Contents

VALEO AT EUROBIKE 2022
20 customers in less than 20 months p. 3

Valeo's innovative 48V technology, Valeo Cyclee,
adapted to bikes made by our bikemaker customers p. 4

Valeo's 48V bicycle system, Valeo Cyclee,
designed and produced in France p. 6

Aftermarket support for Valeo's innovative system p. 7

Valeo, the technology leader at the epicenter of the
transformations shaping mobility p. 8
From July 13 to 17, 2022, Valeo will be exhibiting at Eurobike, which will be held in Frankfurt for the first time in its history. And this year, as it welcomes visitors in the heart of Germany on the banks of the Main River, the renowned global cycling trade show will be bigger than ever before. Back in the 1990s, the event was originally launched as the “Mountainbike-Messe”, or mountain bike show. Over the years, it became known as Eurobike, no longer reserved for just mountain bikes. Today, it has become an international platform dedicated to low-carbon mobility and the transportation of the future.

Valeo will be presenting Valeo Cyclee, its innovative 48V electric assistance system for all types of bicycles, perfectly in phase with a market undergoing radical transformation. Valeo’s technology is unparalleled in the bicycle industry. It is the first time that a single module, fitted within the pedal assembly, integrates a 48V electric motor, an automatic gearbox – developed in partnership with French company Effigear – and predictive software enabling the assistance system to instantly adapt to the cyclist’s riding style and needs.

Intelligent, easy to use, and quick to operate, Valeo’s electric assistance system for bikes, complete with its gearbox, is set to be considered the bicycle equivalent of the automatic transmission in latest-generation cars.

This technology stems from a very simple observation: the world is becoming electric. And so is mobility as a whole. It’s not just a transition. It’s a revolution that is totally changing vehicles as we know them. Valeo has been preparing for this upheaval for more than ten years. In just over a decade, Valeo has resized its operations and redefined its technological focus. Between 2009 and 2021, its sales of electrification solutions increased 26-fold.

Valeo is now a major global mobility player, and its innovations attest to this change in scale. Its technologies, featuring artificial intelligence algorithms and software, are no longer just for cars. They can now be found in all new forms of mobility and, of course, in all types of bikes.

Valeo has also converted its production facilities, in particular its plant at L’Isle d’Abeau, France, to manufacture its 48V electric bicycle assistance system from 2022.

New technology requires new support for the market. Valeo took an all-encompassing approach in the design of this innovation, leveraging its aftermarket expertise to deliver a tailored service to bike distributors, making the user experience for people riding bicycles fitted with Valeo’s 48V solution even more fluid.

Thanks to this comprehensive, carefully considered package, Valeo can announce at Eurobike 2022 that it has won the trust of 20 bicycle manufacturer customers in just under 20 months since it unveiled this new electric bicycle drivetrain technology.

Did you know?

UN climate experts calling for low-carbon mobility

The 2,800-page report by the UN IPCC climate experts, published on Monday, April 4, 2022, sets out the latest consensus from scientists across the world on greenhouse gas emissions, which are responsible for global warming. It states that if these emissions are not significantly reduced by 2030, the goal of limiting global warming to 1.5°C will be beyond reach.

The experts say that fossil fuels must be replaced by low-carbon or neutral sources. They add that, at the same time, it is vital to "reduce demand". In concrete terms, the switch to less carbon-intensive energy must not eclipse the need for structural transformations. Among the most practical solutions, the experts cite "low-carbon mobility and electric vehicles (...)" Valeo already has this covered.

At the very beginning of the same month, April 2022, the United States government released data on car trips of less than one mile taken in the country. They represent at least 10 billion miles per year, or 2 million metric tons of CO2 emissions. Switching to electric bicycles for these less-than-one-mile trips would reduce these emissions... to zero!
Valeo's innovative 48V technology, Valeo Cyclee, adapted to bikes made by our bikemaker customers

The 48V electric bicycle assistance system, Valeo Cyclee, is a set of complementary technologies combining performance, ease of use and adaptability to a variety of uses. It's also compact and lightweight, at less than 5 kilograms.

- **Performance driven by 48V technology**
  Valeo's electric motor is more efficient than the 24V or 36V motors that feature on the vast majority of electric bikes on the market today.

  With a torque of 130 Newton meters, the assistance system can multiply the pedal torque by as much as eight, compared to the current average of five, allowing cyclists to ride comfortably and effortlessly in every situation.

- **Simple and intuitive**
  With the Valeo Cyclee system, which integrates transmission technology designed alongside Effigear, the gears shift in less than 100 milliseconds regardless of the conditions, with no buttons or levers needing to be pressed. Cyclists can even change gears “under load”, i.e., without having to stop pedaling, and without jerking. Thanks to Valeo, electric bikes can now offer the same advantages as cars in terms of adaptive automatic gearboxes.

  There is no longer any need for a derailleur – just a single sprocket that allows for a chain or belt drive. As a result, bikes can say goodbye to many parts that are often fragile and require constant maintenance and attention.

- **Highly modular electric assistance technology adapted to all uses**
  Valeo's technology can be adapted to all needs and uses, including city bikes, mountain bikes and cargo bikes for transporting loads.

  The Valeo Cyclee solution is particularly well suited to eCargo bikes, whether for daily family use or for professional transportation. It can carry up to 350 kilograms (including the weight of the bike and the rider) without effort. The system makes it easy to go up a parking ramp with a heavy load, for example, even in reverse. At a time when city centers are being closed to cars and vehicles with internal combustion engines, cargo bikes are playing an increasingly important role in urban mobility, and eCargo models are set to be among the first bicycles equipped with Valeo's electric assistance to appear on the market.

  Easy to use, reliable and low-maintenance, the Valeo system will also offer advantages for eMountain, eCity and eTrekking bikes, making them suitable for sport or for climbing steep slopes, for example.

  Electronics play an essential role in the system, with the bike control unit acting as the brain of the system. It uses information from several sensors on cadence, torque, incline and acceleration to deliver the necessary power.

Did you know?
Valeo, world leader in 48V systems for all new forms of mobility

Valeo is a pioneer and world leader in 48V systems for vehicles. Originally designed as affordable hybrid electrification solutions – which they still are – Valeo’s 48V systems were later developed into a fully electric powertrain solution.

Since then, 48V systems have taken off across the world, and Valeo is one of their leading promoters, with a market share of around 30%. Valeo has secured over 8.9 billion euros in orders for these systems. The Group’s 48V sales are expected to reach 5 billion euros by 2030.

With this technology alone, Valeo is no longer just a player in the automotive industry, but in mobility as a whole. Valeo’s technologies can power all vehicles, and more specifically all new forms of urban mobility, from bicycles to motorcycles, scooters, three-wheelers and, in the future, droids, which will be increasingly used in towns and cities for last-mile deliveries.
To make it even easier to understand the system’s performance, Valeo also offers a human-machine interface (HMI) that provides useful information on operating modes and gear ratios. With its deliberately minimalist, robust design, it can be easily fitted on any type of bike.

Depending on the model, Valeo's system also includes:
- a regenerative braking function (for cargo bikes only) to preserve autonomy and increase brake lifespan;
- a boost function that makes it easier to overtake other cyclists and climb hills;
- reversing and pedestrian push-assist functions for cargo bikes, particularly useful when maneuvering while carrying heavy loads;
- an anti-theft function, the only solution of its kind on the market, integrated directly into the pedal assembly that, when activated, blocks the use of the bike.

Who are our customers?
Valeo's innovation premiered in December 2020. Now, just under 20 months later, Valeo has already won the trust of 20 customers to power their new bike ranges.

They include La Manufacture Française du Cycle (through its Sunn brand), Ateliers HeritageBike, VUF Bikes, Cycleurope and FUELL.

All customers are currently located in Europe, the United Kingdom, the United States and Canada.

Production will be launched for 15 of them in 2022. The production lines located in France have already begun operating.
The Valeo Cyclee 48V system, designed and produced in France

The Valeo Cyclee electric assistance system is resolutely French. Designed entirely in France, it is also starting to be produced in the country, at Valeo’s L’Isle d’Abeau site in Nord-Isère. The site is home to both production and R&D staff.

The L’Isle d’Abeau site, which has historically produced starters, is now taking on activities relating to brand new 48V technologies for the automotive industry. It will also house the development of new "small" electric mobility solutions, led by electric assistance systems for bicycles, but also encompasses 48V electric scooter systems, 48V electric three-wheelers and light urban two-seater electric quadricycles, such as the Citroën Ami, which is powered by a Valeo 48V motor.

France is making a name for itself as the home of Valeo’s electric bicycle assistance system. Before all of the technology’s components are assembled at L'Isle d'Abeau, the motor’s stator and rotor are manufactured in Châtellerault, Vienne, and the gearbox control module is manufactured at the in Sainte Florine plant in Haute Loire.

Lastly, the battery, for which Valeo has partnered with French company Neogy for more streamlined system integration, is put together in Bordeaux, Gironde.

Did you know?
Cities undergo redesign to make room for bicycles

It’s a trend that’s been seen in countless cities when protected bike lanes are added to roads, the number of cyclists increases. This was true even before the Covid-19 pandemic. In Philadelphia in the United States, for example, a 2018 study showed that after new bike lanes were created on a few of the city’s main roads, the number of cyclists doubled. And according to the Department of Civil and Environmental Engineering at the University of Tennessee in Knoxville, other cities in the United States are experiencing similar results.

This trend accelerated when Covid-19 hit. The European Cyclists’ Federation monitored changes to cycling infrastructure in major European cities after Covid-19 was declared a global pandemic. Almost immediately, nearly 2,500 kilometers in infrastructure projects were announced between March and July 2020.

These included new bike lanes, traffic calming measures, car-free areas and widened sidewalks. By April 2021, 1,440 kilometers of cycle lanes had been completed in Europe.

As a result, bicycles, and in particular electrically assisted bikes, are expected to become the main means of transportation in cities, according to the Ipsos institute. In May 2022, it published the results of a survey showing that safer cycle paths can significantly increase the probability of people using bikes as the main way to make short journeys.
Aftermarket support for Valeo's innovative system

Alongside the launch of electric bikes fitted with the Group's 48V technology, Valeo will also make its know-how available in the aftermarket. To make it easier to service and maintain the drivetrain system, Valeo will roll out the necessary assistance to all the bike distribution networks chosen by bike manufacturers, wherever the Group's customers are located.

Valeo is committed to supporting all bicycle stores and repair workshops in the maintenance, warranty and non-warranty repair and sales support for Valeo systems. After all, the most important thing is user satisfaction, which must be borne in mind every step of the way.

The program set up by Valeo is built around five areas of assistance:
- A dedicated customer service unit to collect and process any questions or claims, whether covered by a warranty or not.
- A technical support hotline with experts offering high quality assistance.
- A team of trainers to provide technical knowledge on Valeo's innovations.
- A dedicated logistics service that will deliver any spare part in Europe within 48 hours.
- An online platform, accessible 24/7, where users can access technical content (such as video tutorials and technical bulletins), and a diagnostic tool (for bike activation and repair) and order spare parts.

Did you know?

Mobility transformed by the pandemic

The use of micro-mobility solutions has more than doubled. According to a study by the McKinsey Center for Future Mobility, 15% of people in the United States used a micro-mobility vehicle (kick-scooters, bikes, etc.) at least once a week in November 2021. Prior to the Covid-19 pandemic – or before the start of 2020 – the figure was 6%.

The research organization goes on to note that, following waves of Covid-19, “people are [more or less] back to their old habits, with the exception of public transit, which is still down in usership, and micro-mobility, which is still up and will continue to be, especially in Europe and the US”, according to Kersten Heineke, the McKinsey Center for Future Mobility’s global co-leader.

On a similar note, research group Fortune Business Insights estimates that the electric bike market could be worth 52 billion US dollars by 2028, representing growth of 16% over today’s market.
Valeo, the technology leader at the epicenter of the transformations shaping mobility

Valeo is a technology company uniquely positioned at the epicenter of the revolutions shaping mobility. Valeo develops technologies that facilitate the shift to cleaner, safer and smarter mobility, with the determination to make them accessible to all.

Valeo is the world leader in vehicle electrification and driving assistance systems (or ADAS) - the two markets set to experience the most growth in the coming years due to regulations and aspirations for safer, cleaner mobility.

In 2021, Valeo invested 12% of its original equipment sales in R&D - a ratio comparable with that of the world’s tech giants rather than its industry peers. The Group employs 20,000 engineers in R&D (compared with 6,000 in 2009). Its innovations are protected by a portfolio of 34,000 active patents worldwide.

Valeo, a leader in each of its businesses
- Powertrain systems: world no. 1
- Driving Assistance Systems: world no. 1
- Lighting and Wiper Systems: world no. 1
- Thermal Systems: world no. 2

Beyond Eurobike, Valeo in Germany

Valeo has been present in Germany since 1974 and is a key player in the country’s automotive industry. German customers account for around 30% of the Group’s global sales. Valeo Germany has nearly 7,200 employees at 14 plants and 8 R&D centers.

Like at the Group level, innovation is a key focus for Valeo Germany. In 2020, Valeo filed 444 patents in Germany out of a total of 1,777 worldwide, according to the latest ranking by the French National Institute of Intellectual Property (INPI), published in June 2022.