Annual Report 1988

GEORGE FISCHER +GF+

Management of George Fischer Ltd, Schaffhausen

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* Berthold Saemann, Schaffhausen, Chairman
* Ulrich Bremi, Zollikon, Vice Chairman
* Dr Hannes Goetz, Schaffhausen, Delegate
Kurt Bolliger, Boll
Dr Francis Christe, Aesch
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Robert A. Jeker, Bottmingen
Dr Ernst Steiner, Schaffhausen
Professor Hans Thomann, Weiningen
* Dr Gustav Tobler, St. Gallen

* Members of the Board Committee

Executive Committee

Dr Hannes Goetz, President
Jürg Anderegg
Anton Alt
Willy Hoerni
Dr Ernst Hofmann
Martin Huber
Herbert E. Wickli

Auditors

KPMG Fides Peat, Zurich

Status January 1, 1989

Cover:

FLOWGEF® sensor for flow metering in plastic piping systems

Main figures

George Fischer Group (Uniform group valuation)

	1987	1988
	SFr. mill.	SFr. mill.
Sales	2093	2203
Group result	39	50
Cash flow	113	146
Additions to tangible fixed assets	130	148
Balance sheet total	1887	1919
Shareholders' equity incl. minorities	688	712
Number of employees at year's end	14473	14294

George Fischer Ltd, Schaffhausen (Statutory values)
Including Singen Branch

	SFr. mill.	SFr. mill.
Sales	845	863
Result	14	19
Result before depreciation	38	52
Additions to tangible fixed assets	46	81
Balance sheet total	1125	1140
Shareholders' equity	450	455
Number of employees at year's end	5586	5441

Key figures per share
Proportion per registered share or participation certificate of SFr. 100.–

	SFr.	SFr.
Cash flow	51	65
Group result	17	22
Group result less minorities	16	19
Dividend (proposed)	6,6	8
Shareholders' equity less minorities	287	295

1988 – A year of progress

H. B. Saemann, Chairman of the Board of Directors

Ladies and Gentlemen

The George Fischer Group experienced a gratifying development in the business year 1988. Targets were met in all divisions, some were even surpassed. The company profited from the favorable economic situation, particularly effective for the capital goods sector, as well as from currency conditions which improved slightly on previous years. With the exception of Comecon countries and the Near East, there was a keen demand on all significant world markets.

In 1988, the company also succeeded in strengthening its market position in a number of important business activities. This was partially achieved by expanding and adapting our products and services, partially by intensifying our market presence. Thus, general circumstances and our own initiative equally promoted the utilization of capacities, while improving the potential of the entire organization.

In the past year, Group sales increased by 5% to 2.2 billion Swiss francs. It is necessary to point out that the previous year's sales figures included three major orders for foundry plants. The Foundries and Piping Systems Groups realized the highest growth rates in Group sales. Total orders received increased by 11% against 1987, inducing a rise in orders on hand at year's end 1988. With the scope of consolidation practically unchanged – the Brugg Manufacturing Works were excluded, the American Signet Scientific Company integrated for the first time – value added also showed an upward development, totaling 1,03 billion Swiss francs. In relation to personnel figures, which show a minor decline from 14473 to 14294 employees, productivity per capita also improved further.

Dedication and performance of our personnel remained outstanding in the period under review. The Board of Directors expresses its sincere thanks for these efforts. Recognition is also due to our customers and the authorities for the continuing positive cooperation.

The account closes with an operating result of 126 million Swiss francs, an increase on the 1987 figure of 24 million Swiss francs. Extraordinary costs and special depreciation for structural measures in Schaffhausen and Singen are to be deducted from this amount. The 1988 Group result amounts to 50 million Swiss francs, as opposed to 39 million Swiss francs in the previous year. Cash flow rose by 113 million Swiss francs to 146 million Swiss francs.

The result achieved corresponds with the 1988 target defined in our long-term planning objectives. Corporate Management, however, is of the opinion that a further improvement is called for; the envisaged capital return has not yet been attained.

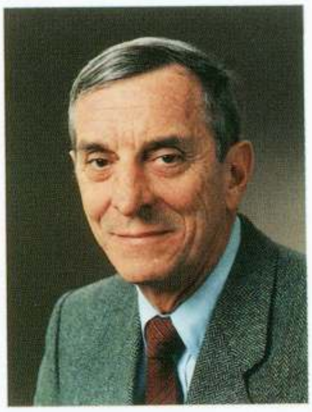
The business year 1988 was principally characterized by exceedingly lively planning and investment activities. Following the 130 million Swiss francs invested in 1987, even 148 million Swiss francs were spent on new installations and facilities in 1988. Within the structural project Schaffhausen-Singen, numerous significant substages were initiated. But also elsewhere, the Group has implemented new facilities, for instance in the Mettmann Foundries, also in Herzogenburg and Lincoln, as well as in the Burkhardt + Weber Engineering Works in Reutlingen. The decision to establish a new Piping Systems Group business center for sales, customer services, warehousing and forwarding in Coventry, Great Britain, will only start to influence the account in the years to come. However, the period under review includes the acquisition of Raycon Corporation in Ann Arbor, Michigan, USA, a leading manufacturer of electroerosion plants and laser machining systems in the USA, as well as the implementation of an English and Japanese sales company for Charmilles Technologies.

The George Fischer Group is in a phase of restructuring, concentration and expansion. The present corporate strategy is based upon the insight that product generations will follow in shorter cycles in the future, that manufacturing and logistic processes will require further automation and flexibility, and that mounting environmental legislation will become even tighter. This leads to the compelling conclusion that financial and personnel resources are to be employed in a concentrated manner. The George Fischer Corporation for Technology is currently specializing in products and services for which it already commands a leading market position and high competitive potential. In these selected branches, we have to accelerate innovation and existing procedures, using all the organizational means available. We must intensify our market presence with powerful corporate sales organizations and increase manufacturing potential by employing modern facilities. The outstandingly offensive business activities comprise automotive castings, piping systems, electroerosion machine engineering and selected branches of plant engineering and construction, that mainly concentrate on special applications for the chemical industry, on plastics, foodstuffs and waste management.

Aligning the strategy with offensive business sectors, however, makes it necessary to redimension or even abandon traditional activities. In this regard, the Brugg Engineering Works, the former center of textile machinery and wood working machine engineering, was sold. Furthermore, shortly before the year came to a close, the decision to sell the highly traditional lathe manufacturing facility in Schaffhausen was taken. With Boehringer GmbH in Göppingen, a subsidiary of the German industrial IWKA Group, we succeeded in finding a strong partner to continue the George Fischer Lathe program, that still enjoys an excellent worldwide reputation.

At the 1988 General Meeting, Dr Hans Bernhard Herzog was elected as a new member of the Board of Directors. He replaces Dr Ernst Vischer who has retired from the Board. Dr Herzog is member of the Board Committee of Ciba-Geigy AG.

The Board of Directors and the Executive Committee are convinced that significant decisions preparing the company for the challenges of the nineties were taken in 1988 and that according measures were initiated.



H. Goetz, Delegate of the Board and President of the Executive Committee

Schaffhausen, April 1989

Sincerely yours,

For the Board of Directors of George Fischer Ltd

H. B. Saemann
Chairman of the Board

H. Goetz
Board Delegate

Group Reports

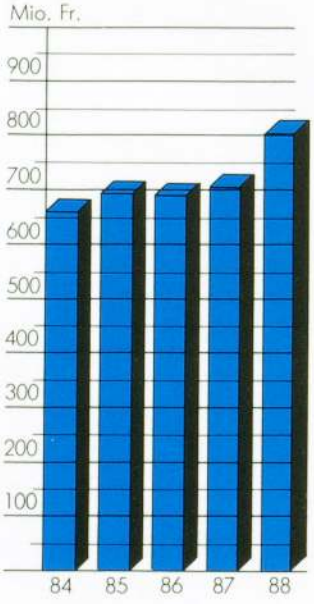
Successful Foundries

Group figures	1987	1988
	in Million SFr.	
Orders received	755	833
Turnover	703	802
Orders on hand	390	438
Investments in fixed assets	41	46

Turnover per division of the Foundries Group

Automotive Castings (including hydraulic products and lock technology)	555	615
Jobbing Foundries	107	133
Automotive Products	70	81
Own consumption	– 29	– 27

Sales 1984–1988



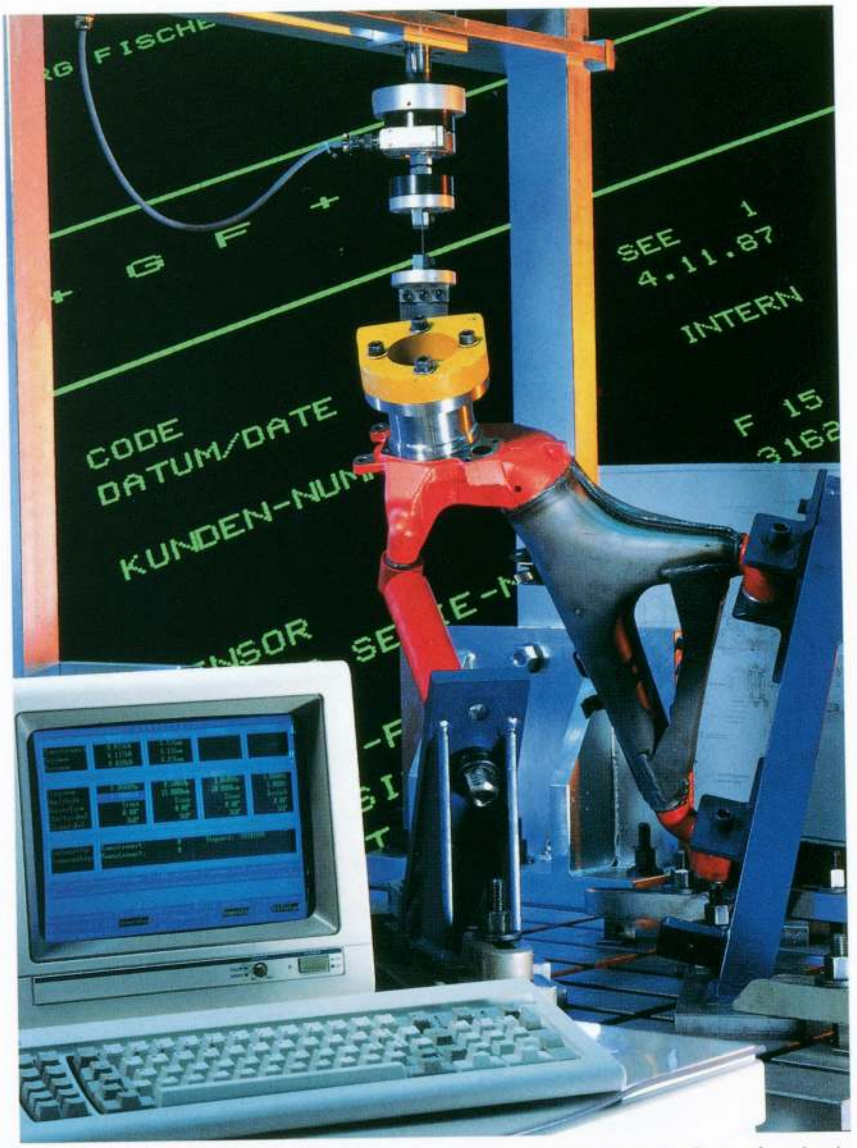
In general, expectations for the Foundries Group were surpassed in 1988. The encouraging economic development in key markets helped us achieve a high workload in all plants, with the exception of the Worms Steel Foundry. Automotive castings experienced a good year. Substantial investments were approved in order to uphold their market position. For the Jobbing Foundries, emphasis was laid upon expanding the scope of products. Automotive Products successfully concluded their move to Singen. In view of this constellation regarding the Jobbing Foundries and Automotive Products, revenue and workload were satisfactory.

Improved turnover for Automotive Castings

Sales figures for the European Automobile industry again reached a high level throughout the year. At the same time, demand for commercial vehicles distinctly recovered. This situation led to a full utilization of production facilities. We were able to strengthen our market position thanks to advanced quality products and services – the result of our longstanding, determined development of manufacture and materials. In product development, the expansion of testing facilities and the full integration of a CAD system in the central Schaffhausen laboratory, which is compatible with those of automobile manufacturers, will further assist rapid handling of customer development orders.

With regard to the approaching Single European Market and the related site policy of the automobile manufacturers, changing procurement strategies are to anticipated. The Automotive Castings Division is following this development closely. Location advantages of countries with lower salary and energy cost levels, as well as more accommodating environmental regulations, are to be countered by superior quality and reliable delivery of our own products, in conjunction with optimum productivity of the resources employed.

Measures, such as the revision of our product range or the coordination of products according to site will further enhance our competitive potential. Significant investments are planned and approved, some have already been implemented. In this respect, a new melting house is to be installed in the Mettmann Works. It comprises a state-of-the-art cupola melting furnace with a capacity of 50 tons of liquid iron per hour. Waste heat will be used to generate compressed air and electrical energy. The pilot character of the installation is further enhanced, in that it is configured to recover toxic residues, allowing appropriate disposal. With regard to air quality, the facility makes full use of available technology, so that the melting house adheres to every aspect of the stringent, new environmental regulations. Likewise in Singen, focal point of current investments is a new melting house. It also incorporates the latest technological achievements. The thorough renovation of the Herzogenburg iron foundry has presently reached the stage of detailed specification.



Vibration analysis of a tilted control arm for automobiles

The *Singen Works* was characterized by the transfer of extensive manufacturing activities from the Herblingertal Iron Foundry in Schaffhausen. To date, the transition process is on schedule; conclusion is anticipated for mid 1989. Products from existing programs enjoyed a keen demand in 1988. The financial result was in line with expectations.

Utilization of the *Mettmann Works,* the largest foundry of the George Fischer Group, was exceedingly high all year round. Margins, however, were impaired by increasing international competition. Nonetheless, it was possible to reach the previous year's result by means of rationalization and a further productivity increase.

New models in conjunction with a generally good business year for principal customers ensured a good utilization of the English *Lincoln Works.* The result was satisfactory. The high foundry workload permitted a previously planned tightening of the materials program; aluminum sand casting was transfered to the Herzogenburg aluminum foundry in Austria.

In 1988, the discontinuation of the *Herblingertal Iron Foundry,* as concluded within the structural project, principally concerned TRILEX wheels, transfered to Singen. Manufacture of fifth wheels, MONOLEX wheels and some customer casting orders for machine and plant engineering continued temporarily. Capacity was gradually adjusted to the changed workload.

Utilization of the *Gebr. Grundmann Iron and Aluminum Foundry* in *Herzogenburg* remained at a high level throughout the year. Thus, the result

A steel cast junction for an oil rig

exceeded expectations. To continue the useful concentration of materials according to site, the aluminum foundry took on the aluminum castings production of the Lincoln Works.

Lock Technology in Herzogenburg, a branch comprising locks and related fittings, met its objectives for 1988. The business year was characterized by increasing domestic building investments. Export turnover was also above budget thanks to the expansion of activities in the Federal Republic of Germany and England. In the period under review, special attention was paid to the development of new locking techniques.

The economic upward trend in machine engineering induced a stimulation of business for the *Mettmann Hydraulics* branch. Funds were invested to achieve a capacity increase and in quality assurance on special large-scale cylinders.

In addition to the casting activities of the various divisions, developments in materials and process technology, as well as the global granting of process licenses were of great importance for the Foundries Group. In this respect, production of nodular cast iron based upon the *George Fischer Converter principle* has reached a world share of 13%. This technology is applied in the manufacture of spun iron pipe as well as components for the machinery and automotive industries.

Inconsistent workload for Jobbing Foundries

Despite an inconsistent workload in certain sectors, the *Schaffhausen Steel Foundry* was generally well utilized. The envisaged production cycle in the manufacture of hulls for the Swiss Leopard 87 tank, defined at six bodies per month, was achieved slightly ahead of schedule. Furthermore, activities in the period under review included export orders for ready-to-fit pump and water turbine wheels. The new non-corrosive Duplex steel alloy castings were well received by the market. This material is employed in brine pumps and those used to desulphurate flue gas. The first major offshore orders for heavy-duty steel casting components for oil rigs were carried out on time. An authentic diversification is the intended production of synthetic resin concrete components for machine engineering. For the manufacture of these products, which will be marketed under the brand name RHENOCAST, the credit for a large production plant has been approved. In addition, an inhouse CAD facility and a further 3D-measuring system were installed. In future, these will enable us to transmit the casting's geometry to the customer practically without any drawings.

Business for the *Worms Steel Foundry* was less satisfactory. There was a decline in demand, and prices were subject to substantial pressure. Order intake and turnover did not reach expectations. Nonetheless, it was possible to successfully continue the efforts in highly refractory castings for the petrochemical industry.

Thanks to keen domestic and international demand, the *Schaffhausen Aluminum Foundry* shows an excellent utilization in all sectors. However, the result was impaired by initial problems with the new molding block facility for the production of large castings. The installation did not become fully operative until the last quarter, fulfilling technical expectations from then onwards. In manufacture, emphasis was laid upon the production of advanced, heavy-duty castings for high-voltage switchgear as well as gastight container-like components for energy distribution. A large order for ALUFACE facade elements was carried out on schedule.

Automotive Products out of the doldrums

The slight recovery of important non-European markets which began in 1987, continued in the period under review, permitting an improved utilization of manufacturing capacity for the *Automotive Products Division.* The economic conditions and restructuring measures have already had a positive effect on the result. The increasing demand for MONOLEX high-quality cast web disc wheels led to the decision to substantially expand our production capacity in Singen. The necessary credits for a dedicated casting facility with sequential processing have been approved.

The consistent economic situation in the European commercial vehicles industry induced a gratifying rise in demand for *fifth wheels.* By carefully expanding the scope of products and through further investments in manufacturing, the market position of this sector is to be consolidated.

Mounting investments in public transport led to a remarkable market success for the *Railway Equipment Branch.* The systematic renovation and extension of the product range for buffers, coupling units and automatic couplings contributed decisively to cement our market position in Switzerland and Europe.

Heavy-duty MONOLEX wheels for large commercial vehicles

Upward trend for Piping Systems

Group figures	1987	1988
	in Million SFr.	
Orders received	375	440
Turnover	377	438
Orders on hand	18	22
Investments in fixed assets	17	67

Turnover per division of the Piping Systems Group

Domestic Installations	159	181
Industrial Piping Systems	124	160
Distribution Piping Systems	40	42
Special Products	56	57
Own consumption	– 2	– 2

The business year 1988 was characterized by a keen demand on practically all markets cultivated by the Piping Systems Group. Turnover in the industrial sector rose significantly. A high degree of utilization was achieved in all divisions.

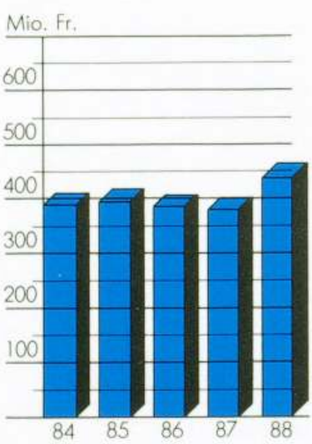
For the near future, an improvement of competitive potential is of particular importance. Focal points are logistics, with the implementation of a new distribution center, and manufacturing, with the building of a plastics plant. Both projects are to be realized in Schaffhausen. This will create the necessary conditions for a continuous growth of the Group. Special priority will be given to the further development of present products on George Fischer's prime markets. In addition, the envisaged reconfiguration of the Foundries Group within the structural project Schaffhausen–Singen will be accompanied by analog, specific growth strategies for the Piping Systems Group. All in all, the Group reached its most demanding 1988 targets and achieved a positive financial result.

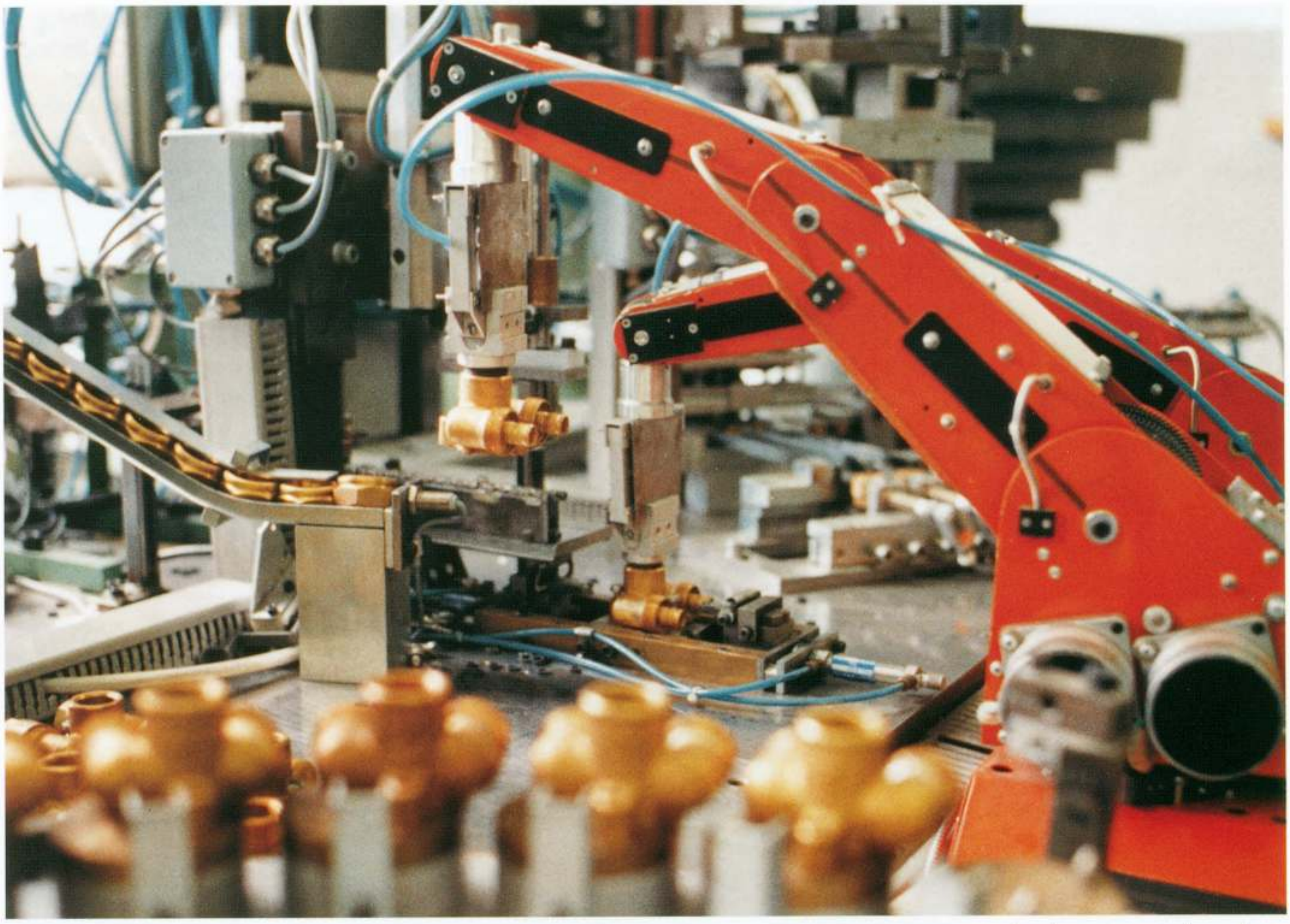
Domestic installations on the advance

The *Domestic Installation Division* was able to make full use of the favorable economic situation, increasing turnover in comparison with the previous year. Due to persistently fierce competition, however, prices remained at previous levels so that earnings were not able to keep pace with the rise in turnover. By intensifying customer contacts, business volume in the important sector of malleable *iron fittings* was further expanded.

With regard to turnover as well as earnings, the Pipefitter's Equipment sector looks back upon a successful year. Net sales rose in Europe and overseas. Purchasers are showing a definite tendency to attach greater importance to quality – not only of the machinery bought, but also of support services. The adaptation of pro-

Sales 1984–1988





A robot-automated production line for pipe fittings

ducts and product ranges to market requirements continued steadily, particularly in the plastics sector.

In the *Plastic Sanitary Systems* sector, the INSTAFLEX system for cold and hot water supply further developed its strong market position. The gradual, geographical expansion of business activities within Europe is increasingly gaining importance. Introduction of clamp connections in large diameters was successful. The new polybutylene pipe was certified for use in various significant countries. New product developments aimed at integral plastic systems were concluded and will soon enter the market.

Especially in Europe, PRIMOFIT, the most prominent product of the *flexible pipe connections* sector, was able to increase its market share. Previous production bottlenecks and related delays in delivery were eliminated. In order to improve turnover and earnings, measures were initiated regarding the organization, personnel and marketing.

Industrial Piping Systems win through

The *Industrial Piping Systems Division* achieved a decisive increase in turnover. Besides the improved currency situation, growing business volume contributed to the positive result. The market share rose thanks to successful business in the semiconductor industry as well as intensified activities in the USA and the Far East.

The division continues to adher to the strategy of monitored growth. This applies both to the systematic penetration of new markets and the continuous extension of products and services. In this respect, the US market has become a business cornerstone, partly by the acquisition of *Signet Scientific, El Monte, California,* and partly by the successful marketing of our conventional program at *George Fischer Signet Inc., Tustin, California.* Following the accomplishments of 1988, we also have a secure position in Japan. Our partnership with Kubota has established itself as an integral part of the Industrial Piping Systems Division.

Products and services for connector elements, fittings and measuring devices were supplemented and optimized by a large number of innovations. Significant new developments were presented at the ACHEMA 88 exhibition, a momentous international event for the chemical industry. Our exhibits included a composite system with thin-walled liner pipes of Thermoplast, reinforced on the outside with Polyester and, furthermore, a secondary containment piping system for the most demanding safety requirements. A completely new welding technology for heavy-duty plastic applications was presented for the first time at the BIOTECHNICA 88 exhibition. This process allows the connection of plastic piping components free of beads and crevices. The technology is applied where medium purity requirements are extremely stringent. The integration of the American Signet Scientific Company – acquired a year earlier – into our international sales organization, further consolidated our market position in measuring and control technology.

A SYGEF®-HP (High Purity) piping system in the semiconductor industry. High-purity water distribution and metering for the manufacture of large-scale integrated semiconductor components

A good year for Distribution Piping Systems

In 1988, operations of the *Distribution Piping Systems Division* were successful. Turnover for the ELGEF polyethylene electrofusion system rose further. On one hand, this is because gas utility companies in many important mid-European markets are expanding their supply networks, thus augmenting the number of domestic connections. On the other hand, access was gained to new sales regions. In the water supply sector, the George Fischer PVC gate valve system is now successfully established. In the Netherlands, for instance, over 5,000 gate valves have been sold to date. The division substantially improved its financial result.

Likewise, business for the *WAGA* sector, based in Epe, Netherlands, developed well. There is a consistent, strong demand for nodular cast iron connectors for the gas and water supply industries. Activities also focussed on the further promotion of export business beyond present sales regions, particularly in Scandinavia, West Germany, Great Britain and France.

Despite adverse market conditions, the Saudi Arabian *Aplaco* holding can also look back upon a successful business year.

The Distribution Piping Systems Division rigorously pursued its intensive development activities. This is aimed at offering our customers new and improved solutions. Personnel resources were strengthened accordingly.

Special products maintain market position

The *Special Products Division* also exceeded sales targets and achieved a positive result.

The *Electrical Hardware* sector was not quite able to reach the defined targets, as various projects related to the renovation and expansion of the Swiss high-voltage network are still pending realization. There was a slight improvement in export business. Development efforts focussed on solutions for new fibre optics cables and the Swiss railway concept 2000.

The ELGEF automated electrofusion system joins piping components for a water supply line

The earthing fittings program promoted by George Fischer was completed.

The *Wear Parts* sector maintained its market share; a slight stimulation in export business was registered. The West German representations were reorganized, and first positive results can be observed.

1988 was a very successful year for the steel pipe retail operations of the *Le Bas Tube* sales subsidiary in England. Both turnover and financial result improved decisively.

Manufacturing Technology expands market position

Group figures	1987	1988
	in Million SFr.	
Orders received	402	426
Turnover	475	457
Orders on hand	221	177
Investments in fixed assets	45	21

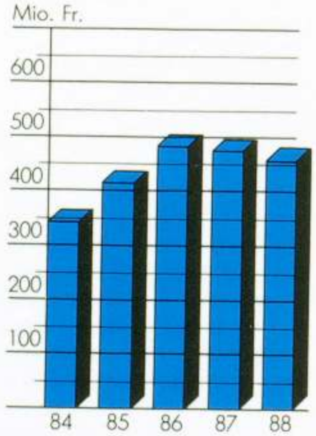
Turnover per division of the Manufacturing Technology Group		
Schaffhausen Machine Tools	102	108
Burkhardt + Weber Machine Tools	144	131
Charmilles Machine Tools	188	223
George Fischer-Bohle Machine Tools	32	11
Own consumption/ Brugg 1987	9	– 16

The Manufacturing Technology Group concentrated efforts on strengthening its market position and improving revenue. Owing to varying market conditions, success differed according to the division. The Schaffhausen Machine Tools Division was able to slightly improve margins and increase turnover. Order intake, however, suffered a reduction. Burkhardt + Weber Machine Tools not only exceeded annual turnover targets, the division also achieved a further consolidation of its operational result. The Charmilles Machine Tools Division succeeded in exploiting its chances of growth, thus expanding its market position.

Consolidation continued for the metal cutting machine tools business. In the electroerosion sector, a significant stage of expansion was implemented. The acquisition of the Raycon Corporation, Ann Arbor, USA, provided us with the manufacturing and development base in America, which had been envisaged for some time. Contrarily, the sale of George Fischer Ltd., Brugg, was a consequent disinvestment measure with regard to the concentration on principal activities. All divisions launched new developments and great attention was paid to productivity.

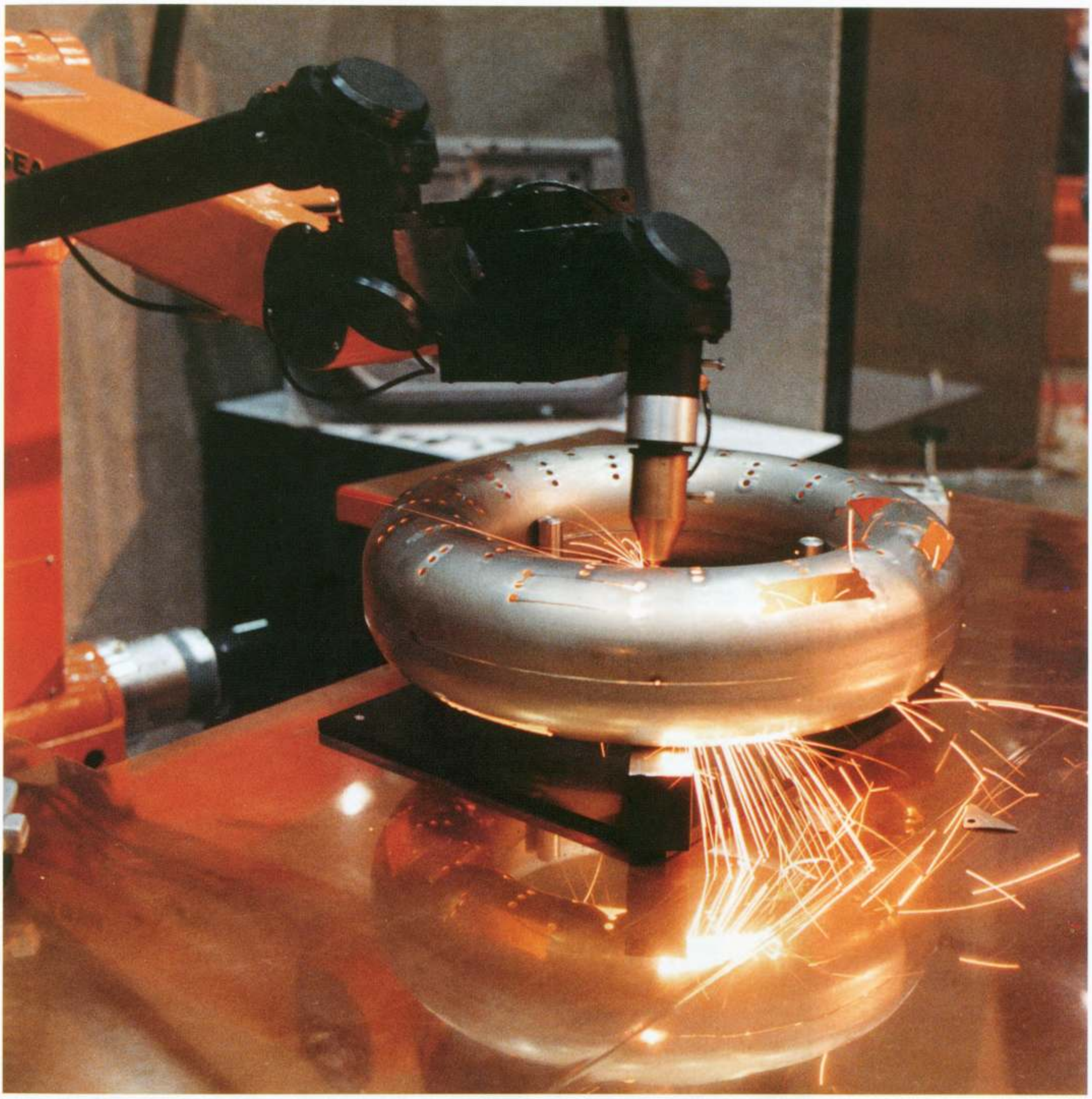
Taking the Brugg disinvestment into account, group turnover was equivalent to that of the previous year, whereas the financial result improved.

Sales 1984–1988



Schaffhausen Machine Tools in fiercely competitive markets

The quest for a solution to the yearlong insufficent earnings of lathe business, mentioned in the September letter to our shareholders, revealed towards the end of 1988 the definite possibility to cooperate with another machine tool manufacturer, the West German Boehringer GmbH. Discussions in the first weeks of the current year led to a gratifying conclusion of the negotiations. In comparison



A robot-controlled CO_2 laser machines a fragile turbine component (Raycon, Ann Arbor, MI, USA)

to 1987, turnover for lathe business increased slightly. Preliminary outlays for the development of a new machine type reduced the otherwise satisfactory operational result. The new lathe machining center was presented to selected customers at the end of the year. The configuration for dual-sided finishing of chuck parts and integral drilling and milling without retooling met with great interest.

Centralized manufacturing – a continuing principal activity of the Schaffhausen Works – was consequently intensified; this comprises the machining of a major portion of components within the Manufacturing Technology Group.

With its range of optoelectronic mensuration systems for contactless measurement of shaft parts and cylinder heads, the young *Measuring Technology* sector now has prominent customers operating reference applications. Despite continuing, substantial start-up costs, a balanced financial result is within reach. Following the presentation of the entire program at the MICROTECHNIC exhibition, the most significant technical display in this field, a strong demand has arisen.

Advanced technology at Burkhardt + Weber

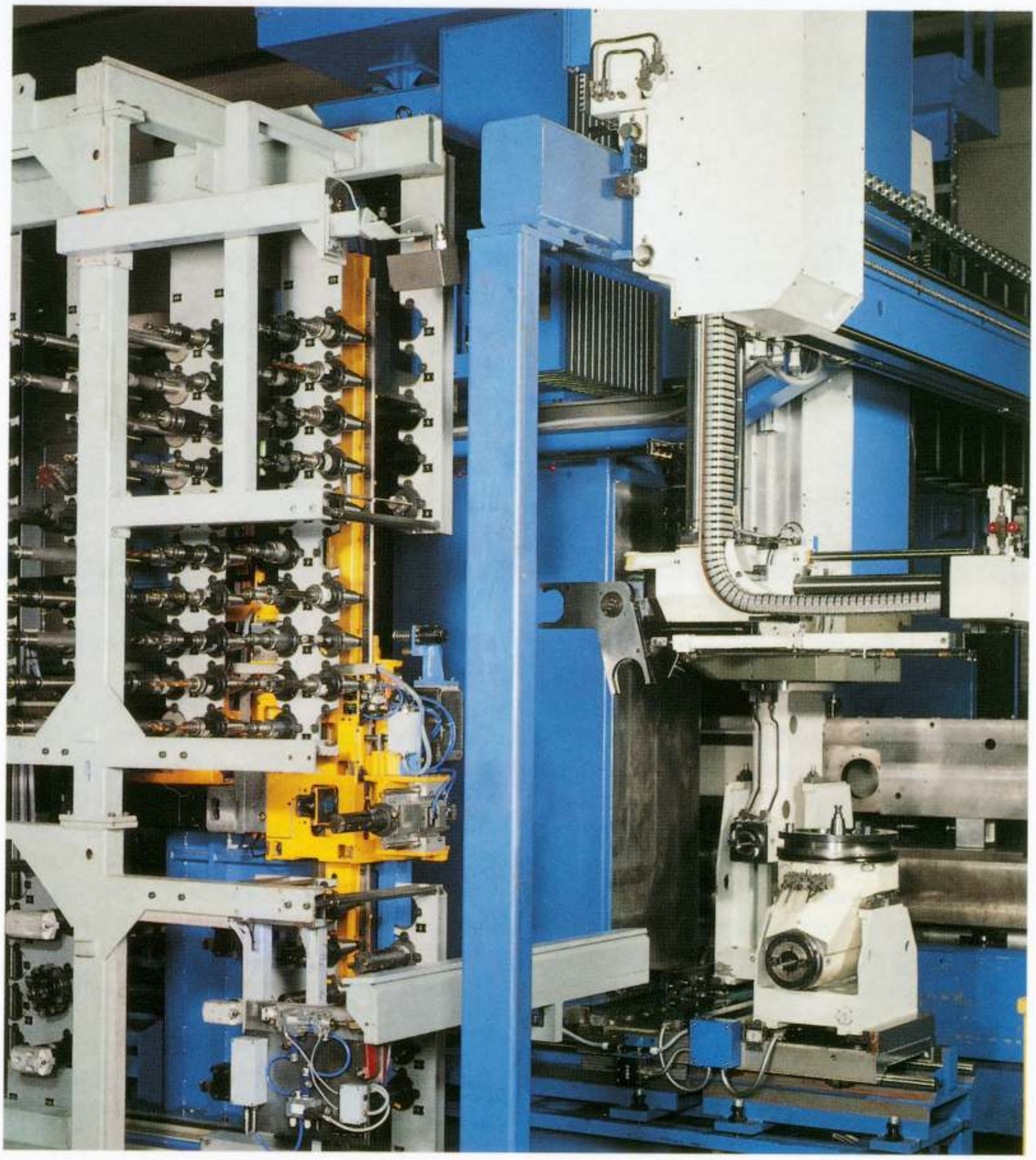
On September 29, 1988, *Burkhardt + Weber GmbH, Reutlingen, West Germany,* celebrated its centenary. On schedule for this event, the new air-conditioned assembly hall for small and medium machining centers was inaugurated. Thus, the requirements for centralizing all assembly activities in the main Reutlingen works are fulfilled. The inhouse flexible production system for large workpieces was supplemented with an additional vertical twin-stand machining center.

In the business year 1988, turnover was slightly below the exceedingly high level of the previous year. Orders received revealed an upward trend at the end of the year, securing capacity workload up to autumn 1989. In larger production plants for the automobile industry (transfer and assembly lines), orders received were not yet satisfactory; various major contracts, however, are presently pending.

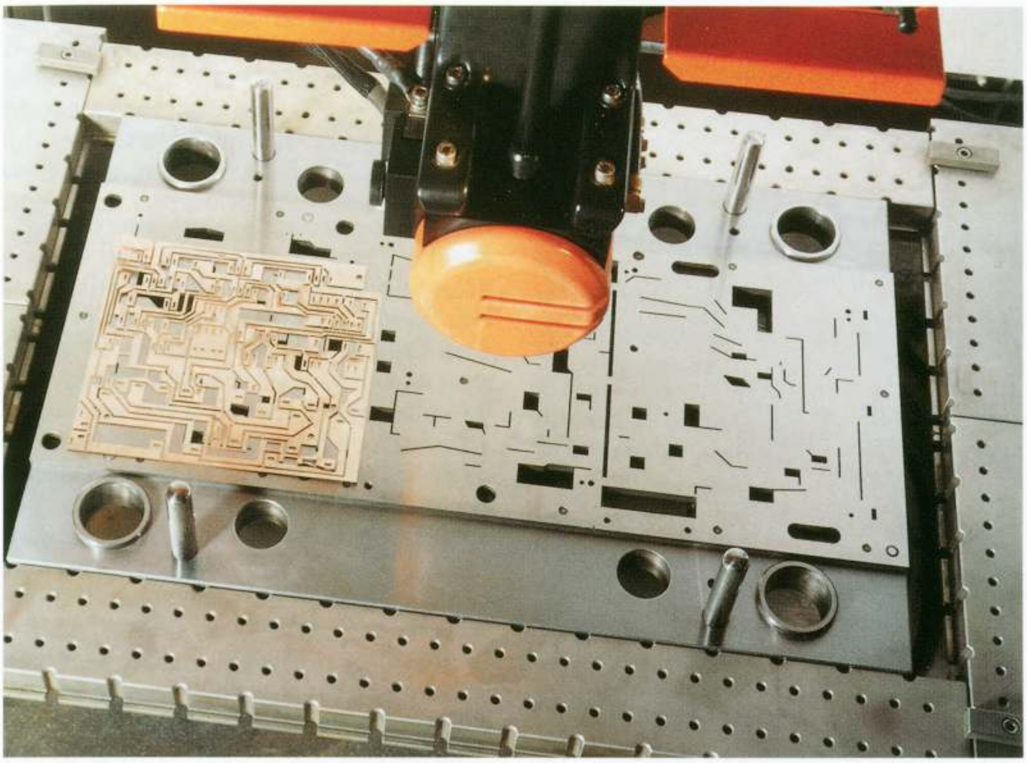
In contrast, machining centers and flexible production systems experienced a positive business year, which induced an increasing demand.

Charmilles Machine Tools continue progress

In April 1988, the new Meyrin Works was officially opened. The business year began with unexpected part-time operations, triggered by a general restraint of investors in the tool and mold branch. However, demand recovered relatively quickly and by May, the works was manufacturing at full capacity. The stimulation of business continued, so that both order intake



Partial view of a flexible machining system (Burkhardt + Weber, Reutlingen, FRG)



Electroerosion manufacture of a high-precision punching device (Charmilles, Geneva)

and deliveries of Charmilles reached new peaks. The financial result was accordingly positive. With regard to the coming business year, production capacities were expanded.

Market presence was decisively consolidated on all traditional markets. Our American position was further strengthened by the Raycon acquisition. The new sales subsidiary in Great Britain achieved a balanced result. Charmilles Germany was able to expand its good position and opened further Technology Centers in Vienna and Lüdenscheid. At the end of the year, the sales subsidiary in Japan moved to its new premises in Yokohama.

In the innovation field, our proven manual sinking machine was substituted by a new design, which, as anticipated, met with great interest. At the same time, an especially low-priced smaller sinking machine was introduced to the sales program, in order to round off our product range. This machine is manufactured in Taiwan according to strict Charmilles quality guidelines.

The still tight competitive situation on the American market induced a decline in turnover for the *George Fischer-Bohle Machine Tools Corp. in Farmington Hills, Michigan, USA.* Nonetheless, earning targets were met. In order to improve competitive potential for comprehensive, high-performance production systems, planning and engineering capacities were enhanced.

Plant Engineering and Construction with high order intake

Group figures	1987	1988
	in Million SFr.	
Orders received	489	584
Turnover	538	513
Orders on hand	397	455
Investments in fixed assets	21	12

Turnover per division of the Plant Engineering and Construction Group

	1987	1988
Foundry Equipment	221	155
Mixing and Kneading Technology	91	93
Process Technology	69	85
Plant Engineering and Construction	35	42
Logistic Systems	59	62
Bulk Solids Handling	69	77
Buss International	21	31
Own consumption	– 27	– 32

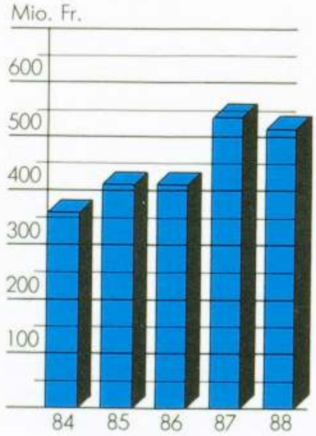
Overall operations were successful for the Plant Engineering and Construction Group, which comprises the Foundry Equipment Division and the Buss Group with its 18 corporate bases and subsidiaries in 12 countries. Following the partially satisfactory result of the previous year, all relevant performance data have clearly improved for 1988. The strong increase in orders received is principally due to an extraordinary rise in demand from EC countries. For the Buss Group, 45% of products and engineering services can be ascribed to the plastics industry, 28% to the chemical and pharmaceutical industry. Next in line is the food processing industry with a share of 11%, followed by the electrical and mechanical engineering industry with 7%. The remaining 9% came from various fields of the environmental engineering and energy segments.

Positive workload for Foundry Equipment

With its activities in molding and casting technology, sand preparation and shot blast machines, the *Foundry Equipment Division* successfully implemented several installations during 1988 in different parts of the world. Focal points were Europe, the USA and the Far East. Turnover targets for both foundry equipment and shot blast machines were surpassed. Again, office and workshop capacities were well utilized. Order intake for machinery and components also exceeded the envisaged value, whereas a certain reserve towards turnkey projects was felt on the market.

Substantial competitive improvements were achieved by standardizing molding and sand preparation installations as well as fully automatic shot blast machines. The same applies to process development. Superior precision and perceptible savings in the weight of cast pieces enhanced economy for our customers.

Umsätze 1984–1988



Likewise for *George Fischer Foundry Systems Inc., Holly, Michigan, USA,* turnover and orders received were above expectations. Particularly installations manufactured in cooperation with George Fischer Schaffhausen and other European licensees were well received by the American market.

Gratifying result for Mixing and Kneading technologies

In 1988, conditions were also favorable for the *Mixing and Kneading Technologies Division,* handling thermal and mechanical preparation of pastes and viscous plastic masses. The determined exploitation of the positive economic situation led to a significant rise in orders received, which exceeded the mark of 100 million Swiss francs for the first time. Turnover and earnings are equivalent to the previous year's figures and again reflect a positive result.

The *Pratteln Mixing and Kneading Technology* sector succeeded once more in clearly surpassing the defined targets. Even though the strongest demand still comes from West European countries, the USA and Japan gained ground with a remarkable rise in orders.

Our leading market position in the production of powder coatings was intensified and expanded. Worldwide demand for this ecologically considerate coating process is growing strongly. Orders from the aluminum industry also developed in accordance with our expectations; this market is showing interesting medium term prospects.

The *Petzholdt Mixing Technologies* sector, *Frankfurt, Federal Republic of Germany,* was able to improve turnover and order intake against the previous year. However, this principally satisfactory situation must not hide the fact that continuous mergers and joint production agreements are increasingly hampering our freedom of action. We intend to effectively counter this development by concentrating our own efforts on cocoa mass pretreatment and chocolate mass production, where the sector commands a leading market position.

Buss Ko-kneader operated by a Swiss manufacturer of powder coatings

Process Technology steps up market presence

The *Process Technology Division* deals with the design and production of process engineering installations and profited in the period under review from an improved investment climate. Order intake, turnover and orders on hand increased considerably. Earnings also rose strongly, but still remained below expectations. Coordination of the production programs in Pratteln and Butzbach was practically concluded and manufacturing capacity in Butzbach was adapted to market requirements. Both measures improved our degree of rationalization and competitive potential.

The *Pratteln Process Technology* sector was able to definitely complete its move from Zurich to Pratteln in 1988 with the discontinuation of the Zurich Test Center and the reopening of a new facility in Pratteln. Subsequently, order intake developed substantially better than anticipated. Our technology for sewage sludge drying experienced a positive response on the European market. Sales of thin-film evaporators increased. Intriguing new possibilities are arising in the treatment of industrial plastics.

The *Apparatus and Tank Engineering* sector in Pratteln also benefited from the improved investment tendency in the chemical industry, although there was no evident impact on prices. Several complex components for environmental engineering plants were delivered. Manufacture of hulls for the Leopard 87 tank continued on schedule. Hydraulic steelwork and tank construction business were characterized by modernization and renovation orders; there are positive market chances for the future.

The *Butzbach Process Technology* sector of Buss-SMS GmbH distinctly surpassed its targeted turnover. In contrast, order intake in environmental technology was below expectations due to postponements of projects. Two installations for the concentration of saliferous wastewater as well as a facility for cracking oil emulsions and a solvent recovery plant were completed. At *Butzbach Apparatus Construction,* rationalization measures implemented in 1987 showed their anticipated positive effect.

An improvement in business is also perceptible in the *Heine Centrifuges* sector in *Viersen, Federal Republic of Germany.* The streamlining and renovation of the centrifuge program will soon achieve the required results. Centrifuges for the classification of titanium dioxide are subject to a rising demand, thus fulfilling the hopes placed in this development.

Positive development of Plant Engineering and Construction

Business for the Plant Engineering and Construction Divison developed inconsistently in the period unter review.

The Pratteln *Chemical Plants* sector reached or even exceeded defined targets. Although sales of facilities for catalytic gas-liquid reactions stagnated in comparison with the previous year, numerous projects in this field were registered; market prospects are encouraging. The majority of orders for this sector came from West European countries. Fluorine plants were exceedingly successful with major contracts coming from Belgium, South Korea and the People's Republic of China.

Under new management, the *Food Processing Plants* sector at *Mator Ltd., Inwil, Canton Lucerne,* resolutely continued the measures initiated the year before and aimed at improving competitive potential; personnel capacity has been adjusted accordingly. Earnings have improved, but remain unsatisfactory. It is evisaged to enhance the business volume in the medium term by intensifying market efforts for industrial plants.

Gas-liquid reaction plant in a Brazilian chemical complex

The *Process Control* sector showed a further positive development and is currently in a stage of expansion. Principal activity was the design of control facilities for chemical plants as well as for mixing and kneading technology applications.

Major orders for Logistic Systems

OWL Ltd. Logistic Systems, Buchs, Canton Aargau, is active in the field of production logistics and can look back upon a good business year 1988. The annual account experienced a gratifying improvement. The definite trend to optimize logistic procedures generated an order intake which surpasses our expectations by far. However, despite the keen demand, unabated competitive pressure continued. The division offers an extraordinarily wide range of applications and operates in a multitude of trades. Besides distribution centers for the George Fischer Piping Systems Group, handling systems for a French manufacturer of travelling utensils and a leading newspaper in the USA, current orders include a logistics center for spare parts of a British airplane manufacturer, a storage and commission warehouse for a German manufacturer of clinical articles as well as plant extensions in the confectionery and cigarette industry. The most prominent sales region is the Federal Republic of Germany, followed by Switzerland, Great Britain and France.

Continuing success for Bulk Solids Handling

The Bulk Solids Handling Division, amalgamated under *Waeschle Maschinenfabrik GmbH,* Ravensburg, Federal Republic of Germany, specializes in the engineering and construction of complete material handling and transport installations for the processing of plastics and rubber. Again in 1988, the division continued its consecutive series of positive business results. Both turnover and order intake rose significantly, and orders received exceeded DM 100 million for the first time. The increase in volume was principally due to export business. The success of this division can be ascribed to a consistently applied niche policy, offering advanced, high-quality solutions.

Storage and preparation plant for plastics in the Federal Republic of Germany

Enterprising personnel – the key to corporate success

The future of George Fischer depends on the knowledge and skills, the dedication and creativity of its employees. The required environment must adapt to current standards of work and life and thus continuously be created anew. The prime requirement of our time is an organization of work with maximum distribution of responsibility and competence. But a pleasant working atmosphere also needs conscious and active care; as an employee, the individual is to be respected, his work and commitment shall receive the recognition deserved. It is more important than ever to promote and develop professional workmanship. And, no less significant, employees at all levels and in all functions are entitled to modern work tools, such as office communication systems and CAD facilities.

An active, resourceful corporation is distinguished by its ability to create a working environment that generates initiative and helps new ideas to develop.

The Paradies Monastery serves as a training center for all kinds of educational events

A laboratory technician performs a spectrophotometric analysis of elements

Slight reduction in personnel

Personnel trends	1984	1985	1986	1987	1988
Schaffhausen	3386	3346	3257	3165	2972
Singen	2471	2487	2439	2421	2469
Parent company	**5857**	**5833**	**5696**	**5586**	**5441**
Switzerland	**5191**	**5255**	**5199**	**5111**	**4679**
Germany	6503	6500	6400	6378	6352
Britain	1222	1271	1191	1257	1250
Austria	1051	1137	1162	1109	1197
Other countries	1346	646	626	618	796
Abroad	**10122**	**9554**	**9379**	**9362**	**9595**
Group	**15313**	**14809**	**14578**	**14473**	**14294**

Summaries: Group and Parent Company

George Fischer Group

(Uniform group valuation in SFr. mill.)

	1984	1985	1986	1987	1988
Orders received	1 865	2 119	2 064	2 021	2 235
Orders on hand at year's end	814	1 049	1 118	1 026	1 058
Sales	1 753	1 920	1 973	2 093	2 203
Value added	849	918	965	961	1 025
Operating result before interest and taxes	61	90	113	102	126
Net income before taxes	19	56	74	71	78
Group result	5	25	37	39	50
Cash flow	73	102	111	113	146
Depreciation of tangible fixed assets	59	61	66	65	76
Additions to tangible fixed assets	54	77	100	130	148
Investments in Group and related companies	3	4	10	48	28
Balance sheet total	1 610	1 603	1 810	1 887	1 919
Fixed assets	610	644	668	735	775
Current assets	1 000	959	1 142	1 152	1 144
Shareholders' equity including minorities	529	551	651	688	712
Interest-bearing liabilities	585	554	598	611	604
Non interest-bearing liabilities	496	498	561	588	603
Asset structure					
Fixed assets %	38	40	37	39	40
Current assets %	62	60	63	61	60
Capital structure					
Shareholders' equity %	33	34	36	36	37
Interest-bearing liabilities %	36	35	33	32	32
Non interest-bearing liabilities %	31	31	31	32	31
Number of employees (end of year)	15313	14809	14578	14473	14294

Parent Company: George Fischer Ltd
(Statutory values in SFr. mill.)

	1984	1985	1986	1987	1988
Sales	698	734	731	845	863
Net result	0	9	12	14	19
Result before depreciation	18	28	33	38	52
Additions to tangible fixed assets	15	22	27	46	81
Balance sheet total	762	886	1 046	1 125	1 140
Shareholders' equity	296	305	392	450	455
Share capital	150	150	150	182	182
Participation capital	15	15	75	75	100
(paid up)	(15)	(15)	(52)	(53)	(53)

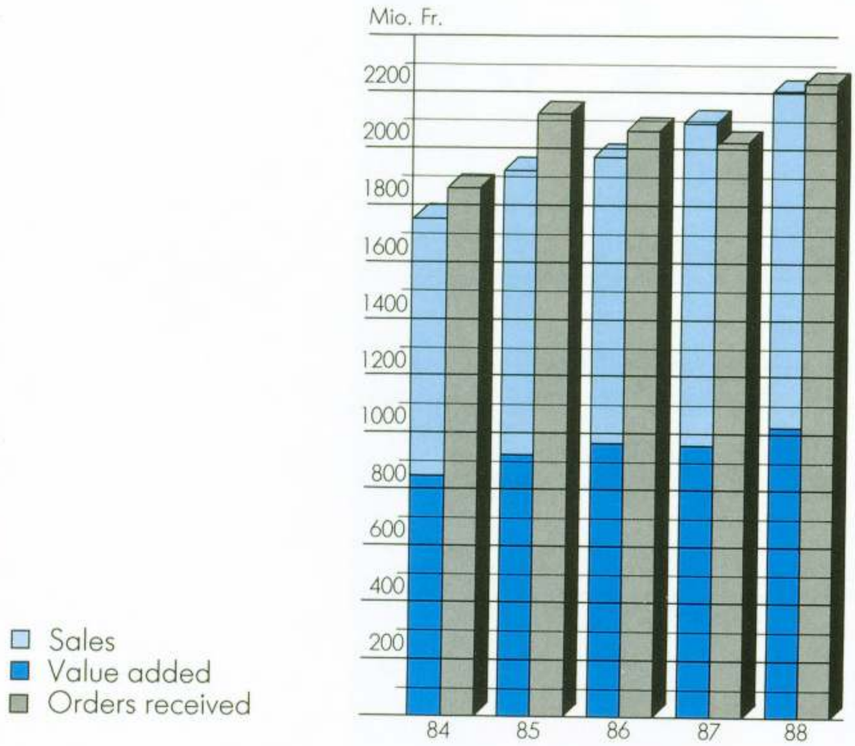
Dividends (in SFr.)					Proposal
Bearer shares	–	25.—	30.—	33.—	40.—
Registered shares	–	5.—	6.—	6.60	8.—
Participation certificates	–	5.—	6.—	6.60	8.—

Stock exchange prices (in SFr.)					
Bearer shares					
– high	750	1 180	1 960	2 050	1 300
– low	590	615	1 115	670	580
Registered shares					
– high	120	198	300	395	250
– low	95	100	180	145	155
Participation certificates					
– high	120	215	298	305	189
– low	95	99	196	120	111

Number of employees (end of year)	5 857	5 833	5 696	5 586	5 441

Group Graphs

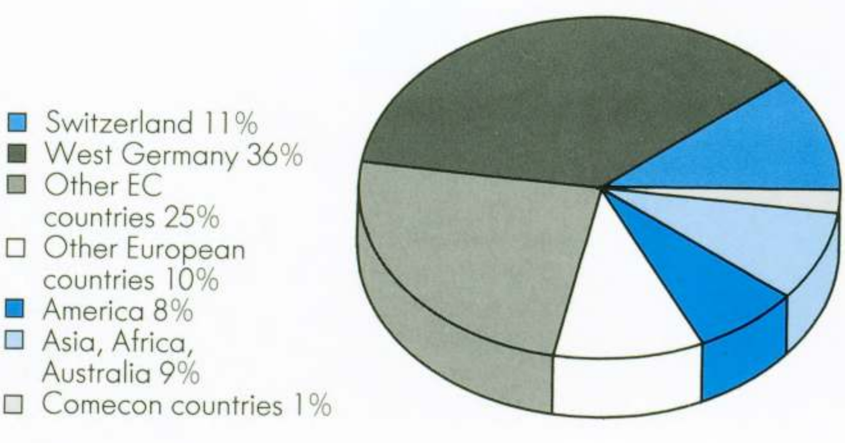
Sales, Value added, Orders received 1984–1988 in million Swiss francs



The growth rate of orders received and value added was higher than that of sales

Orders received exceeded last year's and budgeted figures by 10%. Sales increased by 5%. This amount includes an increase in sales of 8 million Swiss francs due to currency fluctuations.

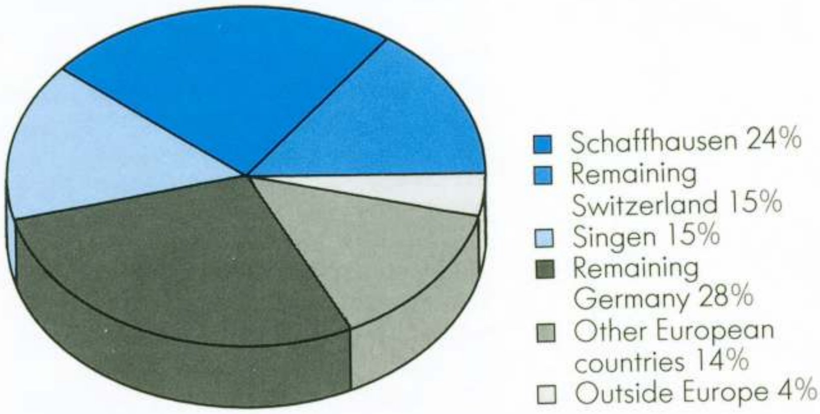
Sales 1988 according to market regions



61% of products were sold to EC countries

The EC is by far the most important market for George Fischer products. Over a third of the Group's sales are in West Germany.

Value added 1988 by countries



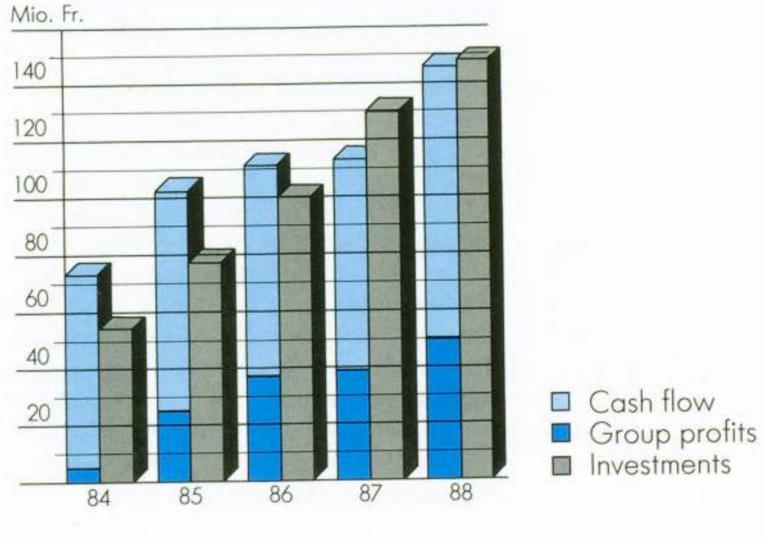
Value added – 7% increase

Value added expresses the value that the Group has added through its own efforts to goods and services procured.
53% of the Group's sales came from purchased goods and services and 47% from its own value added. Half of this amount comes from EC countries, 40% from EFTA countries (European Free Trade Association), and 3% from the USA. Of the total value added, 78% was paid out to the employees.

Investments rise again – extensive self-financing

Cash flow grew by 29%. Thus, the continuing increase in fixed assets could be financed primarily by corporate funds. Group profits were affected by extraordinary depreciation and provisions for the Schaffhausen–Singen restructuring program.

Cash flow, Group profits, and Investments 1984–1988 in million Swiss francs



Financial Report George Fischer Group

Principles of Consolidation

Form and content of consolidated financial statements

The consolidated financial statements are intended to accurately reflect the results, net assets and financial position of the George Fischer Group. Accordingly, the situation of the individual companies of the Group is presented as if they were one combined entity, with all intra-Group activity (receivables and payables, revenues and expenditures) being eliminated. The consolidation is based on the principles and methods described in the Seventh EC Directive concerning group accounts.
The Group's consolidated financial statements comprise a balance sheet, income statement and cash flow statement. These are based on the audited financial statements as of December 31, 1988, of the various companies concerned which are in accordance with national regulations and practices, but adjusted to the Group's uniform accounting principles regarding lay-out and valuation. The latter follow the suggested procedures stated in the Fourth EC Directive.

Scope of consolidation

The consolidated figures include all significant Swiss and foreign companies where George Fischer directly or indirectly holds more than half the voting rights. Assets, liabilities, revenues and expenditures of these companies are included in their entirety. Minority holding shares in equity and net results are shown separately.
Certain immaterial subsidiaries are excluded from full consolidation but both these and companies in which the Group holds a 20% to 50% interest are included in the consolidated financial statements on an equity basis. The Group's share in net assets of these companies is therefore included on the consolidated balance sheet under the heading "non-consolidated participations" and in their net results on the consolidated income statement.
The following changes took place among the consolidated subsidiaries in 1988:
Signet Scientific Corporation, El Monte, California, USA, acquired in 1987, is now fully consolidated after its adaption to the Group's uniform accounting principles.
Raycon Corporation, Ann Arbor, Michigan, USA, acquired in July 1988, will be consolidated as of January 1, 1989.
The German companies of the Buss Group are now part of Buss Holding GmbH.
Georg Fischer AG Brugg, sold in 1988, and the dormant George Fischer Japan Ltd., Osaka, have been excluded from the consolidated financial statements.
54 companies (1987: 55) are included in full in the consolidation. They are shown in a review of the Group's corporate structure found on pages 46 and 47 where they are marked with a "C".

Capital consolidation

The purpose of capital consolidation is to show shareholders' equity as if the Group were one entity. Therefore, the investments in subsidiaries are eliminated against the shareholders' equity of the consolidated companies, with the investment values being replaced by the assets and liabilities underlying them.
This consolidation is carried out either in the year of acquisition or in that of first inclusion and is based on purchase price. Any goodwill arising is charged to retained earnings in the year of acquisition.

Foreign currencies

The financial statements of Group companies which are expressed in foreign currencies are converted to Swiss francs as follows:
- Balance sheets at year-end rates as listed by the Swiss Federal Tax Administration
- Income statements at average rates for 1988
- Cash flow statements at average or year-end rates for 1988 as applicable.

Any differences on conversion arising are directly debited or credited to retained earnings.

Principles of Valuation

General
Assets and liabilities included in the consolidation are valued according to uniform group accounting principles. The financial statements are based generally on acquisition or manufacturing cost, or market value, if lower. Intangible items are not included in the consolidated balance sheet but are charged directly to the consolidated income statement. The principles of valuation used in the 1988 financial statements are identical to those of the previous year.

Tangible fixed assets
Tangible fixed assets other than land are included in the consolidated balance sheet at cost less depreciation. Depreciable assets are written off on a linear basis over their estimated useful lives. This is less than 40 years for buildings and 15 years for machinery. Additional depreciation is charged if technical changes or economic obsolescence so require. This is included in the consolidated income statement under "non-operating expenses". The valuation of freehold land lies between its historic purchase price and market value and remains unchanged since 1983. Residential property owned by the Group's Swiss real estate subsidiaries is shown at official market values used for insurance purposes.
Assets acquired under long-term leasing contracts are capitalized with outstanding lease installments included in the heading "other interest-bearing liabilities", thereby showing the economic substance of these contracts.

Inventories
Inventories are valued either at purchase or manufacturing cost, or at net realizable value, whichever is the lower. Manufacturing cost is calculated, as all direct labor and materials used, plus a commensurate share of overhead costs. Items of limited saleability are wholly or partly written off, additional provisions being made for further risks. Profits on intra-Group supplies included in inventories at year's end have been eliminated. The "inventories" item includes advance payments made to suppliers.
Advance payments received from customers on orders in progress have been deducted.

Receivables
Receivables are shown net of provisions for identifiable currency and debtor risks as well as for general credit risk.

Liquid funds, other financial assets
"Liquid funds" include cash on hand and post office and bank accounts. They also include listed securities, mainly bonds, which are stated at cost or market value, whichever the lower.
Other financial assets are stated in the same manner.

Provisions
Provisions are made for liabilities which are certain or probable at the time of balance sheet completion, but whose amount and/or timing are uncertain. Risks associated with business activities of the Group have also been taken into account. The provisions relate to income received for services not yet rendered on balance sheet completion, pension commitments, taxes, guarantee costs and similar identified risks. They are regarded as necessary.
Provision has also been made for deferred tax. This is due to differing accounting and tax treatment of certain items, particularly depreciation and inventory provisions, which result in a deferral of their associated tax liabilities from the current year of assessment to a future one.
On consolidation, the intra-Group elimination of balances and transactions lead to an adjustment of deferred tax provisions.

Consolidated balance sheet at December 31, 1988
(in SFr. millions)

Assets

		1987	%		1988	%
Fixed assets						
Tangible fixed assets	675			737		
Non-consolidated participations	29			14		
Other financial assets	31	**735**	39	24	**775**	40
Current assets						
Inventories	387			370		
Customer receivables	403			439		
Other receivables	52			68		
Liquid funds	310	**1152**	61	267	**1144**	60
Total assets		**1887**	100		**1919**	100

Liabilities and Equity

		1987	%		1988	%
Shareholders' equity						
Paid-in capital (shares and participation certificates)	223			224		
Share premium	155			155		
Retained earnings	263	641		283	662	
Minorities		47			50	
		688	36		**712**	37
Liabilities						
Interest-bearing liabilities						
Banks	165			166		
Mortgages	58			51		
Debenture loans	330			330		
Pension funds	19			36		
Other interest-bearing liabilities	39	611	32	21	604	32
Non-interest-bearing liabilities						
Supplier payables	130			167		
Provisions	260			266		
Other non-interest-bearing liabilities	198	588	32	170	603	31
		1199	64		**1207**	63
Total liabilities and equity		**1887**	100		**1919**	100

Consolidated income statement 1988
(in SFr. millions)

	1987	%	1988	%
Sales	**2093**		**2203**	
Sales deductions	– 118		– 111	
Change in work in progress and finished goods	– 16		– 13	
Other operating income	138		106	
Income	**2097**	100	**2185**	100
Expenditure on				
Materials and products	– 849		– 853	
External services	– 287		– 307	
Value added	**961**	46	**1025**	47
Personnel costs	– 771		– 801	
Depreciation of tangible fixed assets	– 65		– 76	
Other operating expenses	– 23		– 22	
Operating result before interest	**102**	5	**126**	6
Financial expenses (net)	– 21		– 16	
Non-operating expenses (net)	– 10		– 32	
Group result before taxes	**71**	3	**78**	4
Income taxes	– 32		– 30	
Share in the net results of non-consolidated participations	–		2	
Group result	**39**	2	**50**	2
Minority share of results of Group companies	4		7	

Consolidated cash flow statement 1988
(in SFr. millions)

		1987		1988
Internal financing				
Cash flow:				
Group profit	39		50	
Depreciation of tangible fixed assets	65		76	
Other items not involving the movement of funds	9	113	20	146
Distribution of profits		– 15		– 18
Appropriation of resources				
Additions to tangible fixed assets	– 130		– 148	
Investments in Group and related companies	– 48		– 28	
Disposals of fixed assets	14		16	
Increase in current assets (other than liquid funds)	– 18		– 8	
Increase (+) or decrease (–) in non-interest-bearing liabilities	40	– 142	– 13	– 181
Balance of internal financing		**– 44**		**– 53**
Financing measures				
Exercise of options on participation certificates			1	
Issue of ordinary shares	44			
Redemption of debenture loans	– 60			
Issue of debenture loans	75			
Increase (+) or decrease (–) of other financial liabilities	14	73	– 3	– 2
Conversion and consolidation differences		– 4		5
Increase (+) or decrease (–) in liquid funds and financial assets		**25**		**– 50**
Comprising liquid funds		20		– 43
financial assets		5		– 7
		25		**– 50**

Notes to the consolidated balance sheet

Annual exchange rate fluctuations and changes in the list of companies consolidated limit the comparability of current to previous year's figures. However, the effective movements in individual asset and liability headings are shown in the consolidated cash flow statement.
All figures are in million Swiss francs unless otherwise indicated.

Tangible fixed assets

Cost or valuation	
At December 31, 1987	1448
Additions	148
Disposals	– 33
Currency conversion adjustment	29
At December 31, 1988	1592
Accumulated depreciation	– 855
Balance sheet value December 31, 1988	737

Accumulated depreciation amounts to 54 % of year's end cost or valuation.

The balance sheet value of tangible fixed assets comprises:

	1987	1988
Land and buildings	394	398
Machinery	155	159
Other tangible fixed assets	78	88
Assets under construction	44	88
Leased assets	4	4
Total	675	737

Adjustments to real estate and residential property amount to 93 million Swiss francs.
87 % of the machinery is under 10 years old.

Non-consolidated participations
Non-consolidated participations mainly comprise the minority interests held in the Arabian Plastic Manufacturing Company, Riyadh (Saudi Arabia), Kubota George Fischer Ltd., Osaka (Japan), and Lötfittings Ltd., Obersiggenthal (Switzerland).

Other financial assets
The other financial assets comprise medium-term investments with financial institutions.

Inventories	1987	1988
Composition	575	573
Raw materials and components	(116)	(134)
Work in progress	(263)	(249)
Finished goods and goods for resale	(196)	(190)
Advance payments to suppliers	48	32
Advance payments received from customers	– 236	– 235
Total	387	370

Customer receivables
Traditionally, a relatively large proportion of machinery deliveries and other assets are made to customers close to year's end which leads to a relatively high amount of receivables at balance sheet completion.

Liquid funds	1987	1988
Cash on hand, post office and bank accounts	192	90
Listed securities	118	177
Total	310	267

To increase interest income in 1988, term deposits included in bank accounts were invested in short-term listed securities.

Changes in shareholders' equity

December 31, 1987	688
Group result	50
Dividends to shareholders of George Fischer Ltd.	– 15
Minority shareholders	– 3
Option rights for participation certificates	1
Charges for goodwill	– 30
Value adjustments for residential property	12
Differences on conversion from balance sheets in foreign currencies	9
December 31, 1988	712

The *paid-in capital* of 379 million Swiss francs consists of ordinary shares of 182 million Swiss francs nominal value less reserved shares for the debenture with option rights, with a nominal value of 11 million Swiss francs, participation certificates of nominal value 53 million Swiss francs, and the share premium of 155 million Swiss francs.

Retained earnings consist of the stated reserves of George Fischer Ltd., the unremitted results of Group companies earned since their acquisition, adjustments arising on foreign currency conversion and revaluation reserves which relate mainly to fixed assets and are not distributable.

Debenture loans

On behalf of George Fischer Ltd., Schaffhausen	
Debenture loans	
3¾% 1978–88/93	50
5½% 1984–92/94	50
Debenture loans carrying options to purchase shares and participation certificates	
2¾% 1986–94/96	80
2¼% 1987–96/98	45
Privately placed issue	
5¼% 1985–91	30
	(255)
On behalf of Buss Ltd., Basel	
Debenture loans	
4¼% 1979–87/91	15
5% 1984–94/96	30
4¾% 1987–95/97	30
	(75)
Total at December 31, 1988	330

Provisions	1987	1988
Accrued costs and deferred income	77	86
Taxation including deferred tax of 27 million Swiss francs (1987 26 million Swiss francs)	70	51
Pensions and similar obligations	60	70
Risks	53	59
Total	260	266

Accrued costs and deferred income include anticipated expenditure on services or goods already received and income received for work not yet performed.
Tax provisions are for tax obligations not yet due. By definition, tax payments can be deferred as long as the difference can be equalized over future business years.
Provisions for pensions and similar obligations are made to cover future employee-related liabilities, particularly in the Group's German subsidiaries.
Risk provisions cover risks for liabilities and loss from pending contracts as well as costs expected from restructuring procedures to be carried out.

Maturity of liabilities

Interest-bearing liabilities	Total	Repayable under 1 year	Repayable 1 to 5 years	Repayable after 5 years
Bank overdrafts	166	66	55	45
Mortgages	51	3	10	38
Debenture loans	330	–	95	235
Pension funds	36	2	10	24
Other interest-bearing liabilities	21	9	10	2
Total	604	80	180	344

With the exception of provisions, the life-span of which can stretch out over longer periods of time, the non-interest-bearing debt items fall due within a year.

Contingencies

	1987	1988
Contingent liabilities from discounted notes receivable	10	15
Guarantees	960	877
Total	970	892

The contingent liabilities of the parent company alone appear on page 40.

Other financial commitments

At December 31, 1988, commitments to purchase fixed tangible assets of 188 million Swiss francs were approved and will require funds in future years. All further financial commitments can be ascribed to normal business transactions.

Notes to the consolidated income statement

The 1988 consolidated income statement has been slightly modified. Tax expenses have been divided and "income taxes" are listed separately. The capital taxes are now included in "other operating expenses". In addition, losses on disposal of fixed assets are now included in "other operating expenses". The previous year's figures have been restated accordingly.

Sales

The Group achieved a nominal gain of 5% in sales for 1988. Of this increase 8 million Swiss francs can be attributed to currency fluctuations.

Sales according to divisions	1987		1988	
Foundries	703	33%	802	36%
Piping systems	377	18%	438	20%
Manufacturing technology	475	23%	457	21%
Plant engineering and construction	538	26%	513	23%
less: Intra-Group transactions	–	–	–7	–
Total	2093	100%	2203	100%

Sales according to market regions	1987		1988	
Switzerland	209	10%	238	11%
West Germany	823	39%	789	36%
Other EC countries	471	23%	553	25%
Other European countries (excluding Comecon)	172	8%	218	10%
North America	167	8%	170	8%
Asia, Africa, Australia	209	10%	199	9%
Comecon	42	2%	36	1%
Total	2093	100%	2203	100%

Other operating income

The most important items included here are commission income, own manufacturing cost capitalized, license fees, as well as gains from disposal of fixed assets.

Personnel costs

	1987	1988
Salaries and wages	642	667
Social and welfare expenses	129	134
Total	771	801

Depreciation of tangible fixed assets

This item consists exclusively of the planned operational depreciation prescribed by the useful life of tangible fixed asset. Extraordinary depreciation is included in "non-operating expenses".

Other operating expenses

	1987	1988
Accruals and provisions	5	6
Losses on current and fixed assets	9	6
Capital taxes	9	10
Total	23	22

Financial expenses (net)

	1987	1988
Interest income	13	15
Interest expenses	– 31	– 32
Other financial items (net)	– 3	1
Total	– 21	– 16

"Other financial items (net)" are derived mainly from foreign exchange, supplier discounts, penalty interests and value adjustments to financial assets.

Non-operating expenses (net)

	1987	1988
Non-operating revenue	19	10
Non-operating expenses	– 29	– 42
Total	– 10	– 32

Non-operating items comprise positions that cannot be attributed to operational transaction.
Extraordinary positions of 32 million Swiss francs were charged to the 1988 account. This amount includes substantial special depreciation in connection with the closing of the Schaffhausen foundry in Herblingertal. The German group companies took advantage of tax allowances to insulate against existing social obligations for their employees. Additionally, some companies had to adapt to the uniform Group accounting system. Furthermore, provisions were made for the social plan of the Schaffhausen Machine Tools Division. Existing provisions were used to partially cover restructing and redimensioning costs.

Notes to the consolidated cash flow statement

The consolidated cash flow statement shows the investment processes, financing measures and development of the financial position of the Group. It is based on the actual financing activities undertaken within the Group companies represented. The effects of foreign exchange movements and of changes in the list of companies consolidated are shown separately. Acquisition or disposal of interests in Group companies are shown at purchase or sale prices respectively under the heading "Investments in Group and related companies". Their underlying assets and liabilities are not taken into consideration.
The 29% increased *cash flow* of 146 million Swiss francs includes the Group profit adjusted for normal depreciation and also for other items not requiring funds, such as residual depreciation of fixed assets sold, special depreciation and the inclusion of the net results of non-consolidated participations.
Distribution of profits includes dividends paid by the parent company and those paid by other Group companies to their minority shareholders.
Additions to tangible fixed assets and investments in Group and related companies of 176 million Swiss francs in total are practically equivalent to last year's figure.
Disposals of fixed assets resulted in a cash increase of 16 million Swiss francs.
More than half of the additions to tangible fixed assets relate to the Schaffhausen-Singen restructuring program, the biggest project in the history of the Group.
This project aims to consolidate divisional activities in terms of organization and location in order to improve productivity and efficiency.

Capital investment in fixed assets was made by

George Fischer Ltd.	81
Georg Fischer GmbH, Mettmann	15
Buss Group	12
George Fischer (Great Britain) Ltd., Bedford	10
Burkhardt + Weber GmbH, Reutlingen	9
Gebr. Grundmann GmbH, Herzogenburg	9
Others	12
Total	148

Internal financing did not cover this level of investment, causing a decrease in liquid assets and financial funds of 50 million Swiss francs.

Independent accountants' report on the consolidated financial statements

As statutory auditors and independent certified accountants of George Fischer Limited, Schaffhausen, we have audited, in accordance with internationally accepted standards, the consolidated balance sheet at December 31, 1988 and 1987, and the consolidated income and cash flow statements of the George Fischer Group for the years then ended.

In our opinion and based on our own audit as well as the reports of other auditors, the consolidated financial statements accurately present the financial position of the Group and its results for the years 1988 and 1987 in accordance with the principles and methods outlined in the Fourth and Seventh EC Directives.

Zurich, March 17, 1989

KPMG Fides Peat

P. Bertschinger	P. Hess
Swiss Certified Accountant	Swiss Certified Accountant

George Fischer Ltd, Schaffhausen

(including Singen Branch)

Balance sheet at December 31, 1988

(prior to the proposal of the Board of Directors)

	1987 SFr.	1988 SFr.
Assets		
Fixed assets		
Tangible fixed assets		
Land	20 189 000	21 318 000
Buildings	37 720 000	38 432 000
Machinery	43 457 001	53 648 001
Equipment	34 304 000	69 640 000
	(135 670 001)	(183 038 001)
Financial assets		
Participations	133 238 000	143 152 000
Loans to Group companies	232 522 313	244 463 843
Other financial assets	5 774 611	7 943 020
	507 204 925	**578 596 864**
Current assets		
Inventories	216 410 479	205 158 712
Customer receivables	138 907 750	149 627 812
Receivables from Group companies	24 396 241	26 588 415
Other receivables	48 797 490	41 217 226
Liquid funds	188 893 771	138 844 561
	617 405 731	**561 436 726**
Total assets	**1 124 610 656**	**1 140 033 590**

Liabilities and equity

	1987 SFr.	1988 SFr.
Shareholders' equity		
Share capital	182 000 000	182 000 000
Participation capital	52 600 000	53 351 000
General reserve	175 838 000	176 063 300
Special reserve	22 500 000	23 000 000
	(432 938 000)	(434 414 300)
Profit carried forward from previous year	2 687 044	1 353 141
Net result	13 907 197	18 798 909
	449 532 241	**454 566 350**
Liabilities		
Interest-bearing liabilities		
Loans from Group companies	2 952 093	30 146 511
Debenture loans	255 000 000	255 000 000
Pensions funds	10 473 747	19 251 028
Other interest-bearing liabilities	22 080 205	20 334 258
Non-interest-bearing liabilities		
Supplier payables	50 865 404	61 156 548
Payables to Group companies	8 766 583	6 921 740
Advance payments by customers	137 994 318	111 341 588
Provisions	80 240 239	81 837 508
Other non-interest-bearing liabilities	106 705 826	99 478 059
	675 078 415	**685 467 240**
Total liabilities and equity	**1 124 610 656**	**1 140 033 590**

Income statement 1988

	1987 SFr.	1988 SFr.
Sales	**844 859 622**	**862 685 631**
Sales deductions	– 61 680 030	– 47 622 829
Changes in work in progress and finished goods	1 622 002	1 570 990
Other operating income	92 221 357	69 531 611
Income	**877 022 951**	**886 165 403**
Material and goods	– 390 888 204	– 349 195 882
Miscellaneous expenses	– 111 598 102	– 118 703 616
Salaries and wages	– 271 840 100	– 281 350 613
Social and welfare expenses	– 48 613 738	– 49 080 600
Depreciation of fixed assets	– 23 718 205	– 32 762 079
Interest income	13 698 433	15 242 629
Interest expenses	– 11 583 018	– 11 523 692
Operating result	**32 480 017**	**58 791 550**
Extraordinary income	7 017 195	394 914
Extraordinary expense	– 16 267 627	– 29 699 791
Taxes and similar expenses	– 9 322 388	– 10 687 791
Net profit	**13 907 197**	**18 798 909**

Proposal by the Board of Directors

	1987 SFr.	1988 SFr.
The annual profit amounts to	13 907 197	18 798 909
Together with the previous year's balance of	2 687 044	1 353 141
At the disposal of the General Meeting is	**16 594 241**	**20 152 050**
The Board of Directors proposes:		
Distribution of an increased dividend of SFr. 40.– (33.–) per bearer share, SFr. 8.– (6.60) per registered share or participation certificate	14 741 100	17 928 080
Appropriation to the special reserve	500 000	500 000
Carry forward to next year	1 353 141	1 723 970
	16 594 241	**20 152 050**

If this proposal is accepted, dividends for 1988 will be as follows:

	Bearer share (SFr. 500.–)	Registered share (SFr. 100.–)	Participation certificate (SFr. 100.–)
Gross	40.—	8.—	8.—
less 35% withholding tax	14.—	2.80	2.80
Payment	26.—	5.20	5.20

Schaffhausen, March 20, 1989

For the Board of Directors

H. B. Saemann
Chairman

Notes to the balance sheet

Fixed assets

Significant funds of 38 million Swiss francs were used to make prepayments to suppliers, and for planning and construction costs in connection with the Schaffhausen-Singen restructuring program. Rationalization cost and new investment amounted to about 43 million Swiss francs. In spite of increased depreciation, tangible fixed assets grew by 47 million Swiss francs to 183 million Swiss francs.

The insured value of buildings is 524 million Swiss francs and that of machinery and other fixed assets is 662 million Swiss francs.

The increase of participations of 10 million Swiss francs is due to capital increases by subsidiaries.

Loans to subsidiaries amounting to 244 million Swiss francs are almost exclusively received by Georg Fischer Finanz AG, which uses the funds to finance participations.

Current assets

Inventories decreased particularly due to increases in hidden reserves. The increase in deliveries towards year's end led to a rise in customer receivables. Lower prepayments to suppliers and less prepaid expenses were the cause of the decrease in "other receivables".

Liquid funds decreased as a result of the high level of investment.

Shareholders' equity

The total nominal capital figure of 235.35 million Swiss francs consists of:

Ordinary share capital of 182 million Swiss francs, divided into 280,000 bearer shares of 500 Swiss francs and 420,000 registered shares of 100 Swiss francs;

Participation certificates of 53.35 million Swiss francs with a par value of 100 Swiss francs per certificate.

11.25 million Swiss francs of the ordinary share capital is not eligible for dividend since it is deposited as security for option rights attached to the 2¼% debenture loan. In 1988, participation certificates increased by 0.75 million Swiss francs due to the redemption of options. The value of nominal capital carrying dividend rights is 224.1 million Swiss francs.

Registered shares are still widely spread. No individual of the over 3,000 private shareholders has more than 4% of all registered shares.

Liabilities

Although debenture loans remained unchanged, temporary financing was obtained through loans from subsidiaries.

The rise in total pension fund liability is due to an increased liability towards the employee welfare fund of the Singen plant. The increase in supplier payables is partially due to business growth and partially to larger investments.

Advance payments by customers decreased due to deliveries of our share of the Leopard 87 tank contract and completion of certain other large contracts.

Contingent liabilities

Contingent liabilities (guaranteed maximum sum) amount to 773 million Swiss francs at balance sheet completion (1987: 870 million Swiss francs). The largest item here is our joint liability as consortium syndicate member of the group licensed to produce the Leopard 87 tank for the Swiss Army.

Notes to the income statement

Despite a significant decrease in sales of foundry equipment – three major contracts were invoiced the previous year – turnover increased by 18 million Swiss francs. The company's Foundries and Piping Systems Divisions mainly contributed to this growth.

Sales deductions decreased due to the absence of certain items charged the previous year. Other operating income has significantly decreased due to lower subcontracted production although an increase in income from related participations was registered.

Materials used have declined due to a change in product mix; the number of large projects with a high subcontracted element was lower than last year. Miscellaneous expenses increased due to higher maintenance and repair costs.

In spite of a decreasing number of employees, salaries and wages expense increased due to inflation and higher remuneration.

Depreciation of fixed assets increased in line with the higher level of investment.

The significant items in extraordinary expense are the Schaffhausen-Singen restructuring program, the social plan of the machine tool branch, and the allocation to the Singen employee welfare fund previously mentioned. Hidden reserves of inventories were significantly increased.

Net results

The 1988 income statement shows a profit of 18.8 million Swiss francs (1987: 13.9 million Swiss francs). The Board of Directors proposes to the General Meeting of May 10, 1989, to pay dividends of 40.– Swiss francs (1987: 33.– Swiss francs) per bearer share and 8.– Swiss francs (1987: 6.60 Swiss francs) per registered share and participation certificate.

Auditors' report to the general meeting of George Fischer Limited, Schaffhausen

As auditors of your company, we have examined the accounts for the year ended December 31, 1988, in accordance with legal provisions.

We have come to the conclusion that
- the balance sheet and the income statement are in agreement with the books,
- the books of account have been properly kept,
- the financial position and the results of operations are presented in accordance with the principles of valuation prescribed by the law and the requirements of the statutes.

Based on the results of our examination, we recommend that the accounts submitted to you be approved.

We further confirm that the proposal of the Board of Directors for the appropriation of the available profit is in agreement with the law and the statutes.

Zurich, March 17, 1989

KPMG Fides Peat

A. Buck
Swiss Certified Accountant

P. Hess
Swiss Certified Accountant

Corporate Organization

Management Structure

Executive Commitee	H. Goetz (President) A. Alt, J. Anderegg, W. Hoerni, E. Hofmann, M. Huber, H. E. Wickli		
Divisions, Staff Divisions	**Sub-Divisions, Plants, Departments**	**Sales Organizations**	**Staff Departments**
Foundries Group A. Alt			
Research and Development Foundries K. Gut	Iron and Light Metal Castings L. Wilhelm Steel Castings W. Gysel Material Technology H. Walter Product Development F. Mahnig Licensing I. Henych		Accounting, Controlling Foundries O. Martin, H. Jung Technical Investment Planning Coordination K. P. Johann
Jobbing Foundries W. A. Matejka	Schaffhausen Steel Foundry W. Schneider Worms Steel Foundry (W. Germany) B. Heuberger Schaffhausen Aluminium-Alloy Foundry P. Gnädinger	Jobbing Foundries Sales R. Quiblier	
Automotive Castings A. Alt	Singen Foundry (W. Germany) G. Schulte Georg Fischer Mettmann (W. Germany) H. D. Landwehr Hydraulic Products H. Klaus Schaffhausen Iron Foundry H. Hoffmann George Fischer Lincoln (U.K.) K. H. Fiedler Gebr. Grundmann Herzogenburg (Austria) W. Blesl Lock Technology Herzogenburg B. Haas	Automotive Castings Sales E. Gretler	Technical Product Management K. Hornung Central Operations Scheduling Automotive Castings H. Hecker
Automotive Products R. Pfeiffer	Automotive Prod. Engineering H. Kopp Production J. Roellin/E. Schlatter Railway Equipment O. Ziegler	Automotive Prod. Marketing W. Stettler	
Piping Systems Group M. Huber			
	Signet Scientific Company, El Monte (USA) P. Georgi Logistics and Marketing Services Ch. Blumer	George Fischer Signet, Inc., Tustin (USA) Ch. Wickersham	Quality E. Szederjei Accounting, Controlling Piping Systems R. D. Löbe
Domestic Installation U. Werner	Metal Fittings K. Maier Pipefitters' Equipment P. Fehr Plastics Systems for Domestic Application R. Rahm	Malleable Iron Tube Fittings Sales H. Kobelt	

Divisions, Staff Divisions	**Sub-Divisions, Plants, Departments**	**Sales Organizations**	**Staff Departments**
Domestic Installation U. Werner (continued)	Flexibles Bedford (U.K.) M. Nef George Fischer Castings Ltd., Bedford (U.K.) M. Pennington	Piping Systems Sales Switzerland G. Müller	
Industrial Piping Systems R. Sigrist	Plastic Piping Systems M. Bettini Automation H. P. Fruttiger Signet Industrial Instrumentation, El Monte (USA) W. Cahill	Industrial Piping Systems Sales W. G. Forster	
Distribution Piping Systems W. Litscher	Waga, Epe (Netherlands) J. Goudriaan		
Special Products W. Zeller	Electrical Hardware W. Zeller Wear Parts K. Künstner		
Plastics Production E. Guldener	Georg Fischer Plastik AG, Seewis, Grisons H. Rischgasser Singen Plant (W. Germany) G. Fuhrmann George Fischer Plastics Ltd., Huntingdon (U.K.) V. Fetsch Termoplastici Industria Ligure S.p.A., Genoa (Italy) D. Pastorino		
Sales Companies R. E. Baumann		George Fischer SA, Paris (France) M. Calloud George Fischer Sales Ltd., Le Bas Tube Co. Ltd., London (U.K.) H. Seiler Giorgio Fischer S.p.A., Milan (Italy) L. Bernasconi Georg Fischer AB, Stockholm (Sweden) L. Englesson Georg Fischer AG Sales Organization Germany, Albershausen (W. Germany) E. von Kirchbach Georg Fischer N. V., Epe (Netherlands) J. F. D. Roos Georg Fischer N. V., Brussels (Belgium) H. Pierre Gebr. Grundmann Ges.m.b.H. Sales Organization Austria, Herzogenburg (Austria) D. Pöhlmann Georg Fischer A/S, Birkerød (Denmark) K. Hansen Georg Fischer A. S, Oslo (Norway) G. Lauten	

Divisions, Staff Divisions	Sub-Divisions, Plants, Departments	Sales Organizations	Staff Departments
Manufacturing Technology Group J. Anderegg			
			Managing Staff A. Jacob, U. La Roche
Schaffhausen Machine Tools H. Baumgartner	Production Schaffhausen G. Triet Measuring Technology M. Ring		
Burkhardt + Weber, Machine Tools, Reutlingen (W. Germany) H. Klein, M. Werz			
Charmilles Machine Tools, Meyrin-Geneva J. Anderegg	Finance R. E. Ensmann Production D. C. Joly Research and Development A. J. Tesnière Customer Service J.-P. Lenoir Marketing J. Martin	Charmilles France Palaiseau (France) J. P. Wilmes Charmilles Germany Fellbach (W. Germany) H. Schurer Charmilles USA Mt. Prospect (USA) H. Moser Charmilles Japan Tokyo (Japan) U. Keppler Charmilles U. K. Stratford upon Avon (U.K.) R. G. Peacock	
George Fischer- Bohle Machine Tools Farmington Hills (USA) K. Kreft	Raycon Corporation, Ann Arbor (USA) K. Kreft		
Plant Engineering and Construction H. E. Wickli			
Foundry Equipment F. A. Rüegg	Foundry Equipment F. A. Rüegg General Contracting W. Wittwer Shot Blast Machines E. Habegger George Fischer Foundry Systems USA, Holly (USA) L. J. Pedicini	Foundry Equipment Sales Coordination G. Meier	
Buss Group Basle H. E. Wickli Finance and Purchasing W. Schweighauser Planning and Organization W. Schmutz			
Mixing and Kneading Technologies R. Gentili	Mixing and Kneading Technologies Pratteln, Basle R. Gentili Mixing Technologies Petzholdt Frankfurt (W. Germany) B. Holzhäuser	Mixing and Kneading Technologies Sales Pratteln, Basle O. Schaub	
Process Technologies K. L. Keller	Process Technologies Pratteln, Basle P. Fengels Process Technologies Buss-SMS Butzbach (W. Germany) R. van der Piepen Apparatus Engineering Buss-SMS Butzbach (W. Germany) D. E. Hanus Process Technologies Heine Viersen (W. Germany) D. E. Hanus Tank and Apparatus Engineering Pratteln, Basle P. Feuerlein		

Divisions, Staff Divisions	Sub-Divisions, Plants, Departments	Sales Organizations	Staff Departments
Plant Engineering and Construction H. Dornheim	Chemical Plants Pratteln, Basle H. Dornheim Food Processing Plants Mator Inwil, Lucerne D. Woschitz Process Control Pratteln, Basle R. Gramm	Chemical Plants Sales Pratteln, Basle H. J. Pfenninger	
Logistic Systems Buchs AG H. Grebenstein		Logistic Systems Sales M. Broggi	
Bulk Solids Handling Ravensburg (W. Germany) M. Wolf		Bulk Solids Handling Sales H. W. Schneider	
Buss International R. Brunner		Buss (France) Asnières (France) B. Kostadinoff Buss (U.K.) Cheadle Hulme (U.K.) D. M. Salden Buss (Japan) Tokyo (Japan) K. Tajima Buss (Italia) Milan (Italy) G. Zilioli Buss (Nordiska) Stenkullen (Sweden) G. Carlsson Buss (America) Elk Grove Village (USA) K. Schmidt	
Finance and Accounting Group W. Hoerni			
	Accounting Schaffhausen F. Hösli		Management Accounts Services W. Frei
	Risk Management J. Becher		
Group Auditing B. Stoll			
Group Controlling R. Frauchiger			
Group Treasury U. Widmer			
Planning and Organization Group E. Hofmann			
Corporate Planning, Organization E. Hofmann			Secretariat General A. Gamper PR, Information, Advertising M. Naegler Controlling Planning and Organization R. Nünlist
Data Processing Services M. Stamm	Data Processing Schaffhausen H. U. Lieberherr		
Law H. P. Ricci			
Personnel, Site Management Schaffhausen M. Weigele	Personnel Schaffhausen P. Winker		
Plant Installations and Real Estate K. Schmid	Utilities and Maintenance E. Läubli Buildings and Installations J. Schaufelberger Real Estate H. Stolz		
Purchasing H. Pladerer	Shipping R. Stamm		

Status: January 1, 1989

Companies

Name of company	Head office	Equity Capital in mill.		Partici-pation in %*
Switzerland				
C Georg Fischer AG	Schaffhausen	Sfr.	235,4 **	
C Georg Fischer Finanz AG	Schaffhausen	Sfr.	60,0	100
C Georg Fischer Immobilien AG	Schaffhausen	Sfr.	2,5	100
C Georg Fischer Risk Management AG	Schaffhausen	Sfr.	0,5	100
C Infag AG	Schaffhausen	Sfr.	0,05	94
C Rhenum Metall AG	Schaffhausen	Sfr.	1,0	100
C Georg Fischer Plastik AG	Seewis GR	Sfr.	5,0	100[6]
C Charmilles Technologies SA	Meyrin GE	Sfr.	40,0	100[6]
C Wohnbaugesellschaft Bodenacker AG	Brugg AG	Sfr.	0,2	100[9]
C Buss AG	Basle	Sfr.	30,0	59[6]
C OWL AG Logistik-Systeme	Buchs AG	Sfr.	4,0	100[1]
C Mator AG	Inwil LU	Sfr.	2,0	100[1]
Lötfittings AG	Obersiggenthal AG	Sfr.	4,3	100
Austria				
C Gebr. Grundmann Ges.m.b.H.	Herzogenburg	AS	63,0	63[6]
Denmark				
C Georg Fischer A/S	Birkerød	dKr	0,4	100
Federal Republic of Germany				
C Georg Fischer AG (German branch)	Singen			
C Georg Fischer Beteiligungs-GmbH	Reutlingen	DM	25,0	100
C Georg Fischer GmbH	Mettmann	DM	60,0 (DM 35,0 paid up)	100[3]
C Georg Fischer GmbH	Worms	DM	5,5	100[3]
C Burkhardt + Weber GmbH	Reutlingen	DM	40,0	100[3]
C Burkhardt GmbH	Pfullingen	DM	2,0	100[3]
C Charmilles Deutschland Maschinenbau-GmbH	Fellbach	DM	5,0	100[3]
C Buss Holding GmbH	Ravensburg	DM	16,5	95[1]
C Buss-SMS GmbH Process Technology	Butzbach	DM	8,0	100[10]
C Waeschle Maschinenfabrik GmbH	Ravensburg	DM	9,0	100[11]
C Petzholdt Maschinenfabrik GmbH	Frankfurt am Main	DM	0,8	100[10]
C Heine Zentrifugen GmbH	Viersen	DM	0,05	100[10]
France				
C George Fischer SA	Saint-Denis	FF	20,0	100
C Charmilles Technologies (France) S. A.	Palaiseau	FF	10,0	100[5]
C Buss (France) S.A.R.L.	Asnières	FF	0,2	100[1]
Great Britain				
C George Fischer (Lincoln) Ltd.	Lincoln	£	4,6	100[7]
C George Fischer (Great Britain) Ltd.	Bedford	£	2,0	100[6]
C George Fischer Castings Ltd.	Bedford	£	0,3	100[2]
C George Fischer Sales Ltd.	London	£	0,3	100[2]
C George Fischer Plastics Ltd.	Huntingdon	£	0,25	100[2]
C Le Bas Tube Co. Ltd.	London	£	0,2	100[2]
C Buss (UK) Ltd.	Cheadle Hulme	£	0,03	100[1]
C Charmilles Technologies (Great Britain) Ltd.	Stratford upon Avon	£	0,01	100[5]
Italy				
C Giorgio Fischer S. p. A.	Cernusco	Lit	2500,0	100
C Tufira S. r. L.	Cernusco	Lit	70,0	99[8]
C Termoplastici Industria Ligure S. p. A.	Genoa	Lit	500,0	100
C Buss (Italia) S. r. L.	Milano	Lit	40,0	100[1]
Japan				
Kubota George Fischer Ltd.	Osaka	Y	480,0	50
Nissin Machine Co. Ltd.	Himeji	Y	90,8	33
George Fischer Japan Ltd.	Osaka	Y	60,0	99
C Buss (Japan) Ltd.	Tokyo	Y	30,0	100[1]
C Charmilles Technologies (Japan) Ltd.	Yokohama	Y	100,0	100[5]

Name of company	Head office	Equity Capital in mill.		Partici-pation in %*
Korea				
Project & Process Engineering Corp.	Seoul	Won	50,0	36
Netherlands				
C Georg Fischer N. V.	Epe	hfl	2,0	100
Norway				
C Georg Fischer A. S	Oslo	nKr	0,4	100
Saudi Arabia				
Arabian Plastic Manufacturing Company	Riyadh	R	18,0	26
Sweden				
C Georg Fischer AB	Stockholm	sKr	1,6	100
C Buss (Nordiska) AB	Stenkullen	sKr	0,05	100[11]
USA				
C George Fischer Corp.	Mount Prospect, Illinois	$	39,7	100
C George Fischer Signet, Inc.	Tustin, California	$	5,3	100[4]
C George Fischer-Bohle Machine Tools Corp.	Farmington Hills, Michigan	$	7,1	100[4]
C Charmilles Technologies Corp.	Mount Prospect, Illinois	$	4,0	100[4]
Raycon Corporation	Ann Arbor, Michigan	$	15,1	100[4]
C George Fischer Foundry Systems, Inc.	Holly, Michigan	$	4,3	99[4]
C Buss (America) Inc.	Elk Grove Village, Illinois	$	0,7	100[1]
C Signet Scientific Company	El Monte, California	$	16,0	100[4]

[1] Holding owned by Buss AG, Basle (Switzerland)
[2] Holding owned by George Fischer (Great Britain) Ltd., Bedford (U.K.)
[3] Holding owned by Georg Fischer Beteiligungs-GmbH, Reutlingen (W. Germany)
[4] Holding owned by George Fischer Corp., Mount Prospect (USA)
[5] Holding owned by Charmilles Technologies SA, Meyrin GE (Switzerland)
[6] Holding owned by Georg Fischer Finanz AG, Schaffhausen (Switzerland)
[7] Holding owned by Georg Fischer GmbH, Mettmann (W. Germany)
[8] Holding owned by Giorgio Fischer S. p. A., Cernusco (Italy)
[9] Holding owned by Georg Fischer Immobilien AG, Schaffhausen (Switzerland)
[10] Holding owned by Buss Holding GmbH, Ravensburg (W. Germany)
[11] Holding owned by Buss Holding GmbH, Ravensburg (W. Germany) and Buss AG, Basle (Switzerland)

* Participation percentages are rounded to the nearest whole figure
** Including participation capital

C = Fully consolidated companies

(Status January 1, 1989)

GEORGE FISCHER +GF+

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