



EMCC case studies

Trends and drivers of change in the European automotive industry: DaimlerChrysler

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Company profile

DaimlerChrysler is a major international company, ranking fifth among the world's vehicle producers in terms of the number of units produced – some 4.5 million in 2002.¹ Despite being smaller the company comes very close to General Motors in general revenue earned because of the high unit costs of Mercedes vehicles. The takeover – originally described as merger – of Chrysler by Mercedes-Benz in 1998 was one of the largest consolidations in the industry's history, and illustrates the trend to consolidation referred to in the **mapping report**.² In 2000, DaimlerChrysler took a controlling stake in the Japanese car and truck manufacturer Mitsubishi. It also has a 20% stake in the Korean firm Hyundai.

The company's origins go back to the very beginning of the automobile. Widely accepted as the inventor of the car, Karl Benz founded the firm Benz & Cie. in October 1883 and produced his first car, the Benz 3-wheeler, at Mannheim in Germany in 1885. Later he merged his business with that of another early inventor, Gottlieb Daimler, establishing the Daimler-Motoren-Gesellschaft (DMG) in November 1890. In 1893 the vehicle was changed to a 4-wheeled design, the Benz Viktoria. Initially the two men used their own names, Daimler and Benz, but the turn of the century brought a new name: Mercedes. One of Daimler's business partners, Emil Jellinek, an Austrian businessman and an avid car racer, suggested the name. Jellinek was fascinated by DMG's cars and bought a number of them, giving the company crucial capital and exposure to new markets. He set two conditions for buying the cars: he had to become sole agent in Austro-Hungary, France and the US, and the car had to be named after his daughter, Mercedes. Wilhelm Maybach, the chief engineer at DMG, developed the first Mercedes delivered to Jellinek on 22 December 1900. At present, the name Maybach is still used as the brand of the company's most prestigious model.

The Chrysler brand came into being in 1925, when an entrepreneurial engineer, Walter Chrysler, transformed the failing Maxwell Motor Company of Detroit into the Chrysler Corporation. Within three years he had introduced two new lines of cars, Plymouth and DeSoto, and purchased the Dodge Brothers Motor Company. By 1929, Chrysler Corporation had become the second-largest producer of automobiles in the world. It developed as an independent company and the third of the 'big three' Detroit-based companies along with General Motors and Ford.

DaimlerChrysler Group

The company is a major international employer with 362,000 staff in nearly 100 production locations worldwide, the majority of which are concentrated in North America and Europe, particularly in Germany. The group is organised in five divisions: Mercedes Car Group, Chrysler Group, Commercial Vehicles, Services, and a division for other activities, including aviation. The Mercedes, Chrysler and Commercial Vehicles groups are almost the same size, each employing around 100,000 workers. The key divisions in Europe are clearly the Mercedes Car Group and Commercial Vehicle Group with over 140,000 employees in Germany and 160,000 in Europe (see statistics on workforce distribution in Table A1 in the Annex).

The group is unique in the automotive industry, with a product portfolio ranging from small cars to sports cars and luxury sedans, and from versatile vans to heavy-duty trucks and coaches. DaimlerChrysler is the world's largest truck manufacturer. The Mercedes brand has a very strong brand image in excellence worldwide, though recent JD Power

¹ This compares with General Motors (US) 8.3 million, Ford (US) 6.9 million, Toyota (Japan) 6.3 million and Volkswagen (EU) 5 million.

² MacNeill, S. (*et al*), *Trends and Drivers of change in the European automotive industry: Mapping report*, European Foundation for the Improvement of Living and Working Conditions, 2004, available at: <http://www.emcc.eurofound.eu.int/publications/2004/ef0427en.pdf>.

reliability indices suggest that quality may be slipping. The Chrysler brand is not as strong and, currently, has a less positive image than Mercedes. The group's intention is to develop cars with innovative technology, making the vehicle of tomorrow safer, more economical and environmentally friendly.

In the early 1990s, the company's former chairman set up a Daimler-Benz transportation technology conglomerate. At the same time, the car and truck division focused on its core competencies and, in line with the general trend towards outsourcing, sold its engine component, instrument panel, cockpit and wiring businesses. This division has virtually disposed of all its component operations.

The overall revenues of the group and employees have shown a slight decrease over the past three years. Revenue has fallen from €150 billion to €136 billion, and the number of employees from 372,000 to 362,000 people. There has been a small increase in revenues in Europe, but this has been more than counterbalanced by the 16% fall in revenues in North America, primarily due to the Chrysler division. The long-term trend for the group can only be analysed by looking at each of the divisions in detail. However, it seems unlikely that there will be any major growth in revenues over the next five years. The company's strategy is to maintain its position in Europe and North America by promoting its innovative technology and quality. Any major growth is expected to come from investment in the Far East, particularly in China, where the group has been lagging behind other major players, mainly Volkswagen.

Mercedes Car Group

The Mercedes Car Group revenues increased slightly in 2003, from €50 billion to €51.5 billion. There was a 2% fall in production to 1.09 million units. The group's main products and 2003 production figures are shown in Table 1 below.

The company hopes to increase the penetration of Mercedes in the marketplace with two new cars: the Mercedes McLaren SLR and the Vision CLS four-door coupé. The SLR will be produced in limited numbers – only 3,500 per year at a new factory in Woking, England. All other products, with the exception of the G class, will be upgraded or replaced by a new version over the next five years. However, this is not expected to significantly increase production and sales. The battle between Mercedes and BMW will continue.

Table 1: *Mercedes car group production sites*

Model	Production ('000)	Factory	Country
A class	156	Rastatt	Germany
C class	341	Bremen/Sindelfingen	Germany
CLK class	62	Bremen	Germany
E class	252	Sindelfingen	Germany
G class	8	Graz	Austria
M class	12	Alabama	United States
S class	77	Sindelfingen	Germany
SL class	31	Bremen	Germany
SLK class	29	Bremen	Germany
Maybach	1	Sindelfingen	Germany
Sprinter	7	Düsseldorf	Germany
V class	9	Vitoria	Spain
Vaneo	22	Ludwigsfelde	Germany
Smart (MCC)	128	Hambach	France
Total	1210		

Source: *DaimlerChrysler, 2003*

An important development for Mercedes, and for the industry as a whole, was the Smart car, which is produced at Hambach in northeast France. With 128,000 cars produced in 2002, it is clearly a success in a new market niche for Mercedes, though, as for many small cars, the profit margin is low. The factory at Hambach is very unusual in that suppliers produce modules in units attached to the assembly factory. These are then brought to the assembly line and attached to the car. Suppliers include Krupp Hoesch (powertrain), Dynamit Nobel (plastic panels) and Magna Steyr (chassis and frame). Much has been written about this new kind of modular assembly as a further development of the outsourcing model and a pointer to the future. Production of a new development of the Smart car, a roadster called 'Forfour', has started at Born in the Netherlands, at a factory owned by Mitsubishi in which Mercedes has a controlling interest.

The company is exploring how some of the Smart production methods may be transferable to other plants. The Jeep plant in Ohio, US, will be reorganised to incorporate some of the Hambach methods.

The company's main competitors are BMW in Europe and Asia, and Lexus in the US – Mercedes has lost market shares to both.

Chrysler Group

The Chrysler Group's products are primarily manufactured in the US. They consist of cars, minivans, sport utility vehicles (SUVs) and light trucks under the trade names of Chrysler, Dodge and Jeep. The Magna Steyr Group carries out subcontract manufacture of the Voyager and Jeep Cherokee in Graz, Austria. This is an example of 'whole car' outsourcing.

Productivity in the Chrysler Group's US factory is surprisingly high, compared with Mercedes in Europe. In 2003, they produced 2.55 million vehicles with 93,000 employees, a ratio of 27 vehicles per employee. In contrast, the Mercedes car group produced 1.211 million vehicles with 104,000 employees, a ratio of 11.6 vehicles per employee. These figures reflect various differences between the two car divisions: First, Chrysler has had a long-standing strategy to use automation and simple but robust engineering geared to 'manufacturability'.

There is also a legacy of different philosophies regarding outsourcing. Chrysler was one of the car manufacturers that had gone furthest down the path towards outsourcing – even buying engineering and major components from its two US rivals General Motors (GM) and Ford. By contrast, Mercedes has had a tradition of doing more in-house. Inevitably this means more workers employed directly by the company. The works council is keen to maintain this philosophy since they are concerned about both loss of competence and erosion of conditions as manufacture gets pushed down the supply chain.

The revenue per employee was €494,000 at Mercedes and €529,000 at Chrysler. The unit sale costs were clearly in favour of Mercedes, at €42,000 per vehicle, compared with only €18,703 per vehicle at Chrysler. Although the vehicles are not directly comparable, it seems that the group would be much more successful if productivity levels were raised in Germany and unit sale prices increased in the US by improving the brand image and product.

Commercial vehicles

The commercial vehicle business is closely integrated between the US and Europe, with Europe playing a leading role. DaimlerChrysler is the world's largest truck producer. An increasing amount of the company's US production is fitted with componentry, such as engines, from Europe, and complete integration is expected in the future. The strategy is to change from the American practice, where buyers specify different manufactures' engines and transmissions on the trucks. This move will boost employment in Europe but is likely to have a negative affect on US plants and specialist US-based engine manufactures. The commercial vehicles division encompasses five subdivisions: Trucks Europe/Latin

America (Mercedes-Benz); Trucks NAFTA (Freightliner, Sterling etc.); Mercedes-Benz Vans; DaimlerChrysler Buses; and DaimlerChrysler Off Highway.

Production methods in the commercial vehicle division are very similar to the Mercedes car division and are modelled on the Toyota production system. This allows mobility of production staff in Europe between the car and truck divisions.

Table 2: *Commercial vehicle production*³

Division	Numbers	% change 2002 to 2003
Mercedes-Benz trucks	110,500	plus 9%
Mercedes-Benz vans	230,900	minus 1%
DaimlerChrysler buses	20,000	
Freightliner/Sterling/Thomas	140,000	
Total	501,400	plus 3%

Research and development

DaimlerChrysler invests very significant funds in research and development (R&D): €5.6 billion in 2003. Some 29,000 men and women are employed in corporate research, an increase of 300 since 2002. This represents about 8% of the workforce. Approximately 17,000 employees work in the development departments of Mercedes Car (10,000) and Commercial Vehicles (7,000), a decrease of 1,000 since 2002. Approximately 7,000 people work in R&D at Chrysler. The decrease in development staff in the car divisions is likely to be due to the increased reliance and productivity of computer-aided engineering. The increase in corporate research staff is linked to the rising demand for new technologies, particularly in joining together mechanical engineering and electronics knowledge.

The main research work is carried out in the following areas of core technology:

- drive technology;
- vehicle structure and man-machine interface;
- materials technology;
- production technology;
- intelligent transportation systems;
- software and process technology;
- electronics and mechatronics.

³ These figures include transporter vans as well as heavy trucks. The figures are therefore much higher than those quoted in the **Volvo Truck Corporation case study** (p. 1), which cover only the numbers of heavy trucks that are rivals to Volvo's own products. See MacNeill, S. (*et al*), *EMCC case studies, Trends and Drivers of change in the European automotive industry: Volvo Truck Corporation*, European Foundation for the Improvement of Living and Working Conditions, 2004, available at: <http://www.emcc.eurofound.eu.int/publications/2004/ef0489en2.pdf>.

In 2003, the corporate research department focused on three themes: the vision of accident-free driving, energy for the future, and car of the future. Traffic safety plays a major role in DaimlerChrysler's plans for future mobility. As part of a holistic approach, the company works on accident prevention and crash-impact minimisation and develops passive and active safety solutions such as 'Pre-Safe'. This system recognises dangerous situations in advance and activates preventive safety measures. For example, if the system registers indications of skidding, it closes the sunroof, tightens the seatbelts and moves the seats into the optimum position. The system was developed by **TRW Automotive**⁴, which is featured in one of the other company case studies. Chrysler has also applied stability systems to buses, which is a world first.

In alternative drive systems and fuels, the company is working on hybrid technology and fuel cells. By the end of 2004, DaimlerChrysler will have handed over more than 100 fuel-cell vehicles for practical testing. These are fitted in the Mercedes A class, which has a double floor structure, ideal for incorporating additional batteries, electronics and other components associated with fuel-cell powered vehicles. The company is also working on biogenic diesel fuel, derived from plants and other organic sources.

DaimlerChrysler and the environment

DaimlerChrysler is strongly committed to environmental protection and invested over €1.5 billion in this field in 2003. The company mainly focuses on lowering traffic-related CO₂ emissions and on the long-term reduction of fossil fuel consumption. The impact of production processes and products on the environment is considered early and is taken into account in decision-making. In 2003, the company produced a handbook on environmental management to provide a framework for operations and employees worldwide. Some 90% of DaimlerChrysler's employees work at locations with environmental management systems certified to ISO14001.

DaimlerChrysler also takes a positive approach to implementing the EU directive on disposal of end-of-life vehicles (ELV Directive) by setting up a comprehensive vehicle reclamation and recycling system. Over 30 different materials are sorted, collected and recycled. In 2003, more than 380,000 litres of brake fluid and over 72,000 tyres were recycled. It is expected that applying the directive will lead to modest increases in employment. For example, reclamation and recycling centres could be set up in deprived areas, reducing local unemployment.

However, the ELV Directive has an interesting aspect for Mercedes vehicles: Because of their longevity a significant proportion of the cars never reach 'end-of-life' in Germany but are exported as used vehicles – often to developing countries.

Global procurement and supply

In 2003, DaimlerChrysler purchased goods and services valued at €99.7 billion. Of this total purchasing volume, 47% was sourced in Germany, 8% in other EU Member States and 41% in North America. Only 4% was sourced from South America, Africa, the Middle East, Asia and Australia. Thus, even doubling the purchase volume outside Europe and North America would only have a small effect on the total volume. Nevertheless, with the proposed expansion of activities in the Chinese and Asian markets, big efforts will be made to implement similar logistics networks to those

⁴ MacNeill, S., *EMCC case studies. Trends and drivers of change in the European automotive industry: TRW*, European Foundation for the Improvement of Living and Working Conditions, 2004, available at: <http://www.emcc.eurofound.eu.int/publications/2004/ef0489en5.pdf>.

existing in Europe and North America in these countries. DaimlerChrysler will encourage the location and development of major supplier companies in China⁵, which could well have a significant long-term effect. The company intends to seek suppliers in China for its worldwide operations and to buy parts directly or from Chinese-based plants of its major suppliers, as appropriate. This strategy will affect employment in Europe. Most likely, this will also have a particular impact on subcontractors at lower tiers in the supply chain whose components can be sourced locally – and can be imported to assembly factories in the EU.

Like other vehicle manufacturers and major suppliers, DaimlerChrysler expects continuous improvement in supplier's quality and conformity. The company has established a global supplier quality management council to identify best-quality assurance processes and procedures and to make sure they are implemented worldwide.

Corporate social responsibility

DaimlerChrysler is committed to social responsibility and the support of the United Nations Global Compact Initiative. The company aims to put into practice the initiative's principles, such as respect for human rights, protection of the environment and maintenance of humane working conditions all over the world. DaimlerChrysler has established globally valid standards governing healthcare, work safety, pay and working hours for all employees worldwide.

Employment

As with other vehicle manufacturers, most employment is full time, blue-collar and male. In 2003, DaimlerChrysler employed 362,000 people across the world. As can be seen in Table 3, these are almost evenly split between the Mercedes Car Group, Chrysler Group and Commercial Vehicles. Employment at the Chrysler Group has decreased significantly during 2002, continuing into 2003. There has been modest retrenchment within the Mercedes Car Group and within Commercial Vehicles. The growth area lies within the sales organisation, which is primarily due to Mercedes-Benz taking over private distributors and not to increased employment in the area. The fall in 'other' resulted from the sale of the MTU Aero engine business in 2003.

Table 3: *DaimlerChrysler Group employment*

Employees worldwide	2001	2002	2003
DaimlerChrysler Group	372,500	365,500	362,000
Mercedes Car Group	102,200	101,800	104,000
Chrysler Group	104,000	96,000	93,000
Commercial Vehicles	96,600	94,000	95,000
Sales organisation automotive businesses	38,700	42,100	45,600
Services	9,700	10,500	11,000
Other	21,000	21,000	13,100

Slightly over a half the company's total workforce was located in Germany representing 52.4% of all employees. With regard to all EU Member States, 91% of the group's 210,520 employees work in Germany (191,574), followed by Spain (5,997) and France (4,938). The employment trends and patterns in the German part of the group are, therefore, of paramount importance in the context of this case study.

⁵ Reported in *Automotive News* on 8 March 2004.

The company has dramatically reduced its workforce in Germany over the past decade. Since 1993, DaimlerChrysler's German workforce has decreased by one third, from 284,575 in 1993 to 191,574 in 2002. This reduction is a result of the changes and drivers discussed in the [mapping report](#), including:

- productivity gains to meet competitive pressure;
- outsourcing of component manufacture;
- outsourcing of design functions;
- new process technologies such as automation.

In contrast, DaimlerChrysler's workforce worldwide has remained almost unchanged over the same period: there were 366,736 employees in 1993 and 365,571 in 2002. The peak of personnel expansion occurred in 1999 when, following the takeover of Chrysler, the company was employing 466,938 workers worldwide. Since then, employment outside Germany has also fallen as productivity improvements, decreasing sales⁶ and financial losses at Chrysler have taken effect. Some 12.6% of unionised jobs were lost in the period since the takeover. The company announced a two-year cost cutting exercise. The changes in employment over the 10-year period from 1993 to 2002 are shown in Table 4.

2002 saw 3,380 layoffs in the German part of the group, of which only 10 were due to business conditions. The rest occurred through contractual measures, such as early retirement or other packages. The company describes these as 'socially acceptable means'.

Table 4: *Total workforce, 1993 - 2002*

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Abroad	82,160	79,297	68,907	67,068	200,383	208,472	225,705	219,640	181,312	173,997
Germany	284,576	251,254	242,086	222,961	225,266	233,080	241,233	196,861	191,358	191,574
Total	366,736	330,551	310,993	290,029	425,649	441,502	466,938	416,501	372,470	365,571

Of all the employees working in the German locations in 2002, the majority (111,395) were manual workers. Other workers, e.g. office functions, constituted 42% of the firm's workforce in Germany. A full breakdown of the figures is shown in Table A1 and A2 in the Annex.

Labour flexibility

A key factor in DaimlerChrysler's labour policy is to increase flexibility to respond to fluctuations in demand, while retaining its permanent core workforce. These measures include adjusting employee numbers and working hours to actual requirements by means of so-called 'flexipools', working time accounts, new shift models, working time budgets and the use of temporary staff in the holiday season.

⁶ In 2003 Chrysler lost €480 million as competition from Toyota Motor Corp. and Asian automakers, which run mostly non-union US factories, helped drive down vehicle prices. Earlier in 2004 Chrysler cut the price of its minivans by an average of \$3,000 to as low as \$18,995 for a 2005 Dodge Caravan to boost sales (*Detroit Free Press, February 2004*).

Such measures introduce a flexibility of plus/minus 25% capacity at individual factories. For example, some workers of the Rastatt manufacturing site employed at A class production have been temporarily transferred to Sindelfingen to work on the E class while demand for the A class declines, pending the introduction of a new revised model. The E class is a new design and demand is increasing, hence the need to raise production.

Such transfer is not always easy to achieve. Mercedes Car Group tries to work out an effective way of persuading staff to temporarily relocate from Bremen to Sindelfingen. Because of the geographic distance, employees would be away from their families during the week; and such a move has not been agreed with the works council so far.

Temporary employment contracts

The company has not, to date, sought to use agency workers to increase flexibility. Such a move has been discussed with the works council, but it was agreed not to pursue this strategy. A considerable concern on both sides was the potential lack of commitment and the resulting quality problems. These views are in sharp contrast to approaches taken at other European car factories – for example at PSA Peugeot-Citroën, as discussed in the [PSA case study](#)⁷.

The strategy instead has been to employ new workers on short fixed-term (two-year) contracts. These make up 3.5% of manual workers and 2.8% of others. In Germany, some 3% of all employees are temporary workers (5,849). The number of office workers on temporary contracts includes sub-contracted workers from design and engineering companies that are involved in new developments.

Female employment

Looking at the gender dimension, total female employment in 2002 was 55,228 representing 15.1% of the group’s workforce. In Germany, 13% of employees were female, but only 5% of these were manual workers, compared with 24% female office workers. This contrasts with 19% female manual workers in the US and 11% in the rest of the world. The higher figure in the US reflects cultural differences, with a large African-American female workforce at Chrysler and a strong equal opportunities ethic in that company. Germany, on the other hand, has more of a tradition to see male employees as the ‘breadwinners’.

Temporary work is more widespread among female employees: 5.7% of all female staff are temporary, compared with 3% of temporary staff among all employees. 8.4% of the female manual workers had temporary contracts in 2002, compared with 5.7% of other female workers.

Part-time employment

There are relatively few part-time employees, as shown in Table 5. Female workers constitute a significant proportion of the part-time workforce, particularly in office jobs.

Table 5: *Part-time employment in DaimlerChrysler Group*

Manual		Office		All employees	
All	Female	All	Female	All	Female
2,482	1,500	3,591	3,325	6,073	4,825

⁷ MacNeill, S., *EMCC case studies. Trends and drivers of change in the European automotive industry: PSA Peugeot-Citroën*, European Foundation for the Improvement of Living and Working Conditions, 2004, available at: <http://www.emcc.eurofound.eu.int/publications/2004/ef0489en1.pdf>.

Foreign workers

Foreign workers – both permanent and temporary – represent 13.6% of the group’s employees in Germany. Only 0.8% of these are female. The majority of foreign workers (83.9%, or 21,928) are manual workers.

Training and further education

DaimlerChrysler regards training and further education as integral parts of its human resources (HR) policy. For this reason, the German company hired 2,800 new trainees in 2003, increasing the total number of trainees in Germany to 8,800. This represents around 40% of all the apprentices and trainees in the German automotive industry. In addition, the company has taken on 3,493 undergraduates and graduates as students to widen their knowledge of automotive engineering. The situation in Germany contrasts noticeably with that in the US, where only 28 apprentices and 34 students work in the entire Chrysler Group.

Qualifications

In Germany, the company has the advantage of a well-qualified workforce, as shown in Table 6. Details for Chrysler were not available – but they are unlikely to have similarly high levels.

Table 6: *Qualification levels of German workforce, 2002*

	University	Fachhochschule	Higher academy	Further education	Qualified through apprenticeship	None
DaimlerChrysler AG	18.4%	17.3%	3%	19.3%	37%	5%

Identifying management potential

DaimlerChrysler develops a system worldwide, which identifies promising young managers at an early stage. Opportunities for development and attractive career openings are discussed. The system is called LEAD (leadership, evaluation and development). An IT-based tool has been developed to allow the assessment process to be applied uniformly and easily across the entire group by specially trained HR staff.

Graduate and young manager recruitment

DaimlerChrysler, and in particular the Mercedes Car Group, stage numerous events aimed at attracting and retaining highly qualified young managerial talent. They have rightly identified the fact that the company can only survive as a leader in its field if it has a capable and innovative workforce. Recruitment in this group was set at 2,400 in both 2002 and 2003.

Ageing workforce

The average age of employees across the company worldwide is 40.9 years and 40.8 in Germany. There is very little variation in this respect between manual and other workers. Only the average age of female employees is slightly lower at 39.1 years.

On average, permanent employees in Germany tend to stay with the company for nearly 16 years. Bearing in mind that the average age of employees is about 40 years, this means that most employees start working for the company when they have completed their education and training, and stay with the company throughout their careers (‘job for life’

culture). There is very little difference between manual and non-manual workers in this respect (15.9 and 15.7 years with the firm on average). Women tend to stay with the company for shorter periods (13.7 years) compared to men (16.1 years). This pattern applies to both manual and non-manual workers.

The company is concerned that the ageing of the workforce could have an adverse effect on competitiveness. These issues are illustrated in Figure 1 below.

Figure 1: *Issues of an ageing workforce*

Issues		
Average age	<p>Average age</p> <p>40 (2002) → 45 (2011)</p>	The average age of DC staff will have risen from approx. 40 to 45 years by 2011.
Flexibility (e.g. assembly)	<p>Flexibility</p> <p>85% (< 50) → 55% (> 50)</p>	45% of staff can work flexibly.
Absenteeism	<p>Absenteeism (days)</p> <p>10 (< 50) → 20 (> 50)</p>	Absenteeism among employees over 50 is roughly twice as high as among younger staff.

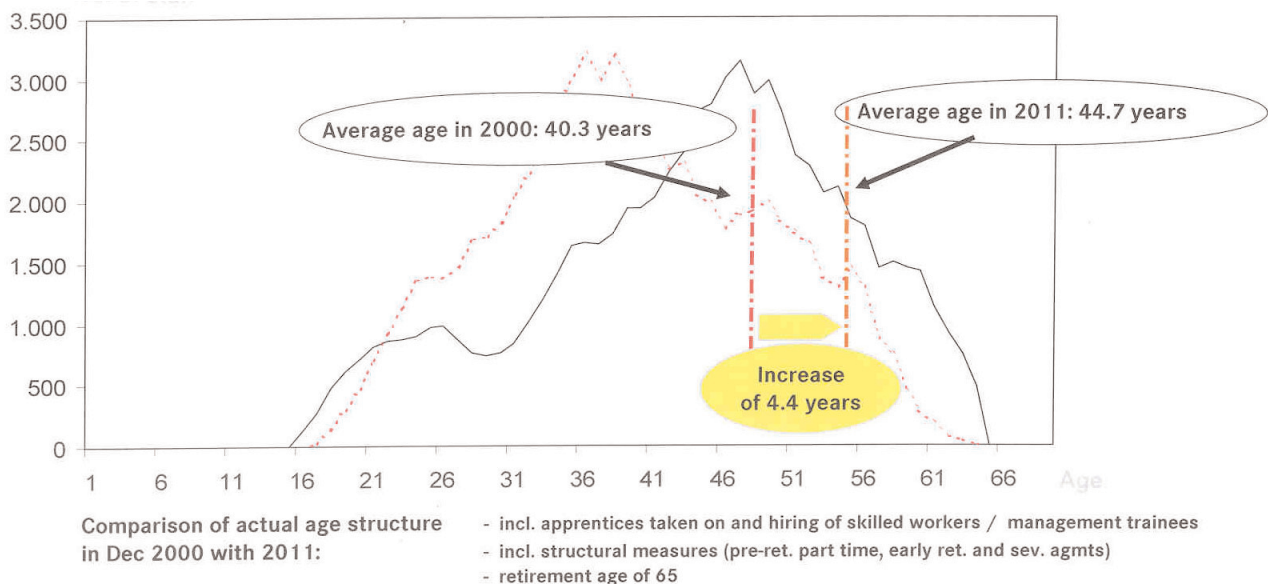
Source: *DaimlerChrysler*

The company's main concerns are that:

- the average age of all DaimlerChrysler employees will rise from 40.9 years in 2002 to 44.7 by 2011 despite taking on apprentices and encouraging early retirement;
- a similar situation will occur in the US;
- the supply of young and qualified engineers will decline due to low birth rates.

As illustrated in Figure 2, the average age will rise by 4.4 years by 2011. DaimlerChrysler recognises the need to develop its human resources (HR) and labour market strategies to boost productivity despite its ageing workforce. The performance potential of young and older employees complements each other, the balance, however, will change significantly by 2011. Thus, the proportion of staff over 45 will rise from 41% to 68% and that of staff under 30 will fall from 12.5% to around 11%.

Figure 2: Changes in average age



Source: DaimlerChrysler

Performance

Figure 1 above also points out particular issues related to an ageing workforce, such as differences in performance potential. These are illustrated in Table 7 below.

Table 7: Performance issues of an ageing workforce - Survey of 88 plants in 2000-2001

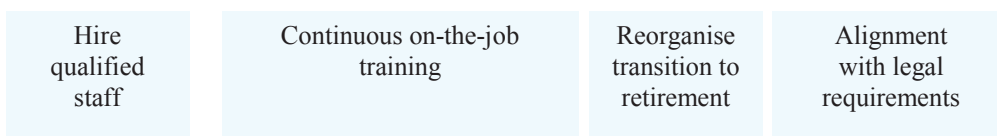
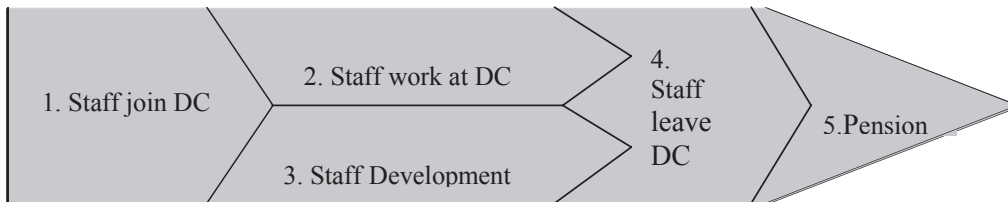
Performance potential	Young	Old
Experience	X	XXX
Theoretical knowledge	XX	XX
Creativity	XXX	X
Willingness to learn	XXX	X
Ability to learn	XXX	X
Work ethic and discipline	X	XXX
Attitude to quality	X	XXX
Reliability	X	XXX
Loyalty	X	XXX
Ability to work in a team	XX	XX
Leadership qualities	X	XXX
Flexibility	XXX	X
Physical strength	XXX	X
Psychological strength	XX	XX

Note: XXX: mentioned a lot; XX: mentioned quite a lot; X: mentioned very little

Source: INIFES, SOSTRA

The group's HR department has taken a wide range of actions to address the issue of an ageing workforce, as shown in Figure 3 below.

Figure 3: *Actions by HR department*



Source: *DaimlerChrysler*

Stage one – staff joining the DaimlerChrysler Group:

- hire properly qualified staff;
- develop training policy for apprentices;
- improve selection procedures to ensure compatibility and suitability.

Stage two – HR responsibility to improve workforce performance and motivation:

- develop group-wide health programmes;
- encourage local fitness training;
- develop awards for long service;
- consolidate pension agreements;
- encourage preventative workplace design:
 - better ergonomics;
 - user-friendly;
 - lifting assistance;
- job rotation;
- flexible working hours;
- work system design, including vertical integration;
- image campaign.

Stage three – staff development:

- targeted learning strategies;
- knowledge transfer from older employees;
- lifelong learning;
- career review.

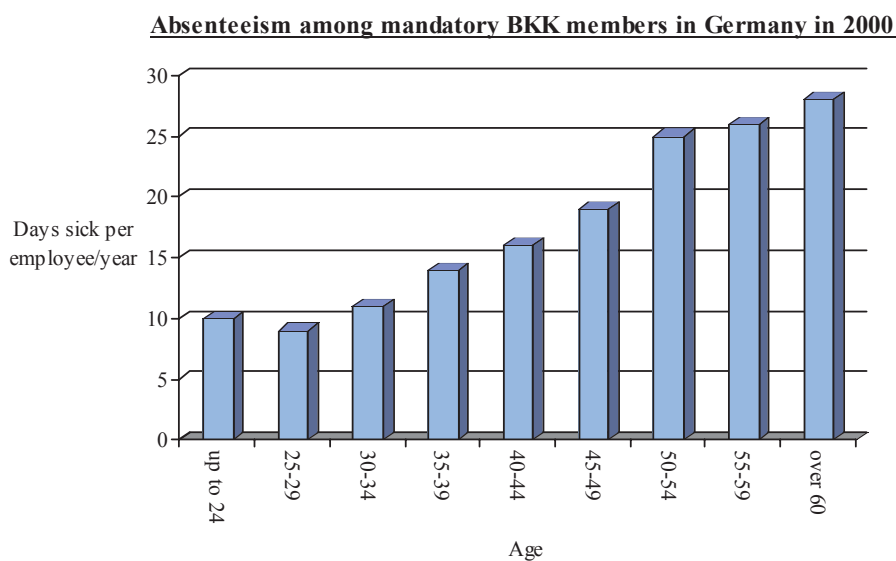
Stage four – transition to retirement:

- pre-retirement part time;
- overtime accounts leading to early transition;
- combination of above;
- asymmetric pre-retirement part time.

Absenteeism and fitness

Another issue of concern to the company is absenteeism. The statistics for Germany as a whole demonstrate how this increases with age.

Figure 4: *Absenteeism and age – figures for Germany, 2000*



Up to the age of 30, the average number of sick days per employee per year is about 10 at DaimlerChrysler in Germany. It then increases steadily, reaching 25 days per year at 50-54 and nearly 30 days per year for over 60s. These figures seem quite high by the standards in other car-making areas – for example the UK. On average, they represent a loss of 16 working days per year per employee, which is 7.2% of the working year. If absenteeism could be reduced by 50%, this would represent an improvement of productivity by 3.6%, which is very significant.

DaimlerChrysler aims to tackle this problem by emphasising overall fitness and exercise classes. Employees are therefore encouraged to take a greater interest in fitness and well-being. The company explores a number of strategies, including fitness clubs. It is interesting to note that the Japanese take fitness very seriously, hence group fitness exercises are common in Japanese factories.

Alcohol

Another problem with fitness for work is alcohol. A significant proportion of the manual workforce drinks beer during the working day. Beer is even available from vending machines on the factory floor. There is no easy solution to this. Banning alcohol from the factory floor could well lead to some workers bringing spirits to the workplace in thermos flasks, as happened in the US during prohibition. In Germany, it is not easy to ban alcohol from the workplace without major support from the appropriate unions. The company would favour some legislation, perhaps at EU level, to control alcohol supply in the workplace so that rules could be applied without friction between the workforce and management.

Industrial relations

In 2002, DaimlerChrysler's management in consultation with international employee representatives founded the World Employee Committee, an important information and discussion panel for worldwide employment issues. For more detailed issues, discussions are held with the appropriate workers' councils in Germany and the metalworkers' union. In the US, the United Auto Workers (UAW) Labour Union agrees to the majority of manual workers' conditions.

Industry trends and drivers

The company highlights many of the trends and forces driving change within the automotive industry. It is a truly global concern and illustrates the processes of achieving economies of scale through consolidation by its takeover of Chrysler and the controlling stake in Mitsubishi (taking a larger share in Mitsubishi or even outright ownership is being considered). DaimlerChrysler is the world's number one producer of commercial vehicles. Here again, consolidation has led to the purchase of US truck-makers Freightliner and Kenworth and the bus manufacturer Thomas. All consolidations have resulted in major job losses, in particular at Chrysler as the group seeks to return the division to profitability. Approximately 11,000 jobs have been lost at Chrysler since 1998.

The original agreement with the German and US unions was that there would be no plant closures following the takeover. However, a recent agreement with the UAW Union has provided for another 12,400 job losses at Chrysler and the closure of up to nine parts factories and a freight-hauling unit. The main region to suffer will be the already depressed Detroit.

In Europe, there has already been a significant reduction in employment in Germany through productivity gains and the use of new technologies. This steady reduction is likely to continue as the company does not see any major expansion in Europe over the next few years. The increase in productivity will inevitably outstrip the increase in demand for new cars. The anticipated area where employee numbers will increase is Asia and particularly China.

The company has outsourced many of its component manufacturing activities. However, it retains more of these activities than most other vehicle manufacturers. For example, unlike any other vehicle company, Mercedes still makes its own seats and axles. There is a major difference in the degree of outsourcing between the two car divisions of Mercedes and Chrysler. The logic of cost reduction will inevitably drive Mercedes to outsource more.

DaimlerChrysler will seek commonality of parts across its car manufacturing, and will develop global purchasing policies, such as the use of lower-cost parts from suppliers located in China. These trends may affect Chrysler and Mitsubishi more than Mercedes since the latter is a technology-driven company with premium and high-technology specification vehicles. Therefore, Mercedes will most likely continue to rely on German and other European suppliers, which can more easily cater for new developments because of their geographical closeness. However, job losses at the European plants of major suppliers cannot be ruled out. As with other major companies, DaimlerChrysler is adopting a platform strategy, currently aimed at sharing only platforms between Chrysler and Mitsubishi. According to the group's philosophy, Mercedes will be the company where technology is developed, which will later be utilised in the other two companies.

As all major automotive companies, DaimlerChrysler aims for workforce flexibility. So far, this has not meant any large-scale use of agency staff but rather systems of working time accounts and transfers between plants.

SWOT analysis

<p>Strengths:</p> <ul style="list-style-type: none"> • true global reach; • dominant truck maker in the world; • high-value products; • large margins on Mercedes vehicles; • reputation for quality; • commitment to new technology; • high stake in new technology and high value of technology property rights (IPR); • highly-qualified German workforce; • less outsourcing at Mercedes; • world-class styling capability at Chrysler. 	<p>Weaknesses:</p> <ul style="list-style-type: none"> • continuing losses at Chrysler; • current less positive image of Chrysler regarding quality; • high-cost base in Germany; • lack of workforce flexibility; • low volume sales for top range brands – e.g. Maybach; • less outsourcing at Mercedes.
<p>Opportunities:</p> <ul style="list-style-type: none"> • new markets in China and Asia; • exploitation of new technologies, such as fuel cells; • further opportunities for consolidation; • opportunities to import more Chrysler vehicles into Europe; • reduction of cost base at Chrysler through new agreement with UAW Union. 	<p>Threats:</p> <ul style="list-style-type: none"> • perception of lowering quality standards; • loss of market share to rivals, i.e. BMW and Lexus; • ageing workforce and loss of productivity; • current low-stock value of the group, compared with 'old' value of Mercedes.

Annex

Table A1: DaimlerChrysler workforce on 31 December 2002

	Manual workers			Office workers		
	All	Permanent	Temporary	All	Permanent	Temporary
DaimlerChrysler (DC)	224,6047	218,232	6,372	126,773	124,529	2,244
Germany	111,395	107,490	3,905	67,824	65,880	1,944
USA	69,048	67,867	1,181	32,321	32,295	26
Rest of world	44,161	42,875	1,286	26,628	26,354	274
Mercedes Car Group	70,762	68,037	2,725	26,535	26,313	222
Germany	65,683	62,961	2,722	23,784	23,578	206
USA	1,272	1,272	0	572	572	0
Rest of world	3,807	3,804	3	2,179	2,163	16
Mercedes-Benz PC	70,322	67,600	2,722	25,056	24,864	192
MCG/S (Smart)	440	437	3	1,479	1,449	30
Commercial vehicles	61,639	60,901	738	27,982	27,739	243
Germany	31,761	31,289	472	14,585	14,469	116
USA	11,837	11,821	16	4,735	4,723	12
Rest of world	18,041	17,791	250	8,662	8,547	115
Mercedes-Benz Trucks	11,246	11,233	13	5,743	5,725	18
Mercedes-Benz Vans	9,008	8,548	460	3,414	3,261	153
DC Powersystems	20,482	20,258	224	9,383	9,345	38
DC Buses and Coaches	10,524	10,483	41	5,356	5,334	22
Freightliner, Sterling, TBB	9,797	9,797	0	3,128	3,128	0
Other	582	582	0	958	946	12

Trends and drivers of change in the European automotive industry: DaimlerChrysler

	Active workforce	Apprentices/trainees	Students	All
DaimlerChrysler (DC)	351,377	10,326	3,868	365,571
Germany	179,219	8,862	3,493	191,574
USA	101,369	29	39	101,437
Rest of world	70,789	1,435	336	72,560
Mercedes Car Group	97,297	3,260	1,221	101,778
Germany	89,467	3,168	1,106	93,741
USA	1,844	28	34	1,906
Rest of world	5,986	64	81	6,131
Mercedes-Benz PC	95,378	3,237	1,138	99,753
MCG/S (Smart)	1,919	23	83	2,025
Commercial vehicles	89,621	3,671	819	94,111
Germany	46,346	2,605	561	49,512
USA	16,572	0	5	16,577
Rest of world	26,703	1,066	253	28,022
Mercedes-Benz Trucks	16,989	927	294	18,210
Mercedes-Benz Vans	12,422	383	111	12,916
DC Powersystems	29,865	1,507	245	31,617
DC Buses and Coaches	15,880	811	134	16,825
Freightliner, Sterling, TBB	12,925	0	0	12,925
Other	1,540	43	35	1,618

Table A2: Workforce by region

	Mercedes Car Group	Commercial vehicles	Chrysler Group	Sales & marketing automotive	Daimler Chrysler services
Europe	94,521	60,790	275	38,502	4,026
North America (including Mexico)	1,906	19,611	94,903	2,386	5,426
South and central America	1,125	10,706	649	0	296
Asia	345	1,519	8	490	137
Africa	3,881	948	0	0	459
Australia	0	537	0	764	177
Total	101,778	94,111	95,835	42,142	10,521

	MTU/Aero Engines	DaimlerChrysler headquarters	Other	All
Europe	7,742	10,102	342	216,300
North America (including Mexico)	634	2,198	0	127,064
South and central America	0	0	0	12,776
Asia	0	0	166	2,665
Africa	0	0	0	5,288
Australia	0	0	0	1,478
Total	8,376	12,300	508	365,571

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