

DAF in action

Magazine of DAF Trucks N.V.

number 1, 2008

**DAF 1928 - 2008:
80 years of innovative
transport solutions**



**DAF Engine
Test Center**



**Goods transport:
Quo Vadis?**

DAF

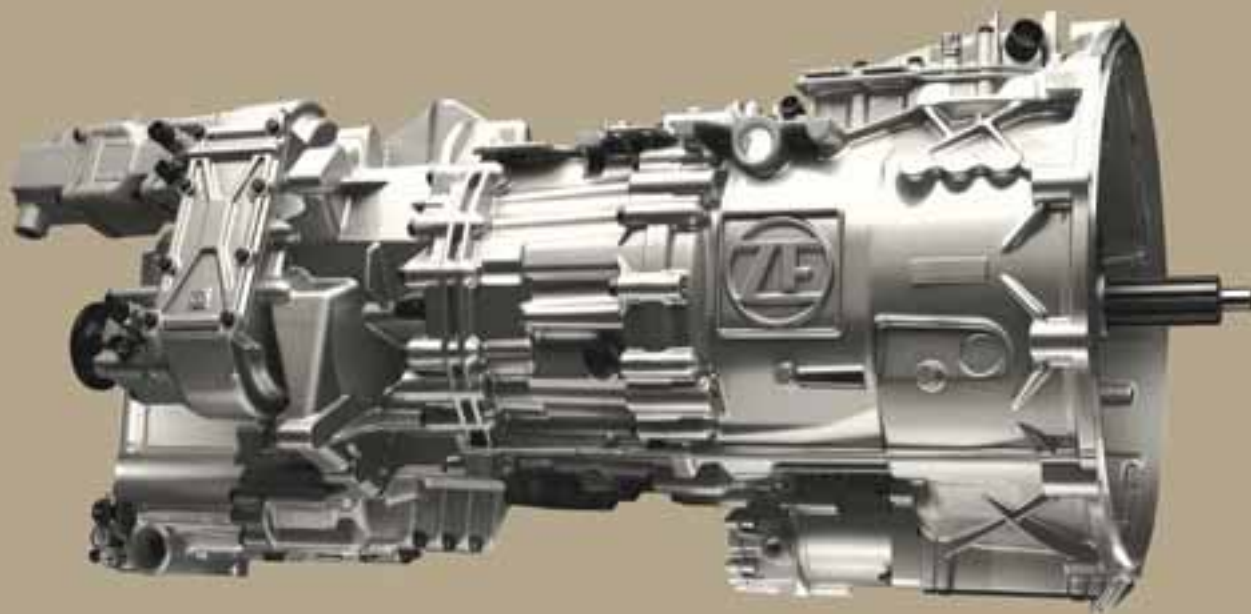
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Driveline and Chassis Technology



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80 years and beyond...

On April 1st it was exactly eighty years ago that Hub and Wim van Doorne laid the foundation for DAF Trucks. In those eighty years the name DAF has grown to be synonymous with transport innovation. At DAF, offering customers added value has always been the basis of success. On pages 12 and 13 of this DAF in action Magazine you will find an overview of 80 years innovation in transport.

Last year it was exactly fifty years since DAF produced its first own diesel engine. In these 50 years, DAF has accumulated many important firsts in the engine field – such as turbo intercooling and Advanced Turbo intercooling (ATi) – and a lot of knowledge and experience has been built up since then. Driven by the desire to produce even better, even more fuel efficient and even cleaner diesel engines, DAF has remained at the forefront of the industry. And DAF is making history again by becoming the first truck manufacturer to deliver a complete series of EEV vehicles. These DAF 'Enhanced Environmentally-friendly Vehicles' produce a further 50% fewer particulates than the Euro 5 standard. With EEV, DAF diesel engines have achieved emission values that were previously only thought possible with natural gas engines. In this edition you can read why companies like Jan de Rijk Logistics, the Rotterdam public cleansing company Roteb and Dobbe Transport are investing in the cleanest possible diesel technology. And DAF's clean and efficient diesel engines are also respected in the bus world: during the prestigious exhibition 'Bus World Asia' in Shanghai, DAF received not one but two important awards: 'Best Coach Engine Producer of the Year' and 'Best Bus Engine Producer of the Year'. The international jury of trade journalists praised the DAF developed and produced PACCAR 9.2 litre PR and 12.9 litre MX engines because of their industry leading reliability and durability, as well as their low fuel consumption. DAF's modern product portfolio is the result of years of know-how and experience, and above all the constant drive to offer our customers the best products possible. And after setting yet another record, one can ask oneself if there is still room for further improvement. But as with sports, we at DAF also find that things can always be done even better. With this mindset we continue to work on developments for the future. A future full of new challenges. For goods transportation in general, as you can read on page 28. And for the transport industry in particular. With the same passion and mindset as in the previous eighty years, we will also deliver even more efficient, cleaner and more comfortable trucks. Just as our customers have become accustomed to over the years.



Aad L. Goudriaan
President

Colophon

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Coca-Cola opts for LF

As part of the replacement of its Technical Service Center fleet, Coca-Cola Enterprises Nederland B.V. recently put the first five of 28 DAF FA LF45 rigid trucks into operation. The keys were handed over by Mr Joep van Aar, Fleet Sales Manager at DAF Nederland (left) to Mr Johan de Ruiter, Manager of Full Service Vending Operations at Coca-Cola Enterprises Nederland B.V.



Tips for fuel-efficient driving

DAF has put together a handy leaflet with tips for drivers about fuel-efficient driving. The information includes how driving style and speed affect fuel consumption and also the importance of correct spoiler adjustment and tyre pressure. The leaflet can be obtained from your DAF dealer.

600 DAFs for Giraud

Giraud, the French international transport company with a fleet of 1,800 trucks, 3,000 trailers and 50 facilities in 15 countries, started its biggest fleet renewal ever in 2007: 900 new trucks in one year, including 600 DAF XF105 Space Cabs. DAF is delivering the order to ten different countries over a period of ten months.

From left to right on the photo: Roland Louedoc (Director of Fleet Sales, DAF France), Jan van Keulen (Director of Fleet Sales & Used Trucks, DAF Trucks), Stefan Burkle (Director of Purchasing, Giraud International), Ron Bonsen (member of the Board of DAF Trucks and responsible for Marketing & Sales), Tarek Hosni (CEO of Giraud International), Dick Leek (Managing Director of DAF France), and Thierry de Veyrac (CFO of Giraud International).



Milestone for Leyland Trucks

On April 8th, the 300,000th truck left the assembly line of Leyland Trucks in Lancashire, U.K. A major milestone in the 30-year history of the Lancashire plant.

The truck, an XF105 Super Space Cab, was delivered to Mark Armstrong Transport Limited, a specialist in moving heavy plant and machinery. Mark Armstrong and driver John Todd were at the assembly plant on Tuesday 8th April to drive the XF105 off the production line, cheered on by many of the 1,400 employees.

During the last few months the production at Leyland Trucks has risen considerably in order to meet the increasing demand for DAF trucks. Leyland Trucks currently assembles the complete DAF model range (LF, CF and XF105) in right-hand drive for the UK market.

Mark Armstrong was clear in his judgement of DAF: "I've always favoured DAFs for their flawless design," he said. "They clearly recognise the role and importance of the driver and ensure that he enjoys a high level of comfort in his workplace. One of the biggest factors for me in choosing DAF is also the excellent support I get from the supplying dealer network."

High honour for Herman Santens



Mr **Herman J.H. Santens** – member of the Supervisory Board of DAF Trucks N.V. from 1993 up to and including December 2006 has been honoured as Officer in the Order of King Leopold, a high Belgian honour, which is awarded for exceptional merit.

Mr Santens has an impressive servicerecord. For example, he was delegated director of the WASE Verspanings-maatschappij N.V., director of Nutricia Belgium (1983-1999), a member of the Supervisory Board of Macintosh N.V. (1990-2001), director of Sofinim N.V. Belgium (1993-2001) and member of the Management Committee of Fortis – Northern Region (1985-2000). From 1991 to the end of 2006, Mr Santens was also a member of the Board of Directors of DAF Trucks Vlaanderen N.V.



PacLease in Berlin

In 2007 PACCAR took over TCH in Germany, a leading leasing company with a fleet of 1200 trucks and 2400 trailers. The takeover of TCH marked the start of PacLease in Europe. Since 1 March PacLease has also been represented in Berlin, bringing the total number of facilities in Germany up to eleven.

PacLease has been housed at dealer company DAF Berlin Nutzfahrzeuge in Großbeeren, close to the German capital city of Berlin. The main reason for opting for this location is that use can be made of the excellent infrastructure of DAF Berlin. In addition, the strategic position of Großbeeren with its good connections to eastbound and westbound motorways plus the closeness of important distribution centres played a major role.



'Best Bus and Coach Engine Producer of the Year 2008'

During the Bus World Asia exhibition in Shanghai, DAF was honored with two major awards: 'Best Bus Engine Producer of the Year 2008' and 'Best Coach Engine Producer of the Year 2008'. DAF won the awards thanks to the outstanding reliability and durability, as well as the low fuel consumption of the 9.2 litre PACCAR PR- and 12.9 litre PACCAR MX engines. "That makes the DAF developed and produced PACCAR engines ideal for buses and coaches," said jury chairman Martial Benoot. The vote for 'Best Bus Engine Producer of the Year' and 'Best Coach Engine Producer of the Year' is held annually during Bus World Asia, one of the world's most prestigious bus and coach exhibitions. "DAF has not won the awards only because of the outstanding reliability and durability, and low fuel consumption of the PACCAR engines," commented Martial Benoot. "DAF's excellent name in China also played an important role in the choice for DAF." Last year DAF also won the award for 'Best Coach Engine Producer of the Year 2007'.

Anniversaries on the Iberian Peninsula



This year it is exactly 50 years since the Evicar Group started importing DAF trucks into Portugal, marking the start of a successful collaboration with the Dutch truck manufacturer. During these 50 years, DAF has grown to become the Portuguese market leader in the segment for trucks with a GVW of above six tonnes; the company now has a 17% share of the market.



DAF is also celebrating an anniversary this year in Spain. The company has now been active in Spain for precisely 25 years. Although DAF had been present in Spain for several years already, it was not until 1983 that the decision was made to set up its own facilities there. The growth of DAF in the Spanish market started with the DAF 2800, a truck that even back then was a leader in fuel efficiency and reliability. In its 25 years in Spain, DAF has established a leading position. The XF105 is the best-selling truck there.

Graf delivers its thousandth DAF

For more than 30 years Graf Nutzfahrzeugbau AG has been the DAF dealer for Central Switzerland. This dealership has recently delivered its 1000th DAF. This went to transport company F. Murpf A.G., one of the very first customers of Graf Nutzfahrzeugbau A.G.. Indeed, 30 years ago Fridolin Murpf bought his first DAF from Ulli Graf.

Ultra-modern and but with the environment as key consideration

DAF Engine Test Center:



The new DAF Engine Test Center means that DAF possesses one of the most modern engine test facilities anywhere in the world. With its 20 advanced test cells and associated state-of-the-art test equipment, the DAF Engine Test Center is playing a vital role in the development of even cleaner and more efficient diesel engines for trucks.

The new DAF Engine Test Center has 20 test cells and these supplement the 14 test units in the existing test facilities. The new complex features a number of cells for durability testing, where engines run for seven days a week, 24 hours a day at ambient temperatures of up to 50° Celsius. Also cold tests – at temperatures as low as minus 20° Celsius – and the full spectrum of noise, load and emission measurements can be carried out in the new engine test center using state-of-the-art technology. In addition, the laboratory is able to carry out tests under changing atmospheres, so enabling altitudes of up to 4000 metres to be simulated.

The environment is an important consideration

In designing the DAF Engine Test Center much consideration was given to the environment. Instead of the water brakes generally used in the truck industry, the test cells use electrical braking units. During testing, these subject the engines to loads comparable with those experienced in actual use, but at the same time they act as alternators. Together, these braking

units are able to deliver up to 20% of DAF's total electricity requirement in Eindhoven.

Leading position

Its annual production of more than 50,000 engines makes DAF Trucks N.V. one of the largest manufacturers of truck diesel engines in Europe. "The Engine Test Center will enable DAF to further consolidate its leading position in engine development", said Aad Goudriaan, chairman of DAF Trucks N.V. at the official opening ceremony. "The investment of more than EUR 50 million also underlines the importance that our parent company PACCAR puts on the knowledge and experience that DAF has built up in its 50 plus years in engine development and production." Besides engines for DAF, the company also develops engines for Peterbilt and Kenworth, the other truck brands of PACCAR.

Bright future for the diesel engine

In his speech Goudriaan mentioned the enormous advances made in diesel engine technology over recent decades, particularly regarding emissions. "The ever stricter

legislation on emissions has resulted in ever cleaner engines. A modern truck or bus with a Euro 5 engine produces 75% less NO_x (nitrogen oxides) and 94% fewer particulates than a Euro 1 engine of 10 to 15 years ago. The future Euro 6 engines will be even 95% and 97% cleaner respectively than Euro 1. DAF is convinced that diesel engines will continue to play a key role in the future, regardless of whether used alone or in combination with hybrid technology that DAF is also developing."

World-class



Prime Minister Jan Peter Balkenende (left) officially opens the state-of-the-art DAF Engine Test Center. DAF chairman Aad Goudriaan is standing beside him.

Dutch Prime Minister Balkenende opens the DAF Engine Test Center

On Tuesday 23 January 2008, the DAF Engine Test Center was officially opened by the Dutch Prime Minister Jan Peter Balkenende in the presence of the Royal Commissioner Maij-Weggen, former Mayor of Eindhoven Gerrit Braks and numerous other dignitaries. "The innovative skills of DAF are the reason why I have come to Eindhoven today", declared Prime Minister Balkenende.

The Prime Minister arrived at the DAF Engine Test Center in an XF105. "You even feel the great tradition of this company in the cab", he said, referring to the fact that innovation and ambition have always been together in the rich history of the company. "In the world of business: quality always shows itself."

"When there is talk of international mergers and takeovers, I always bring up PACCAR and DAF", said Balkenende in his speech. "A leading example of a successful international combination."



The new DAF Engine Test Center – which has created about 80 additional, skilled jobs – has three storeys. The basement contains technical installations. The test cells and inspection areas are on the ground floor, whilst the first floor is fully occupied by equipment for air and water treatment. Each hour these facilities are able to recirculate 36,000 m³ of air per test cell, to cool the engines with water, to feed conditioned combustion air and to transport away monitored – noise-damped – exhaust gases.



First ultra-clean DAF CF and XF105 EEV delivered

The future belongs to



The first DAF CF75 EEV is delivered to Roteb. From left to right: Mr. Aad Goudriaan (President and CEO of DAF Trucks N.V.), Mrs. Marlin Huygens (Director Markets and Companies of Roteb), Mr. Peter Witvliet (Fleet Manager, Roteb) and Mr. Ron Borsboom (Board Member DAF Trucks N.V., Director of Product Development).



DAF is the first truck manufacturer to offer all of its models with EEV diesel engine options. These Enhanced Environmentally-friendly Vehicles emit around 50% fewer soot particles than the Euro 5 emission standard. With the EEV diesel engines, DAF realises emission values that were previously only thought possible with natural gas engines. The first DAF CF75 with EEV engine was delivered to Roteb of Rotterdam; Jan de Rijk Logistics of Roosendaal took delivery of the first XF105 with ultra-clean EEV engine.

Although the Euro 5 emission standard doesn't come into force until 2009, DAF now delivers a complete programme of diesel engines that meet these strict emission levels. By applying DAF SCR technology in combination with intelligent high-pressure injection systems the DAF developed and produced PACCAR engines meet the low Euro 5 emission values without a soot filter.

50% fewer particulates

By equipping the Euro 5 engines with a passive soot filter, particulate emissions can be further reduced by up to 50% to a value of around 0.015 gram/kWu. That is even about 25 per cent under the EEV standard. This means the diesel engine is as clean as the natural gas engine and it has a number of intrinsic advantages: a higher efficiency, a higher reliability and durability and lower operational costs.

"It is therefore in our view incomprehensible that there are Dutch town and regional councils that insist on natural gas engines for public transport or public cleansing services," said Aad Goudriaan, President of DAF Trucks N.V., during the official handing over of the first CF and XF105 EEV trucks. "We believe that authorities should prescribe emission levels and not technology."

DAF supplies the 9.2 litre PACCAR PR EEV engine with power outputs from 250 to 360 hp in the DAF CF75. The 12.9 litre PACCAR MX EEV engine – with power outputs from 360 to 510 hp – is fitted to the CF85 and XF105. Moreover, the LF distribution truck is also available in an EEV version. Thanks to an extremely efficient combustion process the 160 hp LF45 realises the low EEV emission values even without a soot filter.

Roteb: the cleanest technology is an obligation

Roteb of Rotterdam has the first CF75 with EEV-engine and uses it for refuse collection. "When we replace a truck we choose the cleanest technology available", said Peter Witvliet, Roteb's Fleet Manager. "We view choosing the cleanest solution as an obligation to the public." With more than 5,000 employees, Roteb is active in various

the diesel engine



Dobbe Transport invests in LF-series with EEV engine: "You must think about the future"

The first DAF XF105 EEV is delivered to Jan de Rijk Logistics. From left to right: Mr. Aad Goudriaan (President and CEO of DAF Trucks N.V.), Mr. Jan de Rijk (Director and owner of Jan de Rijk Logistics), Mr. Sjel Wijngaards (Director of Corporate Affairs – Jan de Rijk Logistics) and Mr. Ron Borsboom (Board Member DAF Trucks N.V., Director of Product Development).

areas, but the most well known is public cleansing.

Jan de Rijk Logistics

The first EEV-engined DAF XF105 was delivered to Jan de Rijk Logistics. "As an international haulier, we chose explicitly the cleanest possible trucks," explained Sjel Wijngaards, Director Corporate Affairs. "Whenever we take delivery of new trucks, we go for those that meet Euro 5 emission values. When the emission of soot particles with the EEV engine can be reduced by half as much again, that means an important step towards a cleaner environment, to which Jan de Rijk Logistics also wants to make a contribution." Jan de Rijk Logistics is a leading logistics company with around 1,100 employees, offices and storage facilities throughout Europe, and a fleet of more than 800 trucks.

Dobbe Transport of Roelofarendsveen in the Netherlands has taken delivery of two LF series DAFs for inner-city distribution. With the ultra-clean EEV engines. 'An investment in the future,' says logistics manager Eric Dobbe.

By replacing two of its distribution trucks, Dobbe Transport has explicitly chosen for trucks with the cleanest engine technology. Logistics manager, Eric Dobbe, explains why: "A distribution truck lasts us about ten years. We could buy a Euro 4 truck, but then we would probably have to have it modified in a couple of years to meet legal requirements and this would probably make it more expensive. You can see this already with soot filters, which are now compulsory for many towns. Such a modification costs a lot of money. That's why we prefer to invest now in the cleanest available."

The company was subsidized in purchasing the clean trucks. "That was an incentive, but not the reason for us to buy these trucks. You must think about tomorrow."

The trucks are 'naturally' equipped with front, side and rear-view cameras, so that the driver can manoeuvre safely between shoppers. Eric Dobbe points to other features: "The loading door is electrically lockable. When the driver is delivering goods into a shop, nobody can enter the loading area. Unfortunately we have learnt that this is a necessary feature in inner-cities."

Eric (left) and Piet Dobbe.



Photo: Ed Coenen

DAF and PACCAR Financial tailor package to customer needs

“A high degree of certainty”



“In our experience PACCAR Financial and DAF have been able to help find flexible solutions which work for us.”

result is a funding and maintenance package that works for us. It means that we can predict our cashflow more accurately and plan our vehicle replacement programmes with confidence.

Level of certainty

“This level of certainty around our own costs can also be helpful when pricing new contracts. Having a fixed vehicle cost leaves us with the two other key variable costs of drivers’ pay and fuel. In the case of the latter, we aim to run fuel-efficient trucks, like the CF85, and also agree a base fuel cost with our customers. We then apply a variable fuel surcharge in an open and easily checked formula, which our customers all accept.

Flexible

“We’ve worked extensively with PACCAR Financial previously when acquiring Fodens and certainly their approach has been flexible. For example, most recently they’ve been able to arrange short-term extensions beyond the original return dates for Fodens to enable the orderly integration of the new CF85s into our fleet.

“Over the past few months we’ve replaced 14 of our Fodens with DAFs. These are based in the northern triangle of our business, encompassing Teeside, Humberside and the North West of England. Within this area we have reached agreements with the local dealers to carry out servicing at times to suit our operational needs.”

Constantly innovative

“There are many challenges facing our industry and we need to be constantly innovative in dealing with them. Financing new trucks is just one of them. Trucks

A highly competitive and flexible ‘multi-support’ approach from PACCAR Financial and DAF Trucks has underpinned a fleet renewal programme at one of the UK’s leading specialist transport companies.

Isotank Limited are specialists in the movement, cleaning, storage and repair of ISO tanks for the carriage of liquids in bulk. From origins in the major chemical producing area of North East England the company now operates from a network of eight depots across the UK. Its fleet moves thousands of loads a year, many of a hazardous nature.

Modern Fleet

The company runs a modern fleet and has an aim to replace the majority of its vehicles on a four year cycle, even though in that time they’re likely to have covered less than 450,000 kilometres.

“We introduced the four-year renewal policy over ten years ago,” says Managing Director, Colin Garnett. “Whilst it requires careful planning of the financial resources,

we feel that having modern and reliable equipment has been fundamental to the success of our business,” he says. “The way that we buy also means that we know with a high degree of certainty what the cost of ownership will be across the whole life of our trucks.

Multi-support package

“The sort of multi-support package that we’ve negotiated with PACCAR Financial and DAF is tailored exactly to our needs. We get a fair deal at the outset, pay a fixed monthly cost throughout the four years we’ll keep the trucks, and know the minimum future value that we can expect at the end.

“On top of that we’ve built in a flexible repair & maintenance contract that allows us to use dealers in the DAF network. The

nty”



represent a major capital investment and getting the finance right can be crucial to the viability of a business. In our experience PACCAR Financial and DAF have been able to help find flexible solutions that work for us.”

“Assisting us to run a modern fleet helps to ensure that we meet the environmental challenges on emissions. Hopefully it also helps with another critical issue which faces all of us in the transport industry, that of recruiting and retaining the high calibre staff we need to attract by providing them with a first-class working environment.”

DAF offers much more than just trucks

For the transport operator, a truck is often one part of a total package, with which he can meet his transport need as reliably, efficiently and as cheaply as possible. A package in which services and service provision also play an essential role, such as DAF MultiSupport and PACCAR Financial.

DAF MultiSupport is synonymous with a complete range of repair and maintenance contracts that are standardised throughout the whole of Europe. The great strength of DAF MultiSupport is that it is fully focused on maximum vehicle availability. Together with the customer, the DAF dealer determines the optimum maintenance schedule for the specific vehicle and the specific usage. In this way, the operational costs are limited as much as possible and the vehicle availability remains optimal. The transport operator chooses precisely what he wants to contract out from the total range of services offered by the DAF dealer. With the important advantage that the transport operator knows beforehand what the costs will be and what will ultimately be left over per kilometre on the bottom line.

In many cases, once a certain type of truck is chosen, there follows a choice that is just as important: how will it be financed? Or even more specifically: which form of financing contributes most to the results of the transport company? PACCAR Financial Europe (PFE) knows the answer better than anyone, because PFE has its roots in the truck industry and can therefore offer financial products that are fully tailored to the wishes and needs of this same truck industry. PFE operates through DAF dealers, which is a huge advantage for the customer, because the financing or the insurance can also be arranged where the truck is ordered. Everything under one roof.

DAF 1928 - 2008

80 years of innovative



Exactly 80 years ago, on 1 April 1928, the brothers Hub and Wim van Doorne laid the foundations of DAF, currently a PACCAR Company and one of the leading truck manufacturers in Europe. In its 80 years, DAF Trucks has earned a reputation for developing, manufacturing, selling and servicing innovative, industry leading transport equipment. The constant drive to engineer and manufacture the highest quality transport solutions has become a trademark for the company. Delivering added value to its customers has always been the cornerstone of DAF's success.

What started as a small engineering business and blacksmith workshop back in 1928, developed into a trailer manufacturing business in 1932. In 1949, the first DAF truck was produced in the trailer factory. A year later a new truck factory was built and production started with three, five and six tonne truck chassis. In the early days the company used Hercules and Perkins engines, but in the 1950's DAF decided to start making its own engines.

Leading in engine development

The company has always been highly innovative in engine development. In 1959 DAF was one of the first European truck manufacturers to apply turbo charging for diesel engines. In 1973 DAF was ten years ahead of European competition with the introduction of turbo intercooling, a technology which initially met the demand for higher engine outputs and lower fuel consumption, but which later also proved to be indispensable in realizing cleaner exhaust emissions.

In the 1980's DAF introduced Advanced Turbo intercooling (ATI) which added to the reduction of fuel consumption and an increase in engine performance.

DAF's latest innovations in engine technology are the 12.9 litre PACCAR MX engine and the 9.2 litre PACCAR PR engine, both already now complying with Euro 5 emission standards that come into effect in Europe in 2009. With a series of Enhanced Environmentally-friendly Vehicles, known as EEV, DAF introduced even cleaner trucks. As part of PACCAR's global hybrid program, DAF is developing a hybrid truck based on the LF45. The truck uses an advanced diesel/electric drive system.

Early 2008, Dutch Prime Minister Balkenende officially opened DAF's new Engine Test Center in Eindhoven, representing an investment of EUR 50 million. This state of the art facility offers 20 additional engine test cells, to support DAF's extensive engine development projects for the future.

transport solutions

New standards

In the development of comfortable cabs, DAF has always been a leader too. The company was one of the first European manufacturers to introduce a cab over the engine, which could be tilted for easy maintenance. With the 2600 in the early sixties, DAF introduced the first cabin dedicated for international transport. This role was underlined with the introduction of the Super Space Cab concept, which again set new standards in size and comfort for international transport. And these are just a few examples of the many transport innovations of DAF in its 80 years of history. Also in terms of chassis design, DAF has a well-earned reputation for delivering innovative solutions with all kind of axle configurations to meet a wide variety of transport applications.

DAF Trucks today

Today, DAF Trucks N.V. is a technology company and a leading commercial vehicle manufacturer in Europe. DAF is a wholly-owned subsidiary of PACCAR Inc, the worldwide quality leader in the design and manufacture of premium light, medium and heavy-duty commercial vehicles. PACCAR also provides financial services, information technology and aftermarket customer services.

DAF manufactures its industry-leading trucks in world class facilities in Eindhoven, the Netherlands, in Westerlo, Belgium and in Leyland, the United Kingdom. DAF's engine factory, component plant, press shop and final assembly line for CF and XF models are located in Eindhoven. Axles and cabs are produced in Westerlo. Leyland Trucks in the U.K. (a PACCAR company) produces the company's LF series of light and medium duty trucks, as well as a number of CF and XF105 vehicles.

DAF products are sold and serviced by a network of over one thousand independent dealer locations throughout Europe, the Middle East, Africa, Australia, New Zealand and Taiwan. DAF offers a complete range of trucks from 7.5 tonnes Gross Vehicle Weight up to 50 tonnes Gross Combination Weight and above. All DAF products are of superior quality developed for a great variety of transport applications. By continuously listening to the customer, DAF has developed an exciting range of modern products, focused on providing the lowest operating cost per kilometre in the industry, excellent transport efficiency, and optimum comfort for the driver.

As part of PACCAR's worldwide hybrid programme, DAF is developing a hybrid truck based on the LF45

History of DAF Trucks

- 1928** Founding of 'Hub van Doorne Machinefabriek en Reparatie-inrichting' in Eindhoven
- 1933** Commencement of trailer manufacturing
- 1949** Production start of commercial vehicles
- 1955** Production of 10,000th truck chassis
- 1957** Opening of the DAF engine factory
- 1958** Start of axle production
- 1959** Introduction of the first turbocharged DAF engine
- 1964** Production of 50,000th truck chassis
- 1965** Opening of cab and axle plant in Westerlo (Belgium)
- 1973** DAF is the first truck manufacturer to introduce engine turbo intercooling
- 1979** Trailer production discontinued
- 1984** Production of 250,000th truck
- 1985** Introduction of ATI, Advanced Turbo intercooling
- 1987** Introduction of the 95 series
- 1988** DAF 95 'International Truck of the Year 1988'
- 1994** Introduction of the first Super Space Cab
- 1996** DAF Trucks becomes a PACCAR Company
- 1997** Introduction of DAF 95XF series
- 1998** 95XF 'International Truck of the Year 1998'
- 1999** Production of 500,000th truck
- 2001** Introduction of the new CF series
- 2001** Introduction of the new LF series
- 2002** Introduction of the new XF series
- 2002** DAF LF voted 'International Truck of the Year 2002'
- 2005** Introduction of the XF105
- 2006** Introduction of the LF and CF Euro 4 and 5 models
- 2006** Presentation of prototype DAF hybrid distribution truck
- 2007** XF105 awarded 'International Truck of the Year 2007'
- 2007** Celebrating 50 years of DAF engine production and development
- 2007** Presentation DAF Enhanced Environmentally friendly Vehicles (EEV)
- 2008** Official opening new DAF Engine Test Center by Dutch Prime Minister Balkenende



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DAF and the environment

How we can all help

There is increasing evidence that there is a build-up of greenhouse gases in the Earth's atmosphere that is causing global warming. As the planet's surface heats, its climate is changing - giving rise to potentially disastrous consequences.

Carbon dioxide is one of most significant greenhouse gases. It is the most natural thing on Earth: it is an essential part of the balance between human/animal life and plant life that has created the biodiversity of Earth's environment. CO₂, in balance with oxygen, is carried in blood, and plants use CO₂ for photosynthesis. The reason that it is now one of the most significant greenhouse gases is due to human activities such as the burning of fossil fuels and their derivatives (coal, oil, gas, petrol and diesel) and deforestation.

The concentration of atmospheric carbon dioxide has increased by about 35% since the beginning of the Industrial Revolution in the second half of the eighteenth century. At this concentration, CO₂ absorbs many infrared wavelengths of the sun's light and stays in the atmosphere for some hundred years. As the Earth warms, the climate is affected, resulting in extremes of weather, melting Polar ice and glaciers, and changes to oceanic currents.

CO₂ emissions have therefore become the focus of the efforts to limit climate change and people are increasingly asking how they can help.

What can we do about reducing CO₂ emissions?

There is a direct relationship between diesel fuel burnt and carbon dioxide released: each litre of diesel consumed releases 2.6304 kg of CO₂ (Source: DEFRA). It doesn't matter how that litre is consumed, or which vehicle consumes it, the amount of CO₂ released is the same. It means that miles per gallon is almost the sole determinant of the amount of CO₂ released. The less fuel and the more miles to the gallon, the smaller the carbon footprint (a carbon footprint is a measure of the direct and indirect CO₂ emissions resulting from the burning of fossil fuels for a given activity).



What you can do to reduce your carbon footprint

In your role – as an operator, owner or driver – there are practices you can put in place right now that will reduce your fuel consumption and therefore your CO₂ emissions. The following table shows typical influences on fuel consumption arising from the truck's specification, the maintenance of the vehicle and the way that the vehicle is driven.

Specification	Influence on fuel consumption
Aerodynamic aids	5 to 10%
Gearbox/axle ratios	2 to 3%
Tractor/trailer gap	2 to 4%
Correct engine power	1 to 3%
Maintenance	
Tyre pressures	5 to 10%
Axle alignment	5 to 10%
Brake adjustment	up to 5%
Tachograph calibration	3 to 5%
Running-in	2 to 5%
Driver	
Driving style	8 to 10%
Cruising speeds	3 to 5%
Engine idling time	up to 5%

Improved logistics are a further area where you can reduce CO₂. On an industry-wide basis, there has been distinct progress in the percentage of journeys when vehicles are running empty. In 1970, empty running accounted for 34% of all journeys; by 2003 empty running had fallen to 25%.

All of these economies save fuel and CO₂. It follows that they will also reduce costs. There is therefore a direct relationship between reducing your carbon emissions and improving your profitability.

What truck manufacturers are doing

There are two parts to truck manufacturers' role: the first refers to the reduction in noxious emissions that has taken place in response to the European Union's directives. The second refers to the increased efficiency and productivity of trucks that has taken place due principally to technological developments, the result of which has been to reduce carbon dioxide emissions.

1 Regulated noxious emissions

With a diesel engine, 99.8% of its exhaust gases are clean. The major part of the small noxious element is a gas which is created by a reaction between the nitrogen and oxygen in the air to form nitrogen oxides (NO_x). NO_x can cause respiratory problems, and contributes to the formation of acid rain and global warming. Diesel engines also emit 'particulate matter', tiny particles of solid materials suspended in the air that can affect the heart and lungs.

In the early 1990s, the European Union introduced a phased programme aimed at dramatic reductions in NO_x, particulate matter and two further noxious emissions. NO_x and particulates are the most challenging for diesel engine designers. Legislation took effect from 1993 onwards.

Reduction in gases and particulates 1988-2009

	CO g/kWh	HC g/kWh	NO _x g/kWh	PM g/kWh	Smoke m-1
1990*	11.2	2.4	14.4	-	-
Euro 1 1993	4.5	1.1	8.0	0.36	-
Euro 2 1996	4.0	1.1	7.0	0.25	-
Euro 3 2001	2.1	0.66	5.0	0.1	0.8
Euro 4 2006	1.5	0.46	3.5	0.02	0.5
Euro 5 2009	1.5	0.46	2.0	0.02	0.5

CO Carbon monoxide, **HC** Hydrocarbons,
NO_x Nitrogen oxides, **PM** Particulate matter.

ESC/ELR Test Cycles

*88/77/EEC



The EU, acting with Europe's truck manufacturers, has already achieved very substantial reductions in these emissions. From 1993, the implementation date of Euro 1, to the Euro 5 trucks available today, NO_x has been cut by 75% and particulates by 94%.

The European Commission has recently proposed the Euro 6 emission levels to take effect in 2013 / 2014. The Euro 5 NO_x level will be reduced by 80% and the particulate level will be cut by 66%. For truck manufacturers, the Euro 6 standards are a major challenge which most will meet through a combination of SCR and EGR technology. Euro 6 levels compared with Euro 1 represent a reduction in nitrogen oxides of 95% and a reduction in particulates of 98%.

2 Non-regulated reductions in truck carbon footprints

Efficiency

As the consumer economy has grown over the last fifty years, the total weight of goods carried by road has grown five fold – from 32 billion tonne kilometres in 1953 to 163 billion tonne kilometres in 2005. It is therefore all the more extraordinary that over that same period, the number of trucks carrying those goods has actually decreased. In fact, there are no more trucks on the road than there were seventy years ago. In 1937, there were 435,000 trucks on the road; in 1957 numbers peaked at 470,000, since when there has been a decline to today's total of 433,000.

Result

Fewer trucks are carrying more goods. CO₂ emissions per tonne km are significantly reduced.

Fuel consumption

If we look at the fuel consumed by the average truck in the mid 1980s compared with today, there has been a 45% reduction per tonne of goods carried.

Result

Lower fuel consumption (see table below). CO₂ emissions are reduced.

Productivity

If we take maximum gross weight vehicles, and look at payload, average speed and average miles per gallon of trucks at that weight, we can arrive at a productivity factor that can be compared over time.

Result

Road test data shows that trucks are over twice as productive as they were thirty years ago. They are carrying more goods, more quickly, more economically. CO₂ emissions are reduced.

Typical maximum-weight truck

Year	Payload Tonnes	Av Speed mph	Fuel mpg	Productivity
1977	20.5	39	7.0	5,596
1992	25.0	42	8.0	8,400
2007	29.5	47	8.4	11,647



What is DAF doing to reduce emissions?

The diesel engine has been at the heart of improvements in emissions to date and it will be the cornerstone of future developments.

The DAF EEV engine

In addition to the Euro 5 engines currently available throughout the range, ahead of the introduction date in 2009, DAF is introducing a range of Enhanced Environmentally-friendly Vehicle (EEV) engines. These state-of-the-art engines dramatically lower emission levels below those required by Euro 5 standards. By combining DAF SCR technology with a passive soot filter, particle emissions are reduced to levels even lower than those of many gas-fuelled engines – approaching

the proposed Euro 6 levels. DAF's EEV diesel engine has many intrinsic advantages over alternative propulsion systems such as gas, including higher efficiency, higher reliability and durability, lower operating costs and, importantly, no need for a specialist infrastructure.



Hybrid vehicles

DAF has targeted significant improvements in vehicle fuel efficiency for selected applications in the near future and hybrid technology is a contributor to achieving this objective, benefiting both customers and the environment.



A prototype hybrid DAF LF45 7.5 tonne model was exhibited at the 2007 Commercial Vehicle Show. It features a state-of-the-art parallel diesel/electric hybrid system. An electric engine can provide the drive and function as a generator. As the hybrid system is used to accumulate energy generated during braking, it is particularly useful for stop-and-go city distribution applications and makes significant fuel savings possible. Energy is stored in lithium-ion batteries for re-use during acceleration. Depending on the fill ratio of the batteries, a central computer determines when the diesel engine provides the drive and to what extent the electric engine is used.

Extensive field trials have been carried out and a limited number of pre-production vehicles have been placed with customers.

Biodiesel

The UK Renewable Transport Fuel Obligation comes into force in April this year requiring that by 2010/2011, 5% of transport suppliers' sales are from renewable sources.

Biodiesel is a biofuel produced from sugar, starch, vegetable oil, or animal fats. It is generally available in Continental Europe, either as a 5% blend with conventional diesel or as pure biodiesel.

Biodiesel is an attractive solution because it is safe, biodegradable, and reduces particulate emissions. It's also regarded as sustainable: although it produces roughly the same CO₂ emissions as a conventional diesel engine, it typically produces about 60% less net lifecycle CO₂ emissions because it is produced from atmospheric carbon dioxide via photosynthesis in plants. It does, however, have operational disadvantages. It can impact negatively on fuel consumption, cold start performance and service intervals. It also produces higher NO_x levels during combustion, and growing crops for biofuels is environmentally questionable.

Please refer to your DAF dealer for the models which can operate on pure or blended biodiesel.



What local authorities are doing

On 4th February 2008, the world's largest Low Emission Zone - covering most of Greater London - came into effect. The total area, inhabited by 7.5 million people, is 610 square miles (1,580 sq km) - virtually everywhere inside the M25.

The scheme cost £49 million to establish and will cost a further £10 million a year to operate; it will raise an estimated £3-4 million a year in fees and fines. Transport for London (TfL) says that it will improve the quality of life for Londoners and cut healthcare bills substantially.

Operating 24 hours a day, 7 days a week, the implementation plan is as follows:

London Low Emission Zone

Vehicle	4 th Feb 2008	7 th Jul 2008	4 th Oct 2010	Jan 2012
Trucks over 12 tonnes GVW	Euro 3			Euro 4
Trucks 3.5-12 tonnes GVW		Euro 3		Euro 4
Vans and minibuses 1.205-3.5 tonnes GVW Motor caravans and ambulances 2.5-3.5 tonnes GVW			Euro 3	

Vehicles that do not meet the current requirements must pay a fee of £200 for every day that they are in the Zone. For more information, go to www.tfl.gov.uk/roadusers/lez.

London - the first of many UK towns and cities?

Other UK towns and cities are actively considering LEZs. Several regional and local authorities have included environmental elements in their bids for a share of the Transport Innovation Fund.

Low Emission Zones are already established in Continental Europe. In Sweden, for example, four cities have LEZs; in Germany, Cologne, Hanover, Berlin (from 1st January this year) and Mannheim (from 1st March) have similar zones. In all, LEZs are already in operation or planned in 70 towns and cities in eight countries. It is highly likely that UK urban areas with poor air quality will follow London's lead.

Then and now: a dramatic reduction in CO₂ and other emissions

Few other industries can compare with the environmental efficiency that commercial vehicles have achieved over the last 30 years.

We'll take an actual example: a typical journey of 200 miles from Manchester to London in 1977 compared with today.

In 1977, a maximum weight 32 tonne truck used 130 litres of diesel and put 342 kg of CO₂, or 16.7 kg per tonne of payload, into the atmosphere. It also emitted 380 grammes of particulates and 10.6 kg of NO_x. The journey took five hours and 25 minutes plus a 45 minute break to conform to legislation on drivers hours, making a total of 6 hours and 10 minutes.

In 2007, a maximum weight DAF XF105 at 44 tonnes gross, did the identical trip. It used 103 litres of diesel (21% less than 1977) plus four litres of AdBlue. It put 271 kg of CO₂ into the atmosphere (21% less), equivalent to 9.19 kg per tonne payload (45% less), plus 14 grammes of particulates (96% less) and 1.36 kg of NO_x (87% less). The journey took 4 hours and 15 minutes, (over 30% quicker than in 1977).

And the single XF105 produced one twelfth of the noise produced by the 1977 truck.

The truck with the smallest carbon footprint?

The best way of reducing carbon emissions is to leave fossil fuels in the ground. Assuming, however, that this isn't feasible in the short term, the next best way is to minimize the carbon dioxide released by the fuel you consume.

And the way to do that, as we have seen, is to maximize the number of miles for every gallon you use. Make every drop of diesel work as hard as possible: better logistics, less running empty, greater productivity, better aerodynamics, more stringent maintenance, more economical driving. And, the answer is not to transfer loads into small vans – total emissions are far greater than using a single heavy truck.

And the most productive truck ever tested by Commercial Motor and Motor Transport? It's a DAF. The CO₂ emissions for every tonne of goods carried on a 44 tonne Euro 5 CF85.460 are therefore the lowest of any means of diesel engine road transport.



A 200 mile journey in 2007 compared with 1977

	Truck GCW (tonnes)	Payload (tonnes)	Diesel consumption (litres)	CO ₂ emissions (kg)	CO ₂ per tonne of payload	Particulate emissions (grammes)	NO _x emissions (kg)	Journey time (hrs.mins)
1977	32	20.5	130	342	16.7	380	10.6	6hrs 10min
2007	44	29.5	103	271	9.2	14	1.4	4hrs 15min
Saved			21%	21%	45%	96%	87%	31%

DAF

A PACCAR COMPANY



Kenworth and DAF trucks on route to Queensland in Australia.

Kenworth Australia ‘On Tour’

Kenworth Australia spread the word about its new 2008 Kenworth and DAF models by organizing a comprehensive tour of Australia. Two fleets, each featuring a mix of red Kenworths and yellow DAFs with themed trailers, travelled from one side of the country to the other. Dealers took advantage of the tour by hosting their own customer launch events. Select customers and media representatives experienced the new models first-hand by driving sections of the tour.

‘Washington State Trader of the Year Award’

Recently, PACCAR announced that it was selected for the 2008 Governor’s Trader of the Year Award. The award honors a Washington State business each year, recognizing a company that has significantly contributed to the expansion of Washington State’s international trade. PACCAR, which was founded in Seattle in 1905, has approximately 22,000 employees worldwide with more than 2,500 employed in Washington State. “It is an honor to be recognized by the State of Washington,” said Jim Cardillo, executive vice president. “This is a wonderful recognition for our dedicated employees and reinforces PACCAR’s well-earned reputation as one of the premier global companies.”

PACCAR had an excellent year in 2007, achieving its second highest revenue of \$15.2 billion and net income of \$1.2 billion due to its global diversification, superior product quality, technology-led process efficiency and growing aftermarket parts and financial services business. The company set market-share records in North America, Australia, Mexico and record industry sales for commercial vehicles above 15 tons in Western and Central Europe.

PACCAR is one of the largest exporters of capital goods in North America, selling products in more than 100 countries. PACCAR opened a sales and purchasing office in Shanghai, China, in 2007 to complement its office in Beijing. The office is focused on sourcing parts for worldwide manufacturing and aftermarket sales, as well as the sale of PACCAR powertrain components to customers in Asia.



Kenworth Clean Power Environmental Benefits and Beyond

Spirit Truck Lines, based in San Juan, Texas, recently brought 50 new Kenworth T660s into use, equipped with the Kenworth Clean Power system.

Kenworth Clean Power is an ex-factory climate management system that provides heating and cooling for the cab. It can supply 110 volts for 10 hours without the truck engine needing to be running. This is very useful for long-distance drivers who want to use the air conditioning or heating during their breaks: They no longer need to idle their engines for hours, a common practice in the United States. The Kenworth Clean Power system means lower exhaust emissions and significant fuel savings. While the truck is being driven, a battery unit is charged up; this unit then provides the power for the climate management system when the truck is stationary.

No maintenance

“The Kenworth Clean Power system makes little noise, is efficient, simple to use and requires no maintenance. The drivers are absolutely delighted with this system”, says David Garza, co-owner of Spirit Truck Lines. This system has resulted in a drop of around 90% in truck engine idling; with current fuel prices, that converts to quite a saving. Garza: “On average, fleet vehicles without the Clean Power system have their engines idling for 40% of the time. The first trucks with the Clean Power system only idle for about 3 to 6 percent of the time.”

The Wall Street of the



Six o'clock in the morning: In the large auction hall the flower dealers stare at the wall-high 'clocks' that show amounts and prices and that allow the progress of the auction to be followed. They also look at the sale goods that are driven around in front of the buyers — and simultaneously, with a telephone to their ear, they view the screen of their laptop. The expression 'multi-tasking' could well have been invented here. The auction process is all about timing: bid too late and the batch of flowers go to somebody else, bid too early and you pay too much. Welcome to FloraHolland Aalsmeer, the largest site of the world's largest auction for cut flowers and plants.

The fact that there is a flower auction is evident before you even get to Aalsmeer. There is extensive signposting, but more striking is the endless number of trucks snaking their way along the narrow N201 trunk road from the auction to the motorway. The trucks are on the way to addresses in the Netherlands, Belgium, Germany, France, the United Kingdom, Italy and other countries in Western and Eastern Europe. “On a busy day there are 10,000 incoming and outgoing trucks”, says Bernard Piet, manager of Flower Transport of FloraHolland.

Cooperative

FloraHolland, with auctions in Aalsmeer, Naaldwijk, Rijnsburg, Bleiswijk, Venlo and Eelde, is a cooperative of more than 5,400 Dutch flower and plant growers. “You can get on fine alone, but working together you'll get further”, says Piet in promoting this collaboration between growers who at the same time are each other's competitors. “The maxim 'strong together' is perhaps a cliché, but like all clichés there is truth in it. It is the

flower trade



Facts and figures

- Each year, the value of ornamental plants and flowers exported from the Netherlands amounts to about 7 billion euro.
- In the Netherlands, the cultivation of ornamental plants and flowers provides work for 150,000 people on a full-time basis.
- The major countries for exports based on turnover are: Germany (29.7%), United Kingdom (16.7%), France (13%), Italy (6.9%) and Belgium (3.8%). The market in Eastern Europe is showing strong growth.
- The major countries for imports based on turnover are: Kenya (32.6%), Israel (20.8%), Ecuador (9.2%), Germany (6.8%) and Belgium (6.2%).



foundation of our leading position in the world as a trading and knowledge centre. The Netherlands is the most important player in the world flower trade. Trust and assurance for customers and growers from across the world are the key reasons why they do their business via FloraHolland. Growers know they will get a good price for their goods and traders know that they will not have paid too much and that all the financial administration and logistical details are taken care of. Nobody else has succeeded to date in setting up such an advanced logistical and commercial hub for flowers and plants.”

Complex logistics

The logistics involved in trading flowers and plants is unbelievably complex: every day 10,000 suppliers bring flowers and plants to one of the six sites of FloraHolland. These arrive from the Netherlands and abroad, by truck and by plane. Once at a FloraHolland site the goods are kept in cooled units prior to sale. Before the auction, the flowers are removed from the cooled units and immediately afterwards

Far left: The progress of the auction can be seen on wall-high clocks.

Left: Bernard Piet: “The Netherlands is the most important player in the world flower trade.”

Above: the auction hall in Aalsmeer has a surface area of 1,000,000 m².

Bottom right: With this suspended shuttle system, consignments are transported from one building to the other.

the sold lots are transported to the cooled units of the traders or directly to the trucks. This process takes place every day. Seen from above, the huge auction hall in Aalsmeer (with a surface area of 1,000,000 m²) looks like a flower mosaic that is continuously changing shape and colour. Long trolleys with flowers pass each other with little room to spare and fully laden stacking trolleys move by themselves along a chain transport system and automatically take the correct turn. Piet: “Clever ICT and efficient logistics go hand in hand here. Each day in Aalsmeer alone almost 50,000 transactions are carried out. FloraHolland is unrivalled when it comes to rapid and efficient logistical processing of large numbers of products. It is very important for the flowers and plants that the cool-chain is interrupted for as short a time as possible. After all, we are dealing here with very delicate goods.”

Traffic management

Only with very good organisation is it possible for the many trucks to move efficiently around the auction site. “Good

Key figures regarding FloraHolland (as at 31 December 2007)

- 5,400 members in the cooperative
- Six sites
- 4,700 employees
- €4.1 billion turnover

Objective of FloraHolland: "To achieve maximum sales turnover for the lowest possible sales costs in the short and long term, in order to optimise the business profit of the members."



signposting is the first consideration, to stop trucks ending up in the wrong place", says Piet. "Drivers coming to unload request a loading dock in advance via the Internet, meaning that they can drive straight to their assigned dock. A driver who has not reserved in advance is assigned a dock when he reaches the barrier. By using cameras our 'traffic managers' can see which docks are available." And what about the outgoing traffic? "That works a little differently", he explains. "Many wholesalers and exporters have their own processing areas for the flowers, and their own docks. The logistical organisation of the outgoing traffic is in those cases taken care of by the traders themselves."

Air cargo versus container

An increasing number of flowers and plants are being grown abroad (in many cases by Dutch growers), and especially in countries near the equator. For example, 50% of roses come from Africa, with Kenya being the market leader. The primary reasons for growing plants abroad are the good climate and low wage costs. "The transport costs from those countries to the Netherlands are however relatively high", says Piet. "Everything is transported via air cargo. This is the only way that freshness can be guaranteed. We are currently carrying out

studies with a view to lowering the transport costs, for example by using conditioned sea containers. Such transport takes longer, but the closed cooling chain means that the flowers and plants stay fresh for longer. Another advantage is that, once they arrive in the Netherlands, the containers can be transported further by truck or via internal waterway. This means that the cooling chain is only interrupted at the final destination. And this benefits the quality of the products."

E-commerce

"Many flower traders want to view the products before they buy", says Piet. "That has long been an unwritten 'law'. However, nowadays, you may well ask whether this is always necessary. Many traders have done this for 20 years, 200 days a year, and hence have enormous experience. In addition, many have the utmost trust in their growers. What this means is that on-site viewing and approval of goods is becoming less important. This is good for the development of e-commerce. With e-commerce, growers and traders have direct contact with each other via the Internet. The transaction and financial administration take place with the help of FloraHolland, but the logistical administration is organised directly between the customer and grower."

Trucks

By far the most popular mode of transport for flowers and plants is the truck. "There is no more efficient way of transporting goods from door to door than the truck", says Bernard Piet. "Despite problems with the infrastructure and the increasing traffic congestion, road transport still represents the future in Europe. Road transport can however be much more efficient and FloraHolland sees the EcoCombi as being the vehicle of choice for the future. An EcoCombi can transport up to 30% more than a standard combination, yet the fuel consumption is virtually the same. At present, about 12 EcoCombi trucks arrive in Aalsmeer every day to load up and transport goods within the Netherlands. That is not very many, because the EcoCombi is still in the experimental phase. The use of EcoCombi vehicles is limited because as yet they cannot be used for international journeys; countries such as Germany and Belgium are not yet convinced of their advantages and do not yet allow EcoCombi vehicles on their roads. That is a pity, because the widespread use of EcoCombi vehicles would result in high efficiency and environmental benefits. I am convinced of that."

DAF network of independent dealers

Focus on optimum customer satisfaction

The cornerstone of DAF's success is of course its modern range of products and the complete package of services to support these products. Just as important, however, is the DAF dealer network, which has been expanded considerably over recent years and which strives continuously to further improve quality and service provision and hence provide optimum customer satisfaction.

In particular, the DAF dealer network is undergoing major expansion in Central and Eastern Europe, in countries such as Romania, Poland, the Czech Republic and the Baltic States. In these countries alone, 14 new dealer facilities have started operations in the past year. This means that DAF is now represented in more than 1,000 locations in Europe. DAF's strategy is to work with independent dealers, namely independent operations close to the customers. The trust that they in turn have in DAF is evident from the fact that in the past year more than EUR 100 million have been invested in new or renovated dealer premises. And in 2008 this investment is even expected to be exceeded.

Reliable partner

DAF continuously strives to be the most reliable and attractive partner for the dealers. In close cooperation with the dealers, DAF develops the best systems, services and training. The aim is to raise the standard ever higher, for example with regard to quality and service, and with the ultimate goal of continuously improving customer satisfaction.

Customer satisfaction surveys

Customer satisfaction at company level is regularly monitored by conducting surveys. The results of these surveys – in which DAF

traditionally scores well – enable the company to respond even better to the wishes of the customers.

With a similar purpose, the dealers themselves carry out customer surveys with the help of the 'Customer Satisfaction Measurement tool'. DAF Truck Sales Dealers and DAF Service Dealers can invite their customers by letter or e-mail to participate in such a survey and, if desired, they can do so anonymously. The invitation contains a special login number and password that gives the customer access to the DAF customer service website (www.dafcs.com) and the questionnaire. Separate questionnaires are available for sales and delivery and for workshop and parts. These questionnaires take no longer than five minutes to complete.

The results of the survey naturally give the dealer an insight into the areas where he scores well and the areas where further improvement is still possible. And all this with the aim of further improving customer satisfaction. DAF's ethos is: What is good enough today must be even better tomorrow. This is vital because our customers and our customers' customers are setting ever higher requirements.



Mr Giorgio Ercoli receiving a cheque from Willem Jan Poppelaars of the Dealer Development department of DAF Trucks N.V.

The foundation for a long-term relationship

Customers who have already completed the dealer survey have been entered into a lottery and a winner has been chosen. The winner was the Italian transport company Autotrasporti Giorgio Ercoli who evaluated the service provided by the workshop of DAF dealer Dell'Agnello Renzo in Collesalveti. "We have a very good relationship with our dealer and are very satisfied with the service", says Giorgio Ercoli. That was also confirmed by the recent delivery of a new FAN XF 105.510. DAF dealer Dell'Agnello Renzo was naturally delighted with the positive comments: "If you want to build up a long-term relationship with your customers, then customer satisfaction is crucial. The focus of all our employees is directed at that."

The DAF dealer network is also undergoing considerable expansion in Central and Eastern Europe. In these countries alone, 14 new dealer locations have started operations in the past year.

**Cordia d.o.o.,
Medvode, Slovenia**



**Neva Západní Čechy s.r.o.,
Pilsen, Czech Republic**



**ESA Trucks Poznan Sp.z o.o.,
Komorniki, Poland**



**Truck Trading Estonia OÜ,
Harjumaa, Estonia**



Georgi Transporte, market leader in Germany:

Air cargo booming



With its fleet of 200 trucks, Georgi Transporte is the German market leader for air cargo transport by road. The drivers are often away for 13 days at a time all over Europe. In their 'Wide Body' DAFs.

On average a truck leaves the Lufthansa Cargo Center at Frankfurt Airport every seven minutes laden with air cargo from all over the world. This means a total of about 250 trucks a day. These include the eye-catching trucks of Georgi Transporte, the German market leader. The departure times are precisely set and the cargo notes have flight numbers. The loads usually consist of four air cargo pallets that are manoeuvred into the semi-trailers via an electro-pneumatic roller conveyor. Cargo is in turn delivered to the airport on a just-in-time basis. The drivers then take their legally required break there and wait for their 'return cargo'.

Very rapid development

"The market for air cargo transport by road has grown rapidly in recent years", says Hans Jörg Schnorrenberg who is

responsible for organisational matters at Georgi. "Anybody wishing to send goods by air cargo delivers them to an air cargo company of his choice and after that need not worry about them any further. Customers can rely on efficient and prompt service, including the planning of the transport, completion of customs and cargo documents right through to delivery of his goods to the recipient. This is so regardless of whether we are talking about the transport of refrigerated goods,

hazardous goods or valuable goods."

For the drivers it is the ideal job, doing what they like to do best, namely putting kilometres on the clock. This is usually at night when there are no long traffic jams, no irritating waits and minimum physical stress. For this reason, Georgi can sometimes take on up to 12 new drivers in a month. Many of them come from companies that did not pay on time or from companies that forced their drivers to flout legislation. New drivers first of all take a four-day course in Raunheim and only thereafter are they taken out on the road by one of the ten driving instructors.

Flexibility

In addition to the continuous growth of the company, it is also EU regulations on working hours and driving and non-driving

"With DAF trucks there is a good relationship between price and quality. For a driver, the truck is his workplace and his living room. And the space that the Super Space Cabs provide is very welcome."



Above: Sven Suhr (left) and Hans Jörg Schnorrenberg of Georgi Transporte.

Left: An MD-11F of Lufthansa Cargo is being loaded.

periods that have made it necessary for Georgi to take on more drivers. “Correct application of the statutory regulations means that approximately 20% more drivers are required”, says logistics manager Sven Suhr. The 20-man logistics team plans to use the fleet for all of Europe for seven days a week and a second 5-man team organises the drivers that are required.

At present there are about 300 drivers from all over Germany, with about 70% coming from the five eastern federal states. They work in an unusual shift system: they drive 13 days in a row – naturally taking account of the statutory non-driving periods at weekends, which apply in some EU countries – and they then have three or four days free. There is a variety of trucks at the facility in Raunheim. This naturally requires a lot of flexibility. Each driver must in principle be able to drive any vehicle.

Satisfied drivers

“Only satisfied employees guarantee good service”, declares Schnorrenberg. “For this reason we do all we can to make clear to our drivers that they are the ones who represent our company. We do our utmost,

despite the large distances that separate us, to maintain personal contact with the drivers. We organise brunches, nobody's birthday is forgotten and we celebrate anniversaries. The only thing we cannot guarantee our drivers is their own individual truck. From an organisational point of view that is not feasible.”

The majority of drivers are happy with this arrangement. In order to prevent dissatisfaction, a protocol is adopted in Raunheim whereby a driver, at the start of his 'trip', is assured of a vehicle that is clean and in perfect technical order. Georgi makes only the best equipment available to their drivers: for example, all new trucks are fitted with air conditioning as standard. “With DAF trucks there is a good relationship between price and quality”, says Schnorrenberg. “For a driver, the truck is his workplace and his living room. And the space that the Super Space Cabs provide is very welcome.”

Air cargo sector booming

According to data from the IATA (International Air Transport Association), the number of air transport kilometres increased by 4.3% in 2007 compared with 2006 (when the figure was 147.5 billion tonne-kilometres). According to the IATA, the 240 affiliated airline companies enjoyed 'their best year in the recent history of the global air cargo market', making a profit of 5.6 billion dollars. The largest European air cargo centres are in Paris (Charles de Gaulle), Frankfurt, Amsterdam, London and Luxembourg.

Specialised fleet

The company, established in 1953 by Siegfried Georgi in Burbach (Siegerland), is now under the leadership of Jürgen Georgi and is the German market leader for the transport of air cargo by road. The Georgi facility in Raunheim comprises offices, a workshop and a training area. Their major customers include Lufthansa, Air France, DHL, UPS, Schenker, Swiss Cargo, Air Canada and Cathay Pacific. About half of their fleet consists of DAF XF95 and XF105 Super Space Cabs with outputs of 380 to 410 hp.

DAF makes a lightning start in Taiwan:

Double role for Formosa



FPG's modern assembly factory.



Seiko Chen: "We are proud of what we have achieved up to now."

DAF has been active in Taiwan since 2006, where in just a short time the brand has built an excellent reputation for reliability, driver comfort, and low operating costs. With a fleet of already 135 DAF trucks, Formosa Plastics Transport Corporation (FPTC) is the largest customer of the Dutch truck manufacturer. And not without reason...

The transport company is part of the Formosa Plastics Group (FPG), one of the largest petrochemical companies in the world and the world's largest producer of PVC and other plastics, such as polyester, nylon and rayon. The Group has its own oil refinery and power station, whereby a large part of the island is provided with power. FPG also produces microchips and other computer components, and has a fleet of forty ships. In addition, FPG imports, assembles and sells DAF trucks. FPG owns a total of fifty companies in Taiwan, China, the USA, the Philippines and Vietnam. Number of employees:

approx. 90,000. Annual turnover: around \$70 billion.

27%

Seiko Chen is the Executive Director of the transport company, FPTC, and he decided to standardise the fleet of around 600 trucks of various makes just on one brand: DAF. Mr.Chen has a double role:

within the parent company, Formosa Plastics Group, he is responsible for the import, assembly and sales of DAF trucks. "When we were about to replace our fleet a few years ago, we came into contact with DAF," he says. "After a thorough evaluation we decided to start with DAF: their trucks stood out due to low fuel consumption and low maintenance costs. Moreover, the drivers spoke very highly of the comfort and drivability. At the same time we realized that other customers were impressed by the quality of DAF and decided to become the importer of DAF. This meant that we had to assemble the trucks locally, due to the high import duty of 27% on fully built up trucks.

CKD

Five to ten DAF CFs are built each week in FPG's modern assembly facility from so-

"DAF trucks stood out due to low fuel consumption and low maintenance costs. Moreover, the drivers spoke very highly of the comfort and drivability."

Plastics

The growth of DAF is supported by an extensive service network of seventeen workshops.

Above: The establishment in Linkou in the north of Taiwan.



called CKD (Completely Knocked Down) kits, which are shipped from DAF Trucks in Eindhoven. The cabs, engines plus gearboxes and axles are delivered completely assembled. The assembly workers of the Formosa Plastics Group are trained by DAF and the quality of a DAF truck assembled in Taiwan is of the same high level as a DAF assembled in Eindhoven or Leyland.

Advance

In the meantime, other Taiwanese transport companies have also acquainted themselves with DAF quality thanks to the efforts of FPG. And with success: at the end of van 2008, around 450 DAFs will be driving around the island. The advance of DAF in Taiwan is supported by an extensive service network of 17 workshops. "We are proud of what we have achieved up to

135 of the 600 trucks of the Formosa Plastics Transport Corporation fleet already bear the DAF badge. The trucks are used all over the island for a great variety of products made by the Group. Mainly tractor-trailer combinations are used. "In a couple of years our entire fleet will comprise of DAFs."

now," says Mr. Chen, now with his DAF import and sales hat on. "Japanese brands have the majority of the market here, mainly due to the low cost price. But a low cost per kilometer is an increasingly important sales argument also in Taiwan. And nobody scores better than DAF in that respect."

FPG is one of the largest petrochemical companies in the world.



Transport in Taiwan

The island of Taiwan (originally Formosa) lies in the East-China Sea: east of China, south-west of Japan and north-west of the Philippines. The capital is Taipei. The island is densely populated: almost 23 million people live on an area of 35,980 km² (about 85% of the area of the Netherlands). Taiwan is a highly developed country with many modern industries that produce mainly high-tech products. Taiwan has an excellent infrastructure with a modern road system (total length: around 34,500 kilometers) that is constantly being expanded. The island also has a number of large harbours with a large handling capacity and a considerable container-transport volume. Sea freight accounts for the majority of international goods traffic – with a total of 274.23 million tons in 2006 – and is 200 times larger than the equivalent goods carried by air. In 2006, 89% of the international goods volume was carried by truck. The total tonnage carried by truck rose in 2006 by 5.8% to more than 594.21 million tons compared with the previous year.

(source: www.investintaiwan.nat.gov.tw)



Economic growth and transport inextricably linked

Goods transport: Quo Va



Artist/painter/illustrator Charles Burki (1909-1994), whose very detailed and realistic work graced virtually all the promotional material of DAF for many years, sometimes allowed himself to be tempted into making work that was based more on fantasy than on fact. For example, in 1971, his calendar of futuristic DAF vehicles was published. In his eyes, international road traffic would use monorail for intercontinental routes in the future. The very high speeds mean that driving and distance must be monitored by means of radar and electronic lane guidance.

Economic growth and transport needs for people and goods are inextricably linked with each other. Without transport or mobility there is no economic growth. The reverse is naturally also true: economic growth results by definition in an increase in transport and mobility. For example, it is expected that the total volume of goods to be transported in the European Union will increase by around 60% over the next 25 years. That will require intelligent solutions, with all modes of transport having to be used as efficiently as possible.

Ron den Engelsen

According to the Directorate General of Energy and Transport of the European Commission, the growth of total goods transport in Europe will increase markedly in the coming decades.

The expectation is that growth will keep almost equal pace with GNP growth in Europe. The increase in goods transport in Central and Eastern Europe will be somewhat greater than in Western Europe, but on average we should expect to see an increase of 2-3% per year. These figures are similar to those of the Swiss research bureau Prognos, which many years ago predicted a marked increase in the goods volume and until now this has been proved correct.

60% growth in goods volume

Between now and 2030, we can therefore expect to see an increase of about 60% in the total volume of goods to be transported in the European Union. The logical consequence of this is that the demand for commercial vehicles will further increase. In 2007, there were approximately 337,000 heavy duty trucks newly registered in the EU, i.e. trucks having a GVW (Gross Vehicle Weight) of more than 15 tonnes.

adis?



Predictions are that this will be about 400,000 in 2015 and even higher in 2030. Unless there is of course a dramatic shift in the way goods are transported, and that is certainly not expected.

Virtually no shift in the transport mode split

It is generally assumed that in the coming decades there will be virtually no shift in the proportion of different modes of transport that are used to transport goods. Sea transport, and especially short sea transport, will take on an important share of the total goods volume in the EU, as will pipelines and road transport. These are also currently the most important modes of goods transport. Inland waterway traffic will also see significant growth. However, as the situation now stands it appears that growth of goods transport by rail will significantly lag behind growth in other modes of transport. That is a pity because in order to meet the growth in total transport demand, every form of transport will have to make as large a contribution as possible. If not, Europe may have a major problem. If no significant, innovative and, in particular, intelligent measures are taken, then traffic congestion will become excessive. This

will be particularly so in and around the economic heart of Europe, where transport and mobility are indispensable for the economy.

New approaches required

How will Europe deal with the increasing demand for transport? Is it not high time for an effective and pragmatic strategy, with Europe open to new approaches? Indeed, there are numerous innovative ideas already for this. Whilst new roads will clearly have to be built at some stage in the future, the question to ask now is whether the existing infrastructure is being used optimally? Are there options already available for alleviating traffic bottlenecks? Lanes for lorries and buses, for example, have been a proven success but there are far too few of these lanes in Europe. There

are also too few intercity motorways and there is too little separation of local and interlocal traffic in order to prevent traffic jams forming. Without laying new tarmac, there is still a great deal that can be achieved. For example, by making better use of the capacity of the existing infrastructure. The road network is overwhelmed during and around the rush-hour. Yet during the night it has capacity available. Stimulating night distribution of goods, for instance, could contribute to improved utilisation of the road network.

Clever, integrated solutions required

Innovative concepts such as traffic management systems, automatic re-routing systems in congested areas and, for example, communication between vehicles could also help to better utilise the capacity

Road transport is and will remain the most versatile form of goods transport and one of the most efficient. By using modern planning systems, communication equipment and telematics, road transport has become more efficient than ever.



The technical options for organising logistic processes much more efficiently are far from exhausted. Take the “City Box” for goods distribution within cities; such a concept could offer an excellent solution, in combination with hybrid vehicles or other quiet distribution trucks for example.

The road network is overwhelmed during and around the rush-hour. Yet during the night it has capacity available.

of the existing road infrastructure in the future. The technical options for organising logistic processes much more efficiently are also far from exhausted.

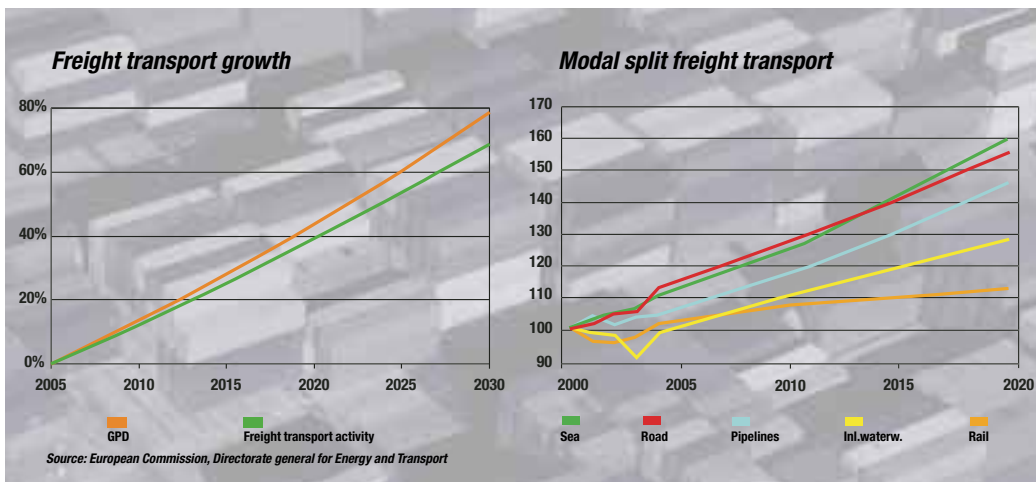
It is a pity that a solution such as the “City Box” for goods distribution in cities, which is available and which DAF helped develop, has not got off the ground. Such a concept could offer an excellent solution, in combination with hybrid vehicles or other extra quiet distribution trucks for example. The use of longer and heavier trucks, such as the “EcoCombi”, can also make a key contribution to increasing transport efficiency and making better use of the road network. Due to their improved transport performance, these EcoCombi vehicles have significantly lower emissions of harmful substances per tonne kilometre,

so both the economy and the environment benefit from this. Since the 1980s, DAF Trucks has argued for the use of longer and heavier trucks on a Europe-wide scale.

Efficient road transport is the future

Road transport is and will remain the most versatile form of goods transport and one of the most efficient. By using modern planning systems, communication equipment and telematics, road transport has become more efficient than ever. The number of kilometres that trucks are driven unloaded is a fraction of what it used to be. In addition, modern trucks are fuel-efficient and Euro 5 trucks produce only a fraction of the harmful emissions, meaning that road transport has also become considerably more sustainable. Road transport is also

the only mode of transport able to truly go from door to door. Efficient road transport will therefore keep playing a dominant role in the Europe of tomorrow. This, however, does not detract from the fact that other modes of transport will also have to be able to take on their share of the growth in total goods transport. Send by sea anything that can go by sea! Send by rail anything that can go by rail! Send by pipeline anything that can go by pipeline! Send by air anything that must go by air! And send by road anything that must go by road! In addition, there must be better monitoring of whether, for the various products, the most suitable, most efficient and most sustainable transport method is actually chosen. The growing needs for transport and mobility cannot be solved by the road network alone. The increasing goods transport in Europe and the increasing mobility of people is a challenge for Europe as a whole. A structural solution to this problem will only be found if all parties involved come together and jointly develop new approaches for the future.



According to calculations by the European Commission's Directorate-General for Energy and Transport, the growth of the total goods volume to be transported will roughly keep pace with the growth of the Gross National Product within the European Union over the coming decades. There is also expected to be hardly any change in the shares represented by the different modes of transport. This means that road traffic, indicated by the red line, will continue to demonstrate considerable growth over the coming years.



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In the drive to reduce serious or fatal accidents caused when trucks make near side turns on urban roads, or change lanes on motorways, the EU is introducing new legislation governing the radius of wide angle rear view mirrors and the use of kerb mirrors.

This legislation comes into force in April 2009. It not only affects new vehicles, but also requires the retrofitting of all commercial vehicles over 3.5 tons registered from January 2000. Compliance with this legislation is strictly monitored by law enforcement and safety agencies. For a complete overview of legal requirements for your vehicle or fleet, please see our dedicated website:

WWW.CHECKYOURMIRROR.COM



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