

# An Extensive Product Plan Supported by Bold Realistic Technology - PSA Group

Jean-Martin Folz, CEO of PSA Peugeot Citroën

**P**SA Peugeot Citroën has increased its market share in Europe-reputed as the world's most competitive car market-by more than four points in the past five and a half years. This successful performance since 1998 stems quite simply from the popularity of the products manufactured by Peugeot and Citroën. More specifically, our market share gains have been led by an extensive product plan supported by highly efficient technology.

To achieve this level of quality and diversity in our new product launches, we have developed a shared platform strategy. We often talk about this development because it is one of the core components underlying our strategic orientations. This being said, the platform strategy is not an end in itself, but rather a powerful lever that is essential for meeting our objectives of product diversity. This lever is now in place, enabling us to boost the launch of new models while reducing costs. I would like to add that we are only beginning to see the first benefits of the strategy, following the introduction of three new platforms in 2001 and 2002.

One of our major concerns is that new model launches are carefully staggered to strengthen the strategic positioning of our two brands. The Peugeot 307, for example, was launched in 2001, that is four years after the introduction of the Citroën Xsara. The Citroën C3 was launched in 2002, just as the Peugeot 206,



Citroën C3 - 'Modular' Car Concept

marketed from 1998, was consolidating its growth.

I would like to give a few other examples of this wealth of new concepts, most of which are based on highly innovative, original ideas. They include:

- The coupé-convertible concept, introduced with the Peugeot 206. More than 400 units are produced on a daily basis, a record output for this type of car. We also produce a coupé-convertible version of the Peugeot 307.
- The high-roof, bright-interior small car concept, with the Citroën C3.
- The modular car concept, with the Citroën C3 Pluriel.
- A different type of vehicle architecture, with the Peugeot 307 SW, combining elements of the tradi-

tional MPV and the station wagon.

- And, of course, a new concept of MPV, the so-called 'ludospace', with the Citroën Berlingo and the Peugeot Partner.

In addition to our strategy based on regularly launching original, attractive models, we have focused on a policy of technological innovation that is bold, efficient and pragmatic.

PSA Peugeot Citroën is concentrating on some technological areas to create to our benefit a significant competitive advantage by providing customers with indisputable advances that are being rapidly extended in all our model ranges.

First, of course, I would like to outline the strong growth of our high-performance diesel engines. Five years after their launch, the HDi

direct-injection diesel engines have become a European benchmark for their efficiency, low emissions and driving comfort. We have already produced some four million engines and output is accelerating.

Within the scope of their co-operation agreement, PSA Peugeot Citroën and Ford have jointly developed new 1.4-litre and 1.6-litre engines in order to pursue a downsizing objective: the underlying goal is to offer smaller, lighter, more fuel-efficient engines that feature the same performance as larger ones.

The agreement with Ford will enable us to achieve market leadership in the diesel segment and quickly increase output to more than 10,000 engines a day to meet both groups' needs. Our ambition in the area of diesel engines is to meet two goals—one concerning sales, to support the growth of a market that has more than doubled in Europe in the past ten years, and one concerning the environment. Because of its superior thermodynamic efficiency, the diesel engine consumes less fuel at equivalent performance. This results in lower CO<sub>2</sub> emissions and contributes significantly to efforts to combat the greenhouse effect. The diesel engine's success compared with gasoline engines is clearly due to its 20% reduction in fuel consumption and therefore CO<sub>2</sub> emissions.

To support our commitment to diesel engines, we decided to develop a major innovation: the particulate filter. Announced in 1998, presented in 1999 and launched as a world first in 2000 on the Peugeot 607 with an HDi 2.2-litre engine, the particulate filter has fully demonstrated its efficiency. By effectively eliminating particulate emissions, it has removed the last obstacle to the diesel engine's development.

Last June, we sold our 500,000th vehicle equipped with a particulate filter and reviewed the system's very

positive performance in the three and a half years since its introduction. The particulate filter represents:

- An entirely mastered technology, thanks to the ease of use of the common rail, direct-injection system that, when used with an additive, enables the filter to be regenerated.
- An environmentally friendly technology, because it reduces the number of particulates emitted by a factor of 10,000, down to the measurability limit, while increasing consumption by a marginal 1 to 2%.
- A technology fully meeting the future Euro 4 standards required for certain vehicles. Incidentally, I invite you to stop by the Peugeot stand where you can see a 307 equipped with a Euro 4 particulate filter to be introduced by the end of this year.
- A customer friendly technology, with a highly reliable, transparent system that has been confirmed in many independent tests.
- A technology that is continually improving, now that servicing is recommended once every 120,000 kilometres instead of every 80,000. In 2004, we will introduce a particulate filter requiring no servicing developed through our cooperation with Ford.

We are proud to have gained a three-year lead over our competitors and very pleased that a growing number of carmakers are going to offer this kind of advanced pollution control system. This confirms the consistency of our technological choices.

**An innovation philosophy: useful technology on as many models as possible.**

These two examples perfectly illustrate our approach to technological

innovation, a key area for creating competitive advantage in the car industry. Our approach is first to create useful technology. We want to offer our customers greater savings, comfort and driving pleasure, while meeting their expectations as responsible citizens by providing environmentally friendly products.

We are also committed to extending our most important innovations across all product ranges. In this way, we reap the benefits of series production, which means lower selling costs and a larger number of cars equipped with these technologies.

This focus on rapidly extending our technological improvements to a wide range of models, rather than reserving them exclusively for high-end customers, is at the very heart of Peugeot and Citroën's strategic vision and of their mission as broad-line brands. It is not only enabling us to increase our market share, but it is also effective in greatly improving air quality. In addition, these new technologies are rapidly improving the overall quality of cars currently on the road, given old vehicles are replaced by cleaner, safer models.

**Strategy for 2006: four major technological programmes involving powertrains.**

Looking forward to 2006, the PSA Peugeot Citroën group has decided to innovate in four areas of powertrain technology while pursuing the same goals of improving our product range, providing customers with real advantages, protecting the environment and reducing CO<sub>2</sub> emissions:

**Diesel**  
*The HDi engine*

Pursuing the development of HDi diesel engines is clearly our main objective, at least in terms of volume, and our goal for 2006 is to have sold a total of 8.5 million cars equipped with HDi engines. In the



Citroën C3 in open mode...

years ahead, we have decided to focus on engines that emit less than 120 grams of CO<sub>2</sub> per kilometre. At year-end 2002, 190,000 vehicles produced by both brands (the Peugeot 206 and 307, and the Citroën C3) fell into this category. We intend to increase this figure by nine, to a total of 1.7 million vehicles with emissions of less than 120 grams of CO<sub>2</sub> per kilometre by 2006.

#### *The particulate filter*

As I mentioned earlier on, we have gradually extended the use of this technology since it was introduced. Our strategy in this area is not to apply it systematically, but to focus on equipping as many vehicles with mid-sized and large engines as possible. We will soon have reached the one million mark for vehicles with particulate filters, and our goal is to equip more than 1.7 million by 2006.

#### **Innovative Gearboxes**

In addition to the traditional manual and automatically operated solutions that we currently offer, our innovative gearbox strategy consists

in providing customers—even of entry-level models—with affordable automated solutions that increase driving comfort and fuel efficiency. The electronically controlled gearbox effectively meets these specifications. This type of gearbox was introduced on some versions of the Citroën C3 in 2002 and on the C3 Pluriel last spring. It will also equip the Citroën C2.

The new gearbox, called SensoDrive, is an electronically controlled manual gearbox. Fitted to a Citroën C3 with a 1.6i 16v engine, SensoDrive provides performance levels and driving pleasure that are outstanding in this category. The distinctive feature of an electronically controlled gearbox is that it manages clutch and gearshift functions. As a result, the car has no clutch pedal and the gear lever, which is still there, has no mechanical link with the gearbox.

SensoDrive is particularly well suited for small cars used in urban areas with heavy traffic. In addition to offering an enjoyable drive, the electronically controlled gearbox

lowers average fuel consumption. Electronically controlled gearshift functions result in a 5% reduction of fuel consumption on the homologation cycle and represent an additional force in combating the greenhouse effect.

Although not as well-known as our commitment to diesel engines, our objective in the area of electronically controlled gearboxes is just as ambitious. Our initial goal is to produce 650,000 vehicles equipped with this function by the end of 2006, when we will really ramp up production.

Alongside the SensoDrive, in 2005 we will introduce a brand-new, electronically controlled, six-speed compact gearbox capable of operating in both manual and automatic modes. Electronic management of clutch and gearshift functions will provide outstanding road performance and driving pleasure while lowering fuel consumption. The gearbox will gradually be fitted on gasoline and diesel versions of mid-range Peugeot and Citroën vehicles. Production will exceed 400,000 units a year.

### **Stop-and-start: the first stage in accessible hybrid vehicles**

In the area of hybrid vehicles, our strategy is again very pragmatic. It is based on the observation that, because of its unacceptable cost/benefit ratio, a true hybrid vehicle with two engines, capable of operating in ZEV mode, cannot be made widely accessible in the short term. With stop-and-start, the first stage in hybridization, our objective is to provide a rapidly available solution that offers the best possible cost/benefit ratio.

Stop-and-start powertrains integrate a low-power, electrically controlled starter/generator that allows the engine to shut down automatically when the vehicle is standing still and in neutral-at a red light, for example, or in a traffic jam-and to start up again, responding instantly and noiselessly to the first touch from the driver.

Depending on the type of engine, the system results in a 5 to 8% reduction in fuel consumption and, consequently, in CO2 emissions. The technology is especially efficient when used with downsized engines because it further increases fuel savings. Another important environmental benefit is a very substantial reduction in noise pollution.

Tests conducted in the Paris area showed that cars are at a standstill for 35% of the driving time, a figure that supports the deployment of stop-and-start technology.

Beginning in 2004, vehicles equipped with stop-and-start systems will be gradually introduced in our product lines, a first in Europe for this emerging technology. We forecast that more than 50,000 Peugeot and Citroën vehicles will be equipped by the end of 2006. Looking to the future, our confidence in the development potential of this innovation is

based on the driving pleasure and fuel efficiency it offers, especially in cities. We therefore expect substantial growth, particularly after 2008.

### **The gasoline engine**

As a result of the cooperation agreements between PSA Peugeot Citroën and BMW announced in July 2002, a new family of gasoline engines named "EP" will be introduced in 2006 and produced at the rate of one million units a year to meet both carmakers' needs. With our partner, we are exploring various innovative solutions that take a new approach to such technologies as direct injection and supercharging. This will enable us to improve engine features, once again with a focus on reducing fuel consumption and related CO2 emissions, while offering outstanding performance.

This dual approach underlies and fuels discussions among our engineers, who are preparing the car of tomorrow

In all these cases, the Group is looking to boost the development of major technological programmes to provide direct solutions (or indirect in the case of the particulate filter) to the problem of the greenhouse effect while giving the Peugeot and Citroën ranges a special appeal on top of their successful design and overall qualities. This special appeal comprises savings (through lower fuel consumption), environmental protection (through lower emissions), and enhanced driving pleasure based on such factors as engine torque, flexible handling and driver

comfort. As soon as we identify the best technologies that enable us to make these improvements, we look for ways to make them available to a majority of customers by including them in our different models. That's what we did for the HDi engine and the particulate filter, and that's what we're currently doing for the electronically controlled gearbox, the stop-and-start system and the new generation of gasoline engines.

### **Conclusion**

To prepare the car of tomorrow, we are strategically focused on combining innovation and series production. Our commitment involves both the heart and the mind: on the one hand, our passion for cars, which leads our search for progress through new technologies, and on the other, our manufacturing know-how, driven by an ongoing commitment to finding the best cost/benefit ratio, which is the only way to make these innovations available to the largest possible number of car owners.

This dual approach underlies and fuels discussions among our engineers, who are preparing the car of tomorrow, and our sales forces, who are in a position to identify and anticipate customer aspirations.

For the long term, we are of course supporting our growth strategy by watching very closely the developments that will affect the car technologies in the future, in particular with regard to hybrid, natural gas and fuel-cell powered vehicles. We are continuing to produce demonstrators and limited-series models to test these concepts, but given the technical strategy that I have presented, it would be unproductive-even counterproductive-not to wait until these technologies are more fully developed. ■

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