

French key sectors

Motors



Market segment dynamics

Sixth leading manufacturer of private cars worldwide, 2nd largest manufacturer of utility vehicles and industrial vehicles in Europe, France constitutes a prime location for production, research and development of transmissions and engine equipment. French manufacturers, including Renault (world champion in F1 in 2005 and 2006, 2nd in 2007), and Citroën (world champion in 2005 rally, 2nd in 2006), have an acknowledged expertise in the field of motors worldwide.

Foreign equipment and parts manufacturers account for 70% of turnover in the profession. In the field of engines, the French expertise in diesel attracts many research centers and production units of equipment and parts manufacturers to our territory. Delphi has its world diesel competence center in France, and in 2007 Bosch decided to manufacture its future diesel models in France. PSA is a pioneer in the key technology of particle filters, created with the Japanese company Ividen, located in France.

In the field of transmissions, energy saving and passenger comfort pass through new technologies in gearboxes, such as compact automated gearboxes (MCP gearboxes) designed and produced by PSA in France since 2006. Another example, the equipment manufacturer, BorgWarner, has just opened a new factory for dual clutch gearboxes in the south-west France.

Research into zero-emission and fuel economy vehicles, is leading to rapid development in motors and engine systems, which gives rise to opportunities for companies already present and for new players.

French manufacturers are especially active in the different technological fields: PSA is working towards large scale marketing of GNV natural gas vehicles by 2010. Renault is marketing utility vehicles that are compatible with bio diesel fuel, before offering a complete range in 2009. In terms of hybridization, low-hybrid vehicles Start & Stop using Valeo technology have been marketed by PSA for 3 years, and the mildhybrid engine, Hybride HDI, used in two PSA demonstrator vehicles, should be marketed by 2010. Another example, Michelin has presented its hybrid solution, Active Wheel, designed in France.

France's attractiveness

France is a strategic territory for diesel engine activity: it is the leading market in the world for diesel vehicles. France's thriving automotive market has the second highest percentage of diesel engines in Europe – 71% of new cars registered are diesel-driven – making it a strategic location for engine related research and investment. The tax incentives have particularly encouraged development of this engine, enabling the development of acknowledged expertise by French manufacturers in this field.

The automobile industry in France is the leading sector in terms of research and development within companies. The manufacturers attract numerous equipment manufacturers around their research centers, while their panels continue to open up: 624 suppliers of automobile components for Renault in 2006, compared to 554 in 2005.

Motors



Since the 1990's, the European Union has regulated the emission of four main pollutants produced by combustion engines. Since the beginning of 2006, companies are required to meet the euro IV standards, then between 2009 and 2011, the euro V standards. These standards will probably be imposed for the diesel engine to reduce particle emissions fivefold. All diesel vehicles would then be equipped with a particle filter. The French government has implemented a CO₂ tax, as well as a tax credit for zero-emission vehicles.

Research on zero-emission vehicles is greatly supported by public authorities. PSA has obtained significant assistance from the new Agence de l'Innovation Industrielle (Agency for Industrial Innovation) for its hybrid diesel vehicle, with joint aid of 271 million euros, for a complete program evaluated at 471 million euros. The clusters involved in the field of motors and transmission for zero-emission vehicles, are numerous: Mov'eo (Ile-de-France, Normandy), Vehicle of the future (Franche-Comté, Alsace), Urban Trucks & Bus 2015 (Rhône-Alpes), Mobility and advanced transports (Poitou-Charente). Finally, at the beginning of 2007, the research tax credit ceiling, aimed at any company carrying out or financing research in the European Union, was raised to 16 million euros.

International players in France

> The German automotive equipment leader **Robert Bosch**, which will put 65 million euros into its Rodez factory starting at the end of 2007 to manufacture new generation common rail injectors for Volkswagen, with an improvement of fuel consumption.

> **PSA Peugeot Citroën** is the inventor of the particle filter in liaison with Saint-Gobain and the Japanese company Ibiden (which has set up a unit in France for this purpose). Vehicles equipped with this technology stand out as the most environment-friendly with regard to pollutants, and also as exemplary engines for reduction of CO₂ emissions thanks to the common rail direct injection technology, reducing CO₂ emissions by 20% compared to a conventional diesel engine, and by 30% with respect to a petrol engine of equivalent power. In 2007, Ibiden has decided to invest 16 million euros into its Courtenay factory to launch a third production line for diesel particulate filter (DPF) for diesel engines, expected to be operational by January 2009.