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## I. A FINAL ASSEMBLY PLANT IN THE HEART OF NORTHERN FRANCE

### KEY DATA

- Created in 1992 on the former Chrysler plant site.
- Equally owned by PSA Peugeot Citroën and Fiat, with PSA Peugeot Citroën in charge of operational management.
- 161 hectares, including 34 hectares of green fields.
- Certified ISO 9001 and 14001 since 2000.
- Largest employer in the Valenciennes region with some 4,400 employees.
- Maximum capacity 190,000 vehicles a year (800 vehicles a day, including some 550 light commercial vehicles and combi-vans).
- Production of three vehicle ranges:
  - Executive MPVs for Peugeot, Citroën, Fiat and Lancia;
  - Compact light commercial vehicles for Peugeot, Citroën and Fiat;
  - Combi-vans for Peugeot, Citroën and Fiat.
- 1.6 million vehicles manufactured since 1992.
- Production record: 2003 with 169,161 vehicles.
- Flexible production facilities and logistics chain:
  - A single assembly line will handle 14 different body styles;
  - Just in time delivery of nearly 3,000 parts for assembly by operators.
- Total procurement of more than €400 million in the Northern region of the Pas-de-Calais.

## SUPPORTING PSA PEUGEOT CITROËN AND FIAT INDUSTRIAL COOPERATION

- Created in 1992 on the former Chrysler plant site (1973-1987) outside the town of Hordain in Northern France, the Sevel Nord final assembly plant was set up to reinforce the production base for the cooperation between PSA Peugeot Citroën and Fiat, with each Group owning a 50% interest. The Sevel plant in Val di Sangro, Italy, specialises in manufacturing large light commercial vehicles.

Sevel Nord is dedicated to the production of the two partners' executive MPVs, as well as to light commercial vehicles under 3.5 tonnes.

Spanning 161 hectares, the site includes 34 hectares of green fields planted with 8,200 trees, which surround the 25 hectares housing three production units: body-in-white, painting and assembly.

In 2000, Sevel Nord earned ISO 14001 certification for its environmental management systems and ISO 9001 certification for the quality of its vehicle output.

## PRODUCTION CAPACITY IN LINE WITH MARKET DEMAND

- The Sevel Nord plant ramped-up quickly after its inauguration in 1993 and today operates at nearly full capacity. Output has totalled more than 1.6 million units since the beginning, with a production record of 169,161 vehicles in 2003. Maximum capacity is 190,000 vehicles a year or 800 units a day, including some 550 compact light commercial vehicles and combi-vans.

In 2005, Sevel Nord produced 151,100 vehicles for four different brands:

- 65,105 executive MPVs: Peugeot 807, Citroën C8, Fiat Ulysse and Lancia Phedra;
- 85,995 LCVs: Peugeot Expert, Citroën Dispatch and Fiat Scudo.

The plant is currently operating on three shifts, including a night shift, gearing up for the roll-out of the new family of compact light commercial vehicles and combi-vans while continuing to produce the previous generation of light commercial vehicles until they are phased out.

## A SINGLE ASSEMBLY LINE FOR A VERY DIVERSE RANGE OF VEHICLES

- What is unique about Sevel Nord is the plant's ability to manage assembly of a wide range of body styles for the two automotive groups.

The site has proved extremely flexible in adjusting its production facilities and logistics chain to the ramp-up of the new model. Over a period of ten months, the same assembly line has accommodated 21 different body styles, from the executive MPVs and the long or short wheel base versions of the previous generation of light commercial vehicles to the new generations of light commercial vehicles and combi-vans, each with different bodies. Successfully managing such diversity is an unprecedented achievement in the production of passenger vehicles.

This extensive diversity requires diligent application of production systems to guarantee compliance with the different specifications and option packages. What's more, an average of 3,000 parts must be delivered just-in-time to enable operators to assemble a complete vehicle.

This means that each operator's expertise is critical to meeting both quality objectives and deadlines.

## A MAJOR SOURCE OF EMPLOYMENT AND BUSINESS POTENTIAL FOR THE VALENCIENNES REGION

- The Sevel Nord plant employs around 4,400 people, making it the largest employer in the Valenciennes conurbation.

20% of the plant's French-sourced procurement comes from the Northern Pas-de-Calais region, representing revenues of more than €400 million for the region. The introduction of the new vehicles and the creation of a nearby Supplier Park will significantly increase the percentage of regional purchasing.

The 46 hectares industrial park, created by the "Porte du Hainaut" municipal authorities, offers suppliers an opportunity to set up facilities near the production plant. By locating nearby, they will help to secure the plant's supply chain, with most suppliers delivering on a just-in-time basis.

## II. PRODUCTION OF NEW COMPACT LIGHT COMMERCIAL VEHICLES AND COMBI-VANS: MODERNISED WORKSHOPS, NEW SUPPLY CHAIN PROCESS AND IMPROVED ERGONOMICS

### KEY DATA

- €440 million invested in capital expenditure, mainly for the body-in-white unit.
- Workshops modernised and adapted to the size of the new vehicles.
- Building extensions: 27,000 m<sup>2</sup> for the body-in-white facility, 5,500 m<sup>2</sup> for the assembly line.
- Body-in-white assembly 92% automated, representing:
  - 415 robots – 214 of them new;
  - and 327 PLCs (programmable logic controllers) – 64 of them new.
- Significant improvements to workstation ergonomics:
  - with a 39% reduction in the number of workstations rated as heavy;
  - and a significant increase in workstations rated light or medium.
- Set-up of a new logistics system.
- 12,000 parts packages delivered daily in 2007, twice the amount delivered in 2005.
- Minimised impact on the environment.

### AN EXPANDED, MODERNISED BODY-IN-WHITE FACILITY

- The body-in-white unit has been expanded by 27,000 m<sup>2</sup> to house the new vehicles dedicated process line and provide additional logistics capacity, which are essential given the diverse body styles and different vehicle lengths, wheelbases and overhangs.

Assembly and quality control processes have been substantially enhanced with greater automation and improved ergonomics. The addition of 214 robots and 64 programmable logic controllers means that the new body-in-white line is 92% automated, compared with 79% for the previous generation.

Quality control has also been improved by the deployment of a new 3D measurement station capable of managing the new vehicles “larger bodies”.



## II. PRODUCTION OF NEW COMPACT LIGHT COMMERCIAL VEHICLES AND COMBI-VANS: MODERNISED WORKSHOPS, NEW SUPPLY CHAIN PROCESS AND IMPROVED ERGONOMICS

### A PAINT-SHOP FULLY ALTERED FOR THE NEW VEHICLES

- The new vehicles technical features required changes to be made to the paint-shop facilities.

Handling processes have been improved by the installation of lift tables, overhead and floor conveyors able to support the weight of the new vehicles.

The curing ovens have been enlarged to accommodate the larger vehicles.

To house the diverse range of body styles, the two pneumatic spray guns in the MPV and combi-van paint booth have been replaced by two electrostatic paint robots.

### A FLEXIBLE ASSEMBLY LINE TO MANAGE BODY STYLE DIVERSITY

- The new vehicles have been integrated onto Sevel Nord's assembly line which, over the last 10 months, has been producing the existing LCVs, MPVs and the new generation of LCVs and combi-vans.

Adapting the line to this wide variety of body styles has required the implementation of a new supply chain process to deliver parts to the line just-in-time.

The new vehicles' heavier weight, varying lengths and different underbody architecture meant that, to simplify operator's tasks, some handling processes required adjustment by replacing the elevator section for positioning the body on the chassis and modifying the swing trays.

Windscreen glueing and attachment of fuel tanks and sub-assemblies have been automated to eliminate heavy workstations. "Onboard chairs" have been installed at workstations to allow operators to work seated, with the necessary parts all within reach.

## IMPROVED ERGONOMICS

- Several hundred tasks and situations were analysed by Sevel Nord based ergonomic engineers using the METEO method, which assesses each situation based on workload (repetitive vs. cyclical tasks, working environment, ...) and then classifies workstations as “heavy”, “medium” or “light”.

Modernising the production base led to significant improvements in workstation ergonomics and a 39% reduction in the number of heavy workstations. In addition, the number of medium workstations was increased by 17% and light workstations by 5%.

Operators affected by the decrease in heavy workstations have been trained to facilitate a quick transition to new workstations at the Sevel Nord plant.

As part of its social responsibility policy, the Sevel Nord plant is committed to maintaining jobs for its disabled employees (21% of the manual employees) and guaranteeing their long-term employability. Fifteen workstations in the body-in-white unit have been specifically designed for employees with disabilities.

## A NEW SUPPLY CHAIN PROCESS

- The supply chain process has been entirely redefined to enable the delivery of a much greater variety of parts to the workstations in sequence, within easy reach of the operators.

As part of this process, the following improvements were implemented:

- Standard and special-purpose packaging was redefined, in a commitment to reducing the quantity of waste cardboard.
- Packaging size and weight have been reduced to clear space on the line and improve workstation ergonomics.
- Small packages distribution has been revised to increase the delivery capacity at the production line to 12,000 packages per day in 2007, compared to 6,800 in 2005.
- A 5,500 m<sup>2</sup> extension to the assembly unit was built to meet the floor-space requirements for these organisational changes.



## II. PRODUCTION OF NEW COMPACT LIGHT COMMERCIAL VEHICLES AND COMBI-VANS: MODERNISED WORKSHOPS, NEW SUPPLY CHAIN PROCESS AND IMPROVED ERGONOMICS

Municipal authorities from the “Porte du Hainaut” also gave the go-ahead for a 46 hectares Supplier Park next to the plant, with a direct 1.2 km track to the assembly line building.

Five suppliers have already set up facilities in the park:

- Lear: supply of wire harnesses;
- Inergy: fuel tanks;
- Inoplast: new light commercial vehicle’s front and rear doors;
- The Ostrovent workshop: manages the sequential delivery of five families of parts and prepares 12 sub-assemblies;
- Gefco: the PSA Peugeot Citroën Group’s transport and logistic division has a 20,000 m<sup>2</sup> facility to support the 419 trucks that supply the Sevel Nord plant every day.

### ENHANCED ENVIRONMENTAL PROTECTION

- The Sevel Nord plant was ISO 14001 certified in 2000. All of the environmental factors related to the manufacture of the new range of compact light commercial vehicles and combi-vans were integrated in the project from the beginning. The main improvements in Sevel Nord’s environmental performance are:

#### ☐ A reduction in paint solvent waste

- Paint solvent waste has steadily declined, from 13.75 kg per vehicle in 1996 to 6.09 kg in 2005, with further reductions being driven by the recent modernisation of the paint-shop.

#### ☐ A reduction in water consumption

- Water consumption has decreased from 8.31 m<sup>3</sup> per vehicle in 1994 to 2.3 m<sup>3</sup> in 2005. The increase of new vehicle dimensions was integrated into the search of technical solutions to reduce water consumption (i.e. more precise spraying as each vehicle goes down the line and the introduction of water recycling).



## II. PRODUCTION OF NEW COMPACT LIGHT COMMERCIAL VEHICLES AND COMBI-VANS: MODERNISED WORKSHOPS, NEW SUPPLY CHAIN PROCESS AND IMPROVED ERGONOMICS

### ☐ Quieter facilities

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- The choice of new installations has been carefully considered to limit and monitor noise impact levels on the plant and its surrounding environment.

### ☐ A reduction in waste and an increase in sorting and resource recovery

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- Reducing packaging waste is a key concern at Sevel Nord and the new project integrates the use of sustainable packaging materials for parts deliveries. The objective is to reduce packaging waste to 6 kg of cardboard per vehicle, compared with 7.5 kg in 2005.
- In addition, the total percentage of recovered waste is expected to remain high thanks to an increase in waste sorting and optimised use of resource recovery services.

### III. SEVEL NORD EMPLOYEES

#### KEY DATA

- Strengthening manufacturing at the site.
- Some 4,400 employees (13% female).
- Simulation-based recruitment method, implemented by the French national employment agency.
- 44 trainees in employment-based training programmes.
- 85,700 hours of training and 2,000 people trained for production of the new light commercial vehicles.
- A total commitment to safety in the workplace: frequency of accidents with stoppage reduced by a third.
- Proactive social dialogue, with 12 agreements signed since 2004.
- Official recognition for the plant's initiatives to promote:
  - gender equality, diversity;
  - employment of people with disabilities.

#### STRENGTHENING MANUFACTURING AT THE SITE

- The decision by PSA Peugeot Citroën and Fiat to renew their range of light commercial vehicles has secured the activity at Sevel Nord and strengthened the plant's commitment to hiring locally. This is important in a region which has lost many jobs from successive crises in the mining, textile and steel industries.

The Sevel Nord plant employs some 4,400 people:

- 82% operators, 15% administrative employees, technicians and supervisors and 3% engineers and managers;
- 88% come from the Northern Pas-de-Calais region;
- 13% are female;
- 13.4% of employees have partial disabilities (21% of operators);
- The average employee's age is 38 and the average length of service 11 years.

Since 2005 the recruitment process has used a simulation-based method, developed in partnership with France's national employment agency, which enables the plant to hire people with the skills needed for a given workstation, even if they have not had any previous manufacturing training or experience. New employees then receive on-site training.

Each year, Sevel Nord takes on new apprentices as part of its training agreement; 44 trainees are currently doing an on-site training.

#### SKILLS LEARNING SUPPORTED BY AN EXTENSIVE TRAINING PROGRAM

- The upgrading of production facilities has been supported by technical skills training and the creation of new job categories:

- "Industrial equipment operators" in the body-in-white unit to run the 214 new robots and 64 PLCs.
- "Monitors", whose numbers have been increased to assist teams of five to six operators.
- "Maintenance technicians" responsible for supervising complex technical areas to support operators.
- "Kanban liaisons", responsible for just-in-time parts delivery to the line, in small packages. The number of these positions has been considerably increased.
- "Process methods technicians", assigned to each of the automotive techniques used in the plant.

This specialised learning process was supported by 85,700 hours of training for the 2,000 employees involved in the production of the new vehicles, which enabled them to consolidate and enhance their existing skills, as well as to learn how to use new technologies.

## ENHANCED WORKPLACE SAFETY

- Safety in the workplace is a top priority at the Sevel Nord plant, which is committed to guaranteeing health and safety amongst its employees. Safety initiatives have reduced three fold the rate of accidents which require line stoppages, from 6 accidents per million hours worked in 2002 to 1.6 in 2005. By comparison, this rate was 2.1 for the automotive industry as a whole and 2.7 for the metalworking industry in 2005.

The new internal traffic plan created by the new supply chain organisation will also help drive further improvement to the plant's safety performance.

## SOCIAL DIALOGUE

- Sevel Nord has pursued an extremely active employee relations policy, highlighted by the signature of 12 agreements with the plant's Trade Unions since 2004:

- Agreement on women's employment and gender equality which, when combined with the improved workstation ergonomics, led to women accounting for 33% of the 600 people hired under temporary employment contracts in 2005.
- Agreement on operators job categories signed in July 2005 which created new career opportunities based on the skills used by employees.

In November 2005, Sevel Nord was nominated by the "Alliances" association for its commitments to gender equality and workplace diversity. The association organises annual awards for exemplary sustainable development performance by companies in the Northern Pas-de-Calais region.

In October 2006, the MEDEF employers' association (French CBI) gave Sevel Nord their "Managing Disabilities in the Workplace" award for the plant's initiatives to create job opportunities for the disabled.

## IV. THE NEW RANGE OF COMPACT LIGHT COMMERCIAL VEHICLES AND COMBI-VANS DEVELOPED BY THE PSA PEUGEOT CITROËN-FIAT INDUSTRIAL COOPERATION

### KEY DATA

- The vehicles are produced at Sevel Nord.
- Investment: €700 million (€260 million for the products and €440 million for the production facilities).
- 55% of common parts (value) achieved using existing sub-assemblies and components.
- Annual production capacity: 130,000 units in 3 shifts.
- Two distinct families: light commercial vehicles and combi-vans, with the same basic technical components.
- Light commercial vehicles - 9 different body styles:
  - Light commercial vehicles (panelled, semi-panelled, with windows) two lengths and two heights available;
  - Load area volume 5, 6 or 7m<sup>3</sup>, payload 1,000 or 1,200kg;
  - Cab floor panel for custom coachbuilders.
- Combi-vans - 4 different body styles:
  - Multi-purpose (windows or semi-panelled sides), two lengths available;
  - 5 to 9 seats.
- Maximum height: 1.90m with pneumatic suspension: for easy access to underground parking facilities.
- Rear loading sill below 50cm (standard pneumatic suspension position)
- PSA Peugeot Citroën diesel and petrol engines.
- Engines: 1.6 litre, 66 kW (90 hp), 2-litre (88 kW - 120hp and 100 kW - 136 hp) for diesel engines with common rail direct injection system and 2 litre (103 kW - 140 hp) for petrol engines.
- Market launch planned from mid-January 2007.



#### IV. THE NEW RANGE OF COMPACT LIGHT COMMERCIAL VEHICLES AND COMBI-VANS DEVELOPED BY THE PSA PEUGEOT CITROËN-FIAT INDUSTRIAL COOPERATION

After replacing their range of large light commercial vehicles – on sale since mid-June 2006 – PSA Peugeot Citroën and Fiat are continuing to rejuvenate their jointly developed LCV ranges with the unveiling of new compact light commercial vehicles.

Designed, engineered and developed fully by PSA Peugeot Citroën, with the assistance of Fiat, the new light commercial vehicles will replace the Peugeot Expert, Citroën Dispatch and Fiat Scudo while the combi-van ranges become a new offer in the passenger car segment.

The specifications of the compact light commercial vehicles make them ideal transport solutions for all types of business needs, with significantly higher load capacity and volume than the previous generation.

The new LCV ranges further improve on the already attractive features of their predecessors in terms of comfortable ride, dashboard layout and driveability, which are all similar to passenger car features. The ranges have also been extended, with 9 body styles available in two heights and two lengths.

#### THE COMPACT LIGHT COMMERCIAL VEHICLES: DESIGNED TO COMBINE PRACTICALITY AND DRIVING PLEASURE

- Topping the design specification given to our engineers for the new light commercial vehicles were all the benefits that had driven the success of the first generation, in particular a car-like experience in terms of access, cabin, ergonomics, comfort, handling, ride and driveability. The new vehicles' DNA also had to feature distinctive, innovative exterior and interior styling.

Safety and comfort features found in passenger cars were equally essential, since light commercial vehicles customers have extremely demanding expectations in both areas.

The new project also focused on creating a functional, highly practical and easy-to-access loading compartment, with the goal of exceeding standard capabilities. Furthermore, the vehicles had to compare favourably with the competition in terms of compact design and size/payload ratio. In short, the new generation had to enhance all of the practicality of a light commercial vehicle, while offering all of the comfort and driving pleasure of a saloon car.

## AN ETHNOLOGICAL APPROACH TO DELIVER TRULY PRACTICAL INNOVATIONS

- To ensure that the new vehicles were closely in line with the needs and expectations of their potential customers, marketing teams turned to a novel method based on ethnological research. They listened to what people said about using their vehicles and filmed business users in real world situations. Analysing this wealth of data sparked fresh ideas and led to innovative solutions such as the new interior loading space.

Redesign of the interior space began with the following question: how can the current length be extended to enable users to carry long, lightweight items like plastic tubes or copper pipes? The solution was to create an interior “tunnel” to join the loading space area to the cabin and the overhead storage compartment. This increased the available overall length by 65 cm for the standard version, thereby eliminating the need for a roof rack.

The cleverly designed internal storage compartment for long items which would previously have required the use of a roof rack is an added value for these versions. The addition of pneumatic suspension maintains the loading sill at a constant height which can be adjusted from -5 to +6 cm.

## A LOT MORE FEATURES PACKED INTO A VERY COMPACT SIZE

- To meet customer demand for greater payload and load space, the new light commercial vehicles are bigger than the previous generation, with basic models 4.80 m long for a payload length of 2.26 m. This offers 25% more load capacity compared with standard models. Total admissible load volume now stands at 5 to 7 m<sup>3</sup> for payloads of 1,000 or 1,200 kg.

To make loading and unloading easier, the loading sill has been lowered to 57 cm for the short wheelbase models with standard suspension system. With the pneumatic suspension, the nominal sill is under 50 cm and when the vehicle is stationary the height can be lowered a record 45 cm. The loading space has a more square shape than before and the doors open wider for easier access. The side doors, for example, are now wide enough to load euro-pallets (1.20 m x 0.80 m).



IV. THE NEW RANGE OF COMPACT LIGHT COMMERCIAL VEHICLES AND COMBI-VANS DEVELOPED BY THE PSA PEUGEOT CITROËN FIAT INDUSTRIAL COOPERATION

### AN EXTENSIVE RANGE OF BODY STYLES TO MEET EVERY NEED

- Today, light commercial vehicles are being used to meet an ever-greater variety of needs, as the market is moving towards bigger loading compartments and heavier payloads. Hence a wider offer with 9 different body styles for our new light commercial vehicle ranges.

To address each user's needs, the design focused on "plug and play" capabilities to make it easier for autobody conversion specialists to customise vehicles. The electrical unit, for example, provides simple, standardised connection of special equipment such as warning light ramps (for ambulances or fire engines) or compressors for refrigerated delivery vans.

### A CABIN AS COMFORTABLE AS IN A SALOON CAR

- Cabin ergonomics with a saloon like interior to ensure comfortable driving experience raise strong expectations amongst drivers. Particular care was taken in designing the interior, using digital simulations to determine the optimum comfort angle for the driver's ankles, shoulders, wrists and elbows. In addition, to allow each driver to find the right position, the steering wheel height and depth are both adjustable.

### SAME ADVANCED COMFORT AND SAFETY FEATURES AS FOUND ON THE LATEST GENERATIONS OF PASSENGER CARS

- The new vehicles comfort features are comparable to high specification passenger cars, while safety equipment includes side airbags, cruise control and a speed limiter, as well as electronic stability program (ESP). The ESP anti-roll, originally developed for top-end SUV's, has been designed for the vehicles' specific features, including height and load variations.



IV. THE NEW RANGE OF COMPACT LIGHT COMMERCIAL VEHICLES AND COMBI-VANS DEVELOPED BY THE PSA PEUGEOT CITROËN FIAT INDUSTRIAL COOPERATION

Innovative for this type of vehicle are the driver support systems, which include reverse parking assistance, automatic activation of low-beam headlights in dim light or heavy rain, and automatic activation of window wipers.

Anti-theft devices have been optimised. For example, front and rear compartments lock separately, making it possible to load or unload the vehicles while the passenger compartment remains locked – an important plus that adds peace of mind and security for business users. In addition, a “super-locking” feature based on a high-security lock on the driver’s door is available. This feature activates a lockdown of all interior opening controls – for example when a window is broken – earning the vehicle the top score of five stars in the Thatcham New Vehicle Security Ratings.

#### THE COMBI-VANS: AN ALL-NEW SOLUTION FOR MOTORWAY CRUISING

- Multi-purpose combi-vans designed for passenger transport represent a whole new model range. Designed to address the needs of two major user groups – firstly, business users who transport large numbers of passengers and luggage. Secondly, leisure-orientated customers looking for more load space at an affordable price: an MPV-like vehicle in an extra-large size.

The interior is incredibly bright thanks to the large window areas. The panoramic windscreen – one of the biggest on the market – affords excellent visibility from both front and rear seats, and the latter are raised, theatre-style, to let passengers see over the front seats.

High-performance climate control is another important feature. An optional second independent air-conditioning system covers the rear of the vehicle to guarantee superb comfort for passengers in the middle and back seats. Simultaneous circulation of heat through top and bottom vents marks a significant advance for this category of vehicle.

The combi-vans offer increased comfort for occupants when fitted with pneumatic suspension. This option also highlights the practicality of the vehicle: height below 1.9 m allowing access to underground parking and very low loading sill (under 50 cm).



IV. THE NEW RANGE OF COMPACT LIGHT COMMERCIAL VEHICLES AND  
COMBI-VANS DEVELOPED BY THE PSA PEUGEOT CITROËN  
FIAT INDUSTRIAL COOPERATION

**A RANGE OF MODERN, FUEL-EFFICIENT  
AND ENVIRONMENTALLY-FRIENDLY ENGINES**

- The new vehicles' engines are manufactured by PSA Peugeot Citroën and have been adjusted and adapted to comply with Euro IV emissions standards, applicable as of January 2007 for new light commercial vehicles sold in Europe. They cover the complete spectrum of needs in a market heavily weighted towards diesels (99%+ of light commercial vehicles European sales). Three high-performance diesel engines – 1.6 litre, 66 kW (90 hp), a 2 litre 88 kW (120 hp) and a 2 litre 100 kW (136 hp) deliver widely-acclaimed driving comfort and best-in-class fuel efficiency and low emission performance.

To further enhance the vehicles' environmental credentials, a PSA Peugeot Citroën diesel particulate filter (DPFS) will be offered on versions equipped with the most powerful diesel engines.

A 2 litre, 103 kW (140 hp) petrol engine is also available, designed primarily for the combi-van ranges. Its high fuel efficiency and 33% extended time between servicing (now set at every 30,000 km)\* helps to reduce total cost of ownership.

\*Compared with the previous.

## APPENDIX 1

# TECHNICAL SPECIFICATIONS OF THE NEW COMPACT LIGHT COMMERCIAL VEHICLES

	LIGHT COMMERCIAL VEHICLES	COMBI-VANS
<b>DIMENSIONS AND WEIGHT</b>		
Length (m)	4.80 and 5.13	
Width not includ./including rearview mirrors (m)	1.90 and 2.19	
Height (m)	1.89 to 2.28	1.89 and 1.94
Unladen weight (kg)	1 661 to 1 775	1 722 to 1 944
Drag coefficient (CD)	1.17 to 1.27	1.12 to 1.19
<b>CAPACITY</b>		
Payload, with driver (kg)	1,000 and 1,200	800 à 1,020
Load space volume (cu. m)	5.6 and 7	-
Load deck length (m)	2.26 and 2.60	-
Opening width, sliding side door (m)	0.92	0.92
Sliding side door opening height (m)	1.29	1.20
Maximum internal load width (m)	1.60	1.60
Opening width, swinging rear door (m)	1.24	1.20
Width between wheel arches (m)	1.24	1.21 to 1.24
Rear door height (m)	1.27 and 1.63	-
Load deck height (m) (nominal position) <sup>(1)</sup>	0.49 to 0.60	0.49 to 0.60
Internal height (m)	1.44 – 1.75	1.32
Passenger capacity	2 to 3	5 to 9
<b>ENGINES - EURO IV COMPLIANT</b>		
<b>DIRECT INJECTION DIESEL (HDI)</b>		
1.6 l - 66 kW (90 hp), 5-speed	x	x
Combined cycle consumption (l per 100 km) <sup>(2)</sup>	7.2 (39.2 MPG)	7.2 (39.2 MPG)
CO <sub>2</sub> emissions <sup>(2)</sup>	191	191
2.0 l - 88 kW (120 hp), 6-speed	x	x
Combined cycle consumption (l per 100 km) <sup>(2)</sup>	7.2 (39.2 MPG)	7.2 (39.2 MPG)
CO <sub>2</sub> emissions <sup>(2)</sup>	194	194
2.0 l DPFS - 100 kW (136 hp), 6-speed (except high roof, long wheel base version)	x	x
Combined cycle consumption (l per 100 km) <sup>(2)</sup>	7.4 (38.1 MPG)	7.4 (38.1 MPG)
CO <sub>2</sub> emissions <sup>(2)</sup>	196	196
<b>PETROL <sup>(3)</sup></b>		
2.0 l - 103 kW (140 hp), 5-speed	x	x
Combined cycle consumption (l per 100 km) <sup>(2)</sup>	9.9 (28,2 MPG)	9.9 (28.2 MPG)
CO <sub>2</sub> emissions <sup>(2)</sup>	235	235

(1) On models equipped with the adjustable pneumatic suspension, the nominal height of 49 cm can be adjusted from -5 cm to +6 cm when the vehicle is stationary.

(2) Minimum.

(3) Only available on the Peugeot Expert and Citroën Dispatch.

## APPENDIX 2

# HISTORY OF THE PSA PEUGEOT CITROËN AND FIAT COOPERATION

### MILESTONES IN THE PSA PEUGEOT CITROËN - FIAT INDUSTRIAL COOPERATION

- **1978** ● **1st cooperation agreement** covering the joint design and production of a light commercial vehicle.  
Creation of the Société Européenne de Véhicules Légers (Sevel) SpA, a joint venture owned 50% by Fiat, 25% by Automobiles Peugeot and 25% by Automobiles Citroën.
- **1981** ● **Production start-up** of the Fiat Ducato, Peugeot J5, Talbot Express and Citroën C25 at Sevel's plant in Val di Sangro near Pescara, Italy.
- **1988** ● **2nd agreement** for the joint development of a multi-purpose vehicle and a light compact commercial vehicle at Sevel Nord and extension of the light commercial vehicle agreement to replace models in production since 1981.
- **1993** ● **Production launch** of the Citroën Relay, Peugeot Boxer and Fiat Ducato at the Val di Sangro plant.
- **1994** ● **Inauguration of the Sevel Nord** production plant, near Valenciennes in Northern France, for the production of the Peugeot 806, Citroën Synergie, Fiat Ulysse and Lancia Z (Zeta). Like Val di Sangro, the facility is equally owned by the two partners. In both cases, the plant is managed by the host-country partner.
- **1995** ● **Production start-up** of the Peugeot Expert, Citroën Dispatch and Fiat Scudo at the Sevel Nord plant.
- **2002** ● **Signature of a framework agreement** extending the cooperation between the two automotive groups in light commercial vehicles until 2017. PSA Peugeot Citroën and Fiat plan to design and build two ranges of light commercial vehicles to be launched after 2005.



## APPENDIX 2

### HISTORY OF THE PSA PEUGEOT CITROËN AND FIAT COOPERATION

- **2002** ● **Launch of new executive MPVs** (Peugeot 807, Citroën C8, Fiat Ulysse, Lancia Phedra), replacing the Peugeot 806, Citroën Synergie, Fiat Ulysse and Z models, over 400,000 of which were sold.
  
- **2005** ● **Signature of an agreement** with Turkish partner TOFAS for the development and production of a small entry-level light commercial vehicle manufactured by TOFAS at its Bursa plant.
  - Investment of €350 million, including €180 million for R&D;
  - Capacity: 135,000 vehicles/year, increased in 2006 to 158,000 vehicles/year;
  - On sale: 2008.
  
- **2006** ● **May** - presentation of the new Citroën Relay, Peugeot Boxer and Fiat Ducato light commercial vehicles, at the Val di Sangro plant.
  - Investment: €1.1 billion;
  - Capacity: 260,000 vehicles/year;
  - On sale: mid-June 2006.
  
- **November** - presentation of the new Citroën Dispatch, Peugeot Expert and Fiat Scudo compact light commercial vehicles and combi-vans, and visit of Sevel Nord production plant.
  - Investment: €700 million;
  - Capacity: 130,000 vehicles/year;
  - On sale: mid-January 2007.

## APPENDIX 3

# THE COOPERATION BETWEEN THE TWO PARTNERS: A UNIQUE MODEL

### FEATURES OF THE PSA PEUGEOT CITROËN AND FIAT INDUSTRIAL COOPERATION

- Although the cooperation between PSA Peugeot Citroën and Fiat in light commercial vehicles and executive MPVs has been copied, no competing agreements have come close to the content, scope and longevity of the productive ties the two automotive groups have nurtured.

Other carmakers have created manufacturing and marketing partnerships to develop compact light commercial vehicles that were subsequently marketed under three different brands. Two German car manufacturers are also working together on large light commercial vehicles. However, beyond the remarkable three decades the partnership has endured and its extensive model ranges, what makes the exemplary cooperation between PSA Peugeot Citroën and Fiat special is their equal ownership of the related production facilities via two joint ventures.

### TWO JOINT VENTURES OPERATING SPECIALISED PLANTS WITH A TOTAL PRODUCTION CAPACITY OF 450,000 VEHICLES/YEAR

#### ☐ Sevel Nord (Hordain, Valenciennes Northern France)

- Managed by PSA Peugeot Citroën, Sevel Nord manufactures executive MPVs, mid-range light commercial vehicles and combi-vans.

The MPVs are currently being marketed as the Peugeot 807, Citroën C8, Fiat Ulysse and Lancia Phedra.

The compact light commercial vehicles are badged as the Peugeot Expert, Citroën Dispatch and Fiat Scudo.



## APPENDIX 3

### THE COOPERATION BETWEEN THE TWO PARTNERS: A UNIQUE MODEL

#### ☐ Sevel Sud (Val di Sangro, Italy)

- Managed by Fiat, Sevel Sud is the largest light commercial vehicle plant in Europe. Larger vans such as the Peugeot Boxer, Citroën Relay and Fiat Ducato are manufactured at Val di Sangro.

### AN EFFICIENT PARTNERSHIP EXTENDED TO MANUFACTURING AGREEMENTS IN THE MERCOSUR

In June 2006, as part of their ongoing cooperative relationship, PSA Peugeot Citroën and Fiat signed a 10-year manufacturing agreement to supply the Mercosur markets.

To start with, PSA Peugeot Citroën will assemble in 2007 one of its manual gearboxes at Fiat's plant in Cordoba, Argentina, in order to supply Peugeot and Citroën vehicles sold in South America. Plans call for the production of 140,000 units a year.

## APPENDIX 4

# THE DISPATCH, EXPERT AND SCUDO: A SUCCESSFUL HAT TRICK THAT CREATED A NEW SEGMENT

### KEY POINTS

- On sale since autumn 1995.
- First compact MPV-style light commercial vehicles.
- Manufactured at the Sevel Nord plant.
- Initiated the development of a new compact light commercial vehicle segment.
- Sustained growth of sales for five years in a row.
- Sales record in 2001, some 98,000 units sold.
- Over 920,000 units produced.

When the Citroën Dispatch, Peugeot Expert and Fiat Scudo were launched in 1995, few onlookers would have thought that the vehicles, derived from the MPV ranges (Citroën Synergie, Peugeot 806, Fiat Ulysse and Lancia Z) introduced a year earlier, would enjoy such a tremendous success. At the time, few car manufacturers offered compact light commercial vehicles. However, two new offerings combined to shake up the entire market - the first was developed by the PSA Peugeot Citroën Fiat cooperation, and the second came from a German manufacturer seeking to expand its commercial line-up with a more compact model.

Together, the Peugeot Expert, Citroën Dispatch and Fiat Scudo helped to drive the explosive growth in demand for compact light commercial vehicles, accounting for more than half the market's rapid expansion until the beginning of the 21st century.

Their success is explained by these vehicles well chosen compromise, which attracts both former owners of small delivery vans<sup>(1)</sup>, and former users of small or larger vans<sup>(2)</sup>.

For the former, buying a compact light commercial vehicle is a move upwards to a real utility vehicle, with the feeling of driving a real "van", while enjoying all the comfort and features of a saloon car. For the second group, making the switch brings them the benefits of a vehicle that is more "reasonably" sized, but which still offers more than ample loading space capacity,



## APPENDIX 4

### THE DISPATCH, EXPERT AND SCUDO: A SUCCESSFUL HAT TRICK THAT CREATED A NEW SEGMENT

excellent handling, plus the features and “feel” of a car. Both customer categories express a clear desire to return to a passenger car environment, particularly for the cabin, features and driving experience.

PSA Peugeot Citroën and Fiat’s “hat trick” all feature a cabin inspired directly by the MPV versions on which they are based. This provides an important advantage in terms of driveability and has been an uncontested factor in their popularity. Another significant result of this blending of a light commercial vehicle and an MPV, as revealed in owner surveys, is that many drivers prefer their compact light commercial vehicle (or combi-van) to their usual saloon car, which is often lower and less spacious.

What owners really appreciated was the feeling of sitting in a saloon like cabin while still driving high above the road. This is a major market trend that the two automotive groups anticipated with their first compact light commercial vehicles. This new generation has inherited this very positive “gene”, which has benefited from further improvements.

(1) Like the Citroën Berlingo/Peugeot Partner, Fiat Doblo or Renault Kangoo.

(2) A category that includes the Citroën Relay, Peugeot Boxer and Fiat Ducato as well as the Ford Transit, Mercedes Sprinter and Renault Master.

## APPENDIX 5

# COMPACT LIGHT COMMERCIAL VEHICLES AND COMBI-VANS IN EUROPE: A FAST GROWING MARKET DRIVEN BY A BROADER MODEL OFFERING

### KEY POINTS

- European light commercial vehicle market = 2 million units per year.
- Increased by 50% in the past ten years (20% market increase for the passenger car market).
- Four main segments in the LCV market:
  - Passenger cars adapted to commercial use by removing the rear seats;
  - Small delivery vans;
  - Compact light commercial vehicles;
  - Mid-size and large light commercial vehicles.
- Between 1995 and 2005, Western European demand for compact light commercial vehicles and combi-vans, which was already enjoying a strong growth, doubled in comparison to the whole light commercial vehicle market.
- Over the same period, compact light commercial vehicles and combi-vans increased their penetration of the overall light commercial vehicle market by 7%, and in 2006 are expected to account for around a quarter of all light commercial vehicles sold in Europe.
- The 2006 European market for compact light commercial vehicles and combi-vans is forecast at more than 480,000 units.
- Six countries – UK, France, Germany, Spain, Italy and the Netherlands – account for nearly 80% of European sales.
- The cooperation strategy initiated by PSA Peugeot Citroën and Fiat has been widely copied and the number of light commercial vehicles manufactured by partnerships is increasing.
- As other car manufacturers strengthened or renewed their offers on the European market, between 2001 and 2004, the increased competition drove faster growth.
- Combi-vans, used for passenger transport, account for just over one-fifth of sales.



## APPENDIX 5

### COMPACT LIGHT COMMERCIAL VEHICLES AND COMBI-VANS IN EUROPE: A FAST GROWING MARKET DRIVEN BY A BROADER MODEL OFFERING

The European **light commercial vehicle market**, which has grown by 50% to more than 2 million units in the past decade, is split into four main vehicle segments.

**Passenger cars** with rear seats removed to allow for commercial use. These are mainly cars like the Peugeot 206, Citroën C3 and C2 and Fiat Punto, or mid-size models like the Peugeot 307, Citroën C4 or Fiat Stilo. Sales in this segment have been stable over the past ten years, with 251,000 units in 2005.

**Delivery vans**, like the Peugeot Partner, Citroën Berlingo or Fiat Doblo, meet the needs of small business owners and contractors who need a vehicle perfectly matched to their business activities. In 2005, some 407,000 delivery vans were sold in Europe, representing almost a quarter of light commercial vehicle sales.

At the other end of the spectrum are **mid-sized and larger light commercial vehicles** that focus on maximum payload and practical volumes, as well as on customisation potential (panel vans, chassis cabs, etc.). These vehicles accounted for nearly 32% of unit sales in 2005, making that segment the best selling in Europe. Historically, it is in that segment that PSA Peugeot Citroën and Fiat initiated their cooperation, enabling the two automotive groups to establish a strong hold in the light commercial vehicle market. The new generation of jointly developed light commercial vehicles, which are the segment's top sellers, was unveiled in May 2006. These are sold as the Citroën Relay, Peugeot Boxer and Fiat Ducato by the three brands.

Compact light commercial vehicles and combi-vans are the latest growing segment of the light commercial vehicle market. They have seen a 3 digit growth over the past decade, twice as much as the total market. This is the segment that PSA Peugeot Citroën and Fiat identified as the most promising, and where they decided to extend their industrial cooperation in light commercial vehicles at the end of the 1980s.

In 1995, demand in the segment was flat; it was then dominated by a single manufacturer, accounting for nearly 60% of sales. The launch of the new vehicles developed by the PSA Peugeot Citroën Fiat cooperation (derived from the MPV introduced a year earlier and marketed under the Peugeot Expert, Citroën Dispatch and Fiat Scudo brands) shook up the status quo and helped trigger tremendous growth in demand as the market quickly took off. In 2001, the arrival of new competitors (also made by a cooperative venture) consolidated growth as the market topped 360,000 units in 2002. Today, the market remains as strong as ever, with sales increased by more than 7% in the first eight months of 2006.

This strong growth is expected to continue in 2007 thanks to the new generation of Peugeot Expert, Citroën Dispatch and Fiat Scudo, set for market launch in mid-January 2007.