

**MAHLE**

*Driven by performance*

2008 //

ANNUAL REPORT

# ANNUAL CHRONICLE—HIGHLIGHTS 2008 //

## JANUARY

### Majority joint venture with Mopisan, now known as MAHLE Mopisan Izmir A.S. and MAHLE Mopisan Konya A.S.

Locations: Izmir and Konya, both in Turkey. Approximately 580 employees. Sales of around EUR 24 million in 2007. Key products: pistons and cylinder components. Main strategic aim: to strengthen the market position in the free trade market for engine components.



### AUTO EXPO in New Delhi, India

MAHLE presents its product portfolio at the 9th AUTO EXPO in India, one of Asia's largest automotive shows. Main goals: to attract customers and introduce new products.

### Supplier award from Deutz

MAHLE Engine Components (Yingkou) Co., Ltd. in China receives the "Excellent Supplier of 2007" award.

### Supplier award from FAW-Volkswagen Automotive

MAHLE Engine Components (Yingkou) Co., Ltd. in China receives the "Excellent Quality Award 2007."

### Supplier award from Honda Motor

The MAHLE Filter Systems Japan Corporation receives the "Quality Award."

## FEBRUARY

### Supplier award from John Deere

MAHLE Metal Leve S.A. in Mogi Guaçu, Brazil, receives the award "Achieving Excellence—Five Year Hall of Fame—Partner Class 2003 – 2007."

### Supplier award from Toyota

The MAHLE Group receives the "Global Contribution Award 2007" and the "Excellent Quality Performance Award 2007."

### Supplier award from the International Truck and Engine Corporation

MAHLE, Inc. in Morristown, Tennessee (USA), MAHLE Engine Components USA, Inc. in Caldwell, Ohio, Atlantic, Iowa, Manchester, Missouri, MAHLE Componentes de Motor de México S. de R.L. de C.V. in Ramos Arizpe, Mexico, and MAHLE Metal Leve S.A. in Mogi Guaçu, Brazil and São Bernardo do Campo, Brazil receive the "Diamond Supplier 2007" award.

## MARCH

### Supplier award from Toyota

MAHLE Industries, Incorporated in Morristown, Tennessee (USA), receives the "Superior Quality Performance Award 2007."

## APRIL

### Auto China in Beijing

MAHLE presents innovative technologies and product innovations at the 10th Auto China in Beijing. The event is one of the most important industry fairs of its kind.

### Supplier award from Cummins

MAHLE Engine Systems UK Ltd. in Kilmarnock, Great Britain, receives the award "Certificate of Excellence."

### Supplier award from Toyota

MAHLE Polska Spolka z o.o. in Krotoszyn, Poland, receives the "Supplier Achievement Award for Cost."



### Supplier award from Toyota Kirloskar Motor

MAHLE Filter Systems (India) in Gurgaon receives the "Award for Achieving Targets in the Category Quality and Delivery 2007."

## MAY

### Majority joint venture with Hirschvogel, now known as MAHLE Hirschvogel Forjas S.A.

Headquarters: Queimados, Brazil. Approximately 600 employees. Sales of around EUR 75 million in 2007. Key products: connecting rods, components for injection systems, and other components for the automotive industry. Main strategic aim: to expand the product portfolio for the South American market.



### Supplier award from Paccar

MAHLE Filtersysteme Austria GmbH in St. Michael ob Bleiburg receives the award "2007 Quality Achievement/50 ppm—Better Level of Quality."

### Supplier award from Volkswagen do Brasil

MAHLE Metal Leve S.A. in Itajubá, Brazil, and MAHLE Componentes de Motores do Brasil Ltda., Itajubá receive the "Supply Award 2007—Competence in Product Development—Innovation and Technology."

## JUNE

### Acquisition of Clemex de México S.A. de C.V.

Headquarters: Lerma, México. Approximately 400 employees. Sales of around USD 16 million in 2007. Key products: bearings and bushings for the automotive spare parts trade and for original equipment manufacturers. Main strategic aim: to strengthen the market position as a manufacturer of high-quality passenger car bearings and bushings in North America.

### Opening of a new research and development center in Brazil

Location: Jundiaí, Brazil. Approximately 260 employees. Focus: carrying out all research and development activities in South America and operating the design and sales departments. Main strategic aims: to expand and improve the development service for South America's automotive industry.



### Repositioning of the brands in the aftermarket

As a result of the acquisitions in recent years, more and more brands were added to the MAHLE Aftermarket brand portfolio. The "Brand Strategy Aftermarket" project defined the repositioning and consolidation of the MAHLE Aftermarket brands with the aim of strengthening the MAHLE brand worldwide for the future.

## 24 Hours of Le Mans

Victory for the Audi R10 TDI. Under the hood: motorsport pistons with cast-in ceramic fibers and cooled ring carriers from MAHLE. Second and third places went to the Peugeot 908 HDi FAP. The 12-cylinder diesel engine of the Peugeot 908 HDi FAP used forged steel pistons from MAHLE for the first time in motorsport history.



## JULY

### Acquisition of ENTEC Systemtechnik GmbH

Locations: Crock and Brattendorf, both in Thuringia, Germany. Approximately 60 employees. Sales of around EUR 7 million in 2007. Key products: controlled oil pumps. Main strategic aim: to expand the product portfolio to allow reductions in fuel consumption and CO<sub>2</sub>.

## AUGUST

### Supplier award from General Motors

The MAHLE Group receives the "2007 Global Supplier of the Year" award.

### Supplier award from Caterpillar

MAHLE Metal Leve S.A. in Itajubá, Brazil, and MAHLE Componentes de Motores do Brasil Ltda. in Itajubá receive the "SQEP—Supplier Quality Excellence Process—Silver" award.

## SEPTEMBER

### Acquisition of Amafilter Group Holding BV

Headquarters: Alkmaar, Netherlands. Approximately 450 employees. Sales of around EUR 75 million in 2007. Key products: integrated filtration solutions for process technology. Main strategic aim: to expand the product portfolio for the Industrial Filtration business segment.

## Opening of MAHLE INSIDE

At the headquarters in Stuttgart, Germany, MAHLE presents the Group and its products, history, employees, and involvement in motorsports in a corporate exhibition on four levels. The exhibition building covers around 1,000 square meters and is open to employees, customers, and parties interested in the technology.



## IAA Commercial Vehicles, Hanover, Germany

Presentation of innovative technologies. In the spotlight: MonoXcomp® pistons. The new steel pistons for commercial vehicle engines allow considerably higher firing pressures and optimized fuel consumption with a reduced thermal load.

In addition, the following product innovations were presented:

- Piston pins with PVD coating for reduced frictional loss.
- Composite camshaft that allows a weight saving of up to 50 percent as well as the integration of additional functions such as camshaft oil mist separation.
- New valve alloys with a reduced nickel content, producing cost savings.
- Innovative EGR management with charge air valve to considerably reduce the NO<sub>x</sub> raw emissions for next-generation diesel engines.
- Electrically driven cone stack separator for maximum separation of oil from the crankcase ventilation vents' blow-by gas.
- BlueDrain® system—an environmentally friendly, low-maintenance diesel fuel filter with integrated automatic water disposal system.



## OCTOBER

### Green light for MAHLE day care center

Construction of the MAHLE day care center in Stuttgart is scheduled to start at the beginning of 2009, and it is set to open in the first half of 2009. The day care center allows MAHLE's employees to reconcile family and work responsibilities.

### Supplier award from John Deere

MAHLE Componentes de Motor España, S.L. in Vilanova i la Geltrú receives the award "Achieving Excellence—in Recognition of Outstanding Performance 2007."

## NOVEMBER

### Finale of the Formula 1 season

Ferrari crowned Constructors' World Champion. The red cars of the Italian racing team are fitted with extremely stress-resilient MAHLE motorsport pistons. MAHLE coats the engine blocks of the Formula 1 engines with NIKASIL®. The ten other Formula 1 teams also use motorsport components from MAHLE.



## DECEMBER

### Crisis management at MAHLE

The International Executive Meeting, attended by managers from all over the world, takes place in Stuttgart, Germany. Measures to save costs and increase efficiency are discussed in workshops, in order to counteract the negative effects of the financial crisis on the automotive industry.

### Supplier award from Deutz

MAHLE Engine Components (Yingkou) Co., Ltd. in China receives the "Excellent Quality Award 2008."

### Supplier award from Mitsubishi

MAHLE Engine Components (Yingkou) Co., Ltd. in China receives the "Excellent Supplier—Award of Special Contribution."

# SHAPING THE FUTURE OF THE AUTOMOTIVE INDUSTRY WITH INNOVATIVE STRENGTH //

// As a leading global development partner for the automotive and engine industry, we offer unique systems competence in the combustion engine and engine peripherals. The MAHLE Group ranks among the top three systems suppliers worldwide for piston systems, cylinder components, and valve train, air management, and liquid management systems. Almost all automobile and engine manufacturers worldwide are customers of MAHLE.

For almost 90 years, MAHLE has played a decisive role in promoting the development of automotive and engine technology, setting standards time and again. Driven by performance—every MAHLE employee demonstrates above-average enthusiasm for performance, precision, and perfection.

MAHLE has a local presence in all major world markets. Around 49,000 employees work at 115 production plants and 8 research and development centers in Stuttgart, Northampton, Detroit (Farmington Hills, Novi), Tokyo (Kawagoe, Okegawa), Shanghai, and São Paulo (Jundiaí). Around the world, approximately 3,000 development engineers and technicians are working on forward-looking concepts, products and systems for the ongoing development of the combustion engine.

# MAHLE GROUP //

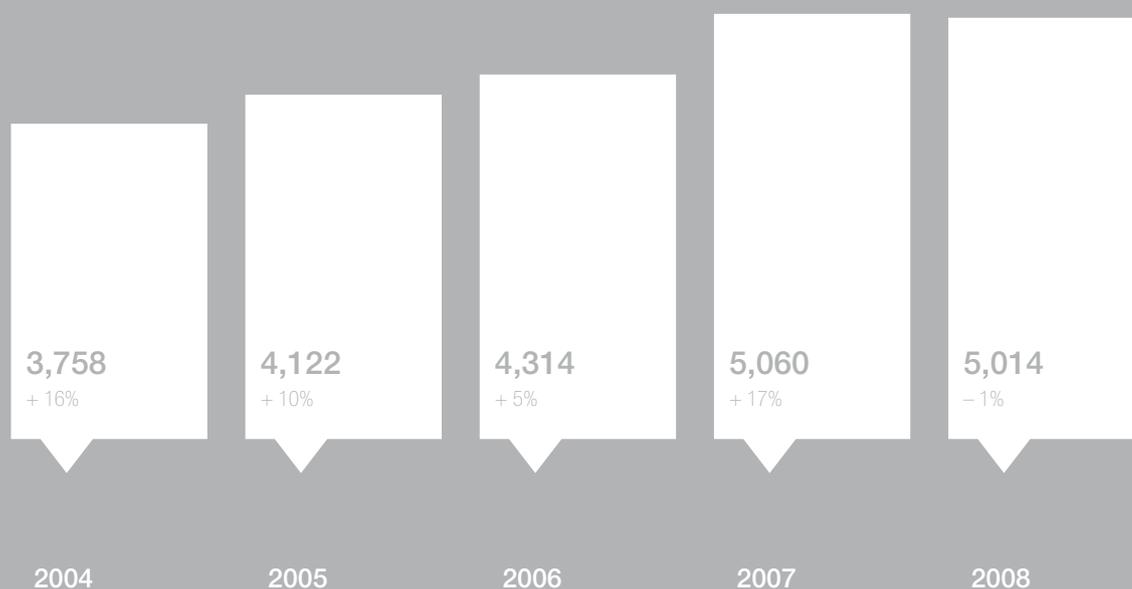
## FIGURES //

million EUR

Business year	2004	2005	2006	2007	2008
Sales	3,758	4,122	4,314	5,060	5,014
EBITDA	502	642	598	632	498
EBIT	255	341	319	349	160
Income from ordinary business activities	237	275	295	308	85
Net income	131	159	192	223	22
Tangible fixed assets	1,098	1,239	1,235	1,430	1,569
Capital expenditure for tangible fixed assets (without first consolidation)	255	288	264	309	415
Equity capital	992	1,271	1,363	1,538	1,511
Dividend paid by MAHLE GmbH	4.0	6.3	6.0	7.0	3.0
Headcount (as at Dec. 31)	35,744	37,419	38,603	47,877	49,262

## DEVELOPMENT OF SALES //

million EUR



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# 01 //

THE COMPANY

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# 02 //

STATUS REPORT

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# 03 //

CONSOLIDATED FINANCIAL STATEMENTS

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Dear readers,

The 2008 business year subjected the global automotive industry to a rollercoaster of emotions. MAHLE, like many others, was affected by the situation. In the last 50 years, the global economic framework has never changed at such a dramatic pace as it has in the past few months. While development in the first half of the year—except in the already weakened North American market—was in line with our expectations and planning, a dangerous downward spiral manifested itself in the second half of the year.

At the mid-year point, we were still able to report solid sales growth of more than seven percent. We were able to more than compensate for the sales with North American passenger car and commercial vehicle customers, already below the planned figures in the first half of the year, with stable markets in Europe, Asia, and South America, as well as through gains of market share and some smaller acquisitions. At the beginning of the second half of the year, however, we saw the first signs of a weakening European market. In September, the growing banking and financial crisis had an impact on the real economy, and particularly the automotive industry, with a delay of only several weeks. For MAHLE, the fourth quarter was characterized by dramatic market declines in all regions of the world. Even our growth-oriented activities in countries such as Brazil, China, India, and the Eastern European countries were not spared by this global trend. At a global level, we recorded a decline in sales—in comparison with our planning and with the previous year—of around 18 percent in the fourth quarter. In individual production plants, this led to under-utilization of the installed capacities at a level of 50 percent and above.

We were therefore unable to achieve our planned growth goals for the 2008 business year of 5 to 7 percent, but achieved Group sales of EUR 5,014 million, which matched the previous year's level. As a result of the capacity utilization problems, which intensified dramatically in the second half of the year, and despite the initial measures to adjust our cost structures and staffing level in the fourth quarter, we were unable to avoid a significant decline in profit in comparison with the previous year. This effect was amplified further by massive increases in material prices in the first half of the year, as we were only able to share part of these cost increases with our customers; furthermore, this involved a delay. In the fourth quarter, we also started to record accruals for restructuring measures in 2009, which had an adverse effect on profit.

Despite the critical development of the entire industry over the course of the year, we also strengthened certain aspects of our business in 2008. This will allow us to maintain our competitiveness in the long term and conquer growth areas at opportune times in the future. These measures include the founding of the 50/50 joint venture Bosch Mahle Turbo Systems with Robert Bosch GmbH for exhaust turbocharging, a technology of the future for reducing CO<sub>2</sub> and fuel consumption, the expansion of our aftermarket business, and the acquisition of the Amafilter Group to strengthen the Industrial Filtration business segment.

On the development side, we have undertaken further efforts and adjusted priorities in order to further contribute toward reducing consumption and emissions in the combustion engine. Combining all well-known leading-edge technological components, including hybrid technology, combustion engine technology has—in the medium term—the potential to save up to 40 percent in consumption and CO<sub>2</sub> in comparison with today's level. This means that a fuel consumption of 3 to 4 liters per 100 kilometers is conceivable in a few years also for a mid-range vehicle.

With the admixture of an adequate quantity of second-generation biofuels, CO<sub>2</sub> values considerably below 100 grams per kilometer can be achieved. In a "Well-to-Wheel" analysis, this setup matches the score obtained by a pure electric vehicle in at least one area without having its serious disadvantages in the area of costs, achievable cruise range, and infrastructure.

We are firmly convinced that the combustion engine will remain by far the most dominant powertrain technology for land-based transport well into the 21st century. Nevertheless, it is important that we quickly explore and use the as yet untapped potential of the combustion engine in combination with intelligent powertrain technology.

Not only was 2008 characterized by efforts to improve our development efficiency and increase our productivity, but also brought MAHLE a large number of customer awards. These include, in particular, the coveted "Global Contribution Award" from the Toyota Motor Corporation and the "Global Supplier of the Year" award from the General Motors Corporation. Both awards demonstrate the global performance of the MAHLE Group in all regions of the world.

The measures we initiated at short notice in 2008 to adjust capacities to the reduced market demand will need to be expanded considerably in 2009. We have, therefore, started accelerating the restructuring activities we had already planned. As a result, plant consolidations will be undertaken, primarily in North America, but also in some areas of Europe and South America. From today's perspective, it appears that only small corrective measures are needed in Asia to streamline our production network. In addition, we are planning further cost reduction measures worldwide in 2009. These reduction measures are not only targeted at production plants but also in the areas of administration, sales, and development, where our main priority will be to adjust the variable costs promptly to the current market situation and make use of all available instruments to increase the flexibility of working hours. 2009 will be a year of testing for the global automotive and supplier industry. We are convinced that MAHLE will pass this test and emerge from the profound structural crisis with added strength.

Finally, on behalf of the whole Management Board, I would like to thank all our partners, particularly our customers and suppliers, for their strong cooperation over the past business year, even in difficult times. All our employees in the MAHLE Group deserve my thanks for their commitment in 2008. I also ask for your understanding as regards the upcoming cost reduction and structural measures that will be necessary in 2009 to ensure a solid long-term company policy.



Heinz K. Junker

Heinz K. Junker

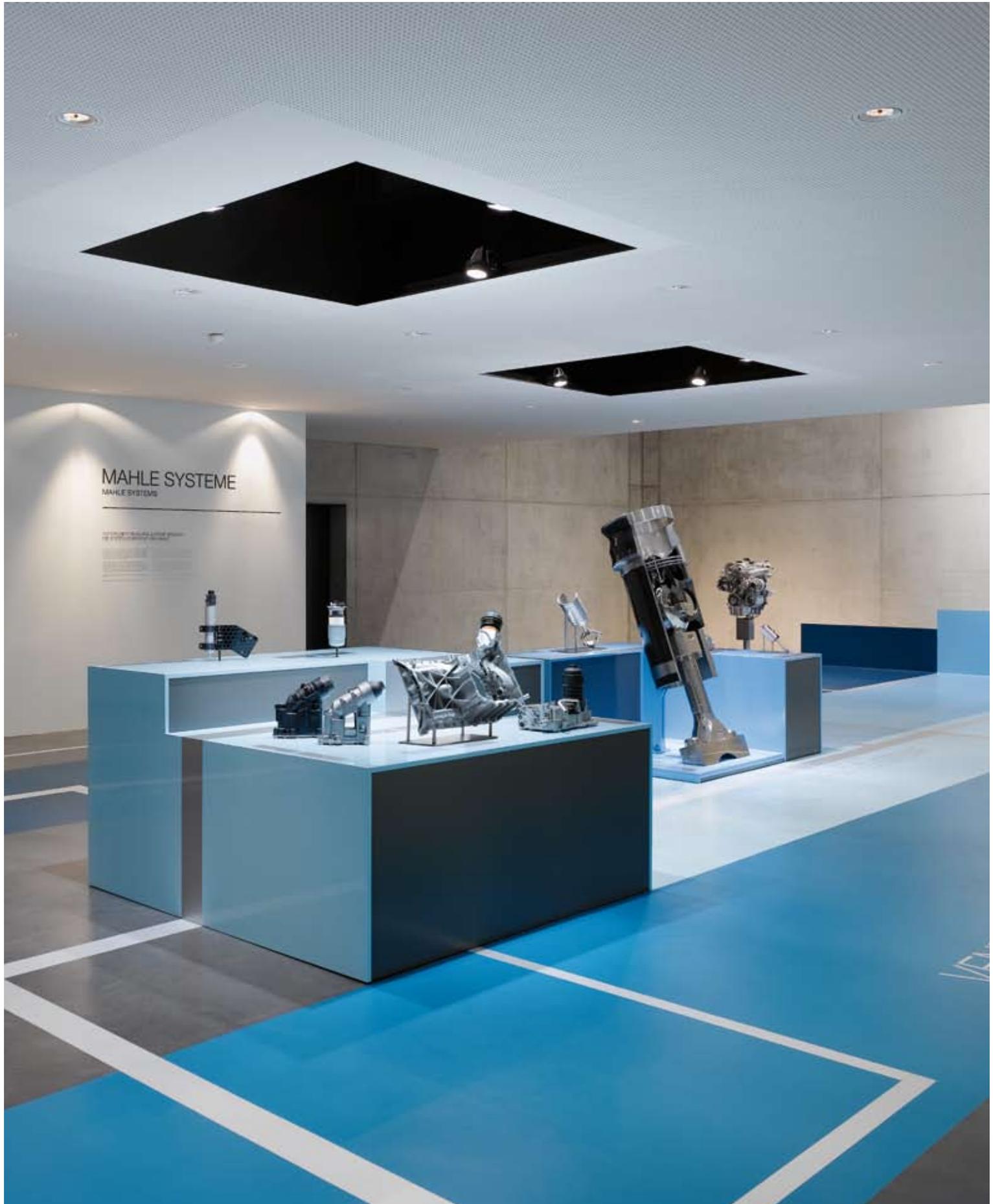
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# 01 //

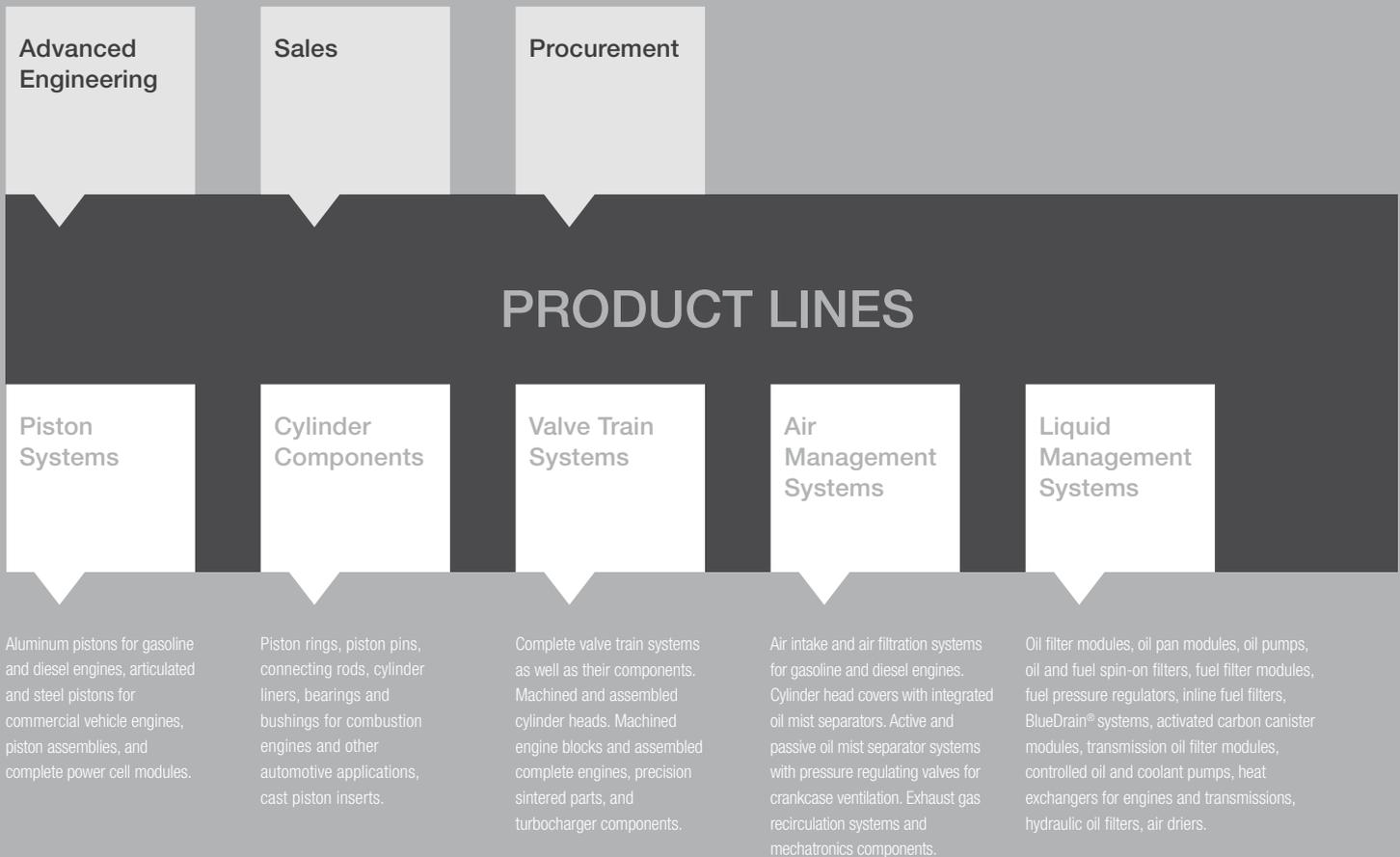
## THE COMPANY

// MAHLE'S INTERNATIONALLY SUCCESSFUL OVERALL STRATEGY IS MADE UP OF A WHOLE RANGE OF PRECISELY ALIGNED INDIVIDUAL FACTORS. THE SAME PRINCIPLE APPLIES TO MAHLE'S COMPLETE SYSTEMS: HIGHLY DEVELOPED TECHNOLOGY COMPONENTS COMBINE TO FORM INTEGRATED SOLUTIONS FOR THE COMBUSTION ENGINE AND ENGINE PERIPHERALS. ALL INDIVIDUAL COMPONENTS COME FROM MAHLE'S PRODUCT LINES AND WORK OPTIMALLY TOGETHER.

Perfection in the whole and precision down to the last detail—MAHLE INSIDE demonstrates both. The new corporate exhibition, housed in a spacious area, presents the five MAHLE complete systems for pistons and cylinders, valve train, as well as air and liquid management.

## GROUP ORGANIZATION //

// Customer-oriented, efficient, global: The MAHLE Group structure follows these principles in every detail. The components and systems produced worldwide are divided into five product lines. They correspond exactly to the original equipment requirements of all international automobile and engine manufacturers. With six profit centers as independent organizational structures, MAHLE serves the free trade business as well as the market for small and large engine components, motorsports, engineering services, and industrial filtration.



## PROFIT CENTERS

### After-market

Products for vehicle maintenance and engine repair from the complete MAHLE product range.

### Small Engine Components

Cylinder assemblies, cylinder heads, pistons, and filters for small engines in hand-held power equipment, motorcycles, and leisure vehicles.

### Large Engine Components

Pistons and additional engine components for gas, diesel, heavy-oil, and dual-fuel engines for marine, locomotive, building machinery, and industrial applications, as well as for energy production.

### Motorsports

Development and production of high-quality engine components for motorsport: pistons, piston rings, piston pins, connecting rods, NIKASIL®-coated cylinder running surfaces and liners, bearings, and bushings.

### Engineering Services

Concept and system developments for combustion engines. Concepts to optimize consumption and exhaust gas, including the use of alternative fuels. Applications engineering and electronic diagnostics.

### Industrial Filtration

Liquid filtration, liquid separation, aerosol separation, process filtration, and dedusting for mechanical engineering, in marine technology, for large engines, for industrial vehicles, in process technology, and in general industry.

## MANAGEMENT COMMITTEE //

**Prof. Dr. Heinz K. Junker**  
Chairman of the Management Board and CEO  
Profit Center Motorsports and Engineering, Services,  
Market, Communications, Legal, Internal Audit

**Dr. Rudolf Paulik**  
Member of the Management Board  
Product Line Cylinder Components,  
Corporate Quality Management

**Dr. Bernd Mahr**  
Member of the Management Committee  
Sales, Research and Advanced Engineering

**Arnd Franz**  
Member of the Management Committee  
Profit Center Aftermarket

**Michael Glowatzki**  
Member of the Management Board  
Human Resources



**Dr. Jörg Stratmann**

Member of the Management Committee  
Product Line Liquid Management Systems

**Dr. Bernhard Volkmann**

Member of the Management Board  
Chief Financial Officer  
IT Services, Insurances

**Dr. Peter Knittig**

Member of the Management Committee  
Product Line Air Management Systems

**Dr. Hans Peter Coenen**

Member of the Management Board  
Product Line Piston Systems,  
Profit Centers Small Engine Components and  
Large Engine Components

**Peter Grunow**

Member of the Management Board  
Profit Center Industrial Filtration,  
Corporate Purchasing

**Georg Dietz**

Member of the Management Committee  
Product Line Valve Train Systems



# MAHLE WORLDWIDE //



EXPLANATION //

Locations as at April 2009

- Production locations
- R&D centers



**Germany**  
 Albershausen  
 Alzenau  
 Barsinghausen  
 Brattendorf  
 Crock  
 Eislingen/Fils  
 Fellbach  
 Flintbek  
 Gaildorf  
 Hamburg  
 Leibertingen  
 Lorch  
 Markgröningen  
 Öhringen  
 Plettenberg  
 Roßwein  
 Rottweil  
 Schorndorf  
**Stuttgart**  
 Wölfersheim  
 Wustermark  
 Zell im Wiesental

**Poland**  
 Krotoszyn

**Slovakia**  
 Dolný Kubín

**Turkey**  
 Gebze  
 Izmir  
 Konya

**Romania**  
 Timisoara

**Austria**  
 Rankweil  
 St. Michael ob Bleiburg  
 Vöcklabruck  
 Wolfsberg

**India**  
 Chennai  
 Gurgaon  
 Parwanoo  
 Pithampur  
 Pune

**China**  
 Changchun  
 Chongqing  
 Guangzhou  
 Macheng  
 Nanjing  
**Shanghai**  
 Tianjin  
 Yingkou

**Thailand**  
 Bangkok  
 Samutprakarn

**Korea**  
 Hwasung  
 Ulsan

**Japan**  
 Fukushima  
 Ibaraki  
**Kawagoe**  
**Okegawa**  
 Tochigi  
 Tokyo  
 Tsuruoka  
 Yamagata

**Philippines**  
 Cavite

**Australia**  
 Laverton North/Melbourne

## STRATEGY //

// An interview with Prof. Dr. Heinz K. Junker, Chairman of the Management Board

Turbulent times illustrate the real purpose of a group strategy. Prof. Dr. Junker, Chairman of the Management Board, explains the factors of our long-term strategic positioning.

Prof. Dr. Junker, in a period of economic turbulence, like the one we're experiencing now, many entrepreneurs wonder whether they have set the right course for the future. Is MAHLE also changing its business strategy?

**Prof. Dr. Junker:** No. Of course, our customers' falling unit sales figures have a considerable impact on the development of our revenue. And there is no reversal of the trend in sight. Short-term events should not lead us to question a long-term strategy. However, part of our planning process is the annual review of our long-term strategy in terms of the development of markets and technologies, and the analysis of our product portfolio.

How would you outline the overall strategy?

**Prof. Dr. Junker:** To maintain our competitiveness, we base our actions on three pillars: growth, innovation, and productivity. The long-term overall strategy comprises a large number of individual factors, which interact like the components of an engine. At present, growth is not a realistic target. We therefore need to focus all the more on innovation and productivity.

Global presence

One of these components is our global presence.

**Prof. Dr. Junker:** Yes, that's right. And, what's more, our international orientation increases our resilience in times of economic turbulence. An internationally balanced customer structure makes us less dependent on cyclical fluctuations in individual submarkets. However, what we're currently experiencing is a completely new phenomenon. All regional markets are in difficulty. Nevertheless, with our broad global positioning, we're still in a better situation than others.

How many development locations are there in the MAHLE Group?

**Prof. Dr. Junker:** We have 8 large research and development centers, which employ around 3,000 development engineers and technicians. These allow us to offer our customers more service and collaborate intensively on R&D projects at a local level with automobile and engine manufacturers.

Market leader

They're certainly also one of the reasons why MAHLE is the market leader in many areas.

**Prof. Dr. Junker:** Yes, internationally we're among the top three systems suppliers for piston systems, cylinder components, and valve train, air management, and liquid management systems. We are proud of the fact that almost all automobile and engine manufacturers worldwide are our customers. Every second vehicle contains components and systems produced by MAHLE. We have developed this position through organic growth and targeted acquisitions in our core businesses.

### Innovation strength

Just now you mentioned the eight research and development centers. This number impressively illustrates the strategic importance of R&D for the Group. Does it all come down to the statement “Innovation has a long tradition at MAHLE”?

**Prof. Dr. Junker:** A look at the Company's history shows that you're right about this statement. MAHLE has been driving innovations for almost 90 years. Today, we work in a worldwide research and development network on solutions that will make the automotive powertrain of the future even more environmentally sustainable and economically efficient.

### Quality

Delivering top quality consistently is one of the decisive factors for an automotive supplier. How does MAHLE guarantee this?

**Prof. Dr. Junker:** Our quality management system is certified in accordance with ISO/TS 16949, which provides Group-wide standards, and ensures a consistently high level of quality throughout the process chain. Quality is also very important for us in the choice of suppliers and in acquisitions. As you say, supplying high-quality, precise, and reliable products is a basic prerequisite in our industry.

### Systems competence

What other factors are incorporated into the overall strategy?

**Prof. Dr. Junker:** Our systems competence is also very important. We are continuously expanding our role as a global development partner to automobile and engine manufacturers. This puts us in a position to offer integrated solutions for the combustion engine and engine peripherals—right up to the development of complete engines.

### Manpower

“Driven by performance”. How is this principle demonstrated within the Company?

**Prof. Dr. Junker:** Every day, around 49,000 employees work to ensure that we improve our performance. With networked inter-departmental knowledge management, employees at all locations are able to access MAHLE's product and process know-how.

### Cost efficiency

Let's link this back to the beginning of the interview. In times of economic strain, cost efficiency is one of the primary competitive factors.

**Prof. Dr. Junker:** That's right! Our goal is therefore to keep our costs at an internationally competitive level by means of productivity increases, goal-oriented purchasing processes, and prompt restructuring measures. As part of our efforts to achieve this goal, all functions, structures, and planned investments will be subject to negotiation in 2009. Everything has to go on the test bench and 2009 will certainly be a year of testing—this also applies to our long-term business strategy.

## CORPORATE CITIZENSHIP //

// Hermann and Dr. Ernst Mahle realized the importance of taking on social responsibility as successful entrepreneurs. MAHLE still follows their principles to this day. Together with its employees, the Group undertakes numerous social and cultural projects.

For MAHLE, showing corporate responsibility does not mean simply pursuing a successful strategy and managing the Company with a focus on goals and results. It is more about giving all our actions a higher meaning. Wherever possible, the Group and its employees help to support charitable projects or people in need. By doing this, MAHLE is following the idea of the Company's founders and making a commitment to its environment at all locations. This is what being a truly good neighbor means.

### **Bringing sustainability—shaping the future: the MAHLE Foundation**

Entrepreneurial personalities like Hermann and Dr. Ernst Mahle blended corporate success with social responsibility—public welfare came before personal gain! In 1964, the MAHLE founders transferred their personal ownership of the Company to the non-profit MAHLE Foundation, which has held almost all the Company's shares in trust since that time. Following the example of the two Mahle brothers and supported by people who embrace this idea, the MAHLE Foundation takes on social and cultural responsibility in many areas of our society. It promotes health care, works for youth development and welfare, is committed to schooling as well as general adult and vocational education, and supports biodynamic farming. Its motto is "Give today for a better tomorrow." After all, supporting innovative projects in a sustainable manner not only provides benefits in the present, but gives generations to come a future worth living.

One of the key sponsorship projects is the Filderklinik in Filderstadt-Bonlanden near Stuttgart, Germany. The MAHLE Foundation has supported the hospital since it was founded and uses a significant portion of the dividends paid annually by MAHLE for its expansion and modernization. Today, the Filderklinik is a modern competence center for acute and holistic medicine, known throughout the region and well beyond. Science-based university medicine is supplemented and complemented by a broad range of anthroposophically-oriented therapies. What makes the clinic on the Filder plateau unique is its individual, holistic approach and closeness to patients. In a period when the health system is undergoing enormous change, the Filderklinik aims to set a clear focus with its particular strengths and qualities, and continue to offer therapies that explicitly center on the whole person.

"Care—an attractive profession with a future": The MAHLE Foundation is also committed to the Freie Krankenpflegeschule an der Filderklinik (an independent care school at the Filderklinik) under this motto. Through the pilot project "Living care: general care training," the MAHLE Foundation is sponsoring a forward-looking training course geared toward the needs of a society with growing care requirements.

Another example of the commitment of the MAHLE Foundation is its financial support for "Theater Total." This project offers young people throughout Germany the unique chance to experience a broad range of creative professions for themselves, under the instruction of professional artists. The collaboration, which culminates in a nationwide tour, allows the young people to acquire key qualifications that are becoming increasingly important in our society and in working life.

*The Filderklinik in Filderstadt-Bonlanden, Germany: a modern acute care hospital with the latest technology and all major specialist departments, complemented by holistic anthroposophical anthropology. The MAHLE Foundation has supported the clinic since it was founded.*



Throughout the world, the MAHLE Foundation also works to safeguard the future of biodynamic farming. The focus is its sponsorship of innovative projects in the field of organic seed production. This involves, for example, developing seeds that provide stable yields without the use of chemical fertilizers. In contrast to hybrid cultures, the open-pollinated varieties can be reproduced for several years and developed individually. Previously, organic farmers were forced to use varieties that were originally intended for conventional crop cultivation.

What does "Donating to a good cause" mean in a globalized world? The MAHLE Foundation is faced internationally with new tasks as it seeks to achieve its goals. Its main sponsorship focus abroad is Brazil. With extensive medical projects, it hopes to contribute to a system of health care that centers on the patient. The aim is to introduce anthroposophical therapies into the state health system in order to make the quality of this holistic medicine available to all classes of the population. Since 2008, MAHLE has been involved in the "Projeto Santa Casa." The Group and the Foundation provide financial support for the reform project run by the Santa Casa de Misericórdia Hospital in Itajubá. MAHLE employees play a part in the on-site work as volunteers.

At the Krotoszyn location in Poland, the MAHLE Foundation supports socially disadvantaged children and young people, as well as those with addictions or disabilities. In order to help people make fresh starts as active members of society, it also sponsors two associations that assume this task voluntarily and with the highest level of commitment.

**Methodical, sustainable, and spontaneous**

The Group and its employees also support charitable initiatives directly, as well as through dividends to the MAHLE Foundation. Many of the Group's direct projects have been running for several years, including the blood donation activities in Thailand and India, as well as the "United Way" initiative for socially disadvantaged or seriously ill people in the U.S. state of Tennessee. However, new projects are also added every year. In 2008, for example, MAHLE's head office came up with the idea of producing its own Christmas cards and selling them to the Group companies for their Christmas mail. The proceeds went to SOS-Kinderdorf e.V. At our new Tamilnadu location in India, we help to improve the quality of schooling in ten communities in the Kancheepuram district by providing the financing for additional teachers.

**One of the best companies regarding Corporate Citizenship**

When we opened our new research and development center in the Brazilian city of Jundiaí near São Paulo in 2008, it was clear to us that the MAHLE Formare school project in Brazil would also continue at this new MAHLE location. By the end of 2008, volunteers from among our employees had already trained 20 young people for their subsequent working life. Since this initiative was founded, more than 600 young people have received schooling at various locations in Brazil. 80 percent of them have subsequently found employment. As a result of this and other activities, MAHLE was named one of the 100 Best Corporate Citizens in Brazil.

In 2008, MAHLE sent donations to support the earthquake victims in China spontaneously and at short notice. At the Stuttgart location, a tissue-typing campaign was also started to allow an employee who was seriously ill with leukemia and other patients to obtain all the help they needed. Employees at all levels, works councils, and the Management Committee got involved quickly and effectively; acting reliably, courageously, and unbureaucratically, especially when others require urgent help. This is what our employees and managers stand for, following the ideas and principles of the Company's founders.



*The Santa Casa de Misericórdia Hospital in Itajubá, Brazil. The MAHLE Group and Foundation support the project financially.*

*MAHLE employees also provide voluntary assistance.*

## HUMAN RESOURCES //

// MAHLE's most important asset is its employees. Only with their commitment, knowledge, and creativity can we offer the innovative products and services that prove successful with our customers.

In 2008, the number of MAHLE employees increased; 49,262 people were employed at year-end.

### **Flexibility in a time of crisis**

While in some regions of the world the number of employees increased even further in the first half of 2008, primarily as a result of acquisitions, a considerable adjustment of staffing levels was needed throughout the year in North America because of the changed market situation. MAHLE responded flexibly to the incipient spread of the sales crisis in the automotive industry beyond North America to Europe, South America, and even Asia in the fourth quarter. In September 2008, a mandatory recruitment freeze was put in place worldwide. In addition, measures were introduced to decrease overtime and adjust the numbers of temporary employees and agency workers to the new needs. MAHLE responded to the changed conditions by taking advantage of existing possibilities for making working hours more flexible and using other country-specific instruments to adjust the staffing level. This shows that an adequate, resilient corporate culture can help a company to face challenges with confidence, even in difficult times. In 2009, we will accelerate the restructuring measures we had already planned, consolidate locations, and—wherever possible—fully exploit the options for increasing the flexibility of working hours.

### **Systematization, transparency, and uniform standards**

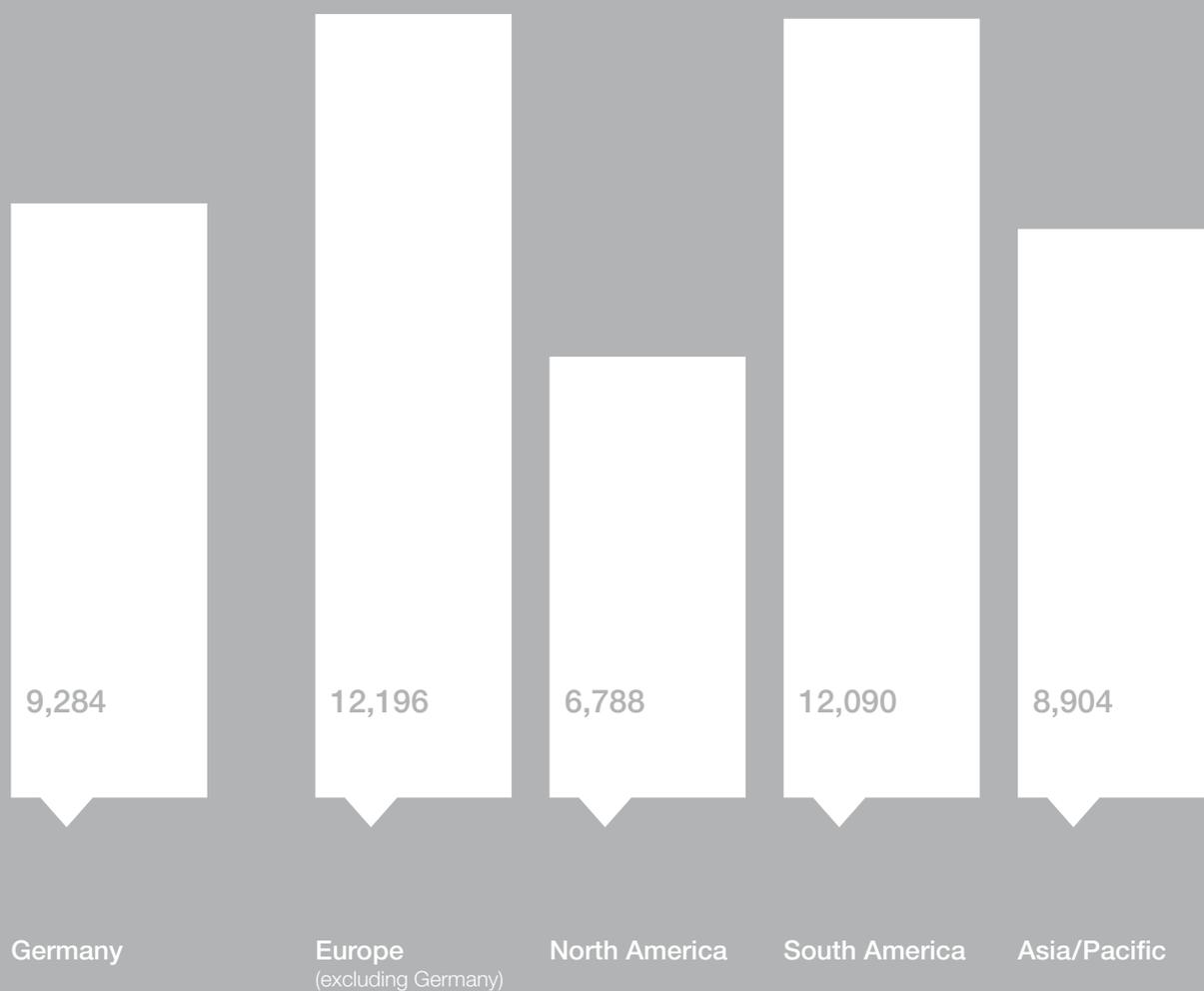
The dynamic growth of recent years, changing demands on employees and managers, and new organizational challenges called for new, uniform systems, instruments, and processes, including in the area of personnel management. In 2008, important steps were taken in all regions to carry out systematic job evaluations for management functions. The aim was to create comparability and transparency in the management structures of all organizational units. At the same time, this allowed us to ensure—via internal and external remuneration comparisons—that conditions for our managers and for newly recruited employees were in line with the market.

As part of the overall project to define our business processes, we were able to describe and document all processes in the Human Resources department. In addition, suitable key figures for management and continuous improvement of the processes were agreed with the regional personnel managers.

# 49,262

EMPLOYEES WORLDWIDE

as at Dec. 31, 2008



The introduction of uniform software modules in personnel management, information portals for managers, and the first e-recruiting measures shaped the standardization efforts and the integration work for locations newly incorporated into the Group network. Preparations to introduce a global talent management system were completed with the collection and preparation of data for the top executives. Using this system, the Group will, in the future, be able to obtain an overview of the potential and profiles of top performers and successor candidates, in order to guarantee forward-looking and targeted succession planning. The project group formed for the introduction and implementation comprises representatives of the IT and Human Resources departments of each region. They will work together to ensure that the system can be used worldwide for all levels of management in 2009. The project group is an example of the cooperation and partnership between the Group's regions in order to achieve the goals set out in the personnel strategy.

#### **Qualification and development**

Through task- and employee-oriented leadership, based on the competence model, we continuously promote the abilities, skills, and motivation of each individual.

The implementation of the integrated executive development concept developed in 2007 continued as planned. In September, the second group of our International Development Program (IDP) made a successful start. The program supports middle managers from all business units and regions in their further development and prepares them to take on additional tasks. At regional level, Management Development Programs (MDP) were initiated and run in China, North America, and Europe.

In spring, another program was started to allow top executives below the Management Committee level to obtain additional qualifications—the Executive Excellence Program (EEP). The EEP comprises several modules; its aim is to convey current management knowledge at the content level, transfer the corporate strategy to the individual functional divisions, and promote dialog with the Management Committee. The strengthening of the interpersonal network also plays an important role. In addition, MAHLE offers appropriate need-driven training in technical areas for all employee groups throughout the world. MAHLE increasingly uses innovative forms of learning in order to convey knowledge in a time- and cost-effective way without the need to organize face-to-face sessions. International cooperation in this area also plays an important role. Computer-assisted foreign language training was introduced in Asia and South America, following its successful implementation in Europe. Product-oriented learning for sales, developed as part of a trainee project, is being expanded further for worldwide use via the network. The MAHLE Skill Navigator is an up-to-date instrument that meets the demands of the modern world. In 2008, this tool allowed more than 40,000 short training sessions to be successfully completed via the computer in Germany alone.

#### **Dialog and organizational development**

For several years, the Management Committee has informed top executives about the strategic orientation of the Group as well as the Company's planning and current economic development at International Executive Meetings (IEM). With the CO<sub>2</sub> debate intensifying, an open dialog at this year's summer event focused on information about future developments in the automotive industry and the ongoing development of the MAHLE product portfolio. The winter event was characterized largely by the formulation and implementation of the measures needed to respond to the economic crisis. The proposals formulated jointly by the top executives were then partly incorporated into a necessary adjustment of our planning for 2009.

Within the framework of organizational development projects, MAHLE designs new processes and structures together with its employees. They, therefore, have an important role in the implementation of change processes. Through presentations and teambuilding events, Personnel Development makes an essential contribution to the formulation of an appropriate and meaningful response to the situation in each department or country. After all, the managers' and employees' commitment to the Company is what allows us to achieve business success.

#### **Training for a good start to working life**

In 2008, MAHLE once again provided part-time training and initial vocational training, giving young people worldwide the opportunity to enter the job market and obtain vocational qualifications. In Germany, more than 420 young people complete their initial vocational training with MAHLE. In Austria—in the state of Carinthia—MAHLE is the biggest training center. The number of apprentices rose slightly once again in comparison with the previous year. MAHLE thus makes an important sociopolitical contribution and fulfills its social responsibility as a company. Besides technical qualifications, MAHLE also places a high value on promoting social and methodological competence. Young people are also made aware of the difficulties faced by people with mental or physical disabilities through additional project work with these groups. This change of perspective broadens horizons and hones teamwork and social dialog skills. Regular training and conferences for our trainers guarantee that the training standard remains high and is expanded by new ideas and concepts.

### A focus on people

In order to motivate our employees and encourage a focus on performance, MAHLE follows clear guidelines and leadership principles. Our leadership model, the MAHLE Competence Model, and the associated instruments, such as the Annual Employee Dialog, safeguard our focus on tasks and goals. Our integrated approach toward our employees is demonstrated by the ongoing development of idea management to involve the employees in productivity improvements and cost savings, as well as health promotion through target group-specific programs for preventive health care.

### MAHLE day care center

In 2009, the opening of a MAHLE day care center for children of employees at the Stuttgart location will mark the start of a new chapter in MAHLE's history. This is part of MAHLE's response to current demographic development and will play a significant role in helping employees to reconcile family and work responsibilities. This measure will actively support employees in returning to work after maternity and parental leave. The day care center provides places for around 20 children aged between 6 months and 3 years and around 20 children between the ages of 3 and 6 years. The institution is financed by MAHLE, by public funding, as well as by contributions from the participating parents.

### Achieving more together

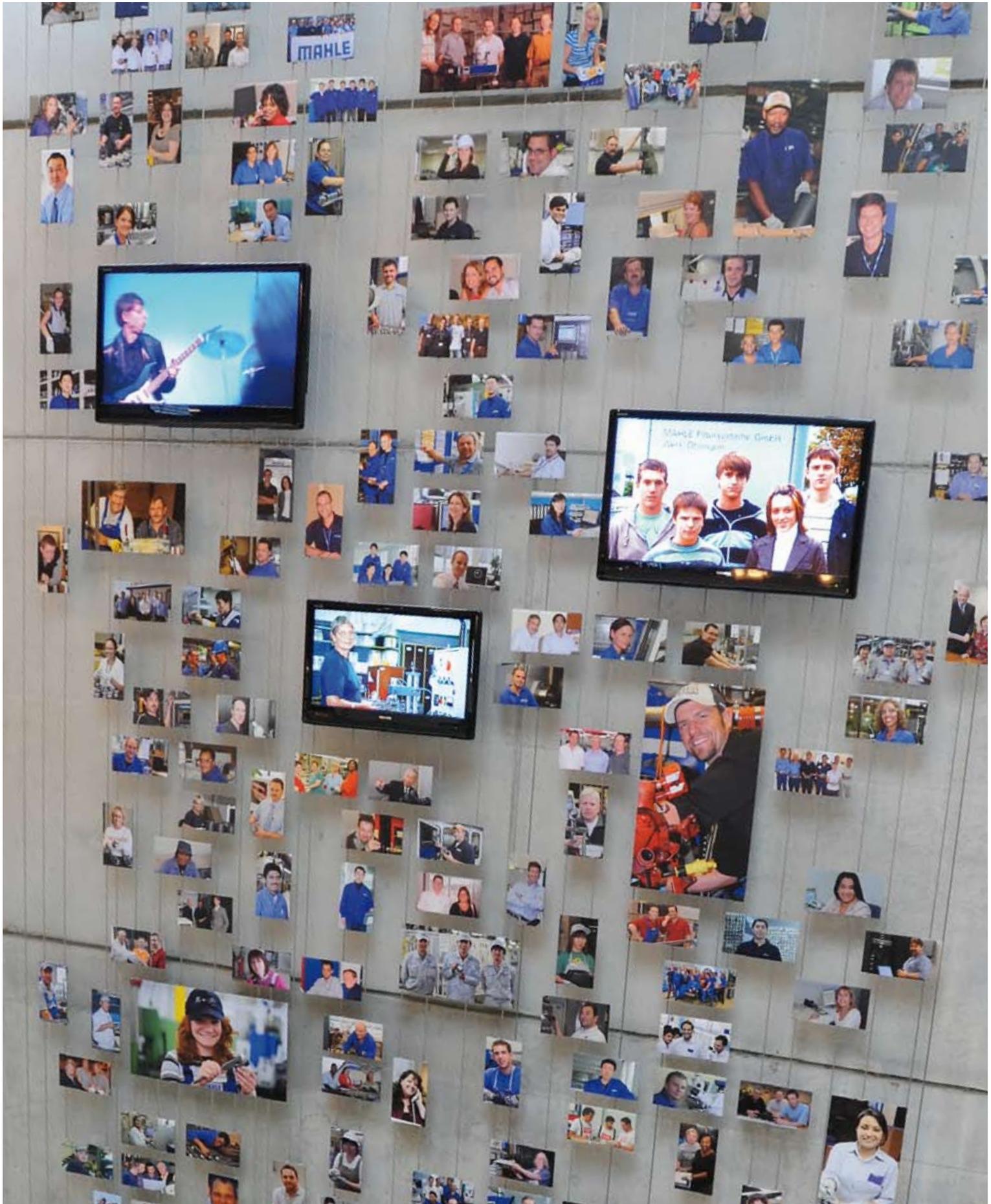
Our cooperation with the employee representation worldwide is characterized by fair and open dealings with the employee representatives and appropriate balancing of interests. Trusting cooperation is, to a large extent, brought about by fact-based communication and the willingness to promptly deliver up-to-date information and assessments regarding the economic situation.

Cooperation between teams in different countries, with the aim of shared corporate success and the helpful support shared among the functional divisions, are the best guarantee for positive development in the individual companies and the Group, and ensure that our market position will be safeguarded and expanded.

In 2009, all our employees will face extra challenges on account of the deteriorating economic situation. Fulfilling the difficult tasks that lie ahead of us will require energy, caution, and the courage and willingness to question our assumptions and break new ground. With the dedication to performance, the ideas, and the cooperative skills that have brought us success in the past, we are confident that we can overcome even this difficult period. In order to do this, we rely on the untiring commitment and spirited approach of each individual.

At this point, the Management Board would like to thank all employees, managers, and employee representatives for their commitment, their dedication, and the successes they have achieved.

*People at MAHLE: In MAHLE INSIDE, an impressive area is dedicated to the employees. A small selection of the more than 400 pictures displayed there.*



## QUALITY //

// All business processes at MAHLE are subject to strict quality management. Our goal as an organization is to become better and better—until we achieve zero-defect production.

The Japanese call it 'kuoriti', the Brazilians and Portuguese talk about 'qualidade', and in Italian, it's 'qualità'. At all MAHLE locations worldwide, the same is true when it comes to this topic: Quality has a high priority for all employees. The methods and manuals used for quality assurance have been translated into ten languages and are implemented at all locations, with appropriate employee training. After all, quality is not just a decisive competitive factor but, besides competitive costs and punctual delivery, the primary requirement of our customers in the globally networked automotive industry.

### Quality management for trusting partnership

While it is important for our partners that our quality management (QM) is certified in accordance with ISO/TS 16949, they place even more value on the assurance that the processes at MAHLE are efficient and keep getting better. After a successful restructuring of the Group organization in 2004, MAHLE has therefore started to expand its global quality standards from product and process development, procurement, and production to distribution.

### Group-wide quality strategy

The Group-wide quality strategy is largely characterized by systematic prevention as early as the product and process development phase, the performance of all necessary tests and implementation of corrective measures during production, and the continuous development of the processes and quality methods. Lessons learned and best practices are passed on and applied in a targeted way in each area of application.

### Quality manager team formulates global rules and processes

A globally networked quality manager team works on the ongoing development of the Group standards in the individual product lines, the profit centers, and the Purchasing, IT, Sales, and Personnel Management divisions. It determines potential improvements and formulates Group-wide rules and processes as well as implements them in the quality management system. It also drafts improvement projects in the context of the annual budget and is responsible for QM controlling.

### Learning from mistakes together

The quality approach with a commitment to continuous improvement defines all business processes—from Purchasing, Personnel Management, and Sales to Production and risk management. The locations work together via an intranet platform to formulate detailed standard procedures for all processes. They are described in standardized flow charts and can be accessed by all employees. In the past business year, MAHLE further expanded this important element in the global QM strategy. The individual

product lines are now represented in separate areas on the platform. It also acts as an effective tool for consolidating lessons learned. The requirements for the various processes are thus optimized continuously. In order to make even more effective use of the experience gathered to prevent defects in new products and processes, MAHLE made it accessible throughout the Group via a database in 2008.

### Integration processes ensure Group-wide QM standard

The globally applicable standards for business and quality processes also have a very positive impact on the integration of new locations. The members of the QM team establish detailed integration plans together with the local management.

### Continuous improvement

MAHLE pursues a zero-defect policy in order to consistently improve the product quality both internally and for customers. Our suppliers are also involved in the process of continuous improvement. In this process, quality management means doing one thing without neglecting the other; kuoriti, qualidade or qualità. Ultimately, our employees' quality awareness is evident in our products.

*Test laboratory for engine components in the new R&D center in Jundiaí near São Paulo, Brazil.*



## TOYOTA PRESENTS MAHLE WITH “GLOBAL CONTRIBUTION AWARD” //

// ON FEBRUARY 29, 2008, MAHLE RECEIVED THE “GLOBAL CONTRIBUTION AWARD” AT THE 2008 TOYOTA GLOBAL SUPPLIERS CONVENTION IN THE CONGRESS CENTER IN NAGOYA, JAPAN. ABOUT 800 REPRESENTATIVES OF 400 LOCAL AND GLOBAL SUPPLIERS WERE INVITED.

TOYOTA HAD ALREADY PRESENTED MAHLE WITH THE “EXCELLENT QUALITY AWARD” FOUR TIMES IN RECENT YEARS. IN THE PAST YEAR, THE “GLOBAL CONTRIBUTION AWARD” WENT TO STUTTGART FOR THE FIRST TIME. MAHLE WAS ONE OF THE THREE COMPANIES, AND THE ONLY NON-JAPANESE, TO RECEIVE THE AWARD. TOYOTA GIVES THIS AWARD TO PARTNER COMPANIES THAT HAVE CONTRIBUTED TO TOYOTA'S BUSINESS SUCCESS IN THREE OR MORE REGIONS OF THE WORLD WITH HIGH-QUALITY AND INNOVATIVE PRODUCTS. MAHLE WAS NOMINATED BY THE REGIONAL TOYOTA CENTERS IN THE USA, EUROPE, AND AUSTRALIA.



## ENVIRONMENT //

// MAHLE stands for innovative technologies that reduce fuel consumption and emissions. The principle of sustainability has a decisive influence on all processes within the Group. The highest standards are applied throughout the world in the areas of environmental protection, safety at work, and health care.

MAHLE's proactive environmental management has minimized potential health and environmental risks in the past ten years and allowed us to achieve significant savings. So we can be sure that MAHLE is on the right track to shape its future. The biggest contribution to protecting the environment is made by the MAHLE products. The innovative MAHLE technologies, which reduce fuel consumption and emissions, have a permanent positive impact on the environmental balance in millions of vehicles worldwide. In addition, MAHLE has optimized its production processes at many locations worldwide with a view to sustainable environmental protection.

### **Connection of St. Michael plant to natural gas supply**

The Austrian location St. Michael ob Bleiburg has been connected to the natural gas supply network since May 2008. In order for the plant to obtain its energy from natural gas rather than propane, a five-kilometer supply line was laid. By the end of the past year, MAHLE had converted the installations, which ran on fuel oil, to natural gas. This produced a saving amounting to 37 percent of the annual energy costs. The fact that there is no longer any need for refueling or storage of 49 tons of liquefied petroleum gas reduces the site's environmental risk considerably.

*MAHLE Componentes de Motores do Brasil in Itajubá, Brazil: Water-saving and waste-separation measures were successfully implemented.*



### Heat recovery allows heating energy to be saved in Grenchen

The administrative wing of the new plant in Grenchen, Switzerland was fitted with underfloor heating that uses the waste heat from the powder metal facilities. In 2007, around 24,500 liters of fuel oil were saved in comparison with conventional oil burning installations.

### MAHLE in Brazil saves a billion liters of water

Since 2005, MAHLE in Brazil has saved a billion liters of fresh water. This success was achieved by various investments, the preparation of water from industrial processes, employee training, and general promotion of environmental awareness. In addition, USD 174,000 was also invested in water-oil separators. This has decreased the quantity of waste water by a further five million liters per year.

### Environmental protection measures in China reach 100 percent

Environmental problems in China are often reported in the media. Smog in the large cities and water pollution are the main problems. MAHLE operates worldwide according to uniform environmental standards derived from the European legislation. In China, MAHLE consistently implements these standards in waste water treatment plants, waste recycling, hazardous substance management, and energy saving programs.

At the production plant for engine valves in Macheng, a new waste disposal site with an impermeable floor and downstream waste water treatment was constructed. Waste water from production at the Nanjing location is also purified using state-of-the-art technology. Ongoing development of environmental awareness was also on the agenda at the filter production location in Shanghai. At this plant, MAHLE introduced an extensive waste separation system, implemented 100 percent by the employees. This means that all recycling material is now sorted by type.

### REACH: anticipate early, respond quickly

Regulation (EC) No. 1907/2006 of the European Parliament and of the Council of December 18, 2006, concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) came into force on June 1, 2007. REACH imposes an obligation, particularly on manufacturers and importers, to register chemicals. As MAHLE had already made detailed plans in advance for its implementation, the Company was well-prepared for the change in legislation. Together with its suppliers, MAHLE is ensuring that all affected raw materials are gradually preregistered or registered.

### Producing first-class products using sustainable, environmentally-friendly methods

In terms of environmental protection, "Driven by performance" means: achieving excellence in all areas in accordance with the principles of sustainable business. Each individual MAHLE employee is committed to this aim. This is also evident in the fact that numerous new ideas for environmental protection are regularly developed in all countries with MAHLE production plants. What is tried and tested in practice is immediately embraced by other plants. This networking strengthens the environmental awareness within the Group considerably. Together, the MAHLE employees work toward the goal of manufacturing perfect products in harmony with the environment.

*MAHLE Metal Leve in Mogi Guaçu, Brazil: one of the Brazilian MAHLE plants where extensive water-saving programs were realized.*



## RESEARCH & DEVELOPMENT //

// A priority for MAHLE's research and advanced engineering is reducing the CO<sub>2</sub> emissions of the combustion engine to less than 100 grams per kilometer.

Over the course of its development history, the combustion engine, in its many varied forms, has already reached an outstanding level of cost efficiency and reliability. With regard to energy consumption and CO<sub>2</sub> emissions resulting from the combustion of fossil fuels, however, there is still a great potential for savings. Current estimates are over 40 percent relative to today's levels, using a combination of electrical hybrid components and sufficient incorporation of alternative fuels of the second and third generation. For passenger car applications, this means that in the medium term, across the range of vehicles, an average emission level of less than 100 grams of CO<sub>2</sub> per kilometer is conceivable. With this premise, the advanced combustion engine of the future is at the same level as a pure electric powertrain, without the disadvantages of significantly higher costs and insufficient range. It will therefore remain the dominant power source for land-based mobility in the future.

A priority for MAHLE's research and advanced engineering is establishing the conditions for technical implementation. The principal topics are:

- Reduction of frictional power losses
- Controlled drives for ancillary units
- Downsizing, supported by exhaust gas turbocharging
- Variable charge exchange control
- Use of alternative fuels
- Lightweight design
- Mechatronics
- Intelligent concepts for emissions reduction in accordance with future legal regulations

*Exhaust gas recirculation //*  
 MAHLE air impulse valve for increased exhaust gas recirculation rates and reduced NO<sub>x</sub> emissions.



## ADVANCED ENGINEERING

### Exhaust gas recirculation

MAHLE's advanced engineering has developed fast-acting valves that allow an effective, throttle-free increase in the exhaust gas recirculation rate, in order to reduce, in particular,  $\text{NO}_x$  raw emissions of diesel engines. This highlights a potential solution for meeting future diesel exhaust gas regulations, as well as eliminating or significantly reducing the cost of complex SCR technology.

### Cylinder deactivation

At low and medium partial load levels, active cylinder deactivation provides a significant increase in efficiency. By shifting the load point into higher load ranges, throttle losses are reduced in the active cylinders. Together with reduced friction from the deactivated cylinders, this can contribute toward a significant reduction in fuel consumption. MAHLE cylinder deactivation is an advanced technology, because it can be implemented in combination with roller actuation in the valve train system with optimal friction.

### Friction power loss test cell

A new friction power loss test cell for engine testing in corporate research and advanced engineering allows the measurement of frictional losses in the engine across the entire operating map. Every engine component that relates to frictional loss can be tested under real engine operating conditions and targeted for optimization.

### Rapid oil consumption measurement

Based on mass spectroscopy, the newly developed rapid oil measurement system at MAHLE allows the oil consumption behavior across the entire operating map to be determined in real time, even in dynamic operating cycles, by analyzing the oil components in the exhaust gas. Critical engine operating conditions are found quickly and appropriate design measures can be effectively implemented.



*Cylinder deactivation //  
Cylinder deactivation to increase efficiency and  
decrease friction losses.*



MAHLE Powertrain //  
MAHLE downsizing engine equipped with  
leading-edge technological components from  
MAHLE. Offers potential saving of up to 30  
percent in fuel consumption and emissions.

### Systems development at MAHLE Powertrain

The development of thermodynamics (direct injection, turbocharging, variable valve timing) and engine mechanics continues with the 1.2 liter downsizing engine presented by MAHLE at the IAA 2007. The initial results of optimization in the partial load range show enormous potential: Fuel consumption and CO<sub>2</sub> emissions can be reduced by more than 30 percent, compared with a 2.4 liter naturally aspirated engine of equal performance.

The use of alternative fuels is another way to permanently reduce CO<sub>2</sub> emissions. Tests in this area are being performed on a 4-cylinder test engine and a special 1-cylinder research engine. As a special feature, the latter engine offers optical access to the combustion chamber so that changes in the mixture and combustion processes can be observed and analyzed very precisely for alternative fuels.

### SERIES PRODUCTION DEVELOPMENT FOR COMPONENTS AND SYSTEMS

#### Pistons

In gasoline passenger car engines, the combination of exhaust gas turbocharging and direct injection allows specific engine performance that, until a few years ago, was achievable only in high-performance systems and racing engines.

The highly heat-resistant aluminum-silicon piston alloys developed at MAHLE, combined with the EvoTec® lightweight concept, can meet the new requirements with significantly increased specific engine performance. This generation of pistons has become the international standard for lightweight and highly stress-resistant pistons.

The newly developed ADC (Advanced Diesel Casting) process allows targeted adjustment of the microstructure in specific zones of the aluminum piston during casting. This can significantly increase resistance to temperature fluctuation loads and thus increase the component service life. Further increases in power and reductions in fuel consumption and emissions are being tested for highly stressed commercial vehicle engines with the MonoXcomp® next-generation piston. This concept of a multi-part steel piston combines excellent cooling with extremely high stress resistance at an attractive price.

For large engines, the MONOBOLT® piston provides a future-oriented design for series production. Similarly to the MonoXcomp® piston, the crown and skirt are connected by a short anti-fatigue bolt formed on the piston crown. Using this concept, the steel crown can be combined with either an aluminum or a nodular cast iron or steel skirt.

#### Piston rings

In order to further improve the wear behavior of chrome-plated compression rings, a modified running surface coating with embedded nanoparticles is being tested. Using MSC280 plasma coating, wear resistance is significantly improved in gasoline engine applications. Targeted axial shaping of the piston ring allows improved control of oil consumption because the twisting deformation remains constant around the entire circumference of the ring. Improvements in frictional losses of oil rings in gasoline engines are achieved with new, axially short, two-part oil control rings with reduced tangential load, and by reducing the spread of tangential loads.

*Pistons //*  
*New generation of pistons for highly stressed commercial*  
*vehicle engines: the MAHLE MonoXcomp® piston.*



### Bearings

MAHLE has developed completely lead-free bearings with aluminum-tin overlay systems, both as sputter bearings and as HVOF (High Velocity Oxygen Fuel) coated designs, for passenger car and commercial vehicle engine applications. In order to reduce bearing friction, the use of specifically adapted polymer-based overlays is under development. Thrust washers with profiling to improve stress resistance have already been developed.

### Cylinder liners

An optimized, high-strength, low-cost perlitic gray cast iron has been developed for series production of highly stressed cylinder liners. The anti-polishing ring, made of sheet metal, provides a technically advantageous and low-cost solution for preventing cylinder polishing and seizing. This anti-polishing ring patented by MAHLE, unlike previous cast rings, does not have a negative effect on the strength of the cylinder liner.

The processes for manufacturing aluminum rough cast liners are under continuous further development. They serve to reduce weight in passenger car engines with aluminum crankcases. Until now, their cylinder liners have been almost exclusively made of cast iron. The ALBOND® cylinder liner—a compound of several aluminum rough cast liners—allows closer cylinder spacing, and therefore significantly reduced total engine weight.

### Piston pins

During 2008, several newly launched engines went into series production with DLC-coated (Diamond-Like Carbon) piston pins. The main advantage of the new coating technology is friction reduction, and thus a reduction in fuel consumption.

### Connecting rods

A new connecting rod concept is available for gasoline engine applications. The crackable forged connecting rod, made of a high-strength, micro-alloyed steel and designed to optimize weight and strength, provides significant advantages in frictional loss. The pin bore is designed without a bushing, using an appropriate bore geometry, and is forged with a stepped geometry. This provides the best possible reduction in the oscillating mass when combined as a system with the piston, and thus achieves improved engine dynamics and further friction optimization.

### CamInCam® camshaft

Independent camshaft phase adjustment is now a prerequisite in order to meet the demands on modern engines with regard to fuel consumption and emissions. The MAHLE CamInCam® principle combines the advantages of two camshafts in the space of one, with two concentrically arranged camshafts. With this system, positive effects due to independent phase adjustment of the valve lift curves can be obtained for all types of engines with increased dynamic response, reduced fuel consumption, and lower emissions. Typically, a fuel consumption reduction of three to five percent is possible, while power and torque can be increased by more than ten percent. In addition, NO<sub>x</sub> emission can be significantly reduced.

### Valves

Due to rising demands on valve materials in the areas of high temperature resistance and corrosion resistance, at a lower cost, low- to medium-alloy valve materials have been developed. With nearly the same performance, they have a significant potential for cost savings, and were released for series production application at the end of 2008.

### Complete air management systems

Under cold-starting conditions, the use of switchable charge air channels, using charge air bypass valves and newly developed actuators, leads to emissions reductions of carbon monoxide and hydrocarbons, by bypassing the charge air cooler for turbocharged engines.

By substituting plastic for aluminum in cylinder head covers and charge air manifolds for turbocharged engines, weight savings of up to 50 percent are achievable for these components. MAHLE has developed new, specialized manufacturing processes for additional weight reductions. Foaming the plastic in the center of the wall can achieve additional weight savings of about ten percent in air filter housings or cylinder head covers.

Oil separation systems integrated in the blow-by line have been developed to reduce oil consumption. Pressure-regulated oil mist separators, newly developed by MAHLE, further reduce oil consumption. The resulting increase in engine running stability also contributes to reductions in fuel consumption and CO<sub>2</sub>.

### Oil pumps

With controlled oil pumps, the need for driving power is lower, and engine wear in the start-up phase is reduced, due to the oil flow tailored to demand. A highly efficient swinging-vane oil pump has been developed for this purpose. This oil pump, with an inherently robust design and high efficiency, allows delivery of oil pressure and volume flow according to the demand at a given operating point. By using optimized cooler bypass or backflow check valves in actively controlled MAHLE oil filter modules, the total pressure loss can be reduced by over 80 percent.

The oil pump can therefore be designed with significantly reduced flow, achieving reductions in fuel consumption and CO<sub>2</sub> of up to three percent.

#### **Controlled coolant pumps**

The use of a controlled pump in the coolant circuit can also reduce fuel consumption and CO<sub>2</sub>. With the volume flow controlled according to demand, rapid heating and cooling of the engine can be influenced. MAHLE is currently developing new pump concepts for this application.

#### **BlueDrain® system—environmentally friendly, automatic, low-maintenance water disposal system for diesel fuel filters**

For modern diesel engine injection systems, in addition to highly efficient particle and water separation in the fuel filter, the automatic disposal of separated water is increasingly important. For diesel fuel with a high water content, MAHLE has developed the BlueDrain® system, which can be used either on the pressure or the suction side. It is an automatic water disposal system, with integrated water purification unit, that can be used regardless of driving conditions. The BlueDrain® system is available as a stand-alone component, and in complete MAHLE fuel filter modules.



*MAHLE BlueDrain® system //  
New environmentally friendly, automatic,  
low-maintenance water disposal system for  
diesel fuel filters: the MAHLE BlueDrain® system.*

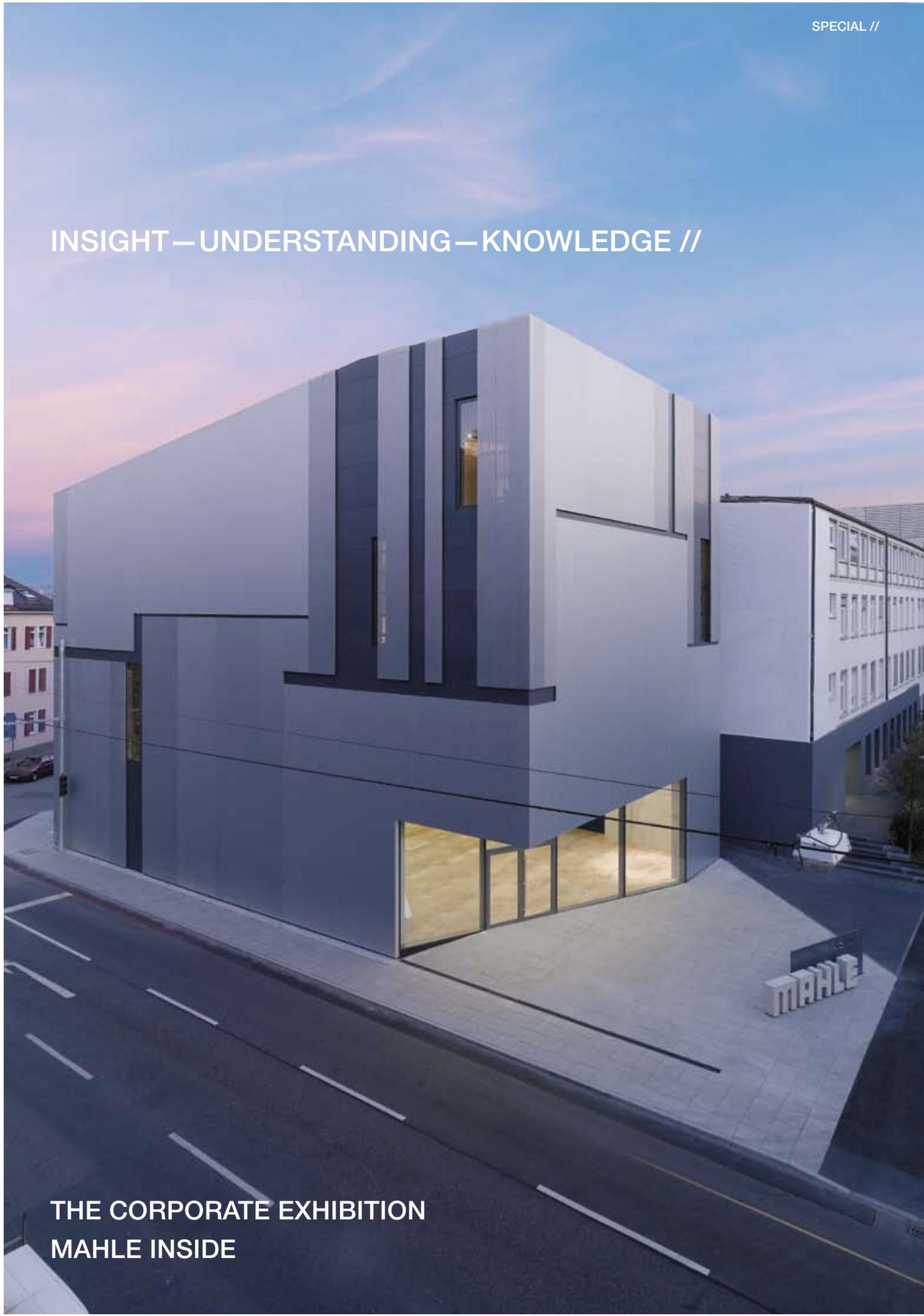
## REFERENCES //

// All automobile and engine manufacturers worldwide are customers of MAHLE.  
Here is an extract of our original equipment references:

Alfa Romeo	Ford	MAN B&W	Scania
Alpina	Ford Otosan	Maruti Suzuki	Scion
AMG	Freightliner	Maserati	SEAT
Ashok Leyland	Fuso	Maybach	SEMT
Aston Martin	Geely	Mazda	SGM
Audi	General Motors	McLaren	Sisu
Bentley	Great Wall	Mercedes-Benz	Škoda
BMW	Harley Davidson	Mercury	Smart
Brilliance	Hindustan Motors	Mini	SsangYong
Bugatti	Hino	Mitsubishi	Star
Buick	Holden	Mitsubishi Heavy Industries	Steyr
Cadillac	Honda	MTU	Stihl
Case	Hummer	MWM International	Subaru
Caterpillar	Husqvarna	Nanjing Fiat	Suzuki
Chaoyang	Hyundai	Neoplan	SWW
Chery	Infiniti	New Holland	Tata Motors
Chevrolet	International	Nissan	Tecumseh
Chrysler	Isuzu	Nissan Diesel	Tognum
Citroën	IVECO	Opel	Toyota
Cummins	Jaguar	Paccar	Triumph
Dacia	JCB	Perkins	Vauxhall
DAF	Jeep	Peugeot	VM Motori
Daihatsu	Jenbacher	Piaggio	Volkswagen
Dalian Diesel	JMC	Polaris	Volvo
Detroit Diesel	John Deere	Pontiac	Volvo Powertrain
Deutz	Kia	Porsche	Volvo Trucks
Dodge	Komatsu	Proton	Waukesha Engine
Dongfeng	Lamborghini	Qingling Motors	Weichai Power
Ducati	Lancia	Renault	Wuxi Diesel
Eicher Motors	Land Rover	Renault Trucks	Yamaha
Embraco	Lexus	Rolls Royce	Yangzhou Diesel
Escorts	Liebherr	Rotax	Yanmar
FAW-Volkswagen	Mack Trucks	Saab	Yulin Diesel
Ferrari	Mahindra & Mahindra	SAME	Yunnei
FIAT	MaK	Samsung	
Force Motors	MAN	Saturn	

INSIGHT — UNDERSTANDING — KNOWLEDGE //

THE CORPORATE EXHIBITION  
MAHLE INSIDE



## THE FASCINATION WITH ENGINES AND MOBILITY MADE TANGIBLE— THE MAHLE INSIDE CORPORATE EXHIBITION //

// MAHLE's passion and competence in engines and powertrains is presented in a new setting: On September 17, 2008, the new corporate exhibition MAHLE INSIDE was officially opened at the headquarters in Stuttgart, Germany.

The exhibition building covers around 1,000 square meters—and has an elaborate interior. MAHLE is presented on four levels, divided into seven themed areas: as an internationally leading systems supplier for the automobile and engine industry, as a global employer, as a socially committed company, and as a partner to motorsport. Hundreds of exhibits relating to the theme of engines and mobility exemplify the product diversity and systems competence of the Group.

What makes MAHLE INSIDE special is the experience it offers: The exhibition is based on a forward-looking concept, with fascinating exhibits, multimedia installations, and dynamic interior design. A 15-meter-high wall, covered with almost 400 photos of employees from all over the world, running from the first floor right up to the ceiling, is a real eyecatcher. Another highlight is the faithful reproduction of a Formula 1 racecar on the fourth floor. Visitors will also find innovative exhibit elements such as the body transmitter technology, the control panel for a virtual trip around the world, or an interactive magnifying glass.

The impressive design even convinced the independent expert panel of the German Award for 3-Dimensional Design (Deutscher Preis für 3-Dimensionalität). In this design competition, MAHLE INSIDE won the “Golden Flame 2008” (“Die goldene Flamme 2008”) in the category Theme World/Interior Design/Living Spaces.

## ACROSS ALL FLOORS

### MAHLE EMPLOYEES

MAHLE as a global employer – People at MAHLE: the driving force – Employees from different locations and divisions – Teams and individual personalities

#### Exhibition highlight

15-meter-high wall with almost 400 photos of employees from MAHLE locations all over the world

#### Innovative presentation techniques

Interactive magnifying glass:

Zoom in on employee photos and display additional information

Body transmitter technology:

Innovative transmission of audiovisual contributions to people at MAHLE

Digital photo album with interactive touchscreen:

Presentation of employees from different locations and divisions

### MAHLE HISTORY

The beginning – Developing into an international systems supplier – Milestones in the Company's history – Historical exhibits – Outlook for the future

### MAHLE MOTORSPORTS

MAHLE motorsports components – MAHLE as a partner to racing teams in Formula 1, Le Mans, or Formula Student – Historical and contemporary products from various motorsport series

#### Exhibition highlight

1:1 model of a Formula 1 racecar

### MAHLE COMPONENTS

Piston and cylinder components – Valve train components – Air management components – Liquid management components – Exhibits from the profit centers – Bosch Mahle Turbo Systems – Historical products

#### Exhibition highlight

Square floor openings create the optical link between components and systems.

### MAHLE SYSTEMS

Piston and cylinder systems – Valve train systems – Air management systems – Liquid management systems

### MAHLE FOUNDATION

Foundation by the Mahle brothers – Ownership structure – Focal areas of sponsorship and projects – Sphere of influence

### MAHLE WORLDWIDE

Product lines and products – Research and development centers – Regions and countries – MAHLE locations and companies

#### Innovative presentation technique

Interactive control panel: navigate on a virtual map of the world

4th Floor

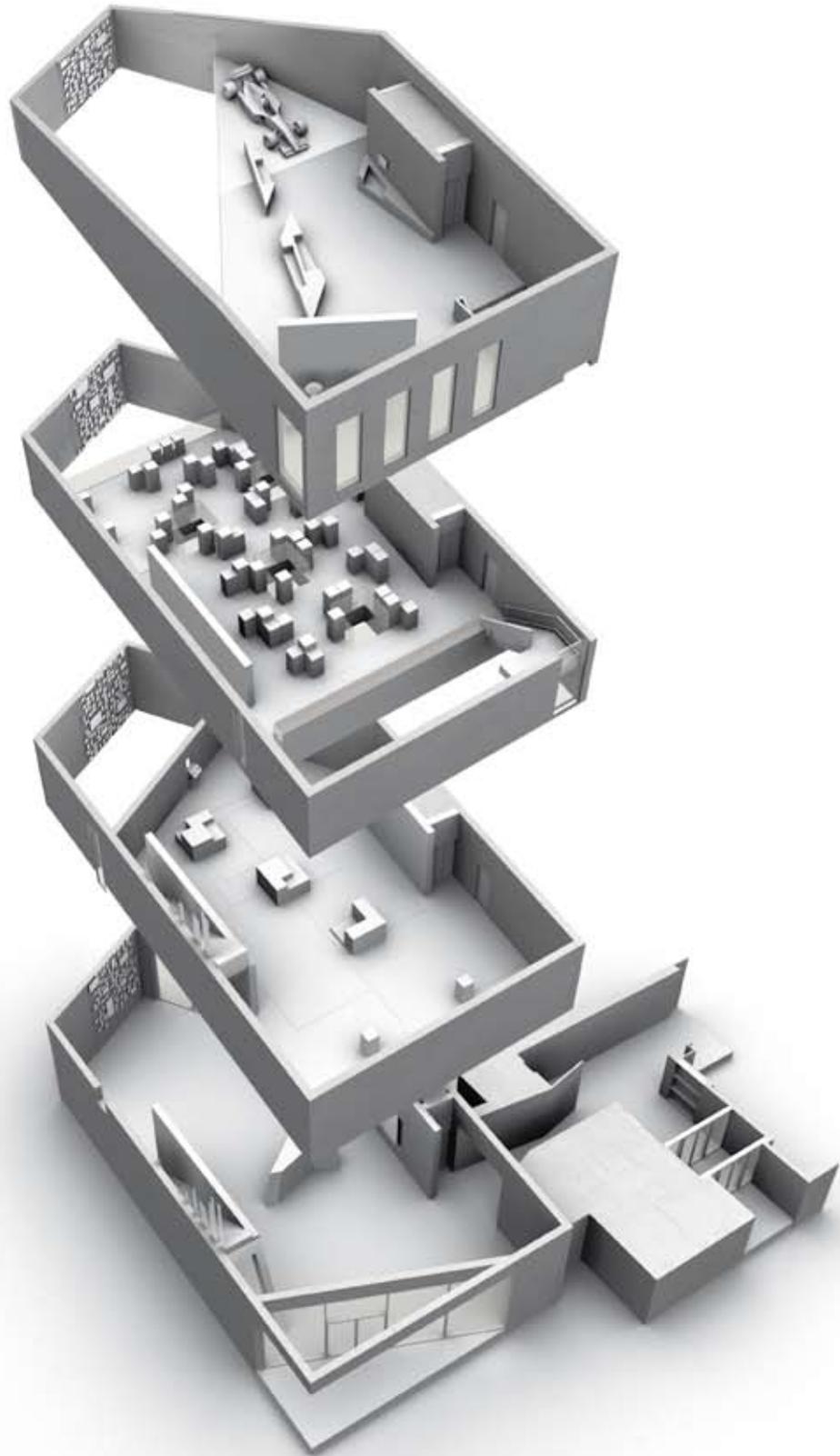
3rd Floor

2nd Floor

1st Floor

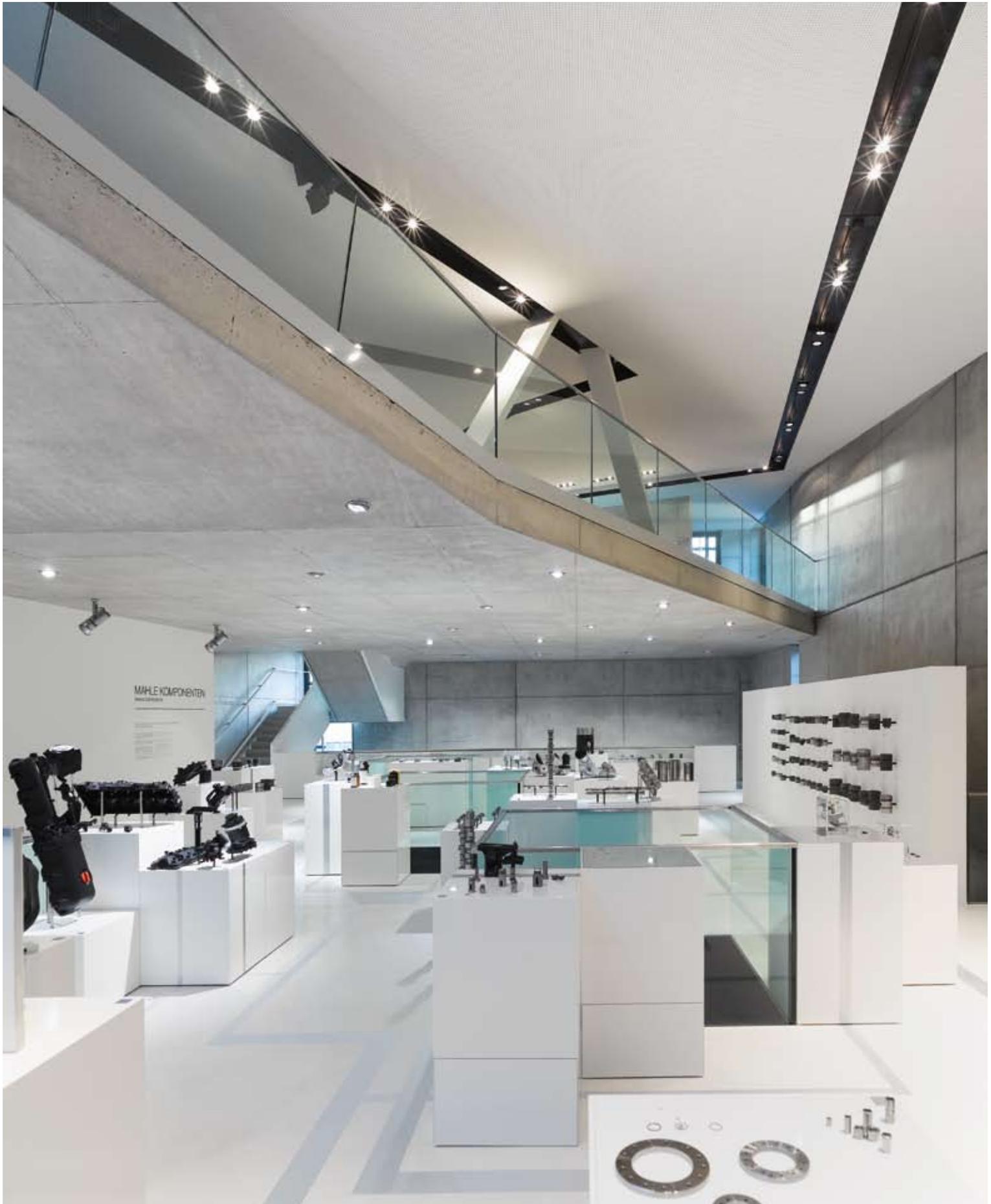


*MAHLE INSIDE makes MAHLE's integrated systems competence for engines and powertrains transparent. The new corporate exhibition conveys interesting insights and is also an ideal place for personal discussions: Prof. Dr. Heinz K. Junker, Chairman of the Management Board, with Bernd Hofmaier-Schäfer, Chairman of the Central Works Council of MAHLE Group Germany, at the official opening on September 17, 2008.*



The image shows a modern, brightly lit exhibition space. On the left, a long wall is covered with numerous small, cylindrical metal components, likely filters, arranged in rows. The ceiling features recessed lighting and a long, dark, curved light fixture. In the background, a large wall is covered with a dense grid of small photographs or images. A glass display case is visible in the center, and a person is partially visible in the distance. The floor is light-colored with a dark, curved path leading towards the background. A large, dark, arrow-shaped graphic is overlaid on the bottom right of the image, containing text.

The corporate exhibition MAHLE INSIDE is aimed primarily at MAHLE employees, customers, and parties with an interest in technology. It is not a public museum, but can certainly be visited by external groups on request.



# 02 //

## STATUS REPORT

// MAHLE IN FACTS AND FIGURES—THE BUSINESS DEVELOPMENT, RESULTS, AND DEVELOPMENT OF THE GROUP ARE DETAILED HERE. AT LEAST AS INTERESTING IS WHAT LIES BEHIND THE FINANCIAL DATA: A COMPREHENSIVE RANGE OF PRODUCTS, WHICH MAKES MAHLE ONE OF THE GLOBALLY LEADING SUPPLIERS OF SYSTEMS AND COMPONENTS FOR ENGINES AND POWERTRAINS.

The new corporate exhibition MAHLE INSIDE conveys a particularly vivid image of the innovative product portfolio. Around 300 exhibits are on display: piston and cylinder components, as well as components for liquid management, the valve train, and air management. Technologies from the profit centers and historical MAHLE products are also presented.

## GLOBAL ECONOMY IN RECESSION //

// The upturn in the global economy that had lasted several years ended in the second half of the 2008 business year with an unexpectedly abrupt transition to a recessive period.

In the last few months of the year under report, more and more national economies worldwide were affected by the significant cooling of the economic environment as a result of the American property and financial crisis. In response, many governments attempted to offer assistance to the banks, stop the economic decline, and revive the economy via concerted rescue operations.

The two faces of the 2008 business year were particularly pronounced in the automotive industry. In the first half of 2008, it benefited from the dynamic development of the global economic situation up to that point—except in the NAFTA region. The rapid decrease in order intake in the second half of the year caused the production for the whole year in most countries—and on a worldwide scale, with a figure of 66.2 million passenger cars and light commercial vehicles—to fall below the previous year's level. The few positive exceptions included the BRIC countries (Brazil, Russia, India, China), where production increased by 6.4 percent to 14 million units.

In Europe, the incipient weakening of the economic situation during the course of the year had a substantial impact. As a result 20.7 million passenger cars and light commercial vehicles were produced, 5.1 percent below the previous year's volume. Other causes of this development included the increased energy prices and the consumer uncertainty resulting from political events. While production in the new and expanded plants in Central and Eastern Europe rose by 6 percent to 6.2 million units, the figure fell by 9.2 percent to 14.4 million units in Western Europe. The plants in Russia, Turkey, and Poland made a particularly strong contribution to the increase in production in Central and Eastern Europe, with above-average growth rates. In contrast, production fell short of the previous year's figure in all the large Western European manufacturing countries, by a considerable margin in some cases. While Germany and Great Britain were only moderately affected, production in Sweden, Italy, and France decreased by a heavily disproportionate margin.

The financial and credit crisis had a particularly dramatic impact in North America. The reduced consumer confidence, the lending problems, the high fuel prices in the first half of the year, and the general economic weakness led to rapidly declining demand for passenger cars and light commercial vehicles in the NAFTA region.

With fewer than 13 million units produced, the figure fell short of the previous year by 16.2 percent. The unexpected and dramatic decline particularly affected the previously very popular sport utility vehicles and pickup trucks, bringing the total number of passenger cars and light commercial vehicles produced to the lowest level over the past ten years. In contrast, the trend toward smaller engines and vehicles with lower consumption intensified considerably. This change in consumer behavior primarily benefited the Asian passenger car suppliers, which are well-positioned in the various smaller vehicle classes.

It was not until the end of the year that growth in South America, and thus the production of passenger cars and light commercial vehicles, also came to a standstill as a result of the international turbulence. Nevertheless, as a result of the economic development in Brazil, where domestic demand was stable, production rose by 7.6 percent over the whole year to 2.9 million units. Besides Brazil, Argentina also made an important contribution to the positive development of the South American vehicle market.

Fewer and fewer Asian countries were able to avoid the effects of the worldwide economic turbulence in the course of the year. The production of passenger cars and light commercial vehicles in this region increased by only 1.7 percent to 27.4 million units. The automobile manufacturers in China were no longer able to achieve the double-digit growth rates of previous years, with production rising by 0.4 million to 7.4 million units. While the manufacturers in Japan maintained their production in comparison with the previous year, the plants in India and Indonesia were able to increase their production by 0.1 million and in Thailand by 0.2 million passenger cars and light commercial vehicles. In contrast, the production figures of the automotive industry in South Korea fell short of the previous year's level by 0.2 million units.

With a high order backlog until the middle of the year, the worldwide production of medium-weight and heavy commercial vehicles rose by 2.1 percent to 3.1 million units despite the considerable decline in order intake in the second half of 2008.

As a result of the positive economic development in Eastern Europe and the accompanying rise in transport requirements—particularly in Russia—the European commercial vehicle manufacturers increased their production by 8.1 percent. The German commercial vehicle manufacturers in particular expanded their production considerably with a rise of 9,233 units. Commercial vehicle production also increased by several thousand vehicles in France and Sweden.

In the NAFTA region, the weakening construction activity, the financial crisis, and the elevated energy prices resulted in an unexpectedly heavy decline in the production of medium-weight and heavy commercial vehicles. Instead of the forecast increase, commercial vehicle production fell by 17.3 percent in 2008 to 449,701 units. Medium-weight commercial vehicles were affected to a disproportionately high degree. In contrast, commercial vehicle production in South America—supported by the still stable domestic economy—exceeded the previous year's value by 15.7 percent.

Due to economic development remaining positive in the first three quarters, the production of medium-weight and heavy commercial vehicles in Asia was almost 4.3 percent above the previous year's value at 1,550,945 units. This increase occurred primarily in China, where commercial vehicle manufacturing rose by 7.8 percent to 863,191 units as a result of the country hosting the Olympic Games. While commercial vehicle production by manufacturers in India and Korea decreased by around 2 percent in comparison with the previous year, the volume produced in Japan grew by 4.3 percent to 198,997 units.

## WORLDWIDE AUTOMOBILE PRODUCTION //

Number in 1,000

Business year	2008	2008	2007	2007
	Passenger cars & light comm. vehicles	Commercial vehicles (incl. buses)	Passenger cars & light comm. vehicles	Commercial vehicles (incl. buses)
<b>America</b>	16,416	673	18,700	736
NAFTA	12,659	450	15,110	544
South America	3,757	223	3,590	193
<b>Asia/Pacific</b>	27,393	1,551	26,942	1,488
Japan	10,999	199	11,099	191
China	7,369	863	7,002	801
<b>Europe</b>	20,650	881	21,763	815
Germany	5,467	206	5,603	197
<b>Other countries</b>	1,720	4	1,733	5
<b>Total</b>	<b>66,179</b>	<b>3,109</b>	<b>69,138</b>	<b>3,044</b>

Source: CSM, March 2009

## TOTAL SALES OVERVIEW //

// In the past business year, despite the considerable deterioration of the economic conditions, the MAHLE Group was able to maintain its sales at roughly the previous year's level, at EUR 5,014 million.

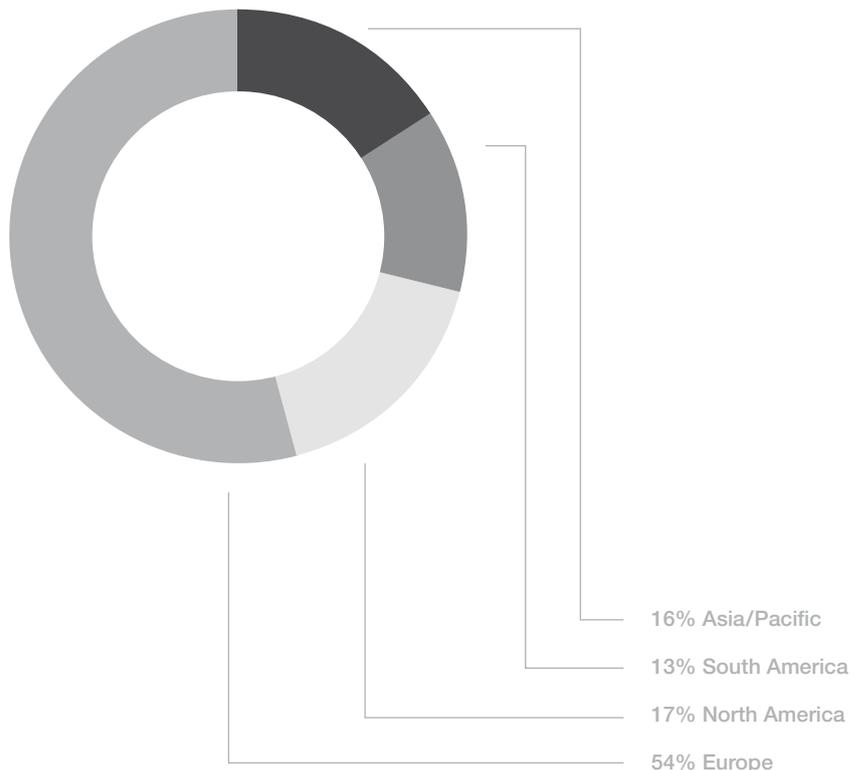
However, this was only possible because of the acquisitions made during the first half of the year, which offset the negative organic growth to a large extent. The reported sales include adverse exchange rate effects of EUR 141.1 million arising from the impact on operational business as well as from the conversion of sales generated and invoiced abroad into euro, the Group currency. The business development of the MAHLE Group thus exceeded the development of the market as a whole. The sales achieved in the individual regions are shown in the right-hand diagram.

Sales increases were achieved primarily in South America and the Asia/Pacific region, while corresponding decreases in sales were recorded in Europe and North America. As a result of regional developments, the sales trend in each region was as follows.

### Europe

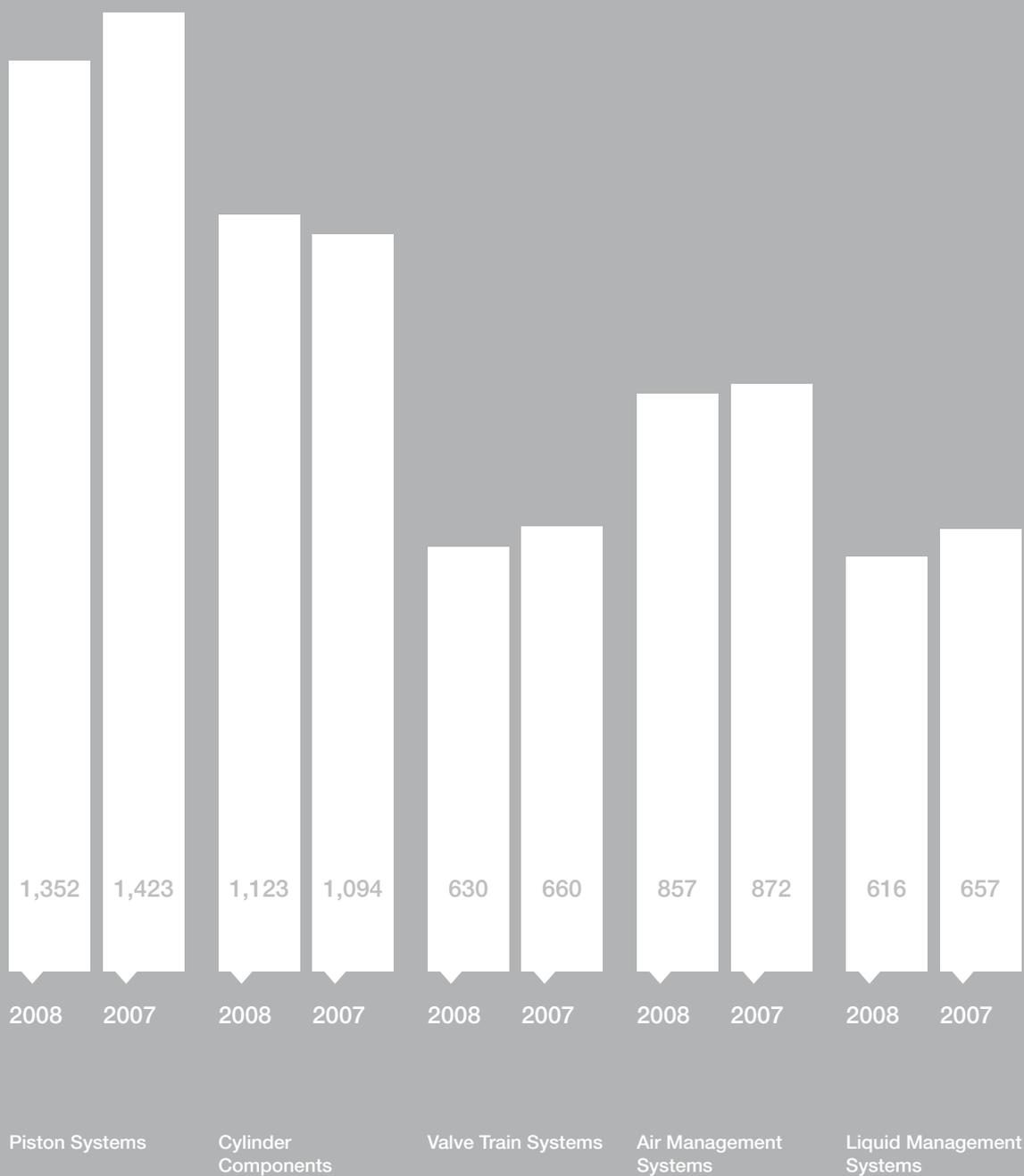
In Europe, the MAHLE Group achieved sales of EUR 2,696 million, which corresponds approximately to the previous year's value, despite the unit sales crisis in the second half of the year. This is primarily due to the positive development of the commercial vehicle activities in the product lines and the activities of the profit centers. The sales growth generated by the initially positive development of business in the individual product lines in the first two quarters was completely offset in the second half of the year by the heavy

### SALES BY REGIONS //



## DEVELOPMENT OF THE PRODUCT LINES // (including inter-company sales at product line level)

Consolidated sales at product line level in million EUR



deterioration in business. In the year under report, the Piston Systems and Valve Train Systems product lines in particular suffered considerable declines in comparison with the previous year. The sales losses recorded in the Piston Systems product line were due to the slightly decreasing market share of passenger car diesel engines in Europe, among others. In the Valve Train Systems product line, sales declined in the area of cylinder head and engine block machining in particular. In contrast, the Cylinder Components product line was able to generate increasing sales; this was partly due to full-year effects from acquisitions made in 2007.

This development was also made possible by the expansion of market shares in high-quality products for diesel engines in the first half of the year and strong business development in Italy and Slovakia throughout the year. Sales increases in comparison with the previous year were also achieved in the Liquid Management Systems product line despite the economic difficulties. One reason for this was the ramp-up of the activated carbon canister activities in Romania and the acquisition of ENTEC Systemtechnik GmbH, Germany. With the exception of the Small Engine Components profit center, whose sales declined slightly, all profit centers of the MAHLE Group increased their sales in comparison with the previous year. In the 2008 business year, the Aftermarket profit center exceeded the previous year's value by 8.6 percent. The acquisition of MAHLE Mopisan A.S. in Turkey and, once again, sustained growth in filter products activities in the Eastern European markets made a significant contribution to the increased sales. The Industrial Filtration profit center achieved breakthrough growth with a sales increase of 39.6 percent in comparison with the previous year. The majority of this was due to the first consolidation of the Dutch Amafiliter Group acquired on September 1, 2008. However, growth was also recorded in the established hydraulic, and automatic filter activities, as they were able to benefit from strong growth in the construction of plants, machinery, and units in the first half of the year.

### North America

In 2008, the development of business in North America was completely overshadowed by the American financial and credit crisis, which had an adverse impact on the MAHLE Group. In this region, sales fell by 7 percent from EUR 950 million to EUR 877 million. The considerable unit sales problems suffered by the American automobile manufacturers and the accompanying order cancellations and decline in demand led to a heavy slump in sales, particularly in the Piston Systems product line. As in Europe, the Cylinder Components product line was able to hold its ground against the weak general market development as a result of an acquisition, and achieve growth in sales. This acquisition includes the purchase of Clemex de México, a Mexican bearings manufacturer, which further expanded the MAHLE Group's strong market position in engine bearings. Similarly, in the Air Management Systems product line, the heavy decline in demand for vehicles was partially offset by the contributions to sales from the 2007 acquisition of the air management activities of Siemens VDO, which took full effect in the 2008 business year. The weaker domestic demand for oil and fuel filter modules for automobiles led to reduced sales in comparison with the previous year in the Liquid Management Systems product line. Positive effects from the first consolidation of the engine parts business of the Dana Corporation, acquired during the 2007 business year, led to a sales increase in the Aftermarket profit center. At the U.S. location of the Engineering Services profit center, the decline in orders in the automotive sector was partially offset by non-automotive orders.

### South America

In the course of the past business year, the plants in South America developed in line with the overall economic development in the Mercosur region but, in the fourth quarter, were adversely affected by the overall development of the global economy. The positive economic trend in the first three quarters was largely determined by the economic situation in Brazil. In South America, the MAHLE Group achieved sales growth of 10.1 percent in 2008, bringing sales to EUR 662 million. Substantial increases in sales were achieved mainly in the Cylinder Components product line whose growth was driven by the acquisition of a Brazilian manufacturer of forged parts, in particular forged connecting rods, during the year under report. In the middle of 2008, the existing minority share in MAHLE Hirschvogel Forjas S.A. was increased to

51 percent. Furthermore, the Air Management Systems product line was able to significantly increase its sales, whereas slight decreases in sales occurred in the Liquid Management Systems product line. The Aftermarket profit center, however, benefited from considerably stronger demand for spare parts in the commercial vehicles segment. However, due to the decline in demand from the USA, the exports from South America did not reach previous year's level.

### Asia/Pacific

As in the previous years, the Asia/Pacific region was a focal area for the growth of the MAHLE Group during the past business year. Despite the deterioration of the market environment during the course of the year, Group sales grew by 7.9 percent to EUR 778 million. The positive development of the Japanese and Chinese locations in particular led to the significant sales increases achieved by the Piston Systems and Valve Train Systems product lines. While the growth in the Piston Systems product line was generated almost exclusively by the Japanese location, the Chinese majority joint venture MAHLE Tri-Ring Valve Train (Hubei) Co., Ltd.—founded in the previous year—was largely responsible for the positive sales trend in the Valve Train Systems product line. As a conclusion, with the exception of the slightly negative development of sales reported by the Liquid Management Systems product line, all product lines and profit centers in the Asia/Pacific region were able to increase their sales in the past business year.

Combining the sales achieved by the MAHLE units in the regions by product line and profit center, sales developed as shown on the previous page.

## PISTON SYSTEMS PRODUCT LINE //

### Sales and operating profit

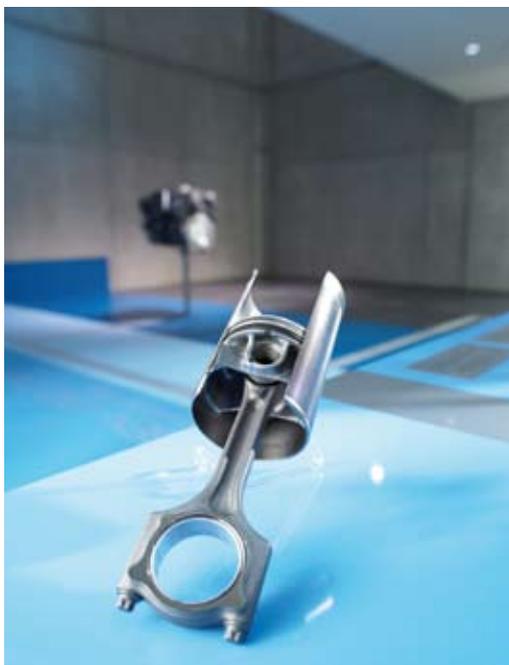
The sales of the Piston Systems product line in the 2008 business year fell considerably short of the previous year's level, at EUR 1,352 million. The development recorded by the vehicle manufacturers in Europe and North America put a heavy strain on the positive development of business seen in the first half of the year. In contrast, sales in Japan and China rose in comparison with the previous year. While sales in the commercial vehicle sector developed positively, sales in the passenger car and light commercial vehicle segment decreased. In the fourth quarter, declining sales development was recorded in all regions and segments.

While the operating profit developed satisfactorily in the first half of the year, significant revenue losses were suffered in the second half, in line with the lower demand. It was therefore not possible to achieve the successful profit level of the previous year. In all regions, price concessions to our customers and increases in personnel and energy costs put a strain on profits. Nevertheless, the profit achieved in South America exceeded the previous year's value.

### Capital expenditure and human resources

Capital expenditure on fixed assets amounted to EUR 122 million in 2008, which exceeded the previous year's level significantly. As in the previous year, the increase was essentially due to the high number of new customer projects. Capital expenditure in Europe focused on the expansion of the Polish piston plant and the expansion of piston production capacities at the Italian location. In Turkey, the majority of the joint ventures MAHLE Mopisan Izmir A.S. and MAHLE Mopisan Konya A.S. was acquired in January. North and South America invested primarily in the optimization of existing production plants. In contrast, in the Asia/Pacific region, particularly in China and Japan, measures to expand piston production capacities for commercial vehicles were pushed through.

As at the end of the year, the Piston Systems product line employed 13,153 people. This represented an increase of 612 in the headcount in comparison with the previous year. This rise was due to the first-time consolidation of the Indian joint venture company MAHLE India Pistons Ltd. and the new Turkish companies. Apart from this increase, all regions adjusted their headcount to the weaker order levels and reduced their staffing levels in the last quarter.



Power cell unit consisting of EvoTec® piston with piston rings and pin, cylinder liner, and connecting rod with bearings.

### DEVELOPMENT OF PRODUCT LINE PISTON SYSTEMS //

Business year	2008	2007
<b>Consolidated sales*</b>		
Product line	1,352	1,423
Share of Group sales	1,210	1,296
<b>Capital expenditure on fixed assets*</b>	122	78
<b>Production plants</b>	23	23
<b>Headcount (as at Dec. 31)</b>	13,153	12,541

\* million EUR

## CYLINDER COMPONENTS PRODUCT LINE //

### Sales and operating profit

Contrary to the trend in the sales market, the Cylinder Components product line was able to increase its sales by 2.7 percent in comparison with the previous year to EUR 1,123 million. This sales growth was largely driven by acquisitions, which more than compensated for the fact that, allowing for exchange rate effects, there was an organic sales decrease of four percent. The bearings and piston rings product groups recorded the highest growth in sales.

The integration of the engine parts business of the Dana Corporation, acquired in March 2007, involved extensive restructuring measures, which were carried out as planned but adversely affected profits. These measures included the closure of complete plants or parts of plants. The material costs for steel and alloy components also rose over the year as a whole; these increases were only partially passed on to the customers. All product groups in the product line were affected by these cost increases. The considerable decline in unit sales, which set in during the fourth quarter, also resulted in insufficient profit contributions, which were offset in the short term by capacity adjustments such as cutting back overtime and the use of flexitime accounts. In addition, almost all plants extended the shutdown period at the end of the year in response to the large number of plant closures by customers. Furthermore, most of the contracts with temporary employment agencies were not renewed. Despite these measures and ongoing productivity improvements, the adverse effects of increases in material prices and the decline in sales led to the overall profit level falling below the previous year's value.

### Capital expenditure and human resources

The restructuring of the newly acquired business units necessitated considerable investments, primarily to relocate parts of production in the bearings and piston rings product group to more cost-effective locations in North and South America, and to overhaul installations. In China, work continued on the construction of a facility for finishing connecting rods for the local market and for exports to the USA. Increasing order levels for cylinder liners in North America called for the modernization of the installations at a Mexican production plant. In addition, significant investments were made once again to rationalize the manufacturing equipment.

As a result of acquisitions, the staffing level rose to 15,108 employees in the business year. Due to the decline in unit sales in the fourth quarter, the staffing level at the existing locations, which had risen during the course of the year, was reduced to below the level recorded at the end of 2007.

### DEVELOPMENT OF PRODUCT LINE CYLINDER COMPONENTS //

Business year	2008	2007
<b>Consolidated sales*</b>		
Product line	1,123	1,094
Share of Group sales	766	752
<b>Capital expenditure on fixed assets*</b>	104	69
<b>Production plants</b>	37	37
<b>Headcount (as at Dec. 31)</b>	15,108	14,412

\* million EUR



ALBOND® cylinder liner compound with minimal land widths between cylinders; piston pin with DLC coating; weight-optimized forged cracked conrod with small, stepped pin end bore and manganese-phosphate coating; piston rings.

## VALVE TRAIN SYSTEMS PRODUCT LINE //



*Cylinder head (3-cylinder, direct injection) with CamInCam® exhaust camshaft for variable valve control, water-cooled exhaust manifold, exhaust turbocharger, and exhaust gas recirculation.*

### Sales and operating profit

In 2008, the sales of the Valve Train Systems product line remained EUR 30 million below the previous year's value, at EUR 630 million. Declines in sales were recorded in almost all product segments; in the fourth quarter in particular, sales fell considerably short of the values recorded in the same period of the previous year. While unit sales fell primarily in the sintered products, camshafts, and cylinder heads product segments, the valves product segment increased its sales in comparison with the previous year.

Declines in volumes and increased personnel costs affected the operating profit at all locations; this effect was not offset by the productivity increases achieved. The costs of steel and alloy components also increased over the year as a whole. These costs were only partially passed on to the end customers. The decline in unit sales,

which set in as early as the third quarter in some areas, required short-term capacity adjustments; these involved cutting back overtime and unused holidays as well as the use of flexitime accounts. In reducing personnel costs, priority was given to cutting back on the number of agency workers. Despite the various measures, the operating profit fell short of the previous year's value because of the strained situation.

### Capital expenditure and human resources

Capital expenditure in 2008 centered on the expansion of capacities as well as on technological adjustments required in connection with customer projects. In the sintered products activities, these measures focused on expanding the machining capacity for pump rotors, expanding capacities in the production of turbocharger parts, and expanding the press capacities for valves. In the camshafts division, investments were used to expand the foundry and machining capacity in India. The capacity for composite camshafts was also expanded; this became necessary due to new startups and the transition from precision sintered cam lobes to forged cam lobes. Because of increased demand in the first half of the year, activities in the valves product segment focused on expanding the production capacity at almost all locations. Significant individual investments included a new production line for valves, the expansion of raw part manufacturing, and the construction of a new machine shop.

At the end of the year, the number of employees was below the previous year's level. As a result of the significant decline in sales volumes in the last quarter, the staffing levels had to be reduced accordingly. This was primarily achieved by not extending temporary contracts at locations in Germany. The only increase in the number of employees in comparison with the previous year was recorded in India; this was a result of the startup of new projects with camshafts.

### DEVELOPMENT OF PRODUCT LINE VALVE TRAIN COMPONENTS //

Business year	2008	2007
<b>Consolidated sales*</b>		
Product line	630	660
Share of Group sales	618	655
<b>Capital expenditure on fixed assets*</b>	45	44
<b>Production plants</b>	17	18
<b>Headcount (as at Dec. 31)</b>	6,803	7,163

\* million EUR

## AIR MANAGEMENT SYSTEMS PRODUCT LINE //

### Sales and operating profit

The development of sales in the Air Management Systems product line was primarily characterized by the significant deterioration in the market environment in North America and Europe compared with the previous year; accordingly, sales remained below the previous year's level at EUR 857 million. The heavy decline in vehicle demand led to significantly lower sales in both regions. This was only partially offset by the first full-year consolidation of the air management division of Siemens VDO, acquired in the previous year. Similarly, the strong regional sales growth in Asia did not compensate for the decline.

The profit generated by the Air Management Systems product line remained below the previous year's level because of unit sales declines in North America and Europe. With the constantly rising price pressure and the increases in material prices for resin and related plastic components, particularly in the second half of the year, this led to a strained situation that was not counterbalanced by the higher contributions to profit resulting from growth in the Asia/Pacific region. The activities to reduce costs and optimize processes were therefore accelerated and extended considerably once again. A series of milestones were also brought forward in connection with the measures initiated with a view to adapting the production network in North America and Europe. For example, in North America, the Canadian location in Windsor was closed at the beginning of October and, to counterbalance this, the production capacity in Mexico was expanded to take on additional programs from the other North American locations. In Europe, the focus was on continuing the process of consolidating the English locations and the measures to improve productivity in the other European locations in a targeted way.

### Capital expenditure and human resources

In the 2008 business year, the Air Management Systems product line increased its capital expenditure in comparison with the previous year with a ratio of 5.5 percent of sales. Asia remained an area of focus, with investments in the Chinese production plants and the production facilities needed for new products. In North America, capital expenditure focused on Mexico, where, besides investments in the new customer programs, the location in Monterrey was expanded further to optimize the North American production network. In contrast, a disproportionately low level of investment was recorded in Europe, in view of the stagnating markets in Western Europe.

The number of employees in the Air Management Systems product line decreased in comparison with the previous year. However, it was some time before the staffing level could be adjusted to the falling demand in North America and Europe. In North America, all plants—without exception—were affected by the staffing cutbacks needed in order to cope with the difficult market environment. The headcount was also reduced in all European plants, with the exception of the Eastern European locations in Romania and Turkey. Staffing additions were made in the Asia/Pacific region, primarily at the four Chinese locations and in India.

### DEVELOPMENT OF PRODUCT LINE AIR MANAGEMENT SYSTEMS //

Business year	2008	2007
<b>Consolidated sales*</b>		
Product line	857	872
Share of Group sales	799	820
<b>Capital expenditure on fixed assets*</b>	47	37
<b>Production plants</b>	24	25
<b>Headcount (as at Dec. 31)</b>	4,382	4,943

\* million EUR



Complete air intake system, including intake air passage, filter, intake module, parallel arrangement of an exhaust gas turbocharger, charge air lines including charge air cooler, sound generator, and cylinder head cover with integrated oil mist separation.

## LIQUID MANAGEMENT SYSTEMS PRODUCT LINE //



### Sales and operating profit

In the 2008 business year, the Liquid Management Systems product line achieved sales of EUR 616 million, 6.2 percent below the previous year's level. In general, as a result of the global economic weakening, particularly in the last few months of the 2008 business year, unexpected decreases in sales were recorded in all regions.

The profit generated by the Liquid Management Systems product line did not reach the previous year's level in Europe and North America because of the decline in unit sales, heavy price reductions in some cases, and significant increases in material prices for activated carbon and resin. In South America, unfavorable currency exchange rate effects in export activities put a strain on profit. Optimization programs and structural adjustments led to an improvement in profit in Japan, despite a slight decrease in sales, while currency effects put a strain on profit in Korea. Global process optimization programs and cost reduction measures were expanded heavily in the second half of the year in view of the deteriorating situation on the automotive markets. Consequently, some production activities were also relocated from the locations in the USA to Mexico.

### Capital expenditure and human resources

In the 2008 business year, investments rose in comparison with the previous year, resulting in an investment ratio of 5.8 percent of sales. In Europe, a large proportion of the investments went toward the new startups of oil filter modules and oil pans as well as the production of fuel filters for diesel engines with strict component cleanliness requirements. In addition, initial investments were made for a large project to further optimize logistics processes. Investments in North America focused on new startups of activated carbon canisters, while in Asia the focus was on expanding the production of oil filter modules and elements as well as localization projects. Measures for continuous process and quality improvement formed additional focuses of investment.

During the year under report, the staffing level in the Liquid Management Systems product line rose considerably in comparison with the previous year. In Europe, this increase was driven by the acquisition of ENTEC Systemtechnik GmbH, Germany, and the startup of production at the Romanian location. At the Austrian plant, greater focus was also placed on the training of qualified skilled workers, both for this location and for other MAHLE Group companies. In North America, the number of employees was adjusted to the economic situation, while in South America capacity expansions led to a slight rise in the headcount compared with the previous year. The increase in personnel in Asia is due to new startups and the expansion of capacities in the region. At the end of the year under report, measures were initiated in connection with the decreased order levels. These measures will take effect at the beginning of 2009.

*Oil filter module with heat exchanger, heat exchanger by-pass valve, filter by-pass valve, non-return valve, oil mist separator with pressure regulating valve, sensors, and optional fuel heat exchanger.*

### DEVELOPMENT OF PRODUCT LINE LIQUID MANAGEMENT SYSTEMS //

Business year	2008	2007
<b>Consolidated sales*</b>		
Product line	616	657
Share of Group sales	505	535
<b>Capital expenditure on fixed assets*</b>	36	33
<b>Production plants</b>	17	15
<b>Headcount (as at Dec. 31)</b>	3,771	3,511

\* million EUR

## AFTERMARKET PROFIT CENTER //

### Sales and operating profit

The majority joint venture concluded during the year under report with Mopisan in Turkey contributed to increase sales by 8.6 percent to EUR 669 million—despite lower organic growth in comparison with the previous year. The declining sales in North America resulting from the deteriorating economic situation were offset by the stable economic situation in the main South American market, Brazil. The positive development in export sales from Japan and in the filter activities in India led to average growth of eight percent in the Asia/Pacific region as a whole.

Operating profit increased in comparison with the previous year's value. The weak development of business in the USA had a negative impact; the resulting negative volume effects could not be counterbalanced even by restructuring measures. As a result of the stable demand in South America, particularly in the commercial vehicle segment, an area with healthy margins, profit levels improved in comparison with the previous year. The increased exports from Europe also had a positive impact on profit. As no short-term economic recovery is expected in the USA and the unfavorable global conditions are also affecting the trade business, measures to increase productivity at the logistics locations and the implementation of efficient processes in sales and administration are ongoing.

### Capital expenditure and human resources

In the past business year, investments focused on the construction of the new logistics center in Turkey, with the aim of optimizing flows of goods into the Turkish market and the neighboring regions. In addition, the infrastructure of various storage locations was improved and replacement purchases were made.

While the number of employees in North America was adjusted to the employment situation, the first consolidations and capacity adjustments at individual locations allowed the headcount in the Aftermarket profit center to be kept at the previous year's level, with increased sales.



Product selection of the  
 MAHLE Aftermarket product portfolio.



*4-stroke cylinder with piston for boxer engine, air-cooled.*

## SMALL ENGINE COMPONENTS PROFIT CENTER //

### Sales and operating profit

At EUR 121 million, the sales of the Small Engine Components profit center fell considerably short of the previous year's value, which is primarily due to the lower unit sales in Germany. The operating profit also remained below the previous year's level; in Germany, the profit situation was placed under additional strain by accruals for the planned restructuring. At the locations in the USA and Austria, sales and operating profit reached approximately the level of the previous year.

### Capital expenditure and human resources

In the 2008 business year, the investment ratio exceeded the previous year's value, with the focus once again placed on Germany and Austria. Because of the successful acquisition of a large project with a major European customer, expansion measures in raw part manufacturing and machining were required in Germany. In Austria, considerable investments were needed to reduce emissions from the foundry in line with legal requirements. In the USA, investments were made in modernizing the machinery. The restructuring program led to a decline in staffing levels, particularly in Germany; the global headcount was reduced to 968 employees.

## LARGE ENGINE COMPONENTS PROFIT CENTER //

### Sales and operating profit

In the 2008 business year, the Large Engine Components profit center was able to participate in the continued positive market development and increase its sales once again in comparison with the previous year, with a figure of EUR 112 million. The main growth drivers were the markets in Europe and Asia, where market shares were expanded further in 2008. Rationalization measures did not completely compensate for increases in material prices for steel and cast iron, which were considerable in some cases; as a result, the development in revenue could not keep pace with the development of sales in the 2008 business year. Nevertheless, operating profit increased.

### Capital expenditure and human resources

The investment ratio reached the previous year's level. Due to market-driven shifts, the focal area was the expansion of capacities for composite pistons with a diameter of more than 200 millimeters. The sustained growth in sales and unit sales in the medium-speed engines segment resulted in additional jobs, which were primarily filled with young skilled workers and internal staffing additions. The modest increase in the staffing level allowed the personnel costs ratio to be kept at the previous year's level.

*Composite large-bore piston with forged piston crown.*



## MOTORSPORTS PROFIT CENTER //

### Sales and operating profit

The Motorsports profit center recorded a significant increase in comparison with the corresponding period of the previous year, with sales of EUR 58 million. This is primarily due to the fact that the profit center had taken over responsibility of the sales activities for motorsport bearings from the Whitehill production plant in Great Britain. Significant sales increases were achieved in mass production activities for high-end road vehicles. In contrast, sales generated with Formula 1 piston and engine components declined in comparison with the previous year as a result of regulation changes. Inter-company sales generated with cylinder liners also decreased because of lower demand. Product mix effects caused operating profit to fall short of the previous year's value.

### Capital expenditure and human resources

In 2008, investments were mainly used to expand the product range. In addition, funds were directed toward modernizing processing equipment and making it more flexible in order to meet the market requirements in the innovative motorsport business. As it is particularly important for employees in the Motorsports profit center to be highly qualified and flexible, a large number of qualification activities were undertaken once again in 2008.



*MONOTHERM® steel piston with DLC-coated piston pin, circlip, and piston pins for racing diesel application 24h of Le Mans.*



## ENGINEERING SERVICES PROFIT CENTER //

### Sales and operating profit

The Engineering Services profit center was able to record consolidated sales growth of around 10 percent to EUR 41 million. The focal areas of development for our European customers consisted of measures to decrease fuel consumption and CO<sub>2</sub> emissions of the engines as well as adjustments in connection with the use of alternative fuels. In addition, the customer base was expanded. Consequently, considerable sales growth was achieved despite the effects of the automotive crisis. Operating profit was kept at the previous year's level despite the heavy declines in North America.

*1-cylinder research engine with optical access to the combustion chamber in the cylinder head and cylinder, with high-strength quartz cylinder liners and pistons with sapphire glass bottom.*

### Capital expenditure and human resources

In 2008, a large proportion of the investments were once again used to further increase the quality and efficiency of the engine test benches. The utilization level of this equipment had a significant influence on the earnings situation. The installed capacities were fully utilized at different times during the year under report. The headcount in Great Britain increased by around ten percent at the end of the year in line with the order levels and as an outcome of the successful acquisition of several large projects for the development of complete engines. Headcount decreased in the USA by around the same percentage. In order to promote the long-term continuity and quality of the workforce, the internal training program is being intensified—particularly for young engineers.

## INDUSTRIAL FILTRATION PROFIT CENTER //

### Sales and operating profit

The Industrial Filtration profit center successfully increased its sales by approximately 40 percent in comparison with the previous year to EUR 129 million because of the first consolidation of the acquired Amafilter Group. The Amafilter Group operates in the field of process filtration and expands the MAHLE product range considerably in the foodstuffs, chemicals, oil, and gas segments, as well as in general industry. With six production plants in Europe and the USA as well as a global distribution network, this acquisition significantly strengthened the global presence of MAHLE Industrial Filtration. In addition to the acquisition of the Dutch Amafilter Group, sales in the established hydraulic, and automatic filter business segments were increased significantly once again, by 8.5 percent in comparison with the previous year, as a result of consistently expanding the market presence. Besides marine technology, the strongest growth drivers were mobile hydraulics, power engineering, and wind power. At the end of the year, however, business development weakened in line with the general economic development.

The healthy development in the core business, the targeted ongoing development and expansion of the product range, and the consistent expansion of the international activities led to a stabilization of the operating profit in the established areas. In addition, the acquisition of the Amafilter Group had a positive impact on the operating profit.

### Capital expenditure and human resources

The development and production plant for separators and liquid preparation systems in Hamburg, Germany, was expanded further as planned. Other focal areas were the modernization of the manufacturing equipment at the Öhringen, Germany location and the consistent expansion of production in Romania. Investments in tools focused on the market entry of new series and the optimization of the existing product range.

The strong demand and accompanying expansion of the product and production range necessitated an increase in the headcount at the main European production plants. To strengthen the global presence in major foreign markets, the staffing level was increased, particularly in the sales division. As a consequence of the first consolidation of the Amafilter Group, the headcount rose to 956.

#### Profit Centers:

Aftermarket, Small Engine Components, Large Engine Components, Motorsports, Engineering Services, Industrial Filtration, and others.



Hydraulic filter elements with high contamination retention ability; dust filter elements used to separate dust from air and gases, filtration of gas turbine intake air, sample gas, pharmaceutical and food industries, and product separation in production and transport processes; duplex filter Pi210 with patented single-hand operation (continuous filtration during element change).

### DEVELOPMENT OF ALL PROFIT CENTERS //

Business Year	2008	2007
<b>Consolidated sales*</b>		
All profit centers	1,338	1,209
Share of Group sales	1,116	1,003
<b>Capital expenditure on fixed assets*</b>	61	48
<b>Production plants</b>	16	11
<b>Headcount (as at Dec. 31)</b>	6,045	5,307

\* million EUR

## DIFFICULT ENVIRONMENT IN THE PROCUREMENT MARKETS //

// In the 2008 business year, the procurement markets of the MAHLE Group were characterized by contrasting development in the two halves of the year.

In the first half of the year, the price increases on the raw material markets that were already noticeable in 2007 continued—particularly for copper, aluminum, ferrous alloys, activated carbon, and steel. The rise in steel prices was due to the heavy increase in the prices of the basic products needed for steel production: iron ore, pig iron, and scrap iron. This had an inflationary effect on the prices of metal components. The increase in the price of crude oil and related crude oil derivatives also affected the costs of the resin we use. As multi-year sourcing agreements with fixed prices could only be concluded to a small extent, the price increases on the energy markets also had a considerable impact on the MAHLE Group's situation in terms of profits. In the second half of the year, the listed raw material prices fell. At the same time, however, the quantities ordered by MAHLE customers decreased by a heavier percentage than expected, which meant that MAHLE was only able to benefit from the falling prices on the procurement markets to a limited degree. Despite these declines, the price level for many raw materials still far exceeded the long-term level.

Corporate Purchasing dealt with these challenges by continuing to push through efforts to coordinate procurement activities globally and combine purchasing volumes as well as expanding into the area of non-production material. Within this global network, the MAHLE Group's procurement activities focused on countries with particularly competitive conditions.

In this way, we continued to develop the supplier base for requirements in these countries and regions and placed a stronger emphasis on conducting global negotiations and concluding global contracts with suppliers from these countries. However, these optimization measures compensated only in part for the negative effects of increased material prices. The creation and expansion of the extended supplier structure was also complex; both the customer approval processes and the internal requirements in terms of quality and process safety call for a multi-step, time-intensive development process.

Another focal area was the continuation of the program started in 2007 to consolidate the supplier base by streamlining the supplier portfolio for selected product groups. This was accompanied by the integration of the organizational units acquired in 2007 and the introduction of new business processes in order to optimize the purchasing processes at the individual MAHLE locations and carry out global customer projects in a standardized way. One of the aims was to integrate project purchasing even more fully into the development teams. Standardized IT applications reduced administrative tasks and supported the exchange and management of globally available data. At the same time, we revised our global contract management in order to be even better protected against risks and meet the requirements of our customers even more effectively in the future.

## INNOVATOR WITH SIGNIFICANT INVESTMENT IN RESEARCH AND DEVELOPMENT //

// By formulating innovative solutions to problems and continuously improving product quality, MAHLE was able to expand its position as one of the globally leading systems suppliers for the combustion engine.

The requirements for combustion engines are increasingly governed by the aim of conserving resources and reducing emissions. These solutions are implemented with the help of the expertise of around 3,000 engineers and technicians who cooperate intensively throughout the world on new product technologies, materials, and processes. The inauguration of the new state-of-the-art research and development center near São Paulo in Brazil this year helped to further increase the technological innovative strength of the MAHLE Group for the future and lay the foundation for long-term corporate success.

Diverse activities centering on minimizing friction losses and reducing emissions formed the basis for safeguarding the Group's innovative strength. One example of the many innovative developments is fast-switching valves for exhaust gas recirculation in air management systems. Using these valves enables a considerable reduction in nitrogen emissions to be achieved without increasing fuel consumption. Concepts for a fully variable valve train, such as the MAHLE CamInCam® camshaft, also contribute directly to these goals as they achieve increases of more than ten percent in power output and torque combined with a reduction of up to five percent in fuel consumption.

Other fundamental studies by MAHLE Powertrain relating to downsizing on the 1.2-liter 3-cylinder concept engine, developed in-house specifically for this purpose, enabled a holistic optimization of

the engine system by bringing together individual competences. Through the use of direct injection, turbocharging, and variable valve timing, fuel consumption and CO<sub>2</sub> emissions were reduced by around 25 percent compared to a conventional aspirated engine with the same power output, particularly in the area of engine combustion and engine mechanics.

The increasing importance of engine downsizing in combination with supercharging and direct injection was also a significant factor in the introduction of our exhaust gas turbocharger development activities into the 50/50 joint venture Bosch Mahle Turbo Systems. The company founded on June 1, 2008, which is based in Stuttgart, Germany, focuses on the development and series production of exhaust gas turbochargers and is aiming to generate its first series sales in 2011. The necessary acquisition and development projects including the construction of a production hall for the machining and final assembly of the exhaust gas turbochargers at the St. Michael ob Bleiburg location in Austria correspond to the initial planning. In Stuttgart, the further buildup of qualified personnel for research and development systematically continued. In the meantime, over 120 employees work on serial and advanced engineering projects. Meanwhile, four hot gas test benches and the complete prototype production were taken into operation.

## BALANCE SHEET STRUCTURES REMAIN SOLID //

// Despite the unfavorable developments of the entire economy in the second half of the year, the MAHLE Group shows a solid balance sheet structure for the business year 2008.

The MAHLE Group's balance sheet total increased by EUR 166.6 million in comparison with the previous year to EUR 3,907.4 million. This was primarily due to the acquisitions made in the business year 2008. The major balance sheet items developed in comparison with the previous year as shown on the right page.

The significant rise of EUR 220.4 million in fixed assets in comparison with the previous year resulted, on the one hand, from the inclusion of newly acquired activities and, on the other hand, from the fact that the capital expenditure on fixed assets, which amounted to EUR 415 million, far exceeded depreciation. The high level of capital expenditure on fixed assets was largely due to the planned restructuring of the business segments acquired from the Dana Corporation and Siemens VDO, for example. The main causes of the increase in intangible fixed assets were the acquisition of Mopisan Konya A.S. and the Amafilter Group, and the rise in financial assets due to the founding of Bosch Mahle Turbo Systems. The inventories taken over in connection with the completed acquisitions contributed once again to a rise in inventories, which increased by EUR 83.6 million to EUR 759.7 million. In contrast, the decline of EUR 124.1 million in trade receivables (– 16.2 percent in comparison

with the previous year) was a consequence of the decreasing sales in the last quarter of 2008. The amount of receivables was also affected by the reduced factoring as at the reference date in connection with an asset-backed security program. The growth in other assets was due to an increase in deferred tax assets and a rise in tax refund claims.

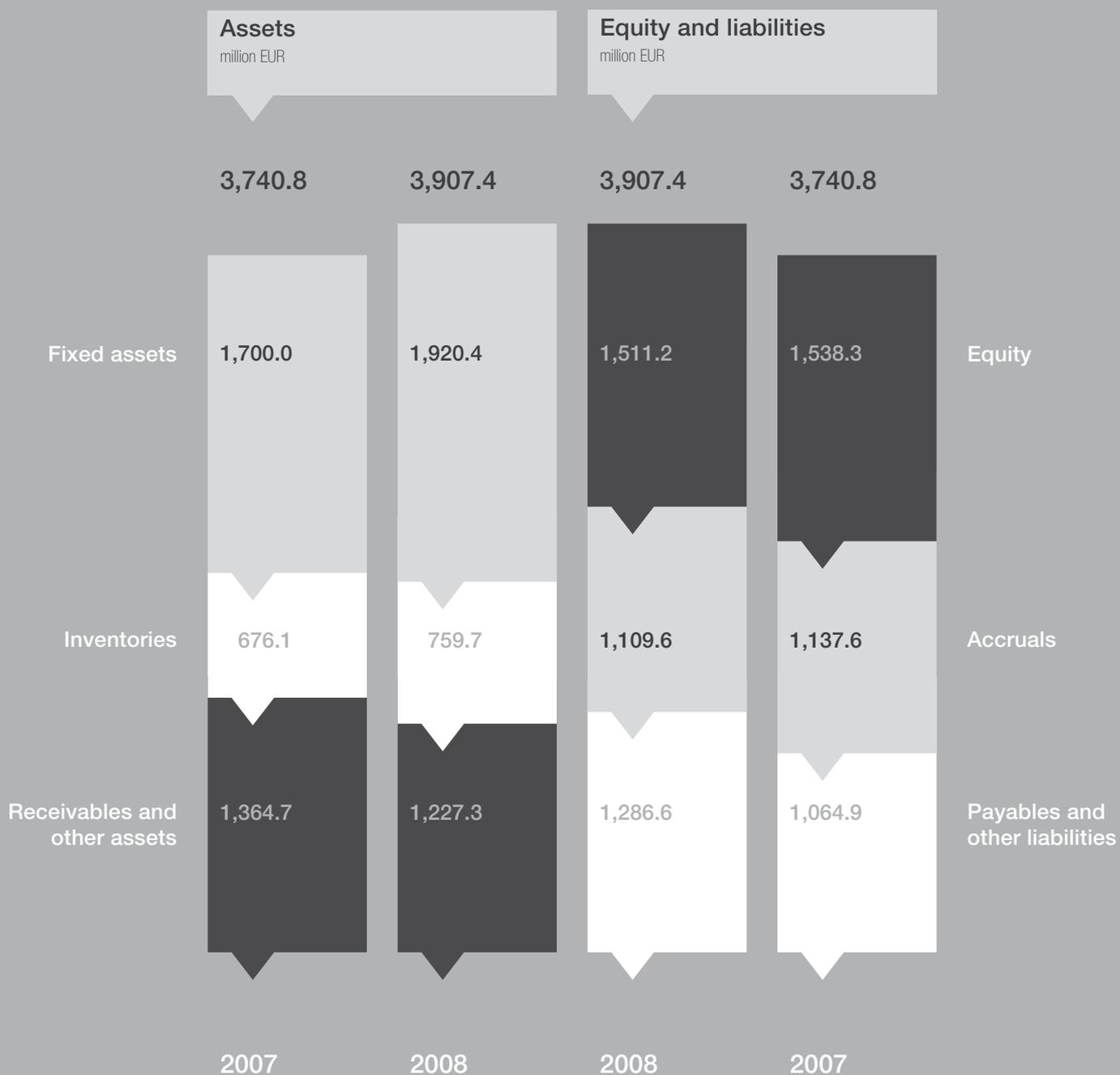
Despite the positive net income for the year, the MAHLE Group's equity decreased slightly in comparison with the previous year, by EUR 27.1 million. This decline was largely caused by foreign currency exchange rate effects, with a balance of EUR – 29.2 million from the conversion of the balance sheet items held by the Group in Polish zloty and Brazilian reais in particular. Despite the expansion of the consolidation group, accruals fell by EUR 28 million, with a significant increase in accruals for potential losses more than offset by the decline in personnel and other accruals. The decrease of EUR 49.8 million in other accruals compared with the previous year was primarily caused by the use of the restructuring accruals recognized in previous years for the acquired business segments. As a result of the acquisitions and the integration of the newly acquired activities, liabilities to banks rose by EUR 245.9 million to EUR 687.3 million. As a result of the decline in

orders for the first few months of 2009, trade payables—like the receivables—fell by EUR 52.3 million (– 10.7 percent in comparison with the previous year).

### Increased financial requirements as a result of investments

The capital expenditure on fixed assets and payments of purchase prices for the acquired companies resulted in a cash flow from capital expenditure of EUR – 506.7 million. These financial requirements were largely covered by the cash flow from ongoing business activity. However, because of the Group's weaker profit situation in the second half of 2008, the self-generated funds for financing investments and acquisitions were not sufficient, and bank loans and credit lines had to be utilized.

BALANCE SHEET STRUCTURE OF THE MAHLE GROUP //



### Decline in profit

As a consequence of the considerable decline in sales in the last few months of 2008, the result from ordinary activities could not be maintained at the previous year's level. While profit remained almost at the previous year's level in the first half of the year, despite the increase in the costs of materials, fixed cost effects put a considerable strain on profit in the last quarter of 2008, causing the cost of sales ratio to rise to 80.5 percent of sales. Only depreciation on fixed assets rose in comparison with the previous year, by EUR 19.3 million to EUR 259.8 million. The selling, administration, and development costs ratio also increased to 16.9 percent of sales. This increase was also due to the growth of selling expenses, which was a result of the acquisition of the extensive sales activities of the Amafilter Group and the expansion of the sales-intensive aftermarket business. The personnel costs were adjusted to the weak sales

position in the last quarter by cutting back flexi-time accounts and unused holidays. However, this led to residual overhead costs. Despite these effects, a significantly positive operating profit was achieved for the whole of 2008.

Besides the operational development in the last quarter of 2008, the turbulence on the financial and foreign exchange markets put a considerable strain on the profit of the MAHLE Group. An increase was recorded in both the interest expense and the accrual requirements for currency and raw material hedges. Increased accruals were also required for the pension plans covered by funds in the USA and Great Britain, as the interest for company bonds rose and the share prices on the stock markets fell. The financial result deteriorated, primarily as a result of the increased financing expenditure in connection with liabilities to banks and the losses from the valuation of pension funds.

The significant increase in the tax ratio shows that a large proportion of the expenses incurred by the tax authorities in accordance with commercial law in various countries is not regarded as tax expense in the year in which the accruals are recognized.

## INCOME STATEMENT OF THE MAHLE GROUP //

Figures in million EUR

Business year	2008		2007	
Sales	5,013.7		5,060.4	
Cost of sales	- 4,035.3	80.5%	- 3,935.0	77.8%
<b>Gross profit on sales</b>	<b>978.4</b>	<b>19.5%</b>	<b>1,125.4</b>	<b>22.2%</b>
Selling expenses and general administrative expenses	- 562.7	11.2%	- 518.6	10.2%
Research and development expenses	- 285.9	5.7%	- 277.7	5.5%
Other operating income and expenses	39.0	0.8%	19.7	0.4%
<b>Income before financial results</b>	<b>168.8</b>	<b>3.4%</b>	<b>348.8</b>	<b>6.9%</b>
Financial results	- 83.5	1.7%	- 40.7	0.8%
<b>Income from ordinary business activities</b>	<b>85.3</b>	<b>1.7%</b>	<b>308.1</b>	<b>6.1%</b>
Taxes	- 63.5	1.3%	- 85.1	1.7%
<b>Net income for the year</b>	<b>21.8</b>	<b>0.4%</b>	<b>223.0</b>	<b>4.4%</b>

## RISK MANAGEMENT //

// As a globally active company, the MAHLE Group is confronted with a variety of risks. Across the Group, the established risk management system takes into account the current legal, corporate, and customer requirements and is subject to ongoing development.

Based on inspection plans that change every year, the viability of the risk management system is checked regularly by means of a global internal audit. The MAHLE Group's risk management is characterized by the following main aspects:

- The identification of opportunities and risks at an early stage is ensured by systematic monitoring of market and technology trends. Information from these analyses is used in decision-making on future business segments and new production processes. The measures taken are described in the strategic or yearly corporate planning and their implementation is monitored in the monthly management reporting.
- Potential operative risks are counteracted by means of safety standards, optimized production processes, and high quality standards. MAHLE is audited and certified in accordance with all major external standards and specifications and is thus subjected to substantial external checks that limit the risks. Possible damage and resulting plant failures, as well as other damage events and liability risks, are covered to an economically prudent degree by means of insurance policies.
- With continuous strengthening of the international orientation and with a diversified customer portfolio, the MAHLE Group is aiming to achieve optimal dispersion of regional market and customer risks. Risks in the form of unexpected supply bottlenecks and/or price increases in purchasing are counteracted by means of regular supplier evaluations, use of alternative raw material sources and materials, preservation of supplier independence, and hedging transactions.
- Currency risks are identified through a Group-wide planning and reporting system. The risks are counteracted by means of hedging activities in accordance with uniform Group principles. The use of derivative financial instruments is necessarily linked to the existence of an operational underlying transaction. Any liquidity risk is minimized by means of systematic Group-wide finance management. After conducting value at risk analysis, the interest-rate risk is low.
- The risk of losing employees in strategically important corporate positions is counteracted by means of performance-related remuneration systems, an employee- and goal-oriented leadership style, modern pension schemes, and numerous advanced training activities. Creating a positive and open working atmosphere and allowing wide scope for individual creativity strengthens the employees' loyalty to the company.
- In the area of information technology, security technologies protect against unauthorized access to data or misuse of data by internal and external parties. Server and storage systems allow data to be recovered at short notice in emergency and crisis situations. The defined security standards are not only geared toward the technical specifications of the hardware and software, but also include functional security structures and organizational provisions.

For the 2008 business year, the auditors have analyzed the internal accounting-based control system as part of the audit of the consolidated financial statements and have raised no objections. The rules of the German Corporate Governance Code have also been implemented insofar as they apply to the MAHLE Group as a foundation-linked company.

## OUTLOOK //

// After the noticeable slowdown of the global economy in 2008 as a consequence of the global financial and credit crisis, a downturn of the global economic output is expected in 2009.

In view of the fact that all large industrial nations are already in recession, the International Monetary Fund anticipates global economic growth of just 0.5 percent for 2009 at best. At present, the effects of the ongoing financial crisis on the real economy cannot be foreseen. The global economy is therefore expected to experience very weak development in 2009. Positive economic impetus could come from further decreases in raw material prices and the continuing low price of oil.

Since the European economy is highly dependent on exports, current economic forecasts suggest that economic output in the euro zone will fall by approximately two percent in 2009. The national economic stimulus and rescue

packages for the financial and real economy, planned in many European countries, offer positive prospects. As consumer confidence remains low, however, a significant increase in domestic demand in Europe is unlikely. The visible recession in the USA will continue in 2009, and the effects on budgetary policy resulting from the necessary support for the banking sector in combination with the heavy public deficit could restrict the U.S. government's ability to act in terms of further support measures. To the contrary, in the South American economies a positive growth is expected, however weaker than compared to previous years. While the appreciation of the Japanese yen against the U.S. dollar and the euro are likely to put a strain on the Japanese

economy once again during the coming year, moderate growth is considered at least a possibility for other Asian countries, particularly China and India.

2009 is likely to be a difficult year for the automotive industry. Based on the current situation, a significant decline in worldwide vehicle production and vehicle sales, of both commercial vehicles and passenger cars, is expected. In view of the decrease in order levels in the commercial vehicles segment, it is anticipated that this market segment will experience disproportionately heavy declines in 2009 as this segment is particularly affected by the prevailing investment restraint in many countries as a result of the

### WORLDWIDE AUTOMOBILE PRODUCTION //

Number in 1,000

Business year	2009	2009	2008	2008
	Passenger cars & light comm. vehicles	Commercial vehicles (incl. buses)	Passenger cars & light comm. vehicles	Commercial vehicles (incl. buses)
<b>America</b>	13,685	677	16,416	673
NAFTA	10,023	446	12,659	450
South America	3,662	231	3,757	223
<b>Asia/Pacific</b>	24,845	1,480	27,393	1,551
Japan	8,824	203	10,999	199
China	7,720	799	7,369	863
<b>Europe</b>	17,443	812	20,650	881
Germany	4,497	188	5,467	206
<b>Other countries</b>	1,680	4	1,720	4
<b>Total</b>	<b>57,653</b>	<b>2,973</b>	<b>66,179</b>	<b>3,109</b>

Source: CSM, March 2009

financial crisis and the associated credit restrictions. Further declines in the production of passenger cars and light commercial vehicles are expected, primarily in the traditional European and U.S. automotive markets. In the first quarter of 2009, a decline of up to 25 percent in European vehicle production is predicted; for the whole of 2009, forecasts suggest a decline of more than 15 percent in comparison with the previous year. With regard to unit sales, the noticeable purchasing restraint among private consumers resulting from the financial crisis appears unlikely to ease. The unit sales problems are expected to continue in 2009. For Germany, the industry association VDA forecasts, for instance, that in 2009 the domestic passenger car market will reach its lowest level since the reunification, with around 2.9 million passenger cars. The environmental bonus program introduced in Germany and comparable buying incentives in other European countries could lead to a positive effect and to an impulse mainly in the smaller vehicle segments.

In view of the overall economic development described, forecasts regarding the U.S. automotive market are currently associated with great uncertainty. It was already clear in 2008 that the export-oriented Japanese automobile manufacturers were also greatly affected by the unit sales crisis, a situation being intensified by the yen's current unfavorable exchange rate situation. If no countermovement occurs in the exchange rate regime, the situation is unlikely to improve concerning the export shares of Japanese automobile producers.

Given the overall negative prospects for the automotive industry, the MAHLE Group expects in 2009 a market scaling down as a whole. A decline in Group sales will be unavoidable in 2009, with the first half of the year expected to be particularly weak. This cannot be compensated by increasing the market shares in certain countries and regions. Efforts will be made to increase the market share in North America in particular, where German automotive suppliers, due to their good technology position, were yet again able to expand their market share despite the extremely weak market environment. MAHLE will continue to focus particularly on the Asian and Latin American markets, in which a less severe decline is expected in comparison with worldwide production as a whole.

Concerning the profit situation, a significant decline in the MAHLE Group's profit is anticipated. The cost-intensive restructuring measures to integrate acquired activities into the Group and to adjust capacities, which continued with the same level of consistency, also put a strain on profits. The weak sales figures are being tackled with intensive programs to reduce costs and adjust capacities to the demand: In Germany, the instrument of short-time work is widely used; in addition, flexitime accounts and unused holidays are cut back further. Similar instruments for temporary capacity adjustment according to country-specific conditions are intensively used in the countries where the MAHLE Group is operating. Measures to increase productivity and efficiency throughout the Group will also help to curb the decline in the earnings level. In addition, the MAHLE Group uses financial instruments to protect from varying raw material prices and exchange rates and will therefore benefit from the development—as a whole positive for the Group—of the currency and raw material markets only with a delay in

time. The sales situation of the Group anticipates a negative Group result for the first half of 2009. However, the multiple restructuring and consolidation measures should lead to reaching the break even point again in the second half of 2009. The automotive markets are unlikely to start recovering until 2010. From then on, income should once again improve continuously on a then leaner base.

One particularly significant event occurring after the reference date is the consideration of the request submitted by Chrysler and General Motors for additional financial assistance from the U.S. and other governments. Irrespective of any financial support provided, the future financial position of Chrysler and General Motors, as well as the subsidiary Opel, remains uncertain. The failure of parts of the two groups, with the negative consequences this would bring for MAHLE, is therefore a real possibility. The MAHLE Group assumes however that suitable measures will be taken to prevent insolvency. Due to its broad, global customer portfolio, MAHLE believes it is well-equipped even for the unlikely event of failure. MAHLE aims to foster business relationships with Chrysler and General Motors on a long-term basis.



# 03 //

## CONSOLIDATED FINANCIAL STATEMENTS

// DESPITE THE COOLING OF THE GLOBAL ECONOMY AT THE END OF 2008 AND THE ACCOMPANYING DECLINE IN BUSINESS, MAHLE'S SALES WERE APPROXIMATELY AT THE PREVIOUS YEAR'S LEVEL. OVERALL, THE GROUP'S BUSINESS DEVELOPMENT—EVEN ALLOWING FOR INVESTMENTS MADE IN 2008—WAS ABOVE THE GENERAL INDUSTRY TREND, WITH MAHLE ABLE TO BENEFIT FROM ITS INTERNATIONAL POSITION. SOUTH AMERICA AND THE ASIA/PACIFIC REGION WERE EVEN ABLE TO RECORD POSITIVE GROWTH. EUROPE'S SALES WERE STILL AT A STABLE LEVEL IN 2008. THIS WAS PARTLY BECAUSE THE COMMERCIAL VEHICLE ACTIVITIES REMAINED STABLE ALMOST UNTIL THE END OF THE YEAR, AND PARTLY DUE TO THE ACTIVITIES—BASED PRIMARILY IN EUROPE—OF THE PROFIT CENTERS NOT DIRECTLY DEPENDENT ON THE AUTOMOTIVE OE MARKET.

One of the floors in the new corporate exhibition is devoted to the area of motorsport. MAHLE INSIDE provides information and background on thrilling events such as Formula 1 or the 24 Hours of Le Mans. Besides interesting facts, contemporary and historic items from various motorsport series, including the 1:1 model of a Formula 1 racecar, await the visitor.

## BALANCE SHEET OF THE MAHLE GROUP //

as at December 31, 2008

### Assets

in EUR '000

			Dec. 31, 2008	Dec. 31, 2007
<b>Fixed assets</b>				
<b>Intangible assets</b>				
Industrial rights and similar rights	25,835			24,386
Goodwill	288,771			225,324
Advance payments	1,199			651
		315,805		250,361
<b>Property, plant and equipment</b>				
Land, leasehold rights and buildings including buildings on third-party land	481,566			464,051
Technical equipment and machinery	816,309			800,666
Other equipment, fixtures and furniture	68,719			64,013
Advance payments and assets under construction	202,897			101,067
		1,569,491		1,429,797
<b>Financial assets</b>				
Shares in affiliated enterprises	2,765			3,210
Shares in associated enterprises	11,818			1,515
Other equity investments	1,363			1,672
Long-term investments	15,010			12,487
Other loans	4,166			985
		35,122		19,869
			1,920,418	1,700,027
<b>Current assets</b>				
<b>Inventories</b>				
Raw materials and supplies	201,384			183,637
Work in process	162,469			162,163
Finished goods and merchandise	391,282			316,946
Advance payments	4,537			13,397
		759,672		676,143
<b>Accounts receivable and other assets</b>				
Trade receivables	643,205			767,260
Receivables from affiliated enterprises	963			191
Receivables from enterprises in which investments are held	3,905			2,236
Other assets	172,860			160,341
Deferred tax assets	145,667			133,801
		966,600		1,063,829
<b>Marketable securities</b>		55,154		51,271
<b>Cash on hand and at banks</b>		190,666		228,228
			1,972,092	2,019,471
<b>Prepaid expenses</b>			14,909	21,268
			<b>3,907,419</b>	<b>3,740,766</b>

### Equity and liabilities

in EUR '000		Dec. 31, 2008	Dec. 31, 2007
<b>Equity</b>			
Subscribed capital	150,000		150,000
Capital reserves	166,430		166,430
Revenue reserves	1,113,405		1,134,057
Unappropriated retained earnings	3,082		7,081
Minority interests	78,322		80,723
		<b>1,511,239</b>	<b>1,538,291</b>
<b>Accruals</b>			
Accruals for pensions and similar obligations	403,743		372,407
Accruals for current taxes	58,353		67,654
Accruals for deferred taxes	67,266		67,565
Other accruals	580,197		629,995
		<b>1,109,559</b>	<b>1,137,621</b>
<b>Liabilities</b>			
Liabilities to banks	687,264		441,382
Advance payments received on account of orders	15,449		5,920
Trade payables	438,497		490,785
Liabilities on bills accepted and drawn	1,725		3,216
Payables to affiliated enterprises	402		445
Payables to enterprises in which investments are held	4,775		3,883
Other liabilities	136,795		117,187
Taxes:	27,236 (previous year 29,020)		
Relating to social security and similar obligations:	18,673 (previous year 20,662)		
		<b>1,284,907</b>	<b>1,062,818</b>
<b>Deferred income</b>		1,714	2,036
		<b>3,907,419</b>	<b>3,740,766</b>

## DEVELOPMENT OF FIXED ASSETS OF THE MAHLE GROUP //

in EUR '000	Accumulated acquisition or production cost as at Jan. 1, 2008	Changes in the Group	Additions in business year 2008	Write-ups in business year 2008	Disposals in business year 2008	Transfers in business year 2008	Accumulated depreciation and amortization	Net book value as at Dec. 31, 2008	Depreciation and amortization expense in business year 2008
<b>Intangible assets</b>									
Trademarks and similar rights	80,588	2,704	8,510	–	563	258	65,662	25,835	8,553
Goodwill	567,284	3,217	120,729	–	14,052	–	388,407	288,771	59,931
Advance payments	651	77	485	–	–	–14	–	1,199	–
	<b>648,523</b>	<b>5,998</b>	<b>129,724</b>	<b>–</b>	<b>14,615</b>	<b>244</b>	<b>454,069</b>	<b>315,805</b>	<b>68,484</b>
<b>Property, plant and equipment</b>									
Land, leasehold rights and buildings including buildings on third-party land	874,522	14,661	30,348	762	34,763	14,135	418,099	481,566	25,422
Technical equipment and machinery	2,992,912	22,951	170,308	–	93,050	75,263	2,352,075	816,309	213,003
Other equipment, fixtures and furniture	259,100	1,858	22,279	–	11,620	1,122	204,020	68,719	20,988
Advance payments, assets under construction	105,051	4,229	192,061	–	4,131	–90,764	3,549	202,897	341
	<b>4,231,585</b>	<b>43,699</b>	<b>414,996</b>	<b>762</b>	<b>143,564</b>	<b>–244</b>	<b>2,977,743</b>	<b>1,569,491</b>	<b>259,754</b>
<b>Financial assets</b>									
Shares in affiliated enterprises	8,114	267	971	298	1,557	–	5,328	2,765	265
Shares in associated enterprises	6,025	–	18,013	457	4	–	12,673	11,818	8,164
Other equity investments	1,845	–	6	–	485	–	3	1,363	2
Loans to enterprises in which participations are held	–	0	–	–	–	–	–	–	–
Long-term investments	12,972	–	6,421	1	3,347	–	1,037	15,010	309
Other loans	2,609	92	3,852	–	438	–	1,949	4,166	471
	<b>31,565</b>	<b>359</b>	<b>29,263</b>	<b>756</b>	<b>5,831</b>	<b>–</b>	<b>20,990</b>	<b>35,122</b>	<b>9,211</b>
	<b>4,911,673</b>	<b>50,056</b>	<b>573,983</b>	<b>1,518</b>	<b>164,010</b>	<b>0</b>	<b>3,452,802</b>	<b>1,920,418</b>	<b>337,449</b>

## INCOME STATEMENT OF THE MAHLE GROUP //

from January 1 to December 31, 2008

in EUR '000		2008	2007
<b>Sales</b>		<b>5,013,668</b>	<b>5,060,445</b>
Cost of sales	- 4,035,296		- 3,935,054
Gross profit on sales		<b>978,372</b>	<b>1,125,391</b>
Selling expenses	- 316,452		- 284,604
General administrative expenses	- 246,213		- 234,040
Research and development expenses	- 285,891		- 277,670
Other operating income	244,544		121,535
Other operating expenses	- 205,519		- 101,822
		<b>- 809,531</b>	<b>- 776,601</b>
Investment income		469	604
From associated enterprises:	469 (previous year 600)		
Income from other investments and long-term loans		443	131
Other interest and similar income		13,912	17,304
From affiliated enterprises:	10 (previous year 2)		
Amortization of financial assets and of marketable securities		- 9,211	- 217
From affiliated enterprises:	265 (previous year 0)		
From associated enterprises:	8,164 (previous year 0)		
Interest and similar expenses		- 89,153	- 58,481
To affiliated enterprises:	0 (previous year 2)		
<b>Income from ordinary business activities</b>		<b>85,301</b>	<b>308,131</b>
Taxes on income		- 50,033	- 66,886
Other taxes		- 13,442	- 18,196
<b>Net income for the year</b>		<b>21,826</b>	<b>223,049</b>
Profit applicable to minority shareholders:	16,793 (previous year 21,403)		
Loss applicable to minority shareholders:	2,812 (previous year 45)		

## ABBREVIATED CASH FLOW STATEMENT OF THE MAHLE GROUP //

from January 1 to December 31, 2008

in EUR '000		2008	2007
<b>Cash funds at the beginning of the period</b>		<b>228,228</b>	<b>406,478</b>
Cash flow from operating activities		287,355	494,011
Cash flow from investing activities		- 506,695	- 553,284
Cash flow from financing activities		200,448	- 137,906
<b>Total cash flow</b>		<b>- 18,892</b>	<b>- 197,179</b>
Change in cash funds from exchange rate movements and valuation procedures		- 18,670	18,929
<b>Cash funds at the end of the period</b>		<b>190,666</b>	<b>228,228</b>

## ANNOTATIONS TO THE BALANCE SHEET OF THE MAHLE GROUP //

<b>Accounts receivable and other assets</b>	Carrying value Dec. 31, 2008	Thereof with a remaining period of more than 1 year
in EUR '000		
Accounts receivable		
Trade receivables	643,205	1,530
Receivables from affiliated enterprises	963	–
Receivables from enterprises in which investments are held	3,905	–
Other assets	172,860	25,386
Deferred tax assets	145,667	82,709
<b>Total</b>	<b>966,600</b>	<b>109,625</b>

In the previous year, trade receivables (EUR 725k), other assets (EUR 24,040k) and deferred tax assets (EUR 58,162k) had a remaining term of more than one year.

The **deferred tax assets** were formed as a result of deductible timing differences. A valuation allowance of EUR 64,617k was made for deferred tax assets in the business year for which the probability of recognition was considered insufficient, as of December 31, 2008.

**Prepaid expenses comprise** the differences between net loan proceeds and the amount repayable to banks (debt discounts) amounting to EUR 75k (previous year EUR 1,018k).

The **unappropriated retained earnings** equal that of the parent company and contain the amount carried forward from the previous year of EUR 81k.

**Other accruals** are comprised mainly of potential losses from pending transactions, obligations with regard to personnel matters, warranty-related risks, and expenditure arising in the years to come.

<b>Liabilities</b>	Carrying value Dec. 31, 2008	Thereof with a remaining period of up to 1 year	Thereof with a remaining period of more than 5 years
in EUR '000			
Liabilities to banks	687,264	454,124	6,769
Advance payments received on account of orders	15,449	15,312	27
Trade payables	438,497	436,982	117
Trade notes payable	1,725	1,725	–
Payables			
To affiliated enterprises	402	402	–
To enterprises in which investments are held	4,775	4,775	–
Other liabilities	136,795	131,613	189
<b>Total</b>	<b>1,284,907</b>	<b>1,044,933</b>	<b>7,102</b>

In the previous year, liabilities to banks (EUR 271,444k), advance payments received on account of orders (EUR 5,814k), trade payables (EUR 490,608k), liabilities on bills accepted and drawn (EUR 3,216k), payables to affiliated enterprises (EUR 445k), payables to enterprises in which investments are held (EUR 3,883k), and other liabilities (EUR 112,289k) had a remaining term of less than one year.

Of the liabilities to banks, EUR 14,394k is secured by property liens and EUR 6,766k by similar rights.

<b>Contingent liabilities</b>	
in EUR '000	
Contingents from notes	9,560
Bonds and guarantees	98
Collateral for third-party liabilities	4
Warranties	96

<b>Other financial obligations</b>	
in EUR '000	
Purchase commitments	72,551
Financial obligations resulting from rent and lease agreements	75,733
Others	16,793

## ANNOTATIONS TO THE INCOME STATEMENT OF THE MAHLE GROUP //

The income statement of the MAHLE Group is grouped in accordance with the cost of sales method. The sales are set against the expenditure incurred in their realization, which is allocated in principle to the functional divisions production, sales, general administration, and research and development.

The cost of sales includes the material and production costs incurred in the realization of the sales and the landed costs of the trade business. The costs of the allocation to accruals for warranties are also included in this item.

The marketing costs include, in particular, personnel and equipment costs, depreciation allocated to the sales division, logistics, market research, sales promotion, shipping and handling, and advertising costs.

The general administration costs include personnel and equipment costs as well as depreciation allocated to the administration division.

The personnel and equipment costs and depreciation allocated to the research and development division are of considerable importance to the MAHLE Group. In order to present the economic status of the Company more clearly, they have been included as separate items in the breakdown.

<b>Sales by business unit</b>	
in EUR '000	
Product line Piston Systems	1,210,436
Product line Cylinder Components	765,775
Product line Valve Train Systems	618,310
Product line Air Management Systems	799,036
Product line Liquid Management Systems	504,505
Profit center Aftermarket	665,134
Profit center Small Engine Components	119,188
Profit center Large Engine Components	108,958
Profit center Motorsports	55,047
Profit center Engineering Services and others	123,928
Profit center Industrial Filtration	43,351
<b>Total</b>	<b>5,013,668</b>

<b>Sales by geographically defined market (country of manufacture)</b>	
in EUR '000	
Europe	2,696,370
America	1,539,160
Asia, Africa, Australia	778,138
<b>Total</b>	<b>5,013,668</b>

<b>Sales by geographically defined market (target area)</b>	
in EUR '000	
Europe	2,504,479
America	1,568,366
Asia, Africa, Australia	940,823
<b>Total</b>	<b>5,013,668</b>

<b>Personnel expenses</b>	
in EUR '000	
<b>Total</b>	<b>1,483,707</b>

<b>Depreciation on property, plant and equipment</b>	
in EUR '000	
<b>Total</b>	<b>259,754</b>
Thereof extraordinary on account of limited use	932

### **Interest and similar expenses**

The interest expense from the appropriation to accruals for pensions and similar obligations, amounting to EUR 32,580k, is shown here.

### **Taxes on income**

The taxes on income include deferred tax expenses of EUR 7,911k.

## OTHER ANNOTATIONS //

### Average headcount (without apprentices) over the year

Direct employees	27,934
Indirect employees	20,913
<b>Total</b>	<b>48,847</b>

### Derivatives as at December 31, 2008

Derivatives not yet settled at the balance sheet date in accordance with Secs. 285, 314 HGB can be broken down as follows:

in EUR '000

	Nominal amounts	Current value to be attributed*
Transactions relating to interest	44,020	70
Transactions relating to currency	749,935	- 94,667
Transactions relating to commodity	77,048	- 43,416
Transactions relating to credit default	0	0

\* The current value attributed to the currency-related transactions corresponds to the market value of the derivatives at the balance sheet date which is identified in accordance with the mark-to-market method. All interest-related transactions are based on recognized financial/mathematical models.

The derivative contracts as at December 31, 2008 are placed exclusively with banks. For all hedges having effective relations with the underlying transaction, valuation units have been established. Accruals of EUR 45,619k were formed for all other transactions on which potential losses have arisen.

### Remuneration paid to the members of the Supervisory Board and the Management Board of MAHLE GmbH (parent company)

in EUR '000

Supervisory Board	154
Management Board	2,942

The total remuneration paid to the Management Board comprises fixed and variable components. The fixed portions for 2008 came to EUR 1,715k, and the variable compensation for 2008 to EUR 1,163k. The remuneration shown also includes a partial amount for the 2007 business year. The fixed portions include benefits in kind, which consist primarily of the non-cash benefits of having company cars.

Apart from the aforementioned remuneration, members of the board of directors have not obtained any further compensation or benefits for individual services, including consulting and intermediation activities.

Remunerations paid to former executive directors and their descendants amounted to EUR 1,229k.

An amount of EUR 10,784k is set aside for this group of persons in the pension accruals as at December 31, 2008.

Stuttgart, Germany, March 18, 2009

The Executive Directors of MAHLE GmbH

  
 Heinz K. Junker

  
 Hans Peter Coenen

  
 Michael Glowatzki

  
 Peter Grunow

  
 Rudolf Paulik

  
 Bernhard Volkmann

## AUDIT OPINION //

The auditors have issued the following opinion on the complete consolidated financial statements and the Group management report.

We have audited the consolidated financial statements prepared by MAHLE GmbH, Stuttgart, comprising the balance sheet, the income statement, the notes to the consolidated financial statements, cash flow statement, and statement of changes in equity, together with the Group management report for the fiscal year from January 1 to December 31, 2008. The preparation of the consolidated financial statements and the Group management report in accordance with German commercial law is the responsibility of the Company's management. Our responsibility is to express an opinion on the consolidated financial statements and on the Group management report based on our audit.

We conducted our audit of the consolidated financial statements in accordance with Sec. 317 HGB ("Handelsgesetzbuch": German Commercial Code) and German generally accepted standards for the audit of financial statements promulgated by the Institut der Wirtschaftsprüfer (Institute of Public Auditors in Germany: IDW). Those standards require that we plan and perform the audit such that misstatements materially affecting the presentation of the net assets, financial position, and results of operations in the consolidated financial statements in accordance with German principles of proper accounting and in the Group management report are detected with reasonable assurance. Knowledge of the business activities and the economic and legal environment of the Group and expectations as to possible misstatements are taken into account in the determination of audit procedures. The effectiveness of the accounting-related internal control system and the evidence supporting the disclosures in the consolidated financial statements and the Group management report are examined primarily on a test basis within the framework of the audit. The audit includes assessing the annual financial statements of the entities to be included in consolidation, the determination of the entities to be included in consolidation, the accounting and consolidation principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements and the Group management report. We believe that our audit provides a reasonable basis for our opinion.

Our audit has not led to any reservations.

In our opinion, based on the findings of our audit, the consolidated financial statements comply with the legal requirements and give a true and fair view of the net assets, financial position, and results of operations of the Group in accordance with German principles of proper accounting. The Group management report is consistent with the consolidated financial statements and as a whole provides a suitable view of the Group's position and suitably presents the opportunities and risks of future development.

Stuttgart, Germany, March 20, 2009

Ernst & Young AG  
Wirtschaftsprüfungsgesellschaft  
Steuerberatungsgesellschaft

Elkart  
German Public Auditor

Marbler  
German Public Auditor

## MEMBERS OF THE SUPERVISORY BOARD //

### **Dr. rer. pol. Klaus P. Bleyer**

#### **Chairman**

Former Chairman of the Management Board of ZF Friedrichshafen AG, Friedrichshafen, Germany

### **Bernd Hofmaier-Schäfer**

#### **Deputy Chairman**

Chairman of the Central Works Council of MAHLE Group Germany

### **Rolf Allmendinger**

Former Chairman of the Supervisory Board of WMF Aktiengesellschaft, Geislingen, Germany

### **Herbert Bossert**

Executive Secretary of the Central Works Council of MAHLE Group Germany

### **Martin Bücher**

Deputy Chairman of the Central Works Council of MAHLE Group Germany

### **Hubert Dünneheimer**

Union Secretary of Industriegewerkschaft Metall Baden-Württemberg, District Administrative Office, Stuttgart, Germany

### **Prof. Dr. jur. Wolfgang Fritzemeyer**

LL.M., Attorney-at-Law  
Baker & McKenzie, Munich, Germany

### **Dipl.-Kfm. Horst H. Geidel**

Chairman of the Supervisory Board of Behr GmbH & Co., Stuttgart, Germany

### **Dr. rer. pol. Rolf A. Hanssen**

Former Chairman of the Management Board of MTU Friedrichshafen GmbH, Friedrichshafen, Germany

### **Hans D. Jehle**

effective April 17, 2008  
Former President of  
MAHLE, Inc., Morristown, USA

### **Thomas R. Letsch**

Vice President Sales and Application Engineering  
Commercial Vehicles of MAHLE International GmbH,  
Stuttgart, Germany

### **Gerhard Pietsch**

effective April 17, 2008  
Managing Director of the MABEG e.V.  
Association to promote and advise the  
MAHLE Group, Stuttgart, Germany

### **Prof. Dr.-Ing. Stefan Pischinger**

Director and Professor, Institute of  
Combustion Engines, RWTH Aachen, Germany

### **Willi Ritter**

Chairman of the Works Council of Stuttgart plant and the  
European Works Council of MAHLE Group

### **Hansjörg Schmierer**

Managing Director of  
Industriegewerkschaft Metall  
Local Administrative Office, Stuttgart, Germany

### **Dipl.-Kfm. Dieter Schnabel**

until April 17, 2008  
Former Chairman of the Management Board of  
Robert Bosch Ltda., Campinas, Brazil

### **Manfred Steidle**

Deputy Chairman of the Central Works Council of  
MAHLE Group Germany

### **Dipl.-Ing. Hans-Ulrich Wacker**

until April 17, 2008  
Former Executive Vice President of MAHLE Group

## REPORT OF THE SUPERVISORY BOARD //

In 2008, the members of the Supervisory Board were re-elected in accordance with the regulations of the 1976 Codetermination Act. The constituent meeting of the new Supervisory Board took place on April 17, 2008.

During the year under report, the Supervisory Board was informed regularly through oral and written reports from the Management Board and during meetings on the status and development of business of the Company and the MAHLE Group. The Supervisory Board held three ordinary meetings.

Ernst & Young AG Wirtschaftsprüfungsgesellschaft Steuerberatungsgesellschaft, Stuttgart, Germany, audited the Annual Financial Statements and the Status Reports of the MAHLE Group and of MAHLE GmbH for the 2008 business year, rendering an unqualified audit opinion. The Supervisory Board agrees with the results of the audit.

The Supervisory Board approves the Annual Financial Statements and the Status Reports of the MAHLE Group and of MAHLE GmbH, and does not raise any objections to the appropriation of income as proposed by the Management Board.

Dr. Hans-Josef Enning, who had belonged to the company since September 1, 1999, and had been a member of the Management Board since January 1, 2001, retired on June 30, 2008. The Supervisory Board would like to thank Dr. Enning for his many years of successful work.

Dr. Rudolf Paulik was appointed Corporate Executive Vice President and General Manager with effect from July 1, 2008.

Stuttgart, Germany, April 23, 2009

For the Supervisory Board



Dr. Klaus P. Bleyer  
Chairman



## MANAGEMENT BOARD //

### **Prof. Dr.-Ing. Heinz K. Junker**

#### **Chairman and CEO**

Profit Centers Aftermarket, Motorsports and Engineering Services, Market, Sales, Advanced Engineering, Communications, Legal, and Internal Audit

### **Dr.-Ing. Hans Peter Coenen**

Corporate Executive Vice President and General Manager  
Product Line Piston Systems,  
Profit Centers Small Engine Components and Large Engine Components

### **Dr.-Ing. Hans-Josef Enning**

until June 30, 2008

Corporate Executive Vice President and General Manager  
Product Line Valve Train Systems  
Corporate Quality Management

### **Michael Glowatzki**

Corporate Executive Vice President  
Human Resources

### **Dipl.-Kfm. Peter Grunow**

Corporate Executive Vice President and General Manager  
Product Lines Air Management Systems and Liquid Management Systems,  
Profit Center Industrial Filtration,  
Corporate Purchasing

### **Dr. Rudolf Paulik**

effective July 1, 2009

Corporate Executive Vice President and General Manager  
Product Lines Cylinder Components and Valve Train Systems,  
Corporate Quality Management

### **Dr. rer. pol. Bernhard Volkmann**

Corporate Executive Vice President and Chief Financial Officer  
IT Services, Insurances

### **Michael Glowatzki**

Corporate Executive Vice President  
Human Resources

### **Dr. Rudolf Paulik**

Corporate Executive Vice President and General Manager  
Product Lines Cylinder Components and Valve Train Systems,  
Corporate Quality Management



**Prof. Dr.-Ing. Heinz K. Junker**

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## COMMERCIAL/GENERAL GLOSSARY //

### Accruals

Liability items in the balance sheet. The purpose of accruals is to take into account demands for payment that are already identifiable at the balance sheet date but for which the amount and/or due date are still uncertain.

### Advanced engineering

Product development from research to early stage of serial development.

### Aftermarket

Sale of products to independent market: in spare part business parallel with or following series production.

### Asset-backed security (ABS)

In an asset-backed security transaction, a company sells parts of its receivables portfolio to a company, which, in turn, refinances itself by issuing marketable securities (asset-backed securities).

### Best practice

Method for success: Anglo-American business term. When a company acts according to best practice, it uses proven, cost-effective processes, technical systems, and business processes, which make it an industrial model for others, at least in the major fields of activity.

### BRIC countries

Acronym for Brazil, Russia, India, and China. These countries are generally regarded as major emerging growth markets.

### Consolidation group

Comprises the parent company and all subsidiaries and participations that must be considered in accordance with the regulations of the HGB on the date on which the consolidated financial statements are drawn up.

### Corporate citizenship

Social, ecological, and cultural commitment of a company and its employees in the interests of public welfare. This term expresses the recognition of a company's responsibility to the community.

### Currency exchange rate effects

Effect of the changes in exchange rates on the items in the balance sheet and profit and loss statement. Foreign currency exchange rate effects arise from the timing difference, in the conversion of currencies, between the signing and the execution of transactions not processed in the reporting currency (transaction effect) and from the conversion of the financial statements of the subsidiaries operating abroad (translation effect).

### Domestic demand

The term 'domestic demand' describes the demand for consumer and investment goods within a domestic market from private households, companies, and the state. Thus, together with the imports and exports, the domestic demand defines the overall demand for goods within a national economy.

### Driven by performance

The slogan in the MAHLE logo reflects MAHLE's performance ability and strengthens the brand's image of competence worldwide.

### E-recruiting

Electronic job application and steering system that contains online and classic applications as well as the process of handling the application until the final decision.

### Executive Excellence Program (EEP), International Development Program (IDP), Management Development Program (MDP)

MAHLE internal personnel development programs for executives.

### First consolidation

First consideration of Group member companies in the balance sheet of the absorbing subsidiary (usually if holding exceeds 50 percent).

### German Corporate Governance Code

Basic statutory standards for the management and for monitoring of German companies listed on the Stock Exchange (corporate governance). It comprises internationally and nationally recognized standards of good and responsible corporate governance.

### International Executive Meeting (IEM)

All worldwide MAHLE executives meet twice a year to work on upcoming topics.

### Joint venture/majority joint venture

Business entity which is operated jointly by two or more companies on the basis of a cooperation agreement. In a majority joint venture, one company holds a higher percentage of the shares in the joint venture than the other partners.

### MAHLE Formare education project

Social project in Brazil where children from poor and unprivileged families can attend a school and professional training at MAHLE.

### MAHLE Foundation

Main stake holder of MAHLE GmbH. Founded by the brothers Hermann and Dr. Ernst Mahle in 1964 and supports, among others, social projects, anthroposophic schooling and biodynamic farming.

### MAHLE INSIDE

The MAHLE company exhibition, opened in September 2008, shows the Group, its products, history, employees, and its commitment in motorsports.

### MAHLE Skill Navigator

An online system with which MAHLE employees can conduct trainings on their own responsibility and thus enhance their qualification.

### NAFTA

Acronym for the free trade zone founded on January 1, 1994—North American Free Trade Agreement. Its members are the United States of America, Canada, and Mexico.

### Organic growth

Part of the growth (of a company) resulting from internal forces and not from acquisitions.

### Product line

Organizational subdivision of the MAHLE Group combining the business activities of similar product groups with a focus on customers.

### Profit center

Organizational subdivision for which the profit for the period is calculated separately. Profit centers usually operate as independent companies, with the aim of earning a profit as high as possible (profit responsibility).

### REACH

EU chemical regulation that requires registration of all chemicals placed on the market in the EU and applies to both producers and importers based in the EU. The registration forms the basis for a formal evaluation, authorization, or restriction process for each substance placed on the market.

### Real economy

Refers to the part of a national economy that produces real goods and services and, together with the financial economy, forms the entire economy.

### Value-at-risk

Method for risk quantification. This is used to calculate the expected value of a loss that may occur, in the event of an unfavorable market development, with a specified probability within a defined period of time.

## TECHNICAL GLOSSARY //

### Actuator

Actuating element in the control circuit. Element that converts signals from a control unit into mechanical work, i.e., motions, in order to open or close a flap, for example.

### ADC (Advanced Diesel Casting) process

Special casting process for aluminum pistons that allows a particularly fine microstructure to be achieved locally.

### Air pulse valve

Fast acting valve in the intake system which allows load dependent control of the air fed to the combustion chamber.

### ALBOND®

MAHLE trademark for a cylinder liner compound which, when poured in, ensures a form-fitting bond with the aluminum alloy because of its rough exterior surface.

### Anti-polishing ring

Insert in the top region of the cylinder liner, which reduces locally the cylinder diameter. This results in limiting the thickness of carbon build-up at the top land, and consequently the risk of bore polishing due to carboning is minimized.

### BlueDrain® system

Maintenance-free system for controlled filtration and disposal of water in the diesel fuel.

### CamInCam® camshaft

Camshaft that achieves the functionality of two adjustable camshafts in the installation space of one. The exhaust cams are connected firmly to the shaft, and the intake cams are joined to the inner camshaft by a connecting element.

### Composite camshaft

Camshaft that consists of individual parts (main shaft, drive element, cams, and other parts), assembled by thermal shrink fit.

### Cone stack separator

Stack of dish-like elements used to separate components of a fluid medium according to their mass. Allows highly efficient separation.

### Cylinder deactivation

Selectively shutting off one or more cylinders, normally in load ranges in which full performance is not required from the engine, in order to reduce fuel consumption and emissions.

### DLC (Diamond-Like Carbon) coating

Very hard carbon coating with extremely positive wear, friction, and corrosion-reducing properties.

### Downsizing

The performance and torque characteristics of smaller engines are improved by increasing the mean effective pressure, allowing them to replace larger engines.

### EvoTec® piston

Lightweight piston for passenger car gasoline engines with a load-optimized rigid structure and low wall thicknesses.

### Exhaust gas recirculation (EGR)

In this type of system, some of the exhaust gas is added to the intake air. This results in a reduction of nitrogen oxides (NO<sub>x</sub>) during combustion.

### Exhaust gas turbocharger

Turbine in the exhaust flow that is driven by exhaust gas and takes in air at the compressor side, which is delivered to the combustion chamber. The larger volume of air available in the combustion chamber allows the engine output to be increased accordingly.

### Forged cracked connecting rod

Single-part forged connecting rod in which the bearing cap is separated from the rod in the cracking process. The two halves can be fitted together perfectly after the cracking and are protected against relative motion by the irregular fracture surfaces.

### HVOF (High Velocity Oxygen Fuel)

Special spray coating technology, where the coating material is deposited onto the substrate material with high velocity. This results in dense coatings with significantly reduced porosity.

### Hybrid technology

Vehicle propulsion system combining different engine systems, e.g., internal combustion engine and electrical motor.

### Mechatronics

Mechatronics refers to the engineering science combining mechanical and electrical/electronic components into one system.

### MONOBOLT® piston

Composite piston with bolt integrated in the piston crown.

### MonoXcomp® piston

Composite steel piston with bolt integrated in the piston crown.

### NIKASIL®

MAHLE trademark for a protective surface coating for engine components, produced by galvanically coating aluminum with nickel and silicon carbide. It improves the tribological properties of the cylinder bore and the interaction between cylinder liner, piston rings, and piston.

### Pendulum-slide cell oil pump

The rotor set of the pendulum-slide cell pump is made up of an inner rotor and the outer rotor, which can be eccentrically adjusted with respect to the inner rotor, with several embedded pendulum slides. The pendulum slides bridge the difference in diameter between the inner and outer rotor. The advantages of this type of pump construction are the low friction and high overall efficiency, as well as the adjustable discharge.

### Power cell module

Assembly consisting of piston, piston rings, piston pin, and pin retainer, as well as cylinder liner, connecting rod, and bearings.

### PVD (Physical Vapor Deposition) coating

Vacuum-based coating methods or thin-film technologies in which a coating is vapor-deposited directly onto a surface by means of condensation of the starting material.

### Rough cast liner

Cylinder liner for engines, cast with the material of the crankcase and with a specifically designed rough structure on the external surface to ensure good heat transfer and a secure connection with the cast material, even without a metallic bond.

### SCR (Selective Catalytic Reduction) technology

Exhaust gas aftertreatment using selective catalytic reduction.

### Sputter bearing

Engine bearing in which the functional bearing overlay is applied using a sputter process (cathodic vacuum arc process).

### Supercharging

Increases the efficiency of a combustion engine: More air and thus more oxygen is delivered to the combustion chamber, thereby improving its volumetric efficiency.

### Thermodynamics

The study of heat, a branch of physics.

### “Well-to-Wheel” analysis

Analysis of the energy expenditure and CO<sub>2</sub> production involved in generating the power output needed to drive a motor vehicle and in fuel production (from the source to the wheel).

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