

# Sustainable Value Report 2007/2008



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Rolls-Royce  
Motor Cars Limited



**BMW Group**

**Taking responsibility.  
Shaping the future.  
Using today's success  
to create tomorrow's  
values.**

Ways to drive responsibility.



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**Basic reporting principles.** The BMW Group is publishing this report to inform its stakeholders in a transparent way about its strategies and the steps it has taken with respect to economy, product responsibility, environmental protection across the entire Group, its employees and society. In the chapter Indicators for sustainability the strategies and actions are supported by relevant figures and the objectives for the individual areas of responsibility are shown.

The choice of topics and their prioritisation are based on the results of the international stakeholder survey that was carried out in winter 2006/2007. In this survey, almost 200 of the BMW Group's stakeholders were asked about the subjects that were most relevant to them. In addition, in-house workshops were held to identify areas of greater relevance from the company's perspective. With the aid of a materiality analysis, the results and topics from the stakeholder survey and the in-house workshops were then prioritised for this report (see facing page).

The Sustainable Value Report 2007/2008 was prepared in accordance with current guidelines of the Global Reporting Initiative (GRI G3). The report is also designed to meet the information requirements of rating agencies that evaluate how effectively companies perform in terms of sustainability. The report covers the financial years 2005 and 2006. In order to bring the report further up to date, activities up to and including August 2007 were also taken into account.

The facts and figures published relate to the BMW Group as a whole, including all three of its brands, BMW, MINI and Rolls-Royce. The statistics relating to site-specific subjects and locally-controlled sustainability measures represent an exception. In these cases, the relevant scope of validity, e.g. BMW AG, is quoted in addition to the numerical data. This Sustainable Value Report is already the sixth report on corporate sustainability to be issued by the BMW Group. The report is available in German, English, French, Italian, Japanese and Chinese.

**Evaluation of the extent to which GRI guidelines (GRI G3) are being applied.** The consultancy Schlange & Co. has checked this report and confirmed that it conforms to GRI application level B+. Adherence to GRI indicators is illustrated and explained by a GRI index in the chapter Indicators for sustainability.

WWW.  
[globalreporting.org](http://globalreporting.org)

**UN Global Compact – Communication on Progress.** The BMW Group committed itself to the principles of the Global Compact back in 2001, and in this report is once again reporting on its progress towards satisfying these principles. An overview of the 10 principles and references to examples of ways of implementing them are contained in the chapter Indicators for sustainability.

WWW.  
[unglobalcompact.org](http://unglobalcompact.org)

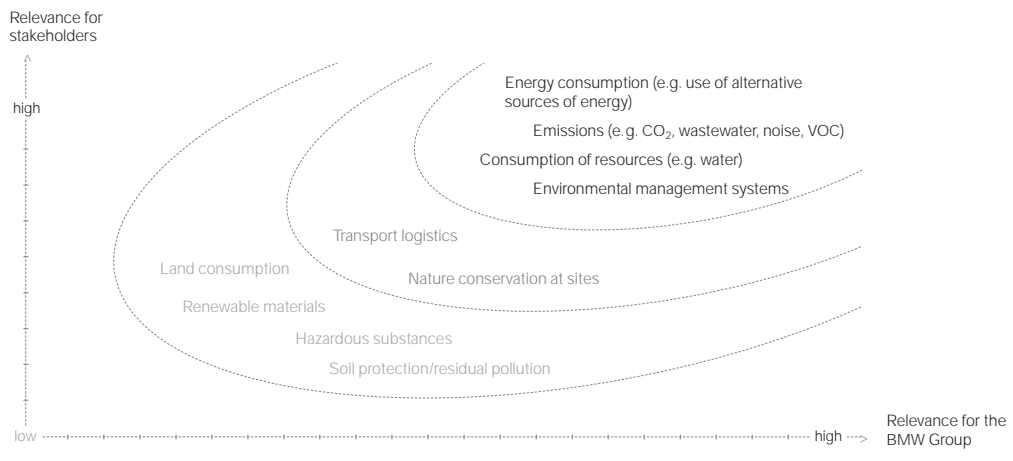
Further internet links to the topics discussed in the report are indicated by the symbol WWW at the end of a text. Activities of the BMW Group in the field of corporate responsibility can be found at [www.bmwgroup.com/responsibility](http://www.bmwgroup.com/responsibility). The current annual report can be obtained from [www.bmwgroup.com/ir](http://www.bmwgroup.com/ir).

**Materiality analysis.** In accordance with GRI G3, this Sustainable Value Report 2007/2008 fulfils the BMW Group's obligation to report on the company's main sustainability topics and its associated strategies, targets and measures.

To identify the most important subjects for this report, the BMW Group adopted a structured approach:

1. Between November 2006 and March 2007, stakeholders of the BMW Group around the world were asked which sustainability actions of the BMW Group they were aware of, what the future trends are, and the subjects on which they expect even more information in the future.
2. From the responses received from the almost 200 telephone interviews, categories such as environmental protection, employees and product responsibility, together with their corresponding subcategories, were identified. The subjects raised were then weighted according to the number of times they came up.
3. The specialist divisions of the BMW Group then assessed which of the specified topics are most significant in terms of corporate activities. The criteria applied were which processes have a relevant effect on business profitability, the environment, the employees or the society and to what extent can the BMW Group control these topics itself.
4. Finally a competitors' benchmark was conducted to ensure that the industry-related topics have been fully recorded and evaluated.
5. All the corporate responsibility topics established in this way were presented in materiality matrices (example below) according to their evaluation. Both the structure of this report and its key aspects are derived from these matrices.

**Sample illustration of the materiality analysis for the chapter on Group-wide environmental protection**



- Topics with a high degree of relevance for stakeholders and the BMW Group. These form the primary focus in this Sustainable Value Report 2007/2008.
- Topics with a lower degree of relevance for stakeholders and the BMW Group. These are accordingly discussed in less detail.
- Topics that are addressed by the BMW Group but are either not mentioned or mentioned only in passing in the report.

Ladies and Gentlemen,

With its Sustainable Value Report the BMW Group has for years been endeavouring to keep interested stakeholders informed about the company's commitment. We report in a transparent and verifiable manner on the successes and the challenges facing the company in its efforts to operate in a sustainable way. By actively seeking out a dialogue with various interest groups, we engage with important topics and developments in our field at an early stage. Developments that determine the conditions for our commercial approach – and are thus crucial for our future success. For the BMW Group this dialogue is an important instrument in securing the company's future.

The BMW Group, like all companies, strives for business success. That is also quite crucial and correct, since only successful companies can provide their employees with secure jobs and generate attractive dividends for their shareholders. Economic success is at the same time the prerequisite for a company's long-term and effective involvement in society. Only in the role of a strong partner can we work effectively to solve the key challenges facing all of us today and tomorrow. These include protection of the environment and the climate, the fight against HIV/AIDS, and dealing with demographic changes in important markets, to name just a few.

In view of the scale of the challenges it would be presumptuous to claim that we have already found solutions for all of them. What I can honestly say, however, is that we are on the right paths towards various solutions – and these paths are described in this report.

All these paths have one thing in common: we are not interested in short-term actions or sensationalism. The problems that face us around the world are too serious for that. The issue is rather one of creating a long-term, lasting effect. Sometimes this also means that we have to tread an uncomfortable path, and we take this fact on board at a conscious level. This is because we are looking for solutions that generate the greatest possible added value – both for society and for our company.



Norbert Reithofer, Chairman of the Board of Management

Sustainability throughout the value added chain, comprehensive product responsibility and a clear commitment to saving resources are all an integral part of the BMW Group's success. However numerous, diverse and complex the tasks are, the company has just as many starting points towards solutions. Within the BMW Group, sustainability is therefore not the responsibility of an individual department or a particular division. Instead, it starts off in the minds of all its employees and culminates, day after day, in the results that those employees achieve for the company.

One thing is perfectly clear: we are not yet perfect when it comes to running our business in a sustainable way – and eventually one can never be. Nevertheless, it is my personal goal, as well as that of my colleagues on the Board, that our company should make positive progress in the area of sustainable operations. This is because we want to develop the BMW Group's leading position in the automotive industry further by ensuring that all our employees act responsibly.

For us, an awareness of our social responsibilities is inseparable from our corporate self-image. We thus actively shape the conditions for our own future. This represents not only a challenge, but also a unique opportunity for any company. Let me assure you that we intend to make the most of this opportunity. Day after day. Our company's strong ties with society also play a key role in achieving this. That is why we choose to take responsibility. Because of our convictions, but also our self-interest, now and in the future.

Yours,

**Norbert Reithofer**  
Chairman of the Board of Management

Our customers obtain in-depth information from all over the world. They know what they want: innovative products with emotional appeal from a company that acts in a responsible manner. Vehicles that set standards – both in fuel consumption and performance. We don't want a niche vehicle as a kind of ecological fig leaf. Our fuel and CO<sub>2</sub>-saving technologies are already playing their part throughout our range of vehicles. We are moving steadily forwards along this road to sustainable mobility. For our own success. For the benefit of our environment. But above all for the benefit of our customers.

**Dr. Michael Ganal** Member of the Board of Management of BMW AG, Sales and Marketing

The BMW Group is taking responsibility to protect the climate; it was doing so long before the current debate on CO<sub>2</sub> emissions started. Our approach: EfficientDynamics forms the basis of an effective strategy for improving driving performance while at the same time significantly reducing fuel consumption. In this way we are able to reduce CO<sub>2</sub> emissions across our entire product range. By autumn 2007, around 40 % of all new vehicles from the BMW Group in Europe will achieve or fall below CO<sub>2</sub> emissions of 140 grams per kilometre. In the medium-term future we will offer vehicles with a hybrid drive that will set new standards for efficiency and dynamics in their segment. In view of the finite nature of fossil fuel reserves, it is already clear to us that only regenerative hydrogen can guarantee a future for individual mobility.

**Dr.-Ing. Klaus Draeger** Member of the Board of Management of BMW AG, Development and Purchasing



Sustainability has finally arrived in the capital markets – not only in little niche funds but also in classical company valuation systems. The issue here is not one of moral principles, but quite simply one of future success. The investors of today know that companies who do business in a sustainable way have greater control over risks and are better prepared for the challenges of the future. With our long-term sustainable programme we are continuously increasing the value of the BMW Group, thus making it a very attractive investment.

**Stefan Krause** Member of the Board of Management of BMW AG, Finance

A sense of ecological responsibility characterises not only our products, but also the structures and processes involved in their development. Flexibility and efficiency are of the utmost importance in our international production network. Needless to say, this also means using resources as efficiently as possible. We have clearly specified our high environmental standards and resource-saving measures under the concept of “Clean Production”. For us, running this business in a sustainable way is more than a task, it is more an attitude towards life. This fundamental principle guides our decisions, and is manifested by all our employees.

**Frank-Peter Arndt** Member of the Board of Management of BMW AG, Production

Values such as trust and mutual esteem permeate our corporate culture. To be appreciated not only enriches the everyday experience of the people who work together in the company, it also pays off: employees who feel appreciated achieve more and identify more strongly with the company. This kind of climate is also more likely to stimulate innovation. In a nutshell: Appreciation results in value added.

**Ernst Baumann** Member of the Board of Management of BMW AG, Human Resources

**The BMW Group.** With its brands BMW, MINI and Rolls-Royce, the BMW Group concentrates exclusively on the premium segments of the international automobile and motorcycle markets, with an outcome that others in the industry are striving for.

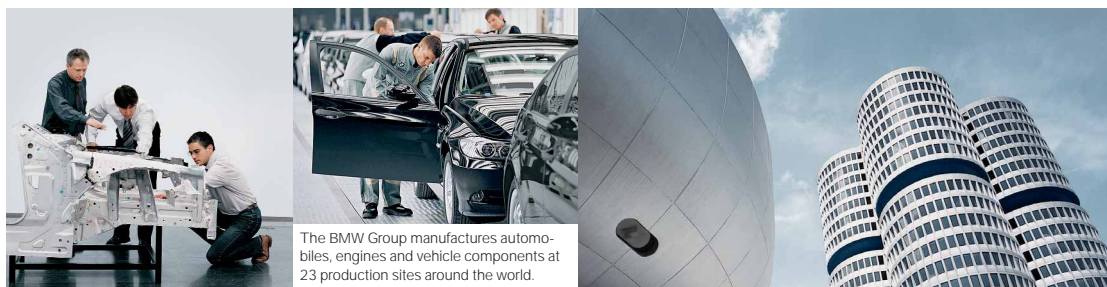
**Leading player in the premium segment.** From development, through production to the marketing of its products, the BMW Group displays an uncompromising commitment to the premium claim.

Founded in 1916 as “Bayerische Flugzeugwerke AG” and later changed to “Bayerische Motoren Werke AG”, the company is now the world’s leading premium manufacturer in the automotive industry. In addition to the development, production and marketing of automobiles and motorcycles, the BMW Group offers its private and business customers a comprehensive range of financial services.

Under the BMW brand – one of the most prestigious automobile brands in the world – the company currently offers eight model series, all of which embody the proverbial “ultimate driving machine”. With MINI, the BMW Group has also been extremely successful in positioning its product at the premium end of the small car segment. Rolls-Royce automobiles, on the other hand, have been synonymous with timeless, everlasting perfection for more than 100 years. In the motorcycle industry as well, the BMW Group has for years played a leading role in all the segments in which it has an interest. In respect of technology, safety and environmental protection, BMW motorcycles are among the best on the market.

The Financial Services business makes an important contribution to the success of the company. As well as finance and leasing offers for dealers and retail customers alike, the product range also includes insurance, capital investment offers and finance for multiple brands and fleets.

**Producing continuous, lasting value.** In all areas of its business, the BMW Group is successful and profitable. The financial year 2006 was the third consecutive year in which the Group posted record results. This success is based on the extensive product and market initiative that the BMW Group launched in 2001 to develop new market segments and markets. The company now boasts the most extensive product range in its entire history.



The Research and Innovation Centre is where the automobiles of the future take shape.

The BMW Group manufactures automobiles, engines and vehicle components at 23 production sites around the world.

BMW Group headquarters.

It has a presence with its own sales subsidiaries in 41 countries around the world, and maintains an extensive network of independent dealers. Approximately 100 other markets are looked after by importers.

The efficiency of the international BMW Group production network forms the basis for the continued growth of the company. With 23 production sites, the BMW Group is active in 12 countries – including Chennai in India, where the company opened its latest plant in 2007.

To detect trends at an early stage and put forward appropriate solutions, the BMW Group also runs a worldwide research and development network, currently incorporating ten sites. Within this network, over 9,400 employees in five countries are working day after day on the future of individual mobility, and on enabling customers to experience the benefits of the company's premium claim.

All the activities of the BMW Group are designed to increase the value of the company continuously and over the long term. In the view of the Group, long-term growth is generated by thinking long-term and acting in a sustainable manner. The central factors for success are concentrating on the premium segment, the skill and dedication of our employees, the maximum focus on what the customer wants, plus an ability to innovate, which is firmly rooted in the corporate culture.

**Taking responsibility.** Another factor can be added in – a factor that does not feature in conventional business philosophies: facing up to tomorrow's challenges in good time and in a responsible manner. The BMW Group regards itself as part of society and is actively involved in its development. These efforts make the company sustainable, thus creating one of the most important prerequisites for further increasing the company's value over and above its balance sheet and profit-and-loss account.

WWW.

[bmwgroup.com](http://bmwgroup.com)

[bmwgroup.com/responsibility](http://bmwgroup.com/responsibility)



**1,000,000** visitors go to the Festival de México every year. Since 1996 the BMW Group has been actively involved with this cultural event, one of the most important in Central America.

**59,000** tons of CO<sub>2</sub> are saved annually thanks to the Landfill Gas Project at BMW plant Spartanburg.

**1,000** participants attended the BMW Group's Road Education Programme in Brazil and Argentina in 2006. In Argentina, 29 of every 100,000 people die annually as the result of road traffic accidents. In Brazil the figure is 17, in Germany 8. To lower the dramatic accident figures in the former two countries, particularly among young people, the BMW Group invites pupils, teachers and parents to participate in the Road Education Programme.

Headquarters

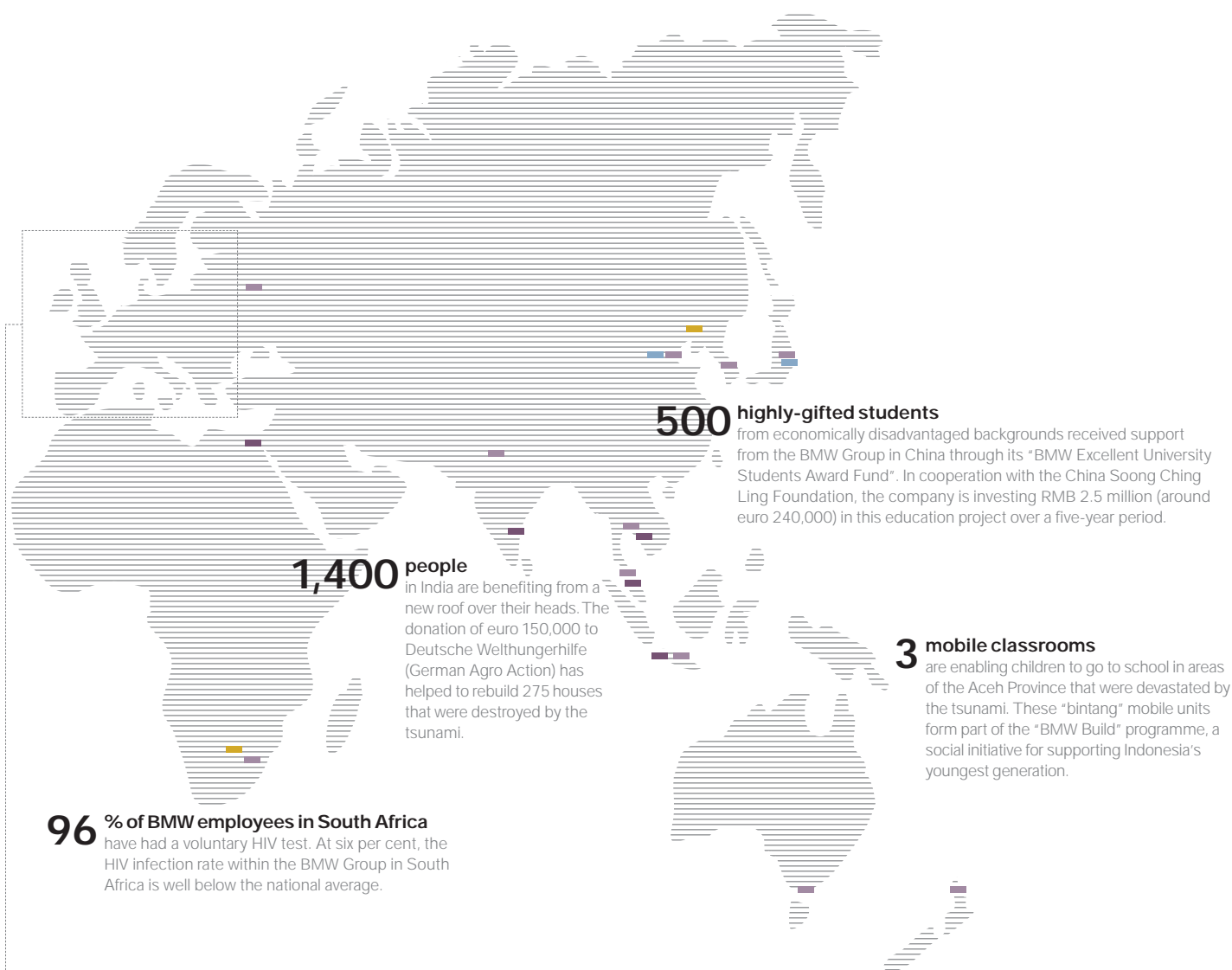
**Research and Development**  
 BMW Group Research and Innovation Centre (FIZ), Munich  
 BMW Group Forschung und Technik, Munich  
 BMW Group Car IT, Munich  
 BMW Innovations- und Technologiezentrum für Leichtbau, Landshut  
 BMW Entwicklungszentrum für Dieselmotoren, Steyr, Austria  
 BMW Group Designworks, Newbury Park, USA  
 BMW Group Technology Office, Palo Alto, USA  
 BMW Group Engineering and Emission Test Center, Oxnard, USA  
 BMW Group Technology Office, Tokyo, Japan  
 BMW Group Development Office, Beijing, China

**Production**  
 Berlin plant  
 Dingolfing plant  
 Eisenach plant  
 Goodwood plant, GB (headquarters of Rolls-Royce Motor Cars Limited)  
 Hams Hall plant, GB  
 Landshut plant  
 Leipzig plant  
 Munich plant  
 Oxford plant, GB  
 Regensburg plant  
 Rosslyn plant, South Africa  
 BMW Brilliance Automotive Ltd., Shenyang, China (joint venture with Brilliance China Automotive Holdings)  
 Spartanburg plant, USA  
 Steyr plant, Austria  
 Swindon plant, GB  
 Wackersdorf plant

**Contract production**  
 Magna Steyr Fahrzeugtechnik, Austria

**Assembly plants**  
 CKD production Cairo, Egypt  
 CKD production Chennai, India  
 CKD production Jakarta, Indonesia  
 CKD production Kaliningrad, Russia  
 CKD production Kuala Lumpur, Malaysia  
 CKD production Rayong, Thailand

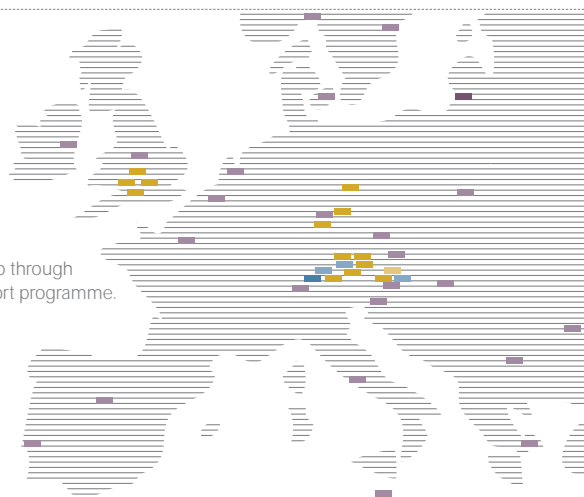
**Sales subsidiary markets**  
 Argentina, Australia, Austria, Belgium, Brazil, Bulgaria, Canada, China, Czech Republic, Denmark, Finland, France, Germany, Great Britain, Greece, Hungary, India, Indonesia, Ireland, Italy, Japan, Malaysia, Malta, Mexico, Netherlands, New Zealand, Norway, Philippines, Poland, Portugal, Romania, Russia, Slovakia, Slovenia, South Africa, South Korea, Spain, Sweden, Switzerland, Thailand, USA



**200,000,000 British pounds** were invested by the BMW Group in the MINI Production Triangle, comprising the three British plants Hams Hall, Oxford and Swindon, thereby creating 450 new jobs.

**24,000 tons of CO<sub>2</sub>** are saved every year by the BMW Group through its well thought-out employees' transport programme.

**30,000,000 litres of water** are saved annually by the BMW Group through its completely new system for industrial and wastewater at its Steyr engine plant. This is equivalent to the average consumption of a village with a population of 750.



# 01 Sustainability management

In the BMW Group, sustainability is not an assignment for a designated staff member. As specialists in their fields, all employees are expected to think and act responsibly in their own sphere of activity. That is the case for these five representatives of the more than 106,000 employees of the BMW Group.



Entrepreneurial success does not come about spontaneously. It is created by and for people and is unimaginable without customers and employees, who alone make long-term growth possible. In order to develop, success requires an environment worth living in and a society that is intact. Because ultimately, it is these factors that create the conditions in which the company functions. For this reason, the BMW Group takes on an active role not only in shaping success factors within the company but also as a corporate citizen in the locations and the markets in which it operates. And this for many years now.

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**“The BMW Group is very well thought of in the region, since the company is able to increase value added and is well thought of as an employer in all areas. This good image also exists thanks to the fact that the BMW Group carries on a lively dialogue with stakeholders and abides by a good neighbour policy.”**

Dr. Stephan Schwarzer, Austrian Chamber of Commerce

**“It is very important that the topic of sustainability is integral to the company strategy, particularly when the products, that are the heart of the company, are in conflict with the environment.”**

Dr. Gabriella Ries, Research Analyst, Bank Sarasin

**“In our Mobility Forum I witnessed BMW Group’s recognition of product responsibility in the context of climate change beyond sustainability of production. This certainly guides its decisions regarding fuel efficiency, alternative drive trains and mobility services.”**

Martina Otto, Head, Energy and Transport Policy Unit, United Nations Environment Programme

In the early 70s, environmental protection was already included in the company’s organisation. Social commitment also developed over the years from the original, purely local activities to a global involvement. Today sustainable operation is an integral guiding principle in the company’s strategy and culture. In line with this, the BMW Group conforms to the ten principles of the Global Compact and the Cleaner Production Declaration of the United Nations Environment Programme (UNEP). In addition, the company’s orientation is guided by the agreements of the International Labour Organisation (ILO), the OECD guidelines for multinational companies, and the Business Charter for Sustainable Development of the International Chamber of Commerce (ICC).

For the BMW Group, the exercise of social responsibility has little to do with philanthropy or patronage but a great deal to do with increasing the value of the company. For in the long term, the competitive advantage will be gained by those companies that have been quick to develop solutions for future challenges. Ultimately, fulfilled responsibilities create the ability to meet future challenges, which is a gain for society and for the company.

Based on this knowledge, the BMW Group regards corporate responsibility as self-evident. The company takes on responsibility worldwide, wherever its value added chain is affected. Here the BMW Group makes a special contribution by lending its innovative powers and competence, in its own interest and the interest of those communities where it sees itself as a member. The activities of the BMW Group are oriented towards the long term – precisely because it is not only a matter of good deeds but also of investments in its own future.

More and more, this connection is also valued in capital markets where sustainability criteria are increasingly incorporated in company analyses. In this area, the BMW Group is evaluated as excellent. However, it is also clear that even for a worldwide operating group, the opportunities for influence are limited. Acting alone, the BMW Group can stop neither the AIDS pandemic nor climate change. But in all these areas it can make its contribution – and it does this looking to the future, consistently, and with considerable effort. **▶ Page 81 et seq.**

WWW.  
[bmwgroup.com/responsibility](http://bmwgroup.com/responsibility)



## 01.1 Strategy and organisation

### Achievements.

- The BMW Group deploys its resources five times more efficiently than the German national economy and achieved a sustainable value of more than euro 8.2 billion for the year 2004.

### Challenges.

- To coordinate sustainability activities in the BMW Group more closely.
- To integrate sustainability activities more extensively into processes and to work systematically on weak points.

**Resources, risks and reputation.** The BMW Group sees sustainability as a management task and in its decision process it takes into account not only business but also ecological and social criteria. All sustainability activities of the BMW Group are focused on the most efficient and conservation-oriented deployment of resources, early recognition and minimisation of risks as well as the consequent increase of the company's reputation.

**Conserving resources.** This approach is also reflected in the company's personnel work. With flexible work time models for employees and the company, further training initiatives, advanced measures for workplace safety as well as numerous other measures, the BMW Group provides for the health, qualification and motivation of its employees. At first, all these measures generate costs. In the medium and long term, however, they lead to a priceless competitive advantage for the company.

The same long-term thinking characterises the handling of capital, the products of the BMW Group and such resources as water, energy and raw materials. For the BMW Group, "efficiency" means not only economising but rather the most effective deployment of resources. An example of this is the company's EfficientDynamics strategy that achieves increased performance and vehicle dynamics while decreasing fuel consumption. And what is true for the products is also true for the BMW Group as a whole. Only a company that operates efficiently has enough mobility for a flexible response to today's challenges.

**Lowering risks.** An important requirement for handling risks and avoiding them if possible is to recognise them in time. That is why the BMW Group is in constant dialogue with stakeholders from the worlds of business, politics and society. As constructive observers and critics of social developments, they help the BMW Group to be ready for future challenges. Active risk management and strategic

As varied as the aspects of sustainable management for the BMW Group may be, the goals are clear as regards the direction that company action should take.

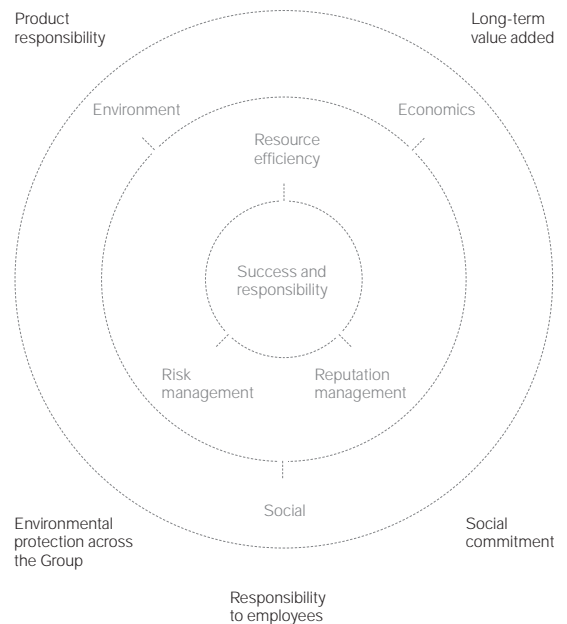
sustainability commitment can transform many challenges into opportunities for the company.

**Building reputation.** As a responsible corporate citizen that communicates its social commitment clearly, as for example with this sustainability report, the BMW Group advances both understanding and appreciation for its actions in the public forum. In this way, the BMW Group strengthens both the reputation of the company and trust in its brands.

### Comprehensive integration of sustainability.

The BMW Group has integrated sustainable development as the premise of its operation and planning in all processes and areas of the company. With clear goals and responsibilities, the Board has

#### BMW Group's understanding of sustainability and areas of activity





committed itself to sustainability. In doing so, the company takes a consistent bottom-up approach: ultimately, more than 106,000 employees worldwide, each in his/her own sphere of activity, are working day after day for greater sustainability – an approach that adds up to the greatest possible effect.

Instead of banking on fixed structures and rigid procedures, the BMW Group is relying on the knowledge and sense of responsibility of its workforce. As specialists in their fields, all employees are expected to think and act responsibly at their work places. For instance, the environmental managers in the plants, as well as the central environmental protection department, concern themselves with environmental protection at the various locations, identify opportu-

are formulated in the various departments. In this way, the responsibility for sustainable operation is not delegated but actually acted upon in all processes and areas of the BMW Group.

**Becoming better.** It is the declared goal of the company to expand its activities in the area of sustainability over the entire company and coordinate them more vigorously. These activities are already creating significant added value. The precise magnitude of this added value has been studied by scientists at the Queen's University in Belfast (Northern Ireland) and the Institute for Future Studies and Technology Evaluation in Berlin (IZT) in an extensive study in spring 2007. The goal of the researchers was to quantify the sustainability achievements of German companies with the help of the sustainable value approach. In other words, how efficiently companies use their economic, ecological and social resources. Result: In the year 2004, the period under study, the BMW Group deployed its resources five times more efficiently than the German national economy and thus created an absolute sustainable value of more than euro 8.2 billion. No other company of those studied deployed its economic, ecological and social resources more efficiently than the BMW Group.

Sustainable value achieved by the BMW Group in the year 2004 amounted to:

euro 8.2 billion



All employees in the BMW Group are expected to work responsibly in their areas of activity.

nities for improvement and provide for their implementation. On the other hand, climate protection is a task that involves a large number of employees and specialists from developmental engineers to works planners. The central idea is that individually, in their own positions and with their own resources, they must seek out the best solutions. With this style of work, suggestions for improvement are developed by precisely those specialists who are the most familiar with a topic, and then passed on to the decision makers. For complex problems, each employee has the possibility of involving other departments and experts in decision making. Sustainability goals

WWW.  
new-projekt.de  
sustainablevalue.org

## 01.2 Areas of activity

### Awards.

– For its company strategy oriented to sustainability, the BMW Group was honoured by the European Foundation for Quality Management (EFQM) with the 2006 Excellence Award.

The year the BMW Group was first listed in the Dow Jones Sustainability Index:

# 1999

**Responsibility in the value added chain.** First of all, corporate responsibility is expressed by the fact that the BMW Group is expanding its business success through competitive products and opening up new markets. The company can only fulfil its responsibility to employees, whose jobs it must secure, and to shareholders, who expect a continuous increase in the value of the company, through long-term, profitable growth. Moreover, the BMW Group also takes on overall responsibility for its products, for resource-economising production, for safe jobs now and in the future, and responsibilities toward the society of which it sees itself as a member. Comprehensive internal and external communication forms the basis for active management of corporate responsibility.

With regard to its products, the responsibility of the BMW Group already begins in the early development phase. From the start, vehicles are constructed in such a way that their production economises resources and their recycling is environmentally sound. With a sustainable mobility strategy extending from growing efficiency to increasing electrification of the power train to long-term use of hydrogen as an inexhaustible source of energy, the BMW Group is contributing to the reduction of CO<sub>2</sub> emissions. By means of mobility projects, it is engaged in the optimisation of traffic overall and contributes to a decrease in the CO<sub>2</sub> emissions of traffic as a whole.

Environmental protection across the BMW Group is equally comprehensive. The company strives for the smallest possible effect on the environment and the greatest possible conservation of resources by means of efficient environmental management systems. Regular audits monitor company compliance with environmental standards. However, high environmental and social standards apply not only within the company but also to suppliers and service providers along the entire value added chain of the BMW Group.

What is the significance of sustainable development for the business operation of the BMW Group? How is the commitment to responsibility expressed in practice?

The BMW Group sees its over 106,000 employees as decisive components of its success and makes every effort to provide them with attractive jobs. The company responds to demographic changes with opportunities for further training and employee health care measures, thus making an important contribution to its own ability to meet future challenges.

**Recognised social commitment.** However, the BMW Group believes that corporate responsibility extends beyond the plant gates. On the contrary, the BMW Group accepts broad social responsibility at all its locations. The key aspects of its commitment arise from the company's core competence. It is clear that social commitment is all the more effective the more closely it is related to the key aspects of one's own operation and the challenges presented by society.

The BMW Group supports and encourages an ongoing dialogue with its stakeholders through its biennial Sustainable Value Report, an online presence and public events on the topic of sustainability. By communicating its role as an active corporate citizen, the company wins the appreciation of customers and investors, an appreciation that has a direct effect on the value of the company via sustainability rankings. Within the company, the concept of sustainability is constantly being communicated and integrated through the BMW Group employees' newsletter, the intranet, management conferences and training for employees.

**Top grades.** For its achievements in the area of sustainable operation, the BMW Group receives high recognition from financial analysts. Just one example: In the Dow Jones Sustainability Index World it was honoured as a "Super Sector Leader" in 2005 and 2006 and thus, from the point of view of sustainability, it is the leading automotive company. The BMW Group is the only automotive company since the establishment of the Dow Jones Sustainability Index in 1999 to be continuously listed in one of the top three places within the index.

**Achievements.**

- Named Supersector Leader "Automotives and Parts" in the Dow Jones Sustainability Indexes in 2005 and 2006.

**Challenges.**

- Further optimisation and integration of the company's sustainability commitment, in order to continue earning very good sustainability rankings in the future.

In addition, the BMW Group was singled out by the European Foundation for Quality Management (EFQM) with the 2006 Excellence Award. This award honours European companies or organisations that have achieved their leading positions not only by technical or economic performance but most importantly, by a company strategy demonstrably oriented to sustainability for at least three successive years.

The chassis and drive components division participated in the competition as representative of the entire BMW Group. The jury put particular emphasis on the strategic customer orientation and the BMW Group's company culture, oriented to partnership and sustainability.

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**BMW Group in financial and sustainability ratings as well as in index listings from January 2005 to July 2007**


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<b>Financial Rating Agencies</b>	<b>Results of short-term and long-term ratings in 2006</b>
Moody's	P-1/A1
Standard & Poor's (S & P)	A-1/A+
<b>Sustainability Rating Agencies</b>	<b>Evaluation and Result</b>
imug/Ethical Investment Research Services (EIRIS)	Evaluated (Result see FTSE4Good)
Oekom Research	Second place Automotive industry, Status Prime in Corporate Responsibility Rating
ÖKO-TREND	ÖKO-TREND certificate: Outstanding corporate responsibility
Sustainable Asset Management (SAM)	Evaluated (Result see Dow Jones Sustainability Indexes)
Scoris	Third place for the BMW Group in 2005
Vigeo	Evaluated (Result see Advanced Sustainable Performance Indices)
<b>Sustainability Indices</b>	<b>Listing and Result</b>
Advanced Sustainable Performance Indices (ASPI)	Listed
Climate Leadership Index (CLI)	Best in class in the Carbon Disclosure Project in 2005 and 2006
Dow Jones Sustainability Index (DJSI) World	Business leader in 2005 and 2006
Dow Jones Sustainability Index (DJSI) STOXX	Business leader in 2005 and 2006
Dow Jones Sustainability Index (DJSI) EURO STOXX	Business leader in 2005 and 2006
E. Capital Partners International (ECPI) – Index Family	Listed
Ethibel Sustainability Index (ESI) Excellence Global	Listed
Ethibel Sustainability Index (ESI) Pioneer Global	Listed
FTSE4Good Environmental Leaders	Listed
FTSE4Good Europe Index	Listed
FTSE4Good Global Index	Listed

# 01.3 Stakeholder dialogue

### Achievements.

- Implementation of the first international stakeholder survey with 189 participants from 21 countries.
- Inclusion of local stakeholders by means of local surveys or image analyses at the Berlin, Dingolfing, Hams Hall, Landshut, Leipzig, Oxford, Regensburg and Steyr locations.

### Challenges.

- Improving stakeholder dialogue by means of regular surveys of stakeholders worldwide.

**Listening, explaining, understanding.** The BMW Group reacts not only to inquiries coming from the outside but actively and systematically seeks out dialogue with its stakeholders. After all, open, unprejudiced dialogue offers great opportunities. It helps the company with early identification of risks and potentials, finding new ways and correcting or even avoiding errors. And last but not least, the reputation of the BMW Group is enhanced when the motives and goals of its operations become transparent.

The dialogue is carried out on different levels and by different departments within the company. At each location, the communications offices of the BMW Group are in close contact with the region's stake-

Commitment requires dialogue. As an internationally-operating company, the BMW Group communicates constantly with a number of international and regional stakeholder groups. Customers, business partners, employees, media, policy and scientific decision makers, non-governmental organisations (NGOs) and investors – they all make demands on the company at a local and global level.

surroundings. The goal is to derive motivation for improvement from the analyses. Similar analyses were carried out at the Berlin, Dingolfing, Hams Hall, Landshut, Leipzig, Oxford, Regensburg and Steyr locations and appropriate measures were developed from them.

Dialogue on these topics with European and international non-governmental organisations (NGOs), which have recently chiefly involved the topic of climate change, is largely carried out at the company's headquarters in Munich.

The target groups are broadly selected – as broadly as the society in which the company sees itself as an active partner. The exchange with stakeholders is

**Stakeholder universe of the BMW Group**



holders. For instance, since 1999 the BMW plant Dingolfing has carried out four image analyses in which the local stakeholders were asked for their opinion of the plant and its effects on the immediate

**Perception and rating of the BMW Group commitment to sustainability\***

in % according to rating scale

Very good	35
Good	36
Moderate	18
Adequate	5
Poor	5
Very poor	1



The ratings refer to the commitment specified by the stakeholders of the BMW Group in the subject areas economics, supply chain management, environmental protection, product responsibility, employees and society.  
\*International stakeholder survey winter 2006/2007. 189 stakeholders from 21 countries were interviewed by telephone; multiple answers were possible.

institutionalised by participation of the BMW Group in various committees and organisations. In this way, the company has been involved since 2001 in implementation of the United Nations' Global Compact principles. Other sustainability committees in which representatives of the BMW Group participate include the econsense Sustainable Development Forum in Germany, which the company helped found, the Global Business Coalition on HIV/AIDS, the Transport Energy Strategy (TES) and the Clean Energy Partnership Berlin project that grew out of it, and the Strategy Council for Hydrogen and Fuel

Cells. In addition there are the European Hydrogen and Fuel Cell Technology Platform as well as the German Chinese Sustainable Fuel Partnership. On all these levels, the BMW Group solicits the opinion of others, makes its position clear and creates trust in the company.

**Positive evaluation of the stakeholders.** For further optimisation of its activities, the BMW Group carried out a stakeholder survey in winter 2006/2007. In this project, an external consulting firm surveyed almost 200 stakeholders in the BMW Group from 21 countries. The goal of the study was to focus the sustainability reporting even more sharply on the needs of the readers, to identify relevant topics and trends for the future, to discern the commitment

competitive. At the same time they felt that the BMW Group, as a technology leader, is better placed than many competitors to master these challenges successfully.

In the future too, the BMW Group wants to continue improving and systematising its stakeholder dialogue. This effort will be supported by regular surveys and exchanges with stakeholders worldwide, but also by increased utilisation of electronic media. This is also the easiest and fastest way to learn more about the involvement of the BMW Group in sustainability activities. An e-mail to [sustainability@bmwgroup.com](mailto:sustainability@bmwgroup.com) is enough. **i > Page 81 et seq.**

WWW.  
[bmwgroup.com/responsibility](http://bmwgroup.com/responsibility)

Percentage of stakeholders who evaluated the BMW Group's commitment to sustainability in the survey of winter 2006/2007 as "good" or "very good":

71%

#### Relevant trends and subjects for the BMW Group in the area of corporate sustainability\*

Areas	Number of answers	Examples of trends and topics
Product responsibility	149	Climate protection, alternative drive technologies, traffic safety, product recycling
Economics	104	Anti-corruption, risk management, investments
Employees	95	Demographic change, safety at work/health protection, equal opportunities
Environmental protection	68	Energy management, resource consumption, sustainable transportation logistics
Society	64	Sustainable mobility, HIV projects in countries with BMW Group activities, education
Supply chain management	24	Transparency in the value added chain with regard to maintaining environmental and social standards, cooperation with (system)suppliers

\*International stakeholder survey in winter 2006/2007: 189 stakeholders from 21 countries were interviewed by telephone; multiple answers were possible.

of the BMW Group and to make the dialogue with stakeholders more permanent.

Evaluation of the talks showed that the dialogue of the BMW Group with its stakeholders is generally considered positive and its commitment is largely evaluated as good to very good. Environmental protection, climate protection and alternative drive technologies were ranked as the most important challenges by the individuals interviewed. In the opinion of respondents to the survey, vehicles with alternative drive technologies and focusing model policy on fuel consumption and CO<sub>2</sub> emissions are the most important factors for making the BMW Group

# 02 Economics

**Gianluca Giavi** and his colleagues in corporate controlling/risk management contribute significantly to the BMW Group's ability to recognise opportunities and risks on time and react to them appropriately.



For the BMW Group, success and responsibility go together. Only successful companies that generate profits have the power and independence to take on responsibility for the long-term. And from the point of view of the BMW Group, this is an indispensable form of active assurance for the future and thus a necessary and prudent investment in continued success ten, twenty or thirty years from now.

**“As investors we need to understand how BMW Group’s corporate responsibility efforts translate into short and long-term financial performance effects. As such, relevant corporate responsibility indicators should be communicated alongside financial performance indicators.”**

Hege Sjo, European governance and engagement, Hermes Pensions Management Ltd.

### **Financial year 2006 successfully completed.**

The BMW Group achieved record levels for sales volume, revenues and earnings in 2006. The past year has therefore been the most successful in the Group’s corporate history. For the third successive time, it was possible to exceed the figures of the previous year. The company delivered 1,373,970 vehicles of the BMW, MINI and Rolls-Royce brands to customers, 3.5 % more than in the previous year. In the motorcycle business, another historic high was achieved with more than 100,000 BMW motorcycles sold. The company also achieved robust growth in the financial services business. The number of leasing and financing contracts rose by 8.8 % compared to 2005. The number of new BMW Group vehicles leased or financed by the financial services division for the year 2006 was at 42.4 %.

On the basis of the positive retail performance and the growth in financial services business, the revenues of the Group for 2006 rose by 5.0 % to euro 48,999 million. Profit before tax surpassed the euro 4 billion level for the first time, the operating cash flow of industrial operations was euro 5,373 million. These are only two examples of the company’s financial strength. The BMW Group’s financial reliability is confirmed by excellent ratings from independent rating agencies. Moody’s ranks the BMW Group the first-class short-term grade of P-1, Standard & Poor’s the grade of A-1. The long-term rating for the BMW Group was A1 (Moody’s) and A+ (Standard & Poor’s), both with a stable outlook. In the ratings that are specialised in sustainable operations, the BMW Group also achieved very good results. Thus the company has been a “Supersector Leader” for the automotive industry in the Dow Jones Sustainability Indexes since 2005.

**Investment for future performance.** Comprehensive investments in the expansion of the production network, in research and development as well as in the worldwide sales network assure the company’s performance ability for the future. In 2006, for example, the company invested about GBP 200 million in Great Britain in the so-called MINI Production Triangle that includes the plants at Hams Hall, Oxford and Swindon. As a result, the production capacity for the MINI rose from about 200,000 to 240,000 units per year and the number of employees at the three locations will rise, when full production capacity has been reached, from 6,350 today to 6,800.

At the beginning of the year 2007, the BMW Group opened a new subsidiary in India with headquarters in Delhi and, soon after that, the BMW plant Chennai. The Chennai plant is designed for production in the mid-term of up to 1,700 vehicles of the BMW 3 Series and 5 Series. With a presence on the subcontinent, the BMW Group plans to make better use of the potential of the growing market in India.

In addition, in October 2007, the BMW Group will open the BMW Welt at the Munich location. At the new delivery centre near the headquarters, the BMW museum and the Munich plant, it will be possible to experience the BMW brand in a previously unknown, fascinating way.

The primary goal of the BMW Group is to assure continued profitable growth. Its BMW, MINI and Rolls-Royce brands will be further expanded. For this purpose, the company has invested about euro 21 billion in the last five years, from 2002 to 2006 to expand the production network, extend the sales network, and for research and development. With a largely constant number of employees, sales volume in 2007 is expected to rise to the historic high of more than 1.4 million vehicles. For the year 2010, the BMW Group is already counting on 1.6 million units sold. **j > Page 83 et seqq.**



## 02.1 Value increase and risk management

As a global company with strong interests in the automotive and motorcycle business as well as in financial services, the BMW Group resembles an extremely complex organism. In order to achieve the goal of long-term and continuous increase in the company's value, the enterprise has at its disposal a corporate management system.

### **Management system within the BMW Group.**

For value based management in the Automobile and Motorcycle Segments, specific product, process and structure-related projects are considered. The Financial Services Segment is concerned with the cash flows resulting from its credit and lease portfolio. For decisions about a project the net present value and the internal project rate of return are determined and compared with the minimum rate of return derived from capital market data. Using this method the project's value added as well as the total value of the segment can be ascertained at any moment.

**Managing risks, taking opportunities.** Just as the company keeps a constant watch on its costs and value contributions, it constantly monitors opportunities and risks that confront it. In general: The BMW Group only consciously takes on risk when this step can increase the value of the company. The BMW Group arrives at company decisions on the basis of comprehensive evaluation of the associated opportunities and risks. The type, magnitude, and relevance of a specific risk are usually determined by corporate controlling and the respective specialist divisions. Further risks are taken under consideration by the risk management network and monitored by means of IT supported risk reporting. This includes risks that impede business performance of the BMW Group considerably but cannot be influenced by the company. Political and social conditions (such as pandemics or terrorist attacks that can influence the world economy), specific industry risks such as an increase in the price of raw materials or exchange rates, laws and ordinances, but also personnel risks such as demographic change that alters the structure of workforce, customers and the labour market. However, most of these risks can, if they are recog-

nised early and dealt with appropriately, be transformed into opportunities. Opportunities that the BMW Group uses to good purpose, as the programme "Today for tomorrow" shows, with which the company responds to the demographic change (see also pages 64 et seq.).

**Trust and clear responsibility.** The company culture of the BMW Group is characterised by clear responsibility, mutual respect and trust. And yet individual misconduct can never be totally excluded. It is the goal of the BMW Group to minimise these risks throughout the corporation, to the greatest extent possible and to uncover cases of corruption, bribery or blackmail systematically. In accordance with the anti-corruption principle of the Global Compact, the BMW Group has for years been implementing an internal control system whose effectiveness is checked regularly and on the basis of risks. Moreover, employees in the relevant divisions are increasingly sensitised to corruption.

The way in which employees should confront these risks is laid down in the respective company guidelines, the mission statement for employees and management of the BMW Group, and in the guidelines of the long-term personnel policies. The risk of corruption is reduced by organisational rules, for instance that everything should be seen by more than one person and the basic separation between requesting departments and Purchasing. Regular, obligatory job rotation in the Purchasing Department, which is intended to prevent relationships of dependency, is supported by the Human Resources Department. In addition, all units of the company are regularly monitored by the Corporate Audit Department according to the standards of the "Deutsches Institut für interne



Revision" (German Institute for Internal Review), with close attention to possible risks. The reviews are more frequent for processes and areas of the corporation that exhibit higher risk – for instance in countries that are more strongly affected by corruption. The corporate audit provides the departmental functions with tools for risk control and risk self-evaluation.

An example of the efficiency of the internal control mechanisms was the discovery of a case of corruption in the purchasing process of BMW AG in the year 2005. The legal processing of the cases led to the conviction of employees of the BMW Group in 2006/2007. In order to further reduce the risk of irregularities, the guidelines for employees in the Purchasing Department as well as for 600 suppliers regarding gifts and non-business events were specifically communicated once more in 2006.

**Corporate Governance.** Cooperation between the Board of Management and the Supervisory Board, in an atmosphere of commonly shared trust and responsibility, has long been the basis for managing the affairs of the BMW Group. It did not merely begin when the concept of corporate governance became a topic for public discussion. This basic approach is reflected in transparent and regular reporting of information regarding the business position as well as all relevant developments in the company. A significant component of corporate governance in the BMW Group is the company-specific Code of Corporate Governance that the Board of Management and the Supervisory Board already adopted in December 2002 and which since has been adapted several times to correspond to changes in the German Code of Corporate Governance.

WWW.  
[bmwgroup.com/ir](http://bmwgroup.com/ir)

#### **Achievements.**

- Establishment of a Compliance Committee.

#### **Challenges.**

- To make employees, suppliers and business partners more conscious of working in compliance with guidelines and statutes.

## 02.2 Economic factor BMW Group

Every year in which the BMW Group grows profitably, it simultaneously contributes to the growth of the economy. Some direct effects – for instance through investment, taxes, social security contributions and jobs with the BMW Group – can be specifically measured. Others, such as the tax payments of its employees or the creation of jobs with suppliers and their suppliers – can only be roughly estimated.

**Integral value added.** During the reporting period, the BMW Group has made a significant contribution to economic growth and social stability at its locations. The company provided work for 106,575 employees worldwide including 4,359 apprentices. While the number of employees in Germany, where about three quarters of the personnel are employed, remained almost constant, the number of personnel worldwide increased slightly by 0.7%. Overall, the BMW Group has created about 12,900 new jobs since the year 2001. The increased international presence of the BMW Group, the growth of capacity abroad and the worldwide demand for BMW Group automobiles helps to assure the security of jobs domestically and abroad.

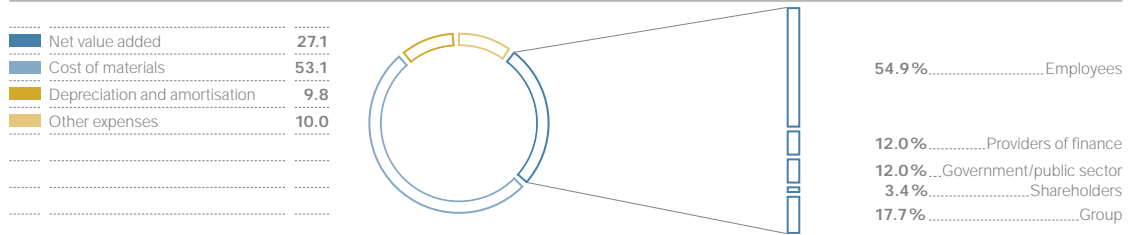
tained by the company to finance future business activity.

The contribution made by the BMW Group's tax payments is also significant. In the year 2006, euro 993 million in current tax expense were paid out to tax authorities worldwide. In the same year, deferred tax expense amounted to euro 257 million. In addition there are the income taxes and other duties paid by employees of the BMW Group in the past year.

WWW.  
bmwgroup.com/ir

**Stimulus for regions.** All these figures document the great significance of the BMW Group as a growth factor at its locations. A research group of the

**BMW Group value added 2006**  
in %



The growth of the company can also be seen from the investments that have been made. In the year 2006 alone, the BMW Group invested euro 4,313 million, principally in continued expanding and modernisation of the worldwide production network, the expansion of its sales network, as well as in research and development. This corresponds to an increase of 8.0% over the previous year.

The net value added of the company increased by 8.8% to euro 13,585 million, in particular thanks to rising revenues in 2006. Of this, 54.9% was allotted to employees, 12.0% to creditors, another 12.0% to the public sector (including deferred tax expense) and 3.4% to shareholders. The remaining portion of the net value added of 17.7% was re-

Oxford Economic Forecasting Institute has made a detailed study of the exact economic contribution the company makes to a single market. In the study published in February 2006, "The Economic Contribution of BMW Group to the UK," the economic researchers calculate the direct contribution alone in the year 2004 to the gross domestic product of Great Britain to be GBP 1 billion. Through the purchase of deliverable components, raw materials, equipment and services in Great Britain, the BMW Group contributes indirectly to another GBP 1 billion of the British gross domestic product. In 2004, with the production in the Hams Hall, Oxford and Swindon plants and at Rolls-Royce Motor Cars Limited, the BMW Group was the fourth largest automobile manufacturer in

the country that, through the production and distribution of automobiles, paid a total of taxes and social security contributions of more than GBP 1 billion in Great Britain.

In the year 2004, more than 8,000 employees worked directly for the BMW Group. Approximately 11,000 worked in the 159 dealerships, about 25,000 in the supplier industries of the BMW Group and another 11,000 in retail businesses, the consumer goods industry and the service sector who benefit from the purchasing power of the BMW Group. A total of about 55,000 jobs in Great Britain are connected directly or indirectly with the activities of the BMW Group.



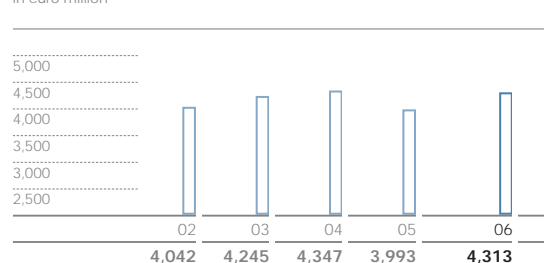
With manufacture for Rolls-Royce Automobiles in Goodwood (above) and the MINI Production Triangle, the BMW Group is the fourth largest automobile manufacturer in Great Britain.

What makes this possible is the significant investment that the BMW Group makes in Great Britain. In the years from 2000 to 2004, the company invested almost GBP 900 million in British production facilities. Expansion of production capacity and preparation of production for the new MINI from 2005 to 2007 in the MINI production triangle (Hams Hall, Oxford and Swindon) triggered further investment amounting to about GBP 200 million. With achievement of the full production capacity of a maximum of 240,000 units per year, the number of workers at Hams Hall, Oxford and Swindon increases by about 450 to a total of 6,800. In 2006, with the investment of about GBP 40 million in the production of the new MINI, the number of jobs in supplier companies rose by 750.

Similar model calculations were used to document the total economic significance of the Leipzig plant and the Spartanburg plant in the USA. According to the results of a study by the universities of Leipzig and Halle-Wittenberg and inomic GmbH, it is calculated that during the three-year construction period of the new BMW plant Leipzig, almost 4,800 full time jobs were created within a radius of 50 km. The gross value added in the region through the construction of the plant from 2002 to 2004 amounted to about euro 700 million and the aggregate income amounted to more than euro 420 million.

In the Spartanburg area, in the american state of South Carolina, while suffering from restructuring and decline in the number of jobs in the traditional con-

**BMW Group Capital expenditure**  
in euro million



sumer goods industry, the BMW Group today offers about 4,400 attractive jobs. And furthermore: Since every job at BMW Group creates about four additional jobs in other areas of the economy, the company generates almost 17,000 jobs and wages and salaries of US dollars 691 million in the region.

**j > Page 85 et seq.**

# 03 Product responsibility

**Dr. Stefan Wolff** is working on making the vehicles of the BMW Group more efficient. For example, with the development of the Auto Start Stop Function.



Taking on challenges and seeking innovative solutions – for the BMW Group this is not only a question of attitude but also a way to assure the future. The Group can only act successfully as an automobile manufacturer in the future if there are worldwide conditions that permit individual mobility similar to that which exists today. Therefore the company has a vital interest in protecting the environment and natural resources.

The BMW Group does this by designing its products, over the entire life cycle, to be as environmentally friendly and conserving of resources as possible and through a comprehensive understanding of its responsibilities: Product responsibility begins with the development of vehicles that are efficient in consumption and exceptionally safe for drivers and other traffic. It includes production methods with low environmental impact, comprehensive customer service and recycling concepts that let the vehicles of the BMW Group, even after their use, create the smallest possible environmental load.

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02 Economics >> 18
03 Product responsibility >> 24
1 CO <sub>2</sub> reduction – a challenge >> 26
2 Innovative technologies for reduced consumption >> 28
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**“The BMW Group must recognize that, if left unchecked, climate change is poised to dramatically disrupt societies and the global economy – and with the economy, the future viability of the BMW Group. To maintain its role as a responsible and relevant company, the BMW Group must become a leader in offering sustainable mobility options.”**

Erik Assadourian, Research Associate, Worldwatch Institute

**“The BMW Group seamlessly integrates alternative drive technologies into the standard model range and makes them attractive to a wide range of customers. We consider this to be a sound strategy.”**

Thomas Wiesand, Managing Director, ÖKO-TREND Institut Wuppertal

A main area of activity within product responsibility is climate protection. The BMW Group searches intensively and systematically for ways to further reduce the CO<sub>2</sub> emissions of its vehicles. With highly efficient engines, improved aerodynamics, lightweight construction and energy management in the vehicle, the BMW Group is constantly reducing the consumption of its fleet of vehicles. This array of technical innovations that relates to various areas of the vehicle, is being introduced incrementally over the whole range of models and thus reduces the consumption of the entire BMW Group vehicle fleet. In the mid term, the company is achieving additional consumption advantages by electrification of the power train and through comprehensive hybrid solutions. In the long term, the BMW Group is focussing on the future-oriented use of regenerated hydrogen in combustion engine.

Because the BMW Group can only optimise its new vehicles with these developments, it is pushing for comprehensive initiatives in the entire traffic sector, which can improve the energy yield and environmental balance of all vehicles, including those already in service. In this area too, the BMW Group is making measurable contributions. It is advocating improved traffic management, for instance through optimised setting of traffic lights, more effective management of parking spaces or new methods of mobility management (see also page 56) and offers special training in which participants learn fuel-saving driving.

Another field of activity within product responsibility deals with the comprehensive responsibility of the BMW Group to its clients and their safety. The BMW Group is increasing the level of safety for drivers and vehicles as well as other traffic participants beyond the already very high level, by means of various measures for active and passive safety.

In addition to the company's high requirements for safety and environmental friendliness of its vehicles, the BMW Group fulfils the demands and expectations of its customers through a number of measures and programmes in customer service.

Finally, product responsibility is still an issue when the vehicles have already been off the road for a long time. Through a widespread network of recovery centres for end-of-life vehicles, customers in many countries can give back their vehicles for recycling free of charge.

But optimal product recycling begins in the design and concept phase of a vehicle. Engineers of the BMW Group evaluate the ecological effects of new component concepts over the whole life cycle of the product by means of the Life Cycle Assessment instrument. These results help the vehicle developers to choose those development alternatives early on that offer the greatest ecological improvement over the whole life cycle of the product.

For the BMW Group, product responsibility embraces entire concepts instead of niche solutions whose greatest influence sometimes lies in their effect on the public. Therefore, the BMW Group optimises the ecological effects of its vehicles over the entire life cycle. It places its efforts into a number of small and large, but particularly coordinated steps that in their totality provide the greatest benefits for environment and society. [j > Page 87 et seqq.](#)

### 03.1 CO<sub>2</sub> reduction – a challenge

The UN climate report 2007 makes a clear statement: A large proportion of climate change is caused by mankind. One factor in this process is CO<sub>2</sub> emissions that are caused, among other things, by conventional automobiles. In the EU, their share of the total CO<sub>2</sub> output is about 12%; worldwide, it is 7%.

**Achievements.**

- Decrease in consumption of the BMW Group fleet in Germany in accordance with the agreement of the German Automobile Association (VDA) between 1990 and 2005 by almost 30%.
- Introduction of the BMW Hydrogen 7 as the first series-produced premium sedan with a hydrogen combustion engine. Presentation of 100 vehicles in the year 2007 to personalities in business, politics and society.

**Challenges.**

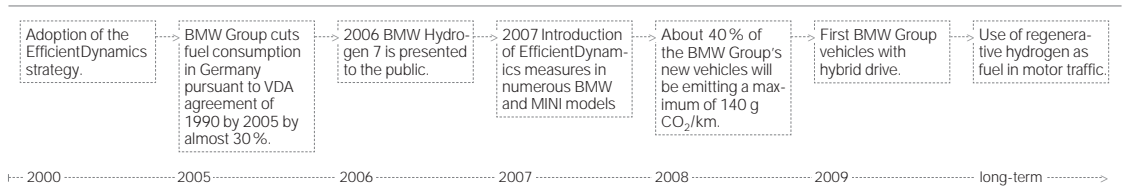
- To press ahead with vehicle development in such a way that both the customers' expectations of comfort and dynamism and further decreases in consumption are achieved.
- To cut the fleet consumption of new BMW Group European vehicles to 25% of 1995 values by 2008.

**The BMW Group recognises clearly that it has a responsibility for climate protection.** It supports the Kyoto Protocol and has already achieved considerable reductions in consumption in the past years through continuous efficiency measures. In 2000, the EfficientDynamics strategy of the BMW Group was created as an answer to global warming and the finite character of fossil fuel reserves.

**The path of the BMW Group to sustainable mobility.** In accordance with the agreement of the European Automobile Manufacturers Association with the EU Commission, an average value of 140 g/km CO<sub>2</sub> emissions for passenger car fleets of all manufacturers is to be achieved by 2008. This corresponds to a reduction of 25% compared to the base year

**CO<sub>2</sub>: Indicator for each vehicle project.** Increased efficiency in the use of fuel is an important criterion for the development of every new vehicle concept by the BMW Group. The reduction in CO<sub>2</sub> emissions is a measured value in the product development process. In every status report of a vehicle project with which the development department informs the Board of Management, the topics of consumption and CO<sub>2</sub> emissions are transparently communicated and progress toward the goal of CO<sub>2</sub> reduction is presented. In this way, the Board of Management determines in regular cycles whether mandates and goals are being achieved. Since 2003, a separate division in Development has been working in an integrated manner on the topics of energy management, aerodynamics, lightweight construc-

Roadmap of the BMW Group for sustainable mobility



of 1995. This average value is to be achieved by all European automobile manufacturers. By the autumn of 2007, about 40% of the new BMW Group European vehicles will have achieved the value of 140 g/km or less CO<sub>2</sub> emissions (corresponds to consumption of 5.8 litres of petrol or 5.1 litres of diesel per 100 km). The BMW Group will allow itself to be judged on its commitment to cut the CO<sub>2</sub> emissions of its fleet by 25% by 2008 and will continue beyond 2008 in realising further efficiency potential for cutting the CO<sub>2</sub> emission of new vehicles. In addition, the company is working at full speed on solutions for sustainable mobility.

tion, performance and CO<sub>2</sub>. In this way, the BMW Group has set up suitable internal procedures and initiated organisational changes in order to meet the challenges of climate change and non-renewable fossil fuels effectively.

**Conflicting goals in cutting CO<sub>2</sub> emissions.**

There is not doubt that the path to lower CO<sub>2</sub> emissions is obstructed by conflicting goals. Traditionally, the products of the BMW Group stand for a dynamic driving experience with high-performance engines. Measures for greater comfort and greater safety increase the weight of the vehicle and thus also the



consumption. In addition, in the discussion of climate change and individual traffic, many interdependencies must be taken into account in order to arrive at a holistic environmental improvement. This is a fact that is often neglected in public debate, which often proceeds along lines of either black or white.

Nevertheless, because of its technological competence, innovative strength and integrative approach to solutions, the BMW Group is confident that the company is in a good position on the road to sustainable mobility. But achieving this goal requires new and universally reliable conditions. A uniform upper limit of CO<sub>2</sub> emissions for all automobiles holds significant risks for business development and the earnings performance of many companies. The BMW

Group argues emphatically for variable CO<sub>2</sub> limits adapted to the various classes of vehicles and thus to customer demands and expectations. A uniform limit on all manufacturers and vehicle classes denies pure physics and is both ecologically and economically counterproductive. An environmentally effective improvement requires measures relating to all vehicle classes.

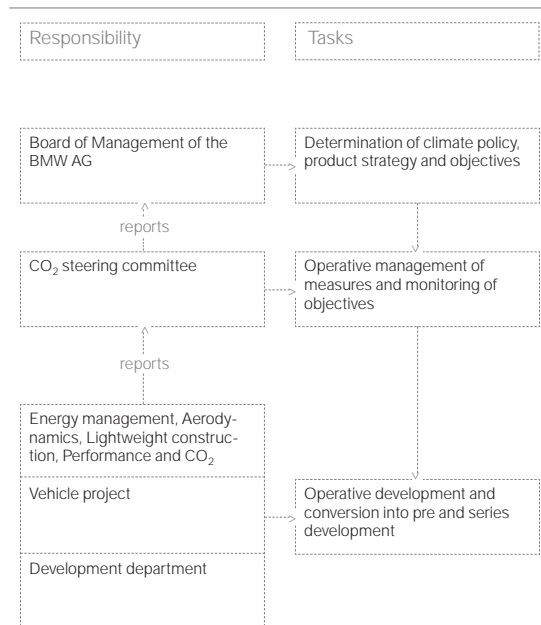
**BMW Group – a leader in climate protection in the premium segment.**

In a direct comparison of performance with consumption, the vehicles of the BMW Group are already leaders in the premium segment today. Measures for lower consumption are currently available in numerous BMW Group models and are already effective here and now. The BMW Group's status as the leader in technology is the prerequisite for being able to continue setting standards for consumption and efficiency. Brake Energy Regeneration or the new engine generations represent the BMW Group's achievements in innovation that are also good for the environment. In general, most innovations originate in the premium automobile segment. Experience has shown that, in time, the mass market adopts many of these innovations, for example, for reduced consumption or increased safety. Thus these improvements have an effect beyond the influence of the BMW Group.

New BMW Group vehicles in Europe which will achieve a maximum of 140 g/km CO<sub>2</sub> by autumn 2007: About

40%

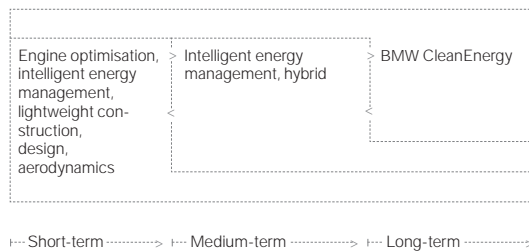
**Central management of CO<sub>2</sub>-cutting measures in BMW Group vehicle projects**



## 03.2 Innovative technologies for reduced consumption

In the first phase, the BMW Group developed a package consisting of highly efficient engines, innovative lightweight construction measures, improved aerodynamics and sophisticated energy management in the vehicle, thus significantly cutting the consumption of current vehicles. All these innovations included in the concept of BMW EfficientDynamics have in common that they depend on constant optimisation of all model series rather than on individual niche models. This means that: the measures devised by the development engineers of the BMW Group are rolled out over the entire model range. In this way, even relatively small improvements in efficiency add up to considerable savings in consumption and CO<sub>2</sub> emissions. In addition, although EfficientDynamics innovations are already

### Road to sustainable mobility – an overview



integrated into current models, their medium and long-term effects will continue to unfold.

WWW.

[bmwgroup.com/energymanagement](http://bmwgroup.com/energymanagement)  
[bmw.de/efficientdynamics](http://bmw.de/efficientdynamics)

**Consumption reduction in focus.** A central component for reduction in consumption is the drive train. Through the introduction of BMW High Precision injection with a lean mixture in four and six cylinder engines, petrol engines achieve consumption values that, until now, were only possible for diesel engines. Since March 2007, the BMW Group has been equipping models of the BMW 1 and 5 Series

Long-term thinking, intensive research, in order to identify the potentials for efficient energy use – and to operate effectively and quickly today. This is how to describe the energy and drive strategy of the BMW Group, which is pinning its hopes to a combination of efficiency and performance. It is based on three phases, each of which makes an effective contribution to decreasing the fleet consumption and thus also to assurance of individual mobility.

with direct petrol injection in a range that no other automobile manufacturer offers. By the autumn of 2007, this innovation will also be widely offered in the high-volume BMW 3 Series. In markets such as the USA, where the sulphur-free fuels required by this engine technology are not yet available, the efficient VALVETRONIC engines, with fully-variable valve train, reduce fuel consumption. In the new BMW diesel engines, it is possible to achieve consumption cuts and performance increase using third-generation common rail injection with piezo injectors. From 2008, the BMW Group will introduce diesel vehicles with SCR technology (Selective Catalytic Reduction) throughout the USA.

The energy requirement can be reduced for the vehicle body through lightweight construction elements and aerodynamic optimisation. Thus the vehicles of the BMW 1, 3 and 5 Series as well as the X3 models are equipped with a new, active air flap control that automatically closes the radiator flaps when the cooling requirement of the engine is low, improving the aerodynamic resistance of the vehicle and reducing the consumption. The new MINI models have an aerodynamically optimised under-shield. Innovative lightweight construction parts in chassis, engine and body help to reduce the weight of the vehicle and thus the consumption.

Significant savings can be achieved in the vehicle through improved energy management. For instance, with the Auto Start Stop Function, fuel is saved by automatic shut-off of the engine when the automobile is not moving. Brake Energy Regeneration uses the braking and overrun phases to charge the vehicle battery and reduces the burden on the engine. Savings potential of both developments: in each case 3%. By means of electronic steering assistance and demand-related operation of fuel, coolant and oil pumps, vehicle functions are only activated when they are really required. A gear shift indicator supports the driver by indicating the energetically optimal shift point. These innovations are gradually being introduced into BMW Group vehicles. **i** > Page.87 et seq., 90 et seq.



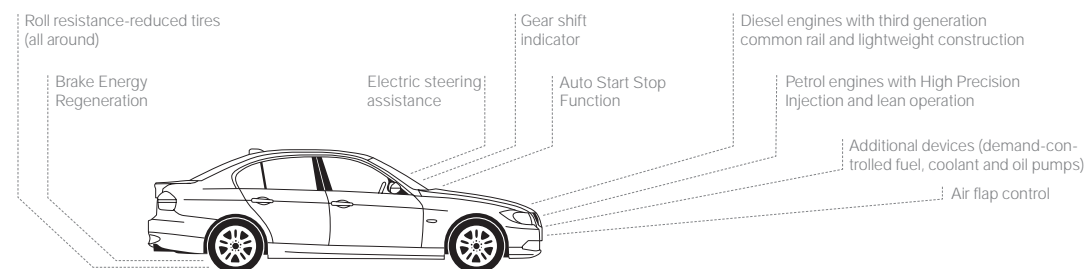
**Hybrid drives are exploiting further consumption advantages.** In the medium term, the much-discussed hybrid technology will make further increases in efficiency possible. But from the point of view of the BMW Group, a hybrid system is only one of many integrated fuel-saving measures. This becomes clear in the competition of the hybrid models available on the market with comparable diesel engines of the BMW Group. Regarding consumption and CO<sub>2</sub> emissions, the company's efficient diesel vehicles can compete with complete hybrid vehicles. Moreover, many of the current hybrid drives only exhibit their potential for savings in a specific driving situation: urban stop and go traffic. Therefore, one goal of the BMW Group is to develop hybrid drives that achieve con-

sumption can be cut by up to 20% compared to an identical automobile with a combustion engine. This fully hybrid drive is a completely integrated combination of electric and combustion engine. The special characteristic: a branching of performance between a conventional automatic transmission drive and an electric continuously-variable transmission. With the help of electronic control, it is possible to switch between these two drives depending on the driving situation. In this way, the usual losses in efficiency of a conventional hybrid drive can be significantly decreased. At the international automobile show (IAA) in Frankfurt in September 2007, the BMW Group will introduce this completely hybrid drive in the BMW Concept X6 ActiveHybrid.

Consumption reduction in the new BMW 318i compared to its predecessor:

19%

#### The BMW EfficientDynamics measures – an overview



sumption advantages not only in city but also in long distance driving that compensate for the additional weight.

The hybrid cooperation being carried out by the BMW Group together with DaimlerChrysler and General Motors is leading to an even more intensive interplay of important hybrid components. The goal of this cooperation is to bundle the wide expertise of the companies, to utilise synergies and to realise efficiency potentials. The BMW Group has been working with its partners since September 2005 in a joint development centre near Detroit, USA on the so-called two-Mode hybrid drive, with which fuel

In 2007, the BMW Group and the Mercedes Car Group intensified their cooperation. The goal is the development of a hybrid drive for rear-wheel drive passenger vehicles in the premium segment.

By 2009, the first BMW Group vehicles with hybrid drive will be available.

**Using the combined power and heat systems effectively in vehicles.** In addition to specific optimisation of automotive technology, the BMW Group is working on research projects with far-reaching potential for the future. One of these is the Turbo-steamer. This technology uses the largest source of energy in the automobile, which has been completely unused until now: heat. In combining power and heat, the heat from exhaust gases of the combustion engine, as well as the heat from the coolant, are transformed into drive energy. On the test stand, a prototype was able to cut consumption by up to 15%. The BMW Group is currently researching the question of which other energy flows in vehicles might also be used in the future in a joint interdisciplinary project with the Technical University of Munich (CAR@TUM).



A milestone on the way to sustainable mobility – the BMW Hydrogen 7 is the world's first premium sedan with a hydrogen combustion engine.

**Helping to start the H<sub>2</sub> age.** No matter how large future possibilities may be: The use of exhaustible carbon-containing fossil fuels like petrol, diesel or natural gas will inevitably always be accompanied by CO<sub>2</sub> emissions and in addition, it will not be sufficient for the growing need for mobility. In the long-term, the BMW Group is counting on regeneratively-produced hydrogen in the third phase of its EfficientDynamics strategy. Since the 80s, it has already been doing research on hydrogen-powered combustion engines that combine the energy carrier of the future with the best-proven drive technology in automobile construction. Important milestones were the start of series development of a hydrogen

vehicle in 2001 and the presentation of the BMW Hydrogen 7 at the end of 2006. The BMW Hydrogen 7 is the world's first hydrogen driven sedan for everyday use. The vehicle went through a completely normal series development process and passed all the quality and safety tests that apply to conventional vehicles in on-road traffic. A small series of one hundred BMW Hydrogen 7 vehicles, whose bivalent combustion engine can be run both on petrol or hydrogen, is on the road in Europe, Asia and America

WWW.  
[bmw.com/cleanenergy](http://bmw.com/cleanenergy)

**Joint commitment to a hydrogen infrastructure.**

Before hydrogen vehicles can demonstrate a truly zero-sum CO<sub>2</sub> balance, considerable innovations and investments in hydrogen production and infrastructure as well as appropriate automotive technologies need to be made. At present, hydrogen is still obtained from natural gas by expenditure of conventional energy, which inevitably produces CO<sub>2</sub>. In the long term, the BMW Group is therefore counting on hydrogen, generated by using CO<sub>2</sub>-neutral regenerative energies. In order to make these drive variants available for customers, a wide network of hydrogen filling stations is needed. But before producers, fuel suppliers and electricity generators invest in this type of infrastructure, they require a worldwide consensus about the construction of a future energy infrastructure, i.e. a reliable political environment. It is precisely this goal that the BMW Group is striving towards, as a co-founder of the "TES" (Transport Energy Strategy) initiative. Members of this group are leading companies in the petroleum industry, the energy production industry and the automotive industry. Together they are working on the structural requirements for a functioning hydrogen economy. At this time, the German federal government has created the National Innovation Programme (NIP) as a public-private partnership and supports a significant component "Clean Energy Partnership Berlin," in which, among others, TES partners demonstrate the everyday feasibility of hydrogen and the way to

the hydrogen future. In 2006, the petroleum company TOTAL and the BMW Group signed an agreement on the opening of three hydrogen filling stations in Europe by the end of 2007. The locations of the filling stations are Berlin, Munich and Brussels.

Also in 2007, the project "HylCE", supported by the EU Commission, was successfully implemented. In the three-year project, the BMW Group worked together with suppliers and two universities on the optimisation of the combustion process in hydrogen-driven engines. In the course of this project, improved simulation tools for the development of a hydrogen engine were developed. The exchange of leading European hydrogen experts with specialists from the US Department of Energy (DOE) was also encouraged and the enormous potential for the future of the hydrogen combustion engine was demonstrated.

WWW.  
cep-berlin.de

Their suppliers and network partners from the hydrogen project BMW CleanEnergy were informed by the BMW Group at the Clean Energy Partner forum at the end of November 2006 about the development status and the perspectives for clean fuel. In addition to workshops on the topics of strategy, vehicle and marketing, the possibility was also offered to participants to drive a BMW Hydrogen 7 themselves.

These efforts are all small but decisive steps into a clean energy future. What form this may take has been discussed by scientists and industry leaders, politicians and environmental advocates in the Club of Pioneers. This internet platform for dialogue founded at the end of 2006 by the BMW Group serves as a worldwide exchange by those pioneers who want to join in shaping this future.

WWW.  
clubofpioneers.com

CO<sub>2</sub> emissions of the new  
MINI Cooper D:

104 g/km

#### Achievements.

- Reduction in fuel consumption in the BMW 118d and BMW 120d by about 18% compared to the preceding models (emissions of 119 g/km CO<sub>2</sub> and 128 g/km CO<sub>2</sub> respectively).
- Reduction in consumption in the new BMW 3 Series of between 16% and 19% compared to the preceding models.
- Introduction of the new MINI model generation in autumn 2006: Reduction of consumption by up to 21% compared to the preceding models. By introduction of additional measures such as Auto Start Stop Function and Brake Energy Regeneration by autumn 2007, the consumption of numerous MINI models will be reduced by a further 9%. Result: MINI Cooper D 104 g/km CO<sub>2</sub>; MINI Cooper S 149 g/km CO<sub>2</sub>.
- By autumn 2007, about 40% of BMW Group European vehicles will have maximum emissions of 140 g/km CO<sub>2</sub>.

#### Challenges.

- To discover additional efficiency potential for future generations of vehicles.
- To create a sustainable hydrogen industry and to encourage the development of hydrogen storage technology.

### 03.3 Integrated climate protection in the traffic sector

Whoever wishes to protect and sustain resources, and work effectively against climate change, cannot be satisfied with isolated solutions but must identify and use all relevant potentials for CO<sub>2</sub> savings. The BMW Group does this by means of comprehensive innovations to its vehicles. However, in order to reduce the CO<sub>2</sub> emissions of individual traffic over the entire vehicle fleet, the efforts of all partners engaged in the traffic sector, automotive industry, suppliers, petroleum industry, politics and customers, are required.

**Joint efforts for greater efficiency.** The CARS 21 (Competitive Automotive Regulatory System for the 21st century) initiative of the EU Commission has described what a comprehensive joint approach to traffic may look like. In contrast to measures based exclusively on automotive technology, this holistic approach is working towards effectively reducing CO<sub>2</sub> levels of all motor traffic, at lower costs.

The integrated approach requires a significant contribution of the automotive industry to CO<sub>2</sub> reduction by means of innovation and technical improvements in vehicles. It also expects contributions from the petroleum industry through more environmentally friendly fuels and the expansion of the infrastructure for alternative fuels. And for their part, politicians are

participants and thus also all existing vehicles. Only through these activities, coordinated and agreed upon across sectors, can the goal of effective CO<sub>2</sub> reduction be achieved with low costs to the national economy. Calculations show that in this way, a much higher potential of CO<sub>2</sub> savings can be achieved. Also with regard to costs, an integrated approach is much more efficient than measures that focus exclusively on automotive technology. If it were decided to achieve the EU goal of 120 g/km CO<sub>2</sub> emissions exclusively through automotive technology measures, the expense would be significantly higher than euro 400 per ton of CO<sub>2</sub>. With an integrated approach, CO<sub>2</sub> reduction can be achieved at significantly lower avoidance costs.

Potential for reducing fuel consumption by intelligent driver information systems and driver training:

# 20%



The BMW Group and TOTAL have agreed that the petroleum company will build and operate three hydrogen filling stations in Europe by the end of 2007.

challenged on the one hand to create the framework for long-term, effective and efficient CO<sub>2</sub> reduction by means of consistent legislation and, on the other hand, to provide for improvement of the traffic infrastructure and traffic management. Ultimately, fuel consumption also depends on traffic flow (e.g. traffic jams) and on the individual driving behaviour.

The BMW Group supports this holistic approach because it does not stop at technical improvements of new vehicles but because it involves all traffic par-

**BMW Group measures support the integrated approach.** With EfficientDynamics, the BMW Group makes an active contribution to decreasing the CO<sub>2</sub> emissions of its vehicles. Moreover, the BMW Group also commits itself to additional areas of the integrated approach. With its traffic management projects and its own institute for mobility research (see Chapter 6), the BMW Group is contributing to a reduction in traffic and environmental pollution and thus to a reduction of CO<sub>2</sub> emissions in urban areas.

Through an optimised driving style, fuel consumption can be reduced by up to 20%. Therefore, the BMW Group is supporting its customers, for instance by pointing out to them the ideal shift point or current efficiency levels. In addition, in special driver training courses provided by the BMW Group, customers can learn a particularly economical driving style. By 2008, the basic elements of the so-called Economy Training will be included as a component of all driver training by the BMW Group.

WWW.

[bmw.com/drivertraining](http://bmw.com/drivertraining)  
[mini.de/drivertraining](http://mini.de/drivertraining)

Moreover, the BMW Group supports the further development and the application of technologies for alternative fuels. For this purpose, the automotive industry and the petroleum and biofuel producers must work hand in hand. Highly efficient engines require a defined fuel quality – this also applies to biofuels. The BMW Group supports the use of biofuels which are system-acceptable and equally usable for old and new vehicles, as additives in petrol or diesel. These additives save fossil energy reserves and can contribute to assuring the supply of energy. Therefore, together with the German Association of the Automotive Industry (VDA), the BMW Group supports the goal of increasing the proportion of these renewable fuels in the fuel supply.

**Holistic use of alternative fuels.** However, before alternative fuels can become truly sustainable energy sources, it is the opinion of the BMW Group that qualitative, social and environmental criteria must be defined. At EU level, fuel options must be prioritised and reliable quality standards for new fuels must be defined. The same is true for the production conditions under which plants are cultivated worldwide for biofuels. Plant fuels grown, for instance, on cleared rain forest land or with high concentrations of fertiliser and pesticides, do not represent an ecological improvement. In this area, worldwide uniform ecological standards for the cultivation of plants for fuel must be agreed upon.

It is important to find solutions that meet economic, social and ecological requirements and do not optimise the balance in one sector at the cost of the others. The option that the BMW Group finds most promising for the long-term is a conversion to hydrogen, an almost inexhaustible energy source that can be obtained from numerous clean sources. **i > Page 88**

#### **Achievements.**

- Collaboration of the BMW Group in CARS 21 and further establishment of the integrated approach.
- Petrol-saving driving as a consistent feature of all BMW driver training courses.
- Introduction of driver information systems such as the gear shift indicator in order to support the driver in fuel efficient driving.

#### **Challenges.**

- To continue increasing the proportion of biofuel that the system can tolerate.

## 03.4 Product safety

### Achievements.

- 5 stars (Highest rating) for the MINI Cooper in the Euro NCAP – one of the world’s most demanding crash safety tests. BMW 1 and BMW 3 Series also win 5 stars in the Euro NCAP.
- Standard equipment of all BMW models with Dynamic Stability Control (DSC) – prevents dangerous skids from developing.
- Standard equipment of all BMW and MINI models with flat tire indicators.

### Challenges.

- Introduce driver assistance systems such as lane departure warning systems and active cruise control with Stop & Go function in additional models of the BMW Group.

The BMW Group is optimising the active and passive safety technology of its vehicles with a holistic approach.

### Driver assistance systems support the driver.

The development departments of the BMW Group are conducting intensive research in all areas of vehicle safety. The focus is particularly on the prevention of accidents. For this purpose, the engineers of the BMW Group have developed a wide range of driver assistance systems that help the driver in handling critical traffic situations and thus avoid accidents.

Among these safety tools are assistance systems such as active cruise control with Stop & Go function

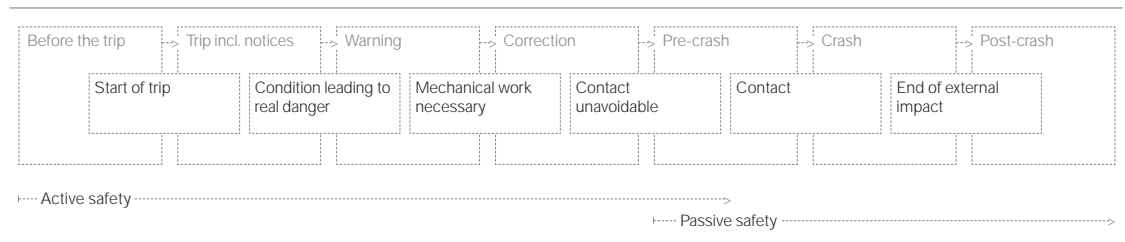
For the BMW Group, product responsibility means first of all maximising the safety of its vehicles – for its customers and all other traffic participants. For this reason, the company’s engineers are working on innovations that actively help to avoid accidents and on passive safety measures that provide maximum protection to those involved, in case of an accident. These measures offer the greatest degree of safety when they work together perfectly.

environment through information, communication and assistance systems. BMW ConnectedDrive, which is currently available in nine markets, is like a virtual front seat passenger who continually supports the driver in decision-making in both normal and critical road traffic situations. One of these, for example, is an emergency call to the nearest emergency services centre that is activated as soon as an airbag is deployed.

WWW.  
[bmw.com/connecteddrive](http://bmw.com/connecteddrive)

As leading partner, the BMW Group is carrying out intensive research in the European PReVENT project on driver assistance systems that are intended to improve, among other features, pedestrian protec-

**BMW Group phase model Safety**



(Active Cruise Control) that brakes a vehicle to a standstill in slow-moving traffic. The lane departure warning alerts the driver to unintended lane changing by vibration of the steering wheel. Both assistance systems are already standard and support the driver in manoeuvring. In critical traffic situations, suspension control functions stabilise the vehicle, thus avoiding accidents. Dynamic Drive reduces the rolling motion of the vehicle to a minimum when taking a fast corner.

But active safety systems are not restricted to the individual vehicle. The BMW ConnectedDrive system networks vehicle and driver with the whole traffic

tion and safety in intersection traffic. The results of PReVENT will be presented in autumn 2007.

WWW.  
[prevent-ip.org](http://prevent-ip.org)

A substantial increase in traffic safety is also being studied by Project AKTIV (Adaptive and Cooperative Technologies for Intelligent Traffic). In addition to the BMW Group, 28 partners from the automotive, electronics and telecommunications industries and the sciences are participating in this German research initiative. Together, they are working toward the goal of making future traffic safer and smoother flowing. Starting in 2006, the partners together have been



developing innovative driver assistance systems and solutions for efficient traffic management in a four-year research project.

WWW.  
aktiv-online.org

**A clear view in the dark.** Additional driver assistance functions that contribute to active safety are the innovative light and visibility systems in the vehicles of the BMW Group. Night Vision uses an infrared camera to make the driver aware of dangers such as people and animals at the side of the road in the dark. The high beam assistant supports the driver by switching the headlights to low automatically as soon as opposing traffic comes into view or the vehicle ahead is too close. When the road is clear

Passive systems include side impact protection, crumple zones, bumpers and impact absorbers as well as adaptive restraint systems that, for instance, release airbags and seatbelt tensioners in an intelligent fashion, depending on the degree of danger. This gives rise to innovations that increase safety and can save lives. An example is the Head Protection System that the BMW Group developed ten years ago on the basis of its own accident research data for special head protection and was the first automobile manufacturer to install it.

The BMW Group has been carrying out research in the USA since 2007 in partnership with the William Lehman Injury Research Center of the University of Miami which additional kinds of safety innovations are necessary and possible. Together with trauma experts of the renowned accident research centre, engineers of the BMW Group are studying accident vehicles and the course of events in accidents. The causes of accident injuries can be better localised on the basis of biomechanical accident analyses and in the future, vehicles can be constructed in such a way as to minimise injuries to the greatest possible extent.

The innovative light and vision systems and the active safety and driver assistance systems of the BMW Group help to prevent collisions and thus also contribute to pedestrian safety. The vehicles of the BMW Group satisfy the statutory requirements for pedestrian protection worldwide. For instance, the front of the vehicle is designed in such a way that in case of a collision it absorbs the impact.

With its numerous active and passive safety measures, the BMW Group does everything in its power to eliminate safety hazards in its vehicles, as far as possible. But it is also committed to seeing that drivers act prudently and responsibly in all traffic situations and it offers driver training courses. The training programmes are now offered in 28 countries worldwide. China was recently added to this list.

WWW.  
bmw.com/drivertraining  
mini.de/drivertraining

Number of countries in which the BMW Group offers driver safety training:

28



More safety in the dark. With BMW Night Vision, obstacles outside the light cone of the headlights can be detected early.

again, the high beams will automatically turn on again.

**Safety systems reduce the consequences of accidents.** Not every accident can be avoided. For this reason, the BMW Group carries out ongoing research by means of virtual and real crash tests, as well as with analysis of real accidents, into how vehicles and their safety systems actually behave in accidents. These results are used to design active and also passive safety systems that keep the risk of injury for accident victims as low as possible.

## 03.5 Customer satisfaction

### Awards.

- The Customer Service Centre of the BMW Bank Deutschland GmbH was honoured for customer satisfaction in 2006 with the CCF Quality Award as the best German call centre, and also received the ECCO AWARD as the best European call centre.

Customers worldwide who were surveyed in 2006 as to their needs and experience with Service:

2.8 million

### Continuing to increase customer satisfaction.

Employing comprehensive Customer Relationship Management (CRM) activities, the BMW Group strives to recognise and to better understand customer needs and this is true for potential as well as existing customers. These processes are coordinated and bundled through the Customer Relationship Programme, introduced in 2003 by the BMW Group, which was developed in collaboration with the company divisions relating to service, such as marketing, after sales, and Financial Services.

### Product and service quality: Key factors for customer satisfaction.

The quality of service and support is decisive for customer satisfaction and loyalty, particularly in the premium market. It is therefore of decisive importance for the BMW Group to know customer expectations for support and service. In order to do this, the company is challenged to understand and to fulfil the wishes and needs of its customers in different countries from Finland to South Africa, from the USA to China. The key to success: The BMW Group listens to its customers. On the basis of both external and in-house studies, product-related customer satisfaction and satisfaction with sales and service is constantly being measured. Thus the wishes, expectations and needs of customers have been gathered by means of international market research for some time now. In 2007, for instance, there was a new survey of customer satisfaction with support services. Central result: It has been possible to increase customer satisfaction in sales and services since 2005. In addition, a representative number of service or new vehicle customers is surveyed for satisfaction with the dealer's performance after every visit to the dealership. The picture is rounded out by regular surveys of customer satisfaction with the BMW Group's Financial Services.

With the BMW, MINI, and Rolls-Royce brands the customers associate complex service promises. In order to keep these promises, the BMW Group is working to fulfil the premium demands of the customer at every contact with the company. The goal: to achieve the greatest customer satisfaction in the premium segment.

### Knowing expectations, implementing measures consistently.

From all these study results, the BMW Group derives goals that it integrates into the various levels of the organisation down to the individual dealer. The results of market research also have consequences for company products and activities. They influence the process of product conception, the organisation of the customer support programmes and the qualification measures of the after-sales employees. One such measure with positive results for both customers and the environment is the service strategy of the BMW Group. Its aim is not to exchange parts unnecessarily and of only changing, for example, brake linings or oil when it is technologically necessary. The result: The vehicles of the BMW Group



Competent customer support is a central element of the BMW Group's work to implement premium demands in service.

have the longest oil change intervals in the automotive industry.

In order to increase customer satisfaction with service even more, the authorised repair shops will be equipped over the next two years with leading, innovative workshop technology. In addition, the competence of all after-sales employees will be systematically improved by means of new skill sets, for example in the selection and training of employees.



### Achievements.

- Introduction of a premium support programme that is uniform worldwide for every customer and supplemented with local aspects.
- 19 subsidiaries and 17 importers have a customer data management adapted to local conditions that extends down to the dealership level that already integrates the majority of customer contacts comprehensively between sales and financial services.

### Challenges.

- Further integration of after-sales customer contact points.

**High standards of customer support.** As a basic principle, the BMW Group stays in contact with its customers throughout the life cycle of a vehicle. For this purpose, uniform customer data systems, grouped according to country classes and adapted to local needs are already being used in 19 subsidiaries and 17 import markets. The BMW Group offers every customer a premium support programme that has been extended to include local aspects of each country in question. Potential clients also have a special status here. Monitoring of the high demands the BMW Group has set for itself in this regard takes place annually by means of standardised internal audits.

**Communicating consistently and in a manner appropriate to the brand.** An additional central component of the Customer Relationship Management Programme is the fine-tuned and brand-appropriate appearance of the BMW Group's individual brands. This is assured by close collaboration and continual exchange of information between the relevant divisions of the company and the sales organisation. For BMW and MINI employees who have direct contact with customers, the BMW Group has started a Brand Behaviour Initiative. This provides specific training for employees in brand-appropriate service and dealings with customers.

**For the BMW Group, data protection is a matter of course.** All information obtained by the BMW Group from customer surveys or concerning customer behaviour is treated strictly in accordance with the customer's wishes and according to the applicable provisions for data protection in the respective market. No customer data is stored centrally by the company. Data relating to interested persons and customers is only used specifically for certain communications purposes. In this way, irrelevant additional contacts are avoided and the customer is only contacted for specific purposes, in accordance with the premium claims of the company.

Customer complaints are recorded and processed by the BMW Group according to a multiple-step classification system. For this purpose, all subsidiaries have established well-defined complaint management processes. In addition to functioning as local contact persons for customer questions and complaints, the so-called Customer Interaction Centres (CICs) play an important role in complaint management. Here, potential and existing customers can pose their questions and address their complaints. In ten markets of the BMW Group, sales and financial service departments are using the CICs together and collaborating in improving the processes for customers. These CICs, which employ primarily BMW Group employees have a significantly lower fluctuation ratio than external call centre agencies.

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#### The five central principles of the BMW Group's customer support strategy

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The result: Employees have more experience, are more motivated, and therefore can help customers faster, more efficiently and more competently.

## 03.6 Product recycling

### Achievements.

- Testing of new automated sorting technique for plastics, metals and shredder light fraction in 2006.
- Successful development of suitable recycling concepts for new components and materials in 2006, e.g. for hydrogen vehicles and their tanks.

### Challenges.

- To evaluate post-shredder technologies holistically and ecologically. To build up know-how through experiments in collaboration with partners, in order to develop competence in evaluating the waste disposal economy and to be able to arrive at appropriate measures.
- To press ahead with networking on topics of environmental protection in the sales organisation worldwide and to upgrade the network of environmental workers in the individual sales markets.
- To introduce a uniform workshop waste management system recommended by the BMW Group in the sales and service departments and to integrate corresponding requirements worldwide in importers' agreements.

### Redemption network established for vehicles.

In the early 90s, long before statutory regulations, the BMW Group had already started to establish a widespread network of recovery centres in the EU for the acceptance and recycling of vehicles. As a result, customers have been able to return BMW Group vehicles free of charge since 1 January 2007. Every end-of-life vehicle that BMW Group customers return to this network is recycled by a recognised disassembly business. Outside Europe, the applicable statutory provisions are still very different from country to country. But it is foreseeable that in many markets, statutes regarding old vehicles will be introduced. For example in China, South Korea and the United States, such legislative initiatives are already in process or being enacted.



Oil removal from shock absorbers: The recycling experts of the BMW Group have developed in partnership a device for the rapid and safe evacuation of the old oil.

### WWW.

[bmw.com/recycling](http://bmw.com/recycling)  
[mini.com/recycling](http://mini.com/recycling)

**Developing recycling concepts.** The commitment of the BMW Group to continuously optimising its recycling programme has been concentrated since 1994 at the Munich Recycling and Dismantling Centre (RDZ). Today it is the world's leading facility of this kind and a certified specialised waste management operation as well as a competence centre for education and further training. Moreover, the RDZ, as a

A deep sense of responsibility for products also includes environmentally friendly disposal of vehicles at the end of their life cycle. For this reason, the BMW Group commits itself to efficient recycling methods. The goal is to recycle materials and substances contained in the vehicles quickly and completely, to close material circuits and thus to work with resources as economically as possible.

basic research establishment, provides important approaches to disassembly and draining techniques and for future recycling concepts. This is the location where among other things, the BMW Group's development vehicles are processed, recycling methods are tested that will only become relevant for recycling operations in about 15 years.

**Forward-looking design.** In the construction and development of its vehicles, the BMW Group anticipates many measures that in the end will contribute to efficient and ecological recycling of the product. This approach is summarised by the BMW Group as the Design for Recycling concept. For example, all fluid-carrying components in the vehicles are designed in such a way that before disassembly, operating fluids such as oil, fuel, brake fluid and coolant can be quickly and easily removed. Pyrotechnic components (airbags, seatbelt tensioners, safety battery clamps, etc.) are designed so that they can be specifically triggered by a central plug-in connection. This simplifies and shortens the disassembly and recycling process significantly. The corresponding engineers' guidelines are stipulated in a BMW Group internal standard.

### WWW.

[bmwgroup.com/recycling](http://bmwgroup.com/recycling)

**Completing material circuits.** With the goal of completing material circuits, the BMW Group installs components in its vehicles that are produced from recyclables – materials obtained from old parts – and, in this way, reduces environmental impact. At the start of production for all vehicles, recyclables are already used in plastic components. By successive exploitation of additional potential, this proportion usually increases in the current series to more than 15% of the total weight of plastic components. In light of ecological and economic concerns, the use of plastic recyclables in the vehicle is intended to increase to up to 20%. New components, such as the under-

shield of the BMW 1 Series are constantly being converted to recyclables. A hat shelf, for example already consists today of about 85 % recyclables. All these recycling successes that were first achieved in individual model series, are transferred seamlessly to the successor vehicles and where possible, to other model series. The wheel housings made of recycled bumper coating were first installed in the predecessor of the BMW 5 Series. Today these components are used in the current model of the BMW 5 Series but also in the BMW 3 Series and BMW X5 and in future, they will also be used in other series. **i > page 88**

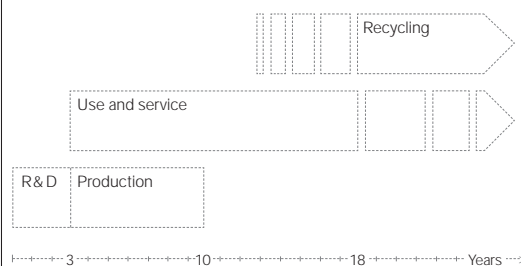
**Recycling concepts in sales.** Old parts from service departments are also a part of the BMW Group responsibility for the entire life cycle of its products. Repair and wear parts, used operating materials and packaging are collected and recycled in the various markets by country-specific programmes of the national sales organisations. In Germany in the early 90s, the BMW Group was the first manufacturer to develop regulated workshop waste management. Today a system partner has taken over the waste management for the approximately 800 BMW and MINI dealerships and service businesses. In 2005, BMW UK Ltd. established a new waste management and recycling programme that includes all BMW and MINI dealers in Great Britain and has reduced the share of deposited workshop waste to less than five per cent. The BMW Group is the only automobile manufacturer that has established standards for the recycling of old BMW and MINI parts in its European dealer and service agreements. Priority goes mainly to the far-reaching recycling of old parts and packaging that in this way become reusable materials. Thus, material circuits are completed, valuable resources are economised and the frequently quoted concept of waste management is given meaning.

Proportion of plastic recyclables that are currently used in BMW Group vehicles:

15%

**>> Life Cycle Assessment.** The BMW Group has been pursuing the aspiration to factor in relevant ecological implications of vehicle components since the early 90s with the instrument of Life Cycle Assessment (LCA). Alternative materials and component designs are already evaluated in the development phase as regards their effects on the environment over the entire life cycle – from acquisition of raw materials to use, through to recycling. In spring 2007, the specialists of the BMW Group conducted a life cycle analysis of two different designs for a rear seat backrest. With the help of the LCA method a complete comparison was made of environmental effects of the conventional rear seat backrest made of a steel-plastic combination with an alternative backrest made of various polypropylene materials. The cumulative energy requirement, the greenhouse potential, the acidification potential and the potential for formation of near-ground ozone were evaluated. The ecological balance sheet yielded the conclusion that the backrest made of polypropylene offers advantages, in the ecological categories considered, over the conventional backrest.

#### Consideration of the entire life cycle



# 04 Environmental protection across the Group

**Briggs Hamilton** as the environmental manager at the BMW plant Spartanburg, South Carolina in the U.S. promotes environmentally friendly manufacturing. Here is just one example: Since 2006, the "Landfill Project" has been helping the plant cover a major share of its energy requirements with methane gas from a nearby landfill.



The BMW Group strives to increase production on a continuous basis while consuming ever fewer resources in the production process. To achieve this, the BMW Group has been using certified environmental management systems since 1996 to coordinate and optimise environmental protection issues, which also positively impacts resource consumption. By anticipating and integrating environmental protection ideas into all business processes, the BMW Group has realised added value both ecologically and economically.

This commitment is based on the International Declaration on Cleaner Production from the United Nations' Environmental Programme of 2001. The BMW Group signed this declaration and has hereby obligated itself to make preventative environmental protection the model for its own production processes. The 1993 environmental guidelines adopted by the group are based on the Charter for Sustainable Development of the International Chamber of Commerce.

WWW.

[bmwgroup.com/responsibility](http://bmwgroup.com/responsibility)

[bmwgroup.com/production](http://bmwgroup.com/production)

[unep.fr/pc/cp/declaration/trnslatn.htm](http://unep.fr/pc/cp/declaration/trnslatn.htm)

[iccwbo.org](http://iccwbo.org)

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**“The BMW Group, through their continuing commitment to sustainable environmental practices, has proven to be a corporate environmental leader in South Carolina.”**

Bob King, Deputy Commissioner for Environmental Quality Control, South Carolina Department of Health and Environmental Control

Company environmental protection at the BMW Group began many years ago. In 1973, the first environmental manager went to work; at the time this was a unique position in the industry. With certification of all its own production plants according to ISO 14001 by 1999, the company has systematised its environmental protection efforts globally. In the course of the product and market initiative, new production sites, such as those in Thailand and China were also integrated into the environmental management. Across the globe, the clean production philosophy is in place, whereby the production processes at the BMW Group are to be designed such that they have as little impact on the environment as possible. The BMW Group's efficient resource management reduces its emissions e.g., CO<sub>2</sub> or solvents, avoids or

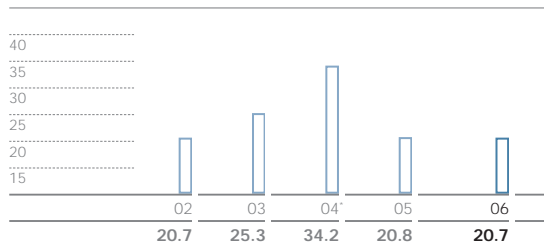
individual plants as well as specialists from the central environmental protection department. The expertise centres develop reference systems for their respective subject areas, analyse successes and challenges at individual sites, and examine what can be gleaned from these experiences and applied to other sites within the company's global production network.

In addition, the BMW Group has increased its efforts to set the course in the early stage of a project for greater resource efficiency and improved environmental protection. The sooner these steps are taken here, the greater the leverage in favour of resources and the environment, in many cases. For this reason, the environmental protection experts at the BMW Group today are already involved in the preparation stage for decisions concerning investment and projects. In this manner, the BMW Group achieves an effect similar to compounded interest. The more effectively resources are protected and the earlier any negative environmental impact is avoided, the greater the advantage is at the end of the day for the environment and the company.

At the same time, the group also ensures that the environmental performance evaluation is optimised at its suppliers and transportation service providers. Thus, the transportation logistics are also included in the environmental protection measures. Beyond the confines of its own plants, the BMW Group obligates its suppliers and service providers to comply with social standards as well as verifiable, systematic environmental protection. **▶ Page 92 et seqq.**

#### Investment in environmental protection

in euro million



Information excludes major investments for production sites of BMW AG in Germany.  
\*The rise in 2004 resulted from the overall and environmental protection investments in the construction of the BMW plant Leipzig, Germany.

recycles waste, reduces wastewater and uses energy efficiently. This way, the company was able to make great strides in the past years.

To improve upon current environmental protection measures, the BMW Group is blazing new trails far beyond company environmental management. One extremely successful approach entails learning from and sharing experiences made at the production sites. The BMW Group institutionalised Best Practice Sharing across the group with expertise centres on topics such as water, waste, energy and emissions, and including environmental experts from the



## 04.1 Environmental protection management

**Environmental management systems set standards.** From 1996 to 1999, the BMW Group has certified its plants in accordance with the international environmental management standard ISO 14001. This was followed by certifications of the central area of the production department in 2002, for the assembly plant in Thailand in 2004, and in 2006 for the Joint Venture started only two years before in China. The new BMW assembly plant in India, which was opened in March 2007, is slated for certification according to the ISO 14001 standard by 2008. All plants are audited externally in accordance with this standard every three years in the course of the matrix certification. In addition, the sites in Germany and Austria voluntarily submit to an annual inspection in accordance with the "Eco Management and Audit Scheme" (EMAS II), which is a European standard that exceeds the ISO standard. Since 2006, the operation of the Research and Innovation Centre (FIZ) in Munich is also validated according to EMAS II.

Number of deviations within the environmental management system detected during external audits:

0

Aside from these external audits, numerous internal inspections are carried out on a regular basis. Once a year, the internal system audit checks the functional capability of the entire environmental management system. The potential for improvement detected by the internal and external audits is recorded and taken care of systematically with an intranet tool. Focus areas for individual plants in the BMW Group are hereby identified and the measures required for this are developed accordingly.

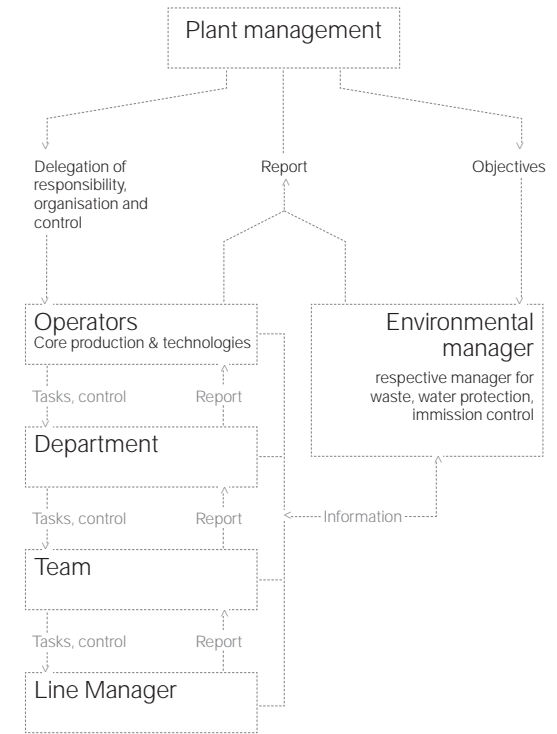
Company environmental protection in the BMW Group functions in cooperation with the central environmental protection department under the direction of the group agent for environmental protection and those responsible for environmental protection at sites worldwide. Employees at the central office attend to partial strategies for environmental protection and comprehensive tasks. Furthermore, each plant has for environmental protection issues its own officer or team who is also responsible for the application and further development of the environmental management system on site.

Using certified environmental management systems, the BMW Group today controls in its global production network all factors that impact the environment and resource consumption significantly. Thus environmental effects are uniformly monitored, managed and systematically reduced across the globe. In this manner, the company is attaining continual, systematic and above all noticeable improvement in environmental protection.

**Guidelines and indicators for integrated environmental protection.** Beyond the relevant legal requirements, additional internal requirements derived from the company's environmental guidelines also apply to the environmental management system at the BMW Group. Employees, whose work impacts the environmental efforts of the BMW Group, are educated on a regular basis about the environmental management system and environmental topics. These training courses were further developed in 2006 specifically for target groups including executives, operators and planners.

To attain the objective of constantly improving the accomplishments in environmental protection, each year the experts responsible in each plant of the

### Environmental management organisation at the production sites



BMW Group develop their respective environmental protection programme. The environmental indicator is used to check if the accomplishments in environmental protection are being improved at the sites. As a result, the water and energy consumption, the quantity of wastewater produced, emissions from volatile organic compounds (VOC), CO<sub>2</sub> emissions as well as the quantity of waste for each unit produced are determined in each plant each month. The monthly values are aggregated to one annual value and compared to the average of the prior year. In this manner, it is possible to determine whether or not the effects of production on the environment have changed in the six individual categories. For a comprehensive survey across the group, an average value is calculated from the individual values and compared with the value of the prior year. **i** > Page 92 et seq.

#### **Deciding with foresight. Learning from the best.**

Systematising environmental protection by using certified management systems is just one step – albeit a fundamental one – on the way to continually improving achievements in environmental protection across the entire production network. However, this is not enough for the BMW Group. It goes one step further when managing resources and protecting the environment.

In this way, ecological aspects are taken into account even in the early stages of investment decisions. Moreover, the idea of Best Practice Sharing is developed further and above all institutionalised. One thing is certain – not all sites in the BMW Group can always have the same level of success when it comes to factors regarding environmental protection. New environmental technologies and processes are often implemented in the course of a pending plant remodelling in a manner that conserves resources. In this way, the production network of the BMW Group continually generates best practices, from which the other sites can profit and learn. In the expertise centres for water, energy or waste within the environmental protection organisation, the respective experts systematise and analyse the best examples from the individual plants and attempt to apply them as much as possible to the entire production network.

WWW.

[bmwgroup.com/production](http://bmwgroup.com/production)

#### **Achievements.**

- Certification of the Joint Venture BMW Brilliance Automotive Ltd. in 2006 according to ISO 14001.
- Investment of euro 20.7 million in company environmental protection in 2006.
- Certification of the high level of quality and environmental protection at the BMW Group by auditors from the TÜV Group (German Technical Inspectorate) at various audits in 2006. Some processes were highlighted as exemplary.

#### **Challenges.**

- Actively integrate suppliers and sub-suppliers into the environmental protection network.
- Further involve the dealerships of the BMW Group globally with the environmental protection measures of the group.
- Certify assembly plants in Kaliningrad (Russia) and Chennai (India) according to ISO 14001 (planned by 2008).



## 04.2 Energy consumption and emissions

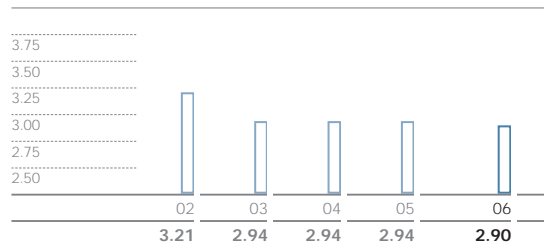
### Awards.

- The U.S. Environmental Protection Agency (EPA) distinguished the BMW plant Spartanburg as “Energy Partner of the Year 2007” for obtaining its energy supply of methane gas from the local landfill.
- Bavarian energy prize 2006 for the public works in Munich, Germany and the BMW Group for the ground water cooling system project in the BMW Group Research and Innovation Centre.

Emissions reduction using improved energy efficiency is a high priority for the BMW Group. In this area, the company has already achieved much success. The energy consumed per unit produced now is 2.90 MWh, which is 26 % lower than ten years ago. This can be traced to numerous energy-saving measures in the entire production network. Nearly every plant in the BMW Group has an energy research group developing energy-saving options for their respective site.

**Innovative measures for low energy consumption.** The latest approach of significantly reducing the energy consumed below the level already achieved is the project “Energy management and strategy” started in 2006. The objectives are to

**Energy consumed per unit produced**  
in MWh/unit



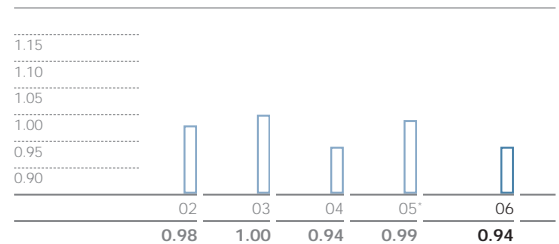
reduce the amount of energy consumed, to create more exact energy requirements forecasts, to use alternative energy reasonably and to reduce the pollutants output. By the end of the project in 2013, these objectives are to be attained by holding employee action days at various sites, through concepts for energy-saving buildings and increased use of combined heat and power generation.

Energy and heat are generated using combined heat and power generation facilities, which have a significantly higher level of efficiency (80 %) than conventional power generation (approx. 35 %). This method is in place at the plants at Dingolfing, Landshut, Regensburg, Steyr, Oxford, Spartanburg, and in the Munich Research and Innovation Centre

Every kilowatt hour that the BMW Group saves through intelligent process planning and more effective technologies means fewer emissions and better protection of resources and climate. Since purchasing energy and capturing emissions are also tied to considerable costs, it is also possible to attain a measurable economic gain for the BMW Group by saving energy.

(FIZ). At the FIZ, the ground water cooling system is also used for an environmentally friendly climate control. A ground water cooling system involves using groundwater near the surface to cool parts of buildings, thereby saving 8,000 MWh of electricity and 5,000 tons of CO<sub>2</sub> each year. The BMW plant Spartanburg covers 63 % of its energy requirements using the methane gas from a local landfill. The previously unused methane gas from the landfill is now used as an energy supply, thereby reducing the need for natural gas. Overall, about 59,000 tons of CO<sub>2</sub> can be avoided each year in the Spartanburg area as of 2007. Thereby 53,593 tons of CO<sub>2</sub> were saved in 2006. Using rotating air-to-air heat exchangers in the ventilating systems, the BMW Group is able to reclaim heat in the European plants from the exhaust

**CO<sub>2</sub> emissions per unit produced**  
in t/unit



\*The increase is due to a change in the energy mix.

air, which is another free source of energy, thus saving up to 70 % of the energy requirements for heating. In December 2006, in the recently built BMW Welt in Munich, Germany, the second solar energy facility of the BMW Group (after a smaller facility at the Leipzig plant) was started up. It covers an area of 6,100 m<sup>2</sup> and produces up to 824 kW.

Also when using its IT technologies, the BMW Group has an eye on energy efficiency, thus lowering CO<sub>2</sub> emissions. For example, the company uses the latest Intel processors, is reducing the number of servers and is asking employees to switch off computers when not in use. The results translate into savings about 50,000 MWh power annually and the trend is moving upwards.

### Achievements.

- Construction and commissioning of new combined heat and power generation facilities in the Landshut and Steyr plants in 2006.
- Successful participation of the BMW Group's European sites in the European emissions trading system. In 2006, the company also did not exhaust all emissions allowances.
- Savings of 53,593 tons CO<sub>2</sub> in the BMW plant Spartanburg by using methane gas from a local landfill in 2006.

### Challenges.

- Continue to reduce direct and indirect CO<sub>2</sub> emissions per vehicle produced.
- Reduce by about 5 % the energy consumed per vehicle produced in 2008.

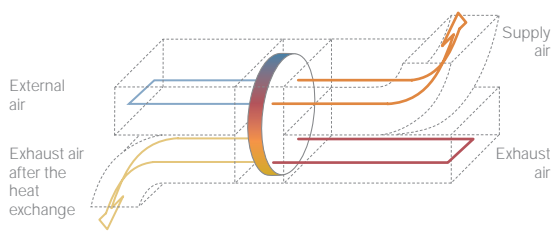
### Solvent emissions and chemical consumption radically reduced.

The BMW Group's focus at all sites is on water-based paints with low-solvent content. Furthermore, the powder-based paint technology is used for the last coat of paint in the BMW plants Regensburg, Dingolfing and Leipzig. This does not require any water or solvents, and it utilises almost all of the material used with close to no residue. The conventional clear-paint technologies also saw significant improvements. The BMW plant Munich, for example, is 25 % below the legally prescribed limits for solvents (VOC). Also the integrated painting process – this process omits one of the four coats of paint – introduced in May 2006 at the MINI plant Oxford, reduces the use of solvents. Overall, the BMW Group reduced its solvent emissions

paint. This will reduce the solvents in the exhaust air by 85 %. The objectives are similarly ambitious in the foundry at Landshut. Since autumn 2006, the synthetic resin binders for producing the grit required for the founding process have been replaced one after another by near odourless and low-emissions mineral binders. This will pave the way for a first-ever odourless foundry. The BMW Group is currently the only automobile manufacturer in the world using this technology, which reduces the percentage of organic components in the exhaust air by 98 %, for highly complex engine components such as crankcases and cylinder heads. Thanks to this technology, it is very likely that the elaborate exhaust air cleaning equipment can be switched off completely in the long term. **i > Page 94 et seq.**

### Heat recovery

Heat recovery from exhaust air reduces energy requirements by up to 70 %.



in the last ten years by more than half of 2.04 kg per unit produced in 2006.

The BMW plant Landshut, Germany, where plastic components are produced, was faced with a special challenge for the painting technology. To date, there was no standard-compliant technology of applying environmentally friendly water-based clear paints to plastic components. For about five years, the specialists at Landshut concentrated on finding a way to use water-based clear paint also in the plastics paint shop. In cooperation with the paint industry, this demanding project was successfully completed at the end of 2006. By autumn 2007, the final surface paint using solvent base will be switched to a water-based clear paint after the primer and base coat

## 04.3 Protecting resources and nature conservation

### Achievements.

- Start of production with no wastewater generated in the plant at Steyr at the start of 2007.
- Reduction of process wastewater from 0.76 m<sup>3</sup> in 2005 to 0.67 m<sup>3</sup> in 2006 for each vehicle produced.
- Increase of recycling quota to 79.3 % for the waste generated in the German plants in 2006. Taking into account the steel scrap generated in the pressing plants, increase of the waste recycling quota of the German plants to almost 95 %.

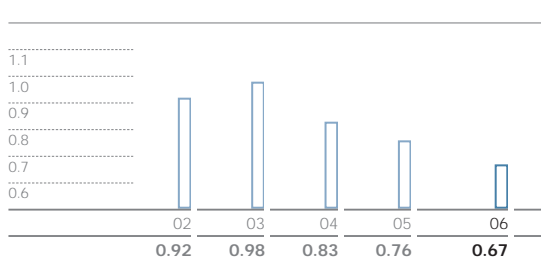
### Challenges.

- Introduce the waste information system (ABIS) also at the plants in Goodwood, Thailand and India by 2008.
- Implement the idea of production with no wastewater generated at other sites.

To manufacture an automobile, water is required for numerous processes such as painting, mechanical production or cooling. As a rule, the BMW Group only uses as much ground water as can be reproduced naturally. Conversely, wastewater from BMW Group plants may only be output after a defined pre-treatment and only in amounts that do not overtax natural decomposition. According to the water guidelines that apply across the group, the natural water cycle may only be impacted to the least extent possible. The water management strategy focuses on a sustainable water supply, the careful use of materials hazardous to water, as well as groundwater protection.

**Sustainable handling of water.** Wherever possible, the BMW Group uses the nearest water source

Process wastewater\* per unit produced  
in m<sup>3</sup>/unit



\* The indicators for process wastewater refer to the wastewater generated in the production process.

of all, namely its own wastewater. By utilising closed water cycles, the process water is reused during the production. In the plants, for example, analytical monitoring and exact chemical apportioning is used to increase the time of exposure and to avoid premature exchange of water. Water is recycled in the paint shop, in the vehicle washing-bay or for the leak test of finished vehicles.

In the BMW plant Steyr, all production wastewater is reused as of the beginning of 2007. Thanks to a novel combination of various membrane techniques,

It is the very stuff of life. However, it is an increasingly rare resource. 40 % of the world's population lives in countries where water is in short supply. For this reason, the water supplies of the earth will have to be handled more carefully than ever in future. The BMW Group is applying this basic principle systematically with its strategy for water management.

all production wastewater is conditioned here and fed back into the production process. This saves the plant about 30 million litres of water a year – almost as much as a town with a population of 750. Additional fresh water is only used to compensate for losses, such as due to evaporation.

In turn, as little fresh water as possible is taken from the drinking water network. For the water supply, checks are carried out to see whether the requirements can be covered by groundwater or surface water. To keep an eye on the impact for the groundwater system, the plants in Berlin, Leipzig and Munich use a digital groundwater model. Each year, the BMW Group reduces the amount of water used in the production process. For each new vehicle, the



For many years now, the BMW Group has already been separating the waste generated in the plants according to the type of material and then has this recycled or disposed of.

process wastewater has fallen by more than 25 % since 2002.

**Consistently avoiding waste.** The “less is more” philosophy is applied at the BMW Group when handling waste from production and administration. The highest priority is reducing waste by preventing it. If that is not possible, then the material recycling option is checked before alternatives such as energy recovery are considered. If this is also not possible, waste must be disposed of as per the legal requirements; this is the least desirable choice, ecologically speaking.

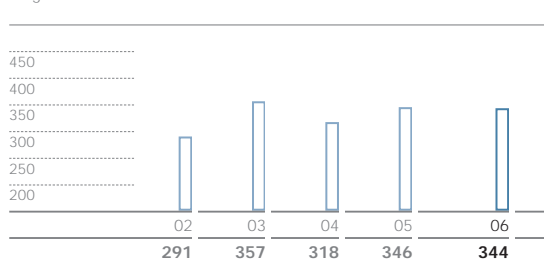
To avoid creating waste, you first have to know when, where and what kinds of waste are generated in which amounts. The BMW Group obtains this information using its electronically supported waste information system (ABIS), which systematically documents all waste streams in most plants as of 1997. Today, ABIS is used in all but three of the 23 plants worldwide – Goodwood (Great Britain), Rayong (Thailand) und Chennai (India) will follow at the start of 2008.

For decades, the BMW Group has had waste separated everywhere according to the type of material at the point of origin. Via the plants' own disposal centres, these are then transferred to external service providers for recycling or disposal. Since 1997, all

Number of indigenous trees that have been planted on the grounds at the plant in Leipzig:

2,200

**Waste per unit produced**  
in kg/unit



disposal routes and waste management enterprises have been systematically audited by the environmental department.

At all sites of the BMW Group, reusable packaging is generally preferred over disposable packaging, provided it makes sense economically and ecologically. Today, most of the material flow in the production network is dealt with using reusable plastic containers. This reusable packaging is in circulation at almost all suppliers. This way it was possible in the last few years to reduce considerably the percentage of packaging material that is disposable. | > Page 96 et seq.

**>> Nature conservation.** The BMW Group attempts to maintain the natural state and biodiversity around their sites as much as possible. Sometimes, it is even possible to increase biodiversity, for example by converting lawns into natural meadows, planting indigenous trees and shrubs, and planting vegetation on roofs. In order to be able to quantify the consequences for flora and fauna, the area is evaluated with the so called "ecological preservation of evidence" at the BMW Group prior to any construction or change of use. From this appraisal, the company derives protective or compensatory measures, if required. Also, the preservation of evidence is repeated at regular intervals to register changes in the biodiversity and to be able to react to them.

A current example of this systematic observation and evaluation of biodiversity is the BMW Group's testing centre at Miramas in the south of France. The area covering 475 hectares is located in the Crau, a landscape of prime ecological value. As early as 2002, subareas of the testing grounds were mapped and evaluated by experts. Before construction and expansion work was begun in 2006, the biologists returned. Their report certified that the BMW Group has been a responsible steward of the land, which is still valuable ecologically despite the industrial usage. In future, an improved land use management in the Crau should help protect rare and endangered native species such as the Crau Grasshopper, the Little Bustard and the Ocellated Lizard. Developments and extensions to the track will be relocated with priority to sections of the testing grounds that are less valuable ecologically. An Enduro testing ground was laid out such that valuable land was protected and the major portion of the track runs through an area that is less important from the perspective of protecting endangered species and nature conservation.

## 04.4 Efficient transportation logistics

As a company that operates across the world with a global production network, the BMW Group naturally moves large quantities of materials and products. To keep the transportation-related environmental stress to a minimum, all commodity flows are constantly being analysed and optimised from procurement to delivery. Here, intelligent transportation logistics extract the most from transportation services with a minimum of environmental stress.

### Minimise the environmental impact of logistics.

All transportation flows of the BMW Group are planned and controlled by the employees of the logistics planning and transportation logistics. They organise the supply of the production sites with materials and components, the delivery of spare parts and accessories to the sales operations, and the distribution of the new vehicles. That corresponds overall to a transportation capacity of about 13.7 billion ton-kilometres per year. The logistics strategy of the BMW Group results in exactly defined environmental objectives as well as process descriptions for the operative implementation in planning and purchasing. All relevant indicators and compliance with the annual objectives can be tracked exactly using the reporting on sustainability in logistics.

BMW plant Spartanburg, activity-related billing was introduced in July 2007 for the U. S. market for the first time. In future, transport agents will be only remunerated for the volume transported, thus they automatically have an incentive to plan the transportation services efficiently. In South Africa, transportation trials with module systems, which enable better container utilisation, were carried out over several months. The switch to this module system for high cube containers will be carried out in three steps by the end of 2007 and will lead to measurable savings in packaging, fuel consumption and transports.

**Using transport that is ecologically advantageous.** For the transports, the BMW Group prefers that means of transportation with the lowest emis-

Percentage of the BMW Group's vehicles that left the plant in 2006 via rail:

# 55.4%



About 77% of the production material, the spare parts and the finished vehicles of the BMW Group were transported by sea in 2006.

Here, it is evident that the BMW Group links more transportation capacity with continually less ecological impact. This reduction is made possible by numerous individual coordinated measures. One important measure is minimising the material transports, which for example is implemented in the European plants by a new transportation concept: Instead of the conventional plant supply according to regionally defined service provider responsibilities, transportation orders are now placed with service providers bundled according to volume. This increases the utilisation of the lorries, lowers transportation costs, and decreases empty drives. In the

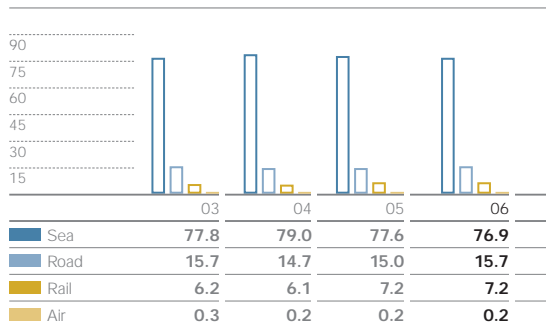


Almost all plants of the BMW Group are linked to the rail network. More than half of the new vehicles leave the BMW Group's plants via train.

sions. Accordingly, the shipping of goods via air freight is avoided as much as possible. Road traffic is eased by choosing ports near the plants as the point of origin for ocean transports. For the vehicle transportation from the plants to the ports and sales operations, the BMW Group prefers to use railways. In 2006, 55.4% of the BMW and MINI brand cars left their place of manufacture via rail. The year before, it was 54.1%. In individual plants, this number even reaches 90%, such as in Graz. In the BMW plant Dingolfing, it is 69%; in the BMW plant Rosslyn in South Africa, 70% of the vehicles leaving the plant via rail.

**Avoiding transport packaging.** Up to now, vehicles were protected from the elements and transit-related damage during transport by adhesive film, protective covers or wax. After an environmental performance evaluation concluded that a closed transport or an open transport with subsequent cleaning of the vehicles is much more environmentally friendly, the BMW Group is in the process of successively phasing out its surface protection for automobiles. In 2006, 53.4 % of the vehicles from the BMW Group were delivered without surface protection; in the year before, it was 42.5 %. Since the start of the project in 2004, this has dramatically reduced the use of solvents and chemicals. Furthermore, about 5,000 tons of CO<sub>2</sub> emissions were prevented. These result during the manufacture, application, de-waxing and

**Percentage of transport used**  
in %



Inbound material (Germany, UK), spare parts shipping (Europe) and car distribution (global), measured in ton-kilometres.

recovery of the surface protection. A vehicle delivery without surface protection with subsequent cleaning results in 80 % fewer CO<sub>2</sub> emissions.

A similar study, led to new, environmentally safe packaging for shipping motorcycles at the site in Berlin; this consists of corrugated cardboard (instead of plywood) or sturdy steel. The latter solution is reusable and lasts for up to eight years while conserving the company's resources and the environment at the same time. **i > Page 98**

#### **Achievements.**

- Since the beginning of 2007, deliveries to the markets in the UK and Spain made by the BMW plant Leipzig are mainly via rail.
- Start of the new transportation concept for the material supply in Europe in 2006. This increases efficiency in the utilisation of trucks. Furthermore, contractual obligations for service providers to use only lorries according to the latest European emission standard.
- Decrease of 3.5 % in 2005 to 2.6 % in 2006 of the especially CO<sub>2</sub> intensive air freight percentage for material shipments from Europe to the overseas plants.

#### **Challenges.**

- Further increase the currently high percentage of 55.4 % for shipments made by rail when shipping vehicles from the plants.
- Influence the respective product and process design early on in order to optimise packaging and transport volume.



## 04.5 Sustainability in the supply chain

Company environmental protection can only be “holistic” if it really covers all the links in a production chain. For this reason, the BMW Group aims to establish high environmental standards also with its approx. 3,000 suppliers and service providers.

**High standards for suppliers and partners.** As of spring 2003, the domestic and international purchasing conditions of the BMW Group contain exact guidelines on environmental responsibility. They obligate suppliers to design the related components as per the state-of-the-art technology so that emissions are reduced during the production, usage and recycling stages. When manufacturing each component, energy and raw materials are to be used efficiently. For this reason, each partner is urged to draw up a certified environmental management system according to the established standards ISO 14001 or EMAS II. Alternatively, smaller suppliers may furnish proof of individual management systems and that they have systematised environmental protection in their production.



About 3,000 suppliers and service providers work with and for the BMW Group in accordance with high social and ecological standards.

Aside from environmental responsibility, the BMW Group also requires from its suppliers and service providers that they assume social responsibility. For this reason, the purchasing conditions also include the prohibition of child labour and forced labour, discrimination and bribery as well as the implementation of a suitable management system for occupational health and safety. Here, the BMW Group is guided by the globally recognised standards of the International Labour Organisation (ILO) and the principles of the Global Compact.

The purchasing conditions are binding for all existing and new suppliers to the BMW Group. The selection of the suppliers is tasked to a multi-disciplinary

team, which is located in the Munich central office. Experts from the purchasing, logistic, development and quality management areas evaluate the concepts suggested by the suppliers, in addition to costs and quality aspects, also in view of social and environmental risks. The selection of suppliers also includes an evaluation of the concepts suggested against the backdrop of the protection of resources. Criteria for this include the weight of the components or the resulting mechanical frictional losses with drive components.

**Suppliers are selected according to sustainability criteria.** New suppliers are tested using a “Questionnaire for supplier selection”, which also asks about the social and ecological performance



To optimise the environmental friendliness of components, the BMW Group is in constant dialogue with its suppliers.

of the supplier. Attendant to the product design process, environmental questions on the planned production process of the new parts are taken into account with risk management for purchased parts in conjunction with existing suppliers. Aside from checking environmental management certificates, the BMW Group requires its suppliers to provide extensive data on resource consumption, the contents used and their risk potential. Using this data, it is possible to create environmental performance evaluations for specific parts and processes, identify any room for improvement, and obligate suppliers to implement an environmentally optimised design and production for new components. [▶ Page 98](#)



Provided infringements against the criteria agreed upon are detected, then the experts for environmental protection, recycling and purchasing from the BMW Group will first attempt to find together with the suppliers the reasons for these irregularities. Should the supplier fail to implement satisfactory measures, an escalation process is triggered which may lead to the change of suppliers.

In this manner, the BMW Group commits its direct suppliers (first-tier suppliers) to conform to reliable and uniform environmental protection and social standards. At the same time, the BMW Group expects from its suppliers a corresponding examination of those suppliers with whom the BMW Group has no direct business relationship (sub-contractors). When submitting an offer, each new supplier must therefore confirm that sub-contractors are checked regularly for compliance with quality, environmental and social standards and thus can reliably control the risks of its own supply chain.

Especially in the emerging markets, where environmental protection efforts trickle down only slowly to medium and small suppliers, the BMW Group supports its suppliers in establishing environmentally friendly production methods. Since 2000, BMW South Africa has informed its suppliers using a coaching programme on the environmental protection standards in force and the economic advantages which arise from environmentally responsible production. The result: The percentage of suppliers with a certified environmental management system increased from about 10 % in 2000 to 93 % at the end of 2006.

To maintain this status at the suppliers, the product and process auditors from BMW South Africa regularly inspect the environmental management systems and facilities of all suppliers of major components. The objective is, in the face of continually new suppliers and expiring certificates, to ensure a constantly high environmental standard at the suppliers.

WWW.  
b2b.bmw.com

#### **Achievements.**

- Successful implementation of current requirements from the EU End-of-Life Vehicle Directive by the BMW Group in conjunction with its suppliers in 2006.
- Control and optimisation of the environmental friendliness of the BMW Group's components along the supply chain. For this, there were transmissions and expert evaluations of over 30,000 data sets for serial parts in 2006 alone.

#### **Challenges.**

- Increase random inspections of the compliance with social and environmental standards at suppliers in regular visits.
- Develop suitable indicators for early detection of deviations and room for improvement.
- Due to globalised procurement and cost pressure, first-tier suppliers are increasing looking to suppliers from the emerging markets. This requires mechanisms that also secure the sub-contractor management of the BMW Group's suppliers and enable this to be checked.

# 05 Employees

**Hannah Crowder**, an apprentice at the MINI plant Oxford, is one of 4,359 young people who were learning one of 23 professions at the BMW Group in 2006.



The BMW Group owes its success to one fact: The best talent around gets excited about working for the company. For this reason, the human resources and social policy at the BMW Group is more than just a supporting instrument, it is the core task of the company's strategy. Its guidelines are defined and steered centrally and lived and implemented by the human resources departments and executives across the globe.

WWW.  
[bmwgroup.com/career](http://bmwgroup.com/career)

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**“I very much welcome the opportunity for internships at BMW Brilliance Automotive Ltd. in China, as well as the lectures given by managers of the BMW Group at Tongji University. It is important for the future to have an exchange of students between countries in which the BMW Group is active around the world, in order to learn from each other and to attract qualified employees to the BMW Group.”**

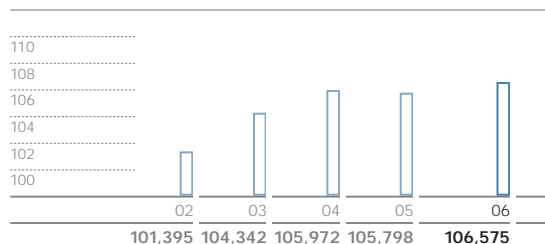
Jun Ma, Deputy Professor, Vice Dean of Automotive College, Tongji University

Dedicated and competent employees are essential for corporate success. In times of increased competition it is especially important to continuously increase the performance commitment and capability of employees. That is why the BMW Group maintains the principle of performance and compensation. It is the foundation of all human resources and social policies, which take into consideration the interests of both the company and the employees. In its essence it follows the requirements of the Global Compact, ILO, OECD, the ICC Business Charter for Sustainable Development and the Joint Declaration on Human Rights and Working Conditions at BMW Group. In addition, the human resources and social policies are shaped to a large extent by the corporate culture, which includes values such as trust, mutual

appreciation and tolerance. The management style of BMW Group is characterised by cooperation and dialogue. Executives encourage and challenge their employees. The goal: Creating free spaces so that each employee can act autonomously and is empowered to give his/her best for the company.

As an employer with over 106,000 employees, the BMW Group faces societal challenges such as demographic changes, unemployment with concurrent lack of qualified workers and the demand for equal rights and professional flexibility. Only by anticipating these trends and making the right decisions for tomorrow today, will it be possible to attract and bind promising talents to the company in the future. The efforts to assure employee satisfaction and equal opportunities, employment security and occupational health and safety management, training and childcare are, in the view of BMW Group, investments in the future that will pay off for the company, its employees and ultimately all stakeholders. **▶ Page 100 et seqq.**

**BMW Group employees at year end\***



\* Figures exclude suspended contracts of employment, employees in the non-work phases of pre-retirement part-time arrangements and low income earners.

## 05.1 Attractive employer internally and externally

### Awards.

– Trendence Study 2006: BMW Group again most popular German employer among graduates in engineering and economics.

With IT graduates, the BMW Group made 5th place.

– Universum Study 2007:

BMW Group is Germany's most popular employer among economists, engineers, natural scientists and information specialists. In the US, UK, Australia, Spain and India, the BMW Group makes the top ten – in the regard of American engineers, the BMW Group reaches 4th place.

The high satisfaction of employees is reflected in surveys in which the employees are asked about the attractiveness of their employer and potential improvements. From January 2005 until March 2006, 85,309 employees from 37 countries (equal to a participation quota of 87.2%) participated in the second corporate employee survey of BMW Group. Central result: 92.6% of the participating employees are "satisfied" or "very satisfied" at the BMW Group. The worldwide employee survey is conducted regularly every two years.

With the numerous new jobs the BMW Group has created in connection with the product and market initiative of recent years (around 12,900 jobs since 2001), the number of employees worldwide has reached over 106,000 (of which some 80,000 are in Germany), which is essentially the level needed in the medium term. The human resources policy at the BMW Group therefore focuses on encouragement and motivation of employees and maintaining their ability to perform and fulfil their job requirements. There is still a need for applicants with specific technical qualifications, such as electrical and electronic engineers, information specialists and mechanical engineers.

**A variety of training opportunities.** School graduates can choose among 23 different commercial and technical apprenticeships at BMW Group. In 2006, 4,359 apprentices learned a trade at the BMW Group. The apprenticeship rate in 2006 was 4.9%, remaining nearly constant in comparison with the previous year.

Through so-called "Junior Companies" acting as internal suppliers for different company areas, the technical and commercial apprentices can demonstrate their abilities and independently implement ideas in a practical environment. For 30 adolescents who find it difficult to qualify for any kind of apprenticeship, the BMW plant Munich, in cooperation with the Federal Employment Agency, has offered an

Committed employees are the key success factor for the BMW Group. Therefore, the company aims at winning and maintaining the best people and providing them with good possibilities for personal development. This includes stable employment relationships: There have been no layoffs for operational reasons in almost 50 years. On the other hand, the employees are more loyal to the BMW Group than the average, as shown by a fluctuation rate of 2.68% in 2006, one of the lowest in the industry.

initial qualification year since 2006, with the prospect of a regular apprenticeship in the following year.

The training programmes of the BMW Group are matched to the conditions of the local sites. At the same time, the BMW Group applies the dual system of further training, which has been proven in Germany for decades, to some of its international sites.

Three examples: For the "Rolls-Royce Apprentice Scheme" at the Rolls-Royce facility in Goodwood (GB), a first round of twelve apprentices aged 16 to 19 years has been recruited. At the three plants of the MINI Production Triangle in the UK, around 160 apprentices are learning one of twelve trades. Together with the German Association for Techni-



Practical management of knowledge: Experienced employees share their know-how with apprentices.

cal Cooperation, the Chinese joint venture, BMW Brilliance Automotive Ltd. in Shenyang, offers training courses for motor-vehicle mechanics.

Apprentices at the German sites can work toward their technical college entrance exam concurrently to their apprenticeship within the programme "Dual Professional Training With Technical College Entrance Exam". The BMW Group provides 15 of the most highly committed apprentices the chance to carry out a part of their apprenticeship as "Euro Apprentices" in the UK. | > Page 100

### University cooperation: Work together with the best brains.

With its university cooperation, the BMW Group above all aims at furthering technical training measures and research and development projects. Some examples: The BMW plant Spartanburg cooperates with eight colleges and universities and has established new partnerships with the Foundation of the University of South Carolina and Clemson University in South Carolina. Not far from the BMW plant Spartanburg is the technology campus of Clemson University (Clemson University International Center for Automotive Research – CU-ICAR). In the autumn of 2007, the Graduate Engineering Centre will start its teaching operation there, with two professorships funded by the BMW Group. The MINI plant Oxford in the UK, together with some

The BMW Group is Germany's most popular employer (Universum study) since:

# 2004



BMW Group supports Clemson University by funding two professorships – just one example of the company's college and university cooperation.

universities, offers a programme for internships of three to twelve months duration. In 2006, this was used by 173 students to collect valuable practical experiences. In the last two years, the BMW plant Leipzig has built up a cooperation network with nine regional universities. An example of a cooperation project is the development of a small lab vehicle, used by students to carry out electric and electronic simulations.

WWW.

[bmwusfactory.com/education/clemson\\_icar](http://bmwusfactory.com/education/clemson_icar)

[trendeance.com](http://trendeance.com)

[universumeurope.com](http://universumeurope.com)

### Achievements.

- Participation of over 87% of employees in the second company-wide employee survey (2005/2006). Over 92.6% are "very satisfied" or "satisfied" at the BMW Group.
- Increase of the quality of professional training and the self-reliance of apprentices through innovative didactic concepts, such as the junior companies and e-learning methods.

### Challenges.

- Continue focussing human resources marketing towards specific qualifications in the areas of electric, electronics, information technology and mechanical engineering.
- In professional training, design and implement a learning unit on the subject of hybrid technology.



## 05.2 Performance, compensation and flexibility

### Achievements.

- High level of social and additional benefits for employees in industry comparison.
- Since 2002, increase in demand for the Family Services of 54 % (2006).
- Further development of parent initiatives and expansion of capacities of existing facilities by 10 %.
- Reorientation of human resources processes within the programme "Excellence in Human Resources (eHR)". By establishing new access channels, such as the numerous web-based applications for employees and managers of the MyNetwork employee portal, and Personal Direkt – an integrated access channel (e-mail, phone and personal contact), standard procedures and administrative processes are made significantly more efficient. They have allowed to increase the quality of services for the employees and to strengthen the consulting functions of human resource management in all workforce-related issues of the departments.

### Challenges.

- Continue to expand flexible employment structures in order to increase the company's ability to adapt, and thus job security.

### Attractive benefits for committed employees.

For employees, the principle of performance and compensation above all means secure and attractive jobs and success-based payment, which is relatively high. The salaries paid by the BMW Group are within the upper third in comparison with the other DAX companies. The principle of performance and compensation is also evident in the employee's sharing of success: The employees of BMW AG were paid 156 % of the monthly salary for the successful result of the 2006 business year. The BMW Group supports the retirement planning of its employees with a company-funded pension plan and contributions to personal retirements schemes, which are, in the opinion of experts, among the best in the market. In addition to monetary salaries, the BMW Group – depending on the site and the legal conditions – provides contributions to health and accident insurance as well as an attractive company vehicle programme. In China, for example, the BMW Group covers pension insurance, health and accident insurance and a yearly medical check-up. In addition, the company offers numerous local sports and leisure activities.

Further offers by the company to its employees include sabbaticals, teleworking, further training programmes, and comprehensive health care and fitness schemes. A wide variety of work time rules and models meet specific needs of employees, while also increasing the necessary flexibility for the company.

While the BMW Group has high expectations of its employees, it also has much to offer to them. The principle of performance and compensation benefits both the company and the employees: For the company, it is a key factor for increasing the motivation and commitment of the employees – and thus is the foundation for the company's success.

**>> Going to work.** A voluntary service by the company is the support it provides to employees in Germany for commuting to and from work. Because not all of the 80,000 employees at the German sites can use public transportation services, the BMW Group has set up its own plant bus system. There are 72 plant buses on the road at the Regensburg plant, 76 at the Munich plant, and as many as 317 at the Dingolfing plant. All in all they carry 21,800 employees per day. The advantages of the plant bus system include lower impact on the environment and decreased traffic. The environment benefits from CO<sub>2</sub>-reductions amounting to up to 24,000 tons. The employees have a safer trip and lower commuting costs, as the company supports the bus system financially.



Every day, BMW Group plant buses transport around 21,800 employees.

Employees coming to work in their own car can look for rideshare partners via the intranet. In Leipzig, this is done by a rideshare exchange with system-supported intermediary and communication functions. Where buses and trains are a viable option (such as at the Munich and Regensburg sites), BMW Group supports the purchase of a JobTicket with up to 90 % of the total cost. Together, these measures result in an average of 50 % of all employees in Germany coming to work on a plant bus or by public transport.

**Flexibility for the company and employees.** The BMW Group expects a high degree of self-reliance, flexibility, commitment and ability to perform from each employee. What counts is performance and deadlines – while a fixed schedule in which to achieve it is becoming less important.

Based on this philosophy, the majority of employees of the BMW Group outside of production enjoy flexible working hour schemes. For management positions not covered by labour agreements, shared goals are agreed upon instead of required working times, i.e. attendance sovereignty is applied. In addition, there are over 300 working time models in place at the German BMW Group sites and at the MINI plant Oxford in Britain. Additional flexibility is provided by work time accounts, which allow the actual working time to deviate as much as 200 hours per year from the negotiated working time. Thanks to these provisions, the BMW Group can react quickly to market changes, adapt its capacities, utilise production facilities better and operate more efficiently in general.

Since 1994, the BMW Group has increasingly offered part-time employment and job sharing. For many employees, BMW Group has implemented teleworking plans. A sabbatical model – used by over 8,000 employees since 1994 – offers the opportunity to create individual free spaces.

Flexibility is the key for the company's competitiveness and long-term success – and thus also for job security. Last but not least, flexible, interesting and well-balanced jobs are a convincing argument for attracting the best employees to the company and for retaining them.

**Balancing family and work.** An important argument for employees who are becoming parents: The BMW Group sees itself as a family-friendly company. Flexible working time models and the offers mentioned above, such as sabbaticals and teleworking, make it easier for parents to balance work and family. The BMW Group's family policy is firmly anchored within the human resources policy. Since 1992, the Family Service has been offering independent counselling and has acted as an intermediary in all questions of employees surrounding the subject of family and children. Children of employees are cared for in four parent-initiated facilities at German sites and in two "Early Learning Centres" at the South African sites Rosslyn and Midrand. The MINI plant Oxford and the BMW plant Leipzig each have a cooperation



In the Early Learning Centres at the South African sites Rosslyn and Midrand, children of employees receive qualified care.

agreement with a local day-care centre. During the so-called Family Days, which took place in 2006 at the Swindon, Oxford and Spartanburg plants, jobs and families were literally brought together. On this day, employees showed their families the production processes and their place of work. **i > Page 101**

Number of different working time models at BMW Group:

300



## 05.3 Co-determination and involvement

### Achievements.

- Founding of an employee site representation at BMW Brilliance Automotive Ltd. in China and its further development in accord with the appropriate trade union in 2006 und 2007.

- Cost savings of euro 63 million through proposals by employees in 2006.

### Challenges.

- Further anchor the philosophy of improvement and continue to build innovation culture within the company by appropriate measures.

**Co-determination at all sites.** Institutionalised co-determination is implemented company-wide in accordance with the applicable legal requirements. At all plants and branches of BMW AG, elected works councils carry out co-determination functions and the representation of the employees. In negotiations with the company management, site agreements and working time models are agreed upon, the development of the company is reviewed from an employee viewpoint, and there is constant – and often critical – dialogue with the corporate management. Both the company leadership and the employee representatives highly value a cooperative approach. The corporate works council is in charge of the regulations and agreements in effect in Germany.



Regular works meetings promote sharing between company leadership, employee representatives and the employees.

The employee representatives of the sites in the UK, in Austria and in Germany have moreover joined together as a Euro Works Council.

At the BMW plant Spartanburg, the company leadership regularly meets with employee representatives for information talks and discussions, at which concerns and suggestions of employees are talked about as well.

In the long run, companies can only succeed if they take the interests of their workforce into account. Based on this realisation, co-determination is a long and good tradition at the BMW Group.

At the BMW plant Rosslyn in South Africa, close to 40% of the workforce are organised by the NUMSA trade union, which represents the employees' interests at the negotiations about wages and working conditions taking place every three years.

The employees' interests are also organised at BMW Brilliance Automotive, the distribution and production joint venture of the BMW Group in China. In July of 2005, an employee representation, the Associates Club, was elected there – one of the first of its kind at a large private company in China. This employee representation was further developed in accordance with the appropriate trade union in 2006/2007.

**Sharing ideas and concepts.** Ideas, creativity and power of innovation of the employees are what secure the competitive advantage of the company. The BMW Group, together with the works council, has therefore installed an integrative improvement management to systematically encourage and recognise this potential. With internal innovation procedures, systematic management of employee suggestions and innovation ideas of external partners (suppliers, customers, trade organisations), several sources for ideas and improvements are combined.

The goal is to establish a global innovation and improvement culture which is alive locally and guided and encouraged by leadership at all levels. On average, one out of two employees turns in an improvement suggestion per year; the cost savings thus realised amounted to more than euro 92 million in 2005 alone. In 2006, the amount was more than euro 63 million. Creativity also pays off for employees: For about one half of all realised suggestions, the supplier of the idea was awarded with a premium in accordance with the site agreement in effect. |> Page 102

All employees of the BMW Group enjoy the same opportunities and rights at the company – independent of gender, origin, age or beliefs. These principles are anchored in the guidelines for employees and leadership of the BMW Group, the standards of the long-term human resources policy and the Joint Declaration on Human Rights and Working Conditions at the BMW Group.

### Achievements.

- Increase in the rate of female apprentices in technical trades to 20.5 % within BMW AG in 2006. This represents an overall increase of 14.5 % from 2002.
- Increase in women in management positions in Germany of 25 % since 2002.

### Challenges.

- Further increase in the rate of women in technical jobs and in leading positions.
- Strengthen the company values of diversity and equal opportunity internationally.

**Living diversity.** The principles of equal opportunity and diversity apply company-wide without exception. At some sites, additional site-specific measures and programmes have been developed based on the guidelines.

In the US, for example, all employees are required to take training courses directed against discrimination and promoting diversity. In Florida and California, the BMW Group aims to encourage people of Latin origin to consider a career in the automotive industry with its “Service Technician Education Program” (MetroSTEP). Thanks to the Group’s Diversity Committee in North America, 7 % of American BMW and MINI dealers belong to an ethnic minority today. In South Africa, the BMW Group established a pro-

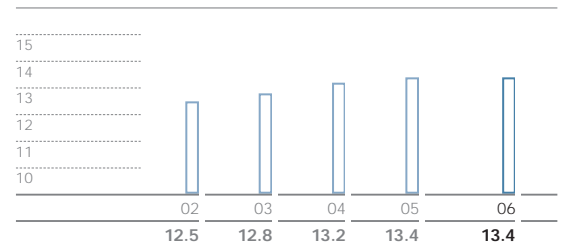


At BMW AG, some 13 % of the workforce is female – the company aims at further accessing the potential of well-qualified women.

gramme for ethnic and demographic diversification of the workforce in an Employment Equity Plan for the years 2005 through 2009, the progress of which it reports to the government annually. At the British plants in Hams Hall, Oxford and Swindon, leadership and human resources personnel are trained in equal opportunity issues. Last but not least, the German sites also feature numerous equal opportunity initiatives, such as for the integration of disabled employees. Thus, the new production lines at the Regensburg plants have workstations for severely disabled employees.

**Attractive employer for women.** One objective of the BMW Group across sites and countries is increasing the rate of women employees with the ultimate goal of achieving a balanced workforce structure. Currently, BMW AG has a rate of women of 13.4 %, with 7 % in the leadership. By increasing the rate of female employees, the BMW Group wants to further access the potential of well-qualified women. With activities such as the Girls’ Day (on which around 3,500 daughters of BMW Group employees have gained insights into the company’s work since 2001) as well as trial internships and technology camps for girls, the BMW Group tries to create excitement for technical jobs and the company among girls. The BMW Group and the Munich Technical University use a programme named

Share of women in the total workforce of BMW AG in %



“Mentoring” to network young female engineers within the BMW Group with high school girls and female students of technical subjects to allow them insight into working life. A programme named “Cross Mentoring” is used to identify and promote women with great potential. The “Female Leadership Dialogue” network offers a platform for women in leadership positions to discuss information and share experiences to the mutual benefit of the company and the participants. Dedicated monitoring and continuous evaluating of the programmes is used to check whether the regulations and processes for equal opportunities at the BMW Group are sufficient or need to be adapted. | > Page 102

## 05.5 Lifelong learning

### Achievements.

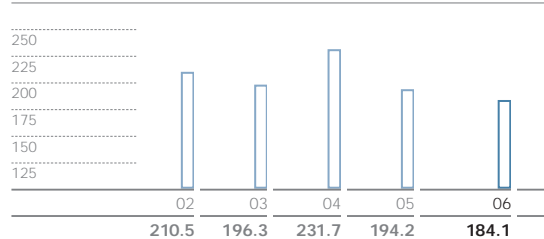
- Successful introduction of the “Wiki Pilot” intranet portal as a platform for exchanging company-relevant knowledge at the beginning of 2006. Wiki Pilot has since become the second most popular freely selectable portal in the intranet.
- Since the beginning of 2006, opening of new after sales training centres that follow worldwide standards in Greece, the UK, Italy, Portugal, the Czech Republic, Mexico, India, South Korea and Japan.
- Combination of attendance training and on-line training through innovative, easy to use e-learning and training management systems introduced worldwide.

### Challenges.

- Interrelate working and learning processes more strongly to allow for daily learning within the specific areas of responsibility.
- In the BMW Group’s growth markets, such as China and USA, the qualification level of employees needs to be increased further, particularly in the light of high fluctuation and a strong need for employees.

**Knowing what will count tomorrow.** The training initiatives of the BMW Group are based on needs predictions that are a combination of an analysis of age structures, the actual qualifications of the employees and future technological and structural developments. The process of strategic needs analysis at the BMW Group is guided by the Qualitative Personnel Planning (QPP). With the help of QPP, and based on corporate strategy, changed structural requirements, needs profiles and employee capabilities are identified for the future. If a new technology is planned to be deployed in three to five years, it must be clear first how, and in how much time the necessary capabilities can be created. QPP supports the analysis whether the right employees with the necessary knowledge and skills are at the right

**Capital expenditure on education and further training\* of the BMW Group**  
in euro million



\* The BMW Group’s capital expenditure depends on education and further training requirements and thus fluctuates from year to year.

place and can become active at the right time. A specific example is the adaptation of the qualification of employees in the areas of electronics and IT systems in vehicles that has become necessary. This can also affect the new qualification for jobs that are just being created. For example, in the area of hybrid drives, the BMW Group is working to qualify the employees for the design and safe handling of higher voltage technology.

It is an objective of the BMW Group to adapt quickly to changes and to act proactively. In the interest of this goal, its employees are expected to continuously develop their abilities. The company provides support with a wide variety of learning opportunities.

In this way the company wants to develop today the capabilities of its employees that will be the key for success tomorrow. All employees are expected to actively acquire additional skills and further develop existing ones – throughout their entire working life. In 2006, the BMW Group invested over euro 184 million in the education and further training of its employees.

**Personal development worldwide.** The numerous training and development measures that the BMW Group initiated in 2006 were both national and international in scope. On average, each BMW Group employee attended 1.8 days of training in 2006. The BMW plant Hams Hall has concluded a partnership with Sutton Coldfield College to offer



Further training within the practical context: Approximately 23,000 participants were trained at the BMW Group Training Academy in Unterschleißheim, near Munich, in 2006.

individually tailored development programmes for the BMW Group workforce. The MINI plant Oxford runs training programmes in cooperation with the Automotive Academy. All British sites of BMW Group together use the BMW Group Academy UK in Wokefield Park near Reading, which opened in February 2007. At this training centre, in addition to the instruction sessions for BMW Group employees, extensive training and development programmes take place

for apprentices and employees of BMW and MINI dealers in the UK. The Swindon plant supports production environment employees with a technical and general qualification programme (mathematics, English and information technology). In South Africa, the BMW Group has issued the first Automotive Manufacturing Certificates to employees. At the BMW plant Spartanburg, an e-learning lab for all employees was inaugurated in 2006.

Since the beginning of 2006, the German plants have carried out comprehensive qualification measures of all employees for an added value creation-oriented production system. Through integrated learning concepts – combining attendance events and e-learning measures – process changes are trained, especially for the logistics and development areas. Overall in 2006, 4,800 training measures for around 50,000 employees were carried out in Germany.

At the BMW Group Training Academy at Unterschleißheim near Munich, over 300 after sales training courses for around 9,000 employees of the German dealer network took place in 2006. Overall, about 23,000 participants from around the world took part in seminars about new models and brand behaviour, as well as courses about systems and processes.

The optimal learning conditions at the Academy are setting standards in the automotive industry. The strategy pursued with the Academy has also been applied to other BMW Group markets. In 2006, new training centres have opened in Greece, the UK, Italy, Portugal, the Czech Republic, Mexico, India, South Korea and Japan. Trainers with worldwide standardised certifications ensure a high level of qualification. The implementation of a basic technical course for employees of Chinese BMW dealers in cooperation with five universities (Nanjing,

Shanghai, Shenyang, Guangzhou and Chengdu) has been completed in 2006. This basic training is scheduled to be introduced to other countries that also do not have a concurrent work and training system.

The company's specially designed leadership programme includes strategic management qualifications, strengthening of individual capabilities and discussions of current trends and developments.

Fundamentally, the BMW Group encourages employees to take on tasks in other areas and sites of the company in order to link, broaden and deepen their knowledge base. **i > Page 103**



The successful concept of the BMW Group Training Academy in Unterschleißheim was applied to further markets such as the UK, Mexico, India, South Korea and Japan in 2006.

## 05.6 Health and safety at work

This philosophy is brought to life by the BMW Group's health service, which is located at sites around the world with 30 physicians and around 80 occupational medicine assistants, and plans its activities in close consultation with the employee representatives. In addition, all employees working abroad have access to an assistance hotline around the clock.

WWW.  
enwhp.org

### Strengthening health, facilitating rehabilitation.

Employees are responsible for keeping themselves healthy. That is why the BMW Group supports a responsible approach to one's own health: disease prevention, e.g. influenza protection measures, cancer prevention and courses about body weight and



Company-owned fitness centres help employees maintain physical balance and health.

nutrition are some of the offers. Also contributing to a healthy lifestyle are the labelling of food by nutritional quality in the company restaurants and the company-owned fitness centres within the corporate scope of the "MoveUp" concept.

The leadership position that the BMW Group claims is also evident in the areas of occupational safety and health management. For the BMW Group, health management is much more than simple healthcare. Rather, the goal is – in conformity with the Luxembourg Declaration on Workplace Health Promotion in the EU – an all-inclusive, continuous and effective support of the physical and mental well-being.

The "Health Forum", a voluntary health check with individual consultation about risk factors and personal lifestyle, was offered in 2006 to all employees of the BMW plants Landshut, Leipzig and Munich. It was followed up with measures such as smoking cessation courses or nutrition classes. After the success of the Health Forum – two thirds of plant employees participated – the activity was offered also to the employees at the Munich headquarters in 2007. A Health Forum is planned for the Dingolfing site in the fall of 2007.

The BMW Group also supports its employees in the case of acute disease and in reintegration after a longer absence due to disease. Thus, the "Rehab Network" optimises rehabilitation processes through the cooperation of hospitals with BMW Group's health service and the BMW AG Health Insurance Plan (BKK).

**Avoid accidents, increase safety at work.** Occupational safety is a priority at the BMW Group and is firmly rooted in all work processes. It is based on certified occupational health and safety management systems (OHRIS/OHSAS), which are adhered to at all sites. In order to avoid physical stress, the ergonomics of work procedures are reviewed – a preventive measure increasing in importance due to the demographic change and the ageing workforce. In 2006, workplaces at the BMW plant Munich were redesigned ergonomically, for instance changing sewing stations into sitting-standing stations. The BMW Group takes care that employees with chronic diseases are employed at the workplace most suited to them, based on a standardised performance profile created by the plant physician. **i > Page 103 et seq.**



**>> Fighting against HIV/AIDS.** Out of responsibility towards its employees and society, but also out of economic necessity, the BMW Group takes comprehensive measures to fight HIV/AIDS at affected sites.

In South Africa, where more than one fifth of the population is infected with HIV, the company already in 2000 defined an HIV/AIDS strategy and set up a comprehensive prevention and treatment programme. The HIV/AIDS Task Force is responsible for monitoring, risk analysis and development of appropriate strategies for action. HIV risks are explained already in the plant daycares, while women – affected especially by HIV/AIDS in South Africa – have their own forum. Employees have access to the “AID for AIDS” health service. Amongst its services is all-inclusive care for affected employees and their families. Included are the provision of medications, health tests, psychological counselling and nutrition and lifestyle education.

By various communication measures, but also by furthering the development of human resource processes to guarantee absolute anonymity of HIV status, the BMW Group in South Africa has managed to establish a culture of trust in the handling of HIV/AIDS. The central starting point for the effectiveness of all measures is the knowledge of one’s own HIV status. A comprehensive, individualised testing programme ensures more self-responsibility. In order to be a model for the employees, the entire management level had themselves tested at the company clinic and has documented and communicated that fact. Each test includes a preliminary talk and a final consultation, encouraging the participants to match their lifestyle to their HIV status: Anyone who is HIV negative should be able to do everything to prevent a future infection, whereas HIV positive employees are given the chance to continue their work and private life as normal as possible through therapy and reintegration measures. Thanks to this comprehensive programme, the BMW Group in South Africa has lost only 17 employees to the pandemic in the last six years.

The Chinese BMW Brilliance Automotive Holding Ltd. integrates education about a variety of infectious diseases into its “Infectious Diseases Awareness Program” (IDAP). The employees of the Shenyang plant and the distribution company in Beijing are informed at quarterly workshops about the prevention of infectious diseases such as HIV, hepatitis, SARS (Severe Acute Respiratory Syndrome) and bird flu. Participation in these workshops is mandatory for all employees; since the beginning of 2007 they have been an integral component of the orientation courses for new employees. (Further information about the commitment of the BMW Group to the fight against HIV/AIDS on pages 74 and 75.)

WWW.  
bmw.co.za

#### **Achievements.**

- Introduction of occupational health and safety management systems at all BMW Group sites – the BMW plant Leipzig was the last to be OHRIS-certified in November of 2006.
- Reduction of the number of reportable work accidents between 1996 and 2006 by 55 %, from 6.6 to 3.0 accidents per one million working hours performed at BMW AG.
- Substantial investment in the ergonomic design of workplaces – the Munich plant alone in 2005 invested euro 25 million in the design of ergonomically optimised workplaces.
- 46,800 participants in the Health Forum by the mid-2007.

#### **Challenges.**

- Maintain the performance and employability of a workforce that is increasing in average age.
- Further strengthen health prevention and responsibility of employees for their health.

## 05.7 Demographic change

The industrial nations are currently experiencing a demographic change. For years, the number of newborns has fallen below the number of deaths. In Germany, where BMW Group employs around 80,000 people, this development is especially severe.

**Today for tomorrow.** The average age of the BMW Group's workforce will increase by five years within the next ten years – an effect that in Germany can be traced to demographic change, but also to the raising of the legal retirement age and the termination of the Federal Labour Agency's support for senior part-time employment.

In order to continue to lead in performance and competitiveness, the BMW Group must on the one hand strengthen the health and capability of its workforce and on the other hand match the working and learning environments to the changing age structure. The BMW Group is meeting this extraordinary challenge with an ambitious project. Today for tomorrow is an all-inclusive package of measures directed at employees



No bending, no stretching. Ergonomically optimised workplaces reduce stress on the body.

of all age groups at the BMW Group in Germany. The goal is to create the conditions for a continuously capable workforce for the future, above all through preventive measures.

"Today for tomorrow." (Project started: April 2004) is managed by the central human resource and social department at the Munich headquarters and guided by a leadership circle established for the purpose. The project includes five areas of action:

**Ergonomic workplaces.** Workplaces are designed to reduce stress on the body as much as possible. Rotation models in production – controlled changes of workplace at regular intervals – are designed to further reduce physical stress.

**Health management.** This includes offers such as the Health Forum, where employees can receive a complete examination. The MoveUp programme, developed together with the BMW Health Insurance Plan (BKK), integrates training, therapy and rehabilitation measures (more on page 62, chapter on Health and safety at work).

**Learning across generations.** Individual qualifications strengthen exactly those skills that the BMW Group will require in the future. With specific education and further training, the company supports its employees throughout their careers (see page 60, chapter on Lifelong Learning) New ways of learning need to be found, for example matching the requirements of older employees – they prefer application-oriented learning to theoretical learning. The newly developed Project Camp is such a way of learning, consciously aiming at learning at the workplace, at the experience of participants and at knowledge transfer between younger and older employees. In Age Management Seminars, leaders are trained specifically in concepts and instruments of age-appropriate leadership. In addition, mixed-age teams serve learning across generations: In such innovative work structures, older and younger employees can exchange their knowledge "on the job" every day.

**Needs-based retirement models.** Despite enhanced prevention measures, not every employee will be able or willing to work up to the legal retirement age. That is why the BMW Group, together with the Works Council, is developing new, needs-based retirement models. They are supposed to take into



consideration the life plans of employees and the company's needs and to be supported by new financing schemes. The financial base for this is laid already today.

**Communication creates awareness.** A variety of communication measures strengthen the awareness of leadership and employees for societal and company changes and promote self-reliance. Since 2006, the intranet portal "My Future Provision" offers employees a wealth of information and support in subjects such as training and work environment, as well as financial and health planning.

These initiatives will be decisive factors for the competition of the future. The competition for the best

Number of employees who have participated in the Health Forum as of 2007:

46,800



In 2006/2007, employees at the BMW plants in Landshut, Leipzig and Munich, along with their colleagues from the headquarters in Munich, were able to have themselves examined and receive individual consultation at the "Health Forum".

employees will become dramatically stronger. Moreover, the age structures will change significantly in the next ten years. To react to the demographic change then would be much too late. To anticipate it today means utilising the opportunities provided by demographic change.

#### **Achievements.**

- Since 2007, series of "Age Management Seminars" and health courses conducted to further strengthen employees' awareness of healthy diet, fitness and physical health.
- Establishment of "My Future Provision" – an intranet portal that serves as the central information medium for all pension schemes – in 2006.

#### **Challenges.**

- Integration of the measures taken in the "Today for tomorrow" project into the standard processes, and thereby into the company's daily routine.
- Conclusion of detailed arrangements with the Works Council to enable early withdrawal from the labour force.
- Further adaptation of work structures and models to the higher average age of employees.

# 06 Society

**Makwena Sibiyi's** responsibilities include HIV/AIDS prevention in her job as a nurse at the medical centre of the BMW plant Rosslyn, South Africa.



Anyone who aims to be successful tomorrow must today create the conditions that will enable success in future. Companies such as the BMW Group operate today in a complex, fast-changing environment. Their success depends not only on their own performance and innovations, but also on the conditions and developments of the surrounding social environment.

WWW.

[bmwgroup.com/socialcommitment](http://bmwgroup.com/socialcommitment)

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**“For the BMW Group it is important to give attention to cultural values and cultural differences in the markets where it is present, because cross-cultural competence helps to improve products and raise corporate value.”**

Prof. Fabio Orecchini, Faculty of Engineering, Sapienza University of Rome

Because of this, the BMW Group believes that taking social responsibility always represents an investment that is every bit as worthwhile as it is necessary. Under the slogan “We take responsibility”, the company focuses its commitment toward the solution of social challenges in regions and countries of relevance to the company, and in those where it actually operates. In so doing, the BMW Group pursues a consistent, results-oriented approach: rather than participating in pure sponsorship activities, the BMW Group actively commits itself to projects with long-term objectives. In this context, its commitment is dedicated to the premise of “helping others to help themselves” and promotes initiatives that help to bring measurable progress towards the solution of specific social challenges. Where it makes sense to do so, the company cooperates with external experts.

The BMW Group concentrates on approaches aimed at achieving long-term solutions that can be transferred across national borders as “best practices”. Most of the activities are carried out directly at the BMW Group sites. However, when initiatives can be more efficiently managed on a centralised basis, specialised central divisions such as Group Corporate Affairs, the Group’s foundations, the Science and Transportation Policy Division, or the Institute for Mobility Research (ifmo) become involved.

Mobility research and international projects for the promotion of traffic safety represent key aspects of the social commitment of the BMW Group. In both areas, the company provides outstanding expertise as a manufacturer of premium automobiles while helping to make its own future more secure through path-breaking transportation concepts at the same time.

**“The overall strategy of the BMW Group to promote sustainable mobility and efficient driving contributes to improved energy efficiency and therefore helps to reduce CO<sub>2</sub>-emissions. With the support of the BMW Group the Chair of Sustainability will conduct further research regarding the different dimensions of climate change in South Africa and beyond.”**

Prof. Coleen Vogel, BMW Chair of Sustainability, University of the Witwatersrand

The activities of the BMW Group in the area of (inter-cultural) education are as vitally important for society as for the company. A high level of education and intercultural understanding among its employees are decisive factors in the BMW Group’s success – and in dealing with the social challenges confronting today’s knowledge society.

The mutual dependence of company and society can also be seen in the case of the immune deficiency disease HIV/AIDS. This pandemic represents a serious threat – not only for the society in general, but for the BMW Group and its employees too. By countering this danger with effective measures, the company not only protects its workforce but at the same time generates added value for society.

Such added value is generated in another form through the promotion of culture. The BMW Group seeks to have a positive influence on the society by promoting innovative ideas, young artists and artistic excellence. In so doing, the company promotes social values on which its success as an innovative premium manufacturer depends.

But the BMW Group does not hesitate to fully engage itself even where there is no direct benefit for the company. Out of a sense of duty and responsibility, the BMW Group willingly deploys its economic strength for the benefit of those affected by devastating catastrophes such as the Tsunami in South-east Asia.

With its own two independent foundations, the BMW Group is committed to social concerns in a special way. The BMW Foundation Herbert Quandt promotes interdisciplinary dialogue among decision-makers from business, politics, culture and the media. The Eberhard von Kuenheim Foundation promotes active entrepreneurship. **▶ Page 106**

## 06.1 Traffic concepts for the future

### Awards.

- March 2006: Presentation of the "ADAC Mobility Prize 2005" for the Inzell Initiative of the BMW Group and the City of Munich.

One of the BMW Group's strategic objectives is to enable the most efficient and environmentally acceptable use of the existing road network while minimising the negative side effects of mobility such as traffic jams, accidents and pollution. Relevant research projects and initiatives are being led by the Science and Transportation Policy Division of the BMW Group. Further valuable impetus for mobility research is generated by the "Institute for Mobility Research", an independent research organisation of the company. Through these institutions, the BMW Group contributes to the public discussion of mobility today and in the future, and develops practical initiatives on cooperative traffic management in urban centres.



Steering traffic along the right path – the BMW Group is making a major contribution to this effort with mobility research and transportation concepts.

WWW.  
ifmo.de  
bmwgroup.com/mobility

**Path-breaking transportation concepts.** With the aim of solving traffic problems jointly with the stakeholders of the transportation sector, the BMW Group established the Inzell Initiative in 1995 together with the Bavarian capital, Munich. Following the successful implementation of a parking space management system, current concepts are focused on promoting public transport with Park-and-Ride programmes, on the municipally acceptable handling of transportation in the primary transportation road

Society today is more mobile than ever before. Infrastructure and transportation systems have never before so frequently reached their limits. As a conscientious automobile manufacturer, the BMW Group has a vital interest in enabling individual mobility in the future as well. For 20 years now, the company has also been working on transportation concepts.

network (Red Routes Network), and on the regional planning of transportation development. In a number of research projects in cooperation with the public sector, the BMW Group is participating in the development and implementation of measures for improving transportation systems and offerings. Since 2005, for example, the BMW Group has been involved in the further development of instruments and processes for transportation planning and management as part of the collaborative project "arrive – Offerings for a mobile region". The project has been set up to run for three-and-a-half years, and enjoys considerable support from the BMW Group in terms of material and personnel resources. And the introduction of quality assurance for traffic management systems also plays a role here: more efficient use of the existing infrastructure and more efficient traffic patterns are designed to improve the region's quality of life and economic power, and to reduce the effects of traffic. In so doing, special emphasis is placed on the ability to take the solutions developed in Munich and transfer them to other cities. In addition, the BMW Group's experts have developed a guideline for generating traffic management plans. This is intended to help local authorities in the actual implementation of newly developed traffic management systems.

WWW.  
inzell-initiative.de  
arrive.de

With some 80,000 employees in Germany who drive to their place of work and back on every working day, the BMW Group itself contributes to the load on the main traffic routes. But the company reduces these effects with its comprehensive employee mobility concept. (Read more about "Mobility of employees" on page 56).

**Research for future mobility.** For the "Institute for Mobility Research" (ifmo), which was established by the BMW Group in 1998, the increasing volume of roadway traffic is only one of many research considerations. The Berlin-based institute draws on the

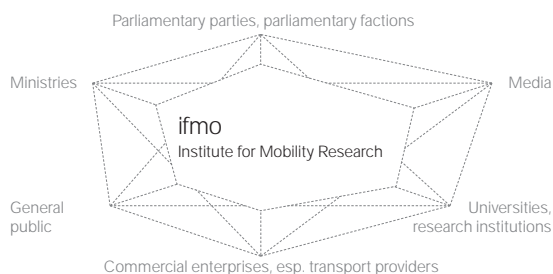
knowledge and know-how of the BMW Group, as well as that of well-known experts from the scientific community, to study physical mobility in the broadest sense of the term. It examines influences from society, business, politics, technology, and the environment, and derives specific elements to ensure acceptable mobility with a viable future. One example of this is a study issued by ifmo in 2005 in cooperation with Deutsche Lufthansa, Deutsche Bahn and MAN. Entitled "The Future of Mobility – Scenarios for 2025", the study proposed comprehensive scenarios for the transportation of people and goods by road, rail, air and water. Typical of ifmo's interdisciplinary approach, this research effort involved about 80 experts from the scientific community, business and associations. In 2006 ifmo hosted an

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#### ifmo

Communication for the mobility and transportation of tomorrow

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expert workshop on the financing of transportation infrastructure, thereby carrying forward the dialogue initiated in 2004 with the various players who have a stake in the future of mobility in Germany. Other current fields of research of the ifmo include the connection between the growth of business and the increase in traffic, future developments in the mobility behaviour of private households and a transportation infrastructure benchmark for Europe, as well as "Utopian Realities", a project that tests whether or not innovative approaches and methodologies from Future Studies can be applied to mobility research.

#### Achievements.

- Around 41 % of employees travelled to the Research and Innovation Centre in Munich by bus and the underground in 2006 compared with 34 % in 2001.
- Within the framework of the "arrive" initiative, proven quality assurance methods were for the first time transferred to traffic management in Munich in 2007.
- Mobility projects for employees such as plant buses and subsidised use of local public transport: decongestion of main traffic routes, and reduction of the load on the environment by about 24,000 tons of CO<sub>2</sub> per annum.

#### Challenges.

- Early recognition of future challenges in the area of mobility, and development of practical and realisable solutions by means of scientific research.
- Handling increasing traffic volumes in the Munich metropolitan region, also relative to CO<sub>2</sub>, NO<sub>x</sub> and fine particulate emissions, e. g. through improved traffic management.

## 06.2 Traffic safety projects

**Prevention avoids accidents.** The BMW Group supports numerous initiatives dedicated to the safety of children and adolescents in road traffic. By explaining the risks involved with road traffic and effective prevention work, the BMW Group aims at preventing people from becoming the victims of road traffic accidents. In addition, the BMW Group shares its know-how related to traffic safety, for example in the form of information material, and cooperates with specialists worldwide. The projects are designed and coordinated by the Social Policy Division at the corporate headquarters. They are implemented on a decentralised basis at the company's respective locations.

In the case of the youngest road users, for example, the programme "Safety on the way to school for first



In the BMW Group's traffic safety projects, the youngest drivers are already learning the road rules in a playful way.

graders" is in place in Germany. As children just starting school are often travelling in traffic on their own responsibility for the first time, the BMW Group and its partners provide primary school children in Munich and Berlin with individual maps of their way to school. The orientation guidelines include indications of particularly dangerous points along the way to school, recommendations for a safe path to school, and explanations about the most important traffic rules and signs.

The effects of mobility are not limited to the transport infrastructure. One of its serious consequences is traffic accidents. As an automotive company, the BMW Group is vitally concerned with the safety of all travellers. For this reason, one of the key aspects of the company's social commitment for many years has been its involvement in the promotion of traffic safety projects all over the world.

Primary school teachers and parents in Great Britain can find information on traffic education for 7- to 11-year-olds on the interactive "Safe on the street" website – a part of the BMW Education Programme. Especially intended for children between 10 and 12 years of age, the "Coolwayz" website was set up in 2006. It helps students to plan a safe route to their new school on their own when they make the switch from primary to secondary school.

WWW.  
bmweducation.co.uk

**Traffic safety worldwide.** The jointly conducted "Ability through Experience" programme is a BMW Group project with a longstanding tradition, by means of which first-time drivers in Bavaria are taught defensive driving techniques. But the challenge of traffic safety is even more serious in South America and Asia than in Germany. Argentina and Brazil, for example, take the top position in the number of traffic accidents per 100,000 inhabitants. In fact, traffic accidents are the number one cause of death among 18-to-25-year-olds in Argentina. The BMW Group has therefore begun arranging explanatory presentations for upper secondary school classes and conducting driver training courses in both countries. The aim is to raise young drivers' awareness of their safety and their responsibility in road traffic. So far the BMW Group has been educating a good thousand Argentinean and Brazilian students, teachers and parents each year.

WWW.  
bmw.com.ar

**Traffic education in the emerging market of China.** More than 70 children are seriously injured in road traffic each day in China. The BMW Group launched the "Slow Down for Children" project there in 2005. After theoretical traffic training for children and their parents, the youngest road users can use



the fleet of BMW Baby Racers for practical experience in what they have just learned. In 2006, the programme was expanded to cover the entire country and, among other things, integrated into the "Traffic Safety Angel" Day programme. Together with partners from business and government, the BMW Group in China published four books on the subject of traffic safety in 2006. The book "Drivers' Training Pass" is aimed at beginner drivers and provides basic knowledge needed for passing the driving test. Building on this foundation, the "Drivers' Handbook" contains further information on driving safety for advanced drivers. These books are complemented by two children's books that treat the topic of traffic education in a playful manner. The books are distributed free of charge through driving schools and



The BMW Group's traffic safety projects in China are helping to reduce the high number of child casualties in China's road traffic.

BMW dealership operations, as well as at traffic education events at Chinese preschools.

WWW.

[bmwgroup.com/socialcommitment](http://bmwgroup.com/socialcommitment)

#### **Achievements.**

- 10,456 people participated in the "Ability through Experience" programme in 2006. According to TÜV Bavaria (an independent technical inspection company), participation in the training programme reduced the number of accidents by 36.1% in the first two years.
- The programme "Safety on the way to school for first graders" has resulted in a significant drop in the number of children injured on their way to school. During 36 million trips to school per annum since 1993, no first grader at a participating school in Munich has suffered a fatal accident on the way to or from school.

#### **Challenges.**

- Implementation of further traffic safety projects in international markets.
- Expansion of the school route map project to other major cities in Germany.

## 06.3 Education and intercultural understanding

### Awards.

- “Jewish Museum Berlin Prize for Understanding and Tolerance” for the promotion of tolerance and understanding in 2006.

**Passing on knowledge.** One of the key aspects of the BMW Group’s commitment in the area of education involves projects directly related to their areas of expertise – technology, production and new forms of energy such as hydrogen. In this way the BMW Group supports, for example, school activities like “Energised”, an energy project especially tailored for primary school students. The “CleanEnergy” Internet portal and the “H<sub>2</sub> – Mobility of the Future” classroom folder provide answers to questions about energy for today and for the future.

WWW.

[bmweducation.co.uk](http://bmweducation.co.uk)  
[bmwgroup.com/socialcommitment](http://bmwgroup.com/socialcommitment)  
[bmw.com/cleanenergy](http://bmw.com/cleanenergy)

At some of the company’s international locations, secondary school students attend classes at production sites. For example the BMW plant Hams Hall in the UK: secondary students from Birmingham take technical courses here. With plant tours and teaching materials on vehicle and engine production, the BMW Group aims to provide basic understanding of technical concepts for students around the world. Another example is the two-week programme “Teens and Wheels” conducted by BMW of North America. In Spring 2007 this course provided more than 1,000 students with a better idea of professional requirements and opportunities in the automotive distribution business.

The so-called Junior Campus in the BMW Welt offers a new kind of place of learning for students from 7 to 13 years of age. Under the slogan “Discover mobility, using all your senses”, the new automobile delivery centre in Munich presents knowledge about automotive development and production.

**Promoting others’ knowledge.** The BMW Group is also committed to promoting the next generation of scientists and engineers at colleges and universities. In Great Britain it supports Sutton Coldfield College with courses in vehicle construction, mechan-

ical engineering and logistics. Thanks to the BMW Group, the University of Witwatersrand in Johannesburg boasts South Africa’s only Chair for Sustainable Development. In South Korea, the BMW Group donates development vehicles to the universities, thereby enabling students to work with high quality automotive components and vehicles. In China, the BMW Group concentrates its efforts on promoting students from socially disadvantaged families and exceptionally talented students of engineering science. To this end, the company joined with the China Soong Ching Ling Foundation to establish the “BMW Excellent University Students Award Fund” in 2006. This 2.5 million-renminbi fund (around euro 240,000) supports 500 students in the engineering sciences for a full five years. At two-year intervals, the BMW Group honours university graduates with the “Scientific Award”. With its 70,000-euro endowment, the prize recognizes excellent graduate theses from all over the world in 24 disciplines. It will be awarded for the ninth time in 2007.

The BMW Group is also committed to providing educational support in structurally lagging areas, adapting its programmes to local conditions. BMW South Africa, for example, is using the SEED project (Schools Environmental Education Development) to awaken the environmental consciousness of school children. Meanwhile more than 70 schools are participating in the project, which started in 1996. Together with Xylocom-Link, the BMW Group in South Africa installed fully equipped computer rooms at Soshanguve High School near the BMW plant Rosslyn in 2006/2007. For the first time, the South African students can gain first-hand experience with modern communication technologies through the BMW XYLOCOM CYBERLAB. An option that can play a key role for the future of South African students from less fortunate backgrounds.

WWW.  
[bmw.co.za](http://bmw.co.za)  
[seedprog.co.za](http://seedprog.co.za)

### Achievements.

- Some 8,788 "Nothing works without energy" course material packages and 16,831 "LIFE" course material packages on the subject of intercultural learning were distributed worldwide in 2006.
- Euro150,000 was provided to support the reconstruction of the Dalit communities of South India.
- Euro 270,000 has been provided so far in support of reconstruction and education measures in Banda Aceh.

### Challenges.

- Strengthening the application of the BMW Group's expertise in worldwide education projects.
- Broadening support activities in South India in the form of a more comprehensive Social Investment Programme.

Since the catastrophic flood of December 2004, the BMW Group has also been involved with secondary education in Banda Aceh, Indonesia. Together with the "Yayasan Mitra Mandiri/United Way" organisation, BMW Indonesia has drafted a new educational concept. Bintang Mobile Center is the name given to three mobile learning centres. These are equipped with computers, projectors, books and teaching materials, and wend their way through the area hit by the catastrophe to communities where classroom facilities are not yet available. Each mobile learning centre is staffed by a volunteer and a teacher.

WWW.

[bmw.co.id/eng/fascination/build.html](http://bmw.co.id/eng/fascination/build.html)

**Promoting intercultural understanding.** For more than 20 years now, the BMW Group has been actively working to promote intercultural learning and understanding among peoples. Not least owing to its international orientation, the BMW Group believes it has a moral and business obligation to promote openness and understanding vis à vis other cultures within and outside of the company. In the area of intercultural learning, the BMW Group's LIFE project has been supporting learning beyond disciplinary, national and linguistic boundaries since 1997. Jointly developed with the State Institute for School Quality and Education Research, the concept includes a comprehensive collection of ideas and materials related to the subject of intercultural education.

Based on the LIFE idea, the BMW Group has been presenting the "BMW Group Award for Intercultural Learning" for the past ten years now. The 22,500-euro prize has so far been awarded to more than 40 laureates from 20 nations, whose projects promote understanding of foreign cultures, languages and religions.

WWW.

[bmwgroup.com/award-life](http://bmwgroup.com/award-life)

**>> Tsunami.** The violent flood wave that cost more than 200,000 human lives and robbed hundreds of thousands of their existence in South-east Asia in December 2004 was a natural disaster of unprecedented proportions. That's why the aid initiatives of governments, aid organisations and companies were also extraordinary. The BMW Group participated in this effort with measures in South India and Indonesia. In cooperation with the Yayasan Mitra Mandiri/United Way organisation, the company is supporting the reconstruction of schools and community facilities in Banda Aceh, Indonesia. These activities have been integrated within the framework of the social initiative "BMW Build Programme", through which the BMW Group coordinates its social commitment in Indonesia.



Recovery aid. In the wake of the devastating tsunami at the end of 2004, the BMW Group provided support for the reconstruction of houses destroyed in communities of South India.

In South India, the BMW Group is supporting a project of the Welthungerhilfe (German Agro Action) for the reconstruction of Dalit communities. Some 275 families who lost their homes and their means of subsistence in the Tsunami of 2004 and in further floodings at the end of 2005 have been able to erect new, flood-proof housing with the help of the BMW Group. The Dalit communities themselves also actively participated in the construction of these homes. In the medium-term, the company is providing euro 1 million for reconstruction and to repair the damage caused by the tsunami.

## 06.4 Commitment to fighting HIV/AIDS

The BMW Group operates in countries where the HIV/AIDS pandemic represents a serious threat for the entire population, and therefore also for the employees of the company. Out of a sense of responsibility and economic necessity, the BMW Group actively promotes programmes beyond those intended for its own workforce, aimed at preventing the spread of HIV/AIDS in society.

**HIV/AIDS projects in South Africa.** The BMW Group's most comprehensive public commitment to fighting HIV/AIDS is being applied in South Africa, where an estimated 20% or more of the population is now infected with HIV. In addition to the numerous measures for employees at the BMW locations (see page 63), the company has not only been providing effective support to the surrounding communities for the past several years, but is also bringing its resources and experience to work throughout society as a whole. In 2005, for example, the BMW Group joined with partners (e.g. SEQUA – a non-profit organisation of the German Federal Ministry for Economic Cooperation and Development) to open a community and health centre to provide medical and psychological support to the residents of



For the people of the region, the Soshanguve community and health centre near the BMW plant Rosslyn has become an information centre for all questions concerning HIV/AIDS.

Soshanguve near the BMW plant Rosslyn. It includes a health service, a library, a training centre and a vegetable garden. In addition, an advisory service offers information on HIV/AIDS-related topics. All 700,000 residents of the community can use this facility, thereby helping to further reduce the rate of HIV infection among young people.

WWW.  
lovelife.org.za  
sequa.de

Due to the serious situation in South Africa, the company's commitment extends beyond the boundaries of its own community. For this reason, in cooperation with the LoveLife Trust, an HIV/AIDS prevention centre is being established in Knysna, South Africa. This youth centre, opened in the autumn of 2007, offers educational and recreational activities to young South Africans. In particular, they are to be sensitised and informed about HIV/AIDS prevention.

**Together against HIV/AIDS.** The continuous exchange of information with companies, non-government organisations and governmental agencies represents a further aspect of the BMW Group's commitment. In so doing, the company informs others about its experience with its workforce pro-



Up to 5,000 people are advised in the centre's facilities every month on all health, social and psychological questions related to HIV/AIDS.

grammes. Doctors and traditional healers are trained by the BMW Group's health service in order to improve local medical care. The dealers and suppliers of the BMW Group in South Africa are being encouraged to launch their own programme against HIV/AIDS, and receive support to get started. As a member of the "South African Business Coalition on HIV/AIDS" (SABCOHA), the BMW Group in South Africa is working in cooperation with other companies on a joint strategy against HIV/AIDS. At a global level, the company is committed to a bundle of company initiatives against the pandemic within the framework of the "Global Business Coalition on HIV/AIDS, Tuberculosis and Malaria" (GBC).

Moreover, the company is also fighting the spread of the immune deficiency disease by actively supporting a whole range of local activities in other countries. In Thailand, the BMW Group supports the “Baan Gerda” children’s village, where HIV-infected orphans have found a home. Medical and social care prepares the children for their reintegration into society and their return to a normal life.

WWW.  
 bmw.co.za  
 bmwgroup.com/socialcommitment  
 houseofhope.de

**Support at all levels.** For the third Cologne Opera Gala, the company donated a BMW 530i to the German AIDS Foundation for auction to benefit in-



The Baan Gerda orphanage in Thailand gives HIV-infected orphans a new home.

ternational HIV/AIDS prevention projects. Another brand-specific charity project is the Vienna Life Ball. As it has done for each of the past six years, the BMW Group once again provided a MINI Cooper, which was auctioned to benefit international aid projects following Europe’s biggest AIDS charity event. On 26 May 2007 the Life Ball MINI, designed by Mario Testino, brought in a total of euro 24,550 for national and international HIV/AIDS projects.

WWW.  
 lifeball.org

#### **Achievements.**

- 4,000 to 5,000 people receive health and social services as well as psychological support every month in the community and health centre in Shoshanguve.
- The Love Life Y-Centre for AIDS prevention was opened in Knysna in the fall of 2007.

#### **Challenges.**

- Implementation of the “Dealer HIV/AIDS” project in South Africa, designed to use social network mapping in the neighbourhood of BMW dealers to lay the foundation for sustained HIV programmes.
- Expansion of social programmes against HIV/AIDS to further manufacturing sites.



## 06.5 Worldwide cultural commitment

### Achievements.

- The tenth anniversary of “Opera for All” was celebrated with the Bavarian State Opera in 2006.

### Challenges.

- Establishment of authentic cultural support for all three BMW Group brands at all locations worldwide.

**Strengthening cultural diversity.** Long-term partnerships with cultural institutions, announcement of competitions, the establishment of new, unique formats and the promotion of the next generation of innovative artists are all used to guarantee the greatest possible degree of freedom for creative potential. Culture should not be instrumentalised, but rather strengthened in its diversity and independence. With its commitment, the BMW Group supports further cultural development at its locations – but also in the plants themselves, where a cultural programme of their own is frequently offered for employees. An overview of the spectrum of cultural support is posted on the Internet.

WWW.

[bmwgroup.com/kultur](http://bmwgroup.com/kultur)

**Promoting creative potential.** Recent additions in the area of film promotion projects include, among others, the short film competition “BMW Shorties”, by means of which BMW Malaysia joins with partners to support up-and-coming filmmakers from the local film scene. This programme initially allows up to 25 competitors to be coached by film pros in a workshop. The best short film concept in 2006 addressing the topic of mobility received a production cost allowance of ringgit 50,000, i. e. about euro 11,000; the winning “BMW Shorty” is also being distributed over the BMW Malaysia’ website.

WWW.

[bmwshorties.com.my](http://bmwshorties.com.my)

In the area of plastic and graphic arts, the BMW Group supports young contemporary artists. As an exclusive partner of the National Gallery in Berlin, it makes the “Nationalgalerie Prize for Young Art” possible. This prize is awarded every two years to international artists who are below the age of 40 and currently working in Germany. The prize’s 50,000-euro endowment is the highest prize money in the contemporary art world.

Since May 2007, the BMW Group has made it possible for some 20,000 people to partake of a free-of-charge cultural pleasure staged by the State Opera

KulturKommunikation has one of the longest-standing traditions among BMW Group’s social commitments. For more than 30 years now, the company has been promoting artistic exchange between cultures, the general public and its own workforce. The BMW Group’s KulturKommunikation is currently supporting more than 100 projects around the globe. Any such commitment always maintains a high regard for the freedom of creative potential, the expression of cultural diversity and the unmistakable character of great ideas – characteristics all shared by the work of the BMW Group.

Unter den Linden at Bebelplatz in Berlin. Under the slogan “State Opera for All”, a live transmission of an opera performance is shown and a live concert is played at the start of each season. The initiative in Berlin was inspired by Munich’s “Opera for All”, which the BMW branch there launched together with the Bavarian State Opera in 1996.

WWW.

[staatsoper.de/operfueralle](http://staatsoper.de/operfueralle)  
[staatsoper-berlin.de/staatsoperfueralle](http://staatsoper-berlin.de/staatsoperfueralle)  
[freunde-der-nationalgalerie.de](http://freunde-der-nationalgalerie.de)

Another work of art with a long tradition is the BMW Art Cars, on which artists such as Andy Warhol, David Hockney and Roy Lichtenstein have been leaving their mark since 1975. The internationally renowned



Opera for All: 20,000 enthusiastic Berliners watched the live transmission of Berlin’s Unter den Linden State Opera in May 2007.

artist Olafur Eliasson has taken the notion of exterior design well beyond that of his predecessors: rather than merely changing the surface of a BMW, the Dane of Icelandic origin altered the whole structure of the BMW H2R Hydrogen Record Car. In consultation with researchers and designers of the BMW Group, Eliasson recreated the bodywork of the vehicle from a large number of stainless steel plates and cross braces, from which hang thousands of icicles. The low temperatures required for this are provided by a special refrigeration unit in which the work of art is situated. From September 2007, the 16th BMW Art Car by Olafur Eliasson will be presented to the public in museums worldwide under the title “Your mobile expectations: The BMW H2R Project”.



With its own two independent foundations, the BMW AG has been committed to social concerns in a special way for many years now.

### Achievements.

- 700 young managers from all over the world took part in the Young Leaders Forums of the BMW Foundation Herbert Quandt.
- Top representatives from business, the scientific community and the political arena engaged in an intensive exchange of views during the international conferences of the BMW Foundation Herbert Quandt, generating important impetus for Europe's future.
- More than 120 partners from business, politics, science and the non-profit sector actively engaged in an honorary capacity within the framework of the Eberhard von Kuenheim Foundation's projects.
- Prototypes from project work by the Eberhard von Kuenheim Foundation were adopted into Bavarian school policy and in the development programmes of the European Union.

### Challenges.

- Through the alumni network and dedicated spokespeople, the work of the BMW Foundation Herbert Quandt should enjoy a sustained, interdisciplinary and international effect.
- The Eberhard von Kuenheim Foundation aims to transfer its experience and knowledge from previous project work to further gridlocked areas, using specific exemplary cases to provide impetus for movement.

**BMW Foundation Herbert Quandt.** Established in 1970, the BMW Foundation Herbert Quandt is dedicated to interdisciplinary and international dialogue. The aim of the foundation is to bring decision-makers and opinion leaders from different social sectors and cultures together in a discussion of issues of importance to a world that is growing increasingly complex, to communicate currently meaningful political knowledge, and to deepen understanding of the appropriate rules of action.

This occurs, on the one hand, in international conferences such as the Europe Forum Berlin and the Munich Economic Summit, as well as in luncheon roundtables and workshops on current political and economic themes. Themes addressed by these forums in recent years have included European identity, Europe's responsibility in the world, the global distribution of work, and demographics.

Another instrument of the foundation is the Young Leaders Forums, in which young managers from Europe, the USA, Russia, China, Southeast Asia and India come together and examine current political, economic and social questions. The joint dialogue generates transparency and understanding for one another, and personally addresses the young managers' sense of commitment. In so doing, these forums go beyond the pure communication of knowledge and education, and promote the creation of personal networks.

The foundation intends to place greater emphasis on educating and strengthening this international network in the future. The goal is not only to give the young leaders orientation in questions of social relevance, but also to inspire them to undertake actions of their own, and to encourage them to assume responsibility for society. To this end, the alumni should become mutually committed in projects, making their socio-political contribution through their own resources and talents.

WWW.  
bmwstiftunghq.com

**Eberhard von Kuenheim Foundation.** Established in 2000 and named for the former Chief Executive Officer of the BMW AG, the Eberhard von Kuenheim Foundation fosters active entrepreneurship. It supports people who exercise responsibility, courage and entrepreneurial spirit to generate movement in society's "stagnant areas". One example is the German labour market: the foundation supported the individual initiative of the long-term unemployed glassmakers who wanted to revive the Theresienthal crystal glass factory. It developed an innovative employment model for the unemployed workers and assembled a network of experts who applied their expertise – in questions of design, marketing strategy, legal issues etc – usually without remuneration. The company now has a successful



The Eberhard von Kuenheim Foundation promotes active entrepreneurship in specific project work – for example in the restart of the insolvent Theresienthal crystal glass factory.

presence in the market once again – after three years of non-profit development support by the foundation.

Another example is the education system where, together with its partners, the foundation is actively guiding the municipal Luisengymnasium in Munich on its way to becoming a mandatory attendance all-day school: new approaches to instruction, financing and public relations work are being tested, and the space concept, self-image and need for reform are being examined. The objective: to create a model for education system reforms that schools can adopt. And the foundation will grant this project its independence, too – after successful development support.

WWW.  
kuenheim-stiftung.de



# Action Brings Benefits. Measurable. Com- parable. Targeted.

Indicators for sustainability.



<b>i&gt;</b>	<b>Indicators for sustainability</b> Further information, indicators and facts regarding the following topics:	
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# 01 Sustainability management

## 01.3 Stakeholder dialogue

### Perception and rating of the BMW Group commitment to sustainability\*

In % according to rating scale

Very good	35
Good	36
Moderate	18
Adequate	5
Poor	5
Very poor	1



The ratings refer to the commitment specified by the stakeholders of the BMW Group in the subject areas economics, supply chain management, environmental protection, product responsibility, employees and society.

\*International stakeholder survey in winter 2006/2007: 189 stakeholders from 21 countries were interviewed by telephone; multiple answers were possible.

### Perception and rating of the BMW Group commitment to sustainability\*

In % according to rating scale

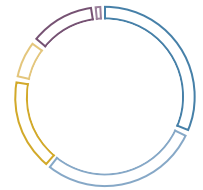
#### Economics

Very good	30
Good	56
Moderate	7
Adequate	-
Poor	7
Very poor	-



#### Product responsibility

Very good	33
Good	30
Moderate	17
Adequate	7
Poor	12
Very poor	1



#### Environmental protection

Very good	34
Good	36
Moderate	23
Adequate	-
Poor	5
Very poor	2



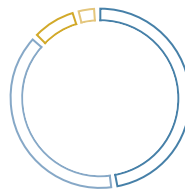
#### Supply chain management

Very good	13
Good	47
Moderate	28
Adequate	9
Poor	3
Very poor	-



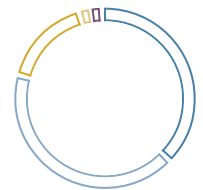
#### Employees

Very good	49
Good	40
Moderate	8
Adequate	3
Poor	-
Very poor	-



#### Society

Very good	39
Good	43
Moderate	16
Adequate	1
Poor	1
Very poor	-



\*International stakeholder survey in winter 2006/2007: 189 stakeholders from 21 countries were interviewed by telephone; multiple answers were possible.

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**Relevant trends and subjects for the BMW Group in the area of corporate sustainability\***


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Areas	Number of answers	Examples of trends and topics
Product responsibility	149	Climate protection, alternative drive technologies, traffic safety, product recycling
Economics	104	Anti-corruption, risk management, investments
Employees	95	Demographic change, safety at work/health protection, equal opportunities
Environmental protection	68	Energy management, resource consumption, sustainable transportation logistics
Society	64	Sustainable mobility, HIV projects in countries with BMW Group activities, education
Supply chain management	24	Transparency in the value added chain with regard to maintaining environmental and social standards, cooperation with (system)suppliers

\* International stakeholder survey in winter 2006/2007: 189 stakeholders from 21 countries were interviewed by telephone: multiple answers were possible.

## Sustainability objectives for sustainability management\*

Strategic objectives	Measures	Deadline
<b>Strategy and organisation</b>		
<b>Sustainability management of value and values</b>		
Further development of the BMW Group sustainability management	Efficient resource management: Environment, human resources, finances	ongoing
	Further development of the sustainability strategy and increased coordination of individual divisions worldwide	2008
	Further development of the sustainable value approach for a sustainability controlling	2009
	Management of sustainability related opportunities and risks relevant for sustainability	ongoing
<b>Areas of activity</b>		
Integration of sustainability subjects into the investor relations work	Socially responsible investment (SRI) roadshows, conference calls, 2006 approx. 5 % all IR contacts specifically on SRI, objective by 2008 10 %, of roadshows on SRI and alternative/environmentally sound drives	2008
<b>Stakeholder dialogue</b>		
Commitment to global and domestic initiatives and Rio+10 process	UN: Global Compact econsense: Forum on sustainable development UNEP: Mobility forum	ongoing
Maintaining good community relations	Immediate processing of complaints	ongoing
Improve stakeholder dialogue	Further institutionalise stakeholder surveys and events	2009

\* An overview on the status of the objectives from the Sustainable Value Report 2005/2006 is available on the Internet at [www.bmwgroup.com/sustainability](http://www.bmwgroup.com/sustainability).

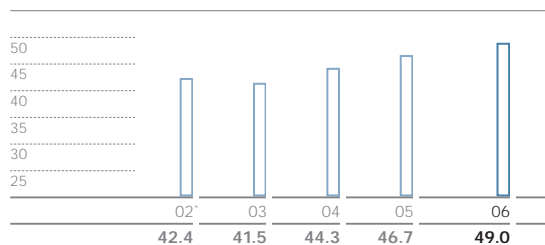


# 02 Economics

GRI G3 Indicator EC1

## BMW Group Revenues

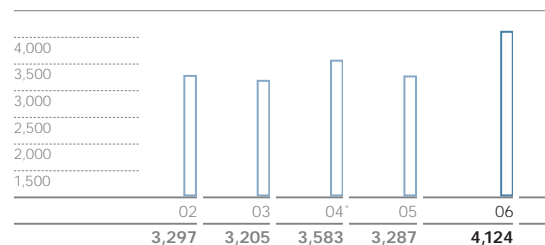
in euro billion



\*reclassified after harmonisation of internal and external reporting systems

## BMW Group Profit before tax

in euro million



\*adjusted for new accounting treatment of pension obligations

GRI G3 Indicator EC1

## Financial indicators

in euro million

	2002	2003	2004	2005	2006	Change in %
Revenues	42,411 <sup>1)</sup>	41,525	44,335	46,656	48,999	5.0
Capital expenditure	4,042	4,245	4,347	3,993	4,313	8.0
Depreciation and amortisation	2,143	2,370	2,672	3,025	3,272	8.2
Operating cash flow <sup>3)</sup>	4,553	4,970	6,157	6,184	5,373	-13.1
Profit before tax	3,297	3,205	3,583 <sup>2)</sup>	3,287	4,124	25.5
Net profit	2,020	1,947	2,242 <sup>2)</sup>	2,239	2,874	28.4

1) reclassified after harmonisation of internal and external reporting systems

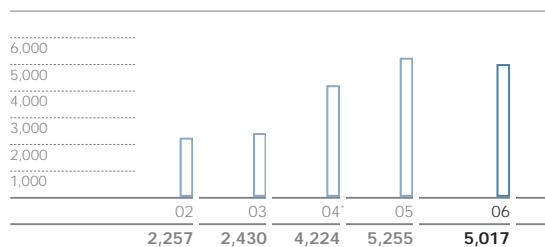
2) adjusted for new accounting treatment of pension obligations

3) In its financial statements for 2005, the BMW Group brought the cash flow computation into line with standards normally applied on the financial markets. Since then, the BMW Group discloses the figures for the cash flow from operating activities (operating cash flow), corresponding to the cash flow from Industrial Operations reported in the cash flow statement.

GRI G3 Indicator EC3

## Pension provisions

in euro million

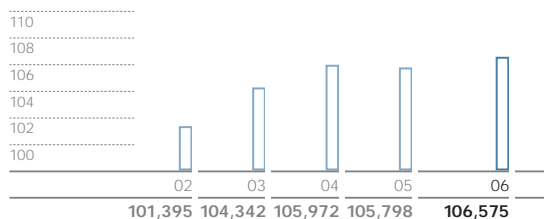


\*adjusted for new accounting treatment of pension obligations

The fluctuations in pension provisions result from the changes to the actuarial calculation parameters, in particular discounting rates. In turn, these are in principle guided by the applicable current market interest rates.

GRI G3 Indicator LA1  
(graphic on the left)

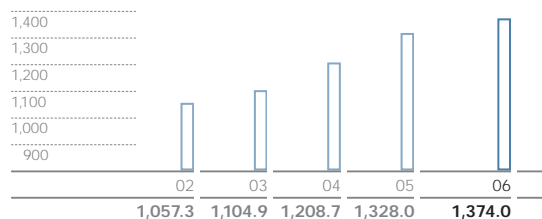
#### BMW Group employees at year end\*



\* Figures exclude suspended contracts of employment, employees in the non-work phases of pre-retirement part-time arrangements and low income earners.

#### BMW Group Deliveries of automobiles

in 1,000 units



GRI Indicator A4  
(Sector Supplement)

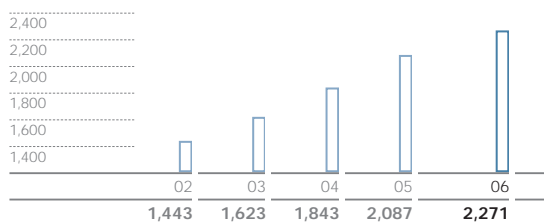
#### BMW Group deliveries to customers by vehicle

	2002	2003	2004	2005	2006
BMW	913,225	928,151	1,023,583	1,126,768	1,185,088
MINI	144,119	176,465	184,357	200,428	188,077
Rolls-Royce	-	300	792	796	805
<b>Total automobiles</b>	<b>1,057,344</b>	<b>1,104,916</b>	<b>1,208,732</b>	<b>1,327,992</b>	<b>1,373,970</b>
Motorcycles*	92,599	92,962	92,266	97,474	100,064

\* excluding C1, sales volume to 2003: 32,859 units

#### Contract portfolio BMW Group of Financial Services

in 1,000 units



## 02.2 Economic factor BMW Group

GRI G3 Indicator EC9  
(graphic on the left)

GRI G3 Indicator EC6  
(graphic on the right)

**Automobile production of the BMW Group by plant in 2006**  
in 1,000 units

Dingolfing	286.6
Regensburg	269.9
Munich	196.6
Oxford	186.7
Leipzig	120.8
Spartanburg	105.2
Rosslin	54.8
Goodwood	0.8
Shenyang (joint venture)	31.1
Contract production Magna Steyr	114.3



**Regional mix of BMW Group purchase volumes 2006**  
in %, basis: production material

Germany	54
Rest of Western Europe	20
Central and Eastern Europe	10
NAFTA	9
Africa	3
Asia/Australia	3
South America	1



The BMW Group obtained around half of the raw materials and vendor parts from Germany in 2006. In the rest of Europe, the purchase volumes grew proportionally to the production volumes within the BMW Group.

GRI Indicator A4  
(Sector Supplement)

**BMW Group Deliveries of automobiles\* by region and market**  
in 1,000 units

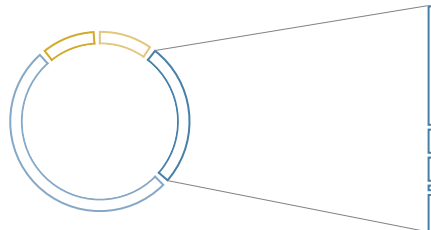
	2002	2003	2004	2005	2006
Rest of Europe	261.6	264.6	299.7	350.8	375.0
North America	273.2	294.9	315.9	329.0	337.4
Germany	258.2	255.8	283.6	295.9	287.7
United Kingdom	120.9	134.5	145.3	156.2	154.1
Asia	89.3	103.5	106.4	125.7	142.1
Other markets	54.2	51.6	57.9	70.4	77.7

\*including Rolls-Royce from 2003 onwards

GRI G3 Indicator EC1

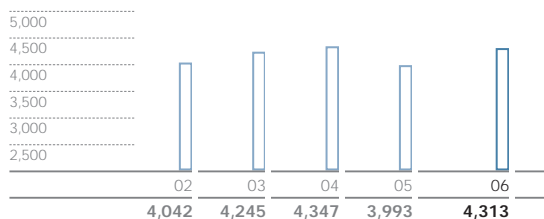
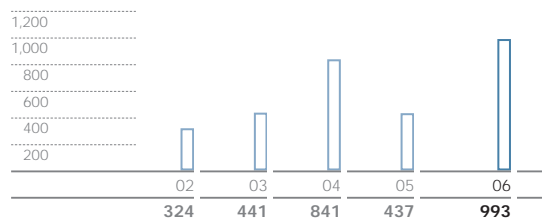
**BMW Group value added 2006**  
in %

Net value added	27.1
Cost of materials	53.1
Depreciation and amortisation	9.8
Other expenses	10.0

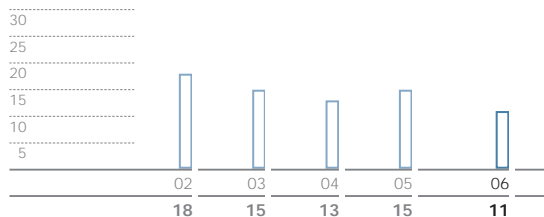
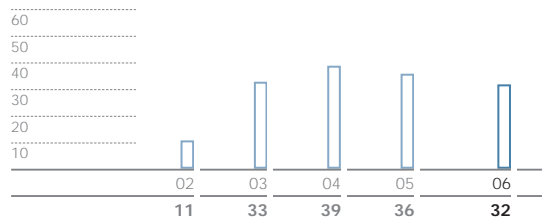


54.9%	Employees
12.0%	Providers of finance
12.0%	Government/public sector
3.4%	Shareholders
17.7%	Group

GRI G3 Indicator EC1

**BMW Group Capital expenditure**  
in euro million**Current tax expense**  
in euro million

GRI G3 Indicator EC4

**Public sector grants: Public subsidies in the form of reduced taxes on assets and consumption-based taxes**  
in euro million**Other public sector grants**  
in euro million**Sustainability objectives in the area of economics\***

Strategic objectives	Measures	Deadline	
<b>Economics</b>	Most successful premium manufacturer	Profitable growth	ongoing
		1.6 million automobiles sold by 2010	2010
		Expansion of the product portfolio for the brands BMW, MINI, Rolls-Royce	ongoing
		Strengthening worldwide presence by developing global networks via new partners and sites (production/CKD/sales/purchasing)	ongoing

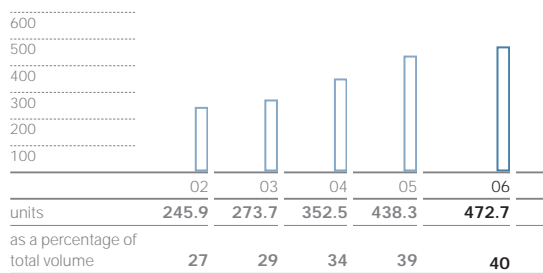
\* An overview on the status of the objectives from the Sustainable Value Report 2005/2006 is available on the Internet at [www.bmwgroup.com/sustainability](http://www.bmwgroup.com/sustainability).

# 03 Product responsibility

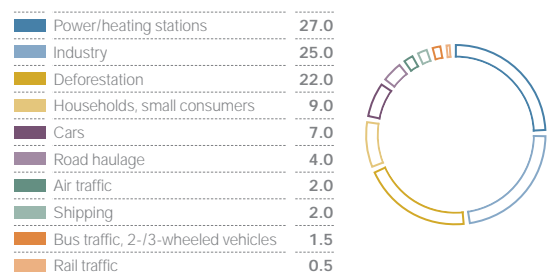
## 03.1 CO<sub>2</sub> reduction – a challenge

GRI Indicator A4  
(Sector Supplement)  
(graphic on the left)

**Deliveries of BMW diesel automobiles worldwide**  
in 1,000 units



**Share of traffic sector in worldwide CO<sub>2</sub> emissions in 2004**  
as a percentage of 37,000 million tons of CO<sub>2</sub>



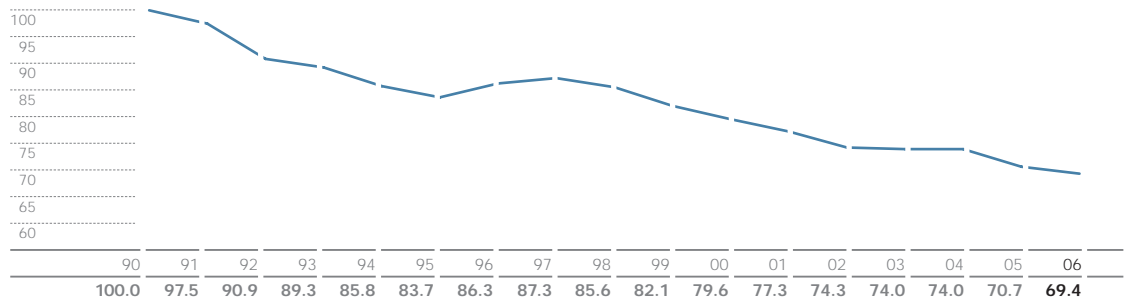
Sources: IPCC Fourth Assessment Report, WG III, 2007. World Business Council for Sustainable Development, 2004. Figures have been rounded.

## 03.2 Innovative technologies for reduced consumption

GRI Indicator A6  
(Sector Supplement)

**Fuel consumption of BMW Group cars according to VDA commitment**

(Index: 1990 = 100; Basis: fleet consumption of newly registered cars in Germany measured on the basis of the New European Driving Cycle in accordance with the VDA commitment for passenger/estate cars\*)



\*The adoption of the uniform VDA computation method for the various DIN-1/3-Mix measurement methods (used up to 1996) and the New European Driving Cycle (used from 1997 onwards) gives rise to minor discrepancies compared to earlier BMW Group Annual Reports.

GRI Indicator A6, A7  
(Sector Supplement)

**Fuel efficiency and CO<sub>2</sub> emissions of the vehicles**

	Most efficient model of the BMW Group MINI Cooper D (manual transmission)	Best-selling model in Germany in 2006 BMW 320d (manual transmission)	Best-selling model in EU 15 in 2006 BMW 320d (manual transmission)
Combined in l/100 km	3.9*	5.7/4.8*	5.7/4.8*
CO <sub>2</sub> emission in g/km	104*	153/128*	153/128*

\*since September 2007

GRI G3 Indicator EN26

**Technologies for reduced fuel consumption in the various BMW Group vehicles in Europe**  
(Model-specific variations possible – as of September 2007)

	BMW 1 Series	BMW 3 Series	BMW 5 Series	BMW 6 Series	BMW X5	MINI	MINI Clubman
High Precision Injection with lean operation	x	x	x	x			
Common rail with piezoelectric injectors (up to 2,000 bar)	x	x	x	x			
Fully variable valve train (VALVETRONIC in BMW models)	x		x	x	x	x	x
Auto Start Stop Function (only for 4-cylinder, manual transmission)	x	x				x	x
Brake Energy Regeneration	x	x	x	x	x	x	x
Electric steering assistance	x	x				x	x
Active aerodynamics (e.g. air flap control)	x	x	x	x	x		
Gear shift indicator (only for manual transmission)	x	x	x	x		x	x
Tyres with reduced roll-resistance	x	x	x	x	x	x	x
Demand-controlled fuel, coolant and oil pump	x	x	x	x	x	x	x

**03.3 Integrated climate protection in the traffic sector**

**Cooperation among all stakeholders within the integrated approach**

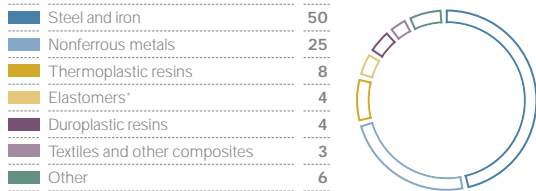
	Automobile industry and suppliers	Fuel industry	Politics/ infra- structure	Customer
Further development and increase of market share for efficient vehicle technologies	■	□	□	
Increase share of alternative fuels (blending)	□	■	□	
Implementation of driver assistance systems, e.g. gear shift indicator/efficiency display	■		□	□
Activities on driving in a fuel-efficient manner	□	□	■	■
Further development and increase of market share for tyres with reduced roll-resistance	■		□	
Tyre pressure control system	■	□	□	□
Ensure consistency in legislation			■	
Improvement of traffic infrastructure/management	□		■	
Support of research and development for new technologies	□	□	■	

■ Responsibility □ Support/contribution

**03.6 Product recycling**

GRI G3 Indicator EN1  
GRI Indicator A10  
(Sector Supplement)

**Average distribution of materials in vehicles of the BMW Group**  
as a percentage of vehicle weight



\*such as tyres, seals



## Sustainability objectives in the area of product responsibility\*

Strategic objectives	Measures	Deadline
<b>CO<sub>2</sub> reduction and integrated approach</b>		
Reduction of CO <sub>2</sub> emissions to fulfil the BMW Group contribution to reduction of CO <sub>2</sub> emissions in the ACEA fleet average to 140 g/km for 2008	Introduction and further development of innovative drive concepts based on the BMW EfficientDynamics concept: – consumption-optimised combustion engine technology with High Precision Injection in BMW 4-cylinder and 6-cylinder engines – Auto Start Stop Function in BMW and MINI models produced in volume – Brake Energy Regeneration in BMW and MINI models produced in volume	as of 2007
	Cooperation with GM and DaimlerChrysler on developing hybrid drives	ongoing
Diesel vehicles in the U.S./Canada	Introduction of diesel vehicles with SCR technology (Selective Catalytic Reduction) in the U.S./Canada	2008
Promotion of biofuels	Contribution to introducing increased system-compatible amounts of biofuels in traffic	ongoing
	Contribution to initiatives to evaluate biofuels using sustainability criteria in an international context	ongoing
Development of hydrogen infrastructure	Partnerships on global introduction of hydrogen as an energy source: Both for the technology and the hydrogen infrastructure – Participation in demo projects to prove that hydrogen can be used safely in road traffic and that renewable energy sources can be used	ongoing ongoing
	– Continue participation in the second project stage of the Clean Energy Partnerships (CEP) in Berlin	ongoing
<b>Product safety</b>		
Increase vehicle safety with a wide range of driver assistance systems	Driver assistance systems providing high levels of safety, such as Lane Departure Warning and Night Vision in a number of models	ongoing
<b>Product recycling</b>		
Development of new recycling techniques	Large-scale attempt to optimise the processes of shredder residue recovery and selective measures to promote preparation procedures for shredder fractions that are ecologically useful as a whole	2008
Returning end-of-life vehicles	Continue to further develop return system	2008
<b>Environmental protection in the service sector</b>		
Reduction of the environmental impact of the products in each lifecycle stage	Establish and further develop return systems for end-of-life parts from maintenance and repair in service shops in Western Europe and optimise the recovery paths	2008
	Develop methods for a streamlined lifecycle assessment approach, i.e., comprehensive assessment of material groups for a more efficient and faster accounting of entire vehicles	2009
	Determination of the optimum product lifecycle of vehicles while taking into account technological, economical, ecological and legal aspects	2008
Information on markets for product responsibility with regard to environmental law	Advance the technical network on environmental protection subjects in the sales organisations worldwide and develop the network of environmental managers in the individual sales markets	2008
	Global introduction to the dealer and service operations of one of the market-specific shop disposal systems that are recommended by the BMW Group, as well as integration of related requirements in the importers contracts	2008

\* An overview on the status of the objectives from the Sustainable Value Report 2005/2006 is available on the Internet at [www.bmwgroup.com/sustainability](http://www.bmwgroup.com/sustainability).

GRI Indicator A6, A7  
(Sector Supplement)

## Consumption data as of September 2007

Model	Urban (l/100 km)	Extraurban (l/100 km)	Combined (l/100 km)	CO <sub>2</sub> emissions (g/km)
<b>BMW</b>				
116i 3-door	7.5 (8.3)	4.8 (5.3)	5.8 (6.4)	139 (152)
118i 3-door	7.9 (8.2)	4.7 (5.0)	5.9 (6.2)	140 (148)
120i 3-door	8.7 (8.4)	5.1 (5.1)	6.4 (6.3)	152 (150)
130i 3-door	12.2 (12.3)	6.0 (6.0)	8.3 (8.3)	197 (198)
118d 3-door	5.4 (6.9)	4.0 (4.5)	4.5 (5.4)	119 (144)
120d 3-door	6.1 (7.2)	4.1 (4.4)	4.8 (5.4)	128 (144)
123d 3-door <sup>11</sup>	6.5	4.4	5.2	138
116i 5-door	7.5 (8.3)	4.8 (5.3)	5.8 (6.4)	139 (152)
118i 5-door	7.9 (8.2)	4.7 (5.0)	5.9 (6.2)	140 (148)
120i 5-door	8.7 (8.4)	5.1 (5.1)	6.4 (6.3)	152 (150)
130i 5-door	12.2 (12.3)	6.0 (6.0)	8.3 (8.3)	197 (198)
118d 5-door	5.4 (6.9)	4.0 (4.5)	4.5 (5.4)	119 (144)
120d 5-door	6.1 (7.2)	4.1 (4.4)	4.8 (5.4)	128 (144)
123d 5-door <sup>11</sup>	6.5	4.4	5.2	138
135i Coupé <sup>11</sup>	13.0	7.0	9.2	220
120d Coupé	6.1 (7.2)	4.1 (4.4)	4.8 (5.4)	128 (144)
123d Coupé <sup>11</sup>	6.5	4.4	5.2	138
318i Sedan	7.9 (8.5)	4.8 (5.2)	5.9 (6.4)	142 (152)
320i Sedan	8.4 (8.9)	4.8 (5.1)	6.1 (6.5)	146 (156)
325i Sedan	9.8 (9.7)	5.5 (5.6)	7.1 (7.1)	170 (170)
325xi Sedan	10.9 (10.8)	6.1 (6.2)	7.9 (7.9)	189 (189)
330i Sedan	9.9 (9.9)	5.6 (5.6)	7.2 (7.2)	173 (173)
330xi Sedan	11.0 (11.0)	6.2 (6.2)	8.0 (8.0)	193 (193)
335i Sedan	13.2 (13.1)	6.7 (6.9)	9.1 (9.2)	218 (221)
335xi Sedan	14.1 (13.8)	7.1 (7.3)	9.7 (9.7)	232 (232)
318d Sedan <sup>11</sup>	5.7	4.1	4.7	123
320d Sedan	6.0 (7.1)	4.1 (4.4)	4.8 (5.4)	128 (144)
325d Sedan	7.8 (8.3)	4.8 (5.3)	5.9 (6.4)	155 (169)
330d Sedan	8.2 (9.0)	4.9 (5.2)	6.1 (6.6)	160 (175)
330xd Sedan	9.1 (9.7)	5.5 (5.7)	6.8 (7.2)	178 (190)
335d Sedan <sup>21</sup>	9.1	5.3	6.7	177
318i Touring	8.0 (8.6)	4.9 (5.3)	6.0 (6.5)	144 (156)
320i Touring	8.5 (9.1)	4.9 (5.3)	6.2 (6.7)	148 (160)
325i Touring	9.9 (9.8)	5.6 (5.7)	7.2 (7.2)	173 (173)
325xi Touring	11.0 (10.9)	6.2 (6.3)	8.0 (8.0)	193 (191)
330i Touring	10.0 (10.1)	5.7 (5.8)	7.3 (7.4)	175 (178)
330xi Touring	11.1 (11.1)	6.3 (6.3)	8.1 (8.1)	194 (194)
335i Touring	13.4 (13.2)	6.9 (7.0)	9.3 (9.3)	222 (223)
335xi Touring	14.2 (13.9)	7.2 (7.4)	9.8 (9.8)	235 (235)
318d Touring <sup>11</sup>	5.8	4.2	4.8	125
320d Touring	6.1 (7.3)	4.2 (4.6)	4.9 (5.6)	131 (146)
325d Touring	7.9 (8.4)	4.9 (5.4)	6.0 (6.5)	158 (172)
330d Touring	8.3 (9.1)	5.0 (5.3)	6.2 (6.7)	163 (176)
330xd Touring	9.2 (9.8)	5.6 (5.8)	6.9 (7.3)	181 (193)
335d Touring <sup>21</sup>	9.2	5.4	6.8	178

Model	Urban (l/100 km)	Extraurban (l/100 km)	Combined (l/100 km)	CO <sub>2</sub> emissions (g/km)
<b>BMW</b>				
320i Coupé	8.7 (8.9)	4.9 (5.1)	6.3 (6.5)	151 (156)
325i Coupé	9.8 (9.7)	5.5 (5.6)	7.1 (7.1)	170 (170)
325xi Coupé	10.9 (10.8)	6.1 (6.2)	7.9 (7.9)	189 (189)
330i Coupé	9.9 (9.9)	5.6 (5.6)	7.2 (7.2)	173 (173)
330xi Coupé	11.0 (11.0)	6.2 (6.2)	8.0 (8.0)	193 (193)
335i Coupé	13.2 (13.1)	6.7 (6.9)	9.1 (9.2)	218 (221)
335xi Coupé	14.1 (13.8)	7.1 (7.3)	9.7 (9.7)	232 (232)
320d Coupé	6.0 (7.2)	4.1 (4.5)	4.8 (5.5)	128 (145)
325d Coupé	7.8 (8.3)	4.8 (5.3)	5.9 (6.4)	155 (169)
330d Coupé	8.2 (9.0)	4.9 (5.2)	6.1 (6.6)	160 (175)
330xd Coupé	9.1 (9.7)	5.5 (5.7)	6.8 (7.2)	178 (190)
335d Coupé <sup>21</sup>	9.1	5.3	6.7	177
M3 Coupé <sup>11</sup>	17.9	9.2	12.4	295
320i Convertible	9.0 (9.4)	5.2 (5.4)	6.6 (6.9)	157 (165)
325i Convertible	10.4 (10.6)	5.9 (6.1)	7.6 (7.8)	181 (187)
330i Convertible	10.5 (10.6)	6.0 (6.1)	7.7 (7.8)	185 (187)
335i Convertible	13.6 (13.4)	7.1 (7.2)	9.5 (9.5)	226 (226)
325d Convertible	8.1 (8.6)	5.1 (5.6)	6.2 (6.7)	164 (176)
330d Convertible	8.6 (9.3)	5.3 (5.5)	6.5 (6.9)	170 (181)
520i Sedan	9.2 (9.4)	5.4 (5.4)	6.7 (6.9)	162 (164)
523i Sedan	10.1 (10.3)	5.7 (5.9)	7.3 (7.5)	174 (178)
525i Sedan	10.3 (10.4)	5.7 (5.8)	7.4 (7.5)	176 (178)
525xi Sedan	11.3 (11.2)	6.2 (6.3)	8.1 (8.1)	193 (193)
530i Sedan	10.9 (10.8)	5.8 (5.6)	7.7 (7.5)	182 (178)
530xi Sedan	11.5 (11.6)	6.2 (6.0)	8.2 (8.1)	194 (193)
540i Sedan	15.8 (14.4)	7.4 (6.9)	10.5 (9.7)	250 (232)
550i Sedan	16.6 (15.5)	7.6 (7.2)	10.9 (10.3)	260 (246)
520d Sedan	6.5 (7.5)	4.3 (4.6)	5.1 (5.6)	136 (149)
525d Sedan	8.2 (8.5)	5.0 (5.3)	6.2 (6.5)	165 (172)
525xd Sedan	8.8 (9.1)	5.4 (5.6)	6.7 (6.9)	179 (183)
530d Sedan	8.6 (9.1)	5.1 (5.2)	6.4 (6.6)	170 (176)
530xd Sedan	9.2 (9.6)	5.5 (5.5)	6.9 (7.0)	183 (186)
535d Sedan <sup>21</sup>	9.0	5.4	6.7	178
M5 <sup>11</sup>	22.7	10.2	14.8	357
520i Touring	9.4 (9.5)	5.6 (5.5)	6.9 (7.0)	166 (167)
523i Touring	10.6 (10.6)	6.0 (6.0)	7.7 (7.7)	183 (184)
525i Touring	10.8 (10.7)	5.9 (6.0)	7.7 (7.7)	183 (184)
525xi Touring	11.8 (11.7)	6.4 (6.5)	8.4 (8.4)	201 (201)
530i Touring	11.1 (11.0)	6.0 (5.8)	7.9 (7.7)	187 (184)
530xi Touring	12.0 (12.1)	6.4 (6.3)	8.5 (8.4)	203 (201)
550i Touring	17.0 (16.1)	7.8 (7.5)	11.2 (10.7)	267 (254)
520d Touring	6.7 (7.7)	4.5 (4.7)	5.3 (5.8)	140 (154)
525d Touring	8.4 (8.6)	5.2 (5.4)	6.4 (6.6)	171 (176)
525xd Touring	9.1 (9.2)	5.6 (5.7)	6.9 (7.0)	184 (187)

Model	Urban (l/100 km)	Extraurban (l/100 km)	Combined (l/100 km)	CO <sub>2</sub> emissions [g/km]
<b>BMW</b>				
530d Touring	8.8 (9.3)	5.3 (5.3)	6.6 (6.8)	176 (180)
530xd Touring	9.6 (9.9)	5.8 (5.6)	7.2 (7.2)	192 (192)
535d Touring <sup>2)</sup>	9.2	5.6	6.9	182
M5 Touring <sup>1)</sup>	22.4	10.6	15.0	361
630i Coupé	11.2 (11.0)	6.0 (5.8)	7.9 (7.7)	188 (184)
650i Coupé	17.8 (15.9)	8.1 (7.4)	11.7 (10.5)	279 (249)
635d Coupé <sup>2)</sup>	9.2	5.6	6.9	183
630i Convertible	11.8 (11.6)	6.3 (6.0)	8.3 (8.1)	198 (192)
650i Convertible	19.2 (16.5)	8.8 (7.7)	12.6 (10.9)	299 (258)
635d Convertible <sup>2)</sup>	9.6	5.8	7.2	190
M6 Coupé <sup>1)</sup>	22.7	10.2	14.8	357
M6 Convertible <sup>1)</sup>	22.8	10.7	15.2	366
730i <sup>2)</sup>	14.6	7.5	10.1	241
730Li <sup>2)</sup>	14.6	7.5	10.1	242
740i <sup>2)</sup>	16.3	8.2	11.2	267
740Li <sup>2)</sup>	16.3	8.2	11.2	268
750i <sup>2)</sup>	16.9	8.3	11.4	271
750Li <sup>2)</sup>	16.9	8.3	11.4	272
760i <sup>2)</sup>	20.7	9.5	13.6	327
760Li <sup>2)</sup>	20.7	9.5	13.6	327
730d <sup>2)</sup>	10.9	6.2	7.9	210
730Ld <sup>2)</sup>	11.0	6.3	8.0	212
745d <sup>2)</sup>	12.8	6.8	9.0	239
X3 2.0i <sup>1)</sup>	12.6	6.9	9.0	215
X3 2.5si	12.8 (13.1)	7.3 (7.4)	9.3 (9.5)	224 (228)
X3 3.0si	13.4 (13.3)	7.3 (7.6)	9.5 (9.7)	229 (233)
X3 2.0d	8.2 (8.3)	5.5 (5.8)	6.5 (6.7)	172 (178)
X3 3.0d	9.7 (9.9)	6.0 (6.4)	7.4 (7.7)	196 (206)
X3 3.0sd <sup>2)</sup>	9.7	6.7	7.8	208
X5 3.0si <sup>2)</sup>	13.7	8.2	10.2	244
X5 4.8i <sup>2)</sup>	16.9	9.2	12.0	286
X5 3.0d <sup>2)</sup>	10.2	6.9	8.1	214
X5 3.0sd <sup>2)</sup>	10.3	7.0	8.2	216
Z4 2.0 <sup>1)</sup>	10.6	5.5	7.4	176
Z4 2.5	11.8 (12.0)	6.1 (6.3)	8.2 (8.4)	197 (202)
Z4 2.5si	11.9 (12.4)	6.2 (6.6)	8.3 (8.7)	199 (207)
Z4 3.0si	12.4 (12.7)	6.2 (6.5)	8.5 (8.8)	204 (211)
Z4 3.0si Coupé	12.8 (12.7)	6.3 (6.5)	8.7 (8.8)	207 (209)
Z4 M Roadster <sup>1)</sup>	18.2	8.6	12.1	292
Z4 M Coupé <sup>1)</sup>	18.2	8.6	12.1	292

Model	Urban (l/100 km)	Extraurban (l/100 km)	Combined (l/100 km)	CO <sub>2</sub> emissions [g/km]
<b>MINI</b>				
MINI One	6.8 (9.0)	4.4 (5.0)	5.3 (6.5)	128 (155)
MINI One Convertible <sup>1)</sup>	9.8	5.4	7.0	168
MINI Cooper	6.9 (9.1)	4.5 (5.0)	5.4 (6.5)	129 (156)
MINI Cooper Convertible	10.0 (10.7)	5.7 (5.8)	7.3 (7.6)	174 (182)
MINI Cooper D	4.7 (6.5)	3.5 (4.2)	3.9 (5.0)	104 (134)
MINI Cooper S	7.9 (9.7)	5.2 (5.3)	6.2 (6.9)	149 (165)
MINI Cooper S Convertible	11.3 (12.7)	6.6 (6.4)	8.3 (8.7)	199 (208)
MINI Cooper S Convertible (JCW) <sup>1, 3)</sup>	11.3	6.6	8.3	199
MINI Clubman <sup>1)</sup>	7.1	4.5	5.5	132
MINI Clubman D	4.9 (6.6)	3.6 (4.2)	4.1 (5.1)	109 (136)
MINI Clubman S	8.0 (9.8)	5.3 (5.4)	6.3 (7.0)	150 (168)
<b>Rolls-Royce</b>				
Rolls-Royce Phantom <sup>2)</sup>	23.2	11.3	15.7	377
Rolls-Royce Phantom Long wheel base <sup>2)</sup>	23.3	11.4	15.8	380
Rolls-Royce Phantom Drophead Coupé <sup>2)</sup>	23.2	11.3	15.7	377

Figures in brackets only valid for automatic transmissions

1) only available with manual transmission.

2) only available with automatic transmission.

3) John Cooper Works GP Kit

Further information and constantly updated data for the vehicles is available on the Internet at [www.bmw.com](http://www.bmw.com), [www.mini.com](http://www.mini.com) and [www.rolls-roycemotorcars.com](http://www.rolls-roycemotorcars.com).

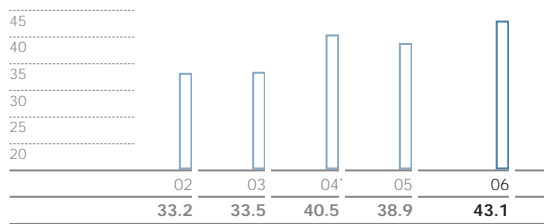
as of September 2007

# 04 Environmental protection across the Group

## 04.1 Environmental protection management

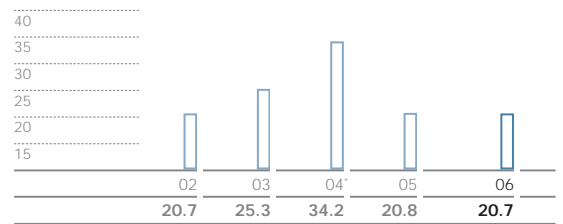
GRI G3 Indicator EN30

**Ongoing expenditure on environmental protection**  
in euro million



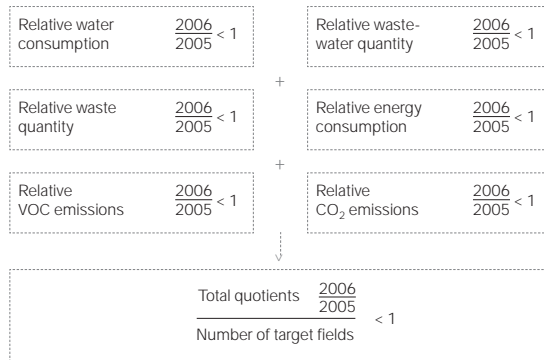
Figures from the German production plants  
\* from 2004 including Leipzig plant

**Investment in environmental protection**  
in euro million



Information excludes major investments for production sites of BMW AG in Germany.  
\* The rise in 2004 resulted from the overall and environmental protection investments in the construction of the BMW plant Leipzig, Germany.

### Environmental indicator



To attain the objective of constantly improving the accomplishments in environmental protection, every plant of the BMW Group develops its environmental protection programme each year. The environmental indicator is used to check if the accomplishments in environmental protection are being improved across the group. To this end, each plant determines the water and energy consumption, the quantity of wastewater produced, emissions from volatile organic compounds (VOC), CO<sub>2</sub> emissions as well as the quantity of waste for each unit produced in each month. The monthly values are aggregated and compared to the average of the prior year. This allows the BMW Group to determine whether or not the effects of production on the environment have changed in the six individual categories. For a comprehensive survey, an average value is calculated from the individual values and compared to the value of the previous year.

<b>Environmental management systems at the BMW Group sites</b>	Environmental management system	Year of first certification
Berlin plant	ISO 14001/EMAS	1997
Dingolfing plant	ISO 14001/EMAS	1999
Eisenach plant	ISO 14001/EMAS	2002
Goodwood plant, GB	ISO 14001	2003
Hams Hall plant, GB	ISO 14001	2001
Landshut plant	ISO 14001/EMAS	1997
Leipzig plant	ISO 14001/EMAS	2005
Munich plant	ISO 14001/EMAS	1997
Oxford plant, GB	ISO 14001	1997
Regensburg plant	ISO 14001/EMAS	1997
Roslyn plant, South Africa	ISO 14001	1999
BMW Brilliance Automotive Ltd., Shenyang, China	ISO 14001	2006
Spartanburg plant, USA	ISO 14001	1997
Steyr plant, Austria	ISO 14001/EMAS	1998
Swindon plant, GB	ISO 14001	1996
Wackersdorf plant*	ISO 14001	1997
CKD production Cairo, Egypt	ISO 14001	2005
CKD production Chennai, India	ISO 14001	planned 2008
CKD production Jakarta, Indonesia	ISO 14001	2004
CKD production Kaliningrad, Russia (certified according to national corporate standard)	ISO 14001	planned 2008
CKD production Kuala Lumpur, Malaysia	ISO 14001	2004
CKD production Rayong, Thailand	ISO 14001	2004

\* Joint certificate with the BMW plant Regensburg

## 04.2 Energy consumption and emissions

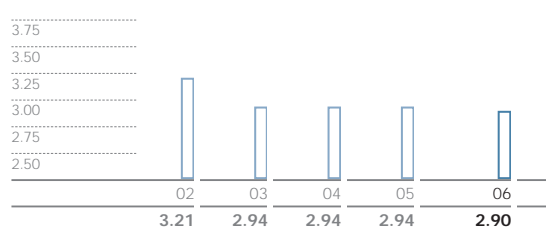
BMW Group key figures include the following automobile and engine production plants worldwide: automobile production Dingolfing, component assembly Landshut, automobile production Leipzig, automobile production and engine production Munich, automobile production Regensburg, automobile production Rosslyn, South Africa, automobile production Spartanburg, USA, engine production Steyr, Austria, since 2002 MINI production in Oxford, GB, and since 2003 engine production Hams Hall, GB.

GRI G3 Indicator EN3, EN4

<b>Energy consumption in detail</b> in MWh	2002	2003	2004	2005	2006
Total energy consumption	3,503,102	3,295,277	3,672,212	3,861,253	3,959,908
Energy consumed per unit produced	3.21	2.94	2.94	2.94	2.90
Electricity (external source)	1,180,217	1,501,045	1,586,457	1,671,928	1,667,122
Electricity (produced internally)	95,057	115,323	127,981	125,229	125,414
Community heating	166,159	209,677	187,418	180,403	295,245
Fuel oil	27,536	22,237	17,008	14,021	14,364
Natural gas	2,129,190	1,562,309	1,881,329	1,994,901	1,983,177
Coal	0	0	0	0	0
Mineral oil	0	0	0	0	0

GRI G3 Indicator EN3

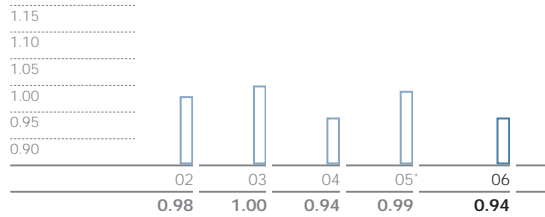
**Energy consumed per unit produced**  
in MWh/unit



GRI G3 Indicator EN16  
(graphic on the left)

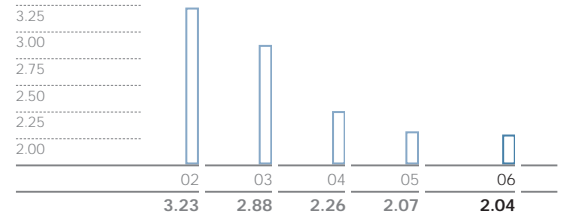
GRI G3 Indicator EN20  
(graphic on the right)

**CO<sub>2</sub> emissions per unit produced**  
in t/unit



\*The increase is due to a change in the energy mix.

**Volatile organic compounds (VOC) per unit produced**  
in kg/unit



GRI G3 Indicator EN16, EN20

**Emissions**

		2002	2003	2004	2005	2006
Total CO <sub>2</sub> emissions*	in t	1,068,690	1,125,939	1,169,786	1,304,971	1,280,639
thereof CO <sub>2</sub> direct**	in t				408,034	349,927
thereof CO <sub>2</sub> indirect***	in t				896,938	930,711
Total CO <sub>2</sub> emissions per unit produced	in t/unit	0.98	1.00	0.94	0.99	0.94
Nitrogen oxide (NO <sub>x</sub> )	in t	481	533	559	546	586
Particulate, dust	in t	28	38	43	35	35
Sulphur dioxide (SO <sub>2</sub> )	in t	7	10	10	8	9
Carbon monoxide (CO)	in t	283	315	399	397	561
Volatile organic compounds (VOC)	in t	3,521	3,219	2,817	2,726	2,783
Volatile organic compounds (VOC) per unit produced	in kg/unit	3.23	2.88	2.26	2.07	2.04

\* Including CO<sub>2</sub> emissions from external power generation

\*\* Emissions from the BMW Group sources and that arise from generating its own energy from fuels (e.g. combined heat and power generation).

\*\*\* Emissions from sources of a different organisation (e.g. energy supplier). Indirect emissions arise due to generation of electricity, heat or steam, which the BMW Group has received.

GRI G3 Indicator EN17, EN29

**Indirect CO<sub>2</sub> emissions from employees' commuter traffic in 2006\***

	in %	in t CO <sub>2</sub>
Cars	47	26,180
Public transport	10	1,430
Plant bus	38	10,590
Bicycle/on foot	5	0
<b>Total</b>	<b>100</b>	<b>38,200</b>

\* Research and Innovation Centre Munich as well as Munich, Dingolfing, Regensburg, Leipzig plants. Corresponds to 53 % of the BMW Group employees.



### 04.3 Protecting resources and nature conservation

BMW Group key figures include the following automobile and engine production plants worldwide: automobile production Dingolfing, component assembly Landshut, automobile production Leipzig, automobile production and engine production Munich, automobile production Regensburg, automobile production Rosslyn, South Africa, automobile production Spartanburg, USA, engine production Steyr, Austria, since 2002 MINI production in Oxford, GB, and since 2003 engine production Hams Hall, GB.

GRI G3 Indicator EN8

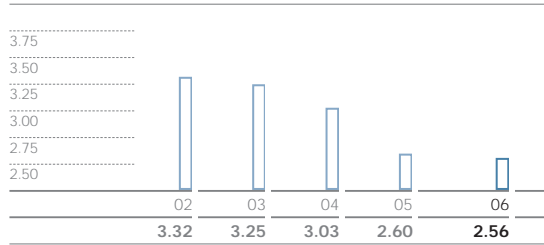
Water*	2002	2003	2004	2005	2006
in m <sup>3</sup>					

Water consumption	3,618,995	3,633,135	3,789,703	3,417,341	3,500,197
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\*The indicators for water consumption refer to the production sites of the BMW Group. The water consumption includes the process water input for the production as well as the general water consumption e.g. for sanitation facilities.

GRI G3 Indicator EN8  
(graphic on the left)

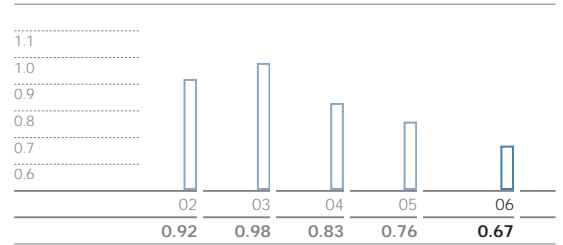
**Water consumption\* per unit produced**  
in m<sup>3</sup>/unit



\*The indicators for water consumption refer to the production sites of the BMW Group. The water consumption includes the process water input for the production as well as the general water consumption e.g. for sanitation facilities.

GRI G3 Indicator EN21  
(graphic on the right)

**Process wastewater\* per unit produced**  
in m<sup>3</sup>/unit



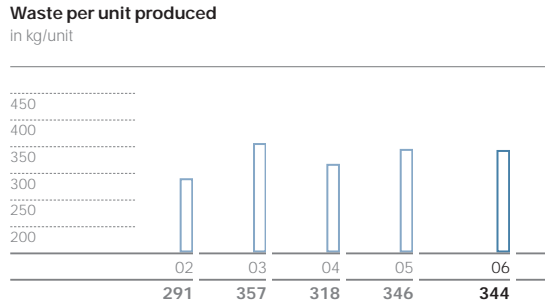
\*The indicators for process wastewater refer to the wastewater generated in the production process.

GRI G3 Indicator EN21

Wastewater*	2002	2003	2004	2005	2006
Total wastewater	2,324,655	2,419,775	2,239,646	2,139,322	2,271,729
Process wastewater	998,917	1,101,988	1,041,526	1,000,938	911,386
Process wastewater per unit produced	0.92	0.98	0.83	0.76	0.67
Total heavy metals and heavy metal compounds	347	412	439	239	354

\*The "process wastewater" indicator is measured by the wastewater treatment in the BMW Group plants. Together with the wastewater from the sanitation area of the plant locations this results in the total wastewater value. Due to factors such as evaporation, the water input does not correspond to the total wastewater.

GRI G3 Indicator EN22



GRI G3 Indicator EN22

<b>Waste</b>	2002	2003	2004	2005	2006	
Total waste	in t	317,129	399,876	397,151	454,821	469,691
Total waste per unit produced	in kg/unit	291	357	318	346	344
Materials for recycling	in t	295,275	372,268	375,924	438,436	450,165
Waste for removal	in t	21,854	27,301	21,227	16,385	19,526
Scrap	in t	326,364	315,222	344,746	366,347	383,301

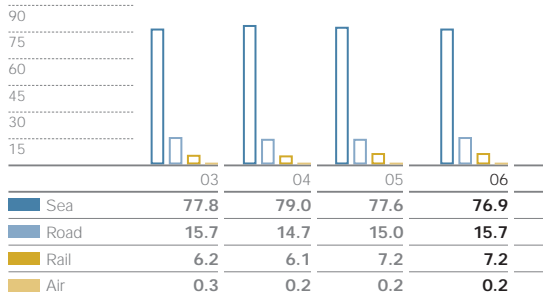
<b>Land development</b>	2003	2005
Land development* in %	21.5	24.7
Property area in m <sup>2</sup>	15,746,127	15,278,584

\*proportion of developed to undeveloped area. Survey conducted every two years.

GRI G3 Indicator EN29  
GRI Indicator A9  
(Sector Supplement)

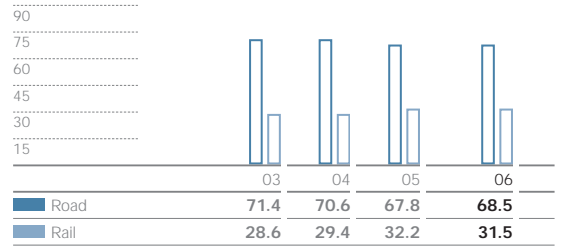
## 04.4 Efficient transportation logistics

**Total percentage of transport used**  
in %



Inbound material (Germany, UK), spare parts shipping (Europe) and car distribution (global), measured in ton-kilometres.

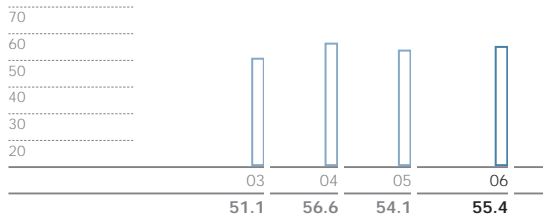
**Percentage of transport used for land transport**  
in %



Land transport for inbound material (Germany, UK), spare parts shipping (Europe) and car distribution (global), measured in ton-kilometres

GRI G3 Indicator EN29  
GRI Indicator A9  
(Sector Supplement)  
(graphic on the left)

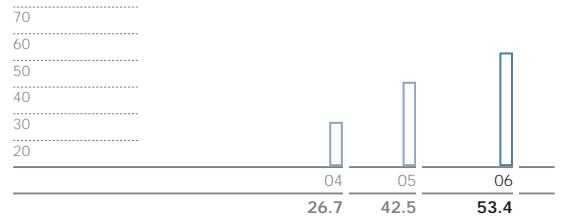
**Percentage of vehicles\* shipped via rail from the BMW Group plants\***  
in %



\*excluding Rolls-Royce automobiles

GRI G3 Indicator EN27  
(graphic on the right)

**Proportion of vehicles delivered without surface protection\***  
in %

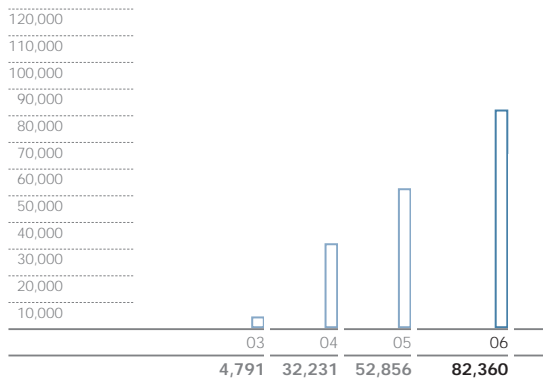


\*Project to reduce surface protection began in 2004.

## 04.5 Sustainability in the supply chain

**Information on environmental compatibility of components**

Cumulated number of material data sheets for purchased parts



The BMW Group continually controls and optimises the environmental friendliness of the components used in the vehicles throughout the supply chain. For this purpose, about 30,000 datasets for serial parts were transmitted and evaluated in 2006 alone. The BMW Group purchasing terms explicitly define the requirements for the environmental friendliness of the components. These are further substantiated by specification requirements and material and component tests. Thus the BMW Group ensures that the regulations of the company are fulfilled. The "Component Materials" work group, which is an interdisciplinary team, evaluates in advance the risks associated with the use of certain materials and takes action in the selection process and development activities. In close consultation, future shipments are thereby checked against the exacting standards of the BMW Group. In addition to series parts, all production supplies and process materials, such as paint or glue, are subjected to a precisely defined qualification process.

## Sustainability objectives in the area of environmental protection across the Group\*

Strategic objectives	Measures	Deadline
<b>Environmental protection management</b>		
Environmental management	Creation of a central Centre of Competence for environmental management in the sales division	2008
	Further development of the central environmental strategy for the entire BMW Group	2008
	Beyond the objective of continuous improvement, breakthrough objectives were set for environmental protection across the Group, for energy consumption, CO <sub>2</sub> , VOC, waste and water consumption and were broken down according to individual years	2012
<b>Energy consumption and emissions</b>		
Implementing energy strategy, reducing energy consumption	Lower the relative energy consumption per vehicle in 2008 by about 5 %	2008
	– by further optimised management of buildings and production facilities (combined heat and power generation, optimised control of air conditioning units)	2008
	– by increased implementation of alternative, innovative concepts for generating energy	2008
<b>Protecting resources and nature conservation</b>		
Introduce waste management worldwide	Introduce ABIS in the Goodwood (UK), Rayong (Thailand) and Chennai (India) plants	2008
<b>Sustainability in the supply chain</b>		
Anchor ecological and social standards in processes between purchasing and suppliers/partners	Increase random inspections on the compliance with social and ecological standards at suppliers during visits	ongoing
	Develop suitable indicators for early detection of deviations and room for improvement at suppliers	ongoing
<b>Efficient transportation logistics</b>		
Increase proportion of low-emissions transportation	Keep the currently high percentage of 55.4 % for shipments made by rail when shipping vehicles from the plants. Integration of regular rail transport into the markets in Spain and the UK from the Leipzig plant (objective for 2007 – approx. 20 % of the production volume of the Leipzig plant)	2007
Optimise transport volume	Improve the utilisation of means of transportation and transport networks. In 2007, completion of project "Europe" (= transport concept for the material supply in Europe for more efficient utilisation of heavy goods vehicles). Switch to activity-related billing in USA	2007
	Optimise utilisation of packaging space by constructively influencing the product design in the early stages of vehicle projects. Use virtual methods (CAD) to examine components, to simulate utilisation of the packaging space, and to create logistical design proposals	2008
Reduce environmental impact of the surface protection materials for new vehicle transport	Switch to vehicle distribution without surface protection. (by the start of 2008, 95% of the BMW Group vehicles are to be delivered without extra surface protection)	2008

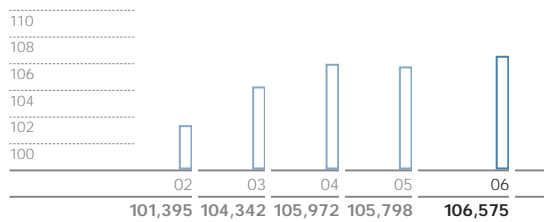
\* An overview on the status of the objectives from the Sustainable Value Report 2005/2006 is available on the Internet at [www.bmwgroup.com/sustainability](http://www.bmwgroup.com/sustainability).

# 05 Employees

## 05.1 Attractive employer internally and externally

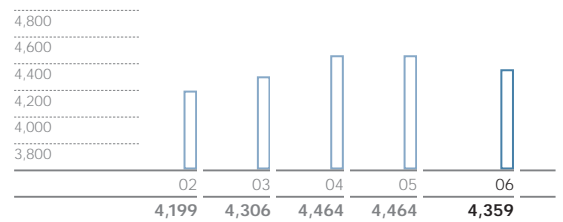
GRI G3 Indicator LA1

**BMW Group employees at year end\***



\* Figures exclude suspended contracts of employment, employees in the non-work phases of pre-retirement part-time arrangements and low income earners.

**BMW Group apprentices at December 31**



GRI G3 Indicator LA1

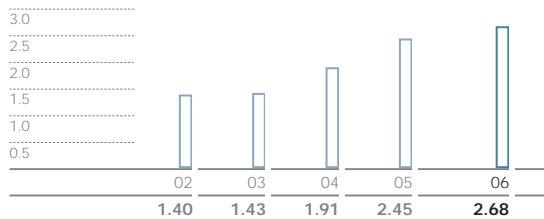
**BMW Group employees**

	2002	2003	2004	2005	2006
<b>Employees at year end*</b>	101,395	104,342	105,972	105,798	106,575
thereof Germany	76,143	78,569	80,005	80,020	79,896
thereof outside Germany	25,252	25,773	25,967	25,778	26,679
<b>Workforce according to segment</b>					
Automobiles	93,216	95,913	99,043	98,260	98,505
Motorcycles	2,847	2,954	2,918	2,838	2,782
Financial Services	2,196	2,476	2,841	3,093	3,478
Other	3,136	2,999	1,170	1,607	1,810
<b>Apprentices</b>	4,199	4,306	4,464	4,464	4,359

\* Figures exclude suspended contracts of employment, employees in the non-work phases of pre-retirement part-time arrangements and low income earners.

GRI G3 Indicator LA2

**Employee fluctuation ratio BMW AG\***  
as a percentage of workforce

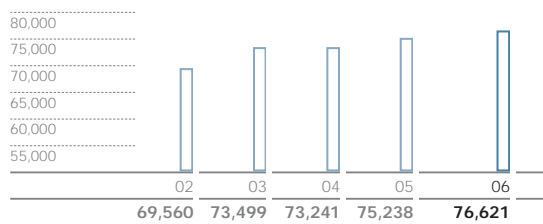


\* Number of employees on unlimited employment contracts leaving the company

## 05.2 Performance, compensation and flexibility

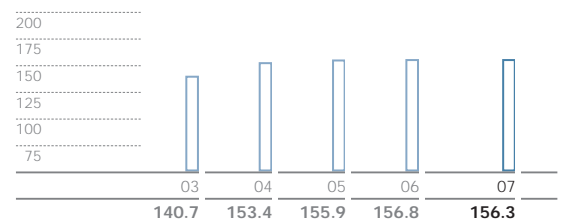
GRI G3 Indicator EC1  
(graphic on the left)

### BMW Group personnel costs per employee\* in euro



\* Figures exclude suspended contracts of employment, employees in the non-work phases of pre-retirement part-time arrangements and low income earners.

### Profit-share scheme of BMW AG in year of payment\* in percent of monthly remuneration



\* New employees share fully in the company's profit after four years of employment.

GRI G3 Indicator LA1

### Alternative work forms at BMW AG

	2002	2003	2004	2005	2006
Part-time employees at BMW AG	2,483	2,632	2,800	2,909	3,070
as a percentage of the total number of employees	3.4	3.5	4.0	4.2	4.4
Teleworking within BMW AG	2,006	2,711	3,936	4,276	4,836
as a percentage of the total number of employees	2.7	3.6	5.6	6.2	7.0
Sabbaticals	628	746	915	1,559	1,401
as a percentage of the total number of employees	0.9	1.0	1.3	2.2	2.0

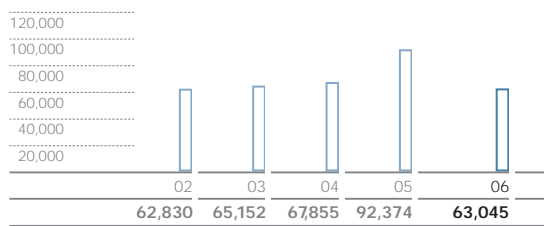
### Means of transportation used by BMW Group employees when commuting to and from work in %

	2006
Cars	47
Public transport	10
Company bus	38
Bicycle/on foot	5
<b>Total</b>	<b>100</b>

Research and Innovation Centre Munich as well as Munich, Dingolfing, Regensburg, Leipzig plants. Corresponds to 53% of the BMW Group employees.

### 05.3 Co-determination and involvement

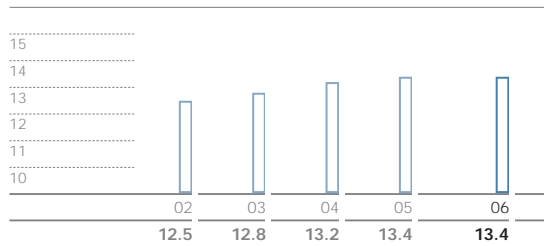
**Savings for the BMW Group resulting from suggestions for improvement**  
in euro thousand



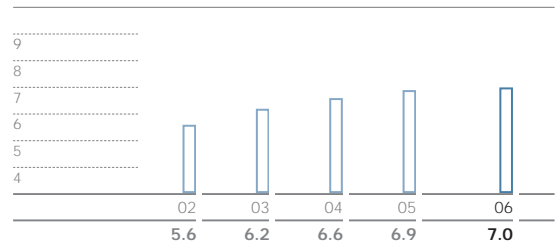
### 05.4 Equal opportunities and rights

GRI G3 Indicator LA13

**Share of women in the total workforce of BMW AG**  
in %

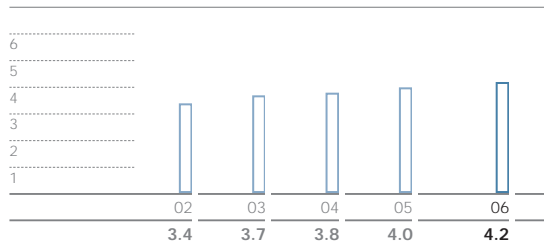


**Share of women in management/executive positions of BMW AG**  
in %



GRI G3 Indicator LA13

**Share of employees with disabilities at BMW AG**  
in %

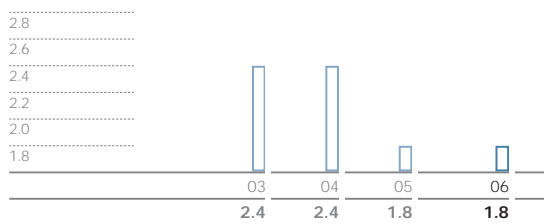




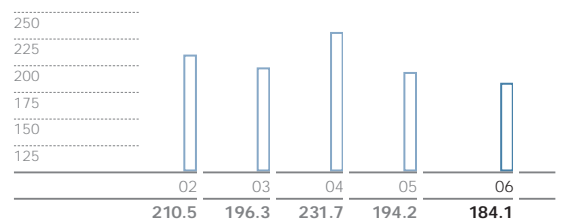
GRI G3 Indicator LA10  
(graphic on the left)

## 05.5 Lifelong learning

**Average days of training and development per employee at the BMW Group**



**Capital expenditure on education and further training\* of the BMW Group**  
in euro million

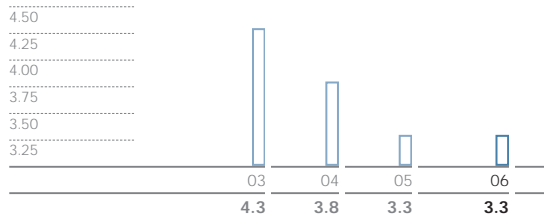


\*The BMW Group's capital expenditure depends on education and further training requirements and thus fluctuates from year to year.

GRI G3 Indicator LA7

## 05.6 Health and safety at work

**Accident frequency at the BMW Group**  
per one million hours worked



Shows the number of notifiable industrial accidents per one million hours worked

Definition of industrial accident according to the German Code of Social Law: Industrial accidents are accidents involving insured individuals and resulting from the pursuit of these individuals' insured activity on the industrial site. Accidents are events of limited duration that externally impact the body leading to damage to health or death.

GRI G3 Indicator LA7, LA8

**Occupational health and safety in the BMW Group**

		2002	2003	2004	2005	2006
Total accidents	Quantity		523	479	413	409
Accident frequency*			4.3	3.8	3.3	3.3
Fatal accidents	Quantity		0	0	1	0
Only refers to the BMW AG						
Courses on occupational safety						
Occupational safety courses	Quantity	1,399	1,384	2,001	1,982	1,799
Risk assessments**	Quantity	1,174	4,451	5,625	3,044	1,426

\* number of notifiable industrial accidents per one million hours worked

\*\*assessment of workplaces and sub-processes with regard to possible ergonomic and health-related strains (ABATECH method).

GRI G3 Indicator LA8

**Occupational health and safety management systems at the BMW Group sites**

Site	Management system	Year of first certification/introduction
Berlin plant	OHSAS	2004
Dingolfing plant	OHRIS*	2003
Eisenach plant	OHRIS*	first OHRIS elements introduced in 2004
Goodwood plant, GB	OHSAS	planned 2007
Hams Hall plant, GB	HS(G) 65**	2001
Landshut plant	OHRIS*	2003
Leipzig plant	OHRIS*	2006
Munich plant	OHRIS*	2003
Oxford plant, GB	OHSAS	planned 2007
Regensburg plant	OHRIS*	2001
Rosslyn plant, South Africa	OHSAS	1999
BMW Brilliance Automotive Ltd., Shenyang, China	OHSAS	planned 2007
Spartanburg plant, USA	OHSAS	first OHSAS elements introduced in 2006
Steyr plant, Austria	not certified	
Swindon plant, GB	OHSAS	planned 2008
Wackersdorf plant***	OHRIS*	2001
CKD production Chennai, India	OHSAS	planned 2007
CKD production Jakarta, Indonesia	national standard	introduced
CKD production Cairo, Egypt	OHSAS	2005
CKD production Kaliningrad, Russia	national standard	1999
CKD production Kuala Lumpur, Malaysia	national standard	introduced
CKD production Rayong, Thailand	OHSAS	planned 2008

\* OHRIS includes OHSAS

\*\* HS(G) 65, Successful health and safety management, guidelines from the British government on safety at the workplace.

\*\*\* Certificate together with the BMW plant Regensburg, Germany

## Sustainability objectives in the area of employees\*

Strategic objectives	Measures	Deadline
<b>Attractive employer internally and externally</b>		
Continuous pursuit of a high level of employee satisfaction	Implementation of the third employee survey across the group	2007
Promote personal responsibility of apprentices by new work structures	Further develop the concept of the junior company and rollout at other sites. By 2008 at Oxford site	2008
<b>Joining the BMW Group</b>		
Balanced proportion of female apprentices in technical professions and integration into the hiring departments	Further develop the concept for hiring after apprenticeship is completed	ongoing
<b>Lifelong learning</b>		
Develop the training academies	Establish an aftersales training centre in China	2009
Deepen and expand the implementation of the essential elements for long-term human resources policy (LPP) worldwide	Create the conditions for the specific stages of life and individual safeguarding of professional and private obligations and interests of the employees within the long-term human resources policy. Ensure the proper prerequisites for an enduring provision of service by the employees. Regularly examine the instruments with regard to the constantly changing internal and external conditions	ongoing
	Further develop the human resources systems based on the long-term human resources policy (LPP) worldwide	ongoing
<b>Healthy employees</b>		
Occupational safety	New occupational safety film for the initial briefing of new employees	2007
	Introduction of a new IT-supported accident management system in conjunction with the BMW Group Health Service	2007
Combating HIV/AIDS	HIV retesting campaign with the slogan "Vision of Life" at BMW South Africa	2008
<b>Demographic change</b>		
Project "Today for tomorrow"	Completion of the "Today for tomorrow" project and integration of the measures into the standard processes and thereby into the company's daily routine	2007

\*An overview on the status of the objectives from the Sustainable Value Report 2005/2006 is available on the Internet at [www.bmwgroup.com/sustainability](http://www.bmwgroup.com/sustainability).

# 06 Society

## Sustainability objectives in the area of society\*

Strategic objectives	Measures	Deadline
<b>Traffic concepts for the future</b>		
Further development of traffic concepts	Identify future changes to mobility of private households due to changes in the cost of mobility and incomes in Germany	2008
	Identify potential for improvement by comprehensive benchmarking of traffic infrastructures (road, rail, air) in Europe	2007
<b>Traffic safety projects</b>		
Internationalisation	Further internationalisation of traffic safety projects at the BMW Group sites	2009
<b>Education and intercultural understanding</b>		
Focus on educational projects	Increased dovetailing of the BMW Group competences with the educational projects in the area of natural sciences	2007
<b>Commitment to fighting HIV/AIDS</b>		
Expansion to other sites of activities aimed at combating HIV/AIDS	Transfer the activities from South Africa to e.g. China, Russia and Thailand	ongoing
	Expand the HIV/AIDS programme from BMW South Africa to include the local dealers	2011

\* An overview on the status of the objectives from the Sustainable Value Report 2005/2006 is available on the Internet at [www.bmwgroup.com/sustainability](http://www.bmwgroup.com/sustainability).

Profile	Degree of performance**	Reference
<b>1. Strategy and analysis</b>		
1.1 Statement from the Board of Management	■	02-03
1.2 Impacts of operational activity, key risks and opportunities	■	12, 14-15, 20-21, AR***
<b>2. Organisational profile</b>		
2.1 Name of the organisation	■	06
2.2 Primary brands, products and services	■	06
2.3 Operational structure of the organisation	■	06-07, 18-19
2.4 Location of organisation's headquarters	■	06, 09
2.5 Countries where the organisation operates	■	08-09
2.6 Ownership structure and legal form	■	AR***
2.7 Markets served	■	85
2.8 Scale of the organisation profile	■	06, 83-84
2.9 Significant changes regarding size, structure or ownership	■	19, AR***
2.10 Awards	■	14-15, 36, 44, 54, 68, 72
<b>3. Report parameters</b>		
3.1 Reporting period	■	Cover
3.2 Date of most recent previous report ( <a href="http://www.bmwgroup.com/responsibility">www.bmwgroup.com/responsibility</a> )	■	Internet
3.3 Reporting cycle	■	
3.4 Contact persons for questions regarding the report	■	114
3.5 Process for defining report content	■	Cover
3.6 Boundary of the report	■	Cover
3.7 Limitations on the scope or boundary of the report	■	Cover
3.8 Basis for reporting on joint ventures	■	Cover
3.9 Data measurement techniques and bases of calculations	■	
3.10 Restatements of information	n.r.	
3.11 Changes from previous reporting periods in the scope, boundary, or measurement methods	n.r.	
3.12 GRI Content Index	■	107
3.13 External assurance for the report	n.r.	
<b>4. Governance, commitments and engagement</b>		
4.1 Governance structure of the organisation	■	AR***
4.2 Independence of the Chairman of the Supervisory Board	■	AR***
4.3 Number of independent members in the highest governance body	■	AR***
4.4 Co-determination right of employees and shareholders	■	58, AR***
4.5 Linkage between executive compensation and achievement of sustainability goals	■	AR***
4.6 Process in place to avoid conflicts of interest	■	20-21, AR***
4.7 Qualifications and expertise of the highest governance body regarding economic, environmental and social topics	■	02-05, AR***
4.8 Values, mission statements, principles and codes of conduct of the organisation relevant to sustainability ( <a href="http://www.bmwgroup.com/responsibility">www.bmwgroup.com/responsibility</a> )	■	10-13, 40-41, 52-53, Internet
4.9 Oversight of the sustainability performance and relevant risks by the Board of Management	■	10-13
4.10 Assessment of the performance of the Board of Management regarding sustainability	■	12-13, 26-27
4.11 Precautionary approach	■	02-03, 12-13, 20-21, 24-25, 40-41
4.12 Support for external economic, environmental and social activities	■	11, 16-17, 30, 74
4.13 Memberships in associations and representation of interests	■	16-17
4.14 Stakeholder groups engaged by the organisation	■	16-17
4.15 Basis for identification and selection of stakeholders	■	16-17
4.16 Approaches to stakeholder engagement	■	16-17
4.17 Key stakeholder topics	■	16-17, Cover
Indicator	Degree of performance**	Reference
<b>Economic</b>		
Management approach	■	12, 20-21, 18-23, 86, AR***
EC1 Direct economic value generated	■	22-23, 83, 85-86, 101, AR***
EC2 Financial implications due to climate change	■	02-03, 12, 18-33, AR***
EC3 Organisation's defined benefit plan obligations	■	56-57, 64-65, 83, AR***
EC4 Significant financial assistance received from government	■	86, AR***
EC5 Range of ratios of standard entry level compared to local minimum wage	■	56-57
EC6 Policy, practices and proportion of locally based suppliers	■	85, AR***
EC7 Procedures for local hiring	■	
EC8 Impact of infrastructure investments and services	■	66-77
EC9 Indirect economic impacts	■	22-23, 85

\* The GRI Index with comments on individual indicators is available on the Internet at [www.bmwgroup.com/sustainability](http://www.bmwgroup.com/sustainability).

\*\* ■ This indicator is answered completely and supported with information.

■ This indicator is answered in part and supported with information.




























□ This indicator is currently not answered.

n.r. not relevant


\*\*\* AR Annual Report


All additional Indicators are printed in grey. Sector supplement indicators are listed separately (see page 109).


Indicator	Degree of performance**	Reference
<b>Environment</b>		
Management approach		12, 24–33, 38–51, 99
EN1 Materials used by weight or volume		12–13, 38–41, 44–47, 88
EN2 Percentage of used materials that are recycled materials		38–39
EN3 Direct energy consumption		44, 94
EN4 Indirect energy consumption		94
EN5 Energy savings		44–45, 94
EN6 Energy-efficient products and services		24–33
EN7 Reduction of indirect energy consumption		48–51, 56
EN8 Total water withdrawal		96
EN9 Water sources affected by withdrawal of water	n.r.	
EN10 Percentage of water recycled and reused		46–47
EN11 Production plants in protected areas		47
EN12 Significant impacts upon biodiversity in protected areas		47
EN13 Habitats protected and restored		47
EN14 Strategies for managing impacts on biodiversity		47
EN15 Endangered species in areas affected by operations of the organisation	n.r.	
EN16 Direct and indirect greenhouse gas emissions		44, 95
EN17 Other relevant greenhouse gas emissions		95
EN18 Initiatives to reduce greenhouse gas emissions and reductions achieved		44–45, 48–49, 56, 95
EN19 Emissions of ozone-depleting substances		
EN20 NO <sub>x</sub> , SO <sub>x</sub> and other significant emissions		95
EN21 Total water discharge		46, 96
EN22 Total weight of waste by type and disposal method		47, 97
EN23 Significant spills		
EN24 Cross-border transport or treatment of hazardous waste	n.r.	
EN25 Areas impacted by the organisation's discharges of water and runoff		
EN26 Initiatives to mitigate of harmful environmental impacts of products		24–33, 38–39, 88
EN27 Percentage of products sold and their packaging materials that are reclaimed by category		49, 98
EN28 Significant fines and sanctions for non-compliance with environmental laws		
EN29 Significant environmental impacts of transporting products, goods, materials and members of the workforce		48–49, 56, 95, 98
EN30 Environmental protection expenditures and investments		41, 92
<b>Employees</b>		
Management approach		12, 52–65, 105
LA1 Breakdown of workforce by employment type, contract and region		53, 84, 100–101
LA2 Employee fluctuation ratio		100
LA3 Benefits provided only to full-time employees		
LA4 Percentage of employees covered by collective bargaining agreements		58
LA5 Minimum notice period(s) regarding significant operational changes		
LA6 Percentage of total workforce represented in occupational health and safety committees		
LA7 Injuries, occupational diseases, working days lost, absentee rate and work-related fatalities		103
LA8 Preventive healthcare, counselling and training regarding serious diseases		62–63, 103–104
LA9 Health and safety topics covered in agreements with trade unions		
LA10 Education and further training measures		60–61, 103
LA11 Skills management and lifelong learning that support the continued employability of employees		64–65
LA12 Employee performance and career development reviews		
LA13 Diversity in senior management and employee structure		59, 102
LA14 Ratio of basic salary of male and female employees		
<b>Human rights</b>		
Management approach		11, 50–51, 52–65, 99
HR1 Investment decisions that include human rights clauses		
HR2 Percentage of suppliers that have undergone screening on human rights		50–51
HR3 Employee training on human rights		
HR4 Incidents of discrimination and actions taken		
HR5 Operations with significant risk concerning the freedom of association and collective bargaining		50–51
HR6 Operations with significant risk for incidents of child labor		50–51
HR7 Operations with significant risk for incidents of forced and compulsory labor		50–51
HR8 Percentage of security personnel trained on aspects of human rights that are relevant to operations	n.r.	
HR9 Incidents of violations involving rights of indigenous people		

Indicator	Degree of performance**	Reference
<b>Society</b>		
Management approach		10–17, 20–21, 82, 106, AR***
SO1 Impacts of operation on local communities and regions		22–23
SO2 Number of business units analyzed for corruption-related risks		20–21
SO3 Employee training regarding anti-corruption		20
SO4 Anti-corruption measures		20–21
SO5 Public policy positions and participation in public policy development and lobbying (www.bmwgroup.com)		26–33
SO6 Financial and in-kind contributions to political parties and politicians		
SO7 Number of legal actions for anti-competitive behaviour		
SO8 Number of fines for non-compliance with laws		
<b>Product responsibility</b>		
Management approach		24–39, 89
PR1 Life cycle stages in which health and safety impacts of products and services are assessed		34–35
PR2 Incidents of non-compliance with regulations concerning health and of safety of products		
PR3 Principles and measures related to product and service information and labelling		24–39
PR4 Incidents of non-compliance with regulations and voluntary codes concerning product information and labelling		
PR5 Customer satisfaction		36–37
PR6 Programs for compliance with laws, standards and voluntary codes related to marketing communications		
PR7 Incidents of non-compliance with regulations and voluntary codes related to marketing communications		
PR8 Number of substantiated data protection complaints		37
PR9 Significant fines for non-compliance with laws and regulations concerning the provision and use of products		
<b>Sector Supplement****</b>		
A1 Stipulated work hours per week and average hours worked overtime in production		
A2 Percentage of employees not managed with overtime compensation schemes		
A3 Percentage of major first-tier supplier facilities with independent trade union organisations		50–51
A4 Numbers of vehicles sold, broken down by type, fuels, power train technologies, and region		84–85, 87, AR***
A5 Compliance of vehicles sold with the respective existing and next defined emissions standards		26–33
A6 Average fuel economy by type of vehicle		87, 90–91
A7 Average carbon dioxide emissions by type of vehicle		87, 90–91
A8 Compliance of vehicles sold with the respective existing and next defined noise standard		
A9 EN29 relevant indicator for automotive sector		48–49, 56, 95, 98
A10 Weight of vehicle and percentage breakdown of generic, recycle, and renewable material of a best selling vehicle		24–25, 38–39, 88

\* The GRI Index with comments on individual indicators is available on the Internet at [www.bmwgroup.com/sustainability](http://www.bmwgroup.com/sustainability).

\*\*  This indicator is answered completely and supported with information.

 This indicator is answered in part and supported with information.

 This indicator is currently not answered.

n.r. not relevant

\*\*\* AR Annual Report

\*\*\*\* GRI Sector Supplement Automotive Sector, pilot version 1.0, 2004

All additional indicators are printed in grey.

## Global Compact – Communication on Progress (COP)

With the Sustainable Value Report, the BMW Group also reports on advances implementing the ten principles of the UN Global Compact.

Page references on this are in the following table.

Principle	Reference
<b>UN Global Compact – Communication on Progress</b>	
<b>Global Compact Principles</b>	
Principle 1 Businesses should support and respect the protection of internationally proclaimed human rights; and	37, 50–53, 58–59, 62–63, 102–103
Principle 2 make sure that they are not complicit in human rights abuses.	50–51
Principle 3 Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining;	50–51, 58
Principle 4 the elimination of all forms of forced and compulsory labour;	50–51
Principle 5 the effective abolition of child labour; and	50–51
Principle 6 the elimination of discrimination in respect of employment and occupation.	50–51, 59, 102
Principle 7 Businesses should support a precautionary approach to environmental challenges;	02–03, 12, 20–21, 24–25, 40–41
Principle 8 undertake initiatives to promote greater environmental responsibility; and	26–33, 38–39, 42–51, 56, 94–99
Principle 9 encourage the development and diffusion of environmentally friendly technologies.	24–33, 38–39, 44–51
Principle 10 Businesses should work against corruption in all its forms, including extortion and bribery.	20–21



# Glossary

## A

### ABIS waste information system

System for the recording, cost tracking and controlling of waste disposal.

### ACEA

European Automobile Manufacturers Association (Association des Constructeurs Européens d'Automobiles).

### Alternative fuels

Fuels that can replace conventional fuels derived from petroleum.

### Audit

Investigation that assesses the process procedures with regard to meeting requirements and guidelines, e.g. the operational testing of environmental or occupational health and safety management systems

## C

### Cleaner Production declaration

Declaration of the United Nations Environment Programme (UNEP). In September 2001, the BMW Group signed the declaration, thereby reinforcing its commitment to environmentally responsible production.

### Carbon dioxide (CO<sub>2</sub>)

Results mainly from burning fossil fuels such as coal, oil and natural gas. The CO<sub>2</sub> generated from burning these fuels is the primary man-made contributor to the greenhouse effect.

### Corporate Governance

In general, Corporate Governance encompasses the entirety of all international and national values and principles for a proper and responsible company leadership, which apply both to the employees and to the company leaders. The German Corporate Governance Code is a body of rules and regulations adopted on February 26, 2002 by a government commission called into existence for expressly that purpose and which contains most notably recommendations on conduct pertaining to proper corporate governance.

## D

### Dalit communities

The Dalit are the descendants of the natives of India. Due to their caste and status as seasonal workers, they are some of the poorest people in India. In 2005, the BMW Group gave euro 150,000 in support of reconstruction efforts in Dalit communities that were destroyed by the tsunami at the end of 2004.

### Demographic change

Describes the change to an ageing structure of a population resulting from an increase in life expectancy and reduction of the age-based mortality rate and the accompanying increase in the midlife range under otherwise equal conditions.

### DJSI World

Dow Jones Sustainability World Index, index family created by Dow Jones and the Swiss agency SAM Sustainable Asset Management for companies with strategies based on a sustainability concept. The BMW Group has been one of the leading companies in the Dow Jones Sustainability indexes since 1999.

## E

### Econsense

Forum for Sustainable Development, initiated by the Federation of German Industries, but with its own legal personality. The BMW Group is one of the founding members of this organisation which was established in the summer of 2000.

## EfficientDynamics

Encompasses all of the BMW Group activities for developing drive concepts for the future. With highly efficient engines, improved aerodynamics, lightweight construction and energy management on board, the BMW Group is continually reducing the consumption of its latest fleet of vehicles and is introducing these innovations gradually across the entire model range. In the medium term, the company will be implementing additional consumption advantages by electrifying the power train. In the long term, the BMW Group is focussing on using hydrogen generated from renewable sources in the combustion engine.

## EMAS

Eco Management and Audit Scheme, a standard for environmental management systems comparable to the ISO 14001.

## EU 15

European Union of 15 member states prior to the start of the EU eastern enlargement at the beginning of 2005.

## Emissions

Emission (from the Latin *emittere* "to send out, to emit") means in general to emit particles, radiation or forces into the environment. Examples include emissions of gaseous pollutants, liquid emissions such as wastewater, particulate emissions or noise emissions.

## F

### FIZ

The German acronym for the BMW Group Research and Innovation Centre in Munich.

### Fleet consumption

Weighted average fuel consumption of the new vehicles of a single manufacturer or of the entire automobile industry registered in the reporting period.

### Fossil fuels

These are energy sources from fossils that emit their stored energy by a chemical combustion process with oxygen. Examples of fossil fuels include oil, natural gas and coal.

### FTSE4Good Index

Index of Financial Times and London Stock Exchange, in which the BMW Group has been included. FTSE4Good listings depend on adherence to environmental and ethical criteria.

## G

### Global Business Coalition on HIV/AIDS, Tuberculosis and Malaria

Established in 2001, the Global Business Coalition on HIV/AIDS, Tuberculosis and Malaria has been fighting the spread of these three diseases for five years.

### Global Compact

An international initiative by the former UN Secretary General Kofi Annan that brings together the representatives of private enterprise with establishments of the United Nations, workers and civil society to promote universal social and environmental principles.

### Global Reporting Initiative (GRI)

The Global Reporting Initiative is an independent institution whose task is to develop and publish globally applicable guidelines for sustainability reporting in a multi-stakeholder process.

## H

### High Precision Injection

Second-generation petrol direct injection system that reduces consumption over a wide engine speed and load range during day-to-day driving.

**HIV/AIDS**

HIV (Human Immunodeficiency Virus) is a virus that can cause the chronic and life-threatening disease AIDS (Acquired Immune Deficiency Syndrome).

**HS(G) 65 – Successful health and safety management**

Guideline from the British government on safety at the workplace.

**Hybrid**

A hybrid drive consists of a combination of at least two different drive types. Usually, the hybrid is a combination of a combustion engine and one or more electric motors in one vehicle.

**Hydrogen and Fuel Cell Strategy Council**

Body of political, industrial and academic representatives who take on tasks in the field of hydrogen and fuel cells. This body unites individual strategies in one National Hydrogen and Fuel Cell Roadmap and promotes the trustful exchange of information among government, industry and research communities.

**I****Immission**

Describes the entrance of pollutants, as well as noise, light, radiation or vibrations in an environmental medium. Examples include pollutant immissions in the air, in the groundwater or in rivers. Each immission is the result of a preceding emission (discharge).

**ISO (International Organization for Standardization)**

Institution for the international coordination of standards.

**ISO 14001**

A globally recognised standard for environmental management systems.

**K****Kyoto Objectives/Kyoto Protocol**

Is an additional protocol adopted in 1997 and intended to embody the United Nations Framework Convention on Climate Change (UNFCCC) with the aim to protect the climate.

**L****LCA – Life Cycle Assessment**

Life Cycle Assessment is a systematic analysis of the environmental impact of products during the entire lifecycle.

**Luxembourg Declaration on Workplace Health Promotion in the European Union**

Luxembourg Declaration on Workplace Health Promotion in the European Union was adopted on the occasion of the assembly of all members of the European Network for Company Health Promotion on November 27/28 1997.

**M****Material data sheets**

Used as proof of material composition of a component, semi-finished product, material and pure substance in the automobile industry.

**Methane (CH<sub>4</sub>)**

Gaseous hydrocarbon, main component of natural gas. Emerges, for example, when fossil fuels are not completely burned or as a result of fermentation processes (biogas). Not toxic to humans, but a relevant contributor to the greenhouse effect.

**MINI Production Triangle**

The three British plants (Hams Hall, Oxford and Swindon) are jointly manufacturing the MINI – with greater capacity levels, flexibility and efficiency. The Hams Hall plant produces the new MINI petrol engines; the Oxford plant remains responsible for chassis construction, painting and assembly. The Swindon plant produces the pressed panels and chassis components.

**N****Nitrogen oxides (NO<sub>x</sub>)**

Nitrogen oxides or oxides of nitrogen are collective descriptions for the gaseous oxides of nitrogen.

**O****OECD (Organisation for Economic Cooperation and Development)**

Headquarters of the Organisation for Economic Cooperation and Development is located in Paris. The OECD guidelines for multinational corporations form a code of conduct for globally responsible corporate dealings. They represent to date the most comprehensive recommendations by governments to the economic sector.

**Occupational Health and Risk Management System (OHRIS)**

A certifiable and internationally recognized occupational health and safety management system in Bavaria, Germany.

**Occupational Health and Safety Assessment Series (OHSAS)**

OHSAS 18001 is an international standard to assess and certify an occupational health and safety management system.

**P****Powder-based clear paint**

Clear coat is the uppermost layer painted on a vehicle. This process does not require water or solvents and utilises nearly 100% of the material.

**S****Sabbatical**

Limited part-time/flexible work time model that gives BMW Group employees the chance to arrange a block of free time from one to six months.

**Stakeholder**

Groups or individuals with a vested interest in a company or who are affected by the entrepreneurial activity. For the BMW Group, these are primarily customers, employees and shareholders and special interest groups, as well as municipalities worldwide where the BMW Group operates.

**Supply chain**

Describes the production process of a product from the raw materials production to delivery to the end user or a related service.

**Sustainability**

Sustainability or sustainable development takes equal account of environmental, social and economic development. In 1987, the UN Commission on Environment and Development defined sustainability as a development that satisfies the needs of the present generation without endangering the bases for life of future generations. For the BMW Group, the economic relevance of sustainability is seen in three elements: resources, reputation and risks.

**T****Teleworking**

Teleworking comprises various forms of work where employees carry out part of the work outside the employer's buildings.

**Ton-kilometre (tkm)**

A unit of measure for the transport performance of goods and people, also known as the transport capacity. This is calculated from the product of the mass to be transported in ton (t) and the distance travelled in the process in kilometres (km).

**V****VALVETRONIC**

Thanks to its operating principle, VALVETRONIC permits fully variable valve stroke. It performs the task of the throttle valve, which is no longer needed. The result is an engine that can breathe freely and thus offers drivers the prospect of lower fuel consumption.

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## The BMW Group on the Internet

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[www.bmw.com](http://www.bmw.com)  
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[www.rolls-roycemotorcars.com](http://www.rolls-roycemotorcars.com)

## Tours of the Munich plant

The BMW Munich plant offers tours with the focus on sustainability in production for groups of seven to thirty people. Please send an e-mail with the period desired and the subject "sustainability" to this address: [produktionsmeile@bmw.de](mailto:produktionsmeile@bmw.de). We will try to schedule a tour date for you.

Individuals and small groups up to six people can register on the Internet to join a general plant tour. : [www.bmw-werk-muenchen.de](http://www.bmw-werk-muenchen.de)

## Further information and publications are available at

[www.bmwgroup.com/responsibility](http://www.bmwgroup.com/responsibility)



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