BMW Annual Report 1991

BMW Year to Year Comparison

In case of differences of opinion,
the German text shall prevail.

		1991	1990	Change in %
BMW Group				
Sales				
Total	DM million	29,838.8	27,177.6	+ 9.8
Domestic	DM million	12,954.9	10,452.8	+ 23.9
Foreign	DM million	16,883.9	16,724.8	+ 1.0
Production				
Automobiles	units	553,230	519,660	+ 6.5
Motorcycles	units	33,980	31,589	+ 7.6
Automobile sales				
Total	units	552,660	525,866	+ 5.1
Domestic	units	238,030	200,418	+ 18.8
Foreign	units	314,630	325,448	– 3.3
Motorcycle sales				
Total	units	32,187	29,701	+ 8.4
Domestic	units	10,919	8,127	+ 34.4
Foreign	units	21,268	21,574	– 1.4
Workforce at end of year		74,385	70,948	+ 4.8
Investment in intangible assets and in tangible fixed assets	DM million	2,122.6	2,065.8	+ 2.7
Depreciation on intangible assets and on tangible fixed assets	DM million	1,805.0	1,778.0	+ 1.5
Year's net income	DM million	782.7	695.9	+ 12.5
BMW AG				
Sales	DM million	24,476.5	22,147.1	+ 10.5
Investment in intangible assets and in tangible fixed assets	DM million	1,616.5	1,749.9	– 7.6
Workforce at end of year		61,617	59,544	+ 3.5
Year's net income	DM million	449.3	397.8	+ 12.9
Dividends	DM million	224.6[1]	198.9	+ 12.9
per ordinary share of DM 50 nominal value	DM	12.50[1]	12.50	
per preference share of DM 50 nominal value	DM	13.50[1]	13.50	
per preference share of DM 50 nominal value (entitled to dividend payment from July 1)	DM	6.75[1]	6.75	

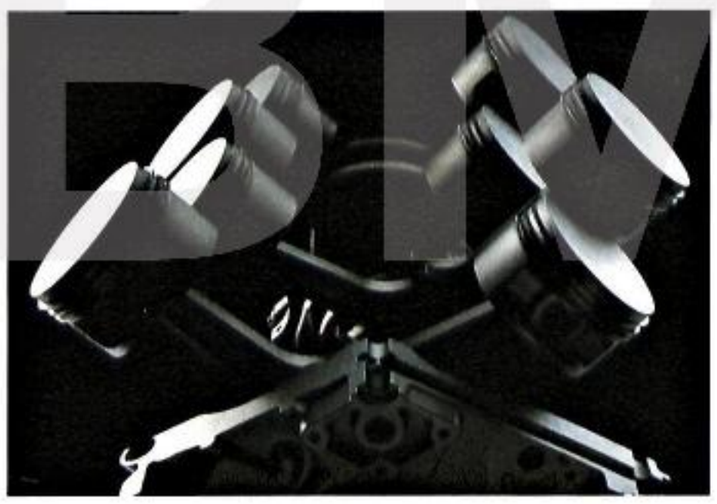
[1] proposal of the management

Bayerische Motoren Werke Aktiengesellschaft, Munich

1991 Annual Report

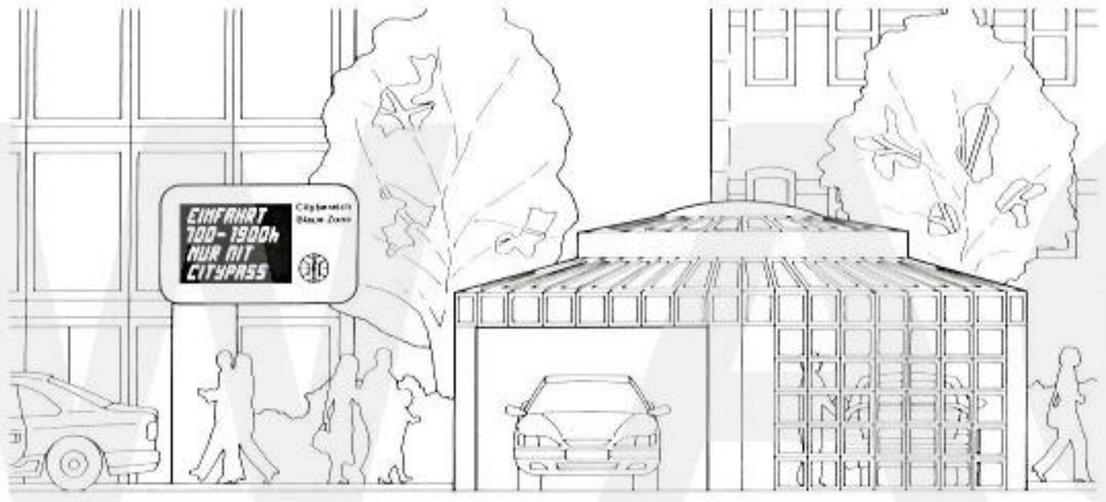
Automobile and motorcycle range (pages 28 to 31)

The coupé of the new 3 Series: Continuing the tradition of two-door BMW sports saloons (page 13)



Engines have been central to the Company for more than 75 years (pages 51 to 62)

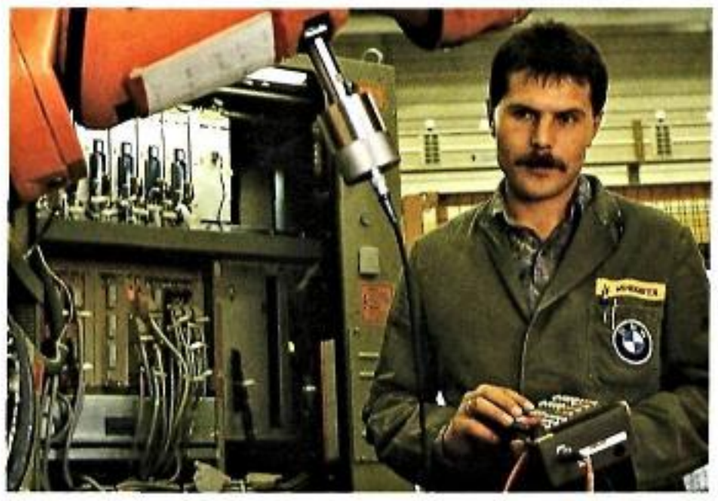
The "Blue Zone": The BMW concept for an attractive city centre with less traffic (pages 18, 19)



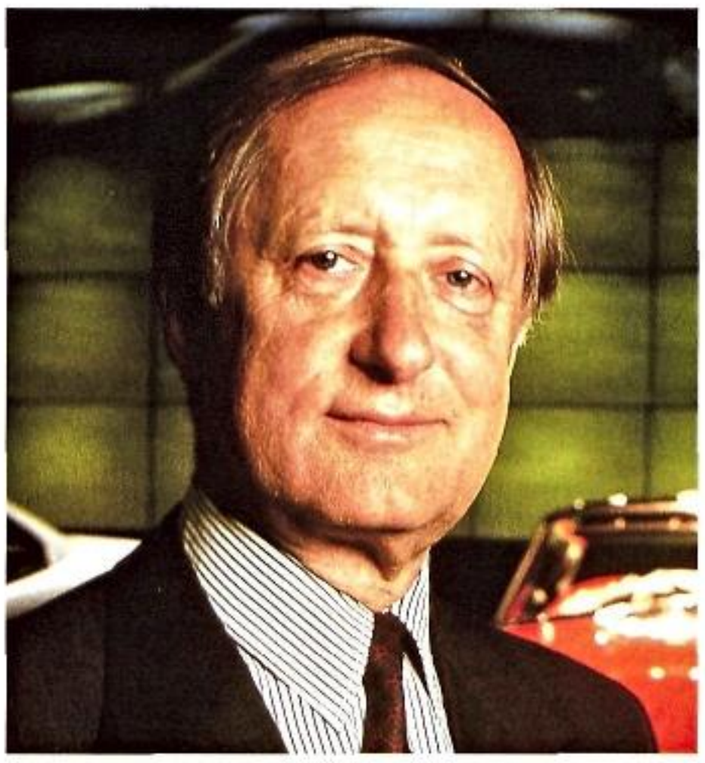
A new motorcycle in classic design: The BMW R 100 R (page 47)

A decade of BMW Japan: Success through long-term commitment (pages 63 to 65)

BMW E1: Concept car with electric motor, ready for operation (pages 68, 69)

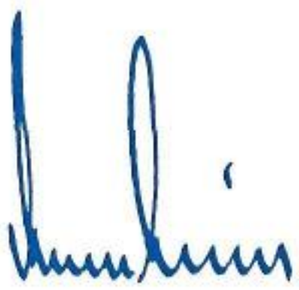


Flexible systems of working hours: Advantages for Company and employees (pages 70 to 74)



In Europe, there are very few independent automobile companies which are represented successfully, in the three economic regions of Western Europe, North America and Japan, with technically outstanding products and high quality. These companies have constantly improved their competitive position as a result of the advantages of Germany as an industrial location, and by exposure to direct competition on the world markets. We believe that our future task is not only to maintain existing achievements, but to develop our position further. However, this presupposes that the performance of the German economy is not constrained by excessive rules and regulations. Proposals appear each day for new legislation, and for even heavier burdens. These pose a threat to prosperity and thus to social peace. It is therefore important that it is fully understood that we are unable to afford everything, either financially or ideologically, and above all, not all at once. Excessive demands would weaken the competitiveness of our industry. Thus, politicians should set clear priorities within the given scope. In the next few years, priority should be given to the reconstruction of Central and Eastern Europe. In particular, more funds from the productive sector will be needed for housing, for energy and for transport. Investment in these areas cannot be made simultaneously with the payment of higher wages, reduced working hours, the extension of social security systems, or environmental protection, however desirable these may all be.

Germany enjoys undisputed advantages as an industrial location – an above-average standard of education, high incentives and a basic social consensus. We are at home here, and shall continue to produce here. Clear economic and social targets for Germany could help to offset the disadvantages of this location and improve international competitiveness. This is essential, for even our reserves are not infinite. We should never forget that our welfare state is not a right, but is based on social responsibility. Only further growth can ensure continued prosperity.



Eberhard v. Kuenheim

The Supervisory Board regularly reviewed the Company's business throughout the business year. At its joint meetings with the Board of Management and on the basis of the latter's written and verbal reports, the Supervisory Board has studied closely the Company's situation, the course of business and the intended business policy, and discussed these matters with the Board of Management.

Discussions also focussed on the costs of different production locations and the development of future traffic systems. The Supervisory Board was particularly interested in the long-term development of business.

The Annual Financial Statements for the 1991 Business Year, the Books of Account and the Economic Review have been examined by KPMG Deutsche Treuhand-Gesellschaft Aktiengesellschaft Wirtschaftsprüfungsgesellschaft, Munich, which has provided its unrestricted confirmatory audit certificate. The Supervisory Board agrees to the result of this audit.

At its meeting on March 19, 1992, the Supervisory Board examined and approved the Annual Financial Statements and the Economic Review, prepared by the Board of Management. The Annual Financial Statements are thereby adopted.

The proposal of the Board of Management for the allocation of profits has been examined by the Supervisory Board which supports the proposal. According to the final result of the Supervisory Board's review, there are no objections to be raised.

The Consolidated Financial Statements and the Economic Review of the BMW Group included in the Economic Review, which have been provided with the unrestricted confirmatory audit certificate of KPMG Deutsche Treuhand-Gesellschaft Aktiengesellschaft Wirtschaftsprüfungsgesellschaft, Munich, as well as the report of the auditor of the Consolidated Financial Statements, have been duly submitted to the Supervisory Board.

At its meeting of May 16, 1991, the Supervisory Board appointed Mr. Bernd Pischetsrieder a full Member of the Board of Management and Dr. Helmut Schäfer Director of Industrial Relations.

Dr. h. c. Franz Köhne retired from the Board of Management as of July 31, 1991. The Supervisory Board expressed its thanks to Dr. Köhne for his services to the Company.

Munich, March 19, 1992

The Supervisory Board
Hans Graf von der Goltz
Chairman

Supervisory Board

Hans Graf von der Goltz
Bad Homburg v. d. H.
Chairman
Businessman

Manfred Schoch*, Munich
Deputy Chairman
Chairman of the Works Council

Eberhard von Heusinger
Bad Homburg v. d. H.
Deputy Chairman
Lawyer

Johann Vilsmeier*
Dingolfing
Deputy Chairman
Chairman of the Works Council,
Dingolfing plant

Johanna Quandt
Bad Homburg v. d. H.
Deputy Chairwoman
Member of the Supervisory Board
of Altana Industrie-Aktien und
Anlagen AG

Dr.-Ing. E. h. Klaus Barthelt
Erlangen
Former Member of the Board of
Management of Siemens AG

Reinhold Bauer*, Landshut
Chairman of the Works Council,
Landshut plant

Helmuth Baumgärtner*, Dingolfing
Member of the Works Council,
Dingolfing plant

Klaus Bernhardt*, Frankfurt/Main
Trade union secretary

Nikolaus Held*, Regensburg
Member of the Works Council,
Regensburg plant

Dr. Hartmut Kämpfer*, Berlin
Head of the Motorcycle Business

Cornelis J. van der Klugt
Eindhoven, Netherlands
Former Chairman of the Board of
Management of N.V. Philips'
Gloeilampenfabrieken

Dr. Wolfgang Leeb, Munich
Member of the Supervisory Board
of Dresdner Bank AG

Dr. h.c. André Leysen
Mortsel, Belgium
Chairman of the Board of
Administration of Gevaert N.V.

Rudolf Lukes*, Munich
Trade union secretary

Alois Mathe*, Munich
Deputy Chairman of the
Works Council, Munich plant

Dr. Hans Meinhardt, Wiesbaden
Chairman of the Board of
Management of Linde AG

Dr. Dr.-Ing. E. h. Dr. phil. h.c. Kurt Werner
Darmstadt
Chairman of the Supervisory
Board of Maschinenfabrik Goebel
GmbH

Dr. Kurt Wessing, Düsseldorf
Lawyer

Klaus Zwickel*, Frankfurt/Main
Second Chairman of the Board of
Management of IG Metall

Board of Management

Dr.-Ing. E. h. Dr.-Ing. E. h.
Eberhard v. Kuenheim
Chairman

Dr. Robert Büchelhofer

Volker Doppelfeld

Dr. h. c. Franz Köhne
(until July 31, 1991)

Bernd Pischetsrieder

Dr.-Ing. Wolfgang Reitzle

Dr. Helmut Schäfer

General Counsel:

Dr. Hagen Lüderitz

* employees' representative

In 1991, the steady upward trend of previous years continued at BMW. While demand slackened in general, sales of BMW cars increased to more than 550,000 units. Demand for the new 3 Series cars was particularly brisk. Total sales rose to DM 30 billion. Once again, investments of more than DM 2 billion were made to safeguard the future.

Business still satisfactory at BMW

Despite some setbacks in the economic and social environment, BMW achieved its targets in 1991. Once again the key business data improved.

Both production and sales of BMW cars increased. The new 3 Series, the backbone of the BMW automobile range, was launched onto the markets with great success. Strong demand necessitated extra manufacturing shifts in the second half of the year.

BMW benefitted in full from the recovery of the motorcycle business. All production capacities at the Berlin motorcycle plant were utilized.

The development of a new generation of aircraft engines progressed on schedule. The financing and leasing business increased in importance.

The financial and income position shows the usual healthy picture. Measures to increase efficiency were continued determinedly throughout the Company.

New structures to safeguard competitiveness

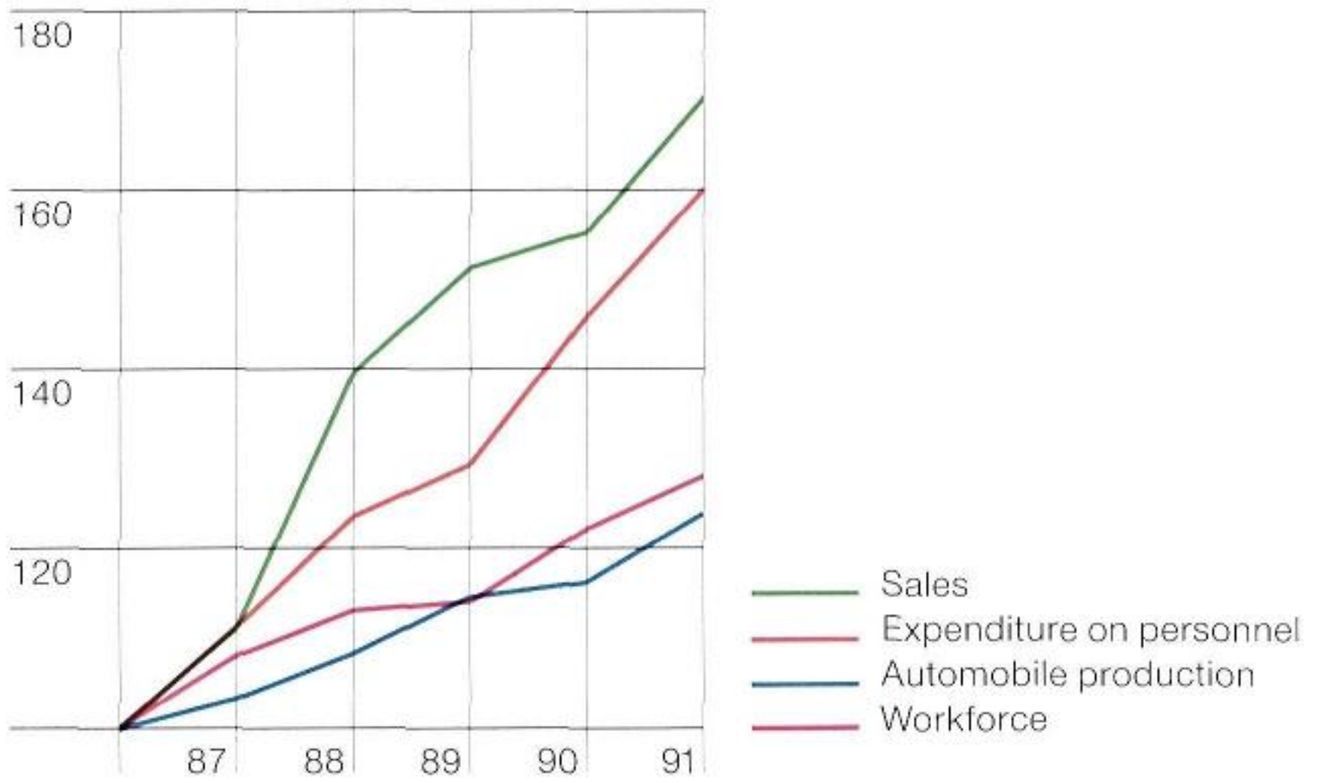
The structure of the Company, and the range of products and services, are constantly changing to meet international competition. BMW enjoys advantages in size, independence and technical efficiency.

In order to safeguard long-term competitiveness, every task performed in the Company is judged by high standards of both efficiency and quality. BMW has further facilitated the achievement of such standards by creating new responsibilities and introducing new clarity in cost control.

Thus, several functions at different locations were grouped into single organizational units and made responsible for their own results. Project work for development and planning tasks has proved successful. Flexible working hours have opened new vistas of development. New shift systems in the plants increase both efficiency and flexibility. Teamwork was introduced in several areas.

In future, numerous tasks in the Company will require fewer employees, due to the measures introduced in the year under review. BMW is also ready if necessary, as other German car manufacturers and suppliers, to establish production facilities outside Germany.

Sales, Expenditure on Personnel, Automobile Production and Workforce of the BMW Group
Index: 1986 = 100



	19.46	24.47	26.52	27.18	29.84
	4.04	4.50	4.70	5.31	5.82
	461.3	484.1	511.5	519.7	553.2
	62,794	65,812	66,267	70,948	74,385

Sales in DM billion
Expenditure on personnel in DM billion
Automobile production in thousand units
Workforce at end of year

Group sales of DM 30 billion
The sales of the BMW Group increased by about 10% to DM 29.8 billion; those of BMW AG rose by the same proportion to DM 24.5 billion. The growth was due primarily to increased sales of cars and a shift to more expensive models in the 3 Series range.

As in the previous year, expenditure on materials again accounted for 57.0% of the Group's total value of production.

Group expenditure on wages, salaries, pension plans and social security contributions increased by 9.6% to DM 5.8 billion. This was due both to increases in collectively and individually agreed wages and salaries, and the growth of the workforce. The 19% share of expenditure on personnel in the total value of production was almost as high as in the previous year.

Depreciation increased again, amounting to more than DM 1.8 billion in the Group. The cash flow, i.e. internally generated financing, rose to DM 2.83 billion.

Purchasing volume increased to more than DM 17 billion
In 1991, BMW purchased materials, supplies and energy worth DM 15 billion. When including investment in fixed assets, the BMW Group's total volume of purchasing increased to more than DM 17 billion.

Stocks of raw materials and supplies, work in process and finished products for the car and motorcycle business were kept low. However, in the Group there was a marked growth due to the inclusion of the inventories of BMW Rolls-Royce GmbH.

World prices for major raw materials continued to decline until mid-1991. This was influenced partly by slack demand due to the slowdown of the international economy. In addition, large quantities of non-ferrous metals, such as nickel and tin, were forced onto the market after the collapse of the planned economies of Central and Eastern Europe.

Programme of investment continued on schedule
Worldwide, BMW invested about DM 2.1 billion in 1991, thus maintaining the high level of the previous year. In addition to manufacturing preparations for new cars and sub-assemblies, some DM 500 billion went into the improvement of plant structures.

The international sales organization continued to expand. New buildings and facilities for individual customer services also accounted for a substantial proportion of total investment. Special attention was paid to investment in Germany's new federal states.

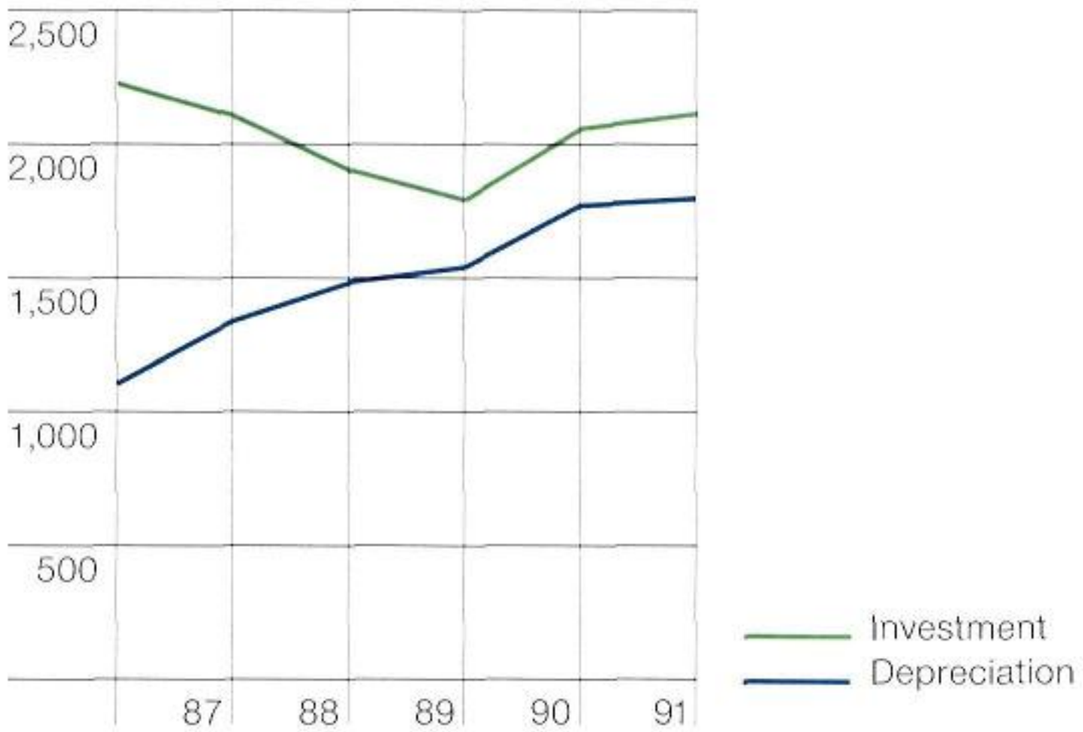
Workforce equipped to cope with more tasks
Some 74,400 people were employed in the companies of the BMW Group at the end of 1991; 3,400 more than in the previous year. They included some 1,300 employees at BMW companies in Germany that were consolidated into the Group for the first time.

The workforce at BMW AG grew by some 2,100, including 1,500 for expanding the second production shift at the Regensburg plant. Additional employees were also needed for new sales outlets in the USA and in Germany.

High earning power in the BMW Group; proposed dividend of DM 12.50
The income from normal business increased worldwide by 5.3% to DM 1.8 billion. The year's net income rose by 12.5% to DM 783 million.

The Board of Management and the Supervisory Board propose to the Annual General Meeting that the net income available for distribution, amounting to DM 224.6 million, be used to pay a dividend of DM 12.50 per ordinary share and DM 13.50 per preference share with a nominal value of DM 50 on the subscribed capital with entitlement to full dividend payment for the 1991 business year (DM 843.8 million in ordinary shares and DM 49.1 million in preference shares), and that a dividend of DM 6.75 per preference share with a nominal value of DM 50 be paid on the subscribed capital with entitlement to half the dividend payment for the 1991 business year (DM 3.2 million in new employees' preference shares).

Investment in and Depreciation on Tangible Fixed Assets of the BMW Group
in DM million



	87	88	89	90	91	
	2,112.3	1,910.5	1,819.8	2,065.8	2,122.6	Investment
	1,344.5	1,489.1	1,548.8	1,778.0	1,805.0	Depreciation

Innovations in all BMW models
New models and fittings were added to the broad range of BMW cars and motorcycles in the year under review.

At the end of 1991, production began of the two-door coupé version of the 3 Series. These cars continue a long, successful BMW tradition. 25 years ago the Company created a segment in the market for a compact, high-performance, two-door sports saloon with the introduction of the 1602.

The new models stand out because of their individual contours and particularly high-quality fittings. All have engines with four valves per cylinder.

Since the autumn, the 3 Series saloons have also been available with a new 6-cylinder turbo-charged diesel engine. In many respects, this sets new standards for diesel engines.

In the 5 Series, BMW introduced touring versions and cars with permanent four-wheel drive. The new diesel engine was fitted with an intercooler for use in this series.

The 7 Series saloons are now available with 8-cylinder engines. The 12-cylinder 850i coupé is the first German car fitted with a rear axle which gives a controlled element of four-wheel steering.

Other innovations demonstrate high levels of active and passive safety. Since autumn 1991, all BMW cars are fitted, as standard, with an electronically controlled anti-lock braking system. In some countries, this equipment will follow later. In Germany and in some other European markets, airbags for driver and front passenger are already standard fittings in the 7 Series. In the USA, passive restraint systems, such as airbags for drivers, have been required by law for all new cars since the 1990 model year.

A new motorcycle with a flat twin engine and classic design, the R 100 R, and a powerful touring machine, the K 1100 LT, were presented in the year under review. All models of the K Series can be fitted with an anti-lock braking system.

Further progress with trendsetting traffic systems
BMW cars and motorcycles are developed in such a way that they can be produced, driven, serviced and scrapped with a minimal impact on the environment. BMW's overall approach includes not only the vehicle's entire service life, but also its integration into an all-embracing traffic system. The aim is to make private transport even more efficient, more economical and more compatible with the environment.

Development of alternative drive concepts continued. In addition to improvements in liquid hydrogen technology, BMW presented the state of the art for electrically powered cars, using test and concept cars specially developed for city use. They are named E1 and E2.

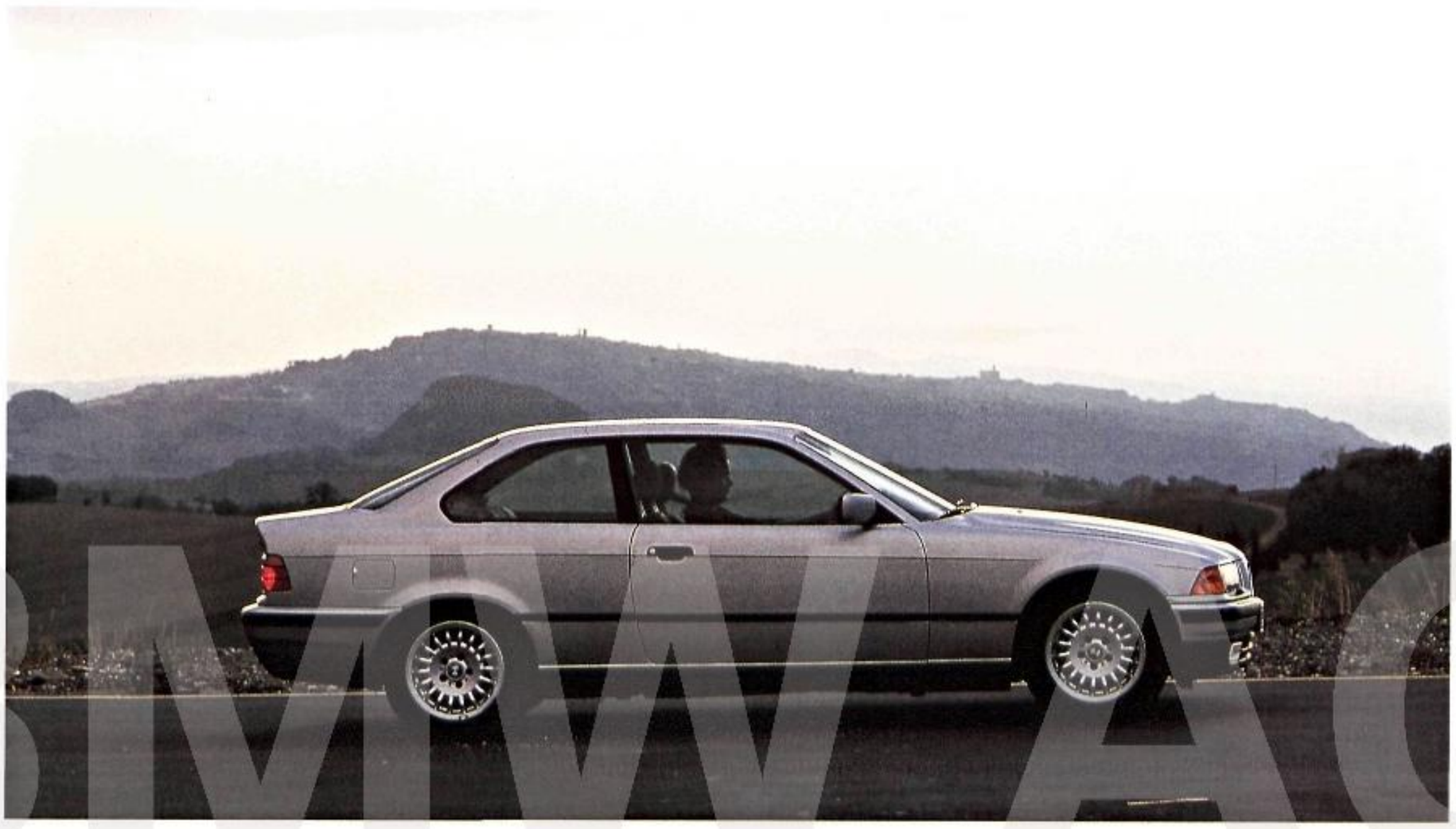
In the autumn, BMW offered to take back, at the end of their useful life, all scrapped cars of the current model range, and to arrange for them to be recycled appropriately.

BMW's participation in the European research project PROMETHEUS helped to increase the knowledge required for future traffic organization. The pilot project Cooperative Traffic System in Munich is already being put into practice.

Research and Engineering Centre proving a success
At the end of 1991, as many as 4,700 people were working at the BMW Research and Engineering Centre. Cooperation in project groups extends to all fields of work. Another phase of construction was started.

The BMW Research and Engineering Centre has meanwhile become a meeting place for science and technology, providing additional opportunities for exchanging knowledge with universities and scientific institutes.

Largely independent development units at subsidiaries and associated companies complement the central divisions at the Research and Engineering Centre. Expenditure on research and development increased again in the entire Group in 1991.



The new 3 Series BMW coupé.

The new 5 Series touring BMW.

Sales of BMW cars increased further

The BMW Group sold 553,000 cars; a 5% increase over the previous year. Demand was high for all BMW car models. The Company did particularly well in Germany in 1991; and it was the only German manufacturer to maintain the same level of exports as the previous year.

Development in the individual markets was largely influenced by the availability of the new 3 Series. While deliveries in Europe began in the spring, the overseas markets were not supplied on a large scale until the second half of the year.

In Europe, the Company achieved, in general, marked growth rates despite a stagnating overall market. BMW sales in Europe rose by 14% to 422,000 units.

Once again, the German market developed particularly well, with registrations increasing by one-fifth to 232,000 units. In contrast, in Great Britain BMW was affected by the weak market, although it coped markedly better than its competitors.

Mid-year BMW took over the business activities of its former Swedish importer and continued them in its own company, BMW Sverige AB, Stockholm.

In the USA the climate remained unfavourable for sales of expensive cars. A special 10% luxury tax on cars costing more than 30,000 dollars affected sales of German cars in particular. After a low at the beginning of the year, BMW sales recovered, but with annual sales of 53,000 units they did not reach the previous year's level.

In Japan, economic development and the model change-over in the 3 Series resulted in a temporary drop in BMW registrations. At 33,800 units, they were slightly below the previous year's high level.

BMW dealers again made large investments in equipment, and undertook intensive training of employees, in preparation for the introduction of new cars, new equipment and fittings.

Business prospects

In the first quarter of 1992, production and sales of BMW automobiles were markedly higher than for the same period in the previous year. The production facilities of the Munich and Regensburg car plants operated to full capacity after the model change-over in the 3 Series.

At the beginning of 1992, BMW increased its investment in softlab GmbH für Systementwicklung und EDV-Anwendung, Munich, from 40% to 75%.

With the current range of cars and motorcycles and with flexible production and sales systems, BMW is also prepared for a period of weak economic activity. It will continue to introduce new products in 1992.

Assuming there will be no external disruptions, the orders on hand and expected demand for BMW cars suggest a further increase in production and sales. Moreover, the Company will do its utmost to ensure both the market success of its products and the Group's earnings power.

The Company's steady upward development is the joint achievement of its employees, dealers and business partners throughout the world. BMW would like to express its thanks for such invaluable cooperation.

January
First big event of 1991 for the motor industry was the North American International Auto Show in Detroit. BMW presented the new 3 Series.

The German road patrol organization, Deutsche Verkehrswacht, awarded BMW the traffic safety prize in gold for its commitment to training for young drivers.

February
Upon BMW's initiative, the German car manufacturers formed a project group for the recycling of scrapped cars.

March
75 years ago, on March 7, 1916, the Bayerische Flugzeugwerke AG was founded in Munich.

After the opening of the German money market for the issue of short-term bonds, BMW was one of the first industrial companies to start a commercial paper programme.

April
The "Alpentransit" project began: The transport of about 80% of the materials destined for, or coming from, Italy was shifted from road to rail. From autumn, cars were also transported by rail.

"Time Horizon" was the third permanent exhibition to be opened in the BMW Museum. It shows the interaction between the Company and its environment.

BMW of North America opened another sales outlet in Westchester, to the north of New York.

May
Work began, on schedule, on the steel structures of the new BMW plant for pressing tools at Eisenach.

With the establishment of BMW Sverige AB, Stockholm, BMW has its own marketing companies in 15 countries.

The winners of the German Competition for Universal Millers and Model Carpenters work at BMW: Luigi Fanti and Thomas Wilhelm represented Germany at the international competitions in Amsterdam.

June
BMW Rolls-Royce GmbH presented the state of the art of the BR 700 engine family at the Air Show at Le Bourget near Paris.

At the Dingolfing plant, the three-millionth BMW came off the assembly lines since production started in 1973.

For the second year running, a BMW M3 Group A car won the legendary 24-hour race at the Nürburgring.

July
A series of BMW talks for businessmen was started in Chemnitz, the location of the first BMW retail outlet in the new federal states. The talks provide a forum for small and medium-sized businesses to exchange their views of economic development.

August
At the Munich and Regensburg plants, production continued during the works holiday in order better to meet demand for the new 3 Series cars.

Series production of the new BMW diesel engine began at the engine plant in Steyr, Upper Austria.

Worldwide, BMW financial services were grouped into a single organizational unit.

September
Touring and four-wheel drive versions for the 5 Series, a new 6-cylinder turbo-charged diesel engine, and the BMW E1 were the focus of attention at the 54th International Motor Show in Frankfurt am Main.

Beginning with the German market, all BMW cars of the new model year were fitted with anti-lock braking, as standard.

The Scientific Award, sponsored by BMW, was presented for the first time.

The K 75 motorcycles were fitted, as an option, with an uncontrolled catalytic converter. Thus, technologies to reduce emissions are available for the entire range of BMW motorcycles.

BMW Japan opened a new sales centre in Makuhari, to the southeast of Tokyo.

October
Two new motorcycles, the classic R 100 R and the powerful K 1100 LT, set new standards when they were introduced.

BMW won the 1991 German Logistics Prize for its integrated logistics concept at the Regensburg plant.

November
A new system of working hours was introduced for 8,500 employees in two-shift operation at the Munich plant.

The BMW health insurance scheme welcomed its 50,000th member only 17 months after it was established.

More than 120 financial analysts came to the BMW International Analysts' Meeting at the Forum of the Research and Engineering Centre in Munich.

December
The "Blue Zone", a traffic concept developed by BMW for Munich city centre, was presented to the public.

In 1991, the world economy was influenced by recession in the USA and economic slowdown in Japan. Political upheavals, military conflicts and unsolved problems of world trade resulted in risks which will also determine the international situation in 1992. The reconstruction of Eastern Europe sets new priorities.

Political upheaveals present a challenge to Western economies

The year 1991 was marked, as hardly any other in the recent past, by political upheavals and military conflicts. At the beginning of the year the world was held in suspense by the Gulf war. This was followed mid-year by the failed military putsch in Moscow. Then, as the shape of Europe changed, the civil war in Yugoslavia brought to the surface old conflicts which many believed to have been long buried.

These events had only limited direct impact on economic activity in the industrial nations. However, they show clearly that, even after global détente between East and West, regional conflicts and economic imbalances can threaten the development of the world economy.

The reconstruction of Central and Eastern Europe is therefore a new task in the coming years. This can only be achieved with further growth and an efficient economy in the West. It is up to the politicians to create the right conditions.

These include a forward-pointing conclusion, in the near future, of the GATT negotiations on the rules for international competition, a rapid process of European unity and, in Germany, clear priorities in the economic and social objectives.

Weak world economy

The development of the world economy fell short of expectations in 1991. The expansion of world trade had already slowed during the previous year.

In spring, there were still hopes that demand and production would recover rapidly. However, economic weakness was more persistent than was first expected. The general uncertainty was exacerbated by the signs of disintegration in Eastern Europe.

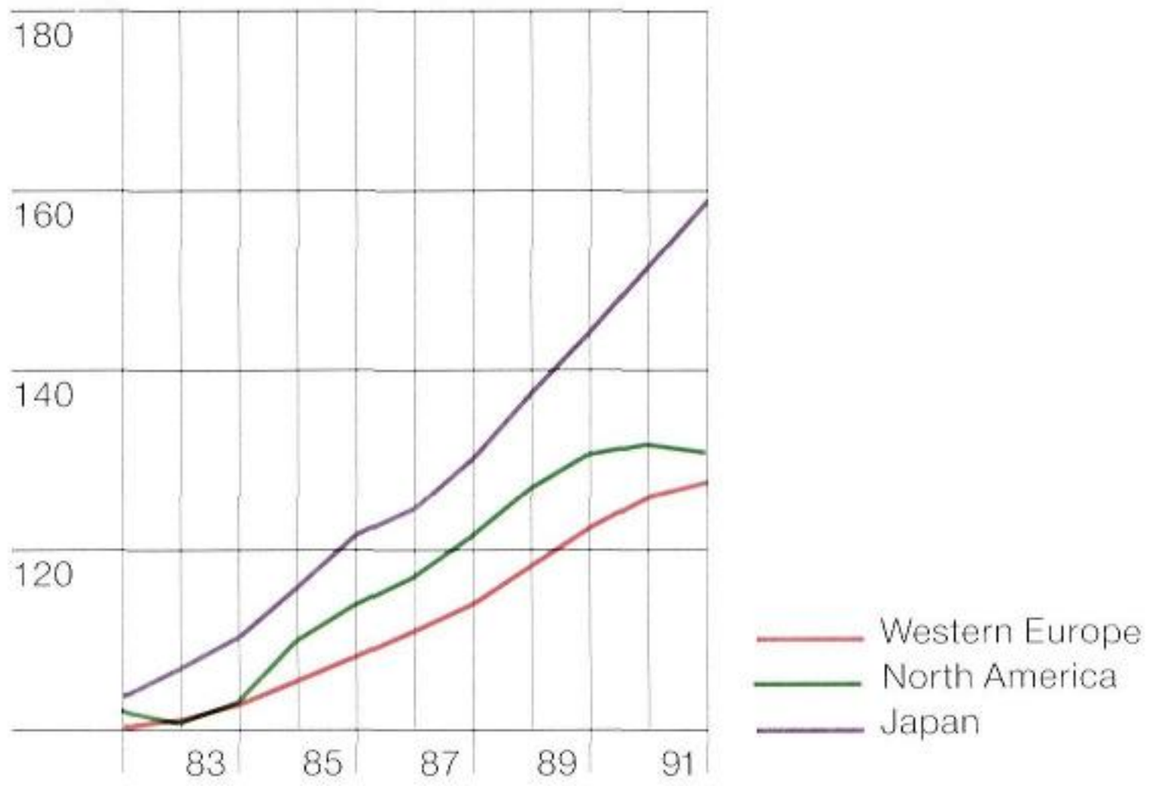
In the USA, the national product stopped its decline as from the spring, but no sustained upturn began. In East Asia the rapid growth of many years diminished.

Demand stagnated in many countries of Western Europe, and recession prevailed in some. Only in Germany and some neighbouring countries was the economy stimulated by the unification process.

Although practically all industrial nations, with the exception of Germany, relaxed their monetary policy noticeably, the world economy still did not begin to gather momentum in 1991. The real Gross National Product of the OECD countries increased by just over 1% in the year under review.

In the industrial countries, the upsurge in prices also calmed slightly with the weak level of economic activity; in fact, it declined for the first time for three years.

Gross Domestic Product
Index: 1980 = 100



Gloom in the USA, slowdown in Japan

Despite several reductions of the key interest rates, the US economy was still unable to gain a firm foothold. High indebtedness and concern about employment prospects made many people cut or postpone their spending.

There were signs of an upturn in the industrial sector. However, the share of industry in the entire American economy is too small for this to result in an upswing across the board.

In 1991, the Japanese economy suffered from the consequences of speculative overheating in the previous years. Falls on the stock exchange made financing conditions more difficult for companies and curbed their capital spending. Japan's industrial output did not expand in the year under review.

However, the foreign trade and current account surpluses almost doubled because of the continuing growth of exports and lower expenditure on imports.

Different levels of economic activity in Europe

In 1991, the closely-linked economies of the Federal Republic of Germany, the Benelux countries and Austria again developed favourably. The same applied in Spain and Portugal. In these countries, domestic demand was more brisk than in the rest of Europe. However, investment activity slackened.

The economies of the other countries of Western Europe recorded little or no growth. This was due primarily to stagnating investments. Recovery was also hampered by the limited opportunities for further lowering interest rates, due to the key role of the stability-oriented German monetary policy.

In Great Britain and Scandinavia the economic picture was marked by recessionary developments. Nevertheless, the British inflation rate, which was still very high at the beginning of the year, was reduced to the European average. In addition, there were the first signs of recovery in overall demand.

In contrast, the economies of the countries of Northern Europe have not yet bottomed out.

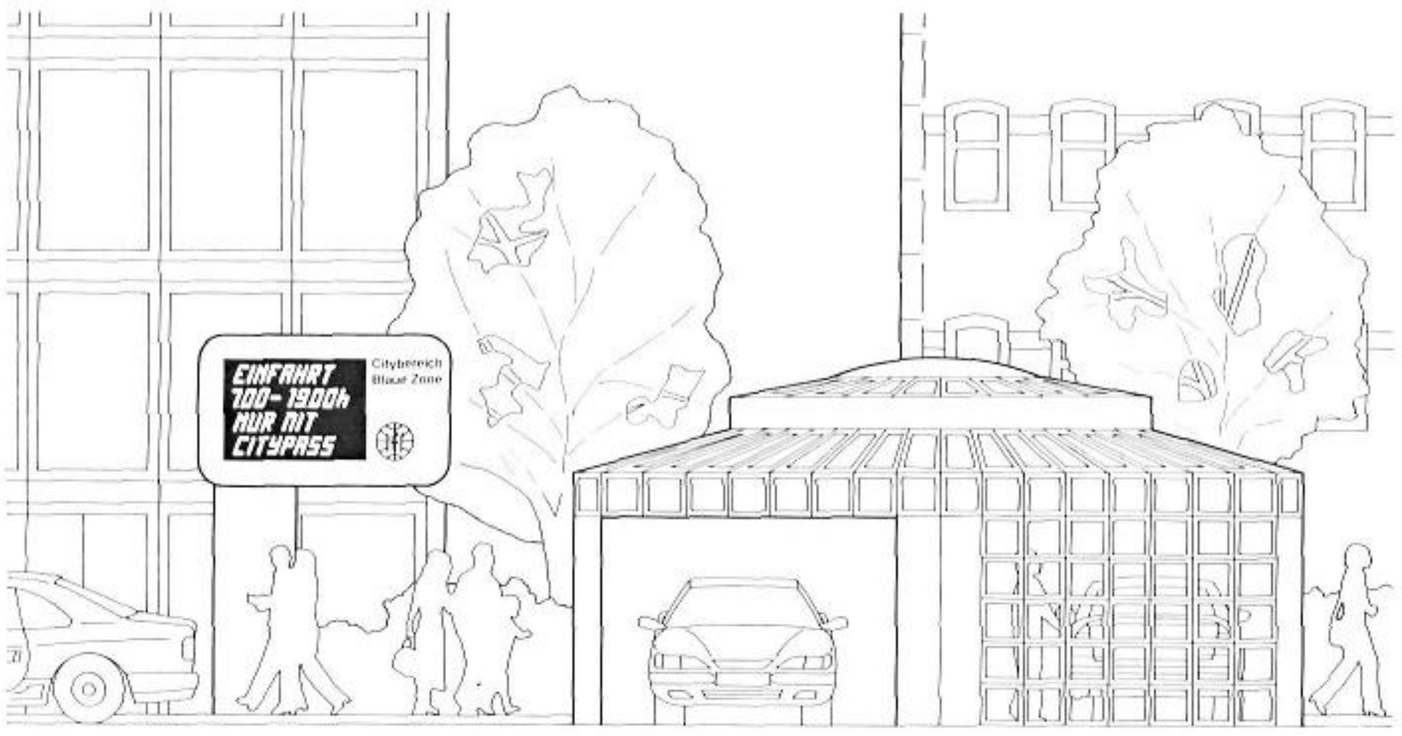
Special development in Germany

In Germany, economic development was still determined by the unification process. Strong demand from the new federal states, and lively domestic demand, meant a high pace of growth for the west German economy until the early summer. In eastern Germany, the inevitable process of economic and social renewal continued.

From mid-year, the weakness of the world economy also began to affect Germany. The decline of exports, of which there had been signs for some time, was no longer offset by domestic demand. The economic slowdown made the structural disadvantages of Germany as an industrial location once again more apparent.

1991 was a difficult year for the new federal states. The first months were still marked by the dramatic drop in total industrial output which had begun with the end of the planned economy.

However, there are now clear signs that the transformation into a modern market economy is fully under way. The privatization of companies which can be rehabilitated, and the large flow of investment capital from the West to eastern Germany, are helping to develop and modernize capital equipment. As a result, Germany's most modern workplaces are gradually being established there. BMW is also involved in this process.



The "Blue Zone": With this concept for a city centre with less traffic, BMW wants to make the centre of Munich more attractive for all road users. The concept can be adapted for other cities.

An efficient public transport system would largely replace car traffic in the city centre. The old part of the city would be extended, making it pedestrian-friendly and more accessible. There would be underground garages on the edge of the "Blue Zone".

The efficiency of the German economy should not be overtaxed

While coping with the huge task of German unity, it is important not to lose sight of the very basis for prosperity and growth, namely the efficiency of the German economy. This can only be maintained if German industry is not overburdened.

The reconstruction of the east German economy entails substantial burdens for the west. Companies and consumers are contributing, on a large scale, to the development of the new federal states, with the solidarity surcharge on income tax, higher social security contributions, increased mineral oil taxes, and soon also higher value added tax. The limits of fiscal endurance have been reached.

In Germany, the long overdue reform of corporate taxation was reduced in scope, and postponed, because of the current pressure on public budgets. Despite this, the investments of west German firms in the new federal states are contributing substantially towards closing the economic gap.

In view of the obligations which have already been entered into, additional social security benefits or stricter environmental regulations for the Federal Republic alone can no longer be afforded without considerable efforts.

Further progress in environmental protection

Even without state intervention, industry is prepared, and able, to shoulder its responsibilities. For example, in 1991 the German car industry took a major step forward in the recycling of scrapped cars.

Environmental considerations are integrated increasingly into transport policy. It is important to redefine the interaction of different means of transport in an overall system. The pilot project in Munich, initiated by BMW, shows the advantages which occur when concepts, developed and offered by industry, are utilized more fully than in the past.

Progress in environmental protection should not be made at the expense of the economic efficiency of German companies. This progress can be achieved only if state and industry cooperate with mutual trust, rather than work against one another.

Outlook for 1992

The current weak phase of the world economy is expected to end only slowly. Continuing structural problems are delaying the recovery of the American economy. In Japan, the pace of growth will decrease; nevertheless, it is still expected to remain above the average of the industrial nations.

In Europe, high interest rates still prevent a sustained economic upturn. However, stagnation is likely to give way to a slightly more brisk economic pace during 1992.

Although for a long time Germany was not drawn into the downturn of the world economy, nevertheless economic activity is expected to weaken. It is therefore particularly important to pursue more cautious financial and wage policies. The funds available from the productive sector are needed for such priorities as development in eastern Germany, housing construction, energy supplies, and transport.

Since 1987 BMW has developed systems and methods to improve traffic links between the city and its surroundings, using Munich as example. The new concepts are based on the interaction of private and public transport.

The Cooperative Traffic System for the north of Munich has been complemented by the "Blue Zone", BMW's traffic concept for the city centre.

During the day, private cars would be limited in an area of the city centre covering about five square kilometres. Only residents, employees, commercial traffic and permit-holders would have access.

Other car drivers wishing to drive to the edge of the "Blue Zone" would be guided to the nearest free parking space on the roadside, or in an automated "Autopark" underground garage, by an electronic parking guide system. From there, they would continue their journey by city bus.

The most important elements of the "Blue Zone":

The "Blue Ring", of about nine kilometres, encircles the traffic-reduced zone.

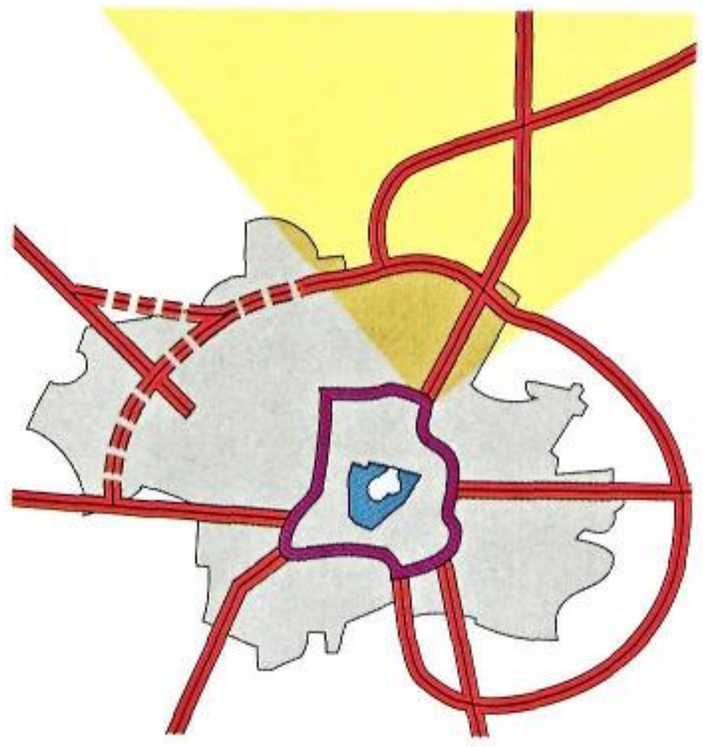
Automated "Autopark" underground garages are located on the edge of the "Blue Zone" and are linked with the bus stops of the city bus services.

City buses and permit-holders drive on five city rings which are linked with one another.

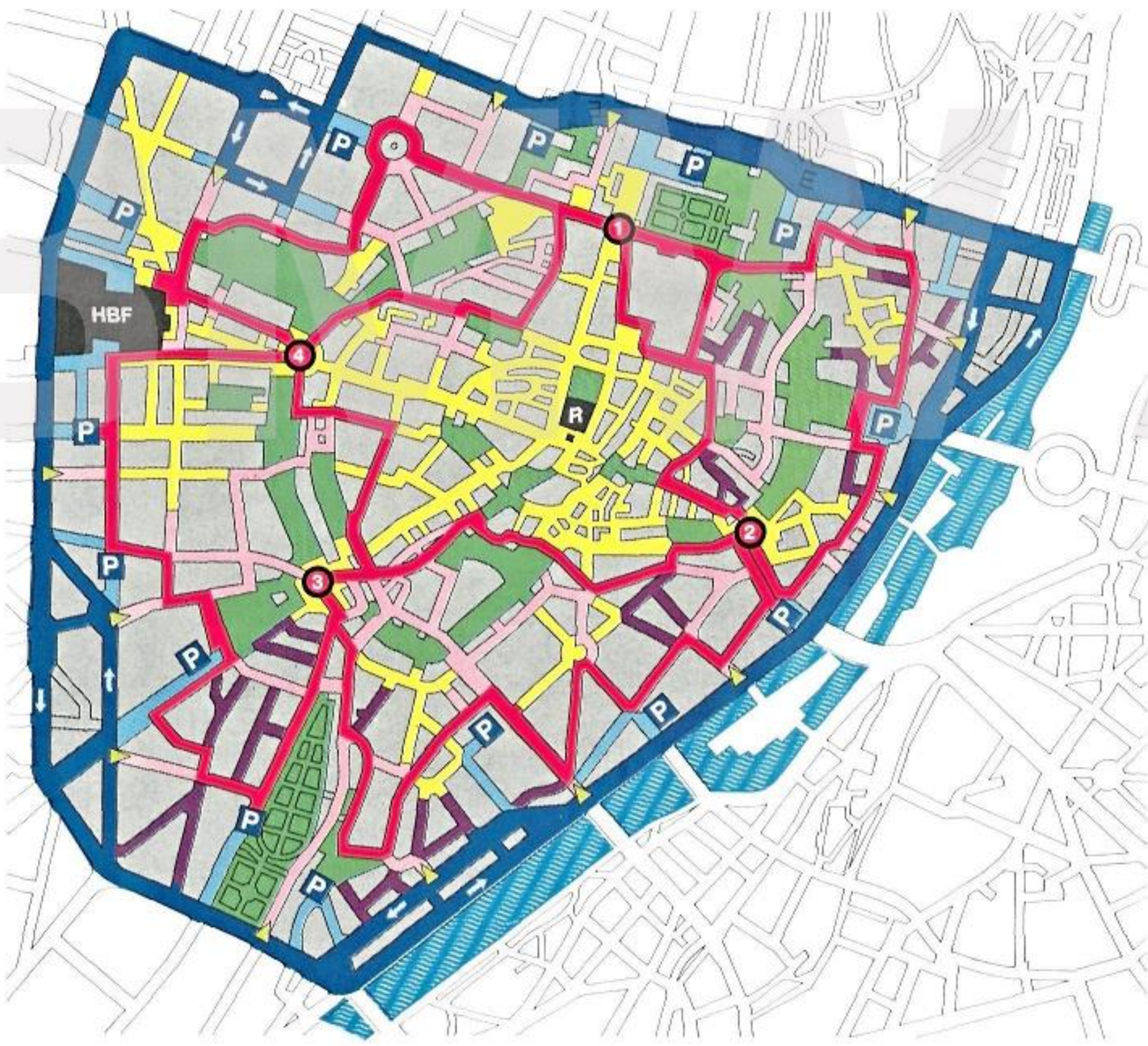
The city bus services are linked with one another, and with other public transport services, at four interchanges.

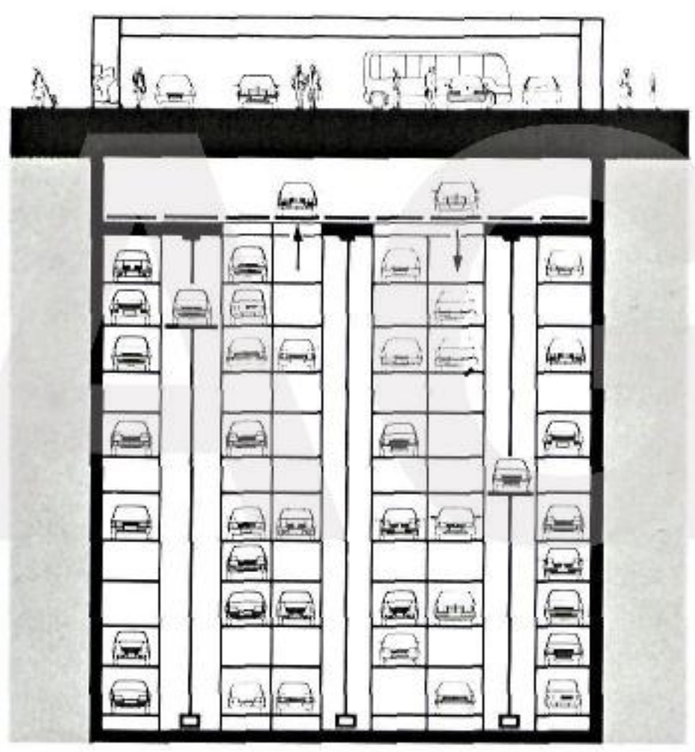
A total of six new, smaller pedestrian precincts are planned; the present pedestrian precinct in the old part of the city would be extended.

New planted areas and squares would be created on land no longer required for traffic.



Test area of the Cooperative Traffic System
Motorways
Ringroad
Blue Zone
Old part of the city





The "Autopark" underground garages: The cars are driven onto a pallet at ground level. When the driver and passengers have alighted, the cars are automatically transported to a "storage shelf" below.

Blue Ring
Entry and exit roads
"Autopark" underground garages
Access roads, parking roads
City bus rings
City streets
Interchanges
1 Odeonsplatz
2 Isartor
3 Sendlinger Tor
4 Karlsplatz (Stachus)
Residents' access roads
Pedestrian precincts
Planted areas
R Town Hall
HBF Central Station

Cars with individuality give the BMW marque its special character. The 3 Series coupé and a 5 Series touring version continue this tradition. New engines complete the range. BMW uses the know-how of its Research and Engineering Centre for the cooperation of all transport systems, and for the disposal of scrapped cars.

Technical progress for the benefit of the customers

BMW cars and motorcycles offer a harmonious combination of design, comfort and outstanding performance. Materials and workmanship satisfy the highest requirements.

Continual improvements make the vehicles increasingly safe and compatible with the environment. The comprehensive safety system of BMW cars offers driver and passengers outstandingly good protection in all traffic situations.

New models and equipment continue the product policy introduced five years ago with the new 7 Series.

Sporting, elegant coupé in the new 3 Series

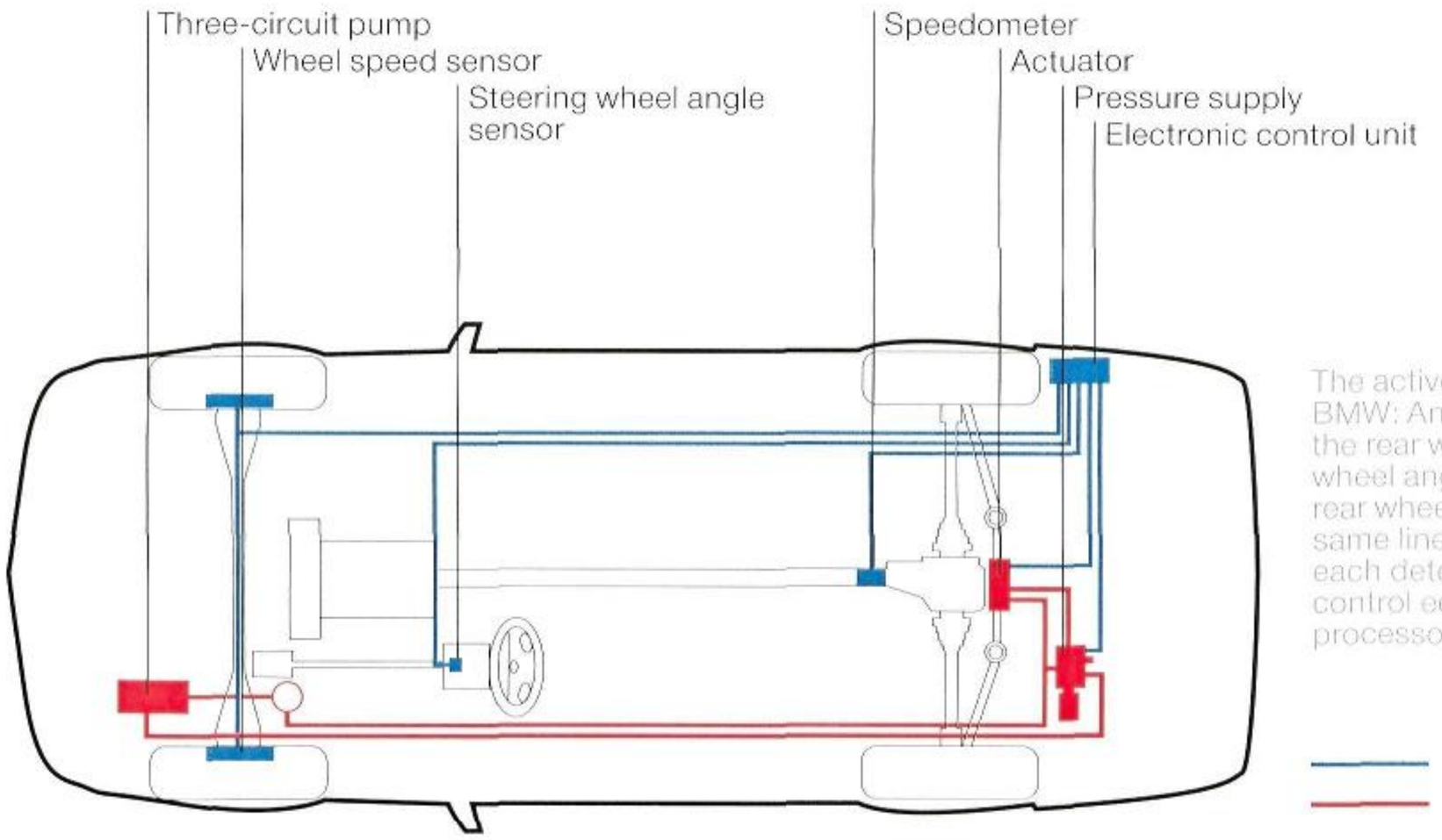
For the first time, the large BMW coupé was joined by a 3 Series version. A two-door coupé, with an individual character, was developed on the technical basis, and borrowing from the form, of the four-door saloon.

With this model, BMW has entered another market segment. The basic concept of the compact BMW car permits a particularly large variety of models.

The new coupés have a choice of 1.8- to 2.5-litre engines with four valves per cylinder. Exhaust emissions and exterior noise levels of all 3 Series coupés are far lower than the world's strictest permitted maximum levels.

The 1.8-litre 4-cylinder engine was completely updated for the coupé. The engine's efficiency at all speeds was improved by a new intake system with adjustable ram pipe length. Both engine power and top performance increased. The 6-cylinder engines remained largely unchanged.

Special attention was paid to the comfort of driver and passengers. Thus, the side window guidance system, taken from the BMW 850i, contributes to the constantly low noise level in the passenger compartment. The coupés have particularly comprehensive, high-quality equipment, as standard, including extension of the luggage compartment by through-loading access to the back seat area.



The active rear axle kinematics of the 850i BMW: An electro-hydraulic actuator steers the rear wheels, depending on steering wheel angle and wheel speed. Front and rear wheel angles combine to follow the same line. For safety reasons, two sensors each determine the same values. In the control equipment, parallel-connected processors provide mutual control.

Touring version for the 5 Series

With the introduction of a further touring version, customers are now offered a 5 Series car with a high leisure and utility value, formerly available only in the previous 3 Series model. The contours of the new car are based on those of the four-door saloon.

The wide-opening rear door, with a low sill, makes for easy loading of large items. The rear seat backs, which can be folded down singly or together, make the large compartment extremely variable and practical. The rear window can be opened separately.

The sliding roof of the 5 Series touring version is also an innovation in automobile construction. It is in two sections, and is so large that it can be opened for rear-seat passengers.

The chassis was adapted to the greater weight. The outstanding driving stability of the saloons was thus continued in the new models. The same applies to the high level of passive safety typical of all BMW cars.

These touring versions are available with the well-known 2.0- and 2.5-litre 6-cylinder petrol engines, and a new 6-cylinder turbo-charged diesel engine with an intercooler. The 525i touring can also be fitted with a newly developed four-wheel drive system.

New 8-cylinder engines for the 7 Series

At the end of 1991, the Company began to produce 8-cylinder engines in "V" formation. These particularly smooth-running, high-performance units were previously fitted in BMW cars of the 1950s and 60s. The new three- and four-litre V8 engines will be first used in 7 Series cars.

The aim was to develop lightweight, compact and efficient high-performance engines that run exceptionally smoothly, with a minimum of maintenance and very low exhaust emissions.

Compact combustion chambers and electronic engine control with extremely precise sensors ensure optimum combustion processes. Thus, exhaust emissions are below the world's permitted maximum levels. The engine runs on all available blends of unleaded petrol; fuel consumption is good for this category of car.

While offering smooth-running high performance, the specific advantages of the V8 engine design have been used primarily to improve engine power. In the 4-litre version, the engine develops an excellent torque of 400 Nm (289 ft lbs) and output of 210 kW (280 bhp).

The new engines underscore BMW's leading position in engine technology for cars of the upper market segment.

The new BMW diesel engines: In a category of their own

With its new generation of 6-cylinder turbo-charged diesel engines, BMW made significant progress in the development of economical, low-exhaust-emission and yet high-performance, smooth-running engines. The introduction of electronic injection control for diesel engines already set the pace in 1987.

Using standard oxidizing catalytic converters, exhaust gas recirculation and new electronics, the specific advantages of diesel technology were harnessed to further improve fuel consumption and exhaust emissions.

The acoustic characteristics of the new engines also set standards. The typical noise associated with diesel engines is almost entirely eliminated, mainly due to progressive combustion and the temperature-controlled noise insulation of the engine.

When used in the 3 Series, the engine is designed for a maximum torque of 222 Nm (161 ft lbs) at only 1900 rpm; with 2.5 litres it develops an output of 85 kW (113 bhp). In the 5 Series, the engine has an intercooler which raises the torque to 260 Nm (188 ft lbs), an unusually high value for this size of engine, and the output to 105 kW (140 bhp).

Both engines achieve standards of performance and smooth running previously the reserve of petrol engines.

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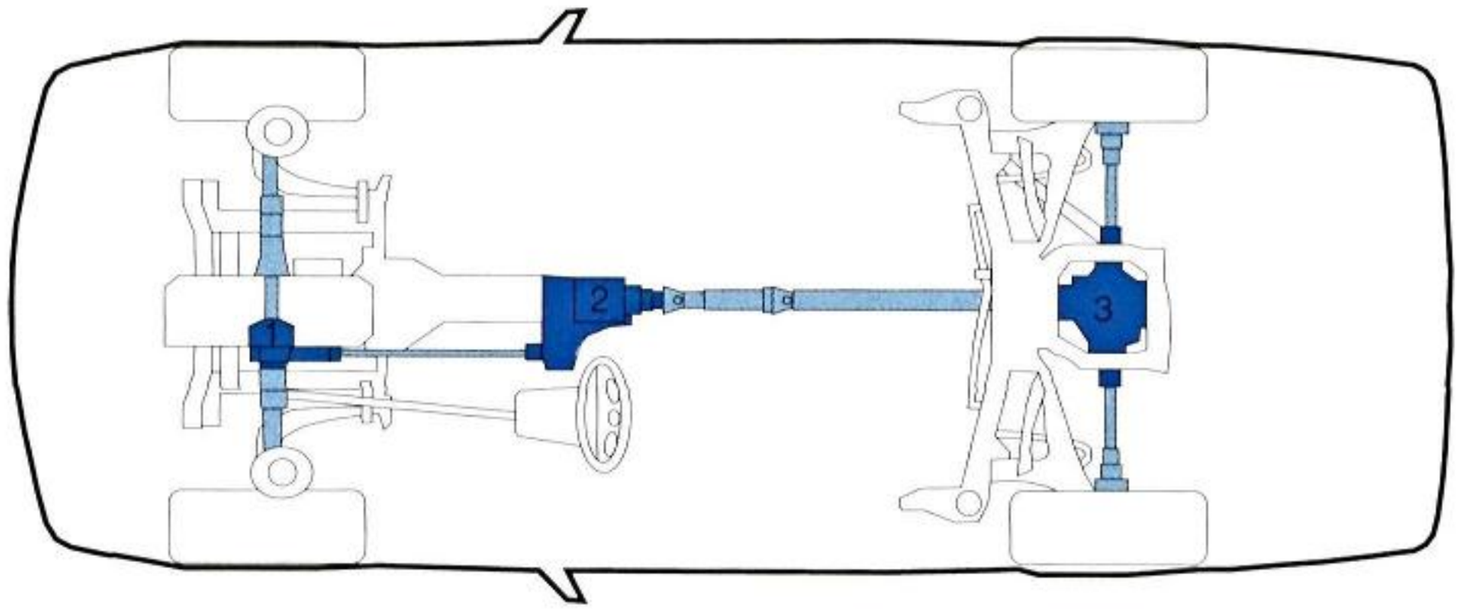


Dynamics system for the BMW 850i

The large BMW coupé is the embodiment of progressive automobile technologies. The new dynamics system of the 850i continues this tradition. It includes, for the first time, a comprehensive system of chassis control.

The package of equipment contains not only the well-known systems, such as anti-lock braking, damper control and automatic stability control, but also a completely new kinematic active rear axle construction – the BMW solution to four-wheel steering. Together, these systems control the car's longitudinal, transverse and vertical movements. Safety reserves and excellent handling have thus been further improved.

Even under hard cornering, for example when carrying out sudden avoidance manoeuvres, the car remains completely under control. Drivers find long journeys less strenuous due to extremely harmonious handling.

The electro-hydraulic actuator for the kinematic active rear axle steers the rear wheels, depending on both the violence of the cornering and the speed. The maximum deviation of the rear wheels from straight running is two degrees.

Parallel control systems ensure functional reliability. The renowned, outstanding handling of the standard 850i chassis is thus maintained.

New four-wheel drive introduced

In autumn 1991, at the same time as the touring versions, BMW introduced four-wheel drive for the 5 Series. The high-quality four-wheel technology, already used successfully in the 3 Series, has been further improved with new technical solutions for traction, driving safety and good handling characteristics. The entire drive system is controlled electronically.

On surfaces with good grip, and in stable driving conditions, 64% of the driving power is distributed to the rear wheels and 36% to the front. This permits maximum adhesion without noticeably affecting steering behaviour.

Sensors constantly control the slip of the wheels and driving conditions. In unfavourable road conditions, an electro-magnetically controlled limited-slip differential changes power distribution. In so doing, the driving power can be distributed, up to 100%, to one axle. On the rear axle, an electro-hydraulic limited-slip differential distributes the power to both wheels as required.

The limited-slip effects are selected to achieve maximum adhesion and complete driving stability. The function of the anti-lock braking systems remains unaffected. The drive train remains unaffected with this design.

Cooperative traffic systems for congested urban areas

BMW seized the initiative in 1987, with a wide-ranging pilot project in the north of Greater Munich, to establish practical traffic systems for congested urban areas. Since then, more than 50 authorities, institutions, transport services and industrial firms have become participants in this project.

In 1991, work focussed on the creation of further administrative and organizational conditions. Planning for the Munich area is extremely advanced; it is already being put into practice.

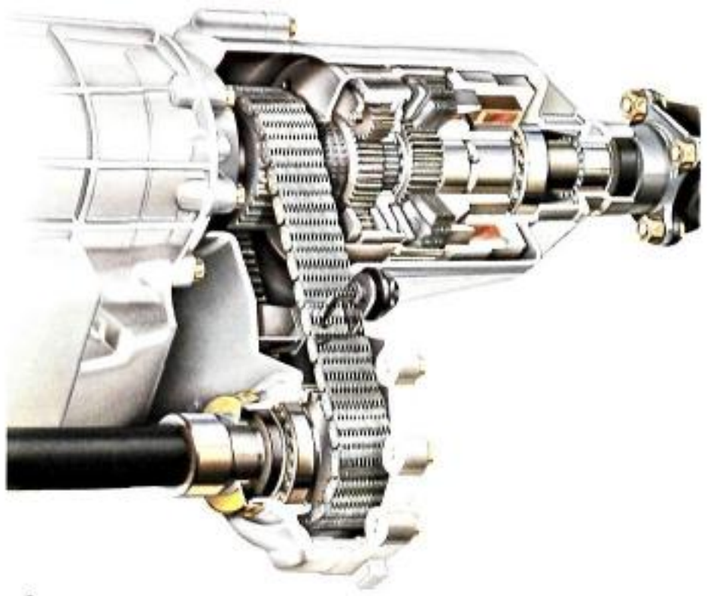
At the end of the year, BMW presented a complementary concept for the inner city, called the "Blue Zone".

Based on existing urban, work and social structures, an overall traffic concept must be drawn up which integrates, in the best possible way, all transport systems in accordance with their specific efficiency.

Most passenger and goods transport is by road. The resultant congestion could be relieved by better control of traffic flows. In addition, the efficiency and attractiveness of public transport must be improved far more than has previously been the case, if private transport is to be noticeably reduced. However, such measures require considerable funds which are not available at present.

In the first stage of the Cooperative Traffic System, therefore, collective information and guidance systems are being used and a comprehensive data base management system established.

The new four-wheel drive of the 5 Series BMW: Three differentials distribute the engine power to all four wheels as required. The electro-magnetic lock in the centre differential (below) and the electro-hydraulic lock in the rear axle gearing (right) are electronically controlled.



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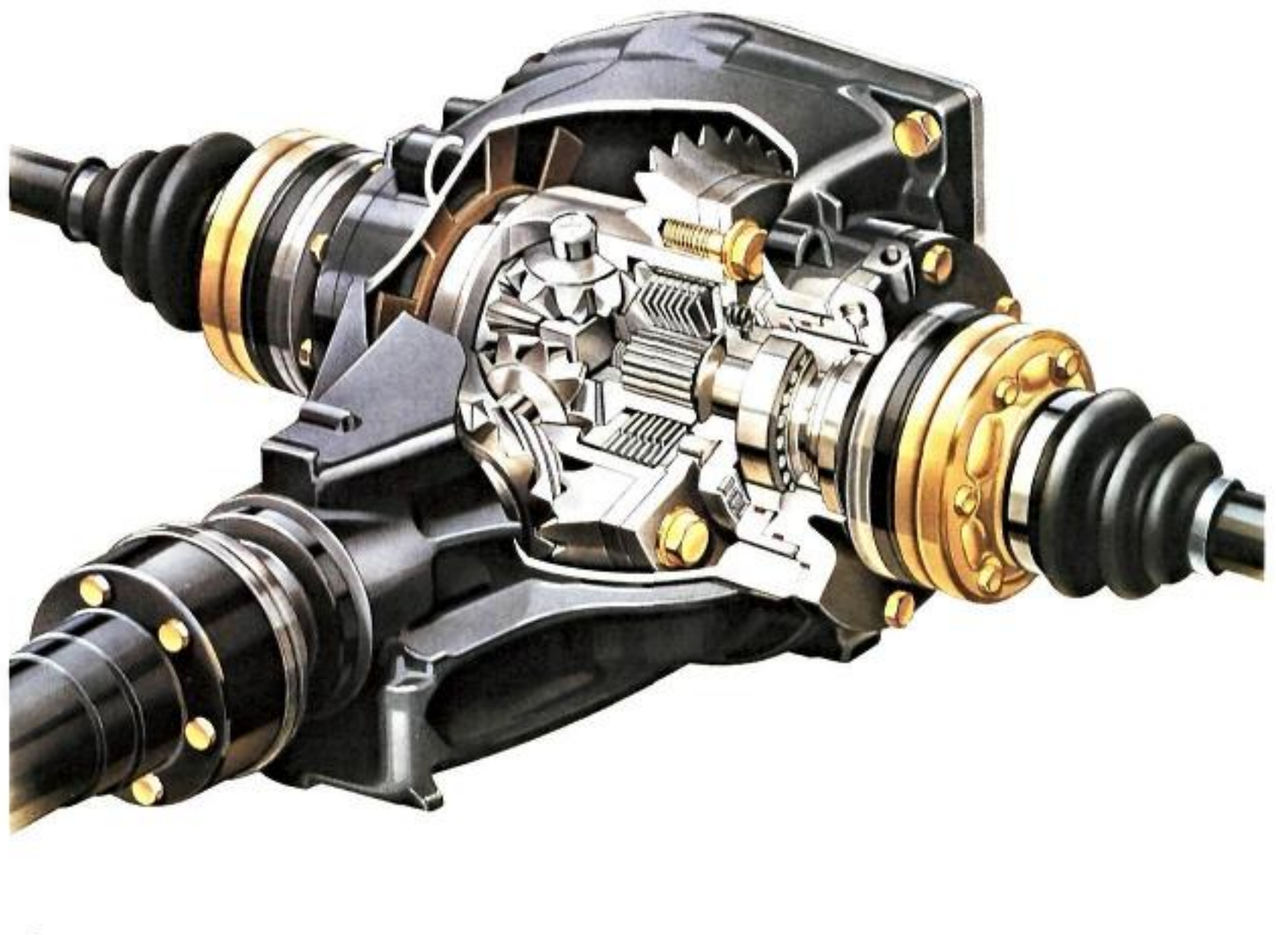

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Individual traffic guidance will be introduced at a later date. The technologies required are being developed as part of the European research projects PROMETHEUS, POLIS and DRIVE.

BMW arranges for scrapped cars to be recycled

In autumn 1991, the first private car scrap-yard, commissioned by BMW, started work. There the cars are dismantled; components, materials and operating fluids are collected for re-use, or disposed of appropriately.

A comprehensive network is to be established in Germany by 1995, taking advantage of the logistical structures and facilities of existing car scrap-yards.

This procedure is also being applied on other markets. At the beginning of 1992, for example, a pilot project began, in the USA, to develop a national disposal structure.

Gradual increase in the use of recycled materials

BMW has great experience in the reprocessing of components and the re-use of materials. Used components and units have been renewed and offered as Genuine BMW Reconditioned Parts for 25 years.

In 1987, BMW was the first car manufacturer to take back catalytic converters from old cars from numerous European countries. The basic materials, including the precious metals platinum and rhodium, are recovered and used for new parts. Plastic bumpers are being returned in Germany, and from some European countries, and recycled into new materials.

The technical bases for the appropriate dismantling and reprocessing of BMW cars have been elaborated in a pilot project at the Landshut plant since 1990. The knowledge gained is incorporated directly into the development of new cars.

Previously, about 75% of a scapped car's weight, primarily metals, was reprocessed. In the case of the new BMW 3 Series, this figure is already above 80%, thus pointing the way for the recycling-oriented design of cars manufactured in large numbers. Before the decade is out, BMW aims to produce cars which are up to about 90% recyclable.

Uniform designations of materials, easy dismantling and the use of only a limited number of readily re-usuable materials, are approaches which should make further progress possible.

Recycling concept for scrapped cars supported by European car industry

With BMW in charge of coordination, the "Car Recycling" project group of the German manufacturers has elaborated a comprehensive recycling concept which the Confederation of European Automobile Manufacturers has also adopted.

This concept was presented to the EC Commission in Brussels at the end of 1991. The aim is uniform regulations, throughout Europe, on the reprocessing of scrapped cars in order to facilitate the cross-frontier and inter-company recycling of materials.

BMW has assumed a leading role in the field of recycling.

A free market for the recycling of scrapped cars

The regulation of the Federal Ministry for the Environment on the taking back and recycling of scrapped cars, announced for 1992, largely includes the proposals of the manufacturers.

Accordingly, the last owner will not be able to cancel the registration of his car until he has submitted the recycling certificate of a car scrap-yard designated by the manufacturer and approved by the authorities.

The residual value of the scrapped car should be freely negotiated between the last owner and the car scrap-yard. This would encourage owners to dispose of their cars while still in reasonable condition.

High wage costs and increasingly short working hours require special efforts to increase productivity. The Company creates the prerequisites with well-trained, committed employees, new flexible work structures and a streamlined organization.

New work structures tested at the plants

in additon to the development of the workforce and control of expenditure on personnel for competitive reasons, personnel work focuses on the organization of work structures.

The complex, automated processes in almost all fields of production at BMW have made requirements of skilled manpower rise considerably. Within ten years, the proportion of skilled production workers has grown from 30% to more than 50%, and it will continue to rise.

New technologies and better trained personnel permit both flexible and efficient forms of work organization. At the production plants, increasing numbers of working groups perform additional tasks, such as maintenance, logistics and quality control, on their own responsibility. Group work was introduced in pilot projects in which employees perform varying tasks.

This type of work organization largely reduces the division between planning and performing functions. It combines the flexibility of handcrafted production with the cost advantages of large-scale manufacture. It increases the attractiveness of the workplace in the production plants.

Increased efficiency in the central divisions

Product development, technical planning and commercial activities were all considerably accelerated by the intensive use of computer technologies in the 1980s.

New forms of organization aim to bring together functions which were once widely separated. Thus, scientists, engineers, skilled and semi-skilled employees from different divisions work together, in project groups, at the BMW Research and Engineering Centre.

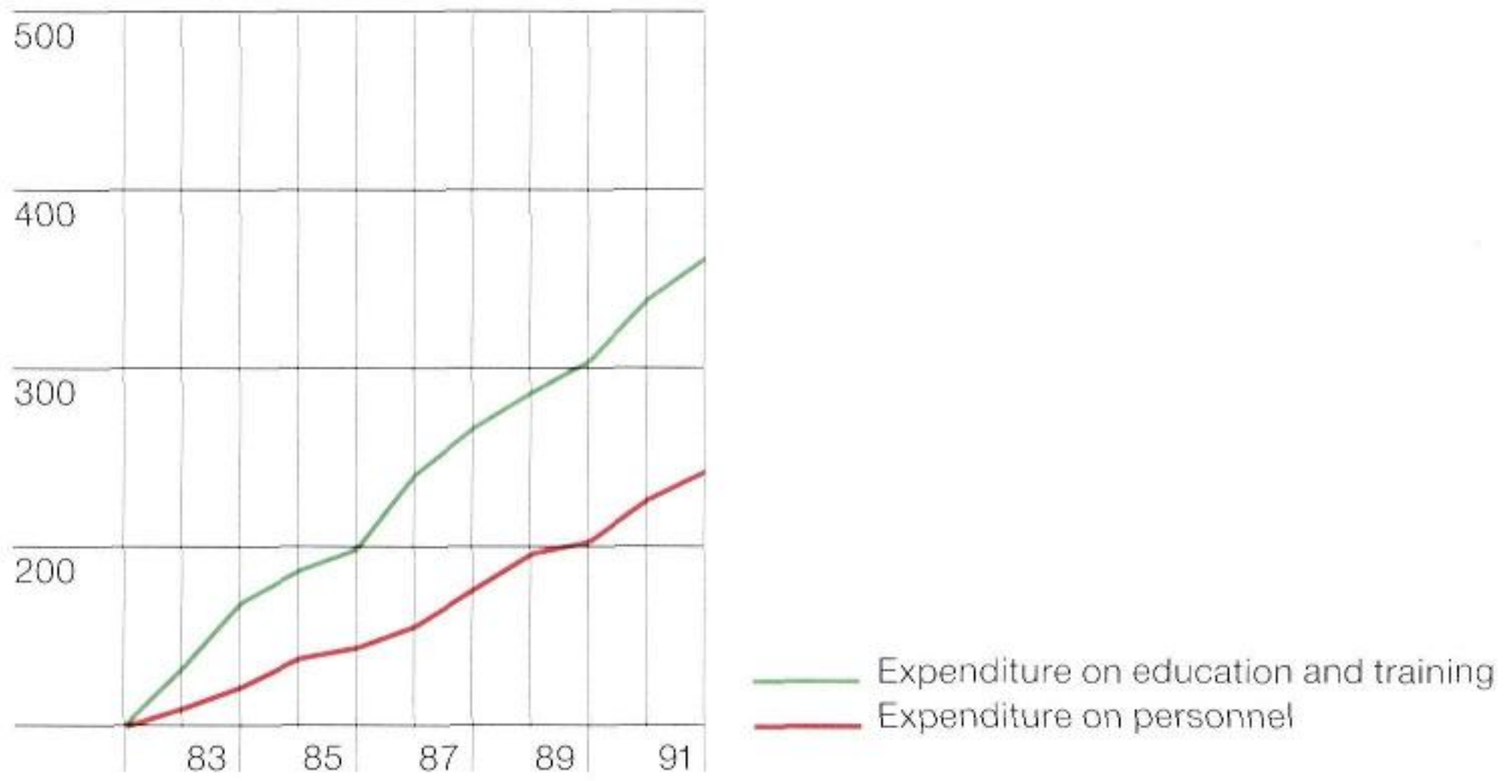
Several functions at different locations were grouped into single organizational units. This reorganization should further improve cost structures.

The increased flexibility and streamlining of the management structure, which began in the previous year, was continued throughout the Company. This helped to shorten reporting and decision-making processes.

Company proposal scheme developed further

The wider field of work enjoyed by employees enables them, more than ever before, to make proposals for improving products, processes and sequences. The company proposal scheme was reorganized so that these ideas can be accepted, assessed and put into practice as soon as possible.

Development of Expenditure on Education and Training and Expenditure on Personnel at BMW AG
Index: 1981 = 100



Priority was given to decentralizing sequences. The instruction of employees, and practical application of the proposals, is now mainly up to the relevant managerial staff. The new concept, and accompanying measures, resulted in about a fifty percent increase in the number of proposals submitted.

In 1991, the calculated savings for the entire period of the improvements increased by 38% to DM 60 million.

Company education and training improves knowledge and skills

The knowledge and skills of employees are developed constantly in order to safeguard permanently the special position of BMW products and services in the face of international competition. In 1991, the Company spent more than DM 130 million on appropriate schemes. This does not include the cost of releasing employees from their duties during training.

Suitable methods are used to impart basic and technical skills, and expert knowledge, to keep pace with demand. The education programmes are designed to fulfil both current requirements and long-term objectives.

Education and training schemes convey, in particular, new working methods and production processes. In the year under review, special attention was paid to customer orientation, quality and the Company's internationalization.

In addition to employees of the BMW companies and dealer organization, employees of suppliers were, for the first time, also able to take part in the BMW education and training programme. Sales partners in eastern Germany were helped with the elaboration of their own training programmes.

Company education and training begins with initial vocational training. In 1991, 3,100 young people took part worldwide. BMW invested a total of DM 76 million in initial training. Almost 1,000 young people began, and more than 900 completed, their training to become skilled employees in the year under review. In future, initial training will be geared even more than hitherto to the new forms and methods of work at the production plants.

By promoting trainees and students from technical colleges and universities, BMW offers young people a variety of opportunities to get to know the Company and gain their first work experience. Some 1,400 trainees took part in such schemes at BMW in the year under review.

The impact of the collective agreements

On April 1, 1991, a new collective agreement came into force for the metal industry. Wages and salaries were raised by 6.7% from June 1, 1991. When including the non-recurring payments of DM 290 each for the months of April and May, the increase for the one-year term of the agreement amounted to 7%. The high level concluded in this collective agreement increased the pressure on the Company to relocate labour-intensive production.

The collectively-agreed, regular working week was still 37 hours in the year under review. However, the 1990 collective agreement provides for a cut in the working week to 36 hours from April 1, 1993, and 35 hours from October 1, 1995. These agreements must be revised, as a matter of urgency, to take account of the great changes in economic tasks and conditions, as provided in the 1990 collective agreement.

BMW has taken full advantage of the opportunity to agree with 13% of the employees, who are subject to the terms of the collective agreement, on a longer regular working week. Thus, specially qualified and skilled manpower, of which there are shortages, may work longer hours.

A special chapter is devoted to systems of working hours at BMW from page 70.

At Top '91 in Düsseldorf, the first careers trade fair for women, BMW provided information on the many career opportunities in the Company.

High level of industrial safety
Industrial safety at all BMW plants has improved substantially in the last few years, despite far-reaching technical changes and many new employees. In 1991, the number of accidents decreased by a further 10%.

This pleasing development was largely the result of additional safety programmes, the training of employees and the direct involvement of managerial staff in the requirements of industrial safety.

Company health insurance scheme offers economical contribution rates
The company health insurance scheme, established on July 1, 1990, developed well in the year under review. By the end of the year, more than 50,000 BMW employees and retired employees were covered by the scheme. The range of voluntary preventive measures was further improved.

The contribution rate will again be 9.9% in the new year. Thus, employees are offered economical, comprehensive health insurance.

Workforce at End of Year	1991	1990
BMW Group	74,385	70,948
Foreign subsidiaries	9,580	9,335
Domestic subsidiaries	3,188	2,069
BMW AG	61,617	59,544
Head office and Munich plant	26,198	25,370
Dingolfing plant	18,718	19,770
Regensburg plant (incl. Wackersdorf plant)	7,317	5,785
Landshut plant	3,089	3,041
Motorcycle division	2,115	2,088
BMW retail outlets	4,180	3,490

Expenditure on personnel and additional benefits
Expenditure of the BMW Group on personnel was DM 5.8 billion in the year under review; that of BMW AG, DM 4.9 billion. The total 7% rise in collectively-agreed wages and salaries in the Federal Republic of Germany, and the growth of the workforce, largely contributed to this increase at BMW AG.

The proportion of additional expenditure on personnel in basic expenditure on personnel for work rendered sank in the year under review, mainly because of lower personnel provisions for special schemes.

In addition to monthly wages and salaries, employees received additional cash payments which go beyond the collectively-agreed amounts. These are linked to company profits or used for the financial savings plan. At BMW AG, these amounts came to some DM 475 million. Employees also received collectively-agreed vacation pay totalling DM 187 million. For those employees who had worked at BMW for some time, these cash payments equalled more than two additional monthly salaries.

To mark the occasion of the Company's 75th anniversary, employees received a single special payment totalling some DM 60 million.

Company social benefits for 7,700 retired employees and surviving dependents amounted to DM 32 million in 1991.

Property ownership was again encouraged by the extension of low-interest loans in the year under review. At the end of 1991, BMW was helping employees in the purchase of some 3,500 properties with loans totalling DM 65 million. However, this can help only to a limited extent to relieve the increasing financial burden on employees. This is due to the growing shortage of living space in the congested urban areas of Munich and Berlin.

In both individual and panel discussions, BMW employees provided insight into their working world. BMW has created conditions which enable it to take account of individual employment wishes.

The individual establishment of financial savings at company level, offered by BMW since 1974, was continued in 1991. As in previous years, employees were able to purchase, on favourable conditions, up to three BMW non-voting preference shares. The capital approved for this by the 1989 Annual General Meeting amounted to a nominal DM 15 million, of which a total of DM 9.4 million was used by the end of 1991. Demand continued to be high. Some 21,500 employees took advantage of this offer to participate directly in the Company's profits.

Structure of Expenditure on Personnel of BMW AG	1991 DM million	%[1]	1990 DM million	%[1]
Basic expenditure on personnel	**2,614.2**	**100.0**	**2,337.8**	**100.0**
Additional expenditure on personnel	**2,414.9**	**92.4**	**2,330.1**	**99.7**
Paid time off	**759.8**	**29.1**	**722.7**	**30.9**
Public holidays	148.8		138.6	
Vacation	398.3		390.3	
Sickness	133.0		127.9	
Other time off	79.7		65.9	
Additional cash payments	**732.4**	**28.0**	**721.5**	**30.9**
Annual bonuses	431.5		423.0	
Holiday pay	187.3		184.3	
Other direct payments	71.3		71.7	
Financial savings plan	42.3		42.5	
Social expenditure	**612.1**	**23.4**	**554.4**	**23.7**
Social security contributions	583.1		527.8	
Contributions to the employers' liability insurance association	29.0		26.6	
Old age pensions and benefits	**150.8**	**5.8**	**195.2**	**8.4**
Social services and facilities[2]	**106.3**	**4.0**	**89.2**	**3.8**
Expenditure on education and training incl. continued payment of wages and salaries[2]	**148.1**	**5.7**	**138.5**	**5.9**
Amounts included twice	**– 94.6**	**– 3.6**	**– 91.4**	**– 3.9**
Basic and additional expenditure on personnel	**5,029.1**	**192.4**	**4,667.9**	**199.7**
thereof other expenditure	86.4		73.1	
Expenditure on personnel	**4,942.7**		**4,594.8**	

[1]) of basic expenditure
[2]) incl. imputed depreciation for income-tax purposes and other imputed costs of materials

BMW cars and motorcycles at the new Munich Airport II at Erding

1 **316i**
1596 cc 73 kW (100 bhp)

2 **318i**
1796 cc 83 kW (113 bhp)

3 **320i**
1991 cc 110 kW (150 bhp)

4 **325td**
2498 cc 85 kW (115 bhp)

325i
2494 cc 141 kW (192 bhp)

5 **318is Coupé**
1796 cc 103 kW (140 bhp)

320i Coupé
1991 cc 110 kW (150 bhp)

6 **325i Coupé**
2494 cc 141 kW (192 bhp)

316i touring
1596 cc 73 kW (100 bhp)

7 **318i touring**
1796 cc 83 kW (113 bhp)

324td touring
2443 cc 85 kW (115 bhp)

325i touring
2494 cc 125 kW (170 bhp)

325iX touring
2494 cc 125 kW (170 bhp)

318i Convertible
1796 cc 83 kW (113 bhp)

8 **320i Convertible**
1991 cc 95 kW (129 bhp)

325i Convertible
2494 cc 125 kW (170 bhp)

9 **520i**
1991 cc 110 kW (150 bhp)

10 **525tds**
2498 cc 105 kW (143 bhp)

525i
2494 cc 141 kW (192 bhp)

525iX
2494 cc 141 kW (192 bhp)

535i
3430 cc 155 kW (211 bhp)

520i touring
1991 cc 110 kW (150 bhp)

525tds touring
2498 cc 105 kW (143 bhp)

11 **525i touring**
2494 cc 141 kW (192 bhp)

525iX touring
2494 cc 141 kW (192 bhp)

12 **M5**
3795 cc 250 kW (340 bhp)

13 **730i**
2986 cc 138 kW (188 bhp)

730i
2997 cc 160 kW (218 bhp)

14 **740i**
3982 cc 210 kW (286 bhp)

740iL
3982 cc 210 kW (286 bhp)

750i
4988 cc 220 kW (300 bhp)

15 **750iL**
4988 cc 220 kW (300 bhp)

16 **850i**
4988 cc 220 kW (300 bhp)

R 65*
650 cc 20 kW (27 bhp)

R 80, R 80 RT, R 80 GS
798 cc 37 kW (50 bhp)

R 100 GS
980 cc 44 kW (60 bhp)

17 **R 100 GS Paris–Dakar**
980 cc 44 kW (60 bhp)

18 **R 100 R, R 100 RT**
980 cc 44 kW (60 bhp)

K 75, K 75 S, K 75 RT
740 cc 55 kW (75 bhp)

K 100 RS
987 cc 74 kW (100 bhp)

19 **K 1100 LT**
1092 cc 74 kW (100 bhp)

20 **K 1**
987 cc 74 kW (100 bhp)

March 1992

* Federal Republic of Germany only


M ZD 8179
M TS 8597
M HH 8035
M RH 8327
M AU 8617
M NH 8603
M SW 8745
M RW 8837

Automobiles and Motorcycles

BMW AG
Munich
Munich plant
Dingolfing plant
Regensburg plant
Wackersdorf plant
Landshut plant
Berlin plant

BMW Fahrzeugtechnik GmbH
Eisenach

BMW Motoren Ges.m.b.H.
Steyr, Austria

BMW Motorrad GmbH + Co.
Munich

BMW Motorsport GmbH
Munich

BMW Technik GmbH
Munich

BMW Austria Ges.m.b.H.
Salzburg

BMW Belgium S.A./N.V.
Bornem

BMW France S.A.
Bois d'Arcy

BMW (GB) Ltd.
Bracknell

BMW Ibérica S.A.
Madrid

BMW Italia S.p.A.
Palazzolo di Sona

BMW Nederland B.V.
The Hague

BMW (Schweiz) AG
Dielsdorf

BMW Sverige AB
Stockholm

BMW Australia Ltd.
Melbourne

BMW Canada Inc.
Whitby

BMW Japan Corp.
Tokyo

BMW New Zealand Ltd.
Auckland

BMW of North America Inc.
Woodcliff Lake

BMW (South Africa) (Pty) Ltd.
Pretoria

March 1992

Aeronautical Engineering

BMW Rolls-Royce GmbH
Oberursel

Electronics

KONTRON Elektronik GmbH
Eching

Loewe Opta GmbH
Kronach

Sales Financing

BMW Bank GmbH
Munich

BMW Leasing GmbH
Munich

Sales financing companies in 9 foreign markets

Services

AXICON Mobilfunkdienste GmbH
Munich

Bavaria Insurance Co. Ltd.
Dublin

Bavaria Wirtschaftsagentur GmbH, Munich

softlab GmbH für System-entwicklung und EDV-Anwendung
Munich

The companies shown here, representing the Group's different fields of business, are predominantly wholly-owned BMW companies. BMW Sverige AB in Sweden joined the Group in May 1991.

At the beginning of 1992, BMW increased its interest in softlab GmbH für Systementwicklung und EDV-Anwendung from 40% to 75%. BMW holds a 50.5% share of the capital of BMW Rolls-Royce GmbH.

BMW has a minority interest in Loewe Opta GmbH.

The world market for automobiles declined in 1991. In Europe, BMW took advantage of the opportunities of the single market. The special development of the German economy safeguarded many jobs in the car industry. Once again, BMW developed well. Worldwide, 4,200 authorized dealers provided customer services.

The automobile market: Slowdown at a high level

In 1991, the automobile industry produced 34.7 million cars worldwide; a decline of about 4% compared with the two previous record years.

With the exception of the Federal Republic of Germany and Austria, demand for cars decreased on all major markets. Generally slack demand highlighted the structural problems which had resulted from increasing capacities in the last few years.

Europe: Supported by the German market

In Western Europe, the 13.5 million new car registrations reached the previous year's level. However, growth was recorded only in Germany. Despite increased burdens for car drivers, demand rose by almost 900,000 to 4.2 million cars. In contrast, there were major setbacks in Great Britain, France and Spain.

German makes improved their leading position in Europe. Their share of new registrations rose to about 39%. French and Italian manufacturers largely offset the decline on their domestic markets with increased exports. Together, they accounted for about one-third of the cars sold.

Japanese suppliers sold 1.7 million new cars in Western Europe, as many as 150,000 of which were made at plants in Great Britain and Spain. The share of Japanese cars rose to 13%. Korean manufacturers have stepped up their marketing activities.

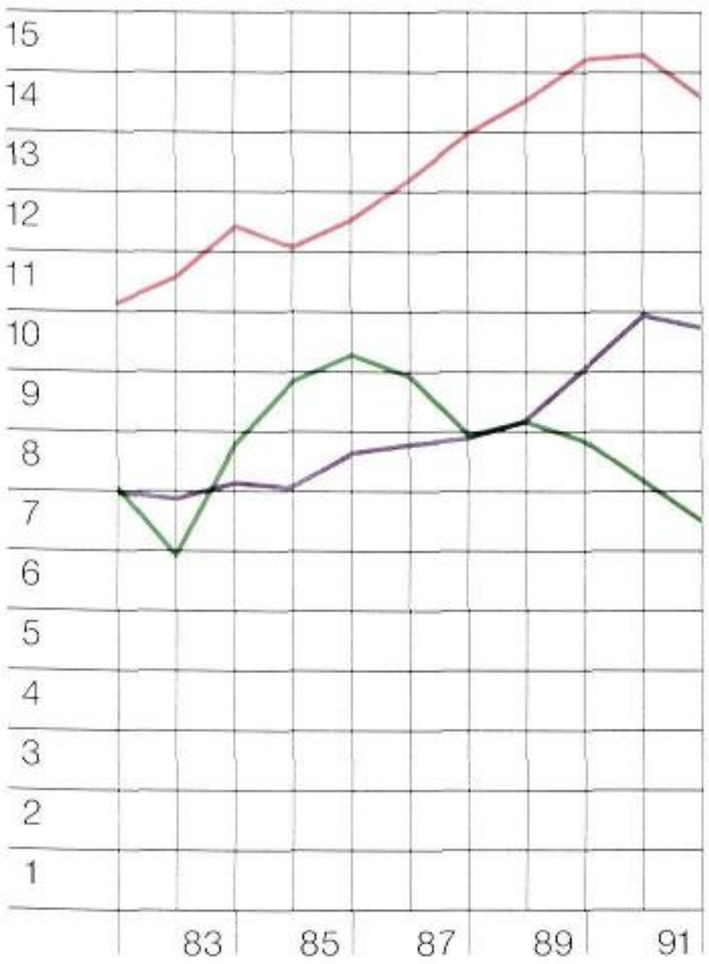
Almost 15% of customers chose a diesel-engined car; this corresponds to last year's figure for Europe. However, development varied considerably from one market to another, depending on differing taxes. Thus, in France the proportion of diesel-engined cars rose to 38% on year's average. In Italy it was only 6%, compared with about 25% in the mid-80s.

With 13.6 million units, car production in Western Europe was about 5% lower than in the previous year. Outside Germany, production sometimes had to be cut back noticeably, resulting in short-time working and temporary work closures. Only additional deliveries to the Federal Republic prevented further-reaching measures having to be taken.

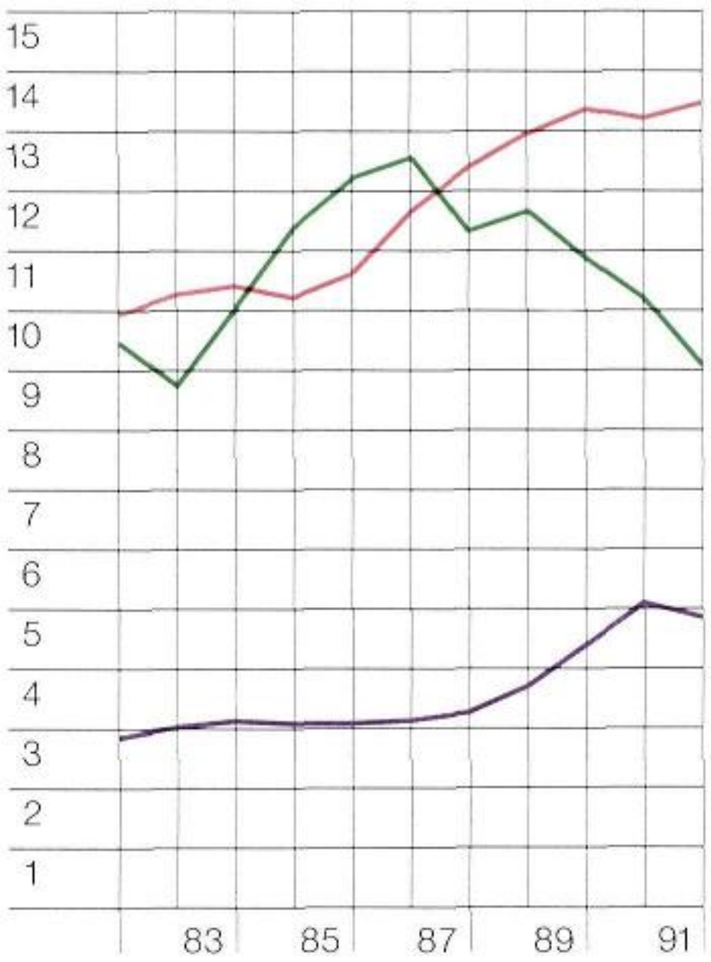
In Central and Eastern Europe, the automobile business was influenced by the economic upheaval. BMW sold about 2,500 cars in this region.

In the whole of Europe, registrations of new BMW cars rose to more than 420,000 units.

Automobile Production
in million units



Automobile Registrations
in million units



Exceptional year for the German automobile market

In Germany, some 4.2 million new cars were registered in the year under review; a 27% increase over 1990. Demand in the first full year of unification was more dynamic than previously had been thought possible.

Repeated criticism of the car obviously does not influence purchasing patterns. Indeed, in eastern Germany registrations soared from 200,000 to 730,000 new cars.

In the old federal states, 96% of all newly-registered petrol-driven cars were fitted with a controlled catalytic converter. The share of diesel-engined cars rose slightly to 13%. Coupés, convertibles and touring cars became increasingly popular.

While the number of cars in use in western Germany rose only slightly to 31.3 million, it increased by almost one-third to 6.3 million cars in the eastern part of Germany. In this region, with about 400 cars per 1,000 inhabitants, traffic density was only about 20% less than in western Germany.

For the first time, foreign manufacturers sold more than 1 million new cars in the whole of the Federal Republic; their market share rising to 35%. In the eastern part of the country, every second newly-registered car was imported.

In the first half of the year, in particular, west German manufacturers offset the decline in exports with additional sales on the domestic market. The year's output of 4.7 million cars was as high as in the previous year. German car manufacturers produced a further 1.6 million cars abroad for cost reasons.

Car exports decreased by 16% to 2.2 million. The 47% share of exports was the lowest for 30 years.

In Germany, registrations of new BMW cars increased by 20% to 232,000 units, 9,400 of which were delivered in the new federal states.

Downturn on the US car market continued

In the USA, the continuing weak economy made car sales decline by 12% to 8.2 million units. Only some 60% of buyers chose a model from the traditional US manufacturers; their domestic output decreased by 14% to 4.2 million cars and thus achieved only the level of 1958.

In 1991, Japanese manufacturers had to cope with decreases on the US market for the first time for four years. Nevertheless, with 2.6 million new registrations, their market share rose to 32%. Half of these cars were assembled in North America, using parts largely of Japanese origin.

In the USA, total car output decreased by 10% to 5.4 million. The US share of worldwide car output was 16%; in the mid-80s it was still about 25%.

The sale of German cars, in particular, was hampered not only by generally weak demand but also by a special tax. Sales declined by 27% to 221,000 units; corresponding to a market share of 2.7%.

With a 16% decrease to 53,000 cars, BMW did relatively well compared with its European competitors.

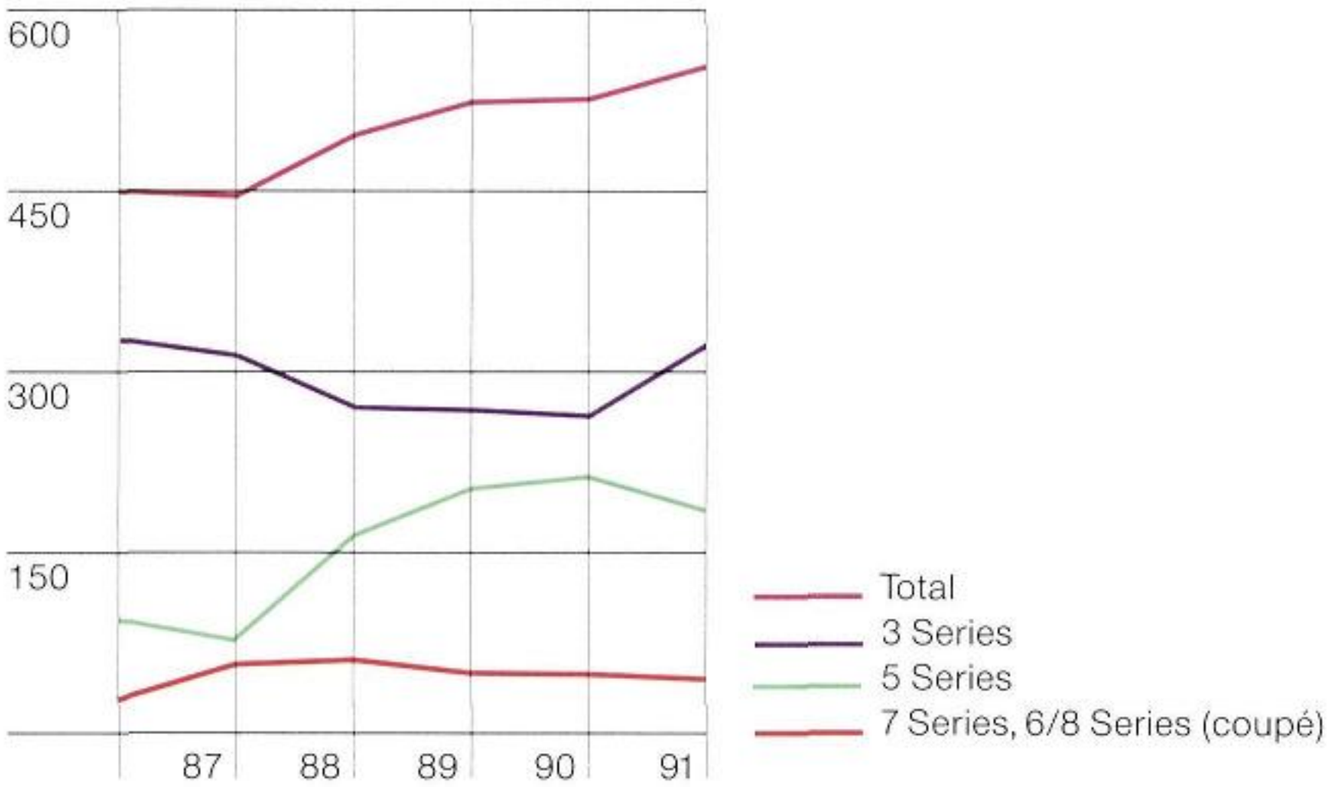
Japan also faced with weak demand

In Japan, demand for cars settled down after the previous record year. In 1991, registrations declined by 5% to 4.9 million units.

Sales of imported cars actually decreased by 11% to fewer than 200,000 units; their market share was just 4%. 60% of all foreign cars were German. After ten years of steady growth, BMW recorded a slight decline in registrations to 33,800 cars.

Output in Japan had to be cut back to 9.8 million cars, mainly because of flagging domestic demand. Exports remained almost at the previous year's level.

Automobile Sales of the BMW Group
in thousand units



Total	**444.6**	**495.8**	**523.0**	**525.9**	**552.7**
3 Series	311.5	272.2	270.5	265.4	324.1
5 Series	76.3	162.7	202.3	211.6	183.7
7 Series, 6/8 Series (coupé)	56.8	60.9	50.2	48.9	44.9

Foreign markets are supplied increasingly by Japanese assembly plants established in those markets. Once again, since these additional capacities abroad were not balanced by a corresponding reduction in Japan, international competition became even fiercer.

Every third car produced worldwide was Japanese in the year under review. In contrast, only every seventh car was registered in Japan. This imbalance is one of the major reasons for the upheavals in world trade.

Middle East, Southeast Asia, black Africa and South America

In the Middle East, the car market quickly recovered after the Gulf war. BMW sold 3,400 cars, almost as many as the previous year.

After several years of marked growth, demand settled in the car markets of Southeast Asia. Here, changes in tax and customs regulations, and exchange losses of the currencies pegged to the US dollar, hampered sales of imported cars in particular. BMW sold 12,200 cars in this region, compared with 13,900 in the previous year.

South America and black Africa remained largely inaccessible to expensive cars because of the difficult economic situation and large variety of import restrictions. BMW sold a total of 2,700 cars in these two regions.

Outlook for 1992

Worldwide, the automobile business remained weak at the beginning of the new year. The declining registrations of 1991 were followed, in most countries, by stagnation at a lower level.

In Germany, the stimuli from the unification process dwindled by mid-1991. Instead, the associated burdens became increasingly noticeable. This also resulted in a marked slowdown in the car business.

Since the world economy still has not recovered as expected, the car markets of Western Europe and North America are unlikely to pick up for the time being. In the USA, the market dropped to such a low level that only increasing replacement requirements can prevent further decline. Japan's car market is expected to be largely stable.

BMW car sales rose again

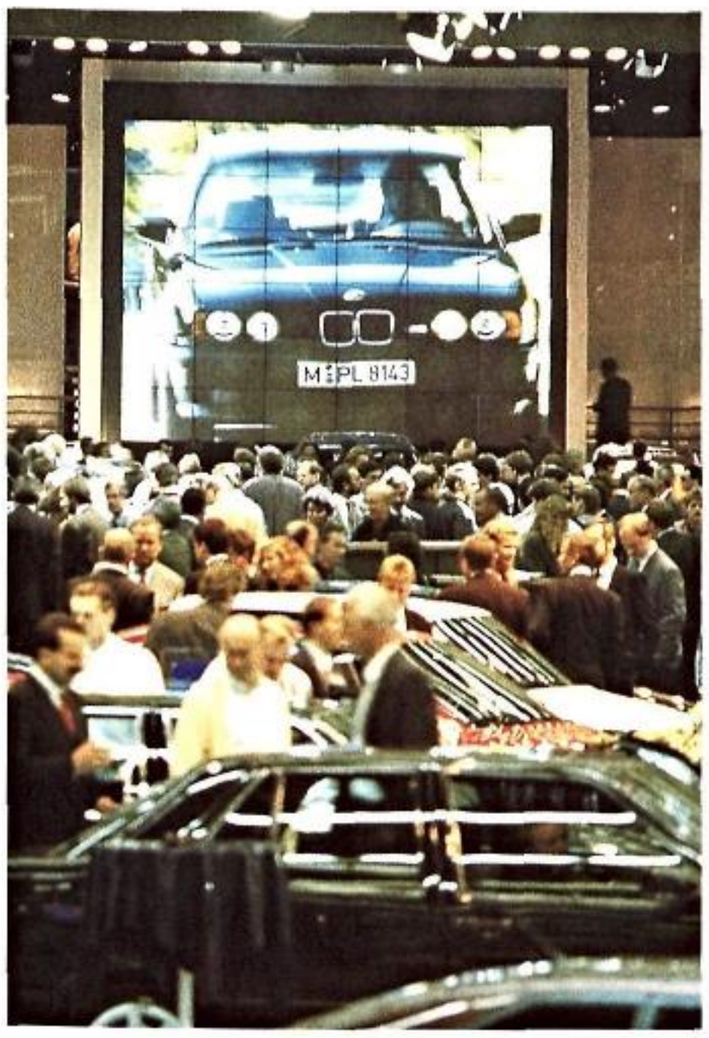
In 1991, BMW delivered 552,000 new cars to customers; 7% more than in the previous year. Its world market share thus rose to 1.6%. In the top market segment, every tenth car registered worldwide was a BMW.

The number of new cars held by the dealers generally remained at the low level of previous years. Flexible logistical systems continued to ensure that the markets were supplied.

Registrations of 3 Series cars rose by 26% to some 325,000 units. Thus, in the year of the model change-over, more 3 Series cars were sold than ever before. The four-door saloons were introduced during the course of the year: the two-door coupé versions followed from the beginning of 1992.

Demand remained very strong for the Convertibles and touring versions of the previous 3 Series; they are continuing in the 1992 range of cars.

Sales of 184,000 cars of the BMW 5 Series did not achieve the record level of the previous year; nevertheless, they indicate, once again, the sustained market success of these cars. Some 750,000 of these models have been produced within four years, exceeding the number of predecessor models during each of their eight-year cycles.



The interest in, and pleasure derived from, cars is particularly evident at major motor shows. For BMW, events such as the 1991 International Motor Show in Frankfurt am Main also provide a platform for presenting trendsetting traffic systems, alternative drive concepts, and the possibilities of re-using raw materials.

Touring cars, four-wheel drive and a new diesel engine were added to the range of 5 Series models from autumn 1991.

The 7 Series has maintained its competitive position, as an elegant and dynamic saloon in the top market segment. Worldwide, registrations decreased to 34,000 cars due to the deterioration in the economic climate, in particular on the three most important foreign markets for BMW, the USA, Japan and Great Britain.

In the second half of the year, sales of large BMW saloons consolidated again. In Germany, they even achieved the previous year's high level during 1991. The new 8-cylinder models of the 7 Series are expected to further stimulate demand.

A very large number of 8 Series coupés, namely 9,000, was both produced and sold. Like the 750i/iL, this BMW belongs to a very small group of cars fitted with a 12-cylinder engine.

BMW sales organization expanded worldwide

BMW is represented by its own marketing companies in 16 countries. More than 90% of all BMW cars were sold in these markets in the year under review. The development of the individual markets is described on pages 38 to 40.

In some 100 countries, independent importers sell and service BMW products. The same high standards of quality apply to these partners as to BMW's own companies.

In Thailand, Malaysia, Indonesia and Uruguay, BMW cars are assembled by local partners because the import of complete cars is either not permitted or is heavily taxed. The component kits supplied from Germany are completed by locally-purchased components. BMW has its own car assembly plant in South Africa.

New sales centres in Japan and Australia, additional sales outlets and other facilities for the customer and parts service improve the efficiency of sales and service. BMW invested about DM 300 million in the sales infrastructure in the year under review.

Company and dealer organization introduce new discount system

Business relations between BMW and the independent, predominantly medium-sized, authorized dealers throughout the world are based on a discount system which hitherto comprised a basic discount and bonuses depending on the quantities sold, as is usual in the automobile industry.

With the new system, BMW aims to further improve the quality of the customer service. Therefore, investments in the market and businesses, and in particular the satisfaction of the customers with the services provided by the authorized dealers, are taken into account in the dealers' margin.

The new system was adapted to the requirements of individual markets. Its introduction began in the year under review and is expected to have been completed in all important countries by the end of 1992.

The new BMW sales outlet in Nuremberg.

Europe

Belgium

Demand on the Belgian car market steadied after seven years of continual growth. The traditionally high proportion of diesel-engined cars decreased slightly to 30%. Japanese and Italian makes increased market shares due to the limited supply possibilities of German manufacturers. BMW Belgium S.A./N.V. increased its sales to a new record level in a slightly declining market segment. Registrations of 3 Series models rose by half; with almost 1,000 cars, sales of 7 and 8 Series models achieved a new high level.

Germany

In 1991, more than 3.4 million new cars were registered in the former Federal Republic. In eastern Germany, sales rose to 730,000 cars; there, every second new car was a foreign make. BMW registrations increased to a new record level. In western Germany, the market share rose to 6.5%. Sales of 3 Series models were extremely satisfactory, growing by 36% to some 120,000 units. Registrations of 5 and 7 Series cars continued on a high level.

Automobile registrations in 1991						
	Total market	462,100	– 2%	Total market	4,158,700	+ 27%
	BMW	12,800	+ 15%	BMW	231,900	+ 20%

Netherlands

The Dutch market has stagnated at half a million cars for four years. The continuing discussion about further taxes and charges for cars, and restrictions on their use, have not yet had a permanent impact on buying behaviour. BMW Nederland B.V. recorded a marked increase in car sales; this was due to the new 3 Series, registrations of which rose by more than 70%. As a whole, demand for 7 and 8 Series cars was as high as in the previous year.

Austria

The upward trend on the Austrian car market continued for the fourth successive year. For the first time, more than 300,000 new cars were registered; and, for the first time, BMW Austria Ges.m.b.H. sold more than 10,000 cars. The announcement of a registration tax from the beginning of 1992, raising noticeably the price of medium-sized and large cars, made people bring forward purchases in this segment. In addition to the expected high demand for 3 Series models, the development of business with 7 and 8 Series cars, which together grew by 24%, was particularly satisfactory.

Automobile registrations in 1991						
	Total market	490,400	– 2%	Total market	303,700	+ 5%
	BMW	12,000	+ 25%	BMW	10,700	+ 20%

Part of the showroom of BMW Sverige AB in Solna, Stockholm: BMW has been represented by its own sales company in Sweden since May 1991.

France

The sluggishness of the French economy also made demand for cars decrease markedly; this affected French makes in particular. Nevertheless, more than 2 million new cars were registered for the fifth successive year. The upturn in the market for diesel-engined cars continued unabated; accounting for a 40% share in the last few months of the year. BMW France S.A. achieved almost the same high level of registrations as in the previous year. Demand was very strong for the new diesel models of the 3 and 5 Series, introduced at the end of 1991.

Total market	2,031,300	– 12%
BMW	29,000	– 2%

Great Britain

In Great Britain, the car market was again influenced by a severe recession. In 1991, demand decreased by some 400,000 cars and was thus down to the level at the beginning of the 1980s. Changes in the taxation of company cars also changed the structure of the market; the top market segment declining by more than the average. In relative terms, BMW (GB) Ltd. coped best in its competitive field. Indeed, sales actually showed marked growth rates in the last quarter, mainly due to the new 3 Series.

Total market	1,592,300	– 21%
BMW	38,700	– 10%

Italy

in 1991, Italy was again Europe's second-largest car market. Numerous new models in particular, helped to stimulate the continuing high demand. For the first time, more than 50% of all newly-registered cars were imported. BMW Italia S.p.A. continued to develop well; achieving its highest-ever number of registrations. Demand for the new 3 Series car is very brisk in Italy; sales soaring by more than two-thirds to 20,000 cars.

Total market	2,340,200	0%
BMW	33,100	+ 17%

Sweden

In Sweden, the crisis of the welfare state was accompanied by marked economic weakness. Car sales have dropped by almost half since 1988. In order to further safeguard the supply of this market with cars, parts and services, BMW took over the business of its former importer. It is being continued as BMW Sverige AB. The network of dealers, currently comprising about 45 businesses, is being expanded. When the economy returns to normal, the Swedish market promises to offer far greater sales potential for BMW than in 1991.

Total market	188,300	– 18%
BMW	2,300	– 45%

Switzerland

in Switzerland, a declining Gross National Product and an usually high rate of inflation, of about 6%, made the sale of cars more difficult in 1991. However, more than 300,000 newly-registered cars was still a good number for this country. BMW (Schweiz) AG benefitted from the introduction of new models. More than 60% of the 3 Series cars were of the 6-cylinder models. With about 400 units, the large 850i coupés accounted for a high proportion of the BMWs sold. The market share rose to 3.8%.

Total market	312,000	– 4%
BMW	11,900	+ 5%

Spain

Further measures by the Spanish government to curb the sharp rise in borrowing contributed to the renewed decline of the car market. The reduction of value added tax by 5%, announced for 1992, increased general purchase restraint towards the end of the year. The cars produced in Spain were affected most. BMW Ibérica S.A. further consolidated its good competitive position with expensive cars. In 1991, all models in the BMW range achieved marked growth rates in Spain.

Total market	844,000	– 10%
BMW	13,900	+ 25%

The new import centre of BMW Australia Ltd. is in Mulgrave, a district of Melbourne. The building was opened at the end of 1991.

Overseas

Australia

After three years of growth, demand for cars decreased considerably in Australia. This was due to a severe recession and a restrictive economic policy. Sales of expensive imported cars dropped by as much as one-quarter, to some 30,000 units, because of special tax burdens. BMW Australia Ltd. continued to develop its leading position among European manufacturers; BMW registrations rose to the third-highest level achieved on this market so far.

Total market	388,300	– 16%
BMW	4,200	+ 5%

Japan

After three years of dynamic growth, demand generally steadied on the Japanese car market. In contrast, sales of cars with engines larger than two litres rose to 660,000 units due to the new models of Japanese manufacturers. As the new 3 Series models became increasingly available, BMW Japan Corp. was able to overcome the weaker demand for foreign cars. With 12,600 units, sales of 5 Series cars remained high.

Total market	4,868,200	– 5%
BMW	33,800	– 7%

Canada

The decline of the Canadian economy continued in 1991; this was partly due to the comparatively high value of the Canadian dollar. After a marked fall in the previous year, the car market stagnated at a low level. Despite difficult conditions, BMW Canada Inc. improved its level of registrations and thus stood out clearly from its traditional competitors. The new models of the 3 Series strengthened BMW's market position; sales of 5 Series cars exceeded the previous year's figure.

Total market	871,900	– 1%
BMW	4,300	+ 8%

New Zealand

New Zealand's economic downturn continued in 1991. In particular, exports decreased of agricultural produce to the Middle East. With the exception of privately-imported used cars from Asian countries, the automobile market shrank by one-quarter. Despite continuing declining sales, BMW New Zealand Ltd. remained the leading importer in the upper market segment.

Total market	55,600	– 25%
BMW	460	– 17%

South Africa

In 1991, South Africa's economy was influenced by social and political change. High inflation and interest rates, and a lack of investment confidence, took the country into a severe recession. Car sales were only half as high as in 1981 when demand last peaked. Business at BMW (South Africa) (Pty) Ltd. was influenced by the model change-over in the 3 Series. The company achieved a high market share of 7.8%; in the upper market segment, every third newly-registered car was a BMW.

Total market	197,700	– 6%
BMW	15,400	– 14%

USA

The economic recession in the USA further accelerated the downswing on the automobile market. German makes, in particular, were affected additionally by the introduction of a luxury tax at the beginning of the year. BMW of North America Inc. increased sales of cars below 30,000 US dollars. However, sales of the higher-priced 535i and 7 Series cars fell substantially as a result of the new tax. The new models of the 3 Series were received very positively by both dealers and customers.

Total market	8,176,300	– 12%
BMW	53,300	– 16%

Individual customer service
Some 25,000 employees provide customer services at the 4,200 BMW authorized dealers worldwide. Top quality and comprehensive services are essential for lasting market success.

BMW's sales companies have extensive experience of their respective markets. In addition, surveys regularly examine customers' expectations. The findings are integrated into new training and upgrading measures. As a further incentive, a competition was held, in 1991, for BMW service staff in 30 countries.

With the BMW Service Card, customers all over Europe and North America are offered additional services, such as breakdown assistance, car hire and overnight accommodation. Other overseas markets have their own arrangements for these services.

In 1991, the authorized dealers again invested substantial amounts in the equipment of their workshops in order to be able to service BMW cars, with their highly sophisticated technology, both rationally and precisely. For example, the dealers had to purchase new service equipment for air-conditioning which now works with environment-friendly coolants without chlorofluorocarbons (CFCs).

The BMW sales organization offers comprehensive services for the purchase, financing and running of cars and motorcycles. They aim to satisfy permanently the increased wish of customers to save time and to remain mobile.

Efficiency of the supply systems for parts and accessories increased
The markets are supplied flexibly and quickly with Genuine BMW Parts and Accessories with worldwide logistical systems. These were expanded and improved in the year under review.

In Europe, investments continued to be made in a new network of supra-regional supply centres. Thus, full advantage can be taken of easier cross-frontier traffic, due to European integration, for supplying the markets with parts.

BMW developed a computer-assisted information system for employees responsible for the supply of parts in the dealer organization. Since the beginning of 1992, this system has gradually been introduced in place of the usual microfilm catalogues. The new system has considerable advantages when updating the growing stock of data. The range of Genuine BMW Parts and Accessories now comprises some 100,000 items.

The company-wide programme to recycle materials includes the packaging, for delivery, of parts and accessories. As much as 90% of all packaging for transport, storage and the ultimate consumer was made of recycled materials in the year under review. Particularly environment-friendly processes in this field involve an increasing amount of work and corresponding additional costs for the Company.

Before the new German Regulations on Packaging came into force on December 1, 1991, BMW had already created essential conditions for the return, sorting according to materials, and re-use of packaging. Substantial investments are also required for this in the dealer organization.

Since the possibilities of new packaging materials have been largely exhausted, further progress can be achieved primarily by avoiding or re-using packaging.

Production in the BMW system of linked plants

In 1991, the output of BMW cars grew by 6% to 553,000 units. This increase was made possible by the expansion of the second shift at the Regensburg plant, more flexible systems of working hours, and special measures in bottleneck areas.

In order to improve the cost structures of the system of linked production plants, BMW established centralized supply divisions for engine and tool manufacture, the production of pressed, cast and plastic parts, and laboratory work.

Within the manufacturing sectors, groups of up to 30 employees worked largely independently and on their own responsibility. The individual skills of foremen and skilled employees can thus be combined more efficiently with the advantages of highly automated production.

Some employees are trained at several plants and at different workplaces. For example, some 700 employees were prepared at the Dingolfing plant for their future tasks at the Regensburg plant.

Work at car plants influenced by new models

BMW cars, motorcycles and engines are manufactured flexibly and efficiently in the BMW system of linked plants. The car plants had to cope with numerous model start-ups in the year under review.

At the Munich plant, the first half of the year was marked by the production start-up of the four-door models of the new 3 Series. From spring, daily output of 800 cars was as high as for the previous model. In the second half of the year, pre-series production began of the new 8-cylinder engines.

At the beginning of November, a new system of working hours was introduced; plant and machinery can now be used 8% longer than with the previous shift system.

At the Dingolfing plant, the touring and four-wheel models of the 5 Series were added to the production range. Some 230,000 cars were produced there, including the 7 Series and the large coupés. Body parts for 3 Series cars, and components for the entire range of BMW cars, were also manufactured there.

In 1991, the development phase of the third large BMW car plant in Regensburg came to an end. Daily output rose to some 600 cars; 130,000 3 Series cars were produced in the year under review.

Not only the saloons, but also the two-door coupé versions of this model were made there. The flexible design of the plant facilitated the start-up of the series at the end of 1991.

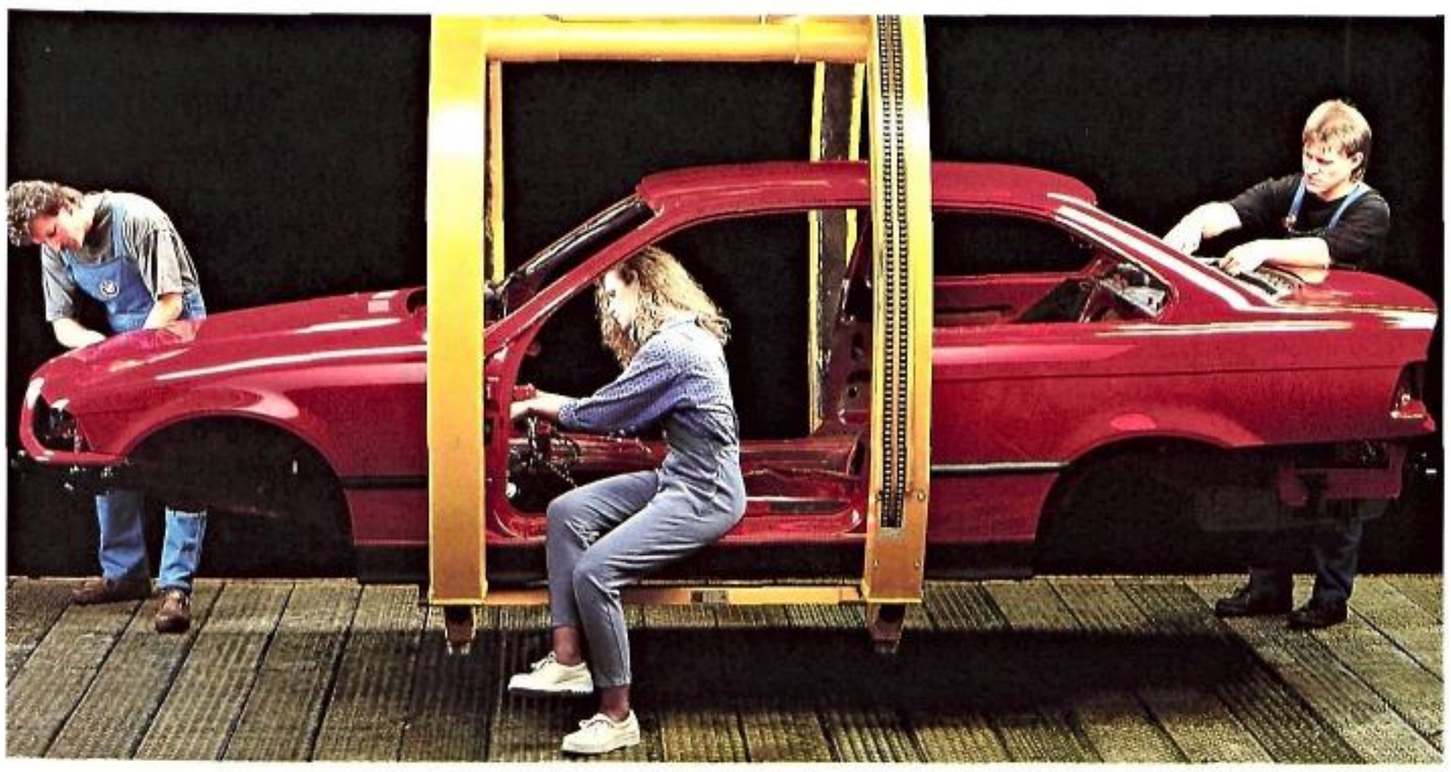
On the completion of the factory's own heating and power plant, both output and efficiency improved. The heat and power plant runs on environment-friendly natural gas.

The Wackersdorf plant, 50 km to the north of Regensburg, has produced the bodywork for the Convertibles of the previous 3 Series since autumn 1990. The plant started to produce bodywork components for the other car plants.

Efficient components plants

With some 3,100 employees, the Landshut plant reached its currently scheduled level of development at the end of 1991. The plant includes the manufacturing sectors of Mechanical Production, Foundry and Plastics, and a pilot plant for the dismantling of scrapped cars.

Each year, at the new foundry, some 20,000 tons of aluminium are made into cylinder heads, gearboxes and other top quality components. In the plastics sector, the production of intake systems makes particularly high demands on processing technology. Instrument panels and bumpers are also made here.



Assembly of the 3 Series coupé: Even in this field of production, growing numbers of employees no longer work according to rigid schedules, but in independent assembly groups with a high degree of self-responsibility.

The Berlin plant produces motorcycles, as well as brakes, chassis and engine parts for BMW cars.

The engine plant at Steyr, Austria, and the new plant for pressing tools near Eisenach, Thuringia, are organized as independent group companies. In South Africa, the BMW subsidiary runs the Company's only foreign car assembly plant.

Economical methods of disposing of materials left over from production

Since the 1970s, every technical possibility has been used to reduce both the emissions and the energy and material requirements of the BMW plants. The Company now has an efficient infrastructure, with disposal centres, which permits economical methods for the re-use or disposal of waste.

Materials left over from production, and packaging, are sorted on the conveyor belt, according to materials, and then recycled. In this way, more than 80% of the weight of all production waste can be re-used.

BMW works closely with recycling firms and dealers. Suppliers also increasingly take back parts and materials, which they have delivered, for re-use in their own production.

Waste which cannot be re-used is disposed of appropriately. In order to minimize waste, both development and production planning take account of the environmental compatibility of processes, materials, other supplies and operating fluids.

Extremely efficient logistics

The Company's success depends largely on whether the customers receive their cars and parts quickly and on time. Production, parts supply and delivery are thus planned, and controlled, in logistical chains that apply to all systems at all locations.

As a result of the increased linkage of simplified production and supply systems, all the information required at any given time can be provided in appropriate form. The improved exchange of data between order processing and parts control permits the largely simultaneous performance of work processes that used to be carried out consecutively.

"Just-in-time" deliveries of materials to the production plants have reduced the number of supply journeys for BMW. As a result of the improved organization of the entire supply chain, it was possible to plan transport routes optimally, increase the lorries' capacity utilization, and arrange for more goods to be transported by rail.

"Alpentransit" rail project launched for transport

For years BMW has used complete container trains to transport, overnight, parts and components from the BMW engine plant at Steyr, from the Ruhr district and from the Frankfurt am Main area, to the BMW plants in Bavaria. These consignments are so reliable that they can be integrated into "just-in-time" processes.

Since spring 1991, about 80% of the materials delivered from Northern Italy have been transported over the Alps by rail. This measure will replace 2,500 road journeys each year. On the return journey, the containers are used to transport parts and accessories destined for the Italian market.

In autumn, the "Alpentransit" by rail was extended to cars, in cooperation with Audi AG. This not only helps to reduce the volume of road traffic, but also shortens delivery times to customers.

Cooperation for car transport

The Company has also endeavoured, for some time, to increasingly transport cars by rail within Germany. However, negotiations with the railway on the provision of a shuttle train were not successful until BMW was able to ensure freight for the return journey by cooperating with a partner.

The first link of this kind was established mid-year. Since then, a train with some 200 BMW cars leaves the dispatch centre at Garching near Munich each day. Its destination is Nievenheim near Düsseldorf from

where the cars are taken by road to the dealers in the Rhine-Ruhr region and the Benelux countries. On the return journey, the train is loaded with Ford cars.

In view of frontier-free traffic in the EC, BMW is planning to use more car trains for the direct supply of the dealers throughout Europe. However, this plan is limited by chronically overloaded freight terminals, a shortage of fast rail links for freight, and inadequate coordination.

Need for transport services increasing

The development of freight transport by rail depends largely on the ability of the Federal German Railway, and the other European state railways, to act as entrepreneurs and make large-scale investments. BMW is interested in additional transport capacities.

The present road network will also fail to meet requirements in the foreseeable future. While the total volume of traffic in the Federal Republic rose by 30% in the 1980s, investments in road transport decreased by 30%.

A transport policy is urgently required that ensures the mobility of people and goods for the largest industrial country in the middle of Europe.

Division of labour with suppliers

The European car manufacturers employed some 1.3 million people in the year under review; when the suppliers, dealers and service industry are included, an estimated 10 million jobs are connected with the car.

The division of labour between manufacturers and suppliers has a long tradition. New products and techniques have been developed jointly for years. Today, the suppliers assume increasing responsibility for the function, quality and costs of systems ready for assembly. Thus, their importance for the quality of BMW products has increased.

Long-term contracts are concluded with the suppliers of the various systems at a very early stage of model development. These contracts enable the suppliers to plan ahead with certainty and create the conditions as partners for reliable cooperation.

This cooperation was further intensified in the year under review. For example, know-how on technical coordination, product quality, reliability and cost structures was exchanged during planning discussions, and joint procedures were agreed.

Once again, the efficiency of the entire production chain, from the purchase of raw materials to the delivery of cars, was improved as a result of the increased exchange of knowledge, and interlinked systems.

BMW Fahrzeugtechnik GmbH, Eisenach

The construction of the new plant for pressing tools, at Eisenach, was largely completed in 1991 and the first machines put into trial operation.

By the end of the year the company had some 150 employees. Most came from Thuringia, which has a long tradition of metal-working crafts. The employees were trained for their tasks at the BMW plants in Dingolfing and Munich. In addition, the training division of the Dingolfing plant supports the vocational training school in Eisenach with knowledge and materials.

BMW is investing some DM 120 million in the Eisenach plant within the present planned development. 210 workplaces are being created. There are plans for future expansion.

The plant will have all the facilities for the construction and production of tools; in addition, it will produce pressed parts in small batches. The company will also offer its services to non-BMW customers.

The plant was opened officially on March 10, 1992. Thus, after almost 50 years, BMW returned to one of its former production locations.

The BMW M3, the most successful car in touring car races of all time, was often first to cross the finishing line in 1991, as in previous years.

BMW Motoren Gesellschaft m.b.H., Steyr
In 1991, the BMW engine plant at Steyr started to produce a new 6-cylinder turbo-charged diesel engine with excellent characteristics in respect of smooth running, performance and exhaust emissions. The development centre for diesel engines is also located at Steyr.

The year's output rose by 6% to 335,000 engines; these included all BMW diesel engines, the 4-cylinder petrol engines and some of the larger petrol engines. At the end of 1991, BMW employed 2,140 people at Steyr.

As part of worldwide sales of BMW engines, the company concluded a contract with the Italian car manufacturer Bertone for the delivery of 50,000 4-cylinder petrol engines. Purchases of the BMW Group in Austria, amounting to DM 2 billion a year, are also arranged from Steyr.

Together with the marketing company for BMW cars and motorcycles in Salzburg, BMW Motoren Gesellschaft is among the ten largest industrial companies in Austria.

BMW Motorsport GmbH, Munich
The course of business at BMW Motorsport GmbH is determined by the development and production of the high-performance cars of the BMW M Series. In the autumn, a new division was established to meet individual customer wishes in addition to the existing BMW range of cars. The company also takes part in international motor sport, both with cars based on existing models and also as engine supplier. At the end of 1991, the company employed some 480 people.

In 1991, more than 3,000 M5 cars were delivered; a lot of the work on these cars is by hand. An updated version was presented at the beginning of the new year.

The 6-cylinder engine with four valves per cylinder, enlarged to 3.8 litres, gives the M5 outstanding performance. The car features both balanced handling and high-quality equipment.

Since 1987, the competition version of the M3, of which some 17,000 have been produced, has been used by BMW Motorsport GmbH, and by customer teams, for races throughout the world. The M3 has become the most successful touring car in motor sport.

The company sets great store by the encouragement of private racing drivers. Traditionally, this group of customers is actively supported by the BMW Sports Cup.

For 15 years, experienced instructors have provided drivers, in BMW's driver training courses, with the expertise and skills they need for a better command of the car, particularly in difficult or hazardous situations. The numbers of participants reflect the growing wish of drivers to invest not only in the safety of their cars but also in safe driving.

BMW Technik GmbH, Munich
BMW Technik GmbH is an independent development company for special tasks in car and transport technology. It complements the work of the other divisions of the Company with alternative and usually extremely future-oriented solutions.

Innovative components and concepts for cars are derived from technological, social and economic developments in the broader environment of the car, and presented as prototypes. The company is specially equipped for this purpose.

The 110 or so employees have at their disposal, among other things, a design studio, an acoustic wind tunnel, workshops and test stands.

In 1991, work focussed on the development of a concept car for electric propulsion, named the BMW E1, and a version for the US market, the BMW E2.

1991 was one of the best years in the near 70-year history of BMW motorcycles. All production capacities at the Berlin-Spandau plant were utilized; nearly 34,000 motorcycles being made there. With the anti-lock braking system and catalytic converter technology, BMW set motorcycle standards for others to follow.

Trend towards larger motorcycles continues

At 850,000 units, the motorcycle market in the western industrial nations was slightly up on the previous year. This was mainly due to stronger demand for machines of more than 500 cc. Almost 60% of purchasers chose a motorcycle in this segment.

The three largest single markets, the USA, Germany and Italy, developed better than expected.

In Germany, new registrations rose by about 30% to 126,000 units, thus approaching the levels achieved during the last boom in motorcycle demand at the beginning of the 1980s.

BMW motorcycles in demand worldwide

BMW benefitted fully from the growth in demand for large machines. New registrations rose by 2% to 31,900 units. Throughout the world, there are now about half a million BMW motorcycles on the road.

In Germany, 11,200 new BMW motorcycles were registered; 17% more than the previous year. Intensive training and structural improvements strengthened the dealer organization. In eastern Germany this was expanded to 22 authorized dealers.

With a rise in sales to 3,500 units, the USA was once again the largest foreign market for BMW motorcycles.

Sales to authorities were as high as in the previous year; once again, some 4,500 motorcycles being delivered in more than 40 countries. First sales transactions were concluded on the emerging markets of Eastern Europe.

The capacities of the Berlin motorcycle plant were fully utilized. Total output increased by 8% to 33,980 units. Sales from motorcycles and accessories rose by 10% to some DM 550 million.

New models introduced

Demand was particularly lively for the updated Enduro models, R 80 GS and R 100 GS, which accounted for about one-quarter of the motorcycles sold. The new K 75 RT was also a market success.

In autumn 1991, BMW presented the R 100 R, the classic road version of the Enduro motorcycle R 100 GS. The K 100 LT was replaced by the K 1100 LT. At 1,092 cc, this is the largest-engined motorcycle ever produced by BMW.

Environmental protection and safety

BMW has developed technologies to reduce emissions for all motorcycles, although not forced to do so by law.

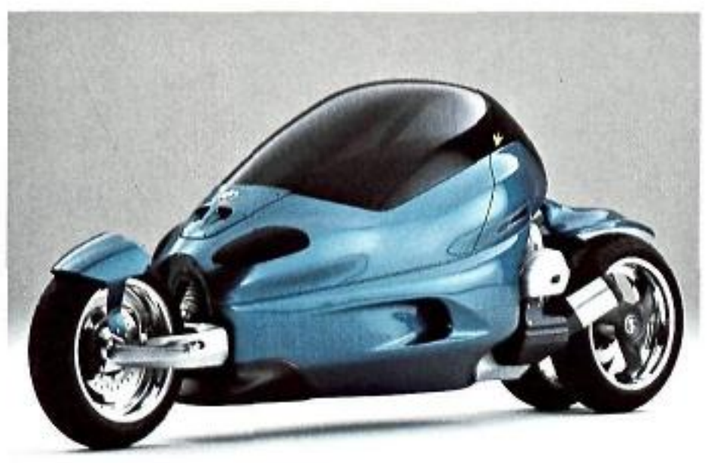
From spring 1991, BMW became the world's first, and so far only, manufacturer to offer a controlled three-way catalytic converter. It is fitted in all K 100 models with four-valve engines. K 75 models have been available with uncontrolled catalytic converters since the autumn; older K models can also be fitted with an uncontrolled "cat".

A secondary air system has been available for motorcycles with flat twin engines since autumn 1990. This system reduces emissions by afterburning.

The markets are continuing to show increasing interest in the anti-lock braking system, first introduced by BMW in the K 100 models in 1988. 80% of the purchasers of K 100, and more than half the purchasers of K 75 models, ordered this important safety system in the year under review.

Motorcycling continues to be an extremely popular leisure-time activity. This is evident from the recent strong rise in the number of new motorcycle licence-holders in Germany. Considering these positive signs, and supported by two new models, BMW expects business to continue to develop well.

The two new BMW motorcycles, the R 100 R (left) and the K 1100 LT (below), are timeless classics with the latest technology.



A study from the exhibition "Time Horizon", in the BMW Museum, shows what the motorcycle of the future could look like. The rider cab tilts up to 45 degrees sideways when cornering.

Aeronautical Engineering, Electronics, Sales Financing, Services

New products and services extend the Company's field of operation. BMW now offers mobile telephone services. In 1991, worldwide financing activities were reorganized "under one roof".

BMW Rolls-Royce GmbH, Oberursel
The development of the company, founded together with Rolls-Royce plc., London, in 1990, continued on schedule in the year under review. At the Oberursel plant, near Frankfurt am Main, the production range, which has concentrated on small gas turbines so far, was extended to include high-quality components for large civil aircraft engines.

Development is focusing on a new family of engines for civil aircraft with the designation BR 700. The basic engine was presented at the end of March 1991. Different versions, developing between 10,000 and 22,000 pounds thrust, will be derived from this engine by the mid-1990s. They will be far quieter and more economical, and have lower levels of exhaust emissions, than comparable engines of this category currently in use.

The new engines are suitable for executive and short-haul aircraft with up to 130 seats. The development of new aircraft, and expected stricter regulations on noise and exhaust emissions, suggest that initial and replacement demand will rise in this segment of the market.

By the end of the year, the company had 1,150 employees.

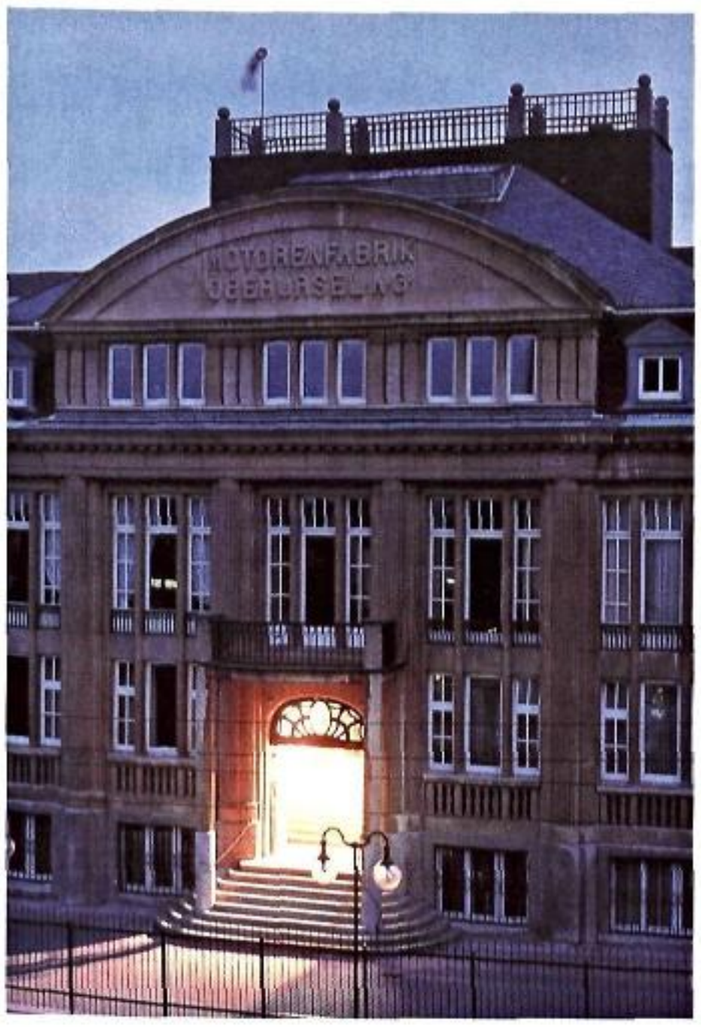
KONTRON Elektronik GmbH, Eching
The company develops, produces and sells high-quality electronics systems for industrial, technical and scientific requirements. It focuses in particular on industrial computers, measuring technology, image processing for medical technology and materials analysis.

The restructuring of the entire company was continued to take account of keener competition in the market segments of relevance to KONTRON. The range was further streamlined, and the sales organization and central divisions were adjusted accordingly.

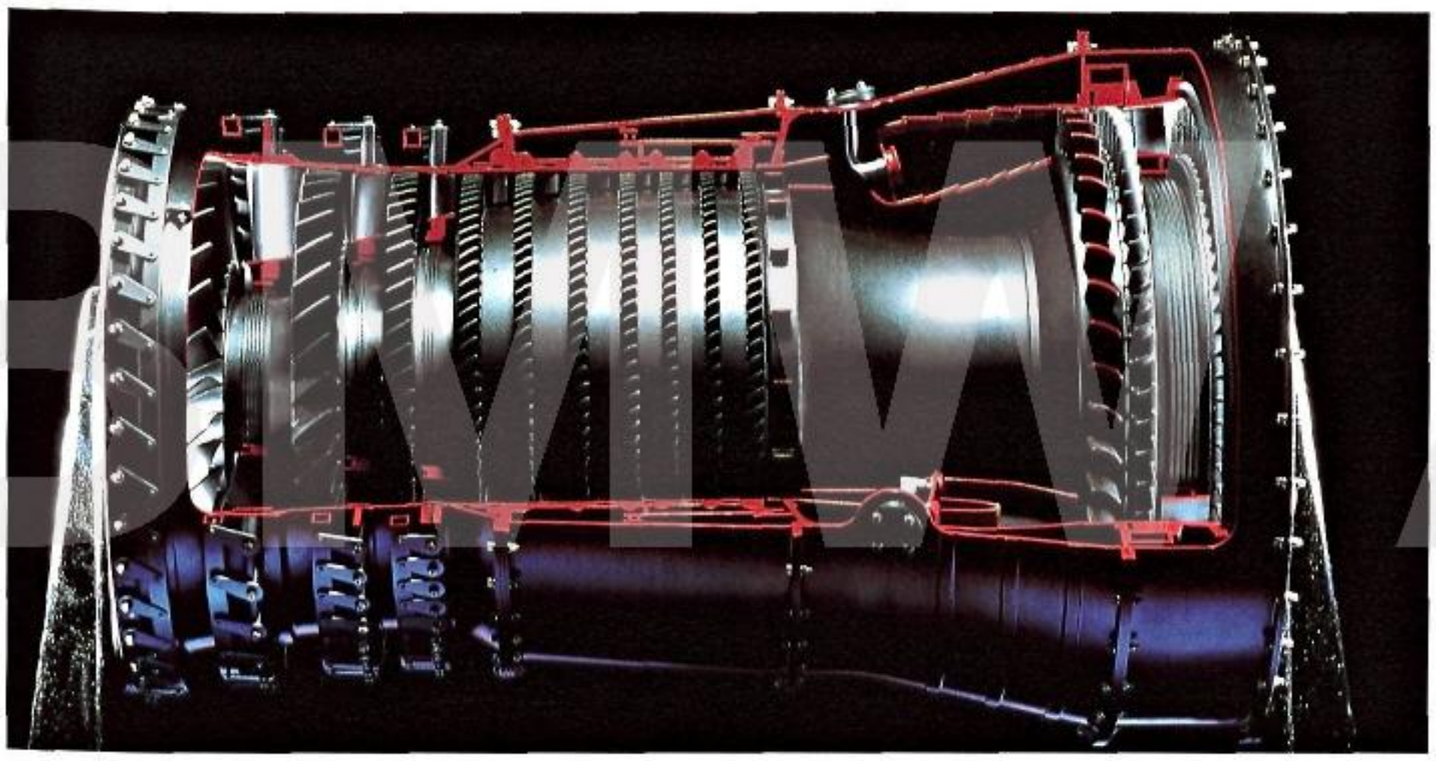
Production costs in a high-wage country such as Germany present a challenge for the manufacturers of special electronics products. Structural measures in this field are continuing on schedule.

By the end of 1991, the company employed about 900 people, compared with 1,100 in the previous year.

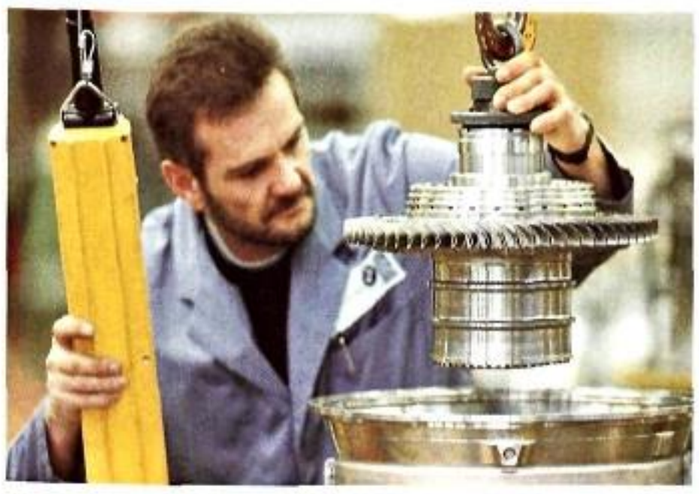
AXICON Mobilfunkdienste GmbH, Munich
The company started business in spring 1991. It will offer mobile telephone services in the new digital networks D1 and D2 in Germany. Services include the transmission of conversations and data, as well as additional services, such as information and secretarial services.



BMW Rolls-Royce GmbH is based in the former engine factory, founded in 1982, in Oberursel near Frankfurt am Main.



In 1991, at international air shows, such as at Le Bourget near Paris, the young company with its long tradition presented the state of the art in a new family of aircraft engines.



Small gas turbines are developed, produced and serviced at Oberursel.

The range also includes mobile telephones and accessories. The company has a 24-hour customer service.

First, in April, the sales organization was established for large customers in the C network. At the end of the year AXICON took over the supply to the BMW dealer organization of mobile telephones and accessories.

Authorized BMW dealers, the new company's most important sales partners, advise the customers, and install and service the equipment.

Trial operation has meanwhile begun in the D networks. For customers, digital telephone communications will start during the first half of 1992. AXICON has already made all the necessary preparations. By the end of 1991, the company had some 60 employees.

Sales financing

Cars and motorcycles are financed increasingly by loans or leasing. In 14 countries BMW offers, through subsidiaries and associated companies, and through cooperation with banks, financing services which are tailored to the individual requirements of customers and dealers.

This field of business has recorded high growth in the last few years. At present, it accounts for about 30% of the BMW Group's balance sheet total. Further growth is expected. The single European market, and the opening of the countries of Eastern Europe, will bring increased opportunities.

From August 1, 1991, the Company's worldwide capacities in the financing services were rearranged into an independent organizational unit. They can now operate more efficiently and more flexibly both in Germany and abroad. This financing unit has the task of consolidating BMW's market position by providing further services.

With this form of organization, the financing unit can also serve BMW companies which are not directly involved in the car and motorcycle business, such as BMW Rolls-Royce GmbH or AXICON Mobilfunkdienste GmbH.

In Germany, the BMW Bank GmbH and BMW Leasing GmbH have extended their range of services. Different cars, or cars and motorcycles, can now be used in turn within the framework of a single leasing contract. In Germany, branch offices will bring the companies closer to the customers and dealers.

BMW Austria Bank Ges.m.b.H. was founded mid-year as part of the further development of this field of business. This wholly-owned BMW company is based in Salzburg.

In 1991, some 300,000 contracts were concluded for financing new and used cars and motorcycles worldwide, with a total volume of DM 9 billion. This is an increase of 18%. Customer financing accounted for 47%, and dealer financing for 53% of these contracts.

About 20% of all BMW customers financed their new cars and motorcycles through the BMW financing companies in 1991. Customers made more or less equal use of leasing and of loan programmes.

Bavaria Wirtschaftsagentur GmbH, Munich

The company arranges insurance worldwide for the BMW Group, its employees and customers, as well as for other corporate clients. It helps BMW companies to determine insurance risks and prevent losses, and advises them on all associated tasks.

The subsidiaries Bavaria Insurance Co. Ltd. and BL Reinsurance Co. Ltd., both based in the Irish capital Dublin, provide insurance and reinsurance, particularly for the risks of the BMW Group.

The Bavaria-Lloyd Reisebüro GmbH, Munich, in which the Bavaria Wirtschaftsagentur holds a 51% interest, organizes business trips and events for the BMW Group, and arranges tourist programmes. It also offers these services to non-BMW clients. In 1991, the Bavaria Wirtschaftsagentur and its subsidiaries again developed extremely satisfactorily.

The Bayerische Motoren Werke is rightly named. The German word "Motoren" means "engines". These have been central to the Company for three-quarters of a century. In 1919, BMW's first world record was achieved with an aircraft engine. Ten years later, a BMW motorcycle was the fastest in the world. Today, BMW motorcycles are powered by engines with two, three or four cylinders, and cars by engines with four, six, eight and twelve cylinders. BMW engines are technically sophisticated, economically and ecologically designed assemblies which will continue to stand for individual mobility and sheer driving pleasure.

Motorcycles

Cars

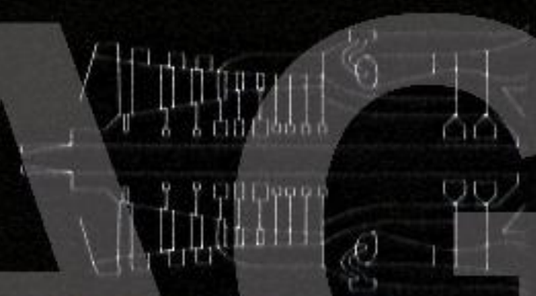
Aircraft engines

BMW AG

2-cylinder flat twin engine

4-cylinder in-line engine

8-cylinder V-engine



BR 700 basic engine

3-cylinder in-line engine

4-cylinder in-line engine

12-cylinder V-engine

T118 small gas turbine

4-cylinder in-line engine

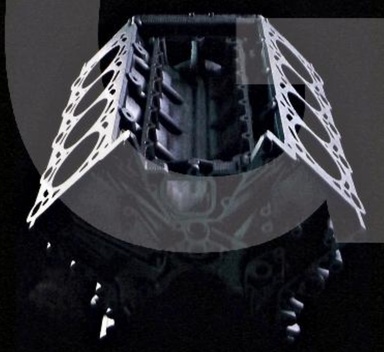
6-cylinder in-line engine

6-cylinder in-line diesel engine

6-cylinder in-line engine (high performance)

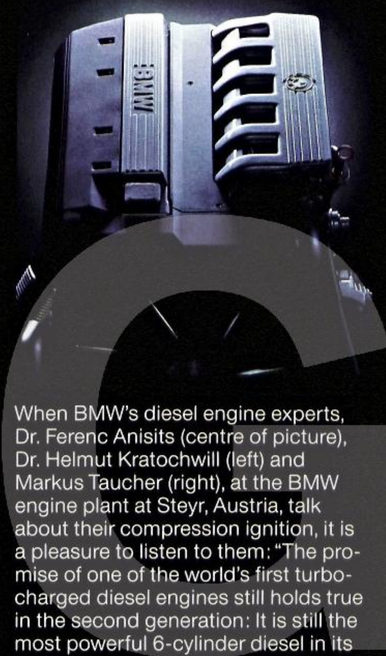
Two generations of BMW 8-cylinder engines: the 1954 version (orange) and today's V8.

Two premieres at the Salon International de l'Automobile in Geneva: In 1954 Leonhard Ischinger's BMW 8-cylinder, and in 1992 the 8-cylinder engine by Adolf Fischer (photograph) who also played a leading role in the development of the BMW 12-cylinder engine. A comparison clearly shows automobile progress. Pound for pound, today's V8 gives twice the power of the world's first alloy 8-cylinder engine (fitted in a BMW 502 in 1954). Then output was about 27 kW (36 bhp) per litre. Today's engine gives 53 kW (72 bhp) per litre. A BMW 7 Series car with the new engine accelerates from 0 to 100 kmph in half the time required by



the 502; the possible top speed rose considerably. Despite increased output, petrol consumption decreased from 14 litres (20 mpg) in those days, to the present 11 to 12 litres (25.7 mpg to 23.5 mpg). Like its predecessor, the new unit is a milestone in the history of engine development.

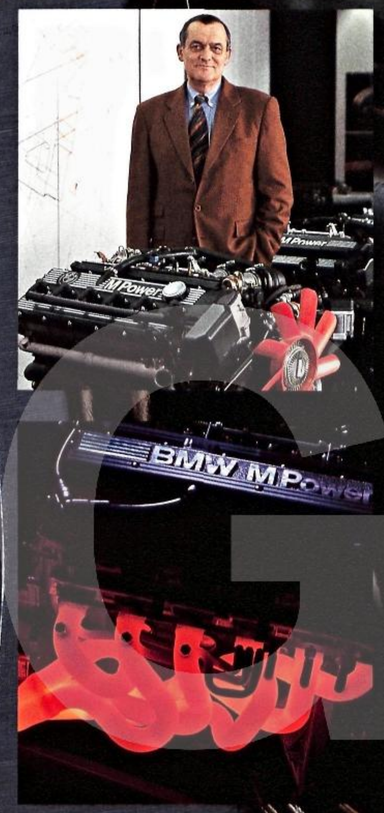
Diesel engines that are as responsive as petrol engines: No longer a dream since the introduction of BMW diesel engines.



When BMW's diesel engine experts, Dr. Ferenc Anisits (centre of picture), Dr. Helmut Kratochwill (left) and Markus Taucher (right), at the BMW engine plant at Steyr, Austria, talk about their compression ignition, it is a pleasure to listen to them: "The promise of one of the world's first turbocharged diesel engines still holds true in the second generation: It is still the most powerful 6-cylinder diesel in its class, its smooth-running performance is without comparison, and its exhaust emissions are well below the world's strictest maximum permitted values." Ten years ago BMW surprised the world with diesel engines. Today, the Company is a pacesetter in this technology. Each year, 60,000 BMW diesel engines with the characteristic V-shaped combustion notch in the piston head are the best proof that dynamic performance and economical fuel consumption (best value of only 235 grams of fuel per kilowatt-hour) are not a contradiction in BMW diesel engines.

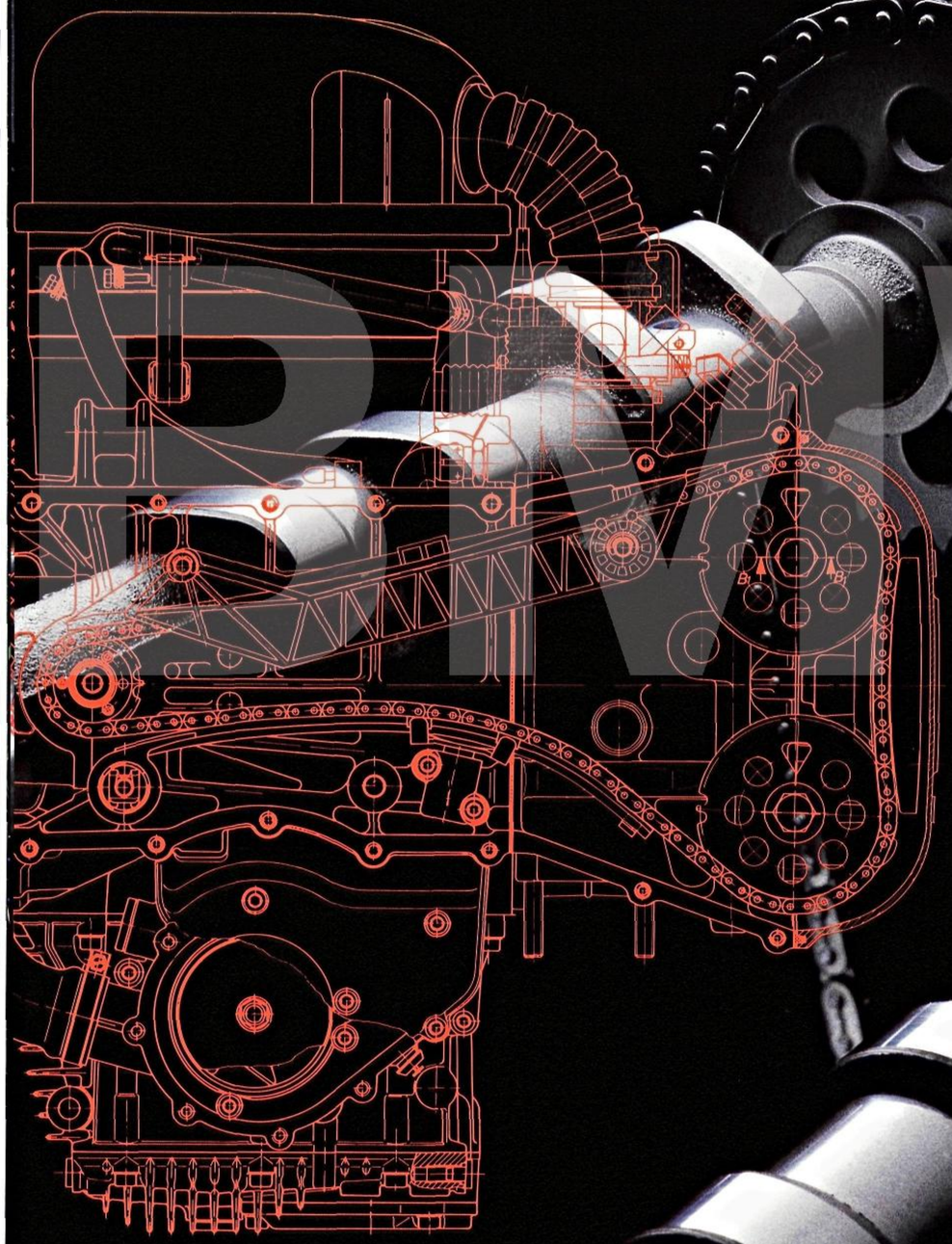
BMW's engineers have always accepted the challenge of technical competition. Today, attention to detail still determines success, whether in motor sports or with particularly demanding customers.

Whenever Paul Rosche and his team of engineers are called in, both top engine performance and suitability for routine driving are ensured. The engineers specializing in engines at BMW Motorsport GmbH develop and build their engines both for the race course, and for normal roads. Four-valve technology is now standard in series-produced BMW engines. However, even today, the exclusive materials and particularly fine finishing of cylinder head and inlet and outlet manifolds are possible only in small production series of

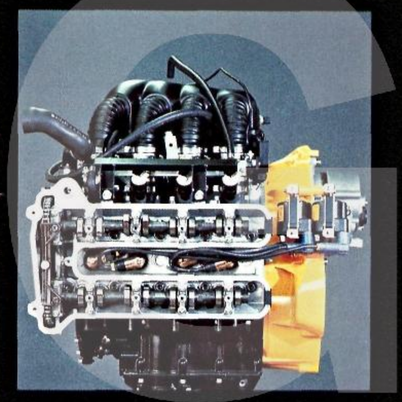


high-performance cars. Further special ingredients ensure optimum performance. It is not just a matter of speed. The way the power develops efficiently throughout the engine speed range is essential for maximum performance. "M Power" guarantees that outstanding performance remains synonymous with BMW.

Two overhead camshafts determine the speed for the most powerful BMW motorcycle engines. They control the inlet and exhaust valves.

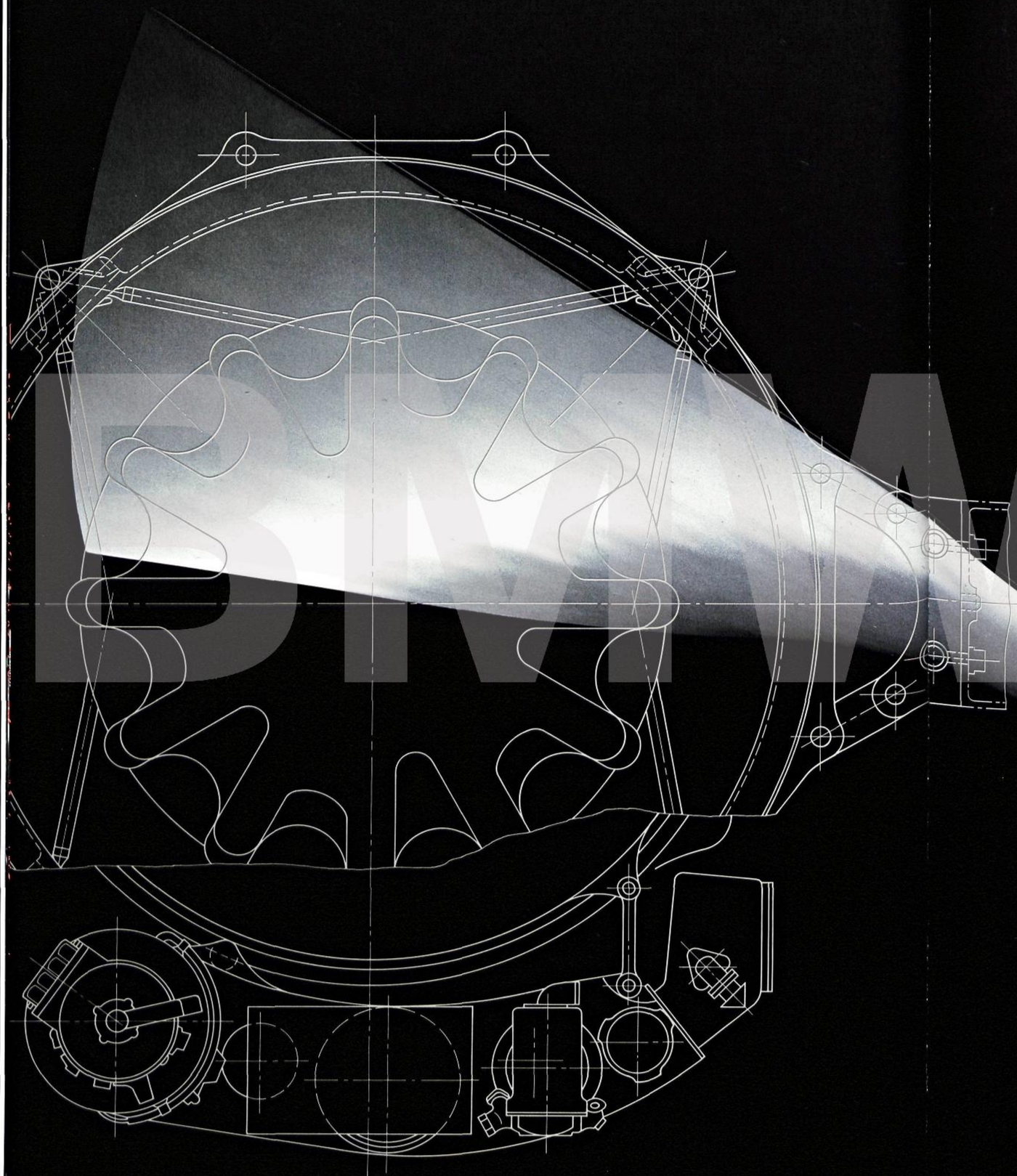


Freedom on two wheels is their speciality: The chief development engineer for BMW motorcycles, Dr. Burkhard Goeschel (left), and his engine specialist, Christoph Schausberger, know that the two engine concepts for BMW motorcycles have a sound future. These are the traditional flat twin engines with two opposed cylinders, and the in-line engines with three and four cylinders. These en-

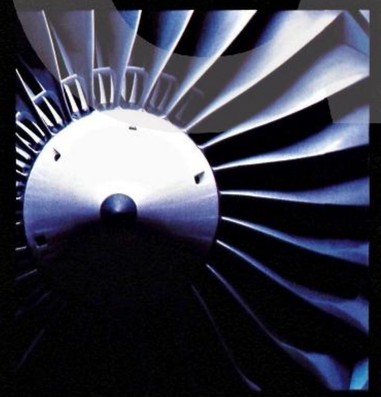


gines, allied to shaft drive, make up the distinctive BMW range. BMW motorcycles have enjoyed worldwide success for almost 70 years. Last year, more motorcycles were registered in Germany than had been the case since 1955. In those days, the motorcycle was still a substitute for a car. Today it stands for pure riding pleasure – wherever this can be done responsibly. The BMW motorcycle engineers are well aware of this. Their motorcycles are the only models in the world that can be fitted with a controlled catalytic converter and an anti-lock braking system.

After 50 successful years of aircraft engine history, followed by a 25-year break, BMW is again contributing to aviation annals.



From the late 1990s, civil aircraft will have engines which will have benefitted from the experience of Rolls-Royce plc., Europe's leading aircraft engine manufacturer, and the engineers of BMW. Short-haul jet aircraft frequently take off and land at small city airports. Thus, the primary aim of the engine development engineers, gathered around Prof. Dr. Günter Kappler (centre of picture), at BMW Rolls-Royce GmbH, is to reduce considerably noise levels, exhaust emissions and fuel consumption – and, of course, at particularly favourable costs. The decisive know-how is in the blades of the turbines. The BR 715 aircraft engine, for example, aims at a thrust of some 15,000 pounds. To this end, the engineers are not only maximizing economy, they are also aiding the environment.



More mobility for more movement: With this motto, BMW engine specialists have always assumed responsibility for individual mobility and translated it into innovations. As early as the 1940s, BMW developed, for series production, one of the world's first jet engines, but this field of business ceased in 1945. With BMW Rolls-Royce GmbH, the Company is determined to become, once again, the leader, in Germany, in this technology of the future.
The development and application of trend-setting technologies for car engines has been BMW's domain for decades. Engines from Munich and Steyr set standards of performance and quality. Microprocessors have controlled the combustion sequence since 1979. All BMW engines have electronically controlled fuel injection, and systems to cut off fuel flow on over-run. Petrol engines also have performance-controlled ignition and the three-way controlled catalytic converter. Diesel engines have an oxidizing catalytic converter. Electronics guarantee optimum engine operation in all conditions and during the engine's entire service life. After more than one hundred years of car history, combustion engines have become sophisticated examples of high tech. In the coming years, attention will focus on further reducing fuel consumption and emission levels.
BMW engineers are also working on alternatives to today's engine and car concepts, and on interlinked traffic systems. They are thus contributing towards continued individual mobility in the environment of the future.

In 1981, BMW took its first step into Japan and broke new ground. By establishing its own sales company, BMW developed the Japanese market for imported cars. BMW cars and motorcycles gained a leading position. In a decade of successful business, sales have increased to more than 30,000 units a year.

First European car manufacturer in Japan

Until the end of the 1970s, foreign manufacturers had only very limited access to the Japanese market. Until 1976, BMW was permitted to import no more than 1,631 cars a year. After the major restrictions had been abolished, BMW started business in Japan on October 1, 1981. It was the first time that a European car manufacturer had permanently invested in its own company in Japan.

BMW Japan Corp., based in Tokyo, had 212 employees at first; 26 authorized dealers selling 3,662 cars in the first year of business. The total market was around 2.7 million cars, of which some 38,000 were imported. At that time, Japan was already the world's third largest car market after Europe and North America.

With its outstanding products and the image of a traditional marque, BMW had the prerequisites for access to a market which is particularly difficult for foreign manufacturers. Extensive preparations, and an understanding of the Japanese culture and mentality, also helped to provide the basis for permanent success.

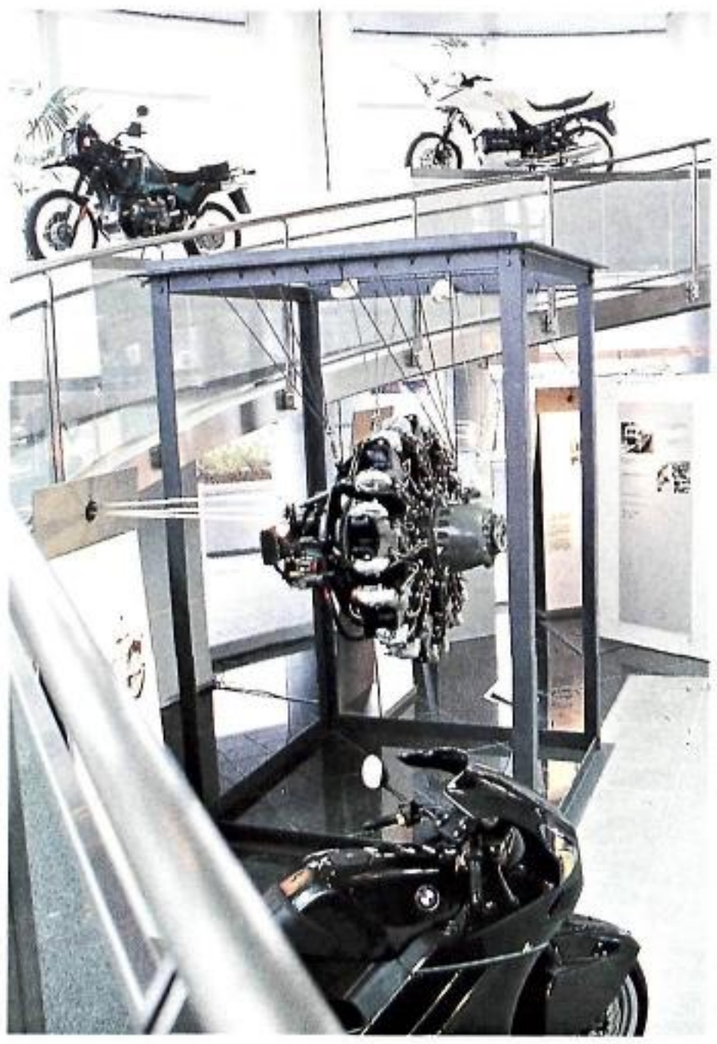
The completion of the new sales centre in autumn 1991 was a milestone in the company's development. Today, BMW enjoys an excellent reputation in Japan not only as a manufacturer of special cars and motorcycles, but also as business partner and employer.

Customers expect high quality and service

The Japanese islands extend 3,000 km from north to south. Because it is a mountainous country, most of the population of 124 million lives in the large congested urban areas. Greater Tokyo alone has a population of 30 million.

The subsidized cultivation of rice occupies land urgently needed for housing, industry and transport routes; thus hindering the resolving of Japan's major infrastructural problems.

Economic success on the world's markets made nominal incomes rise strongly. Combined with the high population density and a large number of import restrictions, life in Japan became expensive. The high cost of living has contributed to the people's exacting quality demands. BMW cars and motorcycles satisfy these high standards.



The new sales centre of BMW Japan in Makuhari, to the southeast of Tokyo.

The car market protects Japanese manufacturers

At the beginning of the 1950s, almost every second car registered in Japan was foreign-made. In 1955, the introduction of an import duty of 40% quickly reduced the foreign cars' share to 1%.

In this large, protected domestic market, a varied national car industry developed without interference from foreign competition. The import duties were levied until 1978.

However, numerous obstacles largely closed the market to foreign makes for several more years. Complicated registration procedures, higher taxes and insurance premiums for cars with engines above two litres, or parking bans for foreign cars at certain locations, all hampered sales.

The special taxes on cars of the top market segment were not abolished until April 1989 when Japanese manufacturers increasingly offered models of this category.

The Japanese car market changed very little during most of the 1980s. Registrations amounted to some 3 million cars; imports were insignificant.

Although traffic density in Japan, of some 250 cars per 1,000 inhabitants, is only half that of Germany, the domestic market seemed to have reached its natural limits.

Japan's rising car output was exported increasingly to overseas markets, particularly to the USA. Only in the second half of the 1980s, after the dramatic drop in the exchange rate of the US dollar – from more than 250 to less than 150 yen – did Japanese manufacturers turn increasingly to the sales opportunities on their domestic market.

An expansionist economic policy to increase domestic demand supported these efforts. As a result, car sales in Japan rose, from 1987 to 1990, by about two-thirds to 5 million units.

This level was almost maintained in the year under review. Foreign manufacturers sold 200,000 cars, their market share amounting to 4.0%. About 60% of all imported cars came from Germany; every sixth was a BMW.

New dealer network and customer-oriented sales structure for BMW

Since the dealers of Japanese makes are, traditionally, very closely linked with the manufacturers, BMW established a new sales network with independent partners.

The Company opened eight of its own sales outlets in Tokyo which, at the beginning of 1989, were grouped together in BMW Tokyo Corp. The preparations for business development were indicative of the importance BMW attributed to this market at an early date.

Suitable dealer properties are now almost impossible to find, or are too expensive. To date, BMW is the only foreign car manufacturer with an exclusive, nation-wide dealer organization.

About 45% of all BMW cars in Japan are sold in the Greater Tokyo area. A further 20% each goes to Osaka and Nagoya in the south.

A particularly efficient infrastructure was developed in order to provide the best possible customer service. First, the BMW Parts Centre was completed in 1984. It is located in the prefecture of Chiba, about 50 km outside Tokyo. From there, Genuine BMW Parts can be supplied to all BMW authorized dealers in Japan within 24 hours.

Festive opening of the new building in September 1991: The picture above shows, from left to right, the Governor of the Prefecture of Chiba, Takeshi Numata, with the Chairman of BMW Japan Corp., Yoji Hamawaki, and Eberhard v. Kuenheim, Chairman of the Board of Management of BMW AG.

A training centre was also established in the building for employees in the dealerships who came into contact with customers.

Four years later, the BMW Supply Centre started operation at the same location. The fully automatic car store houses about 1,000 cars. All BMW cars for Japan arrive at the nearby port of Chiba.

Long before series production begins, new models are put through their paces by a local test team under the special conditions of the subtropical climate and the stop-and-go traffic on Japanese roads.

The results of these test series are used, among other things, to simulate Japanese operating conditions on the BMW test stands in Munich.

Service cars have been available for BMW drivers on the major roads, day and night, since 1988. As in Europe, they can be called free of charge.

A new market segment is evolving

Small and medium-sized cars predominated in Japan because of the special space and transport conditions. Thus, at the same time as establishing its sales organization, BMW had to develop a market for luxury European cars.

This was supported by attractive and, for the Japanese market, new financing, offered from mid-1984. Thus, the sales opportunities were extended considerably. From the beginning of 1989 these activities were grouped together in BMW Japan Finance Corp., Tokyo. The company financed 40% of BMW sales in the year under review.

In 1991, 131 authorized dealers throughout Japan sold some 34,000 new BMW cars, almost ten times as many as in 1981. Other manufacturers followed BMW's example by establishing their own sales companies and offering financing programmes.

BMW Japan in its own building since 1991

In Japan, BMW assumed a pioneering role for customers, dealers and employees. The company's new main building in Makuhari, to the southeast of Tokyo and near to other BMW locations, is no exception. For the first time, a foreign car company was both builder and owner of such a building.

The new building was opened in September 1991. It provides employees with spacious working areas. Previously they had worked at four different locations in Tokyo.

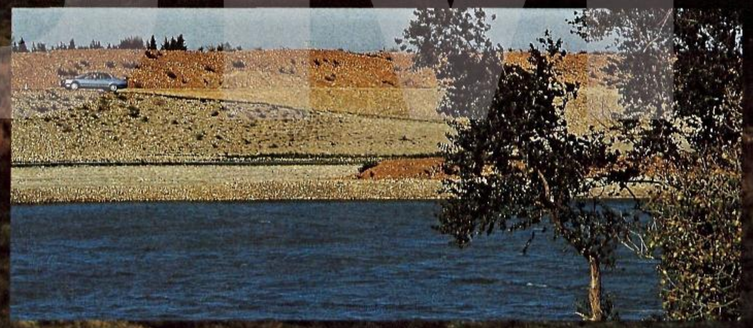
Makuhari is a good address. The BMW headquarters are located opposite the country's largest and most modern trade fair centre which hosts the International Tokyo Motor Show every two years. Downtown Tokyo and Narita Airport are 30 minutes away by urban railway.

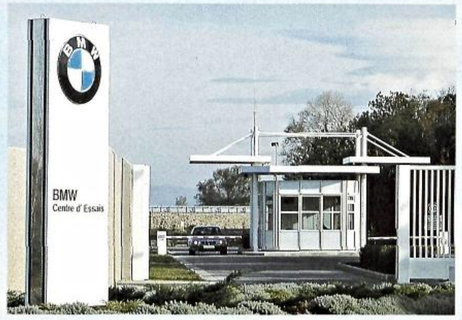
During ten years of cooperation, BMW has succeeded in creating a bond of understanding between people from completely different cultures. This was helped by tailor-made training and exchange programmes. Today, BMW Japan Corp. is both a Japanese company and part of an international group.

In the meantime, 200,000 car owners, and more than 5,000 employees in the entire dealer organization, have confidence in BMW. In Japan, as elsewhere, the cars and motorcycles of BMW satisfy the wishes of a rapidly growing class of people who set special store by individuality, high technical standards and sound workmanship.

Foreseeable demand promises further growth opportunities, particularly for the upper market segments.

Test Grounds at Miramas





In 1986, BMW purchased the former "Autodrome de Miramas" in the south of France. It has since been converted into modern test grounds. As a result, BMW now has a second test site for testing newly developed cars in favourable weather conditions all year round.

The electrically powered car, BMW E1, will provide an alternative for the next decade, once the questions of battery technology have been solved. The E1 is an individual concept and has many new technologies. This concept car, ready for operation, currently demonstrates the possibilities of the electric motor.

BMW E1: Concept car with electric motor

The BMW E1 is an electrically powered car, designed specifically for city use. It is an individual basic concept and has many new technologies. It was presented in September 1991 at the International Motor Show in Frankfurt am Main.

At the beginning of 1992, a version for the American market, the E2, was shown in Los Angeles.

Possible uses in an urban environment

High traffic density and the pollution from associated exhaust emissions are considered a burden, particularly in congested urban areas. Thus, there is growing interest in alternative propulsion concepts which develop minimal or no exhaust emissions.

At present, only electrically powered cars are completely without direct exhaust emissions. They can therefore help to reduce local air pollution. However, so long as power stations use fossil fuels to generate electricity, overall air pollution will remain largely unchanged.

Since it is still difficult to store sufficient electric energy, cars with electric motors are suitable only for comparatively short distances.

Special car concepts to meet contradictory goals

The concept of the E1 was derived from driving habits, distances covered and transport needs in the cities.

The car is designed primarily for people who live in the suburbs and commute into town for working or shopping. It is also ideal for people who travel long distances by air or rail, and use their cars only for short journeys.

In addition, car hire firms can offer cars with electric motors for short journeys, such as from airports to city centres. The bases which BMW elaborated for cooperation between different transport systems suggest new opportunities in this field.

Development of the E1 also focussed on the characteristics of the electric motor, as well as the standard of safety, comfort and performance expected of a BMW car.

Uncompromising lightweight construction had to be compatible with maximum safety; adequate performance, such as acceleration and hill-climbing ability, with as large a range as possible. Moreover, the car should have no cold-weather problems.

These sometimes contradictory goals have largely been met by the BMW E1.

BMW E1: Concept car with electric motor, ready for operation.

Optimized for city use
The E1 is an extremely compact, four-seat city car with two doors and a rear opening.

Motor and transmission are integrated, as a unit, into the rear axle; the battery lies below the rear seat. This arrangement permits a generous amount of space which can be varied due to the folding rear seat backs.

The motor of the E1 has an output of 32 kW (43 bhp). Its power-source is a sodium-sulphur high-temperature/high-capacity battery with an energy content of approx. 20 kWh and a weight of 200 kg (440 lbs), including steering and cooling system.

With the battery technology currently available, the E1 has a practical range of about 170 km (about 106 miles). At low speeds, and without extra energy consumption for light or heating, the range increases to 250 km (about 156 miles).

An electronic system not only ensures the economical use of battery energy for the motor, but also controls all the car's other energy-consuming systems.

Lightweight construction combined with a high degree of passenger safety
The bodywork of the E1 comprises an aluminium shell and an outer body skin made of recyclable plastic. The unladen weight, including battery, is only about 900 kg (1984 lbs) due to the uncompromising lightweight construction.

In the event of series production, the plastic parts, in particular for the bodywork, could be made largely of recycled material. BMW already has experience with the thermoplastics of the Z1 roadster.

A number of measures were taken to ensure passenger safety in all road situations. As a result, the compact E1 sets new standards for cars of its category.

Active safety is largely due to the excellent road-holding of the chassis. Anti-lock braking is standard, as in all BMW cars.

The exemplary passive safety of the E1 is based on the robust passenger compartment. The bumper system is designed so that collisions at speeds of up to 15 kmph (just over 9 mph) cause no damage to the car structure.

The integrated seat belt system, airbags, and knee protection under the dashboard, offer drivers and passengers the best possible safety. Reinforcements in the doors also help to protect occupants from side impacts.

In order to minimize the risk of injury for other road users, the outer contours are smooth, rounded, and without protruding edges.

Electric motors are only one possible alternative
For 20 years BMW has worked intensively on alternative forms of energy and new propulsion technologies. At the same time, everything possible is being done to further reduce emissions from petrol and diesel engines.

In contrast to cars with electric motors, automobiles with hydrogen propulsion achieve ranges almost as great as those to which we are accustomed.

With industrial partners, BMW is developing technologies to produce hydrogen by harnessing solar energy, and to store and distribute it. As with methanol or biogases, cost is the greatest obstacle to the use of this fuel.

All partners are challenged
As early as 1972, two BMW 02 Series models with electric motors were used as escort cars for the marathon runners during the Olympic Games in Munich. Since then, the knowledge gained in the development of electrically powered cars has been integrated into the concept of the BMW E1.

With further comprehensive developments, the Company will contribute towards the goal of ensuring that cars with electric motors can, in future, be used for daily journeys in congested urban areas. However, demand will not be significant until batteries have become more powerful, longer-lasting and, above all, more economical.

State and society have made Germany the most expensive car production location. If it is to remain competitive, flexible systems of working hours must further increase both planning and production efficiency. BMW has assumed the role of pacesetter.

New systems of working hours to increase productivity

Germany has the shortest collectively agreed working hours, combined with wages and additional wage costs which are among the highest in the world. With technically outstanding products of high quality, the German car industry has nevertheless secured a leading position on the world market. The training of employees and investment in plant and machinery have all played major roles in this.

With rising international price pressure, particularly from manufacturers in the Far East, the unfavourable cost structures in Germany are increasingly affecting competitiveness. Companies must therefore increase their productivity more rapidly than hitherto.

Internal costs can be reduced markedly with more efficient work flows, and more intensive and longer plant utilization. This also implies new schedules of working hours.

Greater challenges for employees and working environment

In the 1990s, competitive advantages will be achieved primarily through the employees. As on the markets for goods and services, the competition of the companies on the labour markets will grow.

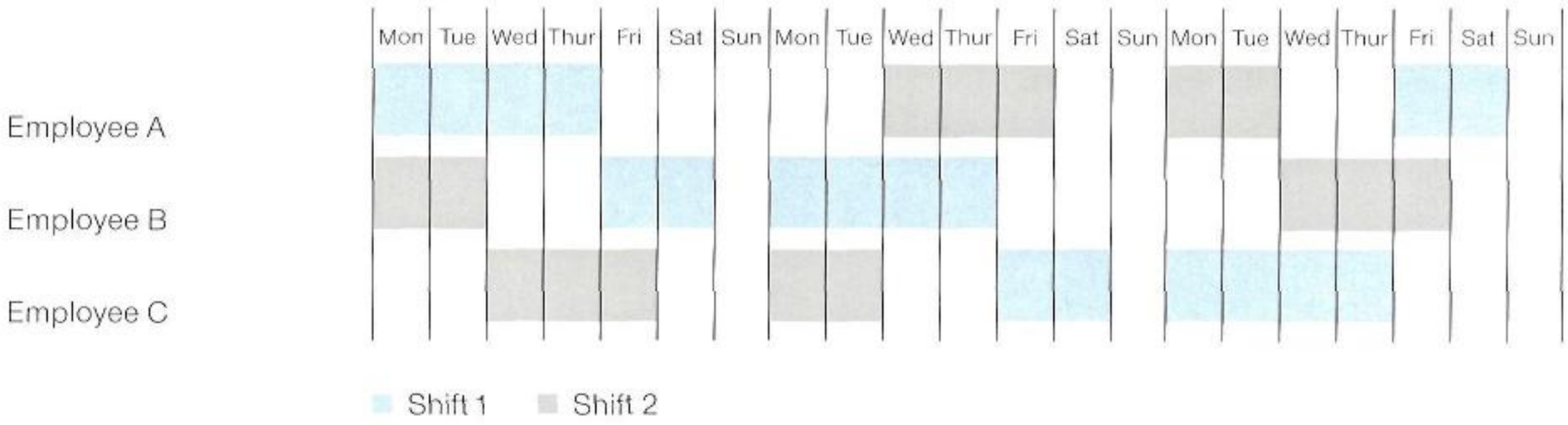
Personal development is becoming increasingly important. BMW therefore creates a working environment which encourages, and demands, a sense of responsibility, creativity and commitment among all employees.

Shorter working and operating hours in German industry

Since the mid-1980s, the collective agreements for the German metalworking and electrical industries have steadily reduced the working week from 40 to 37 hours.

In view of the additional tasks in Germany's new federal states and in Eastern Europe, and in particular Germany's international competitiveness as an industrial base, the reduction of the working week to 35 hours, currently scheduled from autumn 1995, cannot be considered responsible. Under the collective agreements, these terms can be amended to take account of changes in economic conditions.

Individual Shift Schedules at the BMW Plant in Regensburg
Example: Three employees at one workplace



In Germany, for example, a development engineer, with collectively agreed working hours, currently works about 500 fewer hours a year than his colleague in Japan; the equivalent of about three working months.

Further reductions of working hours not only increase costs, but also increasingly reduce companies' development capacities, their innovative strength and their ability to react. This poses a direct threat to employment in the production sectors.

As working hours were reduced, hours of machine operation also declined in German companies by 28% in the second half of the '80s. This was a fall to an average of 53 hours per week. By contrast, they rose by up to 20% at the most important foreign competitors; some of their plants operated for more than 70 hours a week.

More flexible working hours and increased productivity at BMW

As a result of rising personnel costs, the Company invested increasingly in the automation of production sequences. Thus, some new workplaces at BMW plants cost between DM 500,000 and DM 1 million. Many cost far more.

In order to utilize such capital-intensive plant and installations cost-effectively, the employees' individual working hours have to be further separated from machine operation.

In addition to the usual shift schedules, the companies have three further instruments for the flexible organization of weekly working hours: Differentiation according to groups of employees, different distribution of working hours over a longer period, and part-time work.

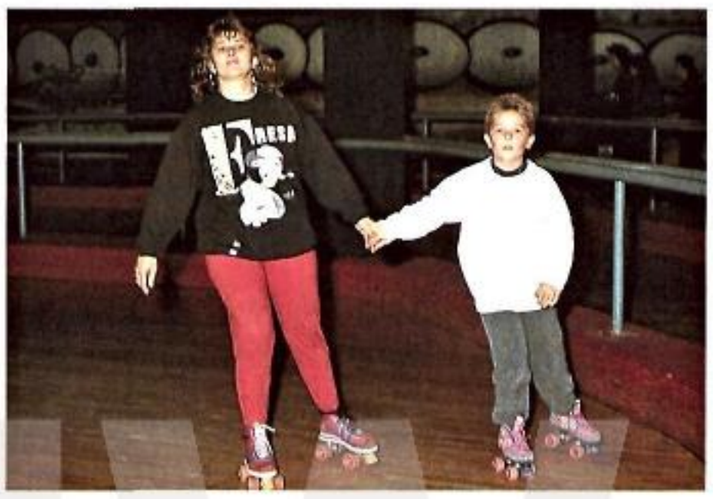
Differentiation according to groups enables some of the employees to work longer, on a voluntary basis, than collectively agreed. These conditions were created in the 1990 collective agreement. BMW has taken full advantage of the new possibilities.

Since 1988 it has also been possible for all employees of a division or plant to agree on longer regular working hours if, during a balancing period of 6 months, they then work a shorter week. Plants can thus cope better with peak work loads, for example when new models go into production, or with seasonal fluctuations in demand. This provision is also essential for some of the new shift schedules at the BMW plants.

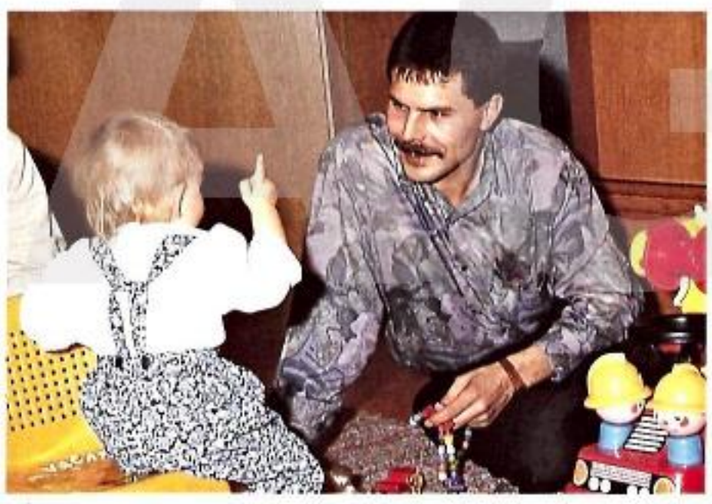
At the end of 1991, some 1,600 employees worked part-time. This form of flexible working hours enables employees, and female employees in particular, to combine their family life and work to advantage.

At BMW, there are more that 200 different schedules of working hours which take equal account of company requirements and employees' interests.

The new schedules of working hours at the BMW plants in Munich and Regensburg have brought to many employees a regular four-day week. To achieve this, they work up to one hour longer per shift; at the Regensburg plant employees have an early Saturday shift on their individual schedules every three weeks. The employees have received the new schedules well and take advantage of the extra free time.

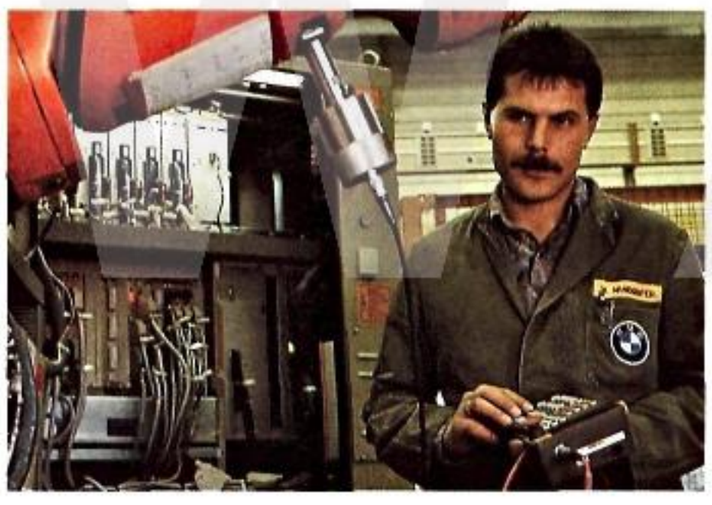


Werner Windorfer is maintenance foreman at the Regensburg plant. He likes to spend as much time as possible with his wife and baby daughter. With the flexible shift schedule, he also has time to check the building progress of his new house.



Pavlos and Maria Papasotiriou have lived in Munich for more than twenty years. They both work in the same production sector at BMW. The shift schedules are arranged so that they can also spend their free time together.

Ute Henning has worked in cable production at the Munich plant for seven years. As a mother of two children, she makes the most of the free time permitted by the new schedules. She now has time for a long skiing weekend or a visit to the roller disco during the week.



Car mechanic Klaus Lorenz works in series production at the BMW plant in Regensburg. He is also interested in car-related topics in his spare time. Klaus Lorenz takes advantage of the Company's education programme which was adapted to fit the new shift schedule.

More control over time
Employees of BMW are judged by the fulfilment of their tasks. Rigid hours of attendance are replaced by flexi-time, wherever work so permits.

In the year under review, some 15,000 employees took advantage of flexi-time, and were thus free to choose, within limits, when they started and finished work each day. BMW has had flexi-time for some 20 years. In 1991, a considerable extension of the previous flexi-time system was decided for a pilot area. The period within which individual daily working hours have to be balanced was extended to six months.

The schedule of working hours at the BMW plant in Regensburg
While priority can be given to individual systems of working hours in planning and service divisions, production sectors with linked sequences require collective shift schedules.

The Regensburg schedule, with which BMW abandoned long-established systems of working hours in production, attracted a great deal of attention. It is based on the further separation of individual working hours from machine operation. This principle was already fundamental to planning considerations for the new plant at the beginning of the 1980s.

At Regensburg, plant and machinery can be used almost 100 hours a week. This is one-third more than with the usual two-shift systems.

The new schedule of working hours is attractive for Company and employees alike. The works council approved it for an additional reason: The new schedule provided the opportunity to hire a further 2,500 employees. Thus, everyone concerned helped to improve the employment situation in the structurally-weak Upper Palatinate.

Separation of individual working hours and machine operation at other BMW production plants
At the beginning of November 1991, a new schedule of working hours was also introduced at the Munich plant. It is largely based on the Regensburg schedule, while taking account of specific local circumstances.

The possibilities of flexible working hours are also used at the BMW motorcycle plant in Berlin, and at the production plant in Wackersdorf, to the north of Regensburg.

Competitive advantages due to flexible working hours
Some of the very different work flows and work loads in the individual areas of the Company require their own tailor-made solutions.

Rigid schedules for entire industries, regions and groups of employees no longer meet the requirements of an increasingly interdependent economy. Thus, government, labour and management face challenges to create greater scope for individual solutions for both companies and employees.

The new forms of work organization have proved successful at BMW. They open up new opportunities for recreation and further education for employees, and they contribute to a more uniform utilization of the entire infrastructure.

Germany would become more attractive as an industrial location were it to succeed in organizing the largest possible sectors of industry and society according to their individual requirements. This would also help solve some of the conflicting aims in Germany.

Net income for the year rose by 12.5% to DM 783 million. The cash flow is more than DM 2.8 billion. Sales financing, in particular, made the balance sheet total increase to more than DM 25 billion.

In 1991, the sales of the BMW Group rose to DM 29.8 billion, 9.8% more than in the previous year. These figures include sales from leasing which increased by 23.5% to DM 2.4 billion.

The total value of production grew by 10.6% to DM 30.6 billion. The increase of inventories, due to the inclusion, for the first time, of BMW Rolls-Royce GmbH, Oberursel, contributed to this growth.

Expenditure on materials accounted for 57.0% of the total value of production, as in the previous year. It includes depreciation on leased products of DM 1.6 billion and the expenditure on materials of BMW Rolls-Royce GmbH.

The 9.6% increase in expenditure on personnel is due both to rises in collectively and individually agreed wages and salaries, and the growth of the workforce in the Group. Expenditure on personnel for the workforce of BMW Rolls-Royce GmbH was included for the first time.

Depreciation increased further from the high level of the previous year to more than DM 1.8 billion.

Expenditure on interest from the financing of the leasing business rose because of the higher level of refinancing due to the increased number of leased products.

Income from normal business improved by 5.3% to DM 1,752 million. In the Group, the relative tax burden decreased as a result of the lower tax expenditure of BMW AG. The Group's net income for the year rose by 12.5% to DM 783 million.

Capital structure remains sound while balance sheet total rises

The balance sheet total of the BMW Group grew by 12.9% to DM 25.4 billion, increasing more than sales. This growth in the balance sheet total is due primarily to the increase in sales financing.

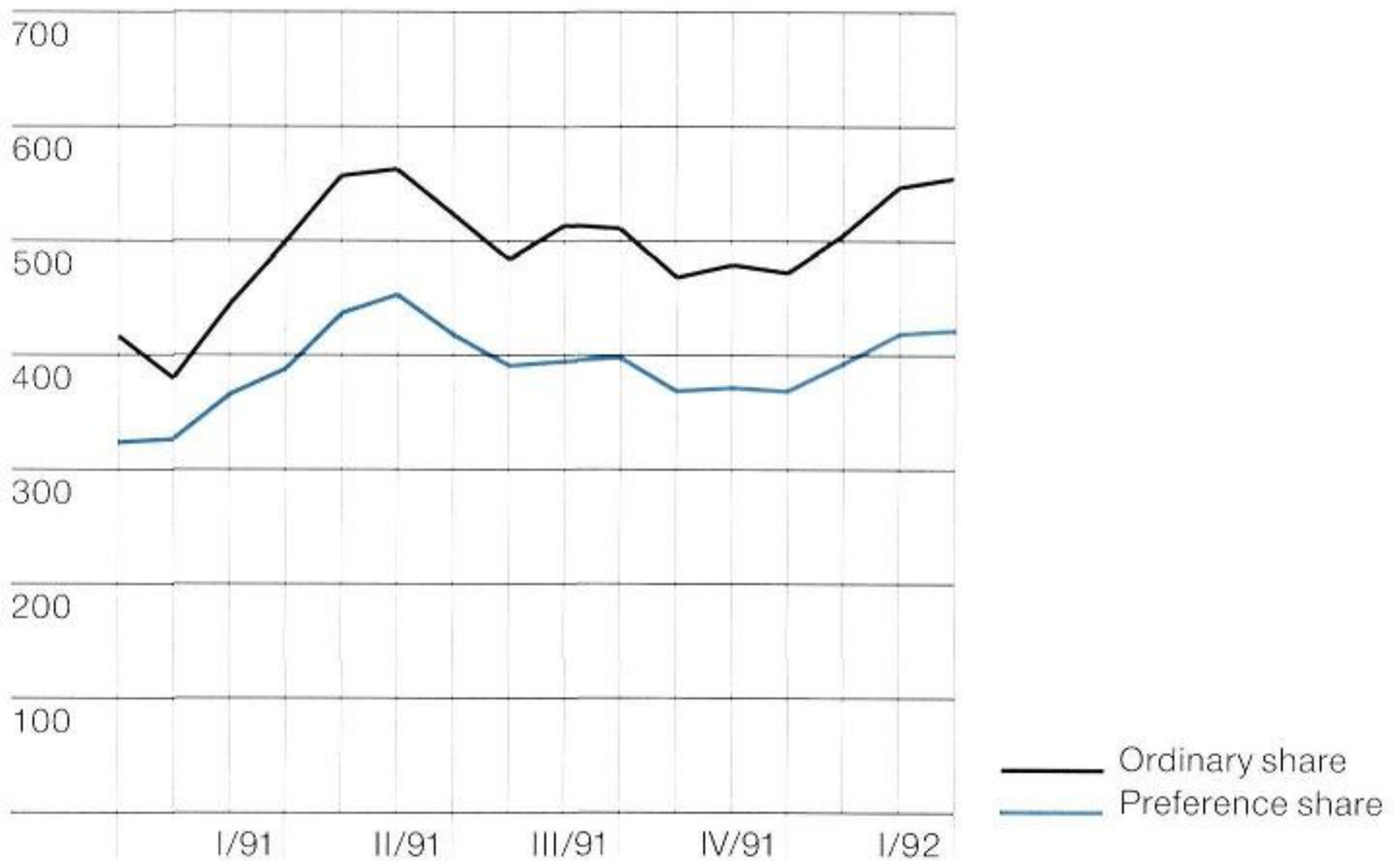
The main items of sales financing are shown separately in the financial statements. Assets from sales financing, amounting to DM 8.1 billion, are balanced by liabilities from sales financing, amounting to DM 7.0 billion. Sales financing accounts for a 31.8% share of the Group's total assets. The assets of industrial business amount to DM 17.3 billion, corresponding to 68.2% of the group balance sheet total.

If shareholder's equity is assigned to these group activities, own funds cover about 31% of industrial business and 14% of sales financing.

In terms of the group balance sheet total, the Group's inventories increased strongly. This is due to the inclusion of the inventories of BMW Rolls-Royce GmbH. Otherwise, inventories would have increased by only 7.5% over the previous year.

Liquid funds of DM 4.4 billion are as high as in the previous year; corresponding to a 17.2% share of the balance sheet total. More than half of these funds are invested in fixed-interest securities.

Development of the BMW Share Price
Monthly average in DM



The subscribed capital and capital reserve increased with the issue of new shares due to the capital increase from corporate funds, and new preference shares to employees, by DM 124 million. Profit reserves rose by DM 340 million, mainly as a result of transfers from the year's net income, reduced by the transfer of profit reserves to subscribed capital and the offsetting of goodwill.

DM 1.6 billion of the shareholders' equity comes from capital contributions, DM 4.8 billion was earned in the Group. Shareholders' equity covers 94.7% of fixed assets. Shareholders' equity and long-term borrowings cover 177.2% of fixed assets. They also cover inventories, trade receivables and some of the other receivables and miscellaneous assets.

Provisions increased by DM 293 million, amounting to DM 6.8 billion. Sales financing accounts for DM 7.0 billion and industrial business for DM 5.1 billion of the liabilities.

Cash flow increased further

As in previous years, the cash flow of DM 2,831 million, generated in the business year, financed completely investment in fixed and financial assets.

Group Statement of Sources and Application of Funds

in DM million	1991
Year's net income	+ 783
Depreciation and retirement of intangible assets and tangible fixed assets	+ 1,902
Increase in pension fund provisions	+ 146
Internally generated financing (cash flow)	**+ 2,831**
Increase in capital contributions	+ 24
Increase in liabilities from sales financing	+ 1,230
Increase in bank dues	+ 342
Increase in other liabilities	+ 208
External financing	**+ 1,804**
Additions to intangible assets and tangible fixed assets	– 2,123
Decrease in financial assets	+ 180
Increase in assets from sales financing	– 1,772
Increase in inventories	– 454
Increase in trade receivables	– 346
Change in other balance sheet items	– 85
Application of funds	**– 4 600**
Change in liquidity	**+ 35**

Development of liquidity	31.12.1991	31.12.1990	
Marketable securities and notes	2,293	2,138	+ 155
Liquid funds	2,086	2,206	– 120
	4,379	**4,344**	**+ 35**

BMW Shares

	Ordinary share		Preference share	
	1991	1990	1991	1990
Number of shares in thousands	16,875	15,000	1,047	874
Key data per share [1] in DM				
Dividend	12.50	12.50	13.50 [4]	13.50 [4]
Tax credit	7.03	7.03	7.59	7.59
Year's net income [2]	46.32	39.04	46.32	39.04
Cash flow [2]	168	156	168	156
Shareholders' equity [2] [3]	365	318	365	318
Stock exchange quotation in DM				
Year end	473	387	370	325
High	592	658	463	485
Low	359	377	300	290

1) Average number of shares outstanding in thousands
1991: 16,898, 1990: 15,843
2) 1990 values adjusted due to capital adjustment in a ratio of 8 to 1
3) Excluding net income available for distribution
4) Entitled to dividend payment from July 1: DM 6.75

International money and capital markets

In 1991, interest rates developed differently on the world's financial markets. While yields on long-term government bonds sank in the USA, the current yield stabilized at a high level on the German market.

In anticipation of falling interest rates for long-term investments, the Group took advantage of the high level of the DM bonds to invest its liquid funds at long-term fixed interest rates.

The growth of sales financing was followed by expansion of the volume of refinancing. The procurement of funds with matching maturities and currencies was secured largely by bank loans and issues of short-term commercial papers on the respective markets. Moreover, in autumn 1991, additional funds were raised through the issue of Eurobonds guaranteed by BMW AG.

In September 1991, BMW Finance N.V., The Hague, issued a seven-year bond for 400 million Swedish krona. In October 1991, BMW Leasing Corp., Barrington, Illinois, followed with a five-year bond for 200 million US dollars.

With the opening of the German money market for commercial papers, BMW AG was one of the first German companies, in spring 1991, to launch a commercial paper programme for DM 500 million.

Development of the BMW share price

The political events of 1991 also affected trading on the stock exchange. Share prices fluctuated considerably.

The BMW ordinary share dropped to DM 359, its lowest price for the year, in January 1991, and the preference share to DM 300 in August. At the end of the first half of the year, the ordinary share peaked at DM 592, and the preference share at DM 463.

After a generally weak phase on the stock exchange in the second half of the year, BMW shares picked up to achieve their 1991 highs. At the beginning of March 1992, the ordinary share was trading at DM 560, and the preference share at DM 420.

Capital increase from corporate funds

On the occasion of the Company's 75th anniversary, the Annual General Meeting, on May 16, 1991, decided on the proposal of the Board of Management and Supervisory Board to issue new shares from corporate funds in a ratio of 8 to 1.

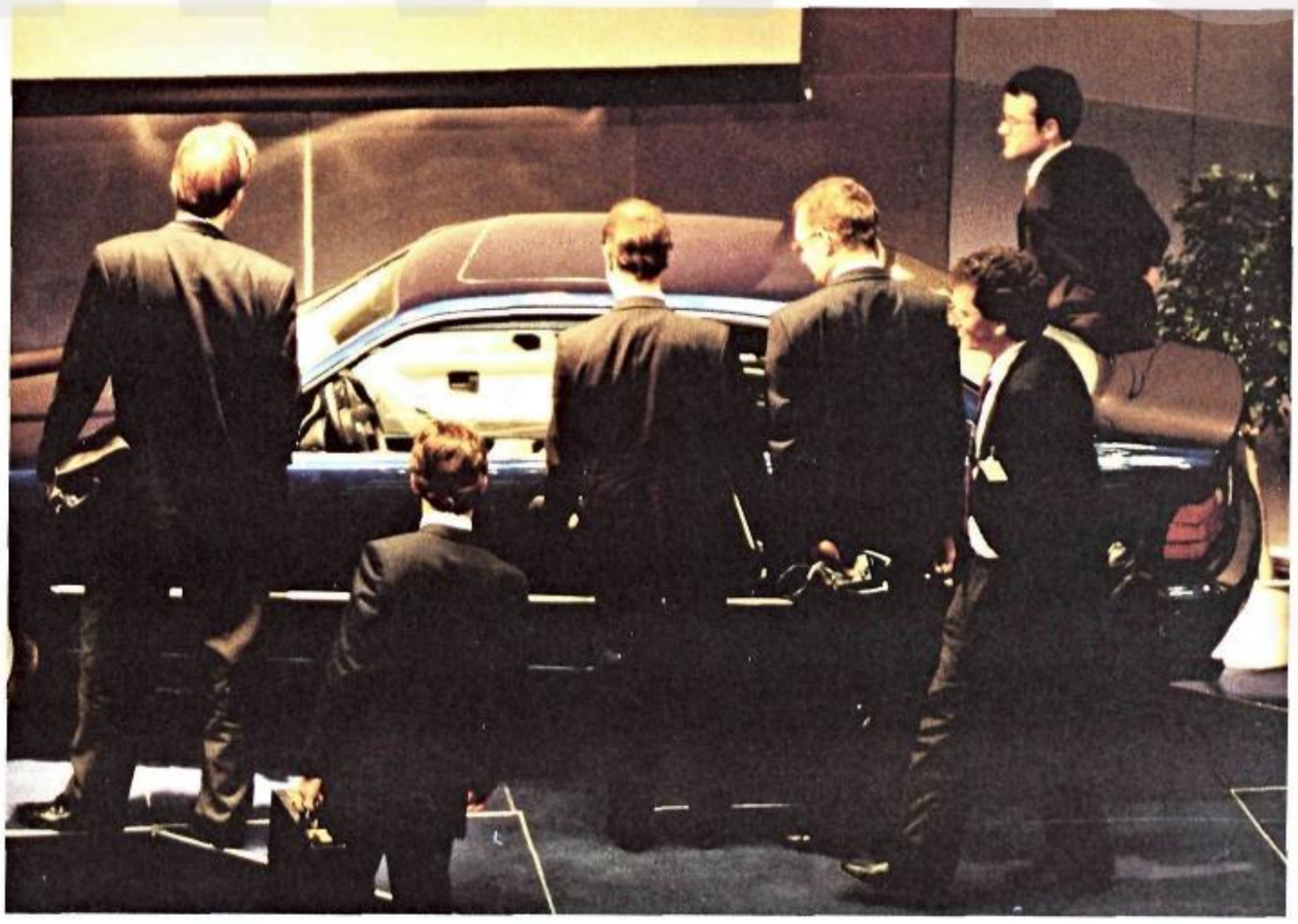
The new shares, entitled to full dividend payment for the 1991 business year, have been available since June 7, 1991.

Higher dividend payments

The Board of Management and the Supervisory Board propose to the Annual General Meeting that a dividend of 25% be paid for ordinary shares and 27% for preference shares for the 1991 business year. Total dividend payments will rise by about 13% from DM 199 million to DM 225 million as a result of the increase of capital entitled to dividend payments. Shareholders resident in Germany will receive 9/16 of the cash dividend of DM 12.50 and DM 13.50 respectively as corporation income tax credit.

In 1991, the BMW International Analysts' Meeting was held at the Forum of the BMW Research and Engineering Centre in Munich.

The Company's future prospects were in the foreground of discussions with members of the Board of Management and other executive personnel. The analysts were also very interested in the new models of the BMW range of cars.



Consolidated Balance Sheet

at December 31, 1991
in DM thousand

Assets	Notes	31.12.1991 DM thousand	31.12.1990 DM thousand
Intangible assets	(1)	33,021	4,942
Tangible fixed assets		6,531,903	6,338,913
Financial assets	(2)	183,298	363,128
Fixed Assets		**6,748,222**	**6,706,983**
Inventories	(3)	2,997,693	2,543,979
Leased products		3,413,880	2,775,903
Receivables from sales financing		4,663,452	3,529,877
Assets from sales financing	(4)	8,077,332	6,305,780
Trade receivables	(5)	1,760,238	1,414,453
Other receivables and miscellaneous assets	(5)	1,042,417	869,166
Marketable securities and notes	(6)	2,292,460	2,137,637
Liquid funds	(7)	2,086,334	2,206,143
Current Assets		**18,256,474**	**15,477,158**
Prepaid Expenses and Deferred Taxes	(8)	**400,276**	**317,191**
		25,404,972	**22,501,332**

Shareholders' Equity and Liabilities	Notes	31.12.1991 DM thousand	31.12.1990 DM thousand
Subscribed capital	(9)	896,078	793,690
Capital reserve	(9)	795,949	774,793
Profit reserves	(10)	4,377,681	4,037,434
Net income available for distribution		224,637	198,879
Investment of other shareholders	(11)	97,170	54,806
Shareholders' Equity	(12)	**6,391,515**	**5,859,602**
Registered Dividend Right Certificates		**103,161**	**104,534**
Pension fund provisions		1,441,589	1,295,844
Other provisions		5,360,012	5,212,474
Provisions	(13)	**6,801,601**	**6,508,318**
Bonds		1,424,084	1,500,368
Due to banks		1,021,869	603,971
Trade payables		1,633,478	1,463,438
Other liabilities		895,934	857,049
Liabilities	(14)	**4,975,365**	**4,424,826**
Liabilities from sales financing		5,763,183	4,533,196
Deferred income from leasing financing		1,279,123	969,292
Liabilities from Sales Financing	(15)	**7,042,306**	**5,502,488**
Deferred Income		**91,024**	**101,564**
		25,404,972	**22,501,332**

Consolidated Statement of Income

for the 1991 business year
in DM thousand

	Notes	1991 DM thousand	1990 DM thousand
Net Sales	(16)	**29,838,845**	**27,177,615**
Increase in product inventories and other company-produced additions to tangible fixed assets	(17)	738,082	462,167
Total Value of Production		**30,576,927**	**27,639,782**
Other operating income	(18)	1,169,537	986,124
Expenditure on materials	(19)	17,426,967	15,749,312
Expenditure on personnel	(20)	5,823,108	5,313,123
Depreciation on intangible assets and on fixed assets	(21)	1,805,004	1,777,981
Other operating expenditure	(22)	5,027,445	4,261,297
Income from investment in subsidiaries and associated companies	(23)	5,066	3,920
Interest income	(24)	326,588	319,079
Interest expenditure from leasing financing	(25)	243,256	183,664
Income from normal business		1,752,338	1,663,528
Taxes on income and profits	(26)	781,500	831,669
Other taxes		188,152	135,996
Year's Net Income	(27)	**782,686**	**695,863**

Notes

Development of Intangible, Tangible Fixed and Financial Assets of the Group

	Gross value 1.1.1991 DM thousand	Additions DM thousand	Retirements DM thousand
Intangible Assets	**28,217**	**101,090**	**7,768**
Real estate, equivalent rights and buildings, including buildings on land not owned	4,296,240	209,012	43,686
Technical plants and machinery	10,787,966	1,191,725	179,582
Other plants, fixtures, furniture and office equipment	1,539,282	397,031	159,592
Advance payments and construction in progress	401,627	223,715	53,667
Fixed Assets	**17,025,115**	**2,021,483**	**436,527**
Investment in subsidiaries	244,866	39,227	213,369
Loans to subsidiaries	9,745	–	9,745
Investment in associated companies	24,670	14,027	700
Investment	53,906	760	8,556
Loans to companies in which an interest is held	35,326	–	10,827
Marketable securities in financial assets	–	7,107	–
Other loans	23,061	3,219	7,773
Financial Assets	**391,574**	**64,340**	**250,970**
Intangible, Tangible Fixed and Financial Assets	**17,444,906**	**2,186,913**	**695,265**

Transfers DM thousand	Gross value 31.12.1991 DM thousand	Accumulated depreciation DM thousand	Net value 31.12.1991 DM thousand	Net value 31.12.1990 DM thousand	Depreciation of the business year DM thousand
–	**121,539**	**88,518**	**33,021**	**4,942**	**72,965**
50,161	4,511,727	1,597,920	2,913,807	2,875,757	191,797
246,163	12,046,272	9,189,983	2,856,289	2,625,980	1,206,968
13,175	1,789,896	1,290,265	499,631	435,549	333,274
– 309,499	262,176	–	262,176	401,627	–
–	**18,610,071**	**12,078,168**	**6,531,903**	**6,338,913**	**1,732,039**
– 200	70,524	–	70,524	244,866	–
–	–	–	–	9,745	–
200	38,197	–	38,197	24,670	–
–	46,110	19,681	26,429	27,444	–
–	24,499	61	24,438	35,261	–
–	7,107	–	7,107	–	–
–	18,507	1,904	16,603	21,142	11
–	**204,944**	**21,646**	**183,298**	**363,128**	**11**
–	**18,936,554**	**12,188,332**	**6,748,222**	**6,706,983**	**1,805,015**

Notes

Principles

Consolidated Companies

In addition to BMW AG, basically all the subsidiaries in the Federal Republic of Germany and abroad are included among the consolidated companies in accordance with the requirements of the Law on Balance Sheet Principles.

The consolidated companies comprise BMW AG, 16 subsidiaries in the Federal Republic and 36 subsidiaries abroad.

Compared with the previous year, two subsidiaries in the Federal Republic are included, for the first time, in the consolidated financial statements.

11 subsidiaries in the Federal Republic and 26 subsidiaries abroad are not included because of their small significance to the Group's financial and income position. Two subsidiaries in the Federal Republic and two subsidiaries abroad are not included in accordance with Section 296 Para. 1 No. 2 HGB (Commercial Code). They are valued using the equity method.

One associated company is valued using the equity method. 12 associated companies are not included because of their small significance. These associated companies are shown under investments at acquisition cost, less depreciation where applicable.

A list of the investments held by the BMW Group is deposited with the Commercial Register of the Munich Local Court (HRB 42243).

Principles of Consolidation

The capital is consolidated according to the book value method by offsetting the acquisition cost with the group share in the shareholders' equity of the consolidated subsidiaries at the time of purchase or initial consolidation. The resultant difference is offset against profit reserves.

The same principles are applied for showing associated companies in the balance sheet according to the equity method.

Receivables, liabilities, provisions, sales, expenditure, income and earnings between group companies are eliminated.

Currency Conversion

The intangible, tangible fixed and financial assets arising from the financial statements of subsidiaries, prepared in foreign currencies, are valued with historical exchange rates in the consolidated financial statements. Other balance sheet items are converted into D-marks at the exchange rate on the balance sheet date.

Like the intangible, tangible fixed and financial assets, depreciation and write-ups are converted at historical exchange rates, the other expenditure and income items at the year's average exchange rate. The year's income is converted at the exchange rate on the balance sheet date.

Currency differences arising from the conversion of balance sheet items are offset against the shareholders' equity without affecting net income. If they result from the use of different exchange rates in the statement of income, they are shown in other operating expenditure.

Receivables and liabilities denominated in a foreign currency are valued at the buying rate in the individual financial statements of BMW AG and the subsidiaries. Exchange losses on the balance sheet date are taken into account. If the exchange rate for receivables and liabilities denominated in a foreign currency at subsidiaries abroad is covered by forward exchange contracts, valuation is at the respective covered rate.

Principles of Balance Sheet Preparation and Valuation

For the sake of clarity, individual items have been grouped together in the consolidated balance sheet and are shown separately in the notes. Separate items are added to the consolidated financial statements to show the effects of sales financing.

The financial statements of BMW AG and the subsidiaries in the Federal Republic of Germany and abroad are drawn up in accordance with uniform principles of balance sheet preparation and valuation. In order to ensure uniform valuation in the Group, tax depreciation and special reserves in the individual financial statements of the consolidated companies, based only on tax provisions, are not shown

in the consolidated financial statements. In the financial statements of associated companies, those valuations are maintained that deviate only slightly from the uniform principles for the Group.

Intangible assets acquired against payment are valued at their acquisition cost. They are depreciated predominantly by the declining balance method.

Fixed assets are valued at their acquisition or manufacturing cost less depreciation. Fixed assets subject to wear, with a useful life of more than three years, are depreciated by the declining balance method. The declining balance is replaced by the straight-line method as soon as this leads to higher depreciation.

Additions to assets of minor value are fully written off in the year of acquisition.

Office and factory buildings, and distribution facilities which are part of the buildings, are depreciated in 8 to 50 years, technical plants and machinery in 3 to 10 years, other plants, fixtures, furniture and office equipment predominantly in 5 years. For machinery used in multiple-shift operations depreciation rates are increased to take account of the additional utilization.

Major investments in associated companies are shown with their proportionate net assets (equity method) in accordance with the book value method. The changes in book values are shown as additions or retirements in the development of intangible, tangible fixed and financial assets. Investment in subsidiaries and associated companies that are not consolidated is shown at its acquisition cost or lower current value. Loans are shown at their discounted net present value.

Raw materials, supplies and merchandise are valued by taking account of the lower of cost or market value. Work in process and finished products are valued at their direct material and production cost. The inventories bought from consolidated companies include production-related shares of production overheads. Write-downs are made to cover risks arising from prolonged storage or technical obsolescence of inventories.

All leased products are depreciated by the declining balance method. This is replaced by the straight-line method as soon as this leads to higher depreciation.

All risks identifiable on receivables and other assets are provided for by appropriate write-offs. Non-interest-bearing or low-interest-bearing receivables with a term exceeding one year are shown at their discounted value.

Marketable securities and notes are valued at their acquisition cost or lower values on the balance sheet date.

Pension provisions are calculated with the going-concern value according to actuarial principles with an interest rate of 5%. The other provisions are made to take account of all identifiable risks. Provisions are also made for expenditure.

Deferred taxes are calculated for timing differences between the commercial balance sheet result and the taxable income of the consolidated companies. Prepaid deferred taxes are set off against accrued deferred tax expenses. An active balance from prepaid deferred taxes of the individual financial statements is not shown. Deferred taxes arising from consolidation are shown in accordance with the legal requirements.

Notes

The Consolidated Balance Sheet

(1) Intangible Assets

Additions relate to intangible assets of BMW Rolls-Royce GmbH, Oberursel, included in the consolidated financial statements for the first time in the year under review.

(2) Financial Assets

Retirements from investment in subsidiaries result primarily from inclusion, for the first time, of BMW Rolls-Royce GmbH, Oberursel, in the consolidated financial statements.

The shares in softlab GmbH für Systementwicklung und EDV-Anwendung, Munich, and the subgroup of the Bavaria Wirtschaftsagentur GmbH, Munich, are shown under investment in associated companies.

(3) Inventories

	31.12.1991 DM thousand	31.12.1990 DM thousand
Raw materials and supplies	477,703	461,040
Work in process	468,062	226,371
Finished products and merchandise	2,140,435	1,926,044
Advance payments	11,219	7,246
	3,097,419	2,620,701
Advance payments received	99,726	76,722
	2,997,693	**2,543,979**

(4) Assets from Sales Financing

	31.12.1991 DM thousand	31.12.1990 DM thousand
Leased products	3,413,880	2,775,903
Receivables from sales financing		
Customer loan receivables	4,431,276	3,438,720
– thereof with a remaining term of more than one year: DM 1,987,766 thousand (DM 1,483,765 thousand in 1990) –		
Other receivables	232,176	91,157
– thereof with a remaining term of more than one year: DM 17,188 thousand (DM 392 thousand in 1990)) –		
	4,663,452	3,529,877
	8,077,332	**6,305,780**

(5) Receivables and Miscellaneous Assets

	31.12.1991 DM thousand	31.12.1990 DM thousand
Trade receivables	1,760,238	1,414,453
– thereof with a remaining term of more than one year: DM 27,503 thousand (DM 22,313 thousand in 1990) –		
Other receivables and miscellaneous assets		
Receivables from subsidiaries	223,493	81,842
– thereof with a remaining term of more than one year: DM 25,870 thousand (DM 20,246 thousand in 1990) –		
Receivables from companies in which an interest is held	30,832	25,516
– thereof with a remaining term of more than one year: DM 26,681 thousand (DM 5,952 thousand in 1990) –		
Miscellaneous assets	788,092	761,808
– thereof with a remaining term of more than one year: DM 107,674 thousand (DM 61,809 thousand in 1990) –		
	1,042,417	869,166
	2,802,655	**2,283,619**

Miscellaneous assets include, in particular, tax refund claims, loans, shareholder rights and deferred interest claims.

(6) Marketable Securities and Notes

	31.12.1991 DM thousand	31.12.1990 DM thousand
Other securities	1,979,117	1,819,251
Notes	313,343	318,386
	2,292,460	**2,137,637**

Other securities are primarily fixed-interest marketable securities and shares in investment funds.

(7) Liquid Funds

These are cash at banks, cash on hand and deposits with the Bundesbank and in postal giro accounts.

(8) Prepaid Expenses and Deferred Taxes

	31.12.1991 DM thousand	31.12.1990 DM thousand
Prepaid expenses	64,802	38,460
Deferred taxes	335,474	278,731
	400,276	**317,191**

(9) Subscribed Capital and Capital Reserve

The subscribed capital of BMW AG, amounting to DM 896.1 million, comprises 9,065,000 ordinary shares with a nominal value of DM 50, 225,000 ordinary shares with a nominal value of DM 100, 368,000 ordinary shares with a nominal value of DM 1,000 and 1,046,558 non-voting preference shares with a nominal value of DM 50. The preference shares participate and bear an extra dividend of DM 1 per preference share. All shares are bearer shares.

The subscribed capital rose in the year under review as a result of an increase in capital from corporate funds by the issue of ordinary shares amounting to DM 93.7 million and of non-voting preference shares amounting to DM 5.5 million.

The subscribed capital also increased as a result of the issue of non-voting preference shares to employees, amounting to DM 3.2 million. Thus, the authorized capital of BMW AG amounted to DM 5.6 million on the balance sheet date.

The premium from the capital increase amounted to DM 21.2 million and was transferred to the capital reserve.

(10) Profit Reserves

The profit reserves contain the legal reserves of DM 1.7 million, the other profit reserves of BMW AG and the reserves formed from the income of the consolidated companies.

(11) Investment of Other Shareholders

This item includes third-party investment in the shareholders' equity of the subsidiaries included. It contains primarily minority investment in BMW Rolls-Royce GmbH, Oberursel, and BMW Credit Corp., Barrington, Illinois.

(12) Shareholders' Equity

DM thousand

Development of shareholders' equity:	
Balance on December 31, 1990	5,859,602
Dividend of BMW AG for 1990	– 198,879
Increase in subscribed capital from the authorized capital	+ 3,177
Increase in subscribed capital from corporate funds	+ 99,211
Transfer to capital reserve from the capital increase for preference shares	+ 21,156
Change in profit reserves	
– Bonus shares	– 99,211
– Transfer from the year's net income	+ 529,300
– Offsetting of goodwill	– 135,923
– Other changes	+ 46,081
	+ 340,247
Net income available for distribution	+ 224,637
Change in investment of other shareholders	+ 42,364
– thereof from the year's net income: DM 28,749 thousand –	
Balance on December 31, 1991	**6,391,515**

Other changes in the profit reserves include the conversion of financial statements in foreign currency denominations and the changes arising from the consolidation of capital.

(13) Provisions

	31.12.1991 DM thousand	31.12.1990 DM thousand
Pension fund provisions	1,441,589	1,295,844
Provisions for taxes	812,600	588,802
Other provisions	4,547,412	4,623,672
	6,801,601	**6,508,318**

The pension fund provisions are related mainly to future rights of employees of BMW AG to old age pension payments. The pension liabilities are covered entirely by provisions. The other provisions include in particular product warranty worldwide, risks arising from litigation proceedings and guarantees, obligations arising in the personnel and social sector, and risks arising from forward loss contracts. Provisions have also been made for maintenance work that has been scheduled in the business year and has to be carried out in the following year, for large-scale repairs and other expenditures.

(14) Liabilities

	31.12.1991			31.12.1990
		thereof remaining term		
		up to 1 year	over 5 years	
	DM thousand	DM thousand	DM thousand	DM thousand
Bonds	1,424,084	126,729	772,281	1,500,368
Due to banks	1,021,869	454,650	304,255	603,971
Trade payables	1,633,478	1,632,888	–	1,463,438
Other liabilities				
Advance payments received for orders	24,990	24,990	–	30,540
Liabilities from the acceptance of bills and the issue of promissory notes	62,646	62,646	–	35,075
Liabilities to subsidiaries	72,198	50,361	1,836	41,779
Liabilities to companies in which an interest is held	–	–	–	114
Liabilities to the BMW Benevolent Fund	61,238	–	61,238	59,774
Miscellaneous liabilities	674,862	591,147	36,643	689,767
– thereof for taxes	(245,157)	(245,157)	–	(272,548)
– thereof for social security	(47,096)	(47,096)	–	(58,424)
	895,934	729,144	99,717	857,049
	4,975,365	**2,943,411**	**1,176,253**	**4,424,826**

(15) Liabilities from Sales Financing

	31.12.1991			31.12.1990
		thereof remaining term		
		up to 1 year	*over* 5 years	
	DM thousand	DM thousand	DM thousand	DM thousand
Liabilities from sales financing				
Bonds	303,200	–	–	52,290
Due to banks	4,715,523	3,128,438	69,135	3,658,523
– thereof secured by mortgages	(109,682)	–	–	(115,007)
Trade payables	82,933	82,933	–	47,636
Commercial papers	521,591	521,591	–	645,372
Other liabilities	139,936	43,737	–	129,375
	5,763,183	3,776,699	69,135	4,533,196
Deferred income from leasing financing	1,279,123		–	969,292
	7,042,306	**3,776,699**	**69,135**	**5,502,488**

The liabilities from sales financing serve to refinance the leased products and the receivables from sales financing.

Deferred income from leasing financing comprises payments from ongoing leasing contracts that are not yet due.

Liability

	31.12.1991 DM thousand	31.12.1990 DM thousand
Guarantees	2,060	8,326
Warranties	93,503	16,568

Other Financial Obligations

According to maturity dates, the cash value of the obligations arising from rent and leasing contracts is as follows:

	31.12.1991 DM thousand
1992	260,931
1993 to 1996	598,115
after 1996	548,633

DM 79 million thereof are liabilities to subsidiaries.

The order liability for investments amounts to DM 914 million.

Other financial obligations amount to DM 174 million.

(16) Net Sales

	1991 DM thousand	1990 DM thousand
Automobiles	22,553,985	20,885,802
Motorcycles	429,339	384,575
Leasing	2,377,652	1,924,615
Other sales	4,477,869	3,982,623
	29,838,845	**27,177,615**
Federal Republic of Germany	12,954,874	10,452,795
Europe excluding the Federal Republic of Germany	8,984,599	8,571,985
North America, Asia, Africa, Australia and other markets	7,899,372	8,152,835
	29,838,845	**27,177,615**

Other sales are primarily from the sale of spare parts and accessories.

(17) Increase in Product Inventories and Other Company-produced Additions to Tangible Fixed Assets

	1991 DM thousand	1990 DM thousand
Increase in product inventories	633,917	341,325
Other company-produced additions to tangible fixed assets	104,165	120,842
	738,082	**462,167**

(18) Other Operating Income

Other operating income comprises the release of provisions, exchange gains, tax refunds and investment grants received.

(19) Expenditure on Materials

	1991 DM thousand	1990 DM thousand
Expenditure on raw materials, *supplies and merchandise purchased*	15,159,929	14,240,969
Depreciation on leased products	1,628,189	1,232,102
Expenditure on services purchased	638,849	276,241
	17,426,967	**15,749,312**

Expenditure on raw materials, supplies and purchased goods rose because of increased production and a larger share of models in the upper price range, compared with the previous year.

(20) Expenditure on Personnel

	1991 DM thousand	1990 DM thousand
Wages and salaries	4,943,498	4,429,913
Social security contributions, cost of pension plans and related benefits	879,610	883,210
– thereof for pension plans: DM 185,533 thousand (DM 230,979 thousand in 1990) –		
	5,823,108	**5,313,123**

Workforce on yearly average:	1991	1990
Wage earners	42,771	40,994
Salaried employees	25,549	24,798
	68,320	**65,792**

(21) Depreciation on Intangible Assets and on Fixed Assets

Depreciation on intangible assets and on fixed assets covers scheduled commercial balance sheet depreciation.

(22) Other Operating Expenditure

Other operating expenditure includes primarily additions to provisions, expenses for administration and distribution, warranties, outgoing freight, maintenance and repairs, rents and insurance premiums.

(23) Income from Investment in Subsidiaries and Associated Companies

	1991 DM thousand	1990 DM thousand
Income from investment	1,259	517
– thereof from subsidiaries: DM 123 thousand (DM 355 thousand in 1990) –		
Gains from profit and loss transfer agreements	311	4,922
Gains from associated companies	8,765	1,421
Expenditure on loss transfer	5,269	798
Depreciation on investment	–	2,142
	5,066	**3,920**

Gains from associated companies include, for the first time, the equity result of the subgroup Bavaria Wirtschaftsagentur GmbH, Munich.

(24) Interest Income

	1991 DM thousand	1990 DM thousand
Income from other marketable securities and loans of the financial assets	908	449
Other interest and similar income	890,062	781,668
– thereof from subsidiaries: DM 12,839 thousand (DM 4,161 thousand in 1990) –		
Interest and similar expenditure	547,831	420,464
– thereof to subsidiaries: DM 3,462 thousand (DM 5,660 thousand in 1990) –		
Depreciation on loans and on marketable securities and notes of the current assets	16,551	42,574
	326,588	**319,079**

Interest and similar expenditure, together with interest expenditure from leasing financing, amounted to DM 791.1 million (DM 604.1 million in 1990).

(25) Interest Expenditure from Leasing Financing

Interest expenditure from the financing of the leasing business is offset by corresponding gains which are contained in the leasing instalments and shown in the net sales.

(26) Taxes on Income and Profits

Taxes on profits are corporation income and trade earnings tax in the Federal Republic of Germany and comparable earnings-linked taxes abroad. They are calculated according to the tax laws that apply to the individual companies. This item also includes deferred taxes to take account of timing differences arising from consolidation.

(27) Year's Net Income

	1991 DM thousand	1990 DM thousand
Year's net income	**782,686**	**695,863**

Allocation of the year's net income:

Profit due to other shareholders	36,781	6,812
Losses attributable to other shareholders	8,032	2,342
Transfer to profit reserves	529,300	492,514
	558,049	496,984
Net income available for distribution	**224,637**	**198,879**

Notes

Miscellaneous

Total Remuneration of the Supervisory Board and of the Board of Management

Subject to the approval of the proposed dividend at the Annual General Meeting, the remuneration of serving members of the Board of Management for the 1991 business year amount to DM 14.2 million and that of former members of the Board of Management and their surviving dependents to DM 1.4 million. Total remuneration of the Supervisory Board for 1991 amounted to DM 1.5 million.

Reserves of DM 14.1 million have been made for all pension liabilities to former members of the Board of Management and their surviving dependents.

The members of the Supervisory Board and of the Board of Management are listed on page 9.

Munich, March 1992

Bayerische Motoren Werke
Aktiengesellschaft

The Board of Management

Auditors' Certificate

The Consolidated Financial Statements, which we have audited in accordance with professional standards, comply with the German legal provisions. With due regard to the generally accepted accounting principles, the Consolidated Financial Statements give a true and fair view of the Group's assets, liabilities, financial position and profit or loss. The Economic Review of the Group is consistent with the Consolidated Financial Statements.

Munich, March 5, 1992

KPMG Deutsche Treuhand-Gesellschaft
Aktiengesellschaft
Wirtschaftsprüfungsgesellschaft

Schnicke Wirtschaftsprüfer
Kilgert Wirtschaftsprüfer
(independent auditors)

Balance Sheet and Statement of Income of BMW AG

The Financial Statements of BMW AG, of which the balance sheet and the statement of income, in particular, are given here, have been provided with the unrestricted confirmatory audit certificate of KPMG Deutsche Treuhand-Gesellschaft AG Wirtschaftsprüfungsgesellschaft, are published in the Federal Gazette and deposited with the Commercial Register of the Munich Local Court. They are available from BMW AG, P.O.B. 40 02 40, D-8000 Munich 40.

Balance Sheet of BMW AG

at December 31, 1991
in DM thousand

Assets	31.12.1991 DM thousand	31.12.1990 DM thousand
Intangible assets	–	1,781
Tangible fixed assets	4,034,034	3,861,317
Financial assets	962,284	962,011
Fixed Assets	**4,996,318**	**4,825,109**
Inventories	1,470,625	1,255,866
Trade receivables	572,769	391,186
Receivables from subsidiaries	1,737,936	1,427,890
Other receivables and miscellaneous assets	518,844	661,742
Marketable securities and notes	1,543,029	1,428,839
Liquid funds	517,020	849,570
Current Assets	**6,360,223**	**6,015,093**
Prepaid Expenses	**7,163**	**3,736**
	11,363,704	**10,843,938**

Shareholders' Equity and Liabilities	31.12.1991 DM thousand	31.12.1990 DM thousand
Subscribed capital	896,078	793,690
Capital reserve	795,949	774,793
Profit reserves	2,442,965	2,317,539
Net income available for distribution	224,637	198,879
Shareholders' Equity	**4,359,629**	**4,084,901**
Registered Dividend Right Certificates	**103,161**	**104,534**
Pension fund provisions	1,356,356	1,236,310
Other provisions	3,488,237	3,719,545
Provisions	**4,844,593**	**4,955,855**
Due to banks	110,874	118,658
Trade payables	1,210,731	1,154,902
Liabilities to subsidiaries	370,537	159,370
Other liabilities	364,179	265,718
Liabilities	**2,056,321**	**1,698,648**
	11,363,704	**10,843,938**

Statement of Income of BMW AG

for the 1991 business year
in DM thousand

	1991 DM thousand	1990 DM thousand
Net Sales	**24,476,510**	**22,147,126**
Change in product inventories and other company-produced additions to tangible fixed assets	217,373	277,007
Total Value of Production	**24,693,883**	**22,424,133**
Other operating income	677,568	538,805
Expenditure on materials	15,132,747	13,723,108
Expenditure on personnel	4,942,730	4,594,755
Depreciation on intangible assets and on fixed assets	1,395,773	1,441,052
Other operating expenditure	3,481,874	2,632,845
Income from investment in subsidiaries and associated companies	199,906	82,769
Interest income	157,942	223,590
Income from normal business	776,175	877,537
Taxes on income and profits	227,852	389,371
Other taxes	99,049	90,408
Year's Net Income	**449,274**	**397,758**
Transfer to profit reserves	224,637	198,879
Net Income Available for Distribution	**224,637**	**198,879**

Major subsidiaries and associated companies of BMW AG at December 31, 1991	Shareholders' equity DM thousand	Income DM thousand	Capital investment in %
I. Subsidiaries			
Domestic			
BMW Rolls-Royce GmbH, Oberursel[1]	201,349	0	50.5
BMW Bank GmbH, Munich	113,032	7,516	100
BMW Maschinenfabrik Spandau GmbH, Berlin	89,780	8,907	100
KONTRON GmbH, Eching[1]	41,997	0	100
BMW Leasing GmbH, Munich[2]	31,184	0	100
BMW Ingenieur-Zentrum GmbH + Co., Munich	1,000	0	100
BMW Motorrad GmbH + Co., Munich	141	2,981	100
BMW Fahrzeugtechnik GmbH, Eisenach[2]	64	0	100
BMW INTEC Beteiligungs GmbH, Munich[2]	50	0	100
BMW Motorsport GmbH, Munich[2]	50	0	100
KONTRON Elektronik GmbH, Eching[1]	50	0	100
Foreign			
BMW Motoren Gesellschaft m.b.H., Steyr, Austria	546,024	192,703	100
BMW Coordination Center N.V., Bornem, Belgium	375,668	58,801	100
BMW France S.A., Bois d'Arcy, France	185,730	46,435	100
BMW (South Africa) (Pty) Ltd., Pretoria, South Africa	112,292	36,344	100
BMW Overseas Enterprises N.V., Willemstad, Curaçao	76,656	6,149	100
BMW Finance N.V., The Hague, Netherlands	59,063	19,482	100
BMW Austria Gesellschaft m.b.H., Salzburg[1], Austria	27,838	0	100
BMW Holding AG, Dielsdorf, Switzerland	22,473	785	100
BMW (Schweiz) AG, Dielsdorf, Switzerland	66,650	8,890	100
BMW Holding B.V., The Hague, Netherlands	369,401	41,744	100
BMW Ibérica S.A., Madrid, Spain	105,965	50,040	100
BMW Italia S.p.A., Palazzolo di Sona (Verona), Italy	104,080	56,428	100
BMW Belgium S.A./N.V., Bornem, Belgium	70,611	21,876	100
BMW Nederland B.V., The Hague, Netherlands	54,700	23,001	100
BMW Canada Inc., Whitby, Canada	33,942	16,422	100
BMW New Zealand Ltd., Auckland, New Zealand	7,512	276	100
BMW (US) Holding Corporation, Wilmington, Del., USA[3]	601,199	– 13,332	100
BMW (GB) Ltd., Bracknell, Great Britain	487,154	64,395	100
BMW Japan Corp., Tokyo, Japan	387,526	55,522	100
BMW Australia Ltd., Melbourne, Victoria, Australia	78,441	6,228	100
II. Associated companies			
softlab GmbH für Systementwicklung und EDV-Anwendung, Munich	63,479	3,554	40

1) Profit and loss transfer agreement with subsidiary of BMW AG
2) Profit and loss transfer agreement with BMW AG
3) Consolidated with BMW's operative US companies.

Agenda of the 72nd Annual General Meeting to be held on Tuesday, May 12, 1992 at 10am in the Philharmonie in the "Gasteig", Rosenheimer Strasse 5, 8000 Munich 80.

1.
Presentation of the Annual Accounts at December 31, 1991, the Economic Review and the Report of the Supervisory Board, as well as the Consolidated Financial Statements at December 31, 1991 and the Economic Review of the BMW Group included in the Economic Review.

2.
Resolution on the allocation of profits.

Board of Management and Supervisory Board propose using the balance sheet surplus for the 1991 business year, amounting to DM 224,637,185.25,

to pay a dividend of DM 12.50 per share with a nominal value of DM 50 on the subscribed capital with entitlement to full dividend payment for the 1991 business year (DM 843,750,000 in ordinary shares), i.e. DM 210,937,500, and

to pay a dividend of DM 13.50 per preference share with a nominal value of DM 50 on the subscribed capital with entitlement to full dividend payment for the 1991 business year (DM 49,151,250 in preference shares), i.e. DM 13,270,837.50, and

to pay a dividend of DM 6.75 per preference share with a nominal value of DM 50 on the subscribed capital with entitlement to half the dividend payment for the 1991 business year (DM 3,176,650 in preference shares), i.e. DM 428,847.75.

3.
Resolution on the formal approval of the actions of the members of the Board of Management.

Board of Management and Supervisory Board propose approving the actions of the members of the Board of Management for the 1991 business year.

4.
Resolution on the formal approval of the actions of the members of the Supervisory Board.

Board of Management and Supervisory Board propose approving the actions of the members of the Supervisory Board for the 1991 business year.

5.
Choice of auditors for the 1992 business year.

The Supervisory Board proposes the appointment of KPMG Deutsche Treuhand-Gesellschaft Aktiengesellschaft Wirtschaftsprüfungsgesellschaft, Munich, as auditors for the 1992 business year.

6.
Election to the Supervisory Board.

The Supervisory Board is composed in accordance with Clauses 96 Para. 1 and 101 Para. 1 of the German Corporation Law and Clause 7 Para. 1 No. 3 of the German Law on Co-determination. The General Meeting is not bound to accept the proposals for election.

Mr. Cornelis J. van der Klugt has resigned from office with effect from the close of the General Meeting on May 12, 1992.

The Supervisory Board proposes the election of Mr. Arthur L. Kelly, Managing Partner of KEL Enterprises Ltd., Chicago, Illinois, as shareholders' member of the Supervisory Board for the remaining period of office of Mr. van der Klugt, i.e. until the close of the 1994 General Meeting.

7.
Approval of a profit and loss transfer agreement with a subsidiary.

On December 9, 1991, a profit and loss agreement was concluded between Bayerische Motoren Werke Aktiengesellschaft and its wholly-owned subsidiary BMW Fahrzeugtechnik GmbH, Eisenach.

The General Meeting of Members of BMW Fahrzeugtechnik GmbH has already approved the profit and loss agreement in notarial form.

The agreement is available for inspection in the business premises of Bayerische Motoren Werke Aktiengesellschaft, Petuelring 130, 8000 Munich 40. The essential contents of the agreement are as follows:

BMW Fahrzeugtechnik GmbH undertakes to transfer its entire profit to Bayerische Motoren Werke Aktiengesellschaft. Bayerische Motoren Werke Aktiengesellschaft, for its part, undertakes to balance the year's losses at this subsidiary in accordance with the provisions of Clause 302 of the German Corporation Law.

BMW Fahrzeugtechnik GmbH may form other profit reserves only in as far as this is economically justified in accordance with sound commercial practice. The transfer of amounts from the reduction of other profit reserves set up prior to the date of agreement is excluded.

The agreement shall apply, for the first time, to the business year ending on December 31, 1991. It is concluded for an unspecified period and cannot be terminated before expiration of five years. Thereafter, it can be terminated by BMW Fahrzeugtechnik GmbH with one month's notice at the end of each business year.

The Board of Management and the Supervisory Board propose approving the agreement in analogous application of Clause 293 Para. 2 of the German Corporation Law.

		1982	1983
BMW Group			
Sales	DM million	11,620.4	14,025.7
Change	%	+ 21.7	+ 20.7
Workforce at end of year		47,466	50,158
Investment in intangible assets and in fixed assets	DM million	1,354.5	1,000.5
BMW AG			
Sales	DM million	9,371.6	11,480.9
Change	%	+ 19.8	+ 22.5
Export share	%	61.1	59.8
Production – automobiles	units	378,769	420,994
Production – motorcycles	units	30,554	28,053
Sales – automobiles	units	377,684	422,491
Sales – motorcycles	units	30,398	28,291
Investment in intangible assets and in fixed assets	DM million	752.5	800.6
Additions to investment in subsidiaries and associated companies	DM million	85.4	4.7
Depreciation on intangible assets and on fixed assets	DM million	615.8	716.9
Workforce at end of year		40,738	43,169
Wage earners		27,398	29,084
Salaried employees		11,113	11,778
Fixed assets	DM million	2,422.7	2,487.3
Current assets	DM million	2,203.4	2,713.8
Subscribed capital	DM million	600.0	600.0
Reserves	DM million	851.3	995.3
Shareholders' equity	DM million	1,561.3	1,739.3
in % of fixed assets	%	64.4	69.9
Long-term liabilities [1]	DM million	1,154.6	1,097.4
Long-term capital [2]	DM million	2,715.9	2,836.7
in % of fixed assets	%	112.1	114.0
Balance sheet total	DM million	4,626.1	5,201.1
Expenditure on materials	DM million	5,045.9	6,221.5
in % of total value of production	%	53.3	53.9
Expenditure on personnel	DM million	2,243.8	2,471.8
in % of total value of production	%	23.7	21.4
Taxes	DM million	375.7	620.3
Year's net income	DM million	200.0	288.0
Dividends	DM million	110.0	144.0
per share of DM 50 nominal value	DM	10.–	11.– + 1.–
per preference share of DM 50 nominal value	DM	–	–
per preference share of DM 50 nominal value (entitled to dividend payment from July 1)	DM	–	–

1) registered dividend right certificates, pension fund provisions, liabilities to the BMW Benevolent Fund, liabilities with a term of more than one year

2) shareholders' equity, long-term liabilities

3) proposal of the management

1984	1985	1986	1987	1988	1989	1990	1991
16,484.1	18,077.9	17,514.8	19,459.7	24,467.2	26,515.4	27,177.6	29,838.8
+ 17.5	+ 9.7	– 3.1	+ 11.1	+ 25.7	+ 8.4	+ 2.5	+ 9.8
51,931	53,925	58,062	62,794	65,812	66,267	70,948	74,385
860.3	1,375.6	2,236.9	2,112.3	1,910.5	1,819.8	2,065.8	2,122.6
12,931.6	14,246.4	14,994.3	17,656.7	19,883.7	20,957.8	22,147.1	24,476.5
+ 12.6	+ 10.2	+ 5.2	+ 17.8	+ 12.6	+ 5.4	+ 5.7	+ 10.5
61.1	65.0	65.7	65.9	59.8	58.5	55.5	50.9
431,995	445,233	446,438	461,340	484,121	511,476	519,660	553,230
34,001	37,104	32,054	27,508	23,817	25,761	31,589	33,980
434,266	440,732	446,109	459,502	486,592	510,968	513,731	550,256
33,912	36,320	31,731	27,811	24,205	25,549	30,899	33,109
663.8	906.5	1,735.0	1,541.2	1,254.9	1,416.7	1,749.9	1,616.5
5.4	35.0	86.8	102.2	54.2	92.0	333.3	0.7
707.9	751.6	948.9	1,145.6	1,231.0	1,233.3	1,441.1	1,395.8
44,692	46,814	50,719	54,861	56,981	57,087	59,544	61,617
29,524	30,170	31,883	34,185	35,524	35,212	37,483	39,026
12,677	13,918	15,822	17,522	18,157	18,457	18,903	19,416
2,410.6	2,592.0	3,486.9	3,964.2	4,019.1	4,272.3	4,825.1	4,996.3
3,496.0	3,980.9	4,564.3	4,661.5	5,344.8	5,860.5	6,018.8	6,367.4
600.0	600.0	750.0	750.0	750.0	790.6	793.7	896.1
1,160.1	1,320.3	2,141.0	2,328.5	2,516.0	2,868.0	3,092.3	3,238.9
1,910.1	2,070.3	3,059.8	3,266.0	3,453.5	3,851.6	4,084.9	4,359.6
79.2	79.9	87.8	82.4	85.9	90.2	84.7	87.3
1,183.0	1,268.4	1,125.9	1,161.1	1,195.7	1,312.5	1,497.6	1,615.8
3,093.1	3,338.7	4,185.7	4,427.1	4,649.2	5,164.1	5,582.5	5,975.4
128.3	128.8	120.0	111.7	115.7	120.9	115.7	119.6
5,906.6	6,572.9	8,051.2	8,625.7	9,363.9	10,132.8	10,843.9	11,363.7
6,915.0	7,890.8	8,606.6	10,260.3	11,880.9	12,727.6	13,723.1	15,132.7
53.6	55.1	57.1	57.8	59.4	60.5	61.2	61.3
2,792.5	2,918.5	3,173.7	3,586,4	4,000.2	4,126.6	4,594.8	4,942.7
21.7	20.4	21.1	20.2	20.0	19.6	20.5	20.0
692.7	731.5	706.8	551.0	615.5	587.5	479.7	326.9
329.6	300.0	337.5	375.0	375.0	386.0	397.8	449.3
150.0	150.0	168.8	187.5	187.5	193.0	198.9	224.6 [3]
12.50	12.50	12.50	12.50	12.50	12.50	12.50	12.50 [3]
–	–	–	–	–	6.75	13.50	13.50 [3]
–	–	–	–	–	–	6.75	6.75 [3]

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