

MESSER GRIESHEIM

1978



Messer Griesheim GmbH
 Welding and Cutting Products
 Industrial Gases
 Cryogenic Equipment
 — a member of
 the Hoechst Group

The whispering nozzle.
 Workshops where heating torches
 are used do not have to be noisy.
 These new FB-A heating nozzles for
 acetylene are much quieter than
 conventional heating nozzles.
 The noise level produced by heating
 duties carried out with these
 nozzles is below the 85 dB mark.
 There is no need, therefore,
 to wear ear protection.



Hoechst 

MESSER GRIESHEIM



MESSER GRIESHEIM INTERNATIONAL¹⁾

DM million	1978	1977	1976	1975	1974
Sales (excl. VAT)	1055	974	903	815	715
Foreign	349	320	279	256	180
Capital expenditure	139	131	141	109	52
Depreciation	83	69	69	75	53
Personnel expenditure	298	287	251	228	224
Number of employees	6953	6814	6338	6325	6093

MESSER GRIESHEIM GROUP²⁾

DM million	1978	1977	1976	1975	1974
Sales (excl. VAT)	839	787	749	681	658
Cash flow	175	158	146	126	111
Capital stock	120	102	84	84	75
Stockholders' equity	164	146	122	117	107
Technical research and development	36	35	32	28	28
Personnel expenditure	244	239	217	198	207
Number of employees	5354	5350	5307	5345	5494

¹⁾ Messer Griesheim International includes Messer Griesheim GmbH and the domestic and foreign subsidiaries in which it has a direct or indirect interest of 50% or more. The table includes the full figures relating to these companies regardless of the size of the holding.

²⁾ The Messer Griesheim Group includes those domestic companies indicated in the summary on page 15.

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The business year 1978, the subject of this annual report, was a good one for Messer Griesheim. For the first time ever, world sales exceeded DM 1,000 million. The company owes its success to the efforts and commitment of all 6,953 employees.

Messer Griesheim products are manufactured in 15 countries. Against the background of the increasingly international character of the company's activities, the close co-operation between the development departments and works of the German parent company on the one hand and the European and overseas subsidiaries on the other

proved most fruitful. New processes and products were put on the market. With economic growth still generally sluggish, increasing importance is attached to research and development.

This report is supplemented by a "day by day" account of the company's activities and achievements during 1978 in the form of a diary of events.

We should like to thank our business friends and colleagues for their co-operation, which is the very basis on which we hope to make further progress in 1979.

Hans Messer
Chairman of the Board
of Executive Directors

Stockholders, Supervisory Board, Board of Executive Directors, Executives

Stockholders

Hoechst Aktiengesellschaft
Messer Industrie GmbH

Thea Messer
Honorary Chairwoman
of the company

Supervisory Board

Willi Hoerkens, Chairman
Theo Geuss, Vice-Chairman
Horst Burgard
Jürg G. Engi
Hermann Günkel
Dietrich Hoffmann
Karl-Georg Ista
Karl Lips
Hermann Niedlich
Elisabeth Nitsche
Hans Reintges
Hans Schlachter

Board of Executive Directors

Hans Messer, Chairman
Gerd Grabhorn
Hans H. Kämpny
Joseph H. Van Riet

Executives

Klaus Baumgärtner
Alexander Decker
Paul-Otto Gehlhoff
Hans Hermann Grube
Hans Joachim Henning
Wolfgang Hromadka
Hubert Ludwig
Hans Schaeuffelen

January 1979

Fields of activity

Welding and Cutting Products

Oxy-fuel plant and equipment
Steelworks equipment
Gas supply equipment
Acetylene plants
Plastics welding equipment

Medical and special-purpose
equipment

Flame cutting machines
and guiding machines
for cutting processes
Computer systems for data carriers
Oxy-fuel machinery for steelworks
Continuous welding lines

Stick electrodes, welding rods,
welding wire, flux-cored
welding wire, metal powder,
soldering sticks, fluxes

Resistance welding machines
Microwelding equipment
Thyristor weld timers
Measuring and monitoring
equipment

Gas-shielded welding sets and
torches for MIG/MAG, TIG and
plasma processes
Plasma cutting plants
Welding power sources, fixtures
Submerged arc welding equipment

Planning and supply of production
systems

Welding accessories

Industrial Gases

Oxygen,
Nitrogen,
Hydrogen
in pipelines

Oxygen, nitrogen,
gaseous and liquid,
hydrogen, argon
and gas mixtures,
gaseous and liquid,
fuel gases

Rare and high-purity gases
Gases for respiratory
and medical purposes
Gas mixtures
Hydrocarbons
Laboratory gases and accessories
Gas re-purifying systems
Special fittings
Analysis equipment

Cryogenic plant and equipment
for the application of gases
and refrigeration
Superinsulated vessels

Development and consultancy
services for gas applications

Messer Griesheim International

In 1978 Messer Griesheim sales, including those subsidiaries in which the parent company has an interest of 50% or more (excluding reciprocal business) rose by 8.3% to DM 1,055 million. In terms of Deutschmarks, business has increased by 50% in 5 years, whereby the continuing upward valuation of the Deutschmark during this period should also be taken into account.

In virtually every country, the welding and cutting products sector suffered from the weak demand for capital goods. This affected the competition for markets and the employment situation. Against this background, the development of business at Messer Griesheim was stable, thanks in particular to the wide spectrum of customers served by the company. The universal range of machinery, equipment and filler materials for welding and cutting processes coupled with the company's ability to plan and supply complete production systems represents a worthwhile advantage for the user.

In the industrial gases field, too, Messer Griesheim offers a well-balanced range of products and versatile services. We were able to counter the unsatisfactory situation with regard to sales of gases to the steel-producing industry and important branches of the steel-processing industry with the introduction of new technical and scientific applications for gases and

cryogenic liquefied gases. As a result, 1978 proved overall to be a year of growth once more.

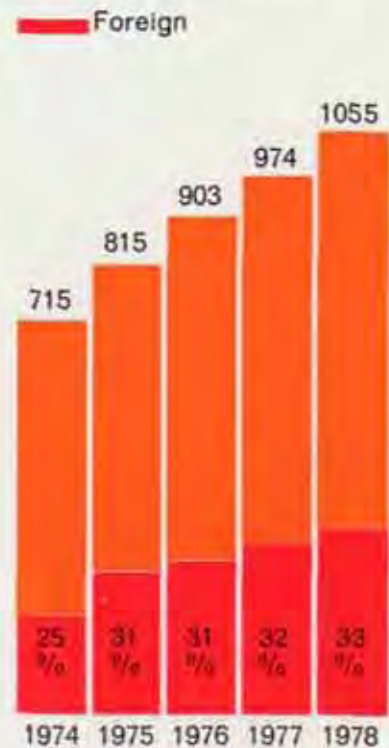
The Messer Griesheim Group, i.e. Messer Griesheim GmbH*) and its domestic subsidiaries, accounted for 80% of world sales. Group sales increased by 6.6% to DM 839 million. Sales in the home market rose by 8.0% to DM 707 million. At DM 133 million, exports remained on a par with the previous year.

Foreign sales totalled DM 349 million, comprising DM 133 million exports from the German works plus net sales of DM 216 million achieved by the foreign subsidiaries, and therefore accounted for one-third of world sales. Continued efforts were made to promote our overseas activities.

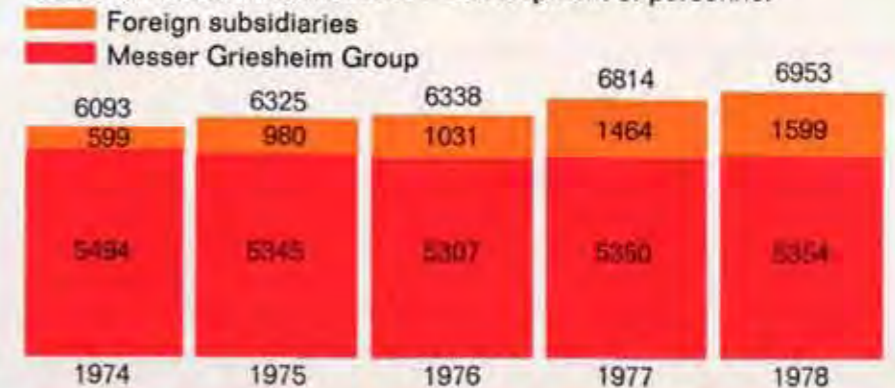
At the end of the year, the company employed 6,953 persons throughout the world, 5,354 in West Germany and 1,599 abroad. The increase in the number of employees was greater abroad than at home.

*) GmbH = Company with limited liability

Messer Griesheim world sales (excl. VAT) in DM million



Messer Griesheim International – Development of personnel



Messer Griesheim Group Employees

At the end of the year, Messer Griesheim GmbH employed 5,277 persons and the domestic subsidiaries a further 77 persons. Whereas the number of employees has scarcely changed over the past five years, increasing numbers of apprentices have been taken on since 1975. There was a fall in the number of foreign workers employed in the German works. Personnel expenditure — particularly ancillary personnel costs — continued to increase.

The net product gives a useful impression of the benefit to the economy produced by a company. It is calculated from the total operating performance, i.e. from the adjusted net sales — less third-party inputs such as consumption of materials, depreciation and other bought-in goods and services. The chart shows a break-down of the net product. Of the total figure, personnel expenditure (including compulsory social security contributions and taxes) accounts for 67%. The public sector also receives 17% of the net product in the form of taxes on income and property. The provisions for pensions and allocations to the Belegschaftshilfe were made in accordance with the facilities afforded under current fiscal regulations. After deducting their additional tax liabilities, the stockholders ploughed most of the available net result back into Messer Griesheim GmbH as an increase of capital.

The election of representatives for the Supervisory Board took place for the first time in accordance with the Co-determination Law (Mitbestimmungsgesetz) of 1977. The election procedure was very involved and costly. The poll was of the order of 60%. The turnout was higher for the election of the 181 Works Council representatives in 51 of the company's works. Here, 80% voted. Those Works Council representatives who had been elected for the first time were invited to attend induction seminars.



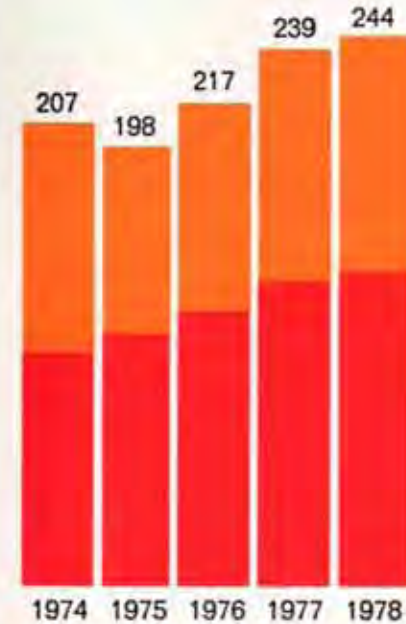
Employees

Workers
Staff

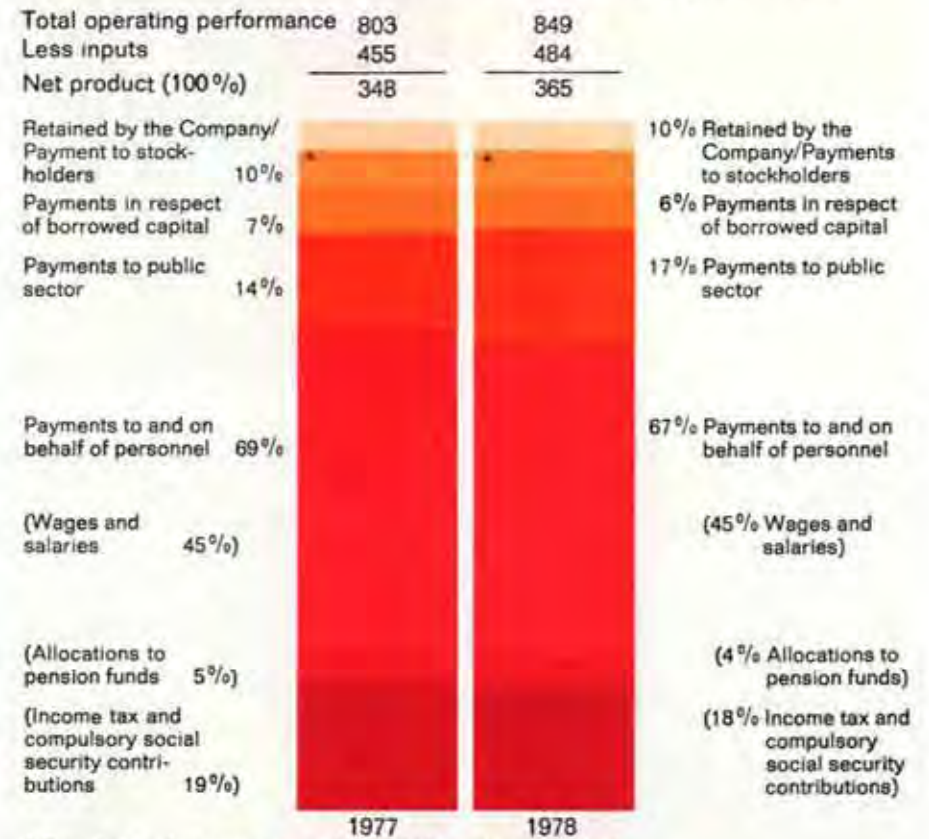


Expenditure on personnel DM mio

Ancillary personnel costs
Wages and salaries



Messer Griesheim Group: Breakdown of net product (DM million)



* Transfers to free reserves and intended increase of capital



Messer Griesheim Group Financial Statement

The following statement encompasses those domestic subsidiaries in which Messer Griesheim GmbH has an interest of 50% or more (see "Associated Companies", page 15).

Following the increase in capital stock by DM 18.0 million and the allocation of DM 1.0 million to the free reserves from the net income for the year, the stockholders' equity increased to DM 164.2 million, i.e. from 22.9% to 25.7% of the balance sheet total of the Messer Griesheim Group. A further increase in capital stock is planned for 1979. The stockholders' equity and long-term liabilities account for 72% of the balance sheet total and cover 99.2% of the fixed assets and inventories.

Investments totalled DM 82.7 million, of which DM 61.5 million (74%) comprised investments in tangible fixed assets and DM 21.2 million in financial investments (26%). Depreciation and disposals accounted for DM 57.6 million.

The additions in respect of our investments in financial assets were due to the expansion of activities of the foreign subsidiaries and associated companies. (For more detailed comments, please refer to "Associated Companies".)

With sales rising by 7%, the increase in inventories by DM 1.1 million was less than proportional; trade accounts receivable remained virtually unchanged from the previous year. The liquid assets were cut back to DM 37.4 million.

Receivables and liquid assets exceeded the short-term liabilities by 24%. The sound liquidity basis permitted a reduction of the long-term liabilities.

The gross cash flow increased to DM 175.2 million.

Balance sheet structure

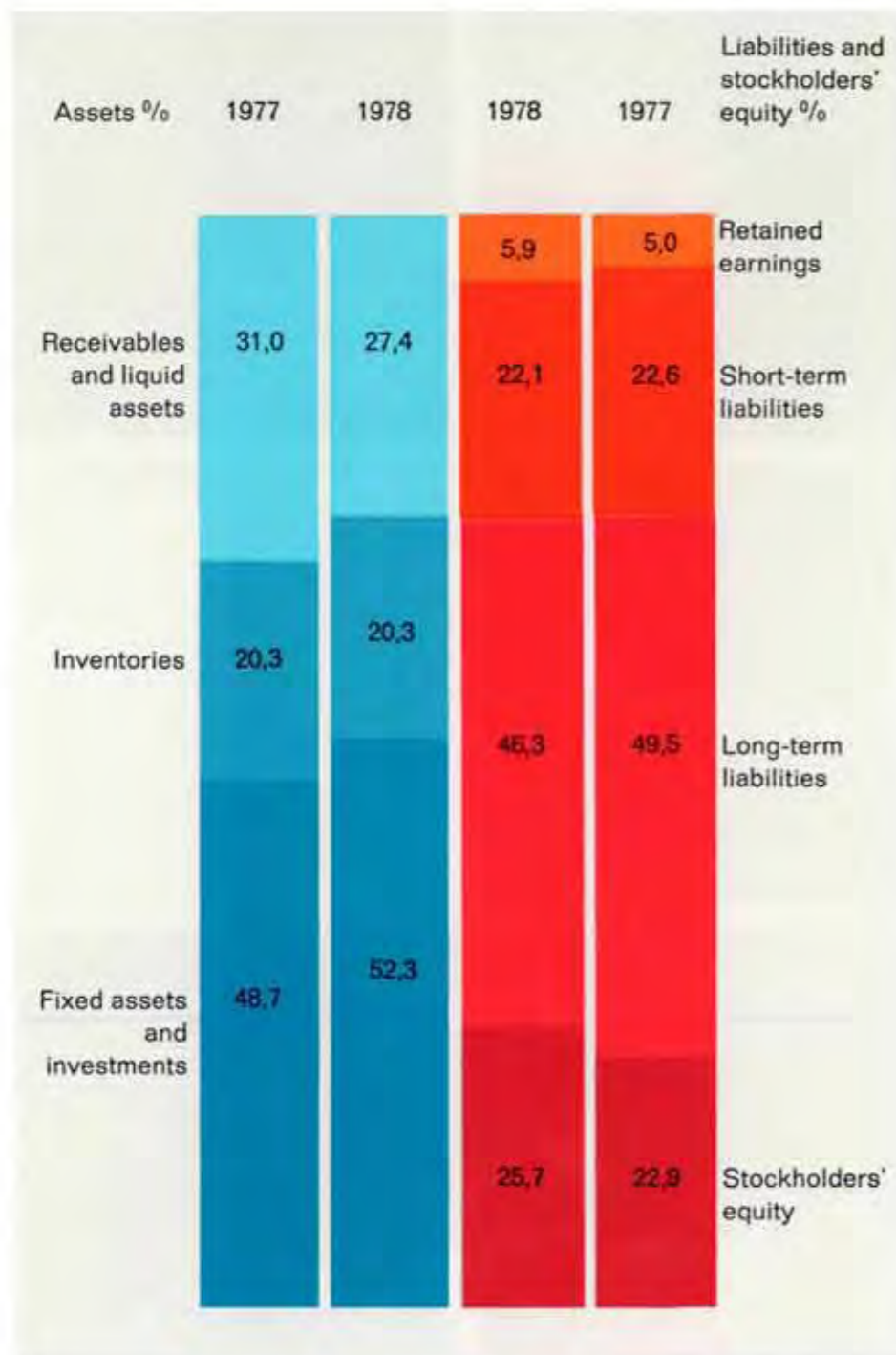
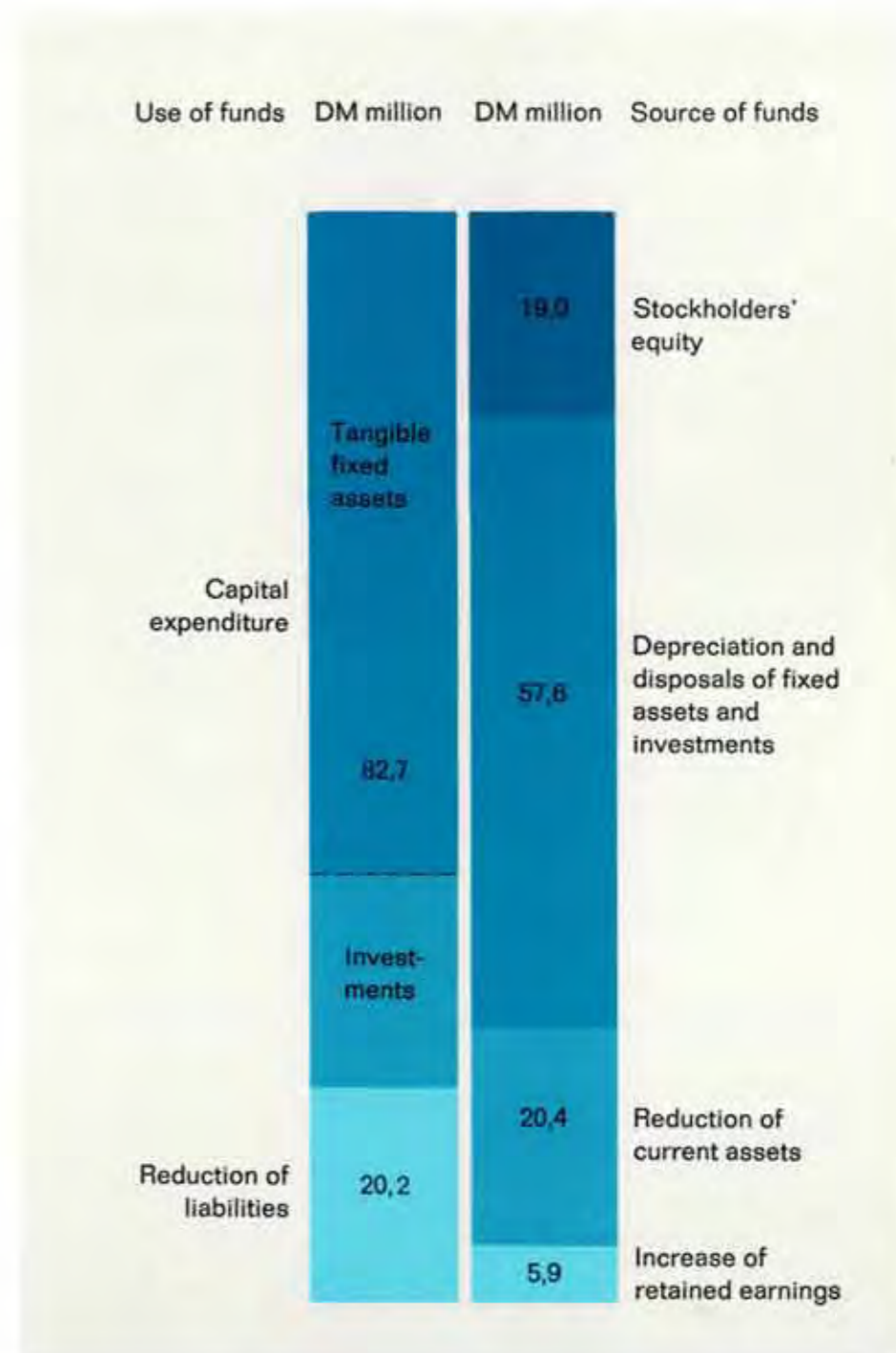
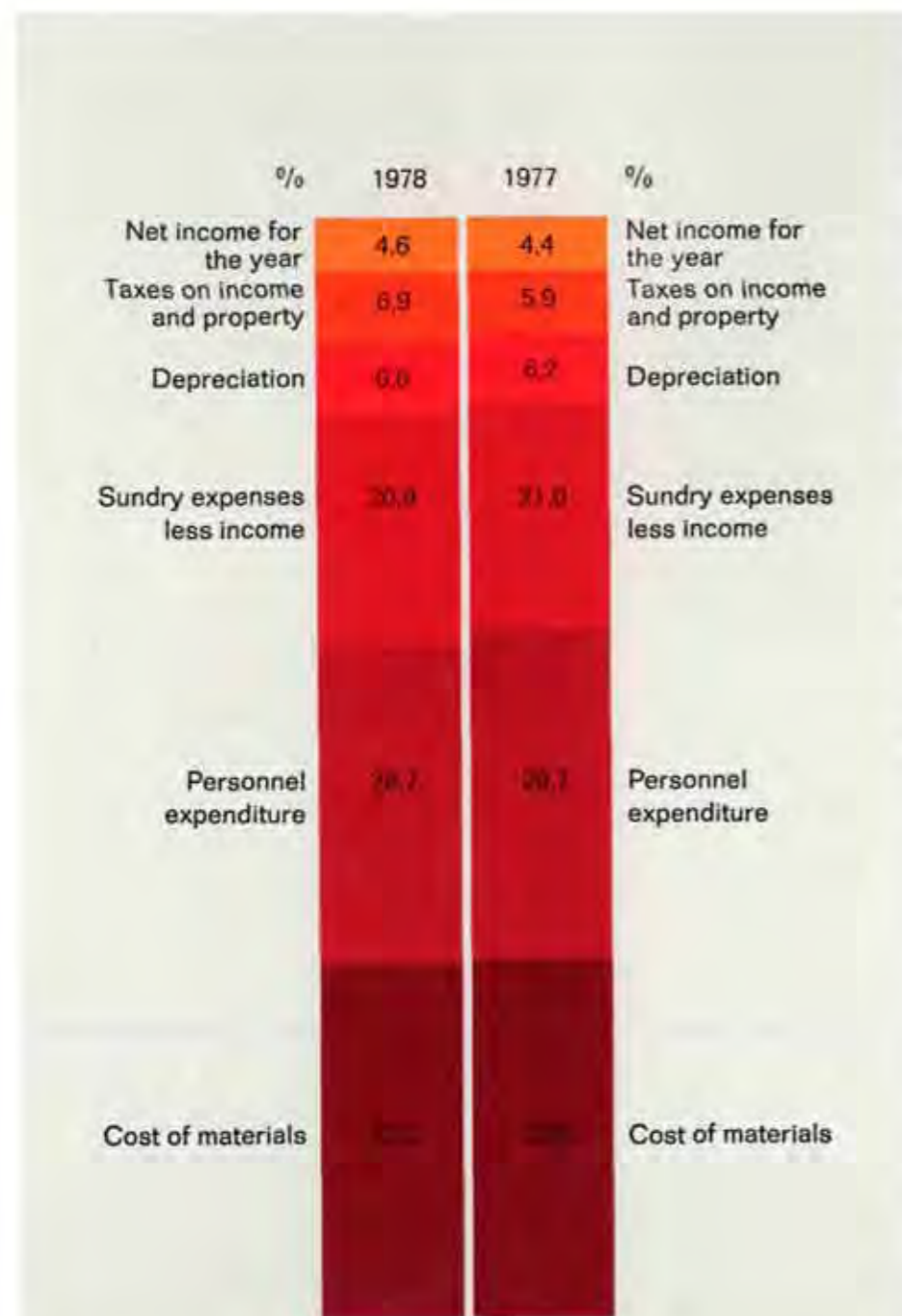


Table of finance



Structure of expenses



With sales having increased by 7%, the net income for the year rose to DM 39.3 million, of which DM 1.0 million were allocated to the free reserve; the net income for the year in relation to net sales increased from 4.4% to 4.6%.

Personnel expenditure, including the increased provisions for pensions and a grant of DM 2.5 million to the Belegschaftshilfe (staff assistance fund), rose by 2.2% to DM 243.8 million, corresponding to 28.7% of the total operating performance.

Expenditure on technical development accounted for DM 35.9 million, representing 4.2% of the total operating performance. This figure includes expenditure on research, development, design and applications technology. Licensing activities once more produced a positive result.

Total operating performance:
1978: DM 849.1 million
1977: DM 803.4 million

Associated companies

MESSER GRIESHEIM GMBH, Frankfurt (Main)

Capital stock: 120,000,000 DM

Domestic

Foreign

MESSER GRIESHEIM GROUP

Hüttensauerstoff GmbH, Düsseldorf
C: DM 20,000,000

Siegtal Cryotherm GmbH,
Kirchen-Euteneuer/Sieg
C: DM 1,400,000

Fülldraht GmbH, Frankfurt/Main
C: DM 100,000

Oxytechnik Gesellschaft für System-
technik mbH, Eschborn/Taunus
C: DM 20,000

Sauerstoff Union GmbH, Frankfurt/Main
C: DM 20,000

Oxysaar Hüttensauerstoff GmbH,
Saarbrücken
C: DM 2,000,000

Sauerstoff- und Stickstoffrohrleitungs-
gesellschaft mbH, Düsseldorf
C: DM 1,000,000

SIG Sauerstoffwerk Frankfurt GmbH,
C: DM 600,000

Cryotec Tief- und Tieftemperatur-
Technik GmbH, Pullach
C: DM 100,000

Buse Gase GmbH, Bad Hönningen
C: DM 100,000

Belegschaftshilfe Messer Griesheim
GmbH**), Frankfurt/Main
C: DM 20,000

C: = Capital stock

*) Holding less than 50%

***) Not included in the figures for
Messer Griesheim International

■ Industrial gases

■ Welding and cutting products

Messer Griesheim International AG,
Chur/Switzerland
C: SF 5,000,000

Sauerstoffwerk Lenzburg AG,
Lenzburg/Switzerland *) **)
C: SF 1,000,000

Leonarc Ges. m. b. H. *) **),
Leonstein/Austria
C: S 600,000

Messer Griesheim Ltd., Seaton Delaval,
Northumberland/UK
C: £ 200,000

Messer Griesheim Nederland B.V.,
Amsterdam/Netherlands
C: G 1,000,000

Messer Griesheim Austria Ges. m. b. H.,
Gumpoldskirchen/Austria
C: S 35,000,000

Messer Griesheim France S.A.,
Evry/France
C: F 1,500,000

Messer Griesheim Norsk Teknisk
Bureau A/S,
Oslo/Norway
C: Kr 2,000,000

Schweisstechnik AG, Zürich/Switzerland
C: SF 800,000

Carburios Messer Griesheim
Gases Industriales S.A. *),
Barcelona/Spain
C: Pts 420,000,000

Messer Griesheim do Brasil Ltda.,
São Paulo/Brazil
C: NCr \$ 25,000,000

Messer Griesheim de Mexico S.A.,
Mexico D.F./Mexico
C: Mex \$ 30,000,000

Messer Griesheim de Venezuela S.A.,
Caracas/Venezuela
C: Bs 1,800,000

Messer Griesheim Industries, Inc.,
Wilmington, Delaware/USA
C: \$ 10,000,000

Burdett Oxygen Company
Norristown, Pennsylvania/USA
C: \$ 8,000,000

Narox, Inc.,
Hopewell, Virginia/USA
C: \$ 300,000

C-R-O, Inc.,
Menomonee Falls,
Wisconsin/USA
C: \$ 2,000,000

Nippon Messer Griesheim Ltd.,
Tokyo/Japan
C: Yen 400,000,000

Likos AG, Zürich/Switzerland
C: SF 67,000,000

Airgaz S.A.R.L., Paris/France
C: F 53,241,500

L'Oxydrique Internationale S.A.,
Brussels/Belgium
C: BF 114,000,000

Fedgas (Pty.) Ltd.,
Alrode, Transvaal/South Africa
C: Rand 4,500,000

Welding Advisory Services
(Pty.) Ltd.,
Johannesburg/South Africa
C: Rand 100,000

Airgas Nederland B.V.,
Den Haag/Netherlands
C: G 16,000,000

Airgas S.A., Barcelona/Spain
C: Pts 20,000,000

The Messer Griesheim subsidiaries and associated companies increased their sales by 16% to DM 296 million. The net sales, i.e. excluding inter-company transactions, of the production and marketing operations totalled DM 15 million in Germany and DM 216 million abroad. The investments of DM 115 million in subsidiaries and associated companies are shown in the balance sheet of Messer Griesheim GmbH.

Domestic associated companies

Hüttensauerstoff GmbH, Düsseldorf
Capital stock: DM 20 million
Holdings: 100%
This company has leased its production plants and pipelines for oxygen and nitrogen to Messer Griesheim GmbH. The development of business fulfilled expectations.

Siegtal Cryotherm GmbH,
Kirchen-Euteneuen/Sieg
Capital stock: DM 1.4 million
Holdings: 100%
The rest of the shares (70%) were taken over. This company produces special vessels for cryogenic and liquefied gases. The company's sales and profit were satisfactory.

Oxytechnik Gesellschaft
für Systemtechnik mbH, Eschborn
Capital stock: DM 20,000
Holdings: 100%
The company has built up an international reputation as a supplier of complete production systems. Results were good.

Oxysaar Hüttensauerstoff GmbH,
Saarbrücken
Capital stock: DM 2 million
Holdings: 75%
This company, in which the Saarbergwerke AG has holdings of 25%, has leased its production plants and gas supply pipelines to Messer Griesheim GmbH on a long-term basis. These facilities are used for supplying the steel-producing and steel-processing industries in the Saarland with oxygen and nitrogen.

Sauerstoff- und Stickstoff-
rohrleitungsgesellschaft mbH,
Düsseldorf
Capital stock: DM 1 million
Holdings: 50%
The company owns a pipeline network for oxygen and nitrogen in the Köln area.

SIG Sauerstoffwerk Frankfurt GmbH,
Frankfurt/Main
Capital stock: DM 0.6 million
Holdings: 50%
The company has been supplying gases in the Rhein/Main area for 25 years. The Lonza-Werke GmbH has a 50% interest in the company.

Buse Gase GmbH, Bad Hönningen
Capital stock: DM 0.1 million
Holdings: 50%
A holding in this company, which was established by the Kohlensäurewerke R. Buse, was acquired at the end of 1978, thus providing a wider basis for Messer Griesheim's business with welding-grade carbon dioxide.

The annual financial statements of Messer Griesheim GmbH and its subsidiaries Hüttensauerstoff GmbH, Oxysaar Hüttensauerstoff GmbH and, for the first time, Oxytechnik Gesellschaft für Systemtechnik mbH are incorporated in the consolidated annual statement of Hoechst AG. Relationships with other companies associated with Hoechst are limited to the provision of goods and services on a normal commercial basis.

Messer Griesheim GmbH has profit and loss transfer agreements with the following companies:

- Hüttensauerstoff GmbH
- Fülldraht GmbH
- Oxytechnik Gesellschaft
für Systemtechnik mbH
- Sauerstoff Union GmbH
- Oxysaar Hüttensauerstoff GmbH
- Sauerstoff- und Stickstoff-
rohrleitungsgesellschaft mbH
- Cryotec-Tief- und Tieftemperatur-
Technik GmbH

Affiliates abroad

Continued efforts were made to expand production and marketing activities. A number of companies increased their capital stock in order to finance investments. Overall, the results achieved were satisfactory.

Messer Griesheim International AG,
Chur/Switzerland
Capital: SF 5 million
Holdings: 100%
This organisation has holdings in companies which operate in the fields of industrial gases and the production of welding electrodes.

Messer Griesheim Ltd.,
Seaton Delaval/UK
Capital: £ 200,000
Holdings: 100%

A satisfactory result was achieved once more although sales of welding and cutting products were adversely affected by the recession among important branches of industry served by the company.

Messer Griesheim Nederland B.V.,
Amsterdam/Netherlands
Capital: G 1 million
Holdings: 100%
The sales range comprises welding and cutting products as well as speciality gases. Sales of welding and cutting products suffered as a result of the continued decline in demand. The result was not satisfactory.

Messer Griesheim Austria
Ges. m. b. H., Gumpoldskirchen/
Austria
Capital: S 35 million
Holdings: 100%
The company operates in both fields of activity of the parent company and is responsible for the export markets of Albania, Bulgaria, Yugoslavia, Roumania, Czechoslovakia and Hungary. The expansion of business proceeded at a rapid pace. The new air separation plant, due to go on stream in the middle of 1979, will provide a wider basis for the production of oxygen and nitrogen.

Messer Griesheim France S.A.,
Evry/France
Capital: F 1.5 million
Holdings: 100%
The sales range comprises the welding and cutting products of the parent company. A new sales branch was opened in Rouen, thus extending the marketing and after-sales service network. Sales exceeded the previous year's result.

Messer Griesheim Norsk Teknisk
Bureau A/S, Oslo/Norway
Capital: Kr 2 million
Holdings: 100%
This company, acquired in 1978, markets welding and cutting products.

Schweißtechnik AG, Zürich/
Switzerland
Capital: SF 0.8 million
Holdings: 55%
The company operates in the fields of welding and cutting technology and markets speciality gases. Despite the stagnating economic situation in Switzerland, business was satisfactory.

Carbueros Messer Griesheim Gases
Industriales S.A., Barcelona/Spain
Capital: Pts 420 million
Holdings: 33 1/3%
This company, in which the Sociedad Española de Carbueros Metalicos S.A. and Hoechst Iberica S.A. have holdings, supplies the chemical industry in the Tarragona area with oxygen and nitrogen by pipeline. Sales failed to fulfil expectations.

Messer Griesheim do Brasil Ltda.,
São Paulo/Brazil
Capital: NCr \$ 25 million
Holdings: 75%
The company manufactures and markets machinery and equipment for welding and cutting as well as weld filler materials. Business fulfilled expectations. Hoechst do Brasil Quimica e Farmaceutica S.A. holds 25% of the capital stock.

Messer Griesheim de Mexico S.A.,
Mexico D.F./Mexico
Capital: Mex. \$ 30 million
Holdings: 75%
The company, in which Quimica Hoechst de Mexico S.A. has holdings, gained market successes with its range of gas-shielded welding equipment, welding electrodes and resistance welding machines. Sales and profit were increased.

Messer Griesheim de Venezuela S.A.,
Caracas/Venezuela
Capital: Bs 1.8 million
Holdings: 50%
The excellent business trends of this company, in which Hoechst Remedia S.A. holds a 50% interest, were maintained in 1978. Production capacity was expanded for welding electrodes and after-sales service facilities were extended for welding machinery and equipment.

Messer Griesheim Industries, Inc.,
Wilmington, Delaware/USA
Capital: \$ 10 million
Holdings: 100%
The capital stock was increased by \$ 3 million to \$ 10 million. The funds were used to increase the capital of the two subsidiaries Burdett Oxygen Company and C-R-O Inc.

Burdett Oxygen Company,
Norristown/USA
Capital: \$ 8 million
Holdings: 100% MG Industries Inc.
The capital stock was increased by \$ 2 million to \$ 8 million. The distribution facilities for gases were extended and the regional expansion of the distribution network was continued. The trading result was satisfactory.

C-R-O Inc., Menomonee Falls,
Wisconsin/USA
Capital: \$ 2 million
Holdings: 100% MG Industries Inc.
The company, which manufactures flame cutting machines and markets welding electrodes, was able to maintain its excellent trading results. Work was started on the construction of an electrode factory.

Nippon Messer Griesheim Ltd.,
Tokyo/Japan
Capital: Yen 400 million
Holdings: 75%
The company was established together with Hoechst Japan Ltd. at the end of 1978. It operates in the field of welding and cutting products, some of which are manufactured in Japan.

Likos AG, Zürich/Switzerland
Capital: SF 67 million
Holdings: 50%
The capital stock of the company was increased by SF 6 million to SF 67 million. The funds were used for increasing the capital of Airgaz S.A.R.L., Paris and for acquiring further stocks in the Belgian gas company L'Oxydrique Internationale S.A., Brussels.

Airgaz S.A.R.L., Paris/France
Capital: F 53.2 million
Holdings: 100% Likos AG
The company produces and distributes gases and cryogenic liquefied gases. Its activities are mainly concentrated in the Paris, Lyons and Marseilles areas. A new industrial gas production plant near Lyons went on stream. The capital stock was increased from F 40 million to F 53.2 million. The trading result did not fulfil expectations.

L'Oxydrique Internationale S.A.,
Brussels/Belgium
Capital: BF 114 million
Holdings: 94% Likos AG
The company operates in Belgium in the fields of industrial gases and welding and cutting technology.

Fedgas (Pty.) Ltd., Alrode/
South Africa
Capital: Rand 4.5 million
Holdings: 80% Likos AG
The company, in which the South African organisation Sasol holds an interest, expanded its production and marketing facilities for industrial gases and for welding and cutting products. Sales and profit remained positive in 1978, too. Fedgas now has a 60% interest in the distributing agency for Messer Griesheim special electrodes, Welding Advisory Services (Pty.) Ltd., Johannesburg.

Airgas Nederland B.V., Den Haag/
Netherlands
Capital: G 25 million
Holdings: 75% Likos AG
Sales of oxygen and nitrogen were sluggish on account of the unsatisfactory situation in the steel industry. Liquefied gases are marketed through W. A. Hoek's Machinen en Zuurstoffabriek, Schiedam. The two companies are linked by reciprocal holding arrangements.

Day by day, 1978

18th January



The first EUROMAG® 16 gas-shielded welding set to be manufactured in Mexico is tested out at VW de Mexico

Messer Griesheim de Mexico manufactures welding and cutting plants and equipment under licence and to the stringent quality specifications of the parent company. Safe, dependable products are the result — and that is why VW de Mexico is a good customer of Messer Griesheim.

23rd January



GRINOX® 10 electrode now available in Ecuador, too

Messer Griesheim's agents, Hoechst Eteco, have built up a good business in weld filler materials in Ecuador. One of the staff, Marcelo Espinosa, demonstrates the advantages of the GRINOX® 10 electrode in the works of Messrs. Paeco in Santo Domingo de los Colorados. He is seen here welding a corrosion-resistant steel tube on a palm oil extraction plant.

A diary of events:
Every day, the products and services of Messer Griesheim are used all over the world. We present a day by day report of the year's activities.

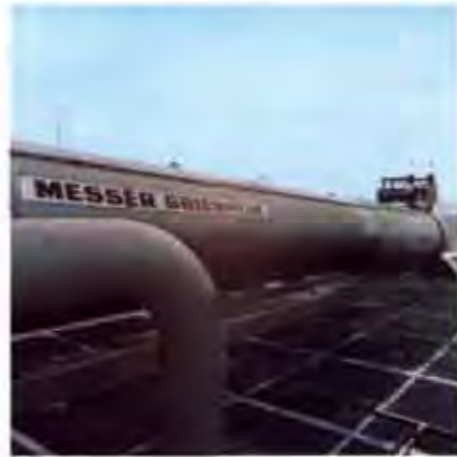
24th January



The first underwater plasma cutting plant supplied to the UK by Messer Griesheim

Staveleys Ltd. of Atherton, Manchester, can now cut stainless steel free from distortion with the new WIPC 500 underwater plasma cutting plant. The plasma torch is steered by a STATOSEC K 6 photo-electrically controlled guiding machine. The cutting table, which is filled with water, has air chambers which, filled with compressed air, permit speedy adjustment of the water level to suit the thickness of the material to be cut.

2nd February



Recycling of used tyres: Low temperature shredder plant put into operation

A low temperature shredding plant is put into operation at VEM Erz- und Stahlgesellschaft mit beschränkter Haftung, Essen, for recycling used tyres. The refrigerative properties of liquid nitrogen embrittle the tyre material so that the shredder process that follows requires less energy and reduces wear and tear of the equipment. The resultant granulate is a valuable raw material. It can be used for surfacing sports fields or, alternatively, ground to an even finer rubber powder that can be used as a regenerated material in new rubber compounds.

14th February



From today, up-to-date information can be provided at any time for day to day accounting

We wanted to be on the ball. We achieved this aim with the development and introduction of a new visual display system. The accounts are entered through a visual display unit in the conversational mode of the computer. As a result, up-to-date information can be retrieved at any time — and the cost of processing accounts is reduced. The integrated microfilming system minimizes paper work and record storage space.

16th February



Another research breakthrough: Sublimation cutting of aluminium

The new mobile CO₂ gas laser EUROLAS 1000 cuts 1.2 mm thick aluminium sheets at a feed rate of 800 mm per minute. The process involves a so-called sublimation cut, i.e. the material vaporizes and the cutting kerf remains extremely narrow. This means that it is now possible to use the laser for cutting aluminium to shape, for instance in the aircraft industry.

3rd March



Huta Katowice Steelworks puts a second V 11 scarfing machine into service

The test run is convincing. The newly delivered V 11 selective scarfing machine meets every requirement. The scarfed slab surfaces are clean, smooth and free from flaws. And there is no trouble from fumes. Gone are the days of dirty, strenuous hand scarfing. Now, the operator is seated in an air-conditioned cabin.

7th March



At work on the Itaipu construction site: "Piaui" the arc welder

The machines and vehicles used in the construction of the world's biggest hydroelectric power station in Brazil are subjected to severe wear and tear. Raimundo Rodrigues de Souza, nicknamed "Piaui", is one of the repair welders whose job is to renew worn metallic surfaces and weld broken components together again — using Messer Griesheim electrodes.

11th to 19th March



International Craft Industries Fair in München

Keen interest was shown in the CO₂ gas laser on display. Mounted on a photo-electrically controlled guiding machine, it can cut thin metal sheets as well as plastics, leather, wood, rubber, textiles, ceramics, quartz, porcelain and asbestos.

15th March



Service workshop opened in Kenya

In common with other African states, Kenya is expanding its industrial activities. Welding and cutting equipment is required in its car works, fabrication shops, boiler and pressure vessel works, and in the craft industries. To serve this growing market, Mackenzie (Kenya) Ltd. — Messer Griesheim's agents in Nairobi — have set up a new technical advisory and after-sales service depot.

22nd March



Data processing system installed at Fedgas

At the South African subsidiary, another step has been taken towards integrating the company's world-wide organisation. Our ultimate objective is to bring all hardware and software used throughout the company into line with each other so that business operations can be conducted with maximum speed and efficiency.

31st March



Fish-farming know-how passed on to Italian company

Erhard Albrecht is explaining to Ermanno Faedi and Enrico Rigamonti of the Italian gas company SIAD in Bergamo some of the finer points in the dossier he has prepared on the use of oxygen in fish-farming. The prospect of more efficient fish production through intensive fish-farming methods is attractive not only in the industrialised countries. The countries of the Third World are also showing great interest. With this new technique, they hope to remedy the almost chronic lack of protein in the staple diet of the population.

5th April



Cast iron water main dismantled with the ESSEN cutting torch

An old, cast iron water main on the Eder dam was scheduled for demolition. A difficult task — one which the demolition experts solved with oxygen and fuel gas from Messer Griesheim plus ESSEN, Germany's best-selling cutting torch.

5th April



The invisible weld

The fully transistorized welding power source MULTITIG[®] is used in research tests to TIG-weld the first ripple-free, virtually invisible butt weld. This weld quality is achieved on the workpiece, a copper-nickel tube, with a high-precision drive, correct selection of welding parameters and a welding program which runs fully electronically.

10th to 16th April



Messer Griesheim do Brasil at the São Paulo Trade Fair

On a stand that covers an area of 320 square meter, Messer Griesheim do Brasil exhibits welding and cutting machinery and equipment manufactured in Brazil. All products on display — like the flame cutting machine shown here — are put through their paces in practical demonstrations. Weld filler materials, for the production of which Messer Griesheim do Brasil will shortly be opening a new works, are another focal point of the stand.

18th April



The Annual Report for 1977 is presented to the press

Senator Dr. Hans Messer, Chairman of the Board of Executive Directors, presents his report to the press on the business developments of the preceding year. The company was successful in seeing through its business policies even in the face of growing world-wide economic difficulties. "In 1978, we expect world sales to exceed DM 1,000 million for the first time. The shareholders intend to increase the capital stock again in 1978."

1st May



Burdett supplies Western Electric with high-purity nitrogen by pipeline

Burdett Oxygen Co. starts to supply this electronics company with nitrogen by pipeline from the new air separation plant in Reading, Pennsylvania, USA. The plant, which supplies liquid nitrogen, liquid oxygen and argon, has been used to full capacity since August 1978.

9th May



Tiptop performance

The new telecommunications tower of the Federal Post Office in Frankfurt is 331 meter high. The tubular steelwork at the top is welded with GRICON® electrodes from Messer Griesheim: GRICON® 41 (OMEPA) for the root weld (first layer) and GRICON® 43 (KRONA) for the intermediate and top layers. The aerials will be erected here later.

18th May



Flame cutting machine undergoes acceptance test at C-R-O

This subsidiary company develops and builds flame cutting machines at its works in Menomonee Falls, Wisconsin. The product range extends from small hand cutting machines to large-scale NC systems. The acceptance test convinces the customer of the reliability of his machine.

1st June



Fedgas — 10 years in the South African market

Following initial difficulties, the last few years have been particularly successful. Fedgas has established a strong market position in both its fields of activity, i.e. industrial gases and welding and cutting products. By setting up a welding school, the company has made a contribution towards the country's training resources for young technical personnel.

13th to 21st June



AIRGAZ at the Europlastique international fair

The affiliated company AIRGAZ, which operates in the French industrial gases market, advises customers on how to solve specific application problems. At the Europlastique international fair in Paris, the company demonstrates the advantages of deflashing rubber mouldings using nitrogen. In the CRYO-JET plant, complicated technical mouldings are deflashed perfectly in a short, fully mechanized operation.

20th June



Research efforts focused on tests with the high performance laser

Using a mass spectrometer, Bernhard Dellith measures the dissociation of the gas molecules in the discharge chamber of a 1000 watt CO₂ laser. On the basis of this measurement, the amount of fresh gas that must be added can be set to the minimum value, thereby increasing the efficiency of the resonator and the laser itself. New fields of application have been opened up in industry and science.

22nd June



A new "giant" for fighting mine fires

Large volumes of liquid nitrogen have to be made available within a few hours for mine fire fighting duties. To extinguish the fire, the liquid nitrogen must first be converted into its gaseous phase.

This large, mobile regasifier is 13 meter high and holds 45,000 litres of liquid nitrogen. Here, it can be seen being set up ready for vacuum-insulating in our Hanauer Landstrasse works.

4th July



Oxygen succeeds where brute force fails

The bolts in these heavy plates used in mining have rusted in. But Mr. Krebschull, foreman at Messrs. Karl and Lothar Grüter in Castrop-Rauxel, has no problem in removing them — with an oxygen lance. The bearings are undamaged in the process and the plates can be re-used.

14th July



Messer Griesheim to go ahead with the construction of a new gas works at Krefeld-Gellep

The plans drawn up by specialists for the construction of a new gas works were approved today by a review committee. The central helium filling station and a filling plant designed for palletized transportation of steel cylinders for air gases will be erected in two construction phases. Efficient filling systems guarantee economic and dependable deliveries. The new plant means that spare capacities will become available at the neighbouring Krefeld and Duisburg works. These capacities will be utilized to extend the activities of the Applications Research Department and the production of speciality gases.

21st July



ROTAMIG® wire feed system one year old today

This new wire feed system, designed for use with VARIOMIG gas-shielded welding sets and for which patents have been applied, is making a name for itself. An important requirement in many fields of application, for instance shipbuilding, is that the welding wire can be fed reliably over extended distances. Here, the system is being used for welding a police launch in a Dormagen shipyard.

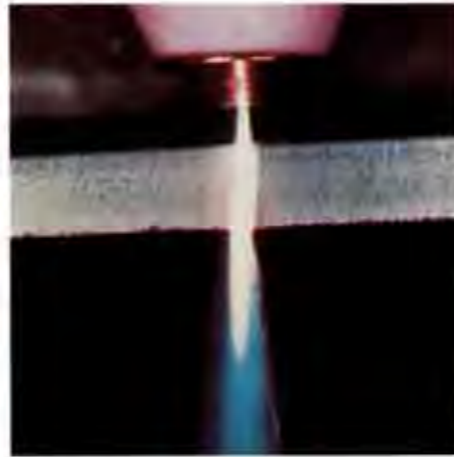
27th July



Messer Griesheim cryogenics know-how in demand

The development, design, construction and supply of cryogenic equipment, vacuum-insulated vessels, road tankers, vaporizers and re-gasifiers represent an important field of activity of the Industrial Gases Division. Here, the Lenzburg Oxygen Works takes delivery of a road tanker for liquefied air gases to be used for supplying the Swiss market.

28th July



Demag Fördertechnik impressed by GRIESON®

Demag Fördertechnik, at Wetter in the Ruhr district, use the plasma cutting gas GRIESON® to cut structural steel cable drums. Slag-free cuts are obtained at cutting speeds of up to 2 meter a minute. The cut edges are of such high quality that expensive refinishing operations are a thing of the past.

1st August



Bucket-wheel excavator problem resolved swiftly

A chain drive has to be replaced on a large bucket-wheel excavator used in an open-cast lignite mine. Manfred Biederbick provides an elegant solution to the problem with his liquid nitrogen service. The new fixing bolts are cooled in liquid nitrogen to minus 196 °C. This causes them to shrink by a few tenths of a millimeter so that they can be fitted without difficulty in the bore-holes provided.

10th August



EUROMAG® exports reach 1000

The gas-shielded welding set EUROMAG® was introduced in 1976 at the International Craft Industries Fair in München. Within a very short time, the plant has become a best-seller both in Germany and abroad. The 1000th export model will go into service in Iran.

17th August



Healthy calf produced from deep-frozen embryo

For the first time in the Federal Republic of Germany, a calf was born which had been deep-frozen as an embryo for four weeks in liquid nitrogen (-196 °C). After thawing, the embryo was then transplanted into the uterus of another animal. This successful experiment was performed by surgeons of the Veterinary College in Hannover in co-operation with the artificial insemination centre at Neustadt/Aisch using a BFR 201/200 R freezing unit from Messer Griesheim.

22nd August



New torch testing method

A plant for testing torch handles is put into operation in the works of the Oxy-fuel Equipment Division. Every handle is tested for oxygen/fuel gas leaks and for air tightness. Safe handles are given the green light.

29th August



New demonstration room at Messer Griesheim Ltd.

Here in Seaton Delaval, Gary Dobson shows UK customers the latest developments in the welding and cutting fields. At the same time, the plants and equipment, which are set up ready for operation, can be used for working on difficult problems and finding the best answers.

6th September



Seminar on the new appraisal interview scheme for employees

The "appraisal interview" scheme, which involves all senior members of the company's staff, i.e. those employees with negotiated contracts of employment, was introduced under the terms of Works Agreement 38. Here, senior executives familiarize themselves with the new scheme in a series of seminars. The employee forum continues the trend towards the closer involvement of employees in the company's activities. It will serve to improve the mutual exchange of information and provide a clear insight into the reasons behind policy decisions.

7th September



Concrete floor of cinema demolished noiselessly

The concrete floor of a cinema in Lünen proved to be a hard nut to crack. But, although it directly adjoined the wall of a department store, it presented no problem at all to Messer Griesheim's concrete cutting service. With a temperature of 4000 °C, the flame of the powder cutting torch eats its way through the reinforced concrete swiftly and without vibration. In contrast to conventional demolition methods, e.g. pneumatic drills, the thermal cutting of concrete avoids damage to neighbouring property and does not inconvenience residents nearby.

12th September



Completion of new assembly shop for flame cutting machines

The first construction phase of the Hanauer Landstrasse works modernisation programme is complete. Here, the company manufactures cutting machinery and pressure vessels. The new 2000 square meter large assembly shop is ready to start production of flame cutting machines on an assembly-line basis using a conveyor track system. Particular attention was paid to considerations of industrial physiology in the design and arrangement of the new production system. As a result, job satisfaction will be as high as the quality of the products.

15th September



Pipelines for oxygen and nitrogen checked from the air

At 3.45 p.m. aircraft pilot Büschert and his observer, Thieme, take off from Herongen. During the low level flight, Thieme looks out for damage or unreported construction work along the route of the twin oxygen/nitrogen pipeline between Hürth and Dormagen which supplies important consumers in the chemical industry. The reconnaissance flight reveals that a marker post has fallen over at kilometer 10 and that a new construction site has appeared at kilometer 29. Otherwise nothing new to report.

20th September



Supervisory Board visits new training centre

At the second meeting of the newly elected Supervisory Board, the priorities of the capital investment plan for 1979 are outlined and recommended for approval by the shareholders. A visit is paid to the training and further education centre, set up at a cost of DM 2.5 million. Here, in the training workshop, the members of the Supervisory Board are, from left to right: Theo Geuss, Georg Ista, Thea Messer, Honorary Chairwoman of the company, Dietrich Hoffmann, Hans Schlachter and Hermann Niedlich together with Bernhard Metzke, Training Manager.

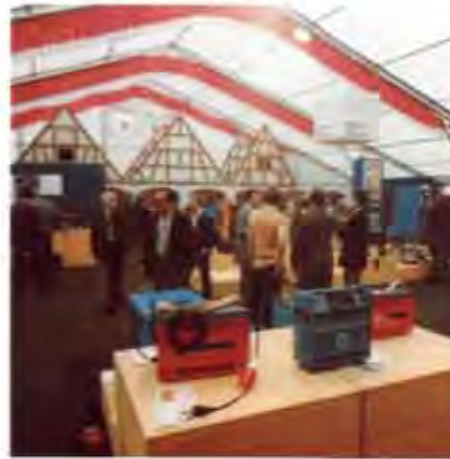
21st September



Coal gasification: Research project to secure future energy supplies

Today, the Rheinische Braunkohle AG starts up a pilot plant operating with oxygen from Messer Griesheim. In the coal gasification process, coal is made to react with water vapour under pressure at temperatures above 750 °C. As this is an endothermic process, additional heat has to be supplied. This is provided by combusting coal with oxygen. The end-product is high-grade town gas or methane.

21st to 23rd September



Welding and cutting exhibition in Nürnberg

The exhibition put on by the Nürnberg branch attracted a surprisingly large number of visitors. Under the motto "Higher productivity through advanced welding and cutting techniques", the 480 square meter marquee housed a range of exhibits of interest to local industries.

3rd to 7th October



Nuclex '78

Messer Griesheim's stand at this international nuclear science exhibition in Basel features the automatic high-precision welding set MULTITIG® for TIG welding with DC. In conjunction with the high-precision welding head, EXACTA, the integrated electronics circuit ensures consistently reproducible high performance welds. This is most important in the construction of nuclear reactors.

5th October



Info-Bus in Rome

Info-Bus, the exhibition on wheels, arouses great interest on its journey through southern Europe. The main themes on this trip are oxy-fuel equipment and new developments in gas-shielded welding. A programme of films and lectures helps to put visitors fully in the picture.

10th October



Introduction of visual display units for production control purposes

Star welding head . Article No. 2425 2100 . Quantity ordered 1000 . Month/year 11.78 = day 222.

1st operation process 010 . Machine group no. 20521 . Hours 17.86 . 1000 pieces produced on 10.10.78.

In a matter of seconds, the visual display unit provides information on capacity requirements, work progress and capacity efficiency. It makes for crystal-clear production data and effective production control.

12th October



Liquid helium vessel passes breaking test

A liquid helium vessel must not explode even if the insulating effect of the vessel wall is suddenly destroyed by a massive force. The test proves that the vessel is safe. The pressure increase is contained within acceptable limits.

16th October



Pipe processing plant shipped to Astrakhan

Within the space of just four weeks, Oxytechnik — Messer Griesheim's subsidiary in the engineering services and custom-built systems field — supplied two modern large-scale pipe processing plants for use in the shipbuilding industry. These production lines will turn out pipe sections with such precision that they will be ready for fit-up. Only four operators are required to control the largely automated process.

16th to 17th October



Welding course in Novara

In conjunction with the Associazione Industriali, the staff of Messer Griesheim in Italy organize an introductory course on gas-shielded welding techniques, as part of a free service for customers.

18th October



The German cutter "Amalie" lands 2 tons of prawns in Husum harbour

The fishery consortium in Husum freezes the freshly landed shrimps within two hours. The refrigerant used is liquid nitrogen. Efficient to use and convenient to store, liquid nitrogen is immediately at hand and helps the product to retain its succulence more effectively than conventional freezing techniques. Even the experienced gourmet will detect no difference between shrimps frozen in liquid nitrogen and the sea-fresh product.

20th October



Electrode factory to be built in USA

At the Board Meeting of the American affiliate C-R-O, Inc., which is engaged in the manufacture of welding and cutting equipment, the decision is taken to build an electrode factory in Menomonee Falls, Wisconsin. The works, which will be erected on a 45,000 square meter site at a cost of \$ 2 million, is planned to go into production at the end of 1979. The production range is to include special electrodes for maintenance and repair duties.

3rd November



Argon melt purifying process used for first time for purging nickel alloys

The argon melt purifying process serves to reduce the hydrogen content and oxide impurities in metallic melts. The process has been used successfully for purging aluminium alloys. The latest step has been to use the specially developed purging lance for other non-ferrous metal alloys, too. In an experiment carried out at the Vereinigte Deutsche Nickelwerke in Schwerte, a nickel alloy (64 % nickel, 30 % copper) is subjected to this treatment for the first time. By purifying the melt, the cold-working properties of the material are significantly improved.

8th November



Open day in the new training centre

Having taken 10 months to build, the training centre in the Hanauer Landstrasse works is opened on schedule for 60 new apprentices to commence their training. Altogether, 167 apprentices are being trained here on modern machinery and equipment for trade, technical and commercial occupations. A wide range of courses is also available to other employees — management and sales training, language courses and retirement preparation seminars.

14th November



Nitrogen-ethylene mixture accelerates growth of exotic plants

At his nursery in Morsum near Bremen, Wilfried Richter cultivates many varieties of Bromelia (the pineapple family). "We solve the problem of time-controlled blossoming with the help of a nitrogen-ethylene gas mixture from Messer Griesheim," he says. The plants are treated with this gas mixture under air-tight covers. The ethylene contained in the nitrogen is picked up through the leaves of the plant and triggers off the blossoming process. What is particularly important is that the gas mixture is non-flammable.

24th November



Final assembly of welding presses and turntables for the car industry

Oxytechnik has won an order from a German car factory for the supply of a number of welding presses and turntables. The plants are being built in the production workshops of the Hanauer Landstrasse works. Oxytechnik's know-how with the backing of Messer Griesheim's highly skilled workforce provides a sound basis for expanding our activities in this field.

29th November



Valve replaced by frozen plug

A 20 meter long section of a condensate pipe belonging to VEBA had to be re-laid at a lower level. Messer Griesheim's liquid nitrogen applications service solves the problem by freezing the liquid at both ends of the pipe section to form two solid, frozen plugs. The pipe is then cut, replaced and welded — without getting wet feet and without the need for expensive venting and re-filling operations.

30th November



Industrial Gases Division holds major R & D conference

Every year, R & D staff are required to report on the results of their work. It is an important means of ensuring that financial resources available for investment are allocated to the most deserving projects. This year, at the grinding and deflashing applications research shop in Krefeld, senior management and staff were reassured that resources for R & D had been well invested. Peter Grund of the Applications Research Department explains the liquid nitrogen deflashing process for rubber components to (from left to right) Dr. Karl Damaschke, Dr. Hans Schlachter, Willi Hoerkens, Dr. Reinhard Wolf and Heinz Golke.

14th December



Erection of refrigeration circuit compressor for new air separation plant in Austria

Today, 70 years after the foundation of the former Austro-Hungarian Oxygen Works, Messer Griesheim Austria is erecting a new plant for oxygen and nitrogen in the first construction phase on the works site in Gumpoldskirchen. The plant, which will have a liquefaction capacity of 1,400 cubic meter per hour, is scheduled to go on stream during 1979. In addition to industrial gases, Austria and the neighbouring countries of south-east Europe are important markets for the company's welding and cutting products.

28th December



Will oxygen prevent obnoxious smells from a sewage treatment plant?

The biological purification stage of the sewage treatment plant in Emscher, one of the largest in Europe, is supplied with air. In certain weather conditions, however, neighbouring residents have to put up with rather obnoxious smells. Such smells can be prevented by oxygenating the sludge with pure oxygen. Messer Griesheim has been commissioned to prove its effectiveness in a field trial.

Messer Griesheim GmbH: Annual financial statements for 1978

Notes to the balance sheet

Assets

The **tangible fixed assets** increased by DM 16.1 million to DM 187.7 million.

In specific terms, capital movements were as follows (in DM million):

As at 1. 1. 1978			171.6
Additions		58.7	
Disposals	0.5		
Depreciation	42.1	42.6	16.1
<hr/>			
As at 31. 12. 1978			187.7
Capital expenditure was as follows (in DM million):			Previous year
Land and buildings		10.8	6.7
Machinery and plant equipment, factory and office equipment		47.8	33.2
Intangible assets		0.1	—
<hr/>			
		58.7	39.9

Valuation of tangible fixed assets is effected in accordance with the rulings laid down in Articles 153 and 154, AktG¹⁾. An appropriate proportion of the costs permitted by Article 153 (2), AktG, was included in the valuation of company-constructed additions to assets.

Items of the tangible fixed assets subject to wear and tear were written off as scheduled in accordance with their presumed useful economic life at the maximum permissible depreciation rates.

In accordance with Article 7 (3), EStG²⁾ we have utilized the option to change from the declining to the straight-line method of depreciation.

For movable tangible fixed assets added in the first half-year, the full annual rate is charged in the year of addition. All other additions are charged at half the annual rate.

In accordance with Article 6 (2), EStG minor commercial items were written off completely in the year of addition.

The depreciation on additions in the year under review follows from the movement of the fixed assets.

¹⁾ Aktiengesetz

²⁾ Einkommensteuer-Gesetz

The value of the **investments** increased (in DM million) through

additions/allocations of		23.1
disposals of	0.7	
depreciation of	0.2	

by 22.2

to DM 121.4 million.

The additions for investments concern with DM 20.4 million capital increases and the acquisition of participations in foreign subsidiaries and associated companies.

Interest-free long-term loans or those bearing less than 5.5% interest are discounted.

The **inventories** were as follows (in DM million):

	Raw materials and supplies	Finished goods and merchandise	Total
As at 1. 1. 1978	33.3	95.2	128.5
Net decrease	1.6	0.2	1.8
As at 31. 12. 1978	31.7	95.0	126.7

Valuation of the inventories is effected in accordance with Article 155, AktG. using the costs of purchase or manufacture or, where necessary, the lower values as at the date of the balance sheet. Certain values have been reduced to allow for individual items that are either non-saleable or of limited usefulness. Straight-line depreciation has been applied to an appropriate extent on production plant and overheads in calculating the manufacturing costs.

With an increase in net sales of 6.3%, **trade accounts receivable** have decreased by DM 0.9 million to DM 126.4 million. Domestic accounts receivable amount to DM 88.1 million, foreign accounts receivable amounting to DM 38.3 million. Accounts totalling DM 12.5 million are receivable from domestic and foreign associated companies. Sufficient value adjustments have been made to allow for risks.

Other accounts receivable from associated companies mainly concern our subsidiary Oxysaar Hütten-sauerstoff GmbH.

Sundry assets include in particular repayable loans.

Liabilities

The **capital stock** was increased by DM 18.0 million to DM 120.0 million through cash payments from the shareholders. DM 1.0 million were allocated to the **free reserve** from the net income for the year.

Special reserve items subject to future taxation decreased by DM 0.1 million.

The **provisions for pensions** are calculated on actuarial principles in accordance with tax regulations. DM 2.8 million were allocated in 1978.

The **other provision** of DM 58.1 million include all balanceable risks and uncertain obligations insofar as these are not already taken into account under other headings. In particular these involve non-assessed taxes of DM 29.8 million, guarantee commitments of DM 8.3 million, personnel expenditure of DM 6.1 million and a number of individual items totalling DM 13.9 million.

Long-term liabilities decreased by DM 7.0 million.

Other liabilities rose by DM 4.5 million to DM 83.6 million.

The sundry (short-term) liabilities comprise (in DM million):

		Previous year
Annual payments, wage and salary arrears	15.6	11.4
Taxes	7.2	11.2
Interest on loans not yet due	4.1	4.0
Balance from plant construction projects	8.1	11.0
Other items	1.6	1.5
	<hr/>	<hr/>
	36.6	39.1

The following liabilities are not evident from the balance sheet:

The properties in the Hanauer Landstrasse and Krifteler Strasse are encumbered with lease rights and land charges totalling DM 645,255.00.

Claims of DM 6,170,000.00 have been assigned to secure export credits.

Payment commitments totalling DM 3,281,279.00 arise from stocks and shares that are not fully paid.

Liabilities of DM 320,000.00 exist in accordance with Article 24, GmbH¹⁾-Gesetz.

¹⁾ Gesellschaft mit beschränkter Haftung

Notes to the statement of income

The total operating performance amounted to DM 834.3 million; this represents an increase of 5.0% over the previous year.

Income from profit and loss transfer agreements derives largely from Hüttensauerstoff GmbH, Oxysaar Hüttensauerstoff GmbH and Oxytechnik Gesellschaft für Systemtechnik mbH.

The income from subsidiaries and affiliated companies derives from the distribution of the net profit of domestic and foreign subsidiaries for 1977.

The other income rose by DM 1.5 million to DM 4.6 million, resulting from paid taxes reimbursed by subsidiaries.

The expenditure on wages, salaries and social security contributions rose by 4.0% compared with the previous year.

Expenditure on pensions and benefits includes a grant of DM 2.5 million to build up the assets of the Belegschaftshilfe Messer Griesheim GmbH as well as an allocation of DM 2.8 million to the provisions for pensions in addition to standing payments to pension schemes.

The other expenses comprise the following (in DM million):

		Previous year
Rents and leases	71.2	56.8
of which: Leasing companies	(37.7)	(23.1)
Associated companies	(22.1)	(22.3)
Others	(11.4)	(11.4)
Repairs and services by outside contractors and wages for outside labour	55.3	57.5
Outside marketing services	36.1	35.0
Fees, contributions, insurance premiums	12.3	11.9
Other items	6.0	6.1
	<hr/>	<hr/>
	180.9	167.3

DM 1.0 million were allocated to the free reserve from the net income for the year of DM 38.5 million. The available earnings total DM 37.5 million.

Frankfurt (Main), 9th March 1979

Board of Executive Directors
Messer Grabhorn
Kämpny Van Riet

Balance sheet as at 31st December 1978

Assets		DM	31. 12. 1978	31. 12. 1977	
			DM	DM	
Tangible and intangible fixed assets	Land and equivalent rights with office, factory and other buildings		72 349 497	65 453 546	
	Land with residential buildings		291 345	151 241	
	Land not built upon		2 532 650	2 458 854	
	Buildings on land owned by third parties		1 204 013	1 338 807	
	Plants and machinery		79 942 547	80 997 680	
	Factory and office equipment		15 720 020	12 271 357	
	Plants under construction and advance payments for tangible fixed assets		15 696 221	8 973 657	
	Patents, trademarks, licences and similar rights		1	1	
			<u>187 736 294</u>	<u>171 645 143</u>	
	Investments	Subsidiaries and associated companies		114 714 153	92 697 940
		Long-term loans (with a term of at least four years) of which: secured by real estate liens in accordance with Article 89, Akt G	3 135 636 171 273	6 637 053	6 532 836 (3 031 742) (188 368)
			<u>121 351 206</u>	<u>99 230 776</u>	
Fixed assets and investments			<u>309 087 500</u>	<u>270 875 919</u>	
Inventories	Raw materials and supplies		31 755 164	33 352 276	
	Finished goods and merchandise		94 987 778	95 163 642	
			<u>126 742 942</u>	<u>128 515 918</u>	
Receivables and other assets	Advance payments		861 577	702 830	
	Accounts receivable, trade of which: receivables due after one year accounts receivable from associated companies	5 601 917 12 468 243	126 351 797	127 283 103 (10 760 094)	
	Other receivables from associated companies		5 985 207	5 392 865	
	Other assets		7 563 905	4 548 558	
			<u>140 762 486</u>	<u>137 927 356</u>	
Liquid assets	Marketable securities		2 453 454	2 564 199	
	Bills receivable of which: discountable with the Deutsche Bundesbank	1 632 934	2 566 188	2 332 178 (2 024 329)	
	Cheques		6 209 969	4 450 096	
	Cash in hand, balances with the Deutsche Bundesbank and in postal checking accounts		1 204 380	1 161 165	
	Cash in banks		23 859 426	50 901 845	
			<u>36 293 417</u>	<u>61 409 483</u>	
	Current assets		<u>303 798 845</u>	<u>327 852 757</u>	
Prepaid expenses	Other prepaid expenses		74 280	242 044	
		<u>612 960 625</u>	<u>598 970 720</u>		

Liabilities and stockholders' equity

		DM	31. 12. 1978	31. 12. 1977
			DM	DM
Capital stock			<u>120 000 000</u>	<u>102 000 000</u>
Reserves	Free reserve	37 000 000		(34 000 000)
	Allocation	1 000 000		(3 000 000)
			<u>38 000 000</u>	<u>37 000 000</u>
Special reserve items subject to future taxation	Reserve according to Article 1, Entwicklungshilfe- und Entwicklungsländer-StG		3 800 491	3 943 201
	Reserve according to Article 74, EStDV ¹⁾		5 835 000	5 835 000
			<u>9 635 491</u>	<u>9 778 201</u>
Provisions	Provisions for pensions		39 547 077	36 778 128
	Provisions for maintenance and repairs		1 000 000	2 500 000
	Other provisions		58 096 297	67 998 613
			<u>98 643 374</u>	<u>107 276 741</u>
Long-term liabilities (with an initial term of at least four years)	Loan notes of which: secured by real estate liens	52 000 000	52 000 000	56 000 000 (56 000 000)
	Liabilities due to banks of which: secured by real estate liens	10 660 000	147 889 937	153 398 312 (10 880 000)
	Liabilities to pension funds of which: to associated companies	25 500 000	25 500 000	23 000 000 (23 000 000)
	Other liabilities of which: to associated companies	120 000	221 160	222 320 (120 000)
	Part of long-term liabilities due within four years	93 816 097		(113 175 632)
			<u>225 611 097</u>	<u>232 620 632</u>
	Other liabilities	Accounts payable, trade		31 871 050
	Advance payments received		2 361 168	1 520 550
	Accounts due to associated companies		12 760 142	9 504 588
	Other liabilities		36 578 303	39 068 687
			<u>83 570 663</u>	<u>79 102 466</u>
Unappropriated retained earnings			<u>37 500 000</u>	<u>31 192 680</u>
			<u>612 960 625</u>	<u>598 970 720</u>

¹⁾ Einkommensteuer-Durchführungsverordnung

Movement of fixed assets and investments

	1. 1. 1978	Additions	Appreciation	Disposals	Depreciation of additions		Total	Book transfers	31. 12. 1978
	DM	DM	DM	DM	in year under review DM	in previous years DM	DM	DM	DM
Tangible and intangible fixed assets									
Land and equivalent rights with office, factory and other buildings	65 453 546	10 083 034	—	94 228	194 335	3 389 751	3 584 086	491 231	72 349 497
Land with residential buildings	151 241	151 037	—	—	3 776	7 157	10 933	—	291 345
Land not built upon	2 458 854	565 027	—	—	—	—	—	—491 231	2 532 650
Buildings on land owned by third parties	1 338 807	9 004	—	39 937	1 026	102 835	103 861	—	1 204 013
Plants and machinery	80 997 680	18 773 312	—	187 926	2 997 667	16 642 852	19 640 519	—	79 942 547
Factory and office equipment	12 271 357	22 277 889	—	220 392	15 127 006	3 481 828	18 608 834	—	15 720 020
Plants under construction and advance payments for tangible fixed assets	8 973 657	6 722 564 ¹⁾	—	—	—	—	—	—	15 696 221
Patents, trademarks, licences and similar rights	1	100 000	—	—	100 000	—	100 000	—	1
	171 645 143	58 681 867	—	542 483	18 423 810	23 624 423	42 048 233	—	187 736 294
Investments									
Subsidiaries and associated companies	92 697 940	22 016 213	—	—	—	—	—	—	114 714 153
Long-term loans (with a term of at least four years)	6 532 836	861 136	206 874 ²⁾	735 368	228 425	—	228 425 ³⁾	—	6 637 053
	99 230 776	22 877 349	206 874	735 368	228 425	—	228 425	—	121 351 206
Total fixed assets and investments	270 875 919	81 559 216	206 874	1 277 851	18 652 235	23 624 423	42 276 658	—	309 087 500

¹⁾ Balance from additions of DM 14,661,739.00 and transfers to operating fixed assets of DM 7,939,175.00

²⁾ Including compounded interest

³⁾ Including deduction of unaccrued interest

Balance Sheet Notes

	DM	31. 12. 1978 DM	31. 12. 1977 DM
Contingent liabilities resulting from issue and transfer of bills of which: to associated companies	1 478 038	13 315 057	16 040 758
Guarantees		37 925 970	37 691 709

Statement of Income

	1. 1. - 31. 12. 1978		1. 1. - 31. 12. 1977	
	DM	DM	DM	DM
Net sales		824 773 083		775 837 132
Increase in inventories of finished goods and work in process	1 120 665		12 487 816	
Other capitalised company-constructed assets	8 437 851	<u>9 558 516</u>	6 476 121	<u>18 963 937</u>
Total operating performance		<u>834 331 599</u>		<u>794 801 069</u>
Cost of materials, supplies and merchandise		<u>270 658 394</u>		<u>261 935 692</u>
Gross result from operation		<u>563 673 205</u>		<u>532 865 377</u>
Income from profit and loss transfer agreements	5 347 163		4 940 988	
Income from subsidiaries and associated companies	960 957		769 729	
Income from other investments	320 550		259 616	
Other interest and similar income	3 966 370		4 255 593	
Income from disposal of fixed assets and investments	317 161		1 192 286	
Income from reduction of flat allowance for receivables and bills	294 000		135 100	
Income from adjustment of provisions	582 564		214 926	
Income from the adjustment of special reserve items subject to future taxation	142 710		56 575	
Other income	4 600 229		3 118 436	
of which: extraordinary	DM 1 293 834		(1 360 874)	
		<u>16 531 704</u>		<u>14 943 249</u>
Total income		<u>580 204 909</u>		<u>547 808 626</u>
Wages and salaries	198 073 067		190 235 047	
Compulsory social security contributions	28 258 991		27 471 235	
Expenditure on pensions and benefits	12 897 214		18 354 362	
Depreciation on tangible and intangible fixed assets	42 048 233		35 165 946	
Write-offs of investments	228 425		341 713	
Losses on receivables and marketable securities	784 408		2 074 225	
Losses from disposals of fixed assets	275 663		583 495	
Interest and similar expenditure	19 281 527		22 042 160	
Taxes on income and property	57 525 704		46 312 816	
Other taxes	1 446 110		1 391 649	
Allocation to special reserve items subject to future taxation	—		2 355 663	
Other expenses	180 885 567	<u>541 704 909</u>	167 287 635	<u>513 615 946</u>
Net income for the year		<u>38 500 000</u>		<u>34 192 680</u>
Allocation to the free reserve		<u>1 000 000</u>		<u>3 000 000</u>
Unappropriated retained earnings		<u>37 500 000</u>		<u>31 192 680</u>
Pension fund contributions (including payments to legally independent benefit funds)		7 501 713		7 871 367

Auditor's Report

We certify that we have duly audited the accounts, balance sheet and annual report and confirm that they comply with the requirements of the law and the company's articles of association.

Frankfurt (Main), 9th March 1979

Treuhand-Vereinigung Aktiengesellschaft
Wirtschaftsprüfungsgesellschaft und Steuerberatungsgesellschaft

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Auditor

Dr. Uhlig
Auditor

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