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RIVE 2013:
PSA Peugeot Citroën and Bosch are premiering OpEneR, a research project designed to increase the range of hybrid and electric vehicles

- ▶ OpEneR: three technological innovations
- ▶ Part of the European Commission's Green Cars Initiative
- ▶ A long-standing cooperative venture

On 3-4 July 2013 at the International Environmentally Responsible Car Show (RIVE) in Alès, France, Bosch and PSA Peugeot Citroën are premiering their Optimal Energy Consumption and Recovery solution (OpEneR), a research project designed to increase the range of future hybrid and electric vehicles by optimising energy management.

OpEneR allows drivers to reduce their fuel consumption through either freewheeling or regenerative braking for hybrids and EVs. With OpEneR, the partners have designed three technological innovations:

- An electric powertrain based on two e-machines that deliver four-wheel drive. This technological solution offers carbon-free driving enjoyment and allows motorists to choose between front or rear wheel drive depending on driving and road conditions.
- The new-generation Stop & Start system that enables freewheeling.
- The ESP[®] electronic stability program that makes it possible to recover energy when braking and recharge the battery, along with the iBooster, which creates more vacuum-free brake pressure.

To test and validate the project's performance, several thousand kilometres were driven using two prototypes built on a Peugeot 3008 platform.

OpEneR responds to the European Commission's Green Cars initiative, which brings together partners from industry and the academic community. Today, five partners are involved in this research project: Bosch, AVL List and PSA Peugeot Citroën for manufacturers and the Karlsruhe Research Centre in Germany and the Galician Automotive Technology Centre (CTAG) for university research institutions.

This close-knit collaboration between PSA Peugeot Citroën and Bosch is based on a cooperative venture launched in 2008. Building on their strategic partnership in the area of hybrid technologies, PSA Peugeot Citroën in 2011 began series production of the Peugeot 3008 HYbrid4, the world's first diesel hybrid vehicle.

The electrical components (electric motor, power electronics and high-voltage alternator) and the special hybrid-adapted version of the ESP[®] electronic stability program were developed by PSA Peugeot Citroën in close cooperation with Bosch. They now equip all of the Group's hybrid models: the Peugeot 3008 HYbrid4, 508 sedan and RXH, as well as the Citroën DS5 HYbrid4.



BOSCH

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Press release

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About PSA Peugeot Citroën

With its two globally renowned brands, Peugeot and Citroën, PSA Peugeot Citroën sold 2.9 million vehicles worldwide in 2012, of which 38% outside Europe. The second largest carmaker in Europe, PSA Peugeot Citroën recorded sales and revenue of €55.4 billion in 2012. The Group is the European leader in terms of CO₂ emissions, with an average of 122.5 grams of CO₂/km in 2012. PSA Peugeot Citroën has sales operations in 160 countries. It is also involved in financing activities (Banque PSA Finance) and automotive equipment (Faurecia). For more information, please visit psa-peugeot-citroen.com

About Bosch

Automotive Technology is the largest Bosch Group business sector. In 2012, its sales came to €31.1 billion, or 59% of the consolidated group total. This makes the Bosch Group one of the world's leading automotive suppliers. Its more than 177,000 Automotive Technology associates worldwide mainly work in seven major areas of business: injection technology for internal-combustion engines, powertrain peripherals, alternative powertrain concepts, systems for active and passive driving safety, assistance and comfort functions, automotive information and communication technologies, and technology and service for the automotive aftermarket. Bosch has been responsible for important automotive innovations, such as electronic engine management, the ESP® anti-skid system, and common-rail diesel technology.

The Bosch Group is a leading global supplier of technology and services in the areas of Automotive Technology, Industrial Technology, Consumer Goods, and Energy and Building Technology. In 2012, its more than 306,000 associates generated sales of €52.5 billion. The Bosch Group comprises Robert Bosch GmbH and its over 360 subsidiaries and regional companies in nearly 50 countries. If its sales and service partners are included, then Bosch is represented in nearly 150 countries. This worldwide development, manufacturing, and sales network is the foundation for further growth. In 2012, Bosch spent approximately €4.8 billion for research and development and applied for nearly 4,800 patents worldwide. The Bosch Group's products and services are designed to fascinate, and to improve the quality of life by providing solutions that are both innovative and beneficial. In this way, the company offers technology worldwide that is "Invented for life."

The special ownership structure of Robert Bosch GmbH guarantees the entrepreneurial freedom of the Bosch Group, making it possible for the company to plan over the long term and to undertake significant upfront investments in the safeguarding of its future. In all, 92% of the share capital of Robert Bosch GmbH is held by Robert Bosch Stiftung GmbH, a charitable foundation. The majority of voting rights are held by Robert Bosch Industrietreuhand KG, an industrial trust. The remaining shares are held by the Bosch family and by Robert Bosch GmbH.

The main activities of the Bosch Group are represented in France. In 2012, the 7,715 Bosch associates in France generated sales volume of €2.7 billion, including €1.15 billion from exports.

Further information is available online at www.bosch.com and www.bosch-press.com