

Valeo hosts 40 start-ups at the "Automotive Tech" lab @Viva Technology

Thursday June 30, Friday July 1 and Saturday July 2, 2016
Paris Expo Porte de Versailles



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I. A message from Jacques Aschenbroich

"For a major group like Valeo, nurturing the start-up spirit means staying agile and innovative while continuously transforming so we can offer customers useful technologies"

“**Innovative, high-tech and dynamic** – that's how the auto industry describes Valeo. And the figures back this up, with 37% of our sales in 2015 coming from innovative products, meaning products that were not on the market three years earlier.

At Valeo, what **sets us apart as a major Group** is that we **know how to nurture the start-up spirit**. We refuse to centralize innovation, instead harnessing 17 research centers and 35 development centers around the world, staffed with autonomous teams capable of quickly rolling out useful mobility solutions for end customers worldwide.

We have always believed in **collaborative innovation and regular, personalized interactions with start-ups**. Some of our encounters end in an acquisition, as was the case in 2007 with Connaught Electronics (now our world excellence center for cameras). Others result in us purchasing equity interests, as with LED technology start-up Aledia. But there are many other possible forms of collaboration, including research partnerships and unique technology cooperation agreements.

Taking part in the very first Viva Technology event is a unique opportunity for our Group, one that I am sure will further strengthen our conviction that **collaborative innovation helps consolidate our technological leadership**.

As the proud host of some 40 start-ups in our space, we firmly believe that the discussions that will take place during the event will spark a multitude of ideas for the cars of tomorrow. This in turn will help us in our unwavering commitment to offering end customers useful technologies, while also bringing back a bit of magic to that most revolutionary of 19th century inventions – the car.”

Jacques Aschenbroich, Chairman and Chief Executive Officer

II. Valeo @Viva Technology

Valeo is hosting 40 start-ups working in fields such as autonomous driving, low-emissions vehicles and new after-sales business models at the "**Automotive Tech**" lab.



1. The challenge of digital transformation, with Jacques Aschenbroich

The challenge of digital transformation

Jacques Aschenbroich, Chairman and Chief Executive Officer of Valeo, will be appearing on the main stage from 11:30 a.m. to 12:30 p.m. on Thursday June 30 to give a keynote on "**The challenge of digital transformation**".

He will share the stage with Bernard Arnault, Chairman and CEO of LVMH; Thomas Buberl, CEO-Designate of AXA; Barry Diller, Chairman of IAC and Expedia; and Isabelle Kocher, CEO of Engie.

⇒ **Thursday June 30, 11:30 a.m.-12:30 p.m., main stage**

2. Two thematic round table discussions

Next steps for connected and autonomous vehicles

Guillaume Devauchelle, Vice-President, Innovation and Scientific Development, will be taking part in a round table discussion on "**Next steps for connected and autonomous vehicles**".

He will share the stage with Michaël Fernandez, Co-Founder of Drust; and Christophe Sapet, CEO of Navya.

⇒ **Friday July 1, 2:00 p.m.-2:30 p.m., stage #7**

The future of electric vehicles

Michel Forissier, Product Marketing, Research and Development Director at Valeo Powertrain Systems, will be taking part in a round table discussion on "**The future of electric vehicles**".

He will share the stage with Simon Mencarelli, Co-Founder and CEO of XYT.

⇒ **Friday July 1, 3:10 p.m.-3:30 p.m., stage #7**

3. Ongoing discussions at the "Automotive Tech" lab

In the run-up to Viva Technology, Valeo asked start-ups to come up with solutions to five key mobility-related challenges:

- Autonomous vehicles
- New after-sales business models
- Cars and cybersecurity
- Interior comfort and safety
- CO₂ emissions reduction

Discussions will be held all throughout the event to encourage emulation within the automotive innovation ecosystem.

Program subject to change

Thursday June 30

- 9:00 a.m.-11:00 a.m. – "The autonomous vehicle" – start-up pitch
- 11:00 a.m.-12:00 noon – "Interior comfort and safety" – start-up pitch
- 4:00 p.m.-6:00 p.m. – "The car after-market service model" – start-up pitch

Friday July 1

- 9:00 a.m.-11:00 a.m. – "Cars and cybersecurity" – start-up pitch
- 11:00 a.m.-11:30 a.m. – Connectivity & cars: discussion on mobility and car parks with Valeo, Vinci Energies and Cisco
- 2:30 p.m.-3:30 p.m. – Valeo **Car Lab**: discussion with start-up AF 83
- 4:00 p.m.-5:00 p.m. – "Reducing car emissions" – start-up pitch
- 5:00 p.m.-6:00 p.m. – **Valeo x Intempora**, a look back at a fruitful collaboration

Saturday July 2 (open to the general public)

Visitors from the general public will be free to discover a variety of connected technologies, including:

- **Mobius**: This solution combines several innovations on the dashboard, allowing motorists to switch smoothly from automated to manual driving mode in complete safety, while offering a host of new services for drivers to use when the car is driving itself.
- **Les Lunettes by Valeo**: Groundbreaking technology that shields drivers' eyes from the glare of outside lights at night without impeding their view of the road.
- **Electric Supercharger**: Technology that combines reduced fuel consumption and enhanced performance.
- **SCALA**: A key enabler for highly automated driving, this laser device scans stationary and moving obstacles around the car, both day and night.

Visitors will also have the opportunity to chat with Valeo's **engineers** and **human resources managers**. In particular, students will be able to find out more about the **Valeo Innovation Challenge** and how they can get involved.

4. Valeo @Viva Technology on social media

Share our passion for technology and innovation



@Valeo Group: Get live updates on Valeo @Viva Technology, including the latest from main-stage keynotes, round tables and lab discussions.

#VivaTechnology #Valeo #Innovation #FrenchTech



/ValeoGroup: Watch clips featuring the latest in innovation, technology and news from the Group.



Valeo: Join the conversation on innovation, technology and the Valeo Innovation Challenge.

III. Innovation: Valeo's driving force

Valeo's growth and strategy are based squarely on innovation. With this in mind, the Group has diversified its sources of inspiration and its partnerships, with initiatives such as the Valeo Innovation Challenge for students, the acquisition of a stake in a Cathay Capital fund, collaboration with Safran in March 2013, a joint venture with Siemens, and the acquisition of Spheros, peiker and most recently FTE Automotive.

1. The Valeo innovation ecosystem

FROM COLLABORATIVE INNOVATION...



2. An innovation strategy fueling growth

A strong foundation of Research & Development

Technological innovations can only come about when the best people are in place to design and develop them. For this reason, **Valeo increased Research & Development (R&D) staff numbers worldwide by 12% in 2015**, bringing the total to 11,620.

In tune with customer needs in all regions, **Valeo structures its R&D centers at the local level to allow each entity to appropriate** and contribute to the Group's quality objectives by harnessing an organization that combines projects and expertise. Valeo prefers to hire from the local employment area and has strengthened its industrial footprint on every continent. In 2015, Valeo had 52 R&D centers worldwide, enabling it to supply products specifically designed for local markets and also to

R&D at Valeo

(2015 figures)

1.3 billion euros, up 16%

1,406 patents filed, up 27%

37% of the order backlog corresponds to innovations

11,620 researchers

52 R&D centers worldwide

introduce innovative technologies aimed at reducing CO₂ emissions and promoting intuitive driving.

Start-up incubator opened in 2015

Valeo works with start-ups from around the world to keep pace with fast-emerging trends and technologies in the business world and get insight into the "next big thing".

In line with this strategy of international cooperation and closer collaboration with the innovators of tomorrow, Valeo announced in August 2015 that it was acquiring a 22 million euro stake in the Franco-Chinese Innovation fund managed by Cathay Capital, a cross-border investment vehicle operating in France, China and the United States. The alliance with Cathay Capital marked a turning point in Valeo's open innovation strategy, offering new opportunities to interact with innovative start-ups in three of the Group's strategic regions: China, Europe and the United States.

In 2016, **Valeo opened a virtual incubator** to identify suitable tech start-ups for collaborative projects, working as part of a network with venture capital funds and in collaboration with technology transfer organizations worldwide. This initiative boosts the Group's visibility and attractiveness among up-and-coming entrepreneurs, and is already generating a deal flow of some 100 opportunities a month.

An engineering office in Silicon Valley

To maintain its technological edge, Valeo is consolidating its presence in influential innovation ecosystems. As part of this, Valeo set up a base in the San Francisco Bay Area in 2014 **to play an active role in Silicon Valley's vibrant ecosystem** and offer a fresh perspective on the challenges shaping our ever-changing world.

The office enables Valeo to carry out first-hand prospective monitoring of automakers, electronics and digital technology players, universities and local start-ups.

Attracting talent to accelerate expansion

Valeo has **stepped up the pace of recruitment since 2014** in an increasingly assertive commitment to support innovation and growth. In 2015, Valeo hired more than 20,000 people worldwide, including 3,855 engineers and managers, who now make up 27% of total headcount. Valeo currently employs nearly 82,800 people.

3. Interactions with academia

PhDs, chairs and collaboration in higher education

Valeo's ambition is to anticipate the technological revolutions that will shape the car of tomorrow. For this reason, Valeo **partners with the best universities and engineering schools in France and abroad.**

Research institutes

Valeo also plays an active role in a large number of competitiveness clusters including **Mov'eo** and the **VeDeCom** institute, which aims to bridge the gap between industry and academia.

At the European level, the Group's activities include co-chairing the **European Road Transport Research Advisory Council (ERTRAC)**, a technology platform for research on road transportation set up by the European Commission.

In addition to funding doctoral theses and research projects, Valeo joins other public- and private-sector players in setting up academic chairs. Notable examples include the industry-focused embedded lighting systems (ELS) teaching chair, and an international research chair on automated driving, called "Drive for You", in partnership with Mines ParisTech.

The Valeo Innovation Challenge

In a bid to create more opportunities to reach students directly, Valeo started a new breed of contest in 2013 called the Valeo Innovation Challenge.

The contest asks students to come up with a new product or system, or a new application for an existing solution, that will make cars smarter and more intuitive by 2030.

With this contest, Valeo aims to **build on its open innovation strategy by strengthening ties across the academic world.**



Innovez pour rendre l'automobile de 2030 et son utilisation plus intelligente, plus intuitive, plus propre et plus fun !

VALEO INNOVATION CHALLENGE 2016

100 000€ DE RÉCOMPENSE POUR LA « MEILLEURE UTILISATION NOUVALE DE L'AUTOMOBILE »

100 000€ DE RÉCOMPENSE POUR LA « MEILLEURE INNOVATION »

Formez votre équipe et inscrivez-vous sur notre site : <https://valeoinnovationchallenge.valeo.com>

INNOVATION CHALLENGE Valeo

4. Strategic partnerships with industry and start-ups

Valeo maintains a constant global innovation watch and works with a range of partners in a variety of ways to ensure flexible innovation and consolidate its technological expertise.

Forging technology cooperation agreements



Valeo signed a technological partnership agreement with **Safran** in **2013**, whereby the companies pooled their skills and expertise in the crucial areas of driving assistance and autonomous vehicles.

This was followed by a **2014** technology cooperation partnership with **LeddarTech**, a manufacturer of detection and ranging solutions, to design new active safety solutions.

Then, in **2015**, Valeo signed a unique technology cooperation agreement with **Mobileye**, the global leader in front-facing-camera-based driver assistance systems, with the aim of developing a joint product position for the automated driving market.

Acquiring technological expertise

In the same move toward collaboration and technological improvement, Valeo also acquired three German companies in 2015, namely **Spheros**, an expert in thermal management for buses, **peiker**, a specialist in connected and autonomous vehicles, and **FTE Automotive**, a leading transmission technology company.

With the acquisition of peiker, Valeo will be able to offer customers new on-board telematics systems featuring high-speed connectivity functions and guaranteeing superior levels of cybersecurity.

Supporting a start-up's development through an equity interest

In **June 2015**, Valeo acquired a 10.5% interest in **Aledia**, a technology start-up specialized in 3D LED technology for general and automotive lighting solutions.

In the medium term, Valeo's aim is to expand its range of innovative interior and exterior automotive lighting solutions and accelerate their rollout.

Setting up a leading-edge joint venture with Siemens

In April 2015, Valeo and **Siemens** announced a project to create a **50/50 joint venture dedicated to high voltage powertrains**. The challenge is to offer the most complete and innovative range of high voltage components and systems for all types of electric vehicles (hybrids, plug-in hybrids and full electric vehicles): e-motors, on-board chargers, inverters and DC/DC converters.

An efficient partnership with Intempora

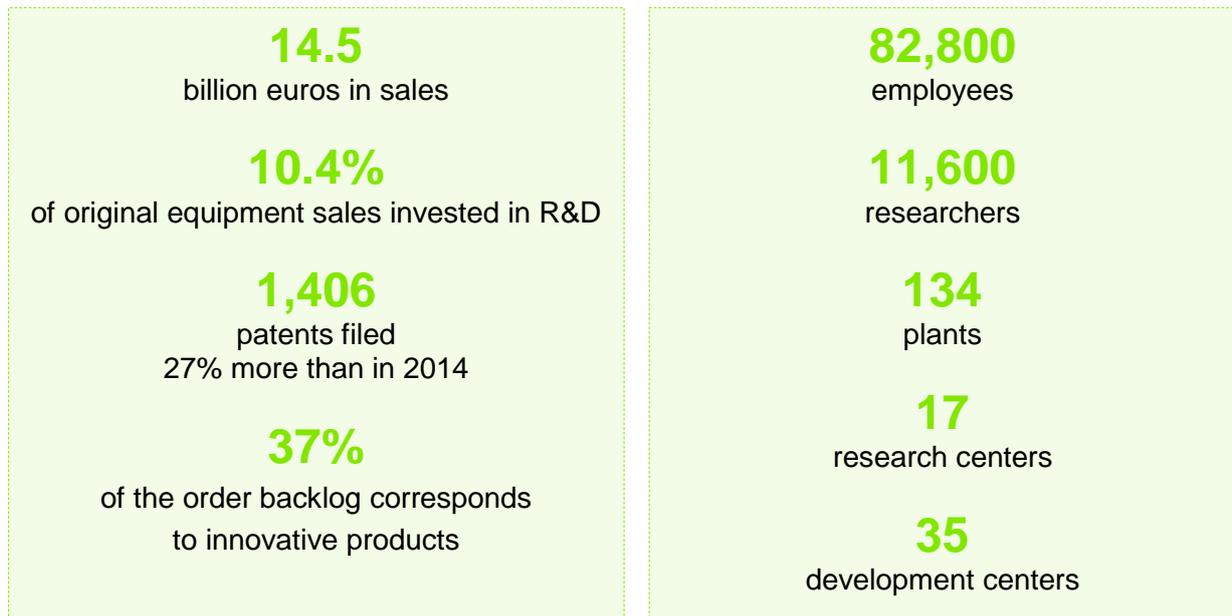
Intempora is a French software editor that was founded in 2000 based on research work at the Mines ParisTech robotics laboratory. Intempora currently develops and edits RTMaps (RealTime Multisensor) software, which has featured on board several autonomous vehicles since 2002.

"The partnership with Valeo is beneficial for a number of reasons. Apart from the contracts it brings and the prestige that working with Valeo represents for our company, we have the good fortune to be able to talk regularly with Valeo's technical teams. That allows us to build our roadmap and adapt our products to our partners' needs, and potentially those of other clients too."

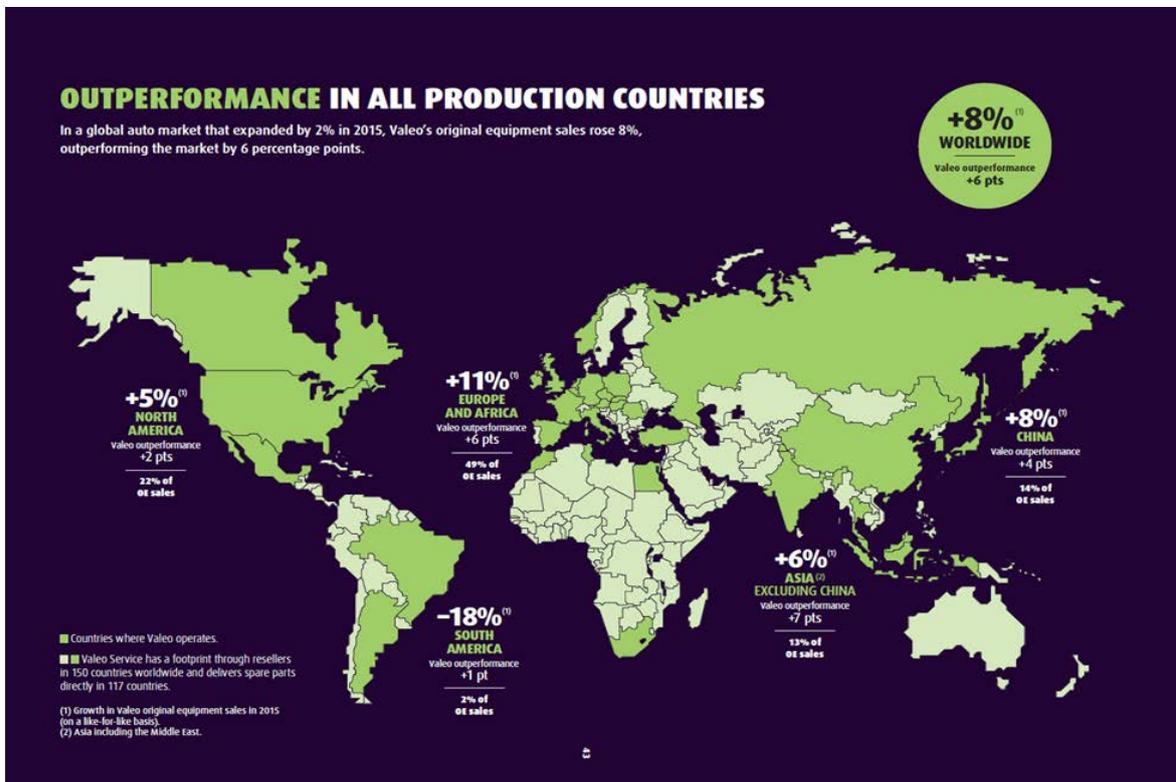
Nicolas Dulac, Intempora CEO

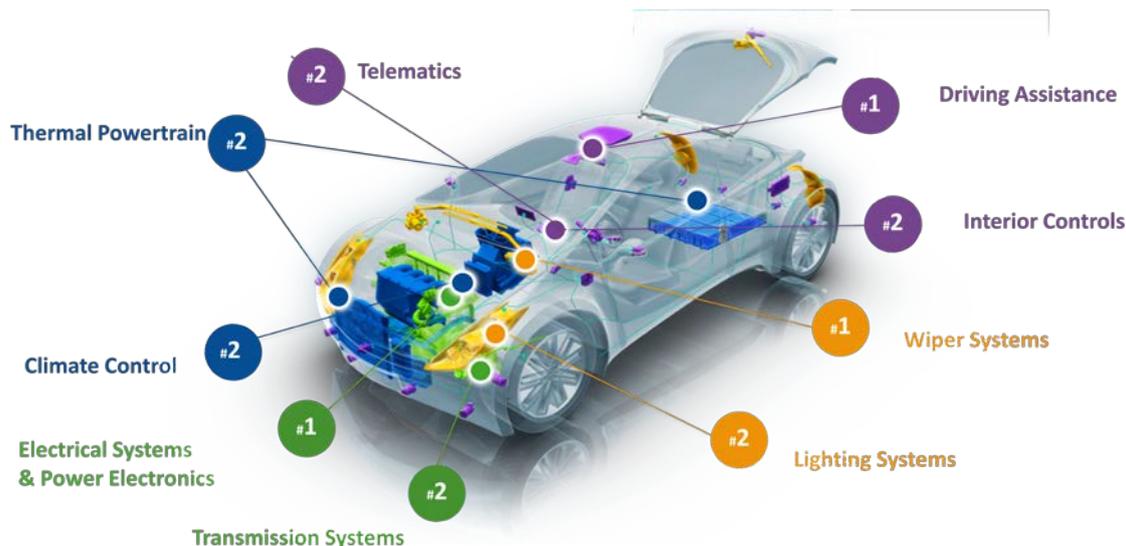
IV. Appendix

1. Key figures



2. Valeo worldwide





3. Working to build the car of tomorrow

With sales of 14.5 billion euros, Valeo achieved the best results in its history in 2015, and became one of today's best performing French companies in the CAC 40. The driving force behind the Group's growth is its innovation strategy, which for years has been founded on CO₂ emissions reduction and intuitive driving. Thanks to this strategy, Valeo is now a major player in the global automotive industry, not to mention one of the main automotive suppliers worldwide.

CO₂ emissions reduction and intuitive driving

The Group's Research & Development strategy aims first and foremost to assist the transition to low-carbon mobility. Each year, the Group invests more than 10% of its original equipment sales in R&D, with the aim of developing innovative solutions that help **reduce fuel consumption and CO₂ and pollutant emissions** without compromising on driving performance or pleasure.

The second fundamental component of the Group's growth strategy is the concept of "**intuitive driving**", which encompasses all innovative systems and technologies that make cars more intuitive, as well as safer, easier to drive and more fuel efficient.

Valeo's four Business Groups

The Powertrain Systems Business Group covers all activities related to the vehicle's powertrain, from optimization of internal combustion engines and Stop-Start technologies to electric vehicles.

The Thermal Systems Business Group develops and manufactures systems, modules and components to manage engine and gearbox cooling systems, and to enable optimal individual passenger climate control, at every phase of vehicle use. The Business Group also

helps reduce CO₂ emissions and other pollutants and harmful particles from vehicles equipped with internal combustion engines.

The Comfort & Driving Assistance Systems Business Group develops innovative and intuitive driver-vehicle-environment interface systems to support the emergence of tomorrow's more automated and connected cars.

The Visibility Systems Business Group develops and produces innovative lighting and wiper systems that support the driver and passengers in all weather, day and night, and in their various on-board activities.

4. Valeo technologies on display @Viva Technology

Valeo Mobius™ 2

Valeo Mobius™ 2 combines several innovations on the dashboard, **allowing motorists to switch smoothly from automated to manual driving mode in complete safety, while offering a host of new services for drivers to use when the car is driving itself.**



Whenever Valeo Mobius™ 2 detects favorable conditions for autonomous driving, for example when the car is in a city traffic jam or on the highway, **it suggests that the driver switch to hands-off mode** by pressing the automatic pilot button located on the steering wheel. Similarly, the system emits a visual and audio alert as soon as it anticipates the need for the driver to resume control.

During periods of automated driving, **Valeo Mobius™ 2** turns the digital dashboard into an extension of the user's smartphone or tablet. This is because in hands-off mode, all driving-related information such as GPS, speedometer and fuel gauge data moves to the background, and the driver's applications are displayed on the screen. The driver can then view all of the content on the smartphone or tablet via Wi-Fi, thanks to standard consumer electronic technology such as Miracast, Chromecast or Airplay, or over an HDMI cable. **This means that when the car is driving itself, the driver can read and write e-mails, watch videos on the Internet, choose favorite music tracks and more.** When the driver switches back to manual driving mode, all driving-related information flips back to the main display.

Les Lunettes by Valeo



Les Lunettes by Valeo are connected, technology-packed glasses that **improve driver visibility day and night by reducing glare from different sources. The result is a safer, more comfortable driving experience.**

- At night, Les Lunettes by Valeo soften the intensity of oncoming car headlamps without dimming the perceived brightness of the driver's own beams.
- During the day, Les Lunettes by Valeo serve as active sunglasses that adapt to dimmer light when drivers enter a tunnel and then prevent glare from blinding them when they exit into daylight.
- Les Lunettes by Valeo also shield the driver's eyes from any potential glare caused by passengers using the car's interior lighting at night.

How they work: Les Lunettes by Valeo are active shutter glasses. When the system is activated and detects glare, the shutters automatically swing into action to reduce the intensity of the light for the driver. Les Lunettes by Valeo are compatible with corrective lenses.

Valeo SCALA

The one-of-a-kind **Valeo SCALA™ laser scanner** is a key enabler in Valeo Cruise4U (partially automated vehicle of the Group). It scans the area ahead of the vehicle and detects moving vehicles, motorbikes, pedestrians as well as stationary obstacles such as trees, parked vehicles and guard rails – all with an extremely high level of accuracy. It works in daylight and at night when the car is driving at both high and low speeds.



Data collected from the scanner is integrated with information from the other sensors to create a map of the environment, allowing the system to analyze and anticipate events around the vehicle. Valeo SCALA™ is slated for mass production in 2017.

Electric Supercharger



Valeo's Electric Supercharger reduces fuel consumption without compromising on driving pleasure. Unlike turbochargers powered by exhaust gases, the electric supercharger is driven by an electric motor using switch reluctance technology, resulting in almost zero lag (250 milliseconds).

Used with a 12 or 48 volt electrical architecture, the system enables a 10% reduction in fuel consumption. Capable of

replacing or supplementing turbochargers, it enhances both driving comfort and **in-gear acceleration, which improves by 27% without increasing fuel consumption.**

When coupled with a Valeo energy recovery system, **this electric supercharger can be used to create a cost-competitive hybrid solution that delivers fuel savings of 15% to 20%.**

V. Toolbox

1. Videos

Valeo Innovation Challenge: <https://www.youtube.com/watch?v=YDiT5fBAabc>

Valeo x Intempora: <https://www.youtube.com/watch?v=JrNbP-2zxcY>

Valeo Mobius: https://www.youtube.com/watch?v=67V_ezL3dvY

Les Lunettes by Valeo: https://www.youtube.com/watch?v=JeLw_q9P-hI

Valeo SCALA: <https://www.youtube.com/watch?v=4B2D8NCtjS8>

Valeo Electric Supercharger : <https://www.youtube.com/watch?v=DtJr2LHgLhI>

2. Group websites

<http://www.valeo.com>

valeoinnovationchallenge.valeo.com

3. Social media

Twitter: https://twitter.com/Valeo_Group

Facebook: <https://www.facebook.com/Valeo.Group/timeline>

LinkedIn: <https://www.linkedin.com/company/valeo/>

YouTube: <https://www.youtube.com/user/ValeoGroup>

4. Useful contacts

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