Redundancy of information** guarantees:
  - the **accuracy of the data identified** by the sensors using different technologies;
  - that **continuous operation of all systems**, thanks to a back-up system in the event of any failure of an electronic component (presence of several electronic networks, dual electric supply by dual batteries and so on).
- **Fast data-processing** is ensured by high speed networks: Ethernet, Flexray, LVDS (Low Voltage Differential Signal). The speed will be **100 times faster** than the current electronic architecture to process all available information and ensure correct decision-making.

## AN AUTONOMOUS CAR THAT GUARANTEES DATA PROTECTION

In an increasingly connected environment, the NEA guarantees the protection and confidentiality of all data: that of the passengers, that related to the connectivity of the vehicle and that of the on-board microprocessors.

The concept of cyber security covers both product security (Safety) and customer data protection (Privacy).

- Since 2012, Groupe PSA has been incorporating these new challenges into its design conception with a "Secure-by-Design" and "Privacy-by-Design" approach.
- The Group is also involved in the SAE/ISO standardisation work which is aiming to establish an automotive cyber security standard.
- The NEA will meet the requirements of the European GDPR (General Data Protection Regulation) standard, guaranteeing the protection of personal data (Privacy) which will enter into force in May 2018.

The NEA will guarantee the cyber security of the vehicle by:

- an **intrusion detection system**. In case of an anomaly, an alert will be sent to verify the vehicle's correct operation and safety;
- the **encryption of the data** sent to the microprocessors controlling the driving. The microprocessors will be equipped with authentication keys;
- The presence of **several successive security measures** (firewall). They will provide a protection against cyber-attacks.

## WHAT REGULATORY AND LEGAL CHANGES ARE NEEDED?





## CHANGES REQUIRED ON REGULATIONS AND INFRASTRUCTURE

- **The Vienna Convention currently being revised**

**More than 70 countries, including France, signed the Vienna Convention on November 8, 1968.** This international treaty sets out a number of road safety rules applicable to road traffic. These rules have been transposed into the national highway codes of the signatory states.

- The arrival of self-driving features, intended to equip vehicles and improve safety, requires the revision of the Vienna Convention.
- A first amendment was adopted in March 2016 to authorise some features, such as the smart Adaptive Cruise Control system with stop function or the Active Lane Departure Warning system. These features must comply with United Nations regulations. Currently, drivers must remain in control of their vehicle or be able to deactivate features according to the circumstances.
- The revision of the Vienna Convention must continue in order to approve a number of related automated driving tasks and to authorise activities other than driving.

**The developments underway are in line with the roll-out plan for self-driving features to be installed in Groupe PSA's vehicles.**

- **A need for road infrastructure standardisation**

European Directive 2008/96/EC on the management of road infrastructure safety in Europe is likely to be amended in order to facilitate the roll-out of autonomous driving.

Physical infrastructure includes road markings and vertical signage (signs, etc.). The quality of this infrastructure affects the reliability of the information taken into account by the vehicles' automated features.

**Groupe PSA is participating in discussions to harmonise infrastructures in Europe. The Group is also working with the principal infrastructure managers in France.**

Distance communication networks (cellular networks, 4G, 5G and on-board Wi-Fi) should gradually cover the road network. These means of communication will be able to supply **better information** to the driver on the vehicle's environment (accurate and advance information on traffic jams, obstacles on the road, weather conditions and so on) and therefore **increase safety**.

## APPROVALS PROCEDURES TO BE MODIFIED

Vehicle approval is the usual process by which the public authorities authorise the marketing of a vehicle.

In Europe, this process involves verifying the compliance of the vehicle and its equipment with the requirements of the Approval Directive 2007/46/EC.

- This approval process will probably change in order to reflect the increasingly complex technology put into vehicles and the new situations arising from the development of autonomous driving assistance features.
- During the vehicle homologation process, the supervisory authorities could require a safety record from the car manufacturer for features that are difficult to test such as, for example, changing lane during autonomous driving.

At a global level, the ECE R79 regulation harmonising the technical automotive rules applying to steering systems is also undergoing change. Its scope will need to be extended in order to cover a large part of the assistance features involved in autonomous driving.

The current approval model remains appropriate, at least for SAE\* levels 1 and 2 of autonomy. In parallel, **Groupe PSA is taking part in a global discussion that is currently ongoing with regards to higher levels of autonomy.** This is in order to ensure maximum levels of safety for self-driving vehicles and to be able to sell vehicles with an SAE level 3 of autonomy and beyond.

\* Car manufacturers have agreed to use the classification of levels of autonomy developed by SAE International, the US organisation bringing together automotive scientists, engineers and professionals which has prepared a table facilitating the vehicle autonomy understanding.

## LIABILITY AND INSURANCE ISSUES

One of the main expectations for autonomous driving focuses on the dramatic reduction in road accidents by reducing the human factor which causes almost 90% of accidents.

In some cases of accidents involving self-driving vehicles, car manufacturers could receive more requests to identify the cause of an accident. One of the challenges will therefore be to determine whether the driver of the car was in charge of the driving at the time of the accident. This is why the UNECE (United Nations Economic Commission for Europe) is working on the ADDR (Automated Driving Data Recorder). This function records the technical parameters that make it possible to know who was in charge of driving the vehicle at the moment of the incident or accident. **Groupe PSA supports this process.**

**Groupe PSA, as well as the automotive industry, is working with the insurers in order to bring forward the much-needed changes to insurance cover for autonomous vehicle owners.**

## TRAINING AND INFORMING DRIVERS TO BE ADAPTED

Given that the installation of vehicle driver assistance systems will be gradual, it is likely that in the short term, autonomous driving will only require a few changes in regulations related to drivers' licences across the various countries (Framework Directive 2006/126/EC).

It will however be necessary to add information and training modules that are appropriate to the use and the limits of automated features. Groupe PSA is aware, just as other car manufacturers are, of the need to enhance the methods used to inform the drivers of vehicles equipped with self-driving features. This includes improving the content and communication methods of on-board instructions, together with the introduction of specific support processes by means of a suitable handover when a vehicle is delivered to the customer. Generally, **Groupe PSA ensures a responsible communication on the levels of autonomy offered on its vehicles in order to guarantee the safety of the occupants and other road users.**

## GUARANTEED PROTECTION OF PERSONAL DATA

Automated driving requires the processing of a large amount of data that may be transmitted outside the vehicle when "connected" resources are used. This data is necessary in order to perform driving features in an entirely safe manner. Some of it may be of a personal nature and will be dealt anonymously with scrupulous respect for the laws in this area.

Groupe PSA adopts national and international regulations, both current and future, on the processing of data particularly in managing access rights and the consent of passengers:

- Data Protection Act of 6 January 1978;
- Directive 95/46/EC of 24 October 1995 on the protection of personal data
- From May 2018, the General Data Protection Regulation (GDPR) will enter into force and will replace the Directive 95/46/EC.

Access to the specific data contained in the ADDR (Automated Driving Data Recorder) could lead to specific regulatory conditions, particularly with regards to the accessibility of information: whether or not access is restricted to the empowered authority or accessible to other stakeholders (car manufacturer, insurer, driver at the time of an accident or incident).

## THE AUTONOMOUS CAR, A PROMISE OF FREEDOM



*“Choose to drive or to be driven... Dedicate time for other activities... Enjoy a new living space...”*

The self-driving car **redefines all the rules** of the traditional car. It offers a **new kind of freedom**, that of choosing to let yourself be driven or to enjoy the pleasure of driving. It gives us time, opening up new possibilities in order to enjoy new on-board **experiences**.

The car will become an extension of the user's world. From home to work and taking in leisure activities, the self-driving car will reinvent itself for new uses. New activities will gradually become possible according to the different levels of autonomy, thus establishing a new relationship with the car and between its occupants. Space will be redesigned and the cockpit transformed to let users **be driven comfortably and with complete confidence**.



An example with the PEUGEOT INSTINCT CONCEPT

*“The times we are living in are extremely stimulating. Behind the self-driving car as a technical object, cultural, social and political forces are at work. It is a major change in the ecosystem, fascinating and difficult to understand, a real reservoir of wealth and value!”*

**Mathieu Flonneau**

Lecturer-Researcher at the University Paris I Panthéon - Sorbonne

## THE VÉLIZY TECHNICAL CENTRE, PLACE WHERE THE AUTONOMOUS CAR IS DESIGNED

- The Vélizy centre brings together the experts responsible for deploying the self-driving car and hosts the design workshops for Groupe PSA's prototypes.
- A team is working specifically on the user experience. There are more than 230 people on the User eXperience Cockpit Team (UXCT) platform at Vélizy, the largest space in Europe, now with a branch in San Francisco and another in Shanghai.
- The Vélizy Technical Centre was created in 1966 to host Citroën's Research and Development department. Today it has more than 5,000 employees.
- The ADN "Automotive Design Network", inaugurated in 2004, is Groupe PSA's Design Centre at the heart of the Vélizy Technical Centre. This is where Groupe PSA 's vehicles are created, bringing together all of the Group's automotive design activities: stylists, engineers/technicians and marketing.



## GRUPE PSA MEDIA CONTACTS

For any questions about Groupe PSA's self-driving car, please contact the press office:

### **Laure de Servigny**

laure.deservigny@mpsa.com, +33 (0)670 188875

### **Marguerite Hubsch**

marguerite.hubsch@mpsa.com, +33 (0)678 800953

### **Harmonie Torresan**

harmonie.torresan@mpsa.com, +33 (0)675 243766

Contact for bloggers:

### **Marine Daniel,**

marine.daniel@mpsa.com, +33 (0)761 653935

The information presented during the Innovation Days can be found on the:

**<https://medialibrary.groupe-psa.com/corporate/identification?token=bBtu71Bt5>**

### **Follow Groupe PSA on:**

Twitter : [twitter.com/GroupePSA](https://twitter.com/GroupePSA)

Facebook : [facebook.com/groupepsa](https://facebook.com/groupepsa)

Linkedin : [linkedin.com/company/groupepsa](https://linkedin.com/company/groupepsa)



