



PRESS KIT

# IAA MOBILITY 2025

Valeo at the heart of tomorrow's mobility

SEPTEMBER 8-12

Hall A1 - Booth B01

Trade Fair Center Messe

München

**Valeo**

# Table of contents

03	<b>INTRODUCTION</b> From engines to algorithms: Europe's automotive reset
05	<b>HIGHLIGHTS</b> Do not miss our press events
06	<b>VENUE</b> Where can you find us at IAA MOBILITY 2025?
07	<b>INTERVIEW</b> "AI is driving the future of cars" - Joachim Mathes, CTO, Valeo Brain Division
09	<b>MARKET &amp; TRENDS</b> The EU car market: Clean, safe, and innovation-driven
11	<b>INNOVATION SPOTLIGHT</b> Software-defined Vehicle: A technological revolution in the automotive industry
17	<b>INSIDE TECH</b> Valeo anSWer: The full-stack offering for SDVs
20	<b>SMART ELECTRIFICATION</b> Valeo electrifies mobility from the charger to the road
25	<b>SMART LIGHTING</b> When light becomes smart, safe, and communicative
27	<b>DRIVING EXPERIENCE</b> A smart, personalized, and human-centered cabin
29	<b>SMART SUSTAINABILITY</b> Making mobility more sustainable, from production to end of life
32	<b>AFTERMARKET</b> Preparing professionals for new forms of mobility
34	<b>COMPANY OVERVIEW</b> Valeo, a unique position in the automotive industry

# From engines to algorithms: Europe's automotive reset

The European automotive industry is undergoing an unprecedented transformation, driven by a convergence of environmental, technological, and regulatory factors.

## Safety in the lead

Since July 2024, all new vehicles sold in the EU must be equipped with advanced driver assistance systems (ADAS), including Intelligent Speed Assistance, Autonomous Emergency Braking, Lane Keeping Systems, and Driver Drowsiness & Attention Warning.

And looking ahead, the regulation continues to evolve in Europe: starting July 2026, all new vehicle types must also include an Advanced Driver Distraction Warning system—part of the broader Driver Monitoring System (DMS) framework. Smart in-vehicle technologies are becoming the norm.

In response, European carmakers are scaling up ADAS integration across their fleets, relying on Valeo technologies.

German carmakers are leading this transformation: Mercedes-Benz is the first to offer a certified Level 3 automated driving system in Europe, available on selected highway sections; BMW is preparing its next-generation platform to enable semi-autonomous functions powered by AI and cloud connectivity; Volkswagen is scaling up ADAS deployment across its electric range.

Stellantis and Renault now offer Level 2 driving features—such as lane centering and adaptive cruise control—on most new models and Volvo Group has made real-time hazard detection a standard feature on several of its vehicles.

## The rise of clean mobility

The energy transition is accelerating, and the data confirms a clear and accelerating transition toward electrified vehicles across the EU<sup>1</sup>.

In the first five months of 2025, the EU car market continued its shift toward electrified powertrains.

Battery-electric vehicles (BEVs) reached 701,089 units, capturing 15.4% of the market—driven by strong growth in Germany, Belgium, and the Netherlands, despite a decline in France.

Hybrid-electric vehicles (HEVs) rose sharply to 1.6 million units, representing 35.1% of the market, with all major markets showing gains.

Plug-in hybrids (PHEVs) also rebounded, growing 46.9% year-on-year in May and reaching 8.2% market share, led by Germany and Spain.

In contrast, petrol and diesel car sales fell sharply. Petrol registrations dropped by 20.2%, bringing their share down to 28.6%, while diesel declined 26.6%, falling to just 9.5% of the market.

---

<sup>1</sup> Source: New car registrations - ACEA - June 2025



On the sustainability front, platforms like Volkswagen's MEB and Renault's AmpR are built specifically for electric vehicles, improving energy efficiency and recyclability.

The car is rapidly evolving into a safer, more sustainable and smarter mobility platform.

## Valeo, powering the future of mobility

Valeo is uniquely positioned to support the transformation of the automotive industry—thanks to its combined expertise in hardware and software, and its ability to deliver scalable, high-performance solutions in both ADAS, electrification, interior experience, and lighting.

As the global leader in driver assistance systems, Valeo equips one in three new vehicles worldwide with ADAS technologies.

Its latest generation of software, sensors, and controllers—including LiDAR, cameras, radars, zone controllers, domain controllers, and central controllers—offers the precision needed to meet upcoming safety regulations and enable higher levels of automated driving.

In electrification, Valeo provides a full range of technologies—from 48V systems to high-voltage e-motors, power electronics,

transmission and thermal management systems—for both BEVs and hybrids.

Valeo is also transforming the vehicle interior into a personalized and intelligent space. From thermal comfort systems to ambient lighting, and in-cabin monitoring, Valeo enhances occupant wellbeing and safety.

Valeo is also redefining vehicle lighting as a vector for communication and safety. With its latest software-defined lighting systems, headlights and taillights become smart interfaces capable of signaling vehicle behavior, improving visibility, and enhancing ADAS performance.

Thanks to its strong innovation pipeline and deep integration with OEM strategies, Valeo plays a central role in shaping the future of safer, smarter, and more sustainable mobility—at scale, and across all market segments.

As the global leader in driver assistance systems, Valeo equips one in three new vehicles worldwide with ADAS technologies.



## HIGHLIGHTS

# Do not miss our **press events**

Sept. 8

11:00am-12:30pm<sup>2</sup>: **Press conference**

PRESS DAY

With Christophe Périllat, CEO of Valeo

[Valeo booth - Hall A1](#)

Sept. 10

10:45am: **Keynote**

With Christophe Périllat, CEO of Valeo

[Main stage](#)

Sept. 9-12

10:00am-6:00pm: **Demo Cars**

### **Augmented Panovision Car**

Discover Valeo's revolutionary infotainment and navigation combination that provides occupants with an immersive travel experience, while improving safety.

### **MakeSense Car**

Explore Valeo's latest interior sensing portfolio developed in line with upcoming Euro NCAP requirements. Leveraging sensor fusion and AI it demonstrates Valeo's capacity to propose high-functionality levels to gain a deeper understanding of the cabin, the driver, and occupants.

### **Hidden Ultrasonic Sensors Car**

Discover Valeo's next-generation hidden ultrasonic door protection system, which detects objects in front of the door and reduces the risk of accidents by automatically calculating a secure opening angle.

### **Parking Car**

Discover Valeo's scalable parking configurations, tailored to different vehicle segments, OEM's or regional preferences and performance requirements—from the most affordable setup using fewer ultrasonic sensors and existing radars, up to the most advanced solutions, based on high-performance sensors and cameras.

[Dynamic demo vehicle spaces in load yard A1/2](#)

---

<sup>2</sup>The time indicated corresponds to the slot during which the 15-minute press conference will take place. The trade show organizer will communicate the final schedule in July.

VENUE

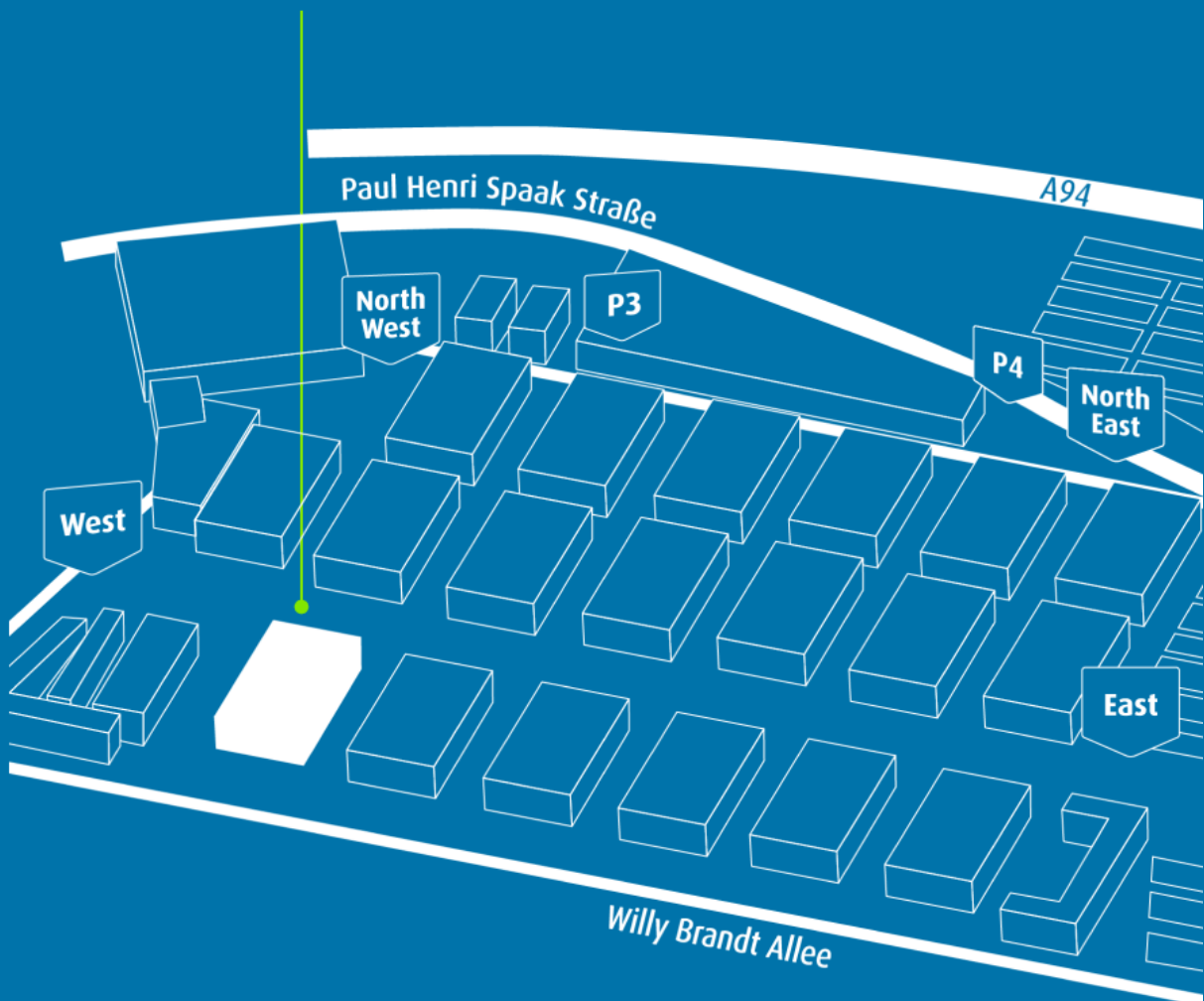
# Where can you find us at IAA MOBILITY 2025 ?



**Hall A1 - Booth B01**

Neue Messe München

Am Messesee 2, 81829 Munich, Germany



# “AI is driving the future of cars”

**Joachim Mathes**  
Chief Technology Officer  
Valeo Brain Division



## **Why is Valeo at the IAA MOBILITY 2025 auto show?**

As our industry faces the biggest transformation of its history, Valeo has developed all the technologies to meet customer demand for more safety, sustainability and personalisation. At IAA, we will be presenting our key technologies to support the development of a new generation of vehicles able to offer upgrades for more safety on the road and personalisation.

Valeo is the leading innovation and technology partner for mobility players such as BMW and Renault, for whom we are at the heart of their SDV solutions, as well as for tech giants like AWS, Google Cloud, and Qualcomm, who are expanding into the automotive market. We look forward to continuing our discussions in Munich.

## **What is an SDV and what does it bring to drivers? How will it transform our industry?**

The car, as we know it today, remains always the same throughout its entire life. A software-defined vehicle (SDV) evolves throughout its entire life cycle. It can be regularly updated, upgraded and customized.

By selecting certain software functionality and apps, the drivers are able to shape the vehicle based on their changing needs and expectations over the life of the vehicle.

The shift to SDV is transforming the auto industry from a top-down model to one based

on open innovation and co-development which opens opportunities for new business models.

A new generation of SDV is coming, bringing more functions than ever before.

## **Speaking about ADAS. What is happening in this area and what is Valeo's role?**

We see way more ADAS functions in today's cars than ever before which is amazing news as driver assistance systems help save lives. The growth is driven by customer demand and regulation. This development is the result of a real democratisation of ADAS systems that will lead by 2030 to over 70% of vehicles worldwide reaching at least Level 2 autonomy.

Safety is the top priority for Valeo, and for our customers. Our focus is on making technology accessible. Valeo equips all car brands, with 1 out of 3 vehicles worldwide equipped with at least one Valeo ADAS solution.

“The shift to SDV is transforming the auto industry from a top-down model to one based on open innovation and co-development which opens opportunities for new business models.”

### **What can you say about the relationship between Valeo and the European auto manufacturers?**

Valeo is a key technological partner for our customers in Europe and we are supporting them to differentiate from competition thanks to our leading technologies in all market megatrends: electrification, ADAS, and lighting.

European OEMs are at the forefront of innovation in our industry, let me give you a few examples:

- Valeo and BMW have a longstanding partnership, especially for ADAS, and parking assistance systems. We are working closely with Volkswagen and Mobileye, to upgrade ADAS systems up to Level 2+ in upcoming vehicles on the MQB platform. We will provide high-performance electronic control units (ECUs), sensors, and software parking solutions And leverage our expertise in integration of complex systems to offer a comprehensive solution.
- We are part of Renault's software-defined vehicle ecosystem together with Google and Qualcomm. We contribute to the development team and will provide key components, including the high-performance computer and the on-board application software.

### **How relevant is AI for the car of the future?**

Artificial intelligence is a key driver of mobility transformation. For more than 20 years, it has fueled our innovations, particularly in driver assistance systems and automated driving. A prime example is our SCALA™ LiDAR, the world's first mass-produced automotive LiDAR, which is fitted to models such as the Mercedes-Benz S-Class and EQS, enabling these vehicles to achieve Level 3 autonomy—a world first.

But AI goes far beyond perception. We also use it to improve the development of our embedded software. For example, generative AI helps us automate thousands of test cases, accelerate system updates, and design more

natural interfaces between humans and vehicles. This is part of our SDV approach: a centralized, connected, and remotely updatable architecture that transforms the car into a true digital platform.

We are also developing concrete collaborations with technology partners such as Google Cloud and AWS to harness the power of the cloud, machine learning, and digital twins on a large scale.

Our goal is clear: to make AI not just a tool, but an engine of embedded intelligence that can make mobility safer, more intuitive, and more sustainable.

**“Artificial intelligence is a key driver of mobility transformation. For more than 20 years, it has fueled our innovations, particularly in driver assistance systems and automated driving.”**



# The EU car market: clean, safe, and innovation-driven

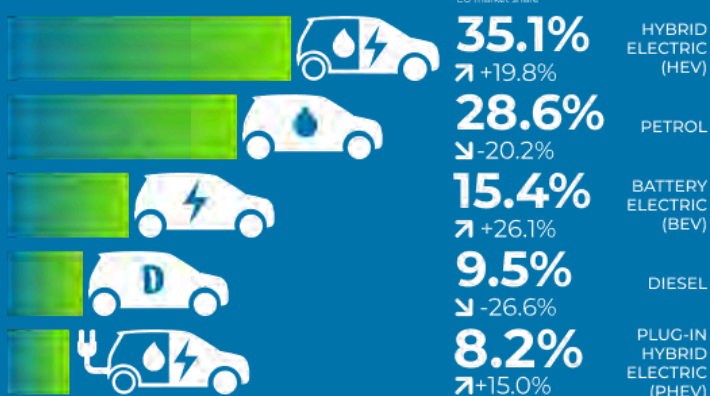
The automotive fleet is quickly shifting towards clean energy

**4.6 MILLION VEHICLES**

were registered between January and May 2025 (-0.6%)



Source: New car registrations - ACEA - June 2025



Source: New car registrations - ACEA - June 2025

## EU regulations are driving the adoption of ADAS

Level 1 and 2 ADAS features are now available on

Five ADAS systems are most widely adopted by car manufacturers

**100% OF NEW VEHICLES**



Source: European Commission, Directorate General for Internal Market, Industry, Entrepreneurship and SMEs



Source: SBD Automotive

## Manufacturers are massively increasing their R&D investments

Key commitments recently announced in the EU

**€73 BILLION**

are invested by European Union car manufacturers each year in R&D

Source: ACEA



Source: SBD Automotive



# Software-defined vehicle: A technological revolution in the automotive industry

The software-defined vehicle (SDV) revolutionizes the driving experience by fully exploiting the vehicle's technological potential through updates and the addition of new features throughout its life cycle to make vehicles ever safer, more efficient and more personalized. On average, a modern vehicle contains nearly 200 million lines of code—33 times more than a Boeing 787—making it a veritable computer on wheels.

## A centralized architecture for greater performance and connectivity

Unlike traditional architectures, in which each vehicle function has its own controller (distributed architecture), SDV uses a small number of more powerful centralized controllers to manage most functions. This simultaneously simplifies the car's electrical and electronic architecture, reduces its weight (fewer cables) and increases its efficiency. This approach also enables better vehicle connectivity, which is necessary for feature updates.

## Decoupling hardware and software for continuous evolution

A car's hardware and software have different life cycles. Unlike hardware-based vehicles, SDVs are based on an important design

principle: the decoupling of software and hardware. Thanks to updates, an SDV car can benefit from features that did not yet exist when it was launched. Software and hardware therefore evolve independently of each other. Nevertheless, hardware—computing units and perception sensors—need to be scalable by design, allowing for performance improvements over time if needed.

As the functional scope expands, so too do the computing capabilities and sensors.

## Powerful embedded computing capabilities

The capacity of each controller is based on a System on Chip (SoC), or microprocessor. Like a miniature computer, the SoC provides computing power to perform tasks of varying complexity and respond accordingly. The more powerful the SoC, the more complex the tasks the computer can perform, and the faster it can respond.

For instance, **Valeo's ADAS Domain Control Unit** supports multiple System-on-Chip options, from 100 to 250 to 500 TOPS of compute power, to scale the vehicle's capabilities from surround view and automated parking up to advanced automated driving—transforming raw sensor inputs into real-time, safety-critical decisions.

A striking illustration is **partnership between Valeo and BMW**: Valeo is supplying the ADAS domain controller powered by Qualcomm Snapdragon SoCs, managing all sensor data and enabling real-time mapping and

maneuvering functionality—delivered with over-the-air upgrade capability throughout the vehicle's lifecycle.

These units are engineered for resilience and longevity, with advanced thermal systems (passive, air or liquid cooling up to 250 W), and compliance with ASIL D automotive safety standard.

By combining high-performance compute, safety compliance, and OTA upgradability, Valeo's controllers become the smart backbone of tomorrow's vehicles—delivering responsiveness, resilience, and continuous innovation.

## An upgradeable vehicle

SDV adapts to users' needs and expectations by allowing them to choose specific software features and applications. For example, upgrading headlights to provide adaptive lighting, increasing the power of the electric motor to tow a trailer, or adding new driver assistance or infotainment features.

## A seamless user experience

The SDV improves the user experience by allowing for remote diagnostics and over-the-air (OTA) updates. This capability enables preventive maintenance, ongoing feature enhancements (as long as hardware allows), and increased safety. Additionally, it helps address issues remotely, reducing the need for recalls.

## New business models and closer collaboration between players

With the advent of SDV, the automotive industry is undergoing profound changes. The supply chain is shifting from a pyramid-shaped hierarchy—based on a

top-down relationship between manufacturers and the ecosystem, to a circular approach based on technological partnerships.

New players are emerging, such as cloud computing service providers and content providers. In this ecosystem, innovation is open and solutions are co-developed.



*The transition to SDVs is reshaping the entire automotive value chain*

No longer just a provider of components, Valeo is a strategic partner involved in the development, integration, and evolution of vehicle intelligence. In this new ecosystem, Valeo contributes not only high-performance domain controllers, but also its own software platform and over-the-air upgradable features.

Concrete partnerships with manufacturers such as Renault or BMW illustrate this shift.

With Renault, Valeo is delivering high-performance computing platforms and contributing to onboard software development.

With BMW, it plays a key role in advanced driver assistance and Level 4 automated parking solutions — technologies that may later be monetized through connected services.

This model reflects a broader economic transformation: Instead of locking all features at purchase, manufacturers can offer pay-to-unlock capabilities over time — from enhanced lighting to upgraded ADAS features.

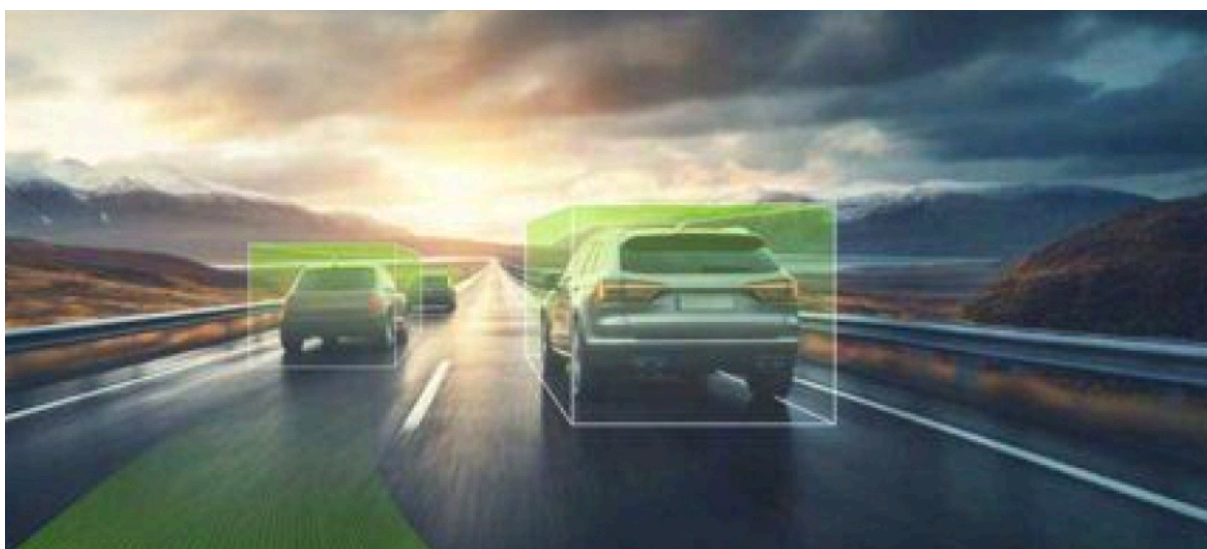
## Valeo's approach: an integrated and modular vision of SDV

To offer a more evolutive experience to drivers, Valeo relies on three technological pillars: **sensors, controllers and software.**

### Sensors and perception: a 360° view of the vehicle's environment

As a world leader in ADAS, Valeo offers the industry's most comprehensive portfolio of sensors—cameras, radars, ultrasonics, and LiDAR etc—coupled with AI-based perception software for more safety on the road.

Valeo's solutions equip vehicles from entry level 2 up to robotaxis, providing the vehicle with a 360° view of its environment, and the computing power and intelligence to interpret and act on the information.





A third-generation laser sensor, the **Valeo SCALA™ 3 LiDAR** pushes the boundaries of perception. Winner of a CES Innovation Award in 2024, the Valeo SCALA™ 3 generates more than 12 million points per second (48 times more than the previous generation) and detects obstacles at 200 m (low-reflective objects) or even 300 m (highly reflective objects). It can therefore detect a tire on a dark road at a distance of more than 150 m, which no camera or radar could do, in all lighting and weather conditions.

Valeo combines this hardware with an embedded software suite of perception and artificial intelligence algorithms, guaranteeing unparalleled safety (detection of obstacles or water spray, self-calibration, detection of possible misalignments, etc.).

Valeo's **high-definition radars** are designed to provide long-range detection, even in difficult conditions (rain, fog, snow). They can detect vehicles at long distances (up to 250 meters) and analyze the speed and trajectory of surrounding objects. They are essential for functions such as adaptive cruise control, lane departure warning, and pre-collision systems.

Ultrasonic sensors are used for parking and low-speed maneuvering functions, particularly in complex urban environments. Valeo's latest generation combines advanced ultrasonic technology with AI-based signal processing, enabling the system to better classify objects, react more quickly, and remain robust in noisy or unpredictable surroundings. These sensors detect nearby obstacles—such as pedestrians, other vehicles, or static objects—within a range of just a few meters, with significantly enhanced accuracy and responsiveness.

**Valeo's smart cameras** play a crucial role in advanced ADAS functions. They feature computer vision algorithms to interpret images and transmit information in real time to the vehicle's driving system.

The **Valeo Smart Safety 360** (VSS360) brings together cameras, radars and ultrasonic level sensors (ULS) in a scalable 1-box or 2-box ADAS solution. The system enables

## Cloud engineering: Valeo teams up with AWS

As vehicles become more connected and updatable, automotive software needs to be developed faster and more efficiently. To achieve this, Valeo is focusing on innovative tools and cloud computing. In partnership with Amazon Web Services (AWS), the Group accelerates the development and testing of embedded software by 40%. Among these solutions, the **Valeo Virtualized Hardware Lab** enables engineers to test their software on digital twins of ECUs (vECUs) and sensors, shortening the design cycle accordingly. When a transition to real hardware is required, the **Valeo Cloud Hardware Lab** provides remote access to large-scale Hardware-in-the-loop test benches, available on demand via the cloud. This collaboration with AWS has also given rise to new services such as **Valeo Assist XR**, a remote support solution that leverages real-time vehicle data to provide more efficient roadside assistance and predictive maintenance.

pedestrians, vehicles, and obstacles detection on the road, while identifying road signs (speed limit signs, traffic lights, etc.) and adjusting driving accordingly. It offers increased safety by enabling faster and more accurate responses to unexpected situations.

## The layered intelligence behind next-generation architectures

With 30 years of expertise in embedded electronics and software development, Valeo is helping shape the future of vehicle computing through a scalable, modular approach that supports the transition to software-defined vehicles (SDVs).

At the heart of this transformation are **domain controllers**—powerful embedded computers that process real-time data from ADAS sensors to create a 360° view of the environment and execute complex driving algorithms. Built around high-performance automotive System-on-Chip (SoC), such as the Qualcomm Snapdragon, Valeo's domain controllers offer the computing power, memory, and flexibility needed to host advanced functions from Valeo or third-party developers.

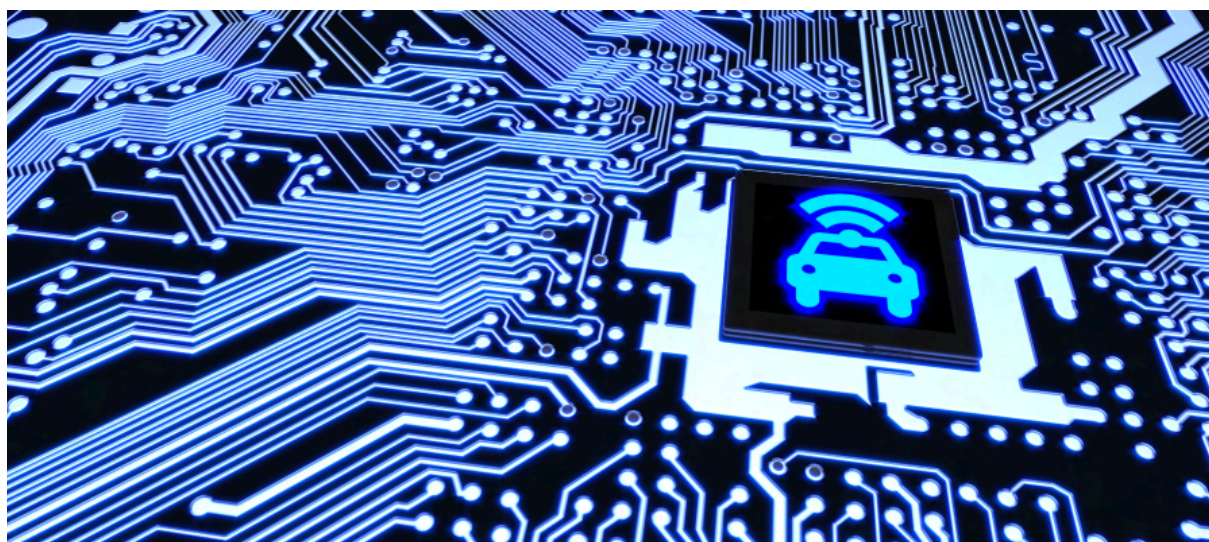
But the SDV doesn't rely on a single computing layer. To bring intelligence closer to the vehicle's physical systems, Valeo also designs **zone controllers**—smart, distributed units that manage power distribution and local data aggregation. Positioned near actuators and sensors, these controllers reduce cabling and latency, and can process localized tasks such as seat control, lighting, or power window functions. They help simplify vehicle architecture, reduce weight and cost, and improve overall energy efficiency.

The final step in this evolution is the **central controller**: a high-performance computing hub that integrates several domain controllers—first within a common housing, then on a single board, and eventually in a unified System-on-Chip (SoC). This centralized unit acts as the vehicle's main brain, capable of managing critical functions across multiple

domains.

Additionally, the central controller can be modular. OEMs can scale its hardware performance over time—by adding memory or upgrading processors—complementing software updates delivered over-the-air.

By combining domain, zone, and central computing units, Valeo is helping make the SDV a reality: a platform that is safer, smarter, and fully future-ready—both in software and hardware.



## Continuous innovation with OTA updates

Thanks to the permanent connectivity provided by on-board telematics units, vehicles can receive new features and security fixes without having to visit a workshop, just like our smartphones.

Valeo natively integrates this OTA capability into its products—both high-performance ECUs and connectivity modules—to ensure that vehicles remain up to date, scalable, and secure for years after they are put on the road.

In concrete terms, the in-vehicle telecommunications system (4G/5G modem, antennas, etc.) provides the link between the car and the cloud. This approach paves the way for a model of continuous vehicle improvement: cybersecurity patches are deployed as soon as they become available, and drivers can benefit from additional features on demand. Valeo's domain controllers have been designed to accept these regular software updates in complete security.

## Valeo, the key technology partner for car manufacturers

Valeo is the partner of choice for its automotive customers to develop safer and more connected vehicles in dynamic ecosystems.

This is the spirit of the SDV ecosystem of Renault, which Valeo has joined alongside Google and Qualcomm, and for which the Group will supply key components, including the high-performance computer and embedded application software.

With this trio of sensors, controllers and software with OTA updates, Valeo is positioning itself as a partner of choice for manufacturers engaged in the race to provide customers with always more updatable, safer and personalised vehicles.

As the world leader in ADAS, Valeo masters the entire chain, from perception technologies (hardware and software) to integration into the vehicle's electronic architecture. Its modular and open solutions facilitate the transition to centralized, secure and scalable platforms.

By democratizing cutting-edge technologies and simplifying software development (via the cloud and virtual tools), Valeo is actively contributing to making these new vehicles accessible to all.



# Valeo anSWer: the full-stack offering for software-defined vehicle

Customers' expectation of more personalisation and upgrades in cars is pushing manufacturers to rethink their vehicle architecture and bring more software onboard. To meet these new needs, Valeo has launched Valeo anSWer, its comprehensive offering of on-demand software solutions and services.

## An offering designed for the SDV era

**Valeo anSWer** is an open, scalable and modular offering covering the entire vehicle software stack: applications, middleware and engineering & digital services to support manufacturers in the design of their software architecture, integration, validation, testing and maintenance.

Valeo anSWer capitalizes on Valeo's 30+ years of expertise—the Group now has more than 9,000 software engineers worldwide—to offer automakers a flexible response to help them meet expectations of their customers.

The Valeo anSWer offering is designed to be agnostic (compatible with any type of ECU or sensor) and “à la carte.” Manufacturers can choose to adopt all or part of the Valeo stack, either in combination with Valeo hardware or independently via a software license agreement.

This modularity and openness (use of open standards, interfacing with the main OSs on the market) guarantee integration tailored to each customer's specific needs.

## An offering covering all software layers

Valeo anSWer consists of three building blocks: turnkey end-user applications, communication, and services for OEMs.

For **applications**, Valeo draws on its areas of expertise (ADAS, electrification, smart lighting, thermal management) to offer best-in-class software functions. For example, Valeo provides complete software stacks for ADAS, covering perception (computer vision, data fusion), decision-making (planning algorithms) and action (proven automated driving and parking functions). This enables manufacturers to quickly integrate autonomous parking, lane keeping, level 2 and 3 autonomous driving, and other features based on Valeo's expertise.

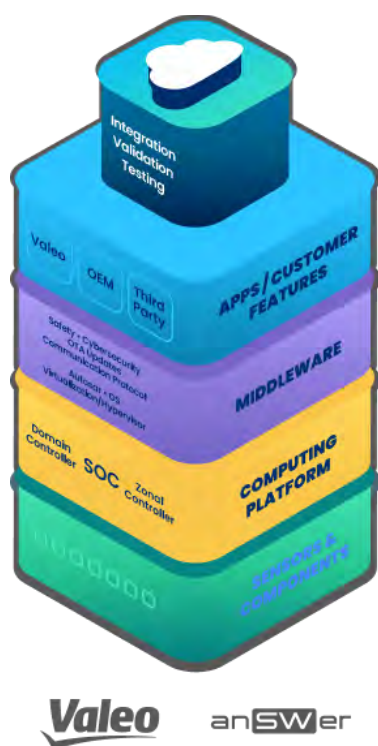
For **middleware**, Valeo anSWer provides the building blocks for intercommunication between applications and ECUs (operating systems, hypervisors, cybersecurity and OTA frameworks). These intermediate layers are essential to ensure that the entire vehicle system operates consistently and safely. Valeo offers middleware solutions optimized for connected vehicles, including real-time inter-ECU communication, secure over-the-air software updates, and integrated cybersecurity to protect the vehicle.

Valeo's approach is open and collaborative: adopting open-source software where appropriate and ensuring compatibility with a wide range of operating systems and



hardware architectures to avoid proprietary lock-in.

Finally, Valeo anSWer includes a **range of engineering services** for manufacturers: software architecture consulting, system integration, validation, testing, and software maintenance throughout the vehicle's life cycle.



*With its experienced teams, Valeo can support OEMs throughout the project, from software architecture design to post-launch support.*

## A flexible, customer-focused model

Valeo anSWer stands out for its “on-demand” and “unbundled” approach. Automakers are free to adopt only the elements they need: for example, they can use Valeo’s fusion algorithms while keeping their own driving applications, or conversely adopt a Valeo 360° vision function on their existing cameras. This flexibility, combined with multi-platform

compatibility, is designed to facilitate OEMs’ transition to SDV. The offering is available on a subscription or license basis, in a model that reduces development cycles on the customer side.

## Driving the automotive software ecosystem

To accelerate the transition to the SDV, Valeo is actively involved in building an open and collaborative software ecosystem. The Group is a co-founder of **SDVerse**, a unique B2B platform that connects manufacturers and embedded software publishers to facilitate integration, reduce costs, and speed time to market. At the same time, Valeo has recently signed a **Memorandum of Understanding (MoU)** with leaders such as BMW, Mercedes-Benz, Continental, and Bosch to co-develop certifiable open-source software building blocks. The goal is to pool efforts on non-differentiating modules, standardize the foundations of SDV, and strengthen the agility of the entire industry.

By choosing Valeo anSWer, manufacturers can accelerate the deployment of new software functions while benefiting from synergies with Valeo hardware where relevant. This open model has already attracted several players: since its launch, Valeo anSWer has been integrated into next-generation vehicle projects currently under development.

# Valeo electrifies mobility from the charger to the road

For Valeo, electrification of mobility must be smart, seamless, and efficient. At IAA MOBILITY 2025, the Group is unveiling its global vision for electrified mobility: a comprehensive approach—covering both hardware and software—that ranges from charging systems to onboard thermal management, including compact powertrains tailored to each application.

## Smart charging: seamless, efficient, and user-focused

As electric mobility scales up, charging is no longer a technical afterthought—it is a central pillar of the driving experience, of energy management, and of sustainable performance. Valeo's approach to smart charging is built on one ambition: make charging simpler, faster and smarter, while improving vehicle integration and energy efficiency. This first includes a new generation of AC charging station and onboard chargers offering bidirectional charging (V2G/V2H).

**Valeo Ineez™**, the new generation of AC charging stations, includes two complementary solutions tailored to user environments: **Valeo Ineez™ Home** for residential use, and **Valeo Ineez™ Pro** for professional settings—such as workplaces or commercial premises. Both products reflect Valeo's automotive-grade standards with advanced cybersecurity features and focus on energy efficiency, supporting smart energy management—for example by promoting off-peak charging to reduce grid impact.

Valeo Ineez™ Home offers a compact and sleek design, ideal for seamless integration in

residential environments. Valeo Ineez™ Pro adds advanced functionalities, including full connectivity, real-time monitoring, and Vehicle-To-Grid (V2G) compatibility, enabling bidirectional energy flow and contribution to grid balancing. It also enables companies to differentiate and manage home charging costs for professional vehicle use.

To support large-scale deployment, Valeo has partnered with **Virta**, a leading European platform for EV charging management. In parallel, partnerships with national installers are being prepared to offer turnkey, integrated solutions.

Combined with compact and modular **high-voltage OBC**, offering up to 22 kW, compatible with both 400 V and 800 V architectures, Valeo provides automakers with high-efficiency, scalable charging solutions—ready for all types of infrastructure and use cases. These technologies ensure faster charging, optimized energy flow between vehicle and grid, and reduced onboard weight and complexity.

Further enhancing the electric vehicle ecosystem, thanks to both Valeo Ineez™ AC Charging Station and high voltage OBC, Valeo introduces advanced Vehicle-To-Everything (**V2X**) charging capabilities. This technology enables bi-directional energy flow, allowing EVs to not only draw power from the grid but also to feed energy back into it or power external devices. Valeo's smart V2X solutions, integrated with sophisticated software, smartly manage this energy exchange, optimizing charging schedules based on grid demand, energy prices, and user preferences.

This V2X capability transforms the electric vehicle into a mobile energy hub, contributing to grid stability, reducing energy costs, and opening new possibilities for sustainable energy management.

**Valeo Ineez™ Air Charging** is also aligned with this ambition. With its lightweight and easy-to-integrate 85kHz wireless charging solution for plug-in hybrids and BEVs, this solution offers simplified charging—up to 11kW, for all car models—400 or 800V and networks—1 or 3 phases, and supports bidirectional Vehicle-to-Grid (V2G) functions. Valeo concept is based on a distributed architecture with re-use of existing features of the vehicle—telematics, **Valeo Park4U®** to optimize vehicle and charger antenna alignment.

Highly integrated with the high voltage OBC, it eliminates one of the last frictions of EV use: plugging in, anticipating autonomous vehicle charging. With more than 25 patents filed, it embodies Valeo's user-centric approach to electrification.

## Smart thermal management: from hardware innovation to software

The first key focus is on advanced hardware systems that enable efficient, compact, and modular thermal management across all types of electrified vehicles.

Valeo's **Smart Thermal Management** offers a complete, scalable solution for electric vehicles, combining smart control and innovative hardware. At the heart of the system, the **Smart Heat Pump** optimizes energy efficiency across all seasons by managing heat exchange between cabin, battery, and powertrain. This thermal energy is then distributed through **Smart Coolant Modules**, which centralize fluid flow while reducing weight, pressure loss, and complexity.



To meet the demands of **ultra-fast charging**, Valeo, in partnership with TotalEnergies, is developing an **immersive cooling system** where battery cells are directly cooled by dielectric fluid, ensuring thermal stability, improved safety, and high charging performance. Finally, excess heat is efficiently managed by **Front Cooling Modules**, which integrate high-efficiency heat exchangers and fans to regulate the temperature of the cabin, battery, and powertrain in a compact and modular design, ready for new demands of electric mobility.

The second key focus is optimizing range through smart thermal management solutions and software. With **Valeo Predict4Range**, Valeo demonstrates that hardware and software combination can increase electric range by up to 24% in winter.

This software uses predictive algorithms to manage the vehicle's thermal management in real time, including the passenger compartment, battery, and electric powertrain. It anticipates energy needs, adapts the temperature to usage, reduces consumption peaks, and protects components. Concrete examples include pre-cooling the battery before heavy acceleration or temporarily reducing air conditioning on the highway. The result: fewer charging stops, greater comfort, and longer equipment life.

## From High Voltage Hybrids to full BEVs: an end-to-end optimized powertrain

Valeo is also pursuing a pragmatic and scalable approach to hybridization, offering a complete range of technologies that help automakers reduce emissions and fuel consumption. From **12 V micro-hybrid systems** that enhance stop-start functionality, through **48 V mild-hybrid** with increased recovery of braking energy, to **high voltage solutions**, up to pure electric drive, Valeo's

portfolio covers the full spectrum of hybridization.

Several manufacturers have already adopted Valeo's solutions to electrify platforms quickly and cost-effectively. For example, **48 V belt-driven** starter generators and e-motors developed by Valeo are featured on a growing number of mainstream models in Europe and Asia while the 48V system is also beginning to be deployed on high-voltage EE architectures to power higher-demand auxiliary consumers.

## 48 V—The affordable hybridization

As electrification accelerates, **48 V mild-hybrid systems** are becoming the go-to solution for mass-market vehicles, offering a balanced mix of cost, efficiency, and performance. Valeo's **48 V eDrive platform**—combining inverter, compact e-motor, and reducer—enables up to 15% fuel and CO<sub>2</sub> savings on WLTP (Worldwide Harmonized Light Vehicles Test Procedure) cycles, while delivering electric-only driving in city conditions, regenerative braking, and torque assist. Ideal for small to midsize B- and C-segment cars, Valeo's solution stands out for its ease of integration—no gearbox or chassis modifications required—and scalability across models. It gives automakers a fast, cost-effective way to meet tightening CO<sub>2</sub> standards while enhancing driving comfort.

The principle of the hybridization is to combine both the Internal Combustion Engine with one or two electric motors. In this area, Valeo proposes a compact **dual inverter** to deliver efficient and smart electrification controlling those two electric motors with a single electronic unit solution. Apart from Valeo transmission solutions like pendulum dampers, multi-wet clutches, Valeo's approach goes beyond components. The



**Smart eDisconnect** enables the disconnect of the secondary eAxle in real-time.

It automatically disengages All-Wheel Drive (AWD) based on current driving conditions, prioritizing efficiency at high speeds by significantly reducing drag loss on the secondary eAxle.

**The two-speed High Voltage eAxle** system offers improved take-off, acceleration, and greater efficiency at high speeds compared to single-speed systems.

By providing more precise and optimized control for shifting the reducer's gear, Valeo's intelligent gear shifting software significantly improves the overall efficiency of the eAxle, thereby extending the vehicle's range. This intelligent system automatically selects the best gear based on real-time driving conditions, prioritizing either maximum torque for performance or optimal efficiency for extended range, particularly at high speeds.

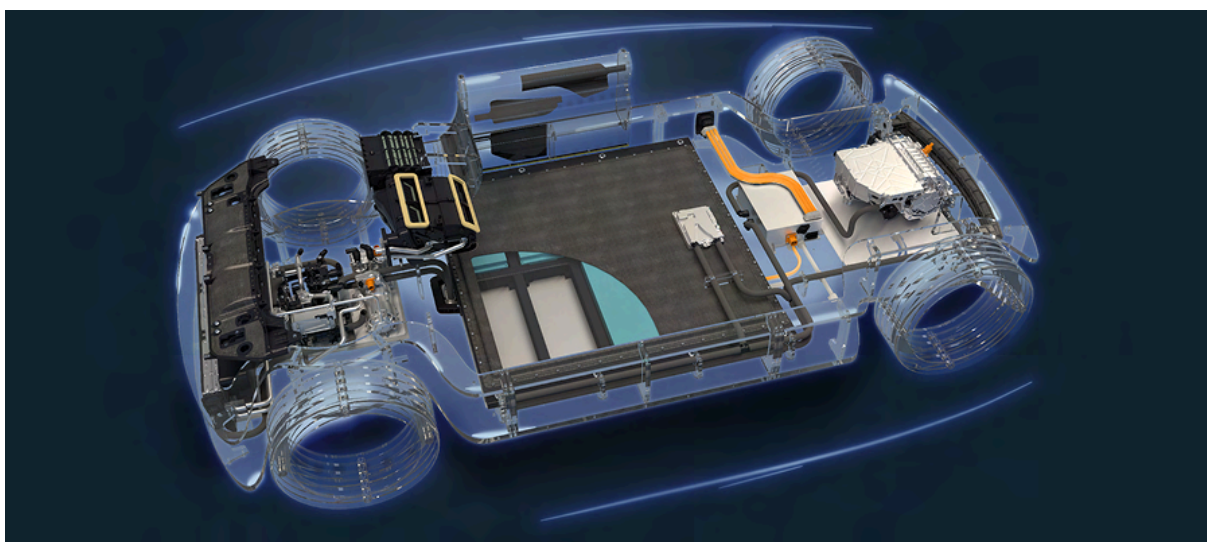
## Compact powertrains to democratize urban electric mobility

The aim of **eAccess**, a ready-to-use 48V powertrain designed for light urban mobility is to make electric mobility more affordable.

Presented on the CE-02—BMW's 100% electric motorcycle, this system combines a 48V motor with an integrated gearbox and inverter into a compact on-chassis unit. It delivers a range of up to 100 km and a top speed between 45 km/h and 95 km/h, depending on the configuration.

Based on Valeo's belt starter alternator technology, eAccess combines compactness, simplicity and affordable cost. It is also used in last mile delivery vehicles and even electric 4-wheelers.

Simpler charging, optimized range, reduced costs: Valeo's "Smart Electrification" approach is based on a simple principle—making life easier for users while enhancing the overall performance of electric vehicles.



# When light becomes smart, safe, and communicative

In addition to delivering perfect visibility of the roads, automotive lighting now personalizes the drive. Controlled by software, it adapts in real time to the environment, enhances safety, and creates visual interactions both inside and outside the vehicle. At IAA MOBILITY 2025, Valeo presents its latest innovations in high-definition, adaptive and expressive lighting — designed not only to improve visibility but also to leverage vehicles' system capabilities for customization and communication

## See and be seen: Smart headlamps for more safety

Valeo's high-definition **Adaptive Driving Beam (ADB)** technologies are redefining night-time driving by offering precise, adaptive lighting that enhances both safety and comfort. By individually controlling thousands of light points, these systems deliver a glare-free high beam—dynamically masking oncoming or preceding vehicles while maintaining maximum illumination of the road ahead.

But Valeo goes even further. Its most advanced **HD lighting solutions** can project information directly onto the road surface: lane guidance, navigation cues, warning symbols, or dynamic pedestrian alerts. This creates a new visual interface between the vehicle and its environment, helping drivers anticipate hazards and navigate with greater confidence.

## Light signatures for style... and dialogue

Lighting is a vital design element, crucial for satisfying the demands of customers seeking personalization and OEMs looking for differentiation.

Beyond ambiance, **Welcome Light** creates a premium, personalized arrival experience and gives vehicles a distinctive visual signature.

Valeo's solutions are already available on series production vehicles, offering unique or dynamic patterns—including logos, animations, or personalized welcome messages—with predefined motifs.

Valeo is also developing digital solutions to meet growing demand for personalized features. In line with the shift toward autonomous vehicles, the Group is working with Lextar on **HD Digital Signaling**—a miniLED-based technology that displays rich, dynamic information on the vehicle.

## Ensuring optimal visibility in all conditions

Visibility is a key factor in road safety—and Valeo is reinventing the way drivers see the road with its high-performance wiper.

With **Valeo AquaBlade™**, fluid is delivered directly along the blade, eliminating the spray on the windshield that can cause visual disturbance.

The system reduces driver reaction time by 315 milliseconds and reduces braking distance—4m stopping distance at 50 km/h.

Valeo AquaBlade™ also enhances vehicle efficiency by reducing washing liquid consumption by up to 50% compared to traditional hood nozzles, enabling a smaller tank size and saving up to 2 kg.

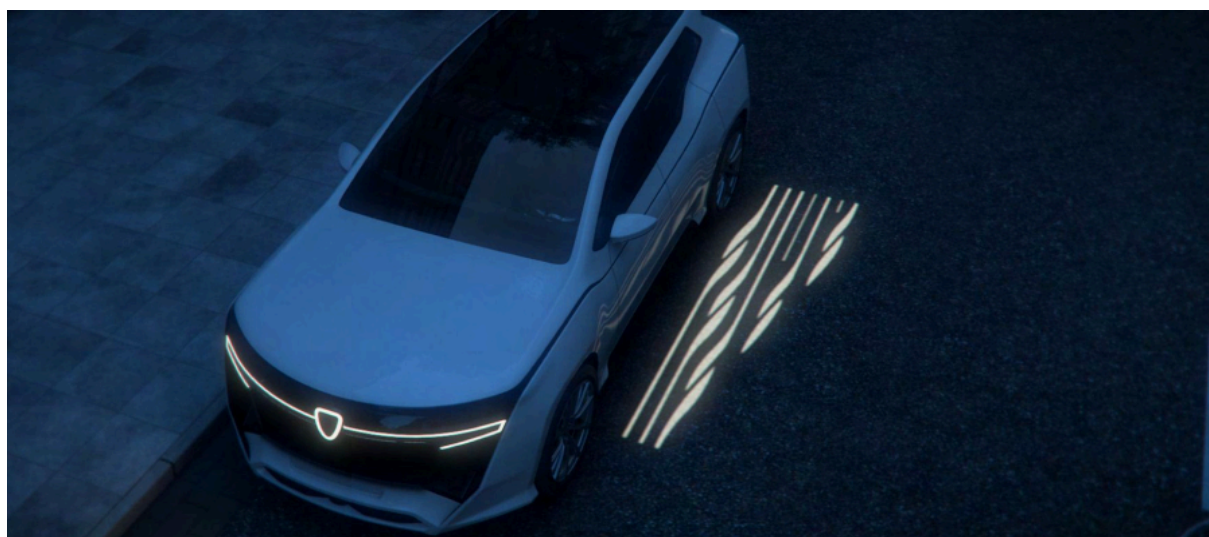
To further improve comfort and safety, Valeo's software suite adds smart functionalities such as **Valeo DeBug** and **Valeo DeFrost**. Activated remotely or automatically, these features can rapidly eliminate frost or insect residues—without starting the engine.

## Reliable sensors for autonomous driving performance

Reliable ADAS and autonomous driving systems (from Level 2+ to Level 4) depend on sensors. Valeo has developed a complete range of cleaning solutions—including **LiDAR Cleaning**, the first system entirely dedicated to LiDAR sensors, available in series production.

Designed for real-world conditions, LiDAR Cleaning maintains performance at speeds up to 130 km/h, includes integrated or retractable nozzles, and offers fast defrosting at  $-20^{\circ}\text{C}$ . It also meets pedestrian safety standards. Valeo's cleaning systems are also engineered to reduce fluid consumption and support the acceleration of autonomous driving.

By combining hardware performance and smart control, Valeo ensures perfect visibility in all weather conditions and supports the growing needs of ADAS sensors for clean optical surfaces.



# A smart, personalized, and human-centered cabin

In the age of autonomous and connected vehicles, the cabin is becoming much more than just a driving position: it is a living, working, and relaxing space, designed to adapt to its occupants and actively ensure their safety.

## A vigilant and caring co-pilot on board

Inattention has emerged as a leading contributor to fatal road accidents, cited in 14% of all deadly collisions in 2024, up from 12% in 2023 (national road safety reports). In urban environments—where pedestrians, cyclists, and dense traffic create a complex stimulus mix—drivers are particularly vulnerable to distraction. Yet highways pose their own risk: the monotony of long, straight stretches often leads to decreased vigilance and delayed responses.

Safety being paramount, the Valeo cockpit acts as a guardian angel. Its “**Interior Cocoon**” system integrates several layers of monitoring:

- Driver camera to detect signs of fatigue or inattention
- Cabin camera to detect occupant behavior
- Interior radar capable of detecting micro-movements, such as breathing

A core element of vehicle safety, the **Driver Monitoring System (DMS)** assesses the driver's level of attention in real time. In the event of drowsiness or distraction, the system triggers a multimodal alert: an icon on the dashboard, flashing red lights, and vibration in the seat. In level 3 autonomous driving, it ensures that the driver remains ready to take

back control if necessary—and can initiate a safe stop if needed.

From 2026, DMS will become mandatory for all new vehicles in the EU, under the General Safety Regulation (GSR), recognizing its vital role in accident prevention and safe automated driving.

Valeo also integrates an essential feature: **Life Presence Detection**. A radar detects human presence after the vehicle is locked (children, animals, etc.) and triggers an alert if necessary. This feature has become a Euro NCAP requirement since 2022.

## A sensory cockpit connected to your digital life

With **Phone as a Key** technology, your smartphone becomes your car key and triggers a personalized welcome sequence when you approach: doors open, driver profile activated, smart exterior lighting.

Once on board, the cabin becomes a seamless digital space. The cockpit evolves according to the time of day, your mood or the driving situation. The lighting adapts, as does the interface.



## Reinventing in-car entertainment

**Valeo Racer**, an extended reality (XR) experience turns the vehicle's surroundings into a live gaming environment. Using the car's ADAS sensors and AI perception algorithms, the game synchronizes with real-world elements—curves, obstacles, road conditions—offering an immersive, motion-aware experience on passengers' smartphones or tablets.

Built on Unity's Runtime engine, this innovation showcases Valeo's XR development kit, enabling carmakers and developers to create next-generation entertainment that blends reality with virtual worlds.

## Redefining the steering wheel design

Valeo also introduces for the first time its **next generation of steering wheel**. This new prototype shows Valeo's vision for the future where steer-by-wire technology offers less wheel rotation and allows for a better user experience.

Valeo's innovative design turns the entire steering wheel into an interactive surface that changes based on the driver's selected mode.

In "Drive Mode," crystal switches with touch sensitivity, force sensing, haptics, and disappearing RGB icons allow the driver to easily control safety and entertainment features while reducing distractions.

When the driver switches to "Auto Mode," the area around the crystal switches becomes active. This lets drivers read and respond to emails on a virtual keyboard, take notes on a hidden touch display, or play games using touchpads on either side of the wheel and a back button as a controller.

And to further increase safety, the driver must first complete an alcohol test by blowing into the designated area of the steering wheel to activate "Drive Mode".



# Making mobility **more sustainable**, from production to end of life

Reducing the environmental impact of mobility is not just about exhaust emissions, but about the entire vehicle life cycle. At the IAA MOBILITY 2025 show, Valeo is presenting the three pillars of its action plan for sustainable automotive mobility: fewer critical materials, longer-lasting parts, and end-of-life considerations from the design stage.

## Electric motors without permanent magnets: a technological breakthrough and carbon savings

Permanent magnet motors, widely used for their efficiency, pose a problem: dependence on polluting components (neodymium, dysprosium) and a fragile supply chain. Valeo and MAHLE are rising to the challenge with **iBEE (inner Brushless Electrical Excitation)**, a new-generation motor without permanent magnets.

- Technology: electrically excited synchronous motor (windings powered instead of magnets).
- Performance: up to 350 kW peak, with best-in-class compactness and efficiency.
- Benefits: 40% lower carbon footprint compared to an equivalent magnet motor.

The system combines Valeo's expertise in electric motor control, power electronics, and

cooling with MAHLE's contactless power transmission technology. Prototypes tested since late 2024 have exceeded expectations, and the project is expected to be completed by 2028.

## Remanufacturing tackles high-tech parts

Leveraging its 40 years of experience, previously reserved for mechanical parts, Valeo is now expanding industrial reconditioning to on-board electronics and lighting. **Valeo's high-voltage remanufacturing** portfolio embraces now complex, expensive, and material-intensive parts crucial for electrified vehicles, such as inverters and electrically driven compressors.

Overall, Valeo already remanufactures more than one million parts per year—alternators, compressors, starters, etc.—and plans to double this capacity by 2030.

## Innovating with recycled materials

Valeo is reshaping the future of sustainable mobility by integrating advanced recycled materials into its products, moving beyond traditional plastics and aluminum. This strategic shift addresses crucial challenges like sourcing independence and environmental impact, showcasing solutions that cover the entire product lifecycle – from design to end-of-life.

A prime example of this commitment is Valeo's new **Low Carbon HVAC**, which features the industry's first mass-produced housing heating, ventilating and air conditioning module made from a polymer with a 100% recycled matrix. This innovative material maintains excellent performance while significantly reducing environmental impact, aligning with stringent standards like ISO 14021 and anticipating future European regulations for recycled content in vehicles.

This initiative contributes to Valeo's ambitious goals to integrate 25% to 35% recycled content in its HVAC polymers and 40% in aluminum components to limit their carbon footprint. This unique innovation, a result of close collaboration with Renault and TotalEnergies Synova, combines environmental responsibility with top-tier performance, launched in early 2025.

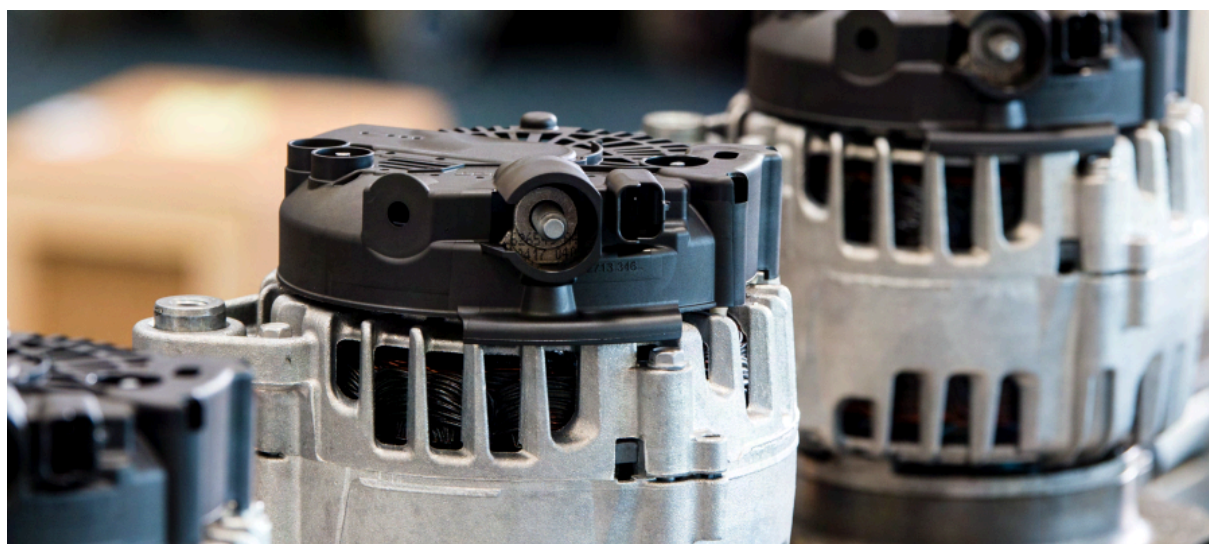
Further accelerating decarbonization, Valeo utilizes lightweight composite materials like **Valeo Organosheet**, a new-generation composite material. Already in mass production since 2020 for components such as 48V battery support housings, Valeo Organosheet is up to 40% lighter than equivalent metal solutions, offers high strength, excellent crash resistance, and is 50% less carbon intensive than aluminum.

This technology is also applied to battery side crash absorbers and top covers, achieving 50%

weight savings and a 20% CO<sub>2</sub>eq reduction versus steel, while improving cell integrity protection during crashes.

Additionally, **laser-welded battery coolers** utilizing high-strength and recyclable aluminum reduce cooler thicknesses and enhance structural rigidity, further cutting carbon footprint by 50%.

These efforts demonstrate Valeo's leadership in creating high-performance, economically viable, and environmentally responsible solutions for more sustainable mobility.



# Preparing professionals for new forms of mobility

Electrification, ADAS, digitalization: the transformation of the automotive industry does not stop at the production line. It is also taking place in garages. For Valeo, successfully managing this transition means ensuring that every innovation can be maintained, diagnosed, and repaired throughout the vehicle's lifetime. This is the challenge addressed by its smart aftermarket approach, led by Valeo Service, a world leader in aftermarket products.

## Valeo Tech Academy: training a new generation of repairers

Launched in July 2024, the **Valeo Tech Academy** responds to an urgent need: to help aftermarket professionals develop their skills in emerging technologies and support them in reaching higher efficiency. One year after its launch, the platform has already been named "International Partner of the Year" by the Institute of the Motor Industry (IMI), highlighting its relevance to the industry.

The program combines:

- **120 hours of e-learning in short modules** available on demand: 45 hours on modern automotive maintenance, 50 hours on EVs

and hybrids (high-voltage safety, battery diagnostics, troubleshooting), and 25 hours on ADAS (calibration, fault code reading)

- **Practical training** on multi-brand simulators, with more than 150 realistic scenarios: recalibrating a camera after replacing a windshield, or diagnosing a charging problem on an EV.

The result: a remarkable satisfaction rate (NPS 4.9/5 online, and 4.8/5 in person) and hundreds of technicians already trained in several countries.

## The aftermarket opens up to new forms of mobility

Valeo's offering also extends beyond traditional automotive applications. The Group now supplies parts for:

- **Electric scooters and bicycles**, including those equipped with the Valeo Cyclee™ motor
- **Shared vehicles**, such as Vélib' bikes managed by Smovengo (a Valeo partner)

Here too, Valeo is passing on its electromechanical expertise by training bicycle technicians to repair the new motors.



# Valeo, a **unique position** in the automotive industry



€ 21.5 billion

In sales



28

Countries



106,100

Employees



155

Production sites



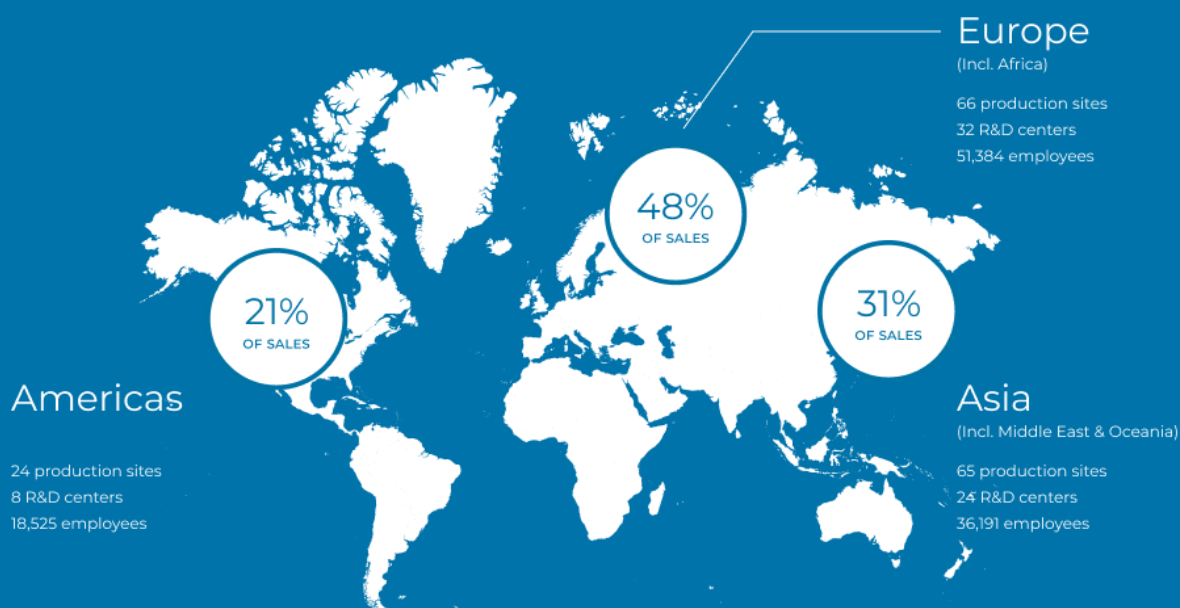
64

R&D centers



19

Distribution platforms



At end December 2024



# Three core business divisions

Valeo is structured into three balanced and coherent divisions—**Valeo Brain**, **Valeo Light**, and **Valeo Power**—which offer innovative solutions to respond to major market developments, aiming to reduce CO2 emissions and develop autonomous driving capabilities. Valeo enjoys leading positions in its main markets. Valeo also offers solutions for the automotive aftermarket and develops its technologies for non-automotive applications through its **Valeo Service** business.



## POWER

**50%**  
Group sale

**43,170**  
employees

**101**  
production units

**36**  
R&D centers

Positioned as a **key enabler of clean and efficient mobility**, Valeo supports both **electric and thermal power vehicles** with scalable and cost-effective solutions. Its flagship innovations include the 48V platform, high-performance eAxles, and rare-earth-free electric motors, combining energy efficiency with sustainability. Valeo's thermal management systems **optimize battery performance and extend vehicle range**. With deep expertise across the electrification value chain, Valeo helps automakers meet CO<sub>2</sub> reduction goals without compromising performance.



## BRAIN

**21%**  
Group sale

**21,184**  
employees

**24**  
production units

**20**  
R&D centers

Valeo drives the development of **advanced driving assistance systems** (ADAS) and **software-defined vehicle** (SDV). Positioned as a frontrunner in automotive perception and data processing, Valeo combines sensors, AI, and embedded software to deliver safer, smarter, and more automated mobility. Its innovations include cutting-edge LiDAR technology, driver monitoring systems, and domain controllers that centralize computing power. **Valeo is the world leader in driving assistance sensors, equipping one in three new cars globally.**



## LIGHT

**26%**  
Group sale

**31,697**  
employees

**43**  
production units

**20**  
R&D centers

Valeo is a global leader in **automotive lighting systems**, shaping the future of mobility through **visibility, safety, and style**. The brand stands at the forefront of innovation, combining optics, electronics, and software to create smart, dynamic lighting solutions. From high-performance LED and laser headlights to adaptive lighting and interior ambient systems, Valeo enhances safety, comfort, and vehicle personalization. Valeo also leads in **wiping systems**, ensuring optimal visibility in all weather conditions.

At end December 2024

**Valeo Service** offers **spare parts and services** to car dealerships and the independent spare parts market. The Group is also investigating **small mobility** (2-3-4 wheels), **charging solutions**, and **data center cooling**.



## Press contacts

Dora Khosrof | +33 7 61 52 82 75

Caroline De Gezelle | + 33 7 62 44 17 85

Andreas vom Bruch | +49 1 62 23 20 803

Jérôme Abribat | +33 7 64 86 58 20

[press-contact.mailbox@valeo.com](mailto:press-contact.mailbox@valeo.com)

### **Valeo's headquarters**

100, rue de Courcelles, 75017 Paris, France

### **Valeo on social media**



More at [www.valeo.com](http://www.valeo.com)