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ASEA BROWN BOVERI

Annual Report 1988

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Financial Information and Reports

This Annual Report accounts for the consolidated operations of the ABB Asea Brown Boveri Group in 1988. It conforms to OECD guidelines and recommendations concerning the publication of information.

As this is ABB's first Annual Report, special emphasis has been put on describing the Group's activities and strategies. The financial content is inevitably somewhat limited because there are few meaningful comparative figures for 1987 as a result of the merger, new accounting principles, and major changes in Group structure. The new financial reporting system became operational during the second half of 1988, which will enable ABB to start reporting earnings per Segment in 1989.

Apart from its Annual Report, the ABB Group publishes a Six-month Report in early September, and releases quarterly reports in May and December.

The ABB Group Report is published in English, German, and Swedish. The original English-language version is binding. All figures shown in $ are in U.S. dollars.

In the Annual Reports of the ABB parent companies, ASEA AB and BBC Brown Boveri Ltd, the ABB Annual Report forms an integral part.

A separate Annual Report for the Holding Company, ABB Asea Brown Boveri Ltd, Zurich, is published in line with Swiss law. This report and a list of major Group companies are published separately and are available on request. In addition, ABB companies in Germany, Sweden, Switzerland, Finland, Norway, and Italy, for example, as well as the Kent Group in the UK, the Fläkt Group in Sweden, and ABB Financial Services publish their own Annual Reports.

Group Structure

ASEA AB, Stockholm (Sweden), and BBC Brown Boveri Ltd, Baden (Switzerland), own 50 percent each of the shares of ABB Asea Brown Boveri Ltd, Zurich (Switzerland).

ABB Asea Brown Boveri Ltd, Zurich, is the Holding Company and Corporate Headquarters of the ABB Asea Brown Boveri Group, comprising approximately 800 fully or partly owned companies around the world.

While the shares of ABB Asea Brown Boveri Ltd are not publicly traded, the shares of the two parent companies, ASEA AB and BBC Brown Boveri Ltd, are listed on various stock exchanges.

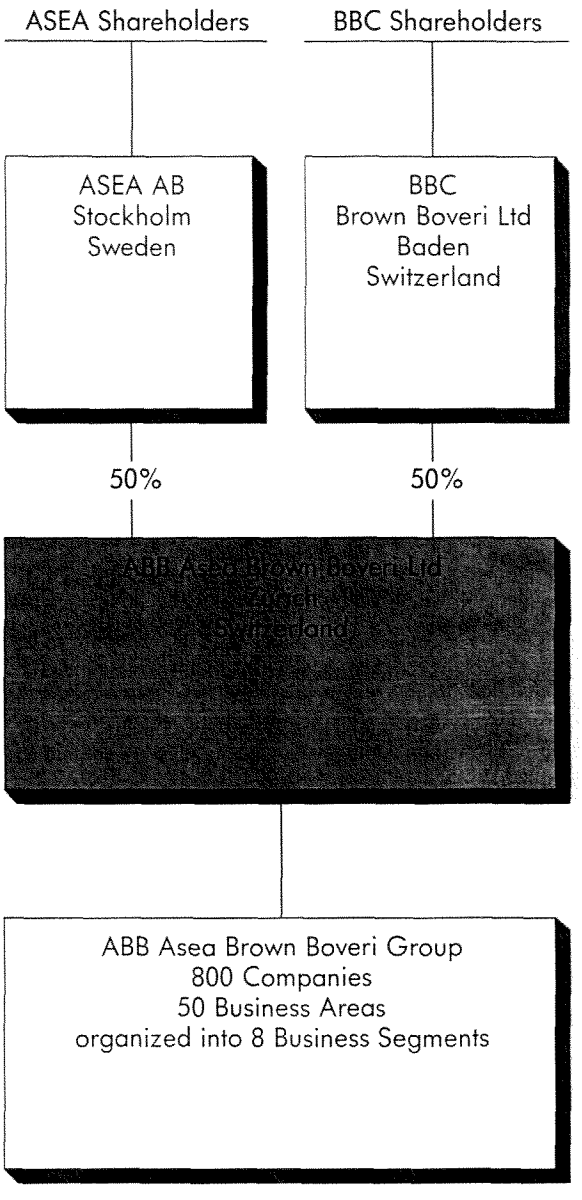


ABB in Brief

Scope of Business

ABB Asea Brown Boveri is an electrotechnical company with global operations, revenues of $ 18 billion and some 170,000 employees. Net income in 1988 totaled $ 386 million. ABB develops, produces, sells, and services systems and products in a wide range of areas generally related to the production, distribution, and application of electricity.

Its principal activities are in the fields of:

- power generation plants for primary energy – coal, gas, oil, water, nuclear;
- high-voltage transmission of electricity with such products as switchgear, transformers, relays, and cables;
- medium- and low-voltage distribution with substations, switchgear, and installation.

These three Segments together contribute almost half of total sales.

Further major areas of activity are public transportation such as high-speed trains, locomotives, urban transportation systems; electrical drives, process automation, and metallurgy in the industry sector; and environmental control technology, where the main focus is on air handling and treatment. ABB's activities also include robotics, instrumentation, power lines, general contracting, superchargers, and certain specialties within telecommunications, advanced plastics, and local businesses in installation material, wholesale, and service.

The Financial Services Segment provides services in the areas of financing, leasing, treasury operations, insurance, trading, and portfolio management for companies within the ABB Group and for third parties.

Structure

The ABB Group is essentially a federation of national companies; its focus is on finding efficient solutions to customers' problems and on exporting worldwide in specialized fields.

In its organization, ABB pursues a strong philosophy of decentralization; its aim is to be close to the customer, to have short lines of communication and decision-making, and clearly defined accountability. Overall, there are more than 3,500 individual profit centers.

ABB uses a matrix structure for its organization:

Worldwide business activities are grouped into 8 Business Segments comprising 50 Business Areas. Each carries responsibility for global strategies, business plans, allocation of manufacturing responsibilities, and product development.

Geographically, the Group is broken down into subgroups or companies in industrial countries. In the developing world, it is broken down into regions comprising a number of countries. Company Managers are responsible for operations in each country in line with the global strategies of the Business Areas.

Management

Group Executive Management comprises Percy Barnevik as President and Chief Executive Officer, Thomas Gasser as Deputy, and 11 Executive Vice Presidents. Responsibility for the Business Segments, Regions, and Corporate Staffs is divided among the Group Executive Management members.

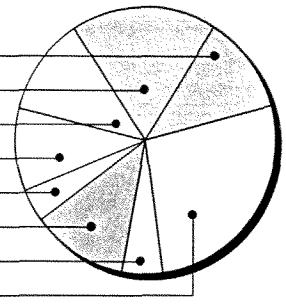
Key Figures

(US$ in millions, unless otherwise stated)

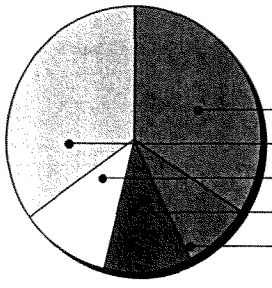
	1988
Orders received	17,822
Revenues	17,832
Operating earnings after depreciation	854
Earnings after financial income and expense	560
Net income	386
Stockholders' equity (excluding minority interest)	3,122
Total capital	18,965
Capital expenditure for property, plant, and equipment	736
Capital expenditure for acquisitions	544
Operating earnings / revenues	4.8%
Return on capital employed	13.6%
Return on equity	12.5%
Debt / equity ratio	0.8
Interest coverage ratio	2.2
Number of employees	169,459

Group Orders Received and Revenues per Business Segment

Business Segment	Orders received	Revenues	As % of total revenues
Power Plants	2,194	2,510	12%
Power Transmission	3,376	3,619	18%
Power Distribution	2,522	2,480	12%
Industry	1,966	2,047	10%
Transportation	993	747	4%
Environmental Control	2,786	2,511	13%
Financial Services	1,065	1,046	5%
Various Activities	5,295	5,375	26%
Total	**20,197**	**20,335**	**100%**
Intra-Group transactions	– 2,375	– 2,503	–
Net total	**17,822**	**17,832**	**–**

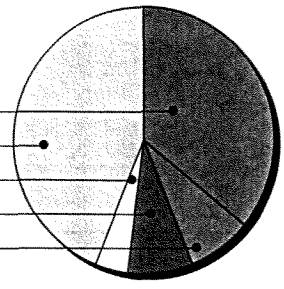


Group Revenues per Region*



33%	Western Europe – European Community	36%
33%	Western Europe – EFTA	44%
12%	North America	4%
12%	Asia and Australasia	8%
10%	Others	8%

Group Employees per Region



* Total third party revenues in each region, excluding exports, which are accounted for in the revenue figures of the importing regions.

Letter from the Chairmen

On January 5, 1988, the electrotechnical operations of ASEA and BBC were merged to become ABB Asea Brown Boveri (ABB), the world's largest electrotechnical supplier. This bold and unexpected move has since triggered major developments throughout the industry. While some of ABB's competitors have announced their own plans for joining forces, ABB has forged ahead in restructuring its operations, with better usage of its human and capital resources, and propelling the Group into a position of competitive leadership.

Through several acquisitions and joint ventures undertaken in 1988 and early 1989, ABB has further strengthened its core operations. No other group in the industry is today so totally dedicated to serving electrotechnical markets with products and services as is the ABB Group.

We believe in the world's future need for electricity. The majority of ABB's operations directly involve electrotechnical activities, such as power and industrial equipment, transportation, environmental control, or businesses supporting these.

ABB's commitment to the electrotechnical market is reinforced through its substantial investments in research and development (R&D). The merger has given both complementary strength and additional resources in key R&D areas. The Group is committed to continuing its policy of remaining at the forefront of technological developments in its field.

One of ABB's prime competitive strengths is its multidomestic geographical presence. The Group has widespread and substantial manufacturing facilities in Europe, with approximately equal numbers of employees inside and outside the European Community. It is therefore able to meet demand throughout Europe with locally manufactured products.

In the developing countries, ABB's local operations have more than 25,000 employees engaged in engineering, manufacturing, sales, and service activities. In North America, ABB is presently undertaking a major move to rapidly expand its local presence. ABB has started a major effort to strengthen its position in the Far East. Thus, ABB can claim to be locally present on a global basis.

The past twelve months have been a tremendous challenge for all our employees. A very large amount of work and dedication has been required from employees at all levels in the organization in order to lay the complex foundations for the merger, and to implement the many action plans.

In addition, a number of acquisitions and cooperation agreements undertaken simultaneously have made the task even more demanding. All this has had to be achieved in parallel with fulfilling our customers' ongoing demands for ABB products and services. It is with satisfaction and gratitude that we have noted the progress made since ABB's foundation, and we would like to thank all those involved for their tireless efforts and vast contributions.

Dr. Fritz Leutwiler
Co-Chairman ABB
Asea Brown Boveri Ltd
Chairman BBC
Brown Boveri Ltd

Dr. Curt Nicolin
Co-Chairman ABB
Asea Brown Boveri Ltd
Chairman ASEA AB

President's Comments

We have now passed the first two critical phases in the formation of the ABB Group:
- All the formal merger agreements followed by key organizational and management staffing decisions in the autumn of 1987.
- Decisions on major strategies and a common set of policies for ABB. Decisions on restructuring and the start of implementation in 1988.

Progress so far, considering this short period of time, is very satisfying. This Annual Report gives a number of examples of activities that have been completed or are under way: company mergers in over fifty countries, establishing some 3,500 profit centers in a process of decentralization, capital and overhead-cost reduction programs, product exchanges, plant mergers, factory and engineering rationalization, divestment of operations, and formation of new companies. The Annual Report also describes simultaneous efforts to expand our business and to position ourselves in a rapidly changing industry through a number of strategic acquisitions and joint ventures.

All these efforts are part of a global program within ABB to make our Group the world low-cost producer in core businesses, to develop a more flexible and leaner organization closer to our markets and customers, and to be the technology leader in the electrotechnical field.

Behind all this, there are thousands of our employees who have been doing a tremendous job. A merger of this size is obviously neither a simple nor a painless task – jobs have been eliminated and others have been created, long-standing relationships need to be changed and completely new situations must be handled. Work load and stress have been high in many areas. Language problems and cultural differences add to the complexity of the situation and, in some places, the many changes have created uncertainty about the future. But many people have taken on new and greater responsibilities, have provided leadership and created enthusiasm for the challenges that lie ahead. Information and motivational tasks for our managers, the need to reach out and mobilize all our employees, will remain a key priority in the years to come.

My colleagues and I want to express our sincere appreciation for the enormous amount of dedicated work put in by so many employees, and for the loyalty they have shown to ABB in a difficult and demanding process of change. I hope that many of our ABB employees share the rewarding feeling of contributing to and being part of something new – a truly multidomestic group with many home countries and global cooperation across borders.

Restructuring and Globalization of our Industry

All through the 1980s, the electrotechnical industry has been plagued by overcapacity. In Europe the industry was fragmented and crowded by some 20 large and medium-sized companies, in some countries state-owned, subsidized, and/or protected. The merger of the electrotechnical activities at ASEA and BBC into ABB, and our subsequent acquisitions and joint ventures, triggered much-needed restructuring of the whole industry. With the Internal Market of 1992 looming, European industry must prepare itself for increased crossborder competition within Europe, but also against increased competition from offshore suppliers. Some of ABB's acquisitions and joint ventures in the power and railway equipment fields in countries such as Italy, the UK, and Germany, are important steps in that direction, and they have also strengthened ABB inside the European Community. Consolidation of ABB's new structure in Europe is now taking place, with a major presence in both the EC and the EFTA countries.

Outside Europe, ABB is moving West and East in order to continue to develop more globalized business operations. North America has some 30 percent of the worldwide potential in our field but only 12 percent of ABB sales; we would like to see that share double within a reasonable period of time. The joint venture with Westinghouse in the field of transmission and distribution marks a further important step towards ABB's objective of becoming a truly domestic supplier in the power field with major R&D, manufacturing, and engineering resources in North America. Expansion is also planned in the fields of industry, transportation, and environmental control.

In the developing countries, rapid population growth and urbanization demand substantial infrastructure investments in such fields as electrification, transportation, telecommunications, environmental protection, and water. Seventy percent of the population still has no access to electric power. Thus, in the next 20 years, as much electric generating capacity will be needed as was installed in industrial countries in the last 100 years. ABB is present in most countries, and its strategy of being "an insider rather than an invader" will lead

to further transfer of technology and domestic investments in manufacturing facilities to complement project export from Europe and North America. Particularly strong growth is anticipated in some of the Asian countries, where ABB already has local platforms and plans further investments.

ABB – a Multidomestic Company

The word "multidomestic" illustrates ABB's structure with strong national companies, or national groups of companies. These have local manufacturing and engineering facilities to supply their home markets and also to export products in which they have particular competitive advantages. This "federation of national companies" is especially visible in Europe, and makes ABB uniquely equipped to serve its customers through its strong local presence both before 1992 and beyond.

The phrase "think global, act local" reflects ABB's fundamental idea of combining the multidomestic structure with cooperation and trade across borders to gain economies-of-scale advantages. Numerous product exchanges are now taking place, not least in Europe, thus contributing to lower unit costs. National companies also use the Group's total resources in research, in distribution channels, and in finance. Just as examples: our Finnish company exports industrial equipment to India by using ABB's well-established Indian distribution and service network; our Italian generator plant draws on the state-of-the-art technology in ABB corporate laboratories; and our American company is financially supported for major acquisitions.

In addition, within the national companies we are striving for far-reaching decentralization in order to stimulate flexibility, promote entrepreneurship, and stay close to the customer.

Business Development

ABB intends to continue to focus on the electrotechnical field and not to diversify into unrelated areas. The Group has a good balance between mature cash-generating business and high-growth, R&D-intensive business.

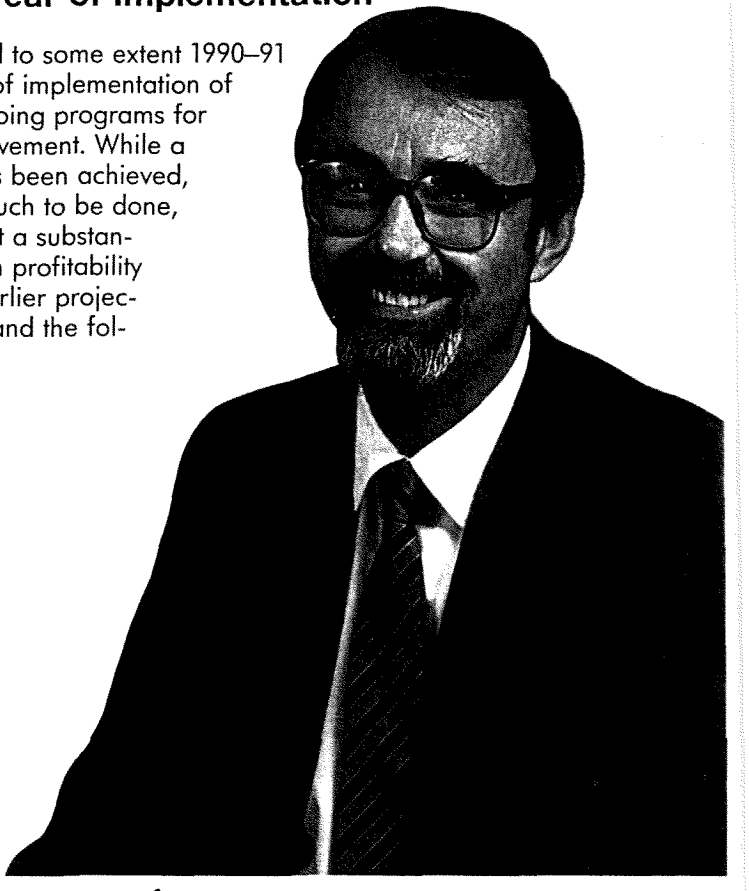
Demands for a better environment and energy conservation will increasingly be driving forces for many of our Business Areas. We will therefore further develop nuclear technologies, continue our drive towards high-efficiency power plants and clean coal technologies, expand air pollution control activities, and improve electric distribution systems. Demand for efficient and clean mass transportation in polluted and congested metropolitan areas as well as for high-speed passenger transport for longer distances will provide growth for the Transportation Segment. We also foresee a need to revamp aging industrial plants to raise productivity, improve quality, and conserve raw materials and energy. Our process- and factory-automation activities will spearhead these growing business opportunities.

The developing countries have enormous need for new capacity in power generation and distribution. In the industrial world we are still facing several years of moderate growth in this sector. When this market revives in the 1990s, we will be well equipped to respond to the increased demand.

Our R&D investments will focus on these business opportunities. Excellence in technology and quality will give ABB a major competitive edge, just as ASEA and BBC have always had.

1989 – a Year of Implementation

1989 and to some extent 1990–91 will be years of implementation of the many ongoing programs for internal improvement. While a great deal has been achieved, there is still much to be done, and we expect a substantial increase in profitability in line with earlier projections in 1989 and the following years.



Percy Barnevik
President and Chief Executive Officer

Group Review 1988

Market Conditions and Sales

Western industrial countries showed good overall growth and moderate inflation. The newly-industrialized countries in Asia continued to experience steady growth, while many developing countries were still burdened by their debt situation. Industrial investments showed satisfactory overall growth in 1988. Railway equipment investments were up, but power utility investments continued on a depressed low level in industrial countries.

In this economic climate, ABB's orders received in 1988 totaled $ 17,822 million, some 13 percent higher than the pro forma figure for 1987. Adjusted for changes in dollar exchange rates against the corresponding domestic currencies, the increase was 9 percent.

The order backlog at the end of 1988 was $ 15.9 billion.

Revenues amounted to $ 17,832 million. Adjusted for changes in dollar exchange rates, this is approximately 18 percent higher than the pro forma figure for 1987.

Distribution channels have been merged in most countries and regional sales have been reorganized and strengthened along Business Area lines in several countries.

Personnel

The total number of employees in the ABB Group was just under 170,000 at year-end 1988. This figure would be approximately 200,000 if companies to be consolidated in 1989 and all the acquisitions and joint ventures agreed upon in 1988 and early 1989, but not yet implemented, were included.

Research and Development

ABB is firmly committed to maintaining its leading role in technology and quality. Beyond necessary resources, this requires clearly defined priorities and proper direction to create a balance between short-term product improvements and major innovations in technology – where the rewards may come much later.

The merger of the electrotechnical activities of ASEA and BBC and a number of other companies had a dual effect: a strengthened position through complementary technologies and rationalization opportunities in overlapping R&D activities. A cost reduction of 15 percent in R&D could probably have been achieved without reducing R&D intensity. However, the policy generally adopted was to redeploy released human resources to the areas of the highest priority in order to step up the rate of innovation in those areas in the 1990s. As responsibilities were divided up, centers of excellence were established in various countries. The focus was also on making R&D more market-oriented and on raising efficiency through concentrating resources and shorter project schedules.

The individual Business Areas account for over 90 percent of the total R&D investment of $ 1.3 billion (7% of revenues) and formulate their own R&D strategy. The ABB Group's R&D objectives are well in line with current trends towards improving conservation of energy and materials, decreasing

pollution of the environment, and adapting technology more closely to human needs – in short, towards a better quality of life.

Corporate R&D Activities

ABB has corporate research centers in Germany, Sweden, Switzerland, Norway, and Finland. Similar centers are planned in Italy, the United States, and Canada. These research centers concentrate on projects that are more long-term by nature, more fundamental or experimental in aim, or of interest to several Business Areas. Some corporate R&D projects are undertaken outside ABB in cooperation with national research institutes or with venture capital companies in which ABB has invested.

Some of the basic technologies to which ABB gives priority are:

– Power semiconductors

Power semiconductor devices are key components for several ABB activities such as transportation, electric drives, and power transmission. A three-year joint Group research program commenced in early 1988 in order to obtain fundamental results and to safeguard the competitive position of these important components. This involves merging microelectronic technology and power electronics on the same silicon device. A new semiconductor laboratory has started operations in Switzerland.

– New materials

The focus has been on several important materials for the future: fiber-reinforced plastics, ceramics, and different types of powder metallurgy. SICOMP, an institute for research on composites, is being established in Sweden. Several countries are participating in a joint ABB research program for the application of high-temperature superconductors. In the area of surface technologies several new applications have been launched, such as coating blades for gas turbines. New insulation materials with a life span increase of 100–1,000 times will fundamentally change the design of rotating machines.

– Environmental development

New products and techniques for energy conservation and pollution reduction are being developed. The new desulfurization and denitrification process for flue-gases developed by Fläkt are excellent examples. Separation of heavy metals from ashes, and new water purification methods, both for drinking and for waste water, are other projects.

– Energy

This includes combustion and energy exchange projects, such as new burners for gas turbines and pressure-wave gas generators.

– Electronics and software development

Much of ABB's R&D falls into this category. Several projects are under way for the use of ASIC (Application-Specific Integrated Circuits). Design support centers are being set up in several countries to speed up implementation.

Expert systems are applied in man/machine communication, and in diagnostic systems in robotics, automation, and service. Optoelectronics for communication as well as for measuring and protection in electric systems is presently being developed in several projects. The ABB manufacturer of customized integrated circuits, ABB HAFO, has installed a new silicon gate process with 2 μm design rules and double-level metal interconnection.

Members of the Board of Directors (l. to r.): Gaston Thorn, Bernd Müller-Berghoff, Stephan Schmidheiny, Fritz Leutwiler (Co-Chairman), Heinrich Weiss, Peter Wallenberg, Curt Nicolin (Co-Chairman), Christian Norgren

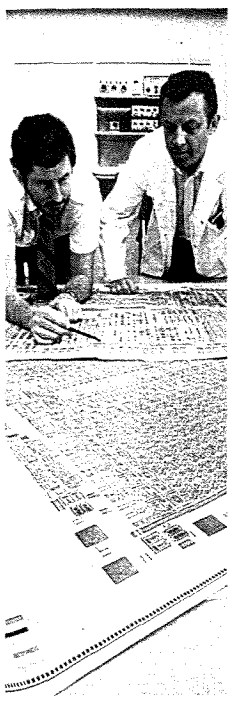


ABB is firmly committed to maintaining its leading role in technology and quality through intensive R&D efforts.

R&D Activity within Business Segments

In the Power Plants Segment, the world's largest gas turbine at 140 MW with a new, less polluting burner system was put into operation in the Netherlands. The U.S. Department of Energy awarded a $ 185 million grant to American Electric Power for the construction of a 330 MW PFBC (Pressurized Fluidized Bed Combustion) power plant.

Significant progress was achieved in several fields of Power Transmission. A completely new substation transformer for railroad applications using foil-winding technology has been developed. The first important products from a basic R&D program aimed at conversion to completely digitalized relay systems have been launched. This concerns both general purpose and distance protection for transmission lines.

The world's first directly light-triggered and self-protected HVDC (High-Voltage Direct-Current) thyristor valve has been taken into operation as part of the Konti-Skan link between Denmark and Sweden. New outdoor insulation systems will improve HVDC transformers.

Power Distribution has launched the first medium-voltage breaker with a newly developed interrupting principle for SF_6 breakers, making them more cost-efficient and compact. Research work in ABB's plasma physics laboratory has supported the development of a new family of vacuum interrupters. The excellent performance of this interrupter led to an immediate order from the U.S. for more than 2,500 units. The trend towards using more electronics in the low-voltage area continues. ABB has launched a complete set of soft starters, electronic current sensors, and microelectronic relays for air circuit breakers.

Within the Industry Segment the introduction of GTO (Gate Turn-Off) thyristors means an important step towards a new generation of power semiconductor devices, which will improve efficiency in industrial and traction motor drives and in electronic power supplies.

Within the field of process automation, the common basic process control system, ABB MASTER, will be further developed on an evolutionary basis so that customers can upgrade smoothly from existing systems.

Among a number of new developments in Metallurgy, the electromagnetic brake for continuous casting of slabs can be mentioned. By using this brake, slab surface quality is improved and a higher casting speed is allowed.

Environmental Control is installing a new unique filter system in ten Swedish nuclear power plants. The new system, called MVSS, will automatically reduce pressure in the reactor enclosure should a severe meltdown occur and simultaneously separate the solid and gaseous radioactive material. The system is totally self supporting, needs no external power supply, and functions without operator intervention.

Another important breakthrough was the development of a complete gas cleaning system for waste incineration plants to be installed in Munich. The new system achieves very high collection efficiencies for dust, muriatic acid, sulfur and nitrogen oxides, as well as heavy metals.

High performance equipment using membrane technology for cleaning process water has been developed. The first plant utilizing this process for cleaning bleaching water for pulp and paper was taken into operation in 1988.

The Transportation Segment presented the first train set for the Hamburger Hochbahn AG (Metro Hamburg). It has three-phase propulsion including totally enclosed, maintenance free, water-cooled motors and a complete microprocessor control system. In May 1988, the ICE prototype train of the German Federal Railways, equipped with the ABB drive system, established a new world speed record on rails at 406 km/h (252 mph).

An R&D agreement was signed with the Western Australian Government Railways to develop a new type of freight bogie (truck) with an axle load of 30 tonnes for higher speeds.

Investments and Capital Rationalization

Capital Expenditure

ABB Group capital expenditure in 1988 excluding acquisitions totaled $ 736 million, with $ 157 million in land and buildings and $ 579 million in machinery and equipment.

A substantial number of the Group's engineers is involved in development, design, and drawing activities. Major investments are being made in CAD/CAM technology to increase their productivity and reduce throughput times. Today, some 1,000 CAD/CAM workstations are in operation.

A number of investment projects are under way, aiming at dramatically reducing working capital and throughput times in manufacturing. Industrial robots are increasingly being used for flexible automation including assembly work. Investments are also being made in highly automated lines for mass production.

Acquisitions

Acquisitions in 1988 amounted to $ 544 million. This figure does not include the joint ventures concluded early in 1989 with Finmeccanica/Ansaldo in Italy, with BREL in the UK, and with Westinghouse in the United States.

The 1988 figure includes a $ 300 million bid launched in February 1988 for the outstanding minority interest in the Environmental Control Group, Fläkt.

In early 1988, the Italian contracting group Sadelmi Cogepi was acquired. The transformer plants of the Franco Tosi Group and the electrical products company, Marelli, merged with ABB Tecnomasio.

In November 1988, ABB agreed to acquire the steam turbine and boiler activities of Franco Tosi Industriale and certain other participations from Italmobiliare.

Then followed a comprehensive agreement with Finmeccanica/Ansaldo in January 1989 to restructure the entire Italian electrotechnical industry. This includes establishing four joint ventures with some 10,000 employees and covers boilers, steam turbines, generators, and power transformers.

The ABB/Westinghouse joint venture for transmission and distribution in the United States, Brazil, and Argentina was finalized early in 1989. Subsequent acquisition of the Westinghouse transmission and distribution business in Canada is planned. Together, these companies have some 10,000 employees and sales of approximately $ 1.1 billion. ABB acquired a 45-percent participation for $ 300 million in the joint venture and an option to buy the remaining 55 percent in 1990.

In 1988, ABB acquired the British railway wheel manufacturer British Wheelset Ltd, the steam turbine activities from AEG in West Germany, the Belgian ACEC Group's industrial turbine operations, and a 33-percent stake in the Danish railway manufacturer Scandia-Randers A/S. Two transformer companies, in Spain and Turkey respectively, were also acquired.

In November 1988, agreements were signed with Siemens to cooperate in the field of high-temperature reactors.

In January 1989, a consortium was selected – including ABB with 40 percent – as the preferred buyer for the British railway and engineering company BREL Ltd. BREL has 8,000 employees and a turnover of $ 450 million. ABB has also signed agreements with the Swedish and Finnish State Railways to acquire a number of service shops in those countries and to acquire Kalmar Verkstad, a Swedish carriage manufacturer.

In February 1989, through its Norwegian subsidiary EB, ABB agreed to acquire the signalling and safety systems operations of the Swedish Ericsson Group with a turnover of $ 120 million and 1,000 employees. At the same time, EB is to divest parts of its telecommunications activities in Norway.

In March 1989, preliminary agreement was reached to acquire the electric drives activity of Jeumont-Schneider in France.

Capital Rationalization

ABB as a whole has a capital turnover rate below one and there is a large potential for capital rationalization. Numerous action programs are under way to reduce both monetary and physical assets. The target for the next 3–4 years is a reduction of some $ 4 billion, given the present sales level. The major reductions are in accounts receivable, in inventories, and in rationalization and consolidation of fixed assets.

These programs are most important to increase Group profitability. Encouraging progress has been made in reducing monetary assets; rationalization of physical assets will take longer. For example, the concept of specializing Power Plant

production between Switzerland and Germany will reduce total working capital by some 40 percent. In Power Transmission, substantial reduction will come from merging overlapping plants and exchanging product lines. Major capital reduction projects are under way in both Power Distribution and in the Motors Business Area; in some operations fixed assets and inventories will be reduced to half. Furthermore, Fläkt has entered its third year of capital reduction programs, and floor space in plants has now been reduced by about 30 percent.

Consolidation of fixed assets has led to opportunities for developing or divesting freed-up real estate. Substantial capital gains have resulted from divestments or sale-and-lease-back operations in countries such as Finland, Italy, Norway, Sweden, and Switzerland. Finally, a number of more peripheral businesses with a few thousand employees have been divested during the year in Sweden and in Switzerland.

Hundreds of new business units, which will have their own balance sheets, are currently being formed and will play a major role in stimulating the capital rationalization program. Among other criteria, the business unit managers will be assessed on management of assets.

Financial Review

Financial Organization

Most of the financial activities of ABB are carried out within the decentralized line organization. The separate profit centers are responsible for their own income statements and balance sheets. Thus, funding and managing assets as well as hedging orders and similar decisions are taken by the profit centers themselves. These decisions must, however, comply with Group policy.

Financial policies are established and controlled by staff functions at both Regional and Group levels.

Companies within the Financial Services Business Segment handle many of the financial transactions for the ABB Group. Business relations are kept at arm's-length and on a first refusal basis.

Major Activities 1988

ABB, through its World Treasury Center, was the first corporate entity to issue Miracle Commercial Paper. The initial issue of $ 500 million was later expanded to $ 1,000 million.

These issues have utilized the credit ratings assigned to ABB's debt by Standard & Poor's (S&P) and Moody's. The rating assigned to short-term debt issued or guaranteed by ABB is A–1+ by S&P and P–1 by Moody's. Long-term debt is rated AA– by S&P and Aa3 by Moody's.

Early in 1988, ABB started the Cash Race, a program to reduce the Group's accounts receivable by about $ 800 million within two years. Good progress was made in 1988.

Purchasing organizations are being set up in North America and the Far East to broaden ABB's purchasing base.

ABB's Project Finance departments work in close collaboration with the international banking community and play an active role in supporting ABB projects worldwide with creative financial solutions.

Financial Position

Liquid assets for the ABB Group at year-end 1988 totaled $ 3,496 million.

Through the 1988 earnings and a relative reduction of accounts receivable and inventories, a positive cash flow has been generated from operations. This cash flow together with the cash reserves have been used to finance the acquisitions, totaling $ 544 million, and to repay about one billion dollars of debts.

As the capital rationalization programs continue and earnings start to increase, interest expense will decrease. However, because of the high level of acquisition activity so far in 1989, net financial income and expense in 1989 is not expected to improve compared to 1988.

The U.S. dollar has become considerably stronger vis-à-vis the major European currencies when comparing year-end 1988 exchange rates to those prevailing a year ago. This has had a nine percent shrinking effect on ABB's consolidated balance sheet, for which year-end exchange rates are used. The average exchange rates during 1988, which are used in preparing the income statement, have only shown a small change against the average exchange rates in 1987.

Earnings

Operating earnings after depreciation for the ABB Group in 1988 totaled $ 854 million.

Earnings after financial income and expense amounted to $ 560 million. The Business Segments which made significant profit contributions were Power Plants, Transportation, Environmental Control, and Financial Services. The Low Voltage Apparatus and Installation Business Areas in the Power Distribution Segment as well as Power Lines, Superchargers, Service, and installation material companies in Various Activities were also good profit contributors. Although the Power Transmission and Industry Segments overall showed unsatisfactory results, the Cables, Relays, Drives, and Marine, Oil and Gas Business Areas performed well.

Among the countries with major ABB operations, Sweden and Finland showed satisfactory profitability. Sizable profit contributions also came from Germany, Norway, and Italy. Among the countries with medium-sized ABB operations, profitability was good in the United Kingdom, the Netherlands, and Spain.

The merger led to $ 620 million in nonrecurring costs for restructuring activities, such as merging plants and closing down of operations in 1988. These costs were primarily confined to Switzerland, Germany, North America, and Norway. Of the total amount, $ 350 million was incurred in 1988 and $ 270 million was provisioned for decided restructuring that will occur in 1989. Beyond what has been provisioned for in 1988, it is anticipated that nonrecurring costs in 1989 will only be a fraction of those in 1988. Capital gains through sales of land, buildings, and participations mainly offset this year's nonrecurring costs, leaving a net negative figure for nonrecurring income and expense of $ 24 million. It is expected that in 1989 nonrecurring costs will again largely be offset by nonrecurring income.

ABB Group policy is to pay taxes in all countries where it is active. However, by utilizing the tax consolidation possibilities within each individual country, the total taxes for the Group have been limited to $ 127 million. This amount includes both deferred taxes and taxes paid, and corresponds to an overall tax rate of 24 percent.

Net income in 1988 amounted to $ 386 million.

Outlook

Substantial improvement of earnings for the coming years is anticipated because of gradually higher margins in order intake, results from restructuring activities, savings from capital rationalization programs, reduced overhead costs, and increased efficiency through decentralization.

First major results of these measures should be reflected in the 1989 figures. If no considerable downturn in the economy occurs, earnings after financial income and expense in 1989 should be well above earnings for 1988.

Western Europe – European Community

Regional Review

	Revenues* 1988 US$ in millions	%	Employees Year-end 1988	%
Benelux	588	10	2,436	4
Denmark	456	8	3,970	7
France[1]	379	6	3,450	6
Germany[1]	2,498	42	33,795	55
Italy[1]	749	12	9,527	16
Spain and Portugal	291	5	2,640	4
United Kingdom[1]	929	16	4,576	7
Others	81	1	617	1
Total	**5,971**	**100**	**61,011**	**100**

* Total third party revenues in each country. ABB companies in these countries also have substantial exports.

[1] Recent joint ventures and acquisitions are not included.

Benelux

In the Netherlands, ABB is a major supplier to Dutch utilities. ABB's activities cover a wide product range and local manufacturing facilities exist in the areas of Power Distribution and Industry. In Belgium, ABB manufacturing facilities include capacitors and environmental control equipment.

ABB is acquiring the industrial turbine operations from the Belgian ACEC Group and is aiming at cooperation with local partners in automation. Engineering, sales, and service facilities are expanding rapidly in both countries. A sales company has been established in Luxembourg.

Most of ABB's activities in the Netherlands today are organized under one company based in Rotterdam. The ABB holding company in Belgium was formed early in 1988.

The Dutch economy showed stable growth in 1988, while the Belgian economy continues to grow slowly with little investment activity in the utility sector. A $ 95 million order for a 600 MW steam turbine set for a Dutch coal-fired power plant was received in 1988. Profitability was particularly good in the Netherlands.

Denmark

ABB is the leading domestic supplier of electrotechnical equipment to the Danish market. Major activities in Denmark are carried out through eleven operating subsidiaries organized under a new holding company. Twenty-seven branch offices throughout Denmark give ABB excellent sales and service coverage.

Three main production and sales centers cover power transmission and distribution equipment, electric motors, process automation, electric drives, power generation equipment, district heating products, and environmental control equipment. In addition, ABB's activities in Denmark include electric wholesaling as well as installation.

During 1988, ABB acquired a 33-percent holding in the Danish train manufacturer Scandia-Randers, and has management responsibility.

The Danish economy continued its lackluster performance in 1988. However, ABB received a $ 45 million turbine order from the Danish utility Vestkraft. Exports amounted to some $ 125 million.

A substantial improvement in profits is anticipated in the next few years as restructuring measures start to take effect.

France

Through its Lyons-based company in France, ABB manufactures and sells electric motors, electric drive systems, dry transformers, and robots. This company has service facilities and a national sales organization also covers ABB's other Business Areas in the power and industry sectors.

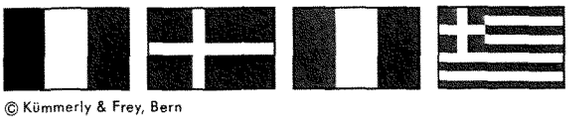
ABB has production facilities in France for refrigeration, low-voltage apparatus, and environmental control equipment.

Order intake, including exports, developed well. Substantial profit improvement should result from the ongoing rationalization efforts, for example in motor manufacturing.

ABB's strategy is to continue expansion through increasing local manufacturing and engineering resources. There are excellent opportunities for standard products, environmental control equipment, industrial equipment, and automation.

Germany (Federal Republic)

ABB's German operations are major and long-standing suppliers to the domestic electrotechnical market. They cover nearly all Business Areas in which ABB is active and, for a number of them, worldwide responsibility is located in Germany. There is a domestic network of some 100 sales and service locations in addition to about 50 plants or engineering sites. ABB companies in Germany also have substantial exports sales.



One of ABB's major corporate research centers is located in Germany and is presently being expanded.

Most of ABB's activities are owned by Asea Brown Boveri AG, Mannheim, in which the ABB Group's holding is slightly over 75 percent.

Restructuring and Business Development

In the field of power plants, there are far-reaching exchanges of production and engineering operations with ABB's Swiss operations. Production capacity reductions have been carried out for transformers and switchgear, as well as in power plant operations. Further cost reductions are expected once the overlapping ABB transformer companies in Germany have been restructured.

A comprehensive overhead-cost reduction program covering the entire German ABB Group was launched in mid-1988. The domestic sales force has been decentralized into the Business Areas, which now have full market responsibility.

A number of agreements to expand ABB's business in Germany were signed in 1988. A fifty-fifty joint-venture company in the field of high-temperature nuclear reactors is being established with the Siemens Group, and the AEG Kanis steam turbine business was acquired.

All the Business Areas within the Industry Segment, as well as Robotics, Environmental Control, and a wide range of standard products, offer particularly good domestic growth opportunities.

Market Conditions and Sales

Economic growth in Germany in 1988 was good. Domestic orders include the $ 110 million order for electrical equipment for the German high-speed train and a $ 40 million order for two air pollution control plants for installation in Munich. In addition, a number of major export orders were received.

The restructuring program is now well under way, and with more competitive operations there are good growth opportunities for the German group in both the domestic and the export markets. Although the contribution of ABB's German operations to total ABB Group earnings is sizable, the profit improvement potential is substantial.

Italy

The Italian ABB Group, together with the affiliated local companies in Italy, is the leading domestic supplier of electrotechnical equipment. These companies have sizable exports.

After the acquisitions and joint ventures initiated in 1988 and early 1989, ABB together with its joint-venture and affiliated companies in Italy will have approximately 30,000 employees, of whom 20,000 will be employed in Italy. Total global sales are roughly $ 3 billion.

ABB's domestic presence will be especially strong in the electric power area, with major manufacturing facilities in power generation – boilers, turbines, and generators; in power transmission – transformers, relays, and high-voltage switchgear; in power distribution – low- and medium-voltage switchgear and apparatus; as well as in powerline building and general contracting.

A local ABB base also exists for industrial equipment, with substantial electric drive and motor production; and for transportation with mechanical and electrical products for rolling stock. Finally, installation material, instrumentation, and environmental products including refrigeration equipment are produced.

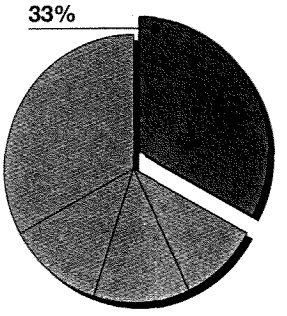
Restructuring and Business Development

An Italian holding company has been established, under which the main ABB activities in Italy have been reorganized. A restructuring program is under way for former ASEA and BBC companies, and will gradually include other acquired companies.

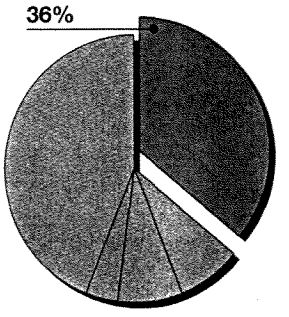
The following are the major acquisitions and joint ventures:

- In early 1988, exchange of share participations between the ABB Tecnomasio and Franco Tosi Groups were concluded, including the acquisition by ABB of the electrical equipment manufacturer Marelli. Marelli's operations have been merged with the corresponding areas in ABB Tecnomasio.
- In January 1988, the general contracting group Sadelmi Cogepi was acquired by SAE, thus creating a group with $ 1 billion in worldwide sales.
- In May 1988, the power transmission and distribution activities of Adda Costruzioni and Elettrostandard Italiana were acquired. Subsequently, ABB Tecnomasio's switchgear activities were merged into Adda.
- In November 1988, an agreement in principle was signed to acquire all the industrial activities of the Franco Tosi Group.
- In January 1989, an agreement was signed with the state-owned Finmeccanica Group. Jointly-

Region Share of Total Group Revenues



Region Share of Total Group Employees



owned companies are to be formed in the power generation and transformer areas, and cooperation in the field of electric motors and drives will be undertaken. ABB will have a majority ownership position in some of these companies, in others a minority position.

The objective is to create an Italian electrotechnical industry which is cost-competitive both in the expanding domestic market and internationally. ABB technology will be used and a major restructuring program lies ahead.

This represents a major strategic move for ABB in a market that might become the biggest in Europe with regard to infrastructure investments in the 1990s, and in a country which should be a base for competitive exports.

Market Conditions and Sales

Italy enjoyed continued good economic growth in 1988. Among the major orders received were 30 electric locomotives for the Italian state railways for $ 80 million. In addition, a consortium led by the ABB Group companies SAE and Fläkt has won orders totaling more than $ 500 million for the complete supply and installation of desulfurization plants for four Italian power stations.

Profitability is good in most Business Areas and further improvements are expected through the ongoing activities.

Spain and Portugal

ABB serves the Spanish market through eleven subsidiaries and the Madrid head office.

ABB Energía has production facilities in power generation, power transmission, and transportation. ABB Industria produces robots and other industrial equipment. ABB Motores manufactures and sells electric motors for Spain and Portugal, and ABB Metron is active in power distribution.

In 1988, Diestre SA, a company manufacturing transformers, was acquired.

In Portugal, ABB's domestic activities are organized under a sales company and a manufacturing company for distribution equipment. During 1988, ABB's Portuguese domestic service activities were strengthened through an acquisition from General Electric. Virtually all restructuring measures have been implemented in both Spain and Portugal.

Economic growth in both Spain and Portugal continued to be very strong in 1988. RENFE, the Spanish state railways, has placed an order with a German/Swiss consortium in which ABB is participating for 75 locomotives, with an order value of approximately $ 280 million.

Order intake was good in both countries, but while profitability in Spain was satisfactory, results in Portugal remained below expectations.

United Kingdom

ABB's main operations in the UK are Asea Brown Boveri Ltd and ABB Kent.

Asea Brown Boveri Ltd is a holding company for all core activities in the UK. Emphasis is on the power, industrial equipment, and transportation businesses. Activities include sales, service, engineering, and manufacturing.

ABB Kent (Holdings) plc, in which the ABB Group holds a 54.5-percent stake, is a major international supplier of instrumentation for process control and measurement. ABB Kent also has 16 plants outside the UK.

The former ASEA and BBC activities in the UK were merged during 1988. ABB acquired the railway wheel manufacturer British Wheelset in 1988. ABB has a 40-percent holding in the consortium which is acquiring BREL. BREL, with some 8,000 employees and a turnover of about $ 450 million, is the principal supplier of rolling stock to the British railway market, but is also active internationally.

A technical cooperation agreement in the field of industrial gas turbines was signed between ABB and Rolls-Royce plc in 1988.

Early in 1988, ABB Kent acquired the Bopp & Reuther GmbH water meters business in Germany, thus becoming a major supplier in that country.

The UK economy, including industrial investments, showed good growth. Order intake for ABB increased considerably.

Long-term, ABB seeks to further expand its engineering and manufacturing base in the UK.

Others

In Greece, the former ASEA and BBC operations were merged. The country's economic situation improved somewhat in 1988. A $ 30 million gas turbine order and orders for diesel-driven power generation plants for Crete and Rhodes totaling $ 20 million were received.

After merging the ASEA and BBC activities, ABB is now operating in Ireland with one sales and service company and a separate transformer company.

Western Europe – EFTA

	Revenues* 1988 US$ in millions	%	Employees Year-end 1988	%
Austria	246	4	2,536	3
Finland	914	16	9,065	12
Norway	1,434	24	13,897	19
Sweden	2,635	45	32,783	44
Switzerland	602	10	16,275	22
Others	31	1	–	–
Total	**5,862**	**100**	**74,556**	**100**

* Total third party revenues in each country. ABB companies in these countries also have substantial exports.

Austria

ABB's operations focus on transportation, industrial automation, and retrofit and service of both power and industrial plants. There is local manufacturing and engineering capacity, especially in traction motors, instrumentation, and hydro-generators.

During 1988, activities focused on decentralization and streamlining. Marked profit improvement is expected from these efforts. Apart from general export in certain niches, ABB Austria will play an important role in exports to neighboring Eastern Bloc countries.

Finland

The ABB Strömberg Group is the leading electrotechnical group in Finland. Its operations cover power generation, transmission and distribution, industry, installation, service, electric wholesaling, and financial services. There are also substantial operations in environmental control.

All ABB activities in Finland, except those in the environmental control area, are today organized under a Finnish holding company, ABB Strömberg OY. In total, the ABB Strömberg Group comprises 16 companies with seven production facilities mainly in Helsinki and Vaasa; also, Fläkt has three plants and 30 service shops. Substantial research activities are located in Finland.

Restructuring

The Strömberg Group, which was acquired in 1986, has undergone a very successful restructuring program resulting in a dramatic profit improvement. This group has become exemplary within ABB as an illustration of what can be achieved in a limited time period.

The restructuring program focused on capital rationalization, productivity improvements, decentralization, and utilization of synergies within the entire ABB Group. During 1988, a number of companies were formed from the earlier parent.

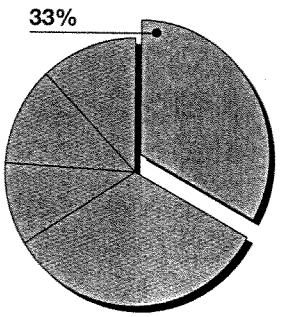
A reduction of costs and employees was achieved, simultaneously with an expansion of sales, primarily in exports. This turned a $ 15 million loss in 1986 into earnings of some $ 60 million after financial items in 1988, for corresponding business units. Continued sales increases are now gradually creating new jobs.

Market Conditions and Sales

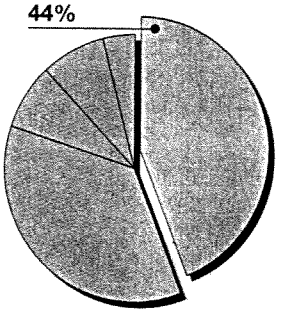
The overall business climate in Finland in 1988 was favorable. Important domestic orders in Finland included a $ 25 million order from Wärtsilä for ship drives.

Exports have expanded, and Strömberg can now exploit the entire ABB distribution network for specialties like AC drives, where the Finnish products are very competitive.

Region Share of Total Group Revenues



Region Share of Total Group Employees



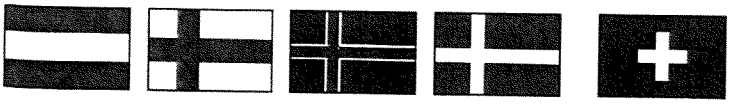
Norway

In Norway, ABB's operations are mainly organized under the EB Corporation, in which ABB has a 63-percent holding. The EB Corporation is Norway's second-largest private industrial group, and the leading domestic supplier of electrotechnical equipment.

EB concentrates its activities on the areas of hydropower, power transmission including cables and transformers, distribution, electrical installation including wholesale and service, equipment for oil, marine and offshore applications, as well as telecommunications. The EB Group has substantial manufacturing facilities to support these activities.

Outside the EB Group, ABB has operations in the robotics and environmental control areas in Norway, including manufacturing facilities.

The Norwegian group is internationally active in a number of business areas, such as Hydro Power Plants; Marine, Oil and Gas; Transformers; Telecommunications; and certain environmental control and robot niches. Substantial research and development investment in these and other areas is undertaken by ABB's Norwegian operations. One of ABB's five corporate research centers is located in Norway.



Restructuring

During 1988, EB carried out one of the most far-reaching industrial restructuring programs ever undertaken in Norway. It incorporated the former ASEA and BBC companies into EB, and simultaneously reorganized the EB Group to fit into the ABB Group structure. The result is a holding company with 17 subsidiaries.

Capital has been freed-up, for example in real estate, which has resulted in substantial capital gains, and manufacturing facilities have been merged. Certain businesses have been sold off. EB now has a strong base for positive development.

Market Conditions and Sales

In 1988, the Norwegian economy stagnated. There was intense competition in telecommunications. In this difficult environment, EB received a number of major orders, such as a $ 25 million contract for five commuter trains. Overall, order intake and results have kept up reasonably well. Once the weak market situation improves, a substantial profit improvement is expected in Norway.

Sweden

ABB's Swedish group is one of the leading industrial groups in Sweden.

Virtually all of ABB's activities in Sweden are organized under a Swedish holding company, Asea Brown Boveri AB. These activities are predominantly carried out by separate legal entities, 140 companies in all, corresponding to the ABB Group Business Areas. There are about 80 manufacturing plants or service shops and an extensive network of sales, service, installation, and wholesale outlets.

Most of ABB's 50 Business Areas are represented in Sweden. Some are highly export-oriented, like Power Systems; others are almost exclusively local, like Installation, Service, and Wholesale. Overall, about 50 percent of production is exported and in some Business Areas the worldwide position is strong. One of the main corporate research centers is located in Sweden.

Restructuring and Business Development

Since the Swedish operations were restructured and decentralized in several stages during the 1980s and before, the changes, in relative terms, are smaller than in some other countries.

Most of the restructuring decisions were taken in 1988 and are now being implemented.

In relays and high-voltage switchgear, the Swedish operations are going through a product exchange process with Switzerland and Germany. Motors and Drives have exchanged products with Finland. The metallurgical business is transferring its plant-related business to the Drives Business Area and is phasing out certain other business activities. The former ASEA Group's staff units are being reduced and absorbed by the new Swedish holding company, Asea Brown Boveri AB, or by a newly formed service company, ABB Support AB.

A number of divestitures outside the core activities have been undertaken. The biggest was the white goods manufacturer, Cylinda, with 650 employees and some $ 100 million in sales.

Other important divestitures during the year included the sale of 60 percent of the shares in ABB's Swedish real estate company, ABB Fastighet.

Acquisitions have also been made, the largest being a $ 300 million purchase of the minority interests in the environmental control group, Fläkt.

Market Conditions and Sales

The Swedish economy showed moderate growth in 1988. Industrial investments were strong.

No major contracts from the domestic market were booked in 1988, but total orders received were satisfactory.

The Swedish operations presently generate a considerable share of ABB's earnings, and most of the companies performed well. Nevertheless, there is still room for profit improvement in some Business Areas. It will also be important to hold on to domestic market shares and remain competitive internationally.

Switzerland

ABB is the leading domestic supplier of electrotechnical equipment in Switzerland. With an export volume of approximately 80 percent, ABB's Swiss operations account for the highest export ratio within the Group.

ABB's activities concentrate on power generation with special emphasis on gas turbines, combined-cycle and hydropower plants. Also power transmission, electric drives, process automation, railway equipment, turbochargers, and communication and information systems are important.

Considerable manufacturing and engineering facilities are located in Switzerland, as is the largest corporate research center.

ABB Switzerland is being strategically reoriented from broad-lined export to concentrating on high value-added products with a high degree of engineering and capital-intensive production. At the same time, a major effort is being made to increase domestic sales. This includes strengthening the domestic sales force and service facilities.

Restructuring

The restructuring program for ABB Switzerland is more extensive than in most other countries. Most of the restructuring activities will be finalized by the end of 1989.

Product exchanges with other countries have been undertaken in the Power Plant, Power Transmission, and Industry Segments.

Far-reaching decentralization is under way. At the beginning of 1988, central staffs and service units employed over 4,000 people. Most of these employees have been transferred to operating units or independent service companies, partially outside the ABB Group. A sizable net payroll reduction has also been made.

Working capital is being substantially reduced and some freed-up real estate will either be developed or divested. Operational units will gradually be transformed into separate legal entities. This process is well under way.

Market Conditions and Sales

The Swiss economy was strong in 1988. ABB's domestic business, however, is strongly influenced by the level of public investment. While the transportation sector is investing heavily, domestic power plant construction has practically come to a standstill. This is reflected in domestic order intake of approximately $200 million for locomotives and motor coaches. A number of large export orders, primarily for power plants, have also been booked.

Future

ABB in Switzerland is on its way to becoming a decentralized and cost-efficient group of companies, focusing on capital-intensive production and building on its strengths of engineering skills and experienced labor.

North America

Regional Review

	Revenues* 1988 US$ in millions	%	Employees Year-end 1988	%
U.S.A.	1,756	83	4,664	75
Canada	359	17	1,567	25
Total	**2,115**	**100**	**6,231**	**100**

* Total third party revenues in each country. ABB companies in these countries also have exports.

Both ASEA and BBC have a long history in North America. BBC's main strength was in power plants with a 30,000 MW installed base and, after earlier acquisitions, in power distribution. ASEA's main strength was in power transmission and in industry. These complementary strengths in technology, in manufacturing plants and engineering centers, and in market coverage make ABB a strong domestic competitor. The joint venture with Westinghouse, adding an additional one billion dollars in domestic sales in transmission and distribution, further underscores ABB's long-term commitment to the North American market.

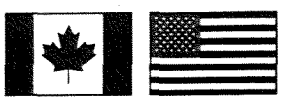
North America accounts for some 30 percent of the world potential for ABB's products but initially only for 12 percent of its sales. Within five years, North America should account for twice as much of ABB's total sales. This is fundamental to ABB's global strategy of having two major centers of gravity in the Western world: Western Europe and North America.

United States

ABB's U.S. activities cover almost all Business Areas within the Group, most of them being organized in separate companies under a U.S. holding company.

In Power Plants, there are seven companies or divisions with local competence in gas and steam turbines and generators, combined-cycle and other types of thermal power plants, and hydroelectric plants. The customers are utilities, independent power producers, municipalities, and industry. A facility in Richmond, VA, is responsible for manufacturing turbine generators and related power utility equipment, heavy test, and repair.

In Power Transmission, seven companies or divisions cover a full line of products, systems, and services. The activities are backed up by manufacturing facilities for transformers, high-voltage apparatus, relays, and power transmission systems such as HVDC and Static Var. The joint venture with Westinghouse means the addition of a further 16 manufacturing and engineering locations, a broader product range, and an extensive sales and distribution network. The U.S. operations in this field will be the largest in the Group, and will also create a platform for export.



In Power Distribution, the domestically manufactured product range includes low- and medium-voltage circuit breakers, switchgear, motor control centers, and distribution switchboards. Recent investments in new plants and production lines have created a cost-competitive situation for the future.

Industry Segment activities are organized in three major groups: Electric Drives, Metallurgy, and Process Automation. This Segment shows substantial growth and has a strong market position in a number of product niches. Further expansion is expected both through ABB's own growth and investments, and through acquisitions.

In Environmental Control, Fläkt Inc. is a full-fledged domestic supplier of air technology products including fans, process ventilation, and pulp and paper drying. Moreover, Fläkt has a strong domestic position in industrial/utility environmental control systems and in paint finishing systems. Increasing environmental concern and legislation have contributed to making this a growing market.

Other operations include Robotics, serving the automotive and other industrial markets; Transportation, supplying locomotives, mass transit systems, and fixed railway installations; Instrumentation; as well as advanced plastics; semiconductors; and financial service companies.

Restructuring

Manufacturing and distribution facilities have been merged and streamlined. This has led to some plant closures. Practically all restructuring was completed in 1988, and the new organization can now focus on external goals.

Market Conditions and Sales

In the United States, 1988 was the sixth continuous year of economic expansion. There are, however, negative factors such as the enormous

budget deficit and the trade and payment imbalance.

Of the major power plant orders received in 1988, the $ 140 million order for a 356 MW cogeneration plant in Hopewell, VA, and the $ 150 million order for a cogeneration plant in Hawaii deserve mention. Furthermore, a $ 185 million grant was awarded to American Electric Power (AEP) to help finance its Sporn Project in West Virginia. Two 150 MW boilers will be replaced by a 330 MW PFBC combustor to create the world's largest PFBC generating unit. This represents a breakthrough for ABB's PFBC technology.

Other important projects have been booked in Transportation, Transmission Systems, and Environmental Control.

While the results during the reconstruction year of 1988 were not satisfactory, a major profit improvement is anticipated from 1989 onwards.

Canada

ABB's presence in Canada during 1988 was mainly in the power transmission, industrial equipment, and environmental control areas, where engineering as well as manufacturing capacity exist. Products manufactured locally include transformers, high- and medium-voltage switchgear, circuit breakers, relays, process control equipment, and electric drives.

In several other Business Areas there are sales, service, and engineering facilities, e.g. in Robotics, Transportation, Metallurgy; and a range of standard products.

After the pending acquisition of the Westinghouse power transmission and distribution activities has been settled, ABB's presence in Canada should increase substantially. The operations to be acquired will complement ABB's present operations in the power area with transformers, capacitors and metering. The company will also significantly broaden its domestic strength within Canada and achieve a better base for exports. The ambition is also to expand R&D resources in Canada.

Restructuring

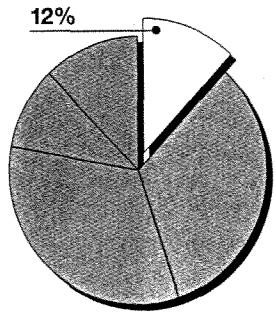
By mid-1988, ABB Group activities in Canada had basically been consolidated into one company, with a strong decentralized operational structure. The rationalization measures undertaken have led to a reduction in the number of facilities from 23 to 13, which includes the sale of a large plant in Montreal.

Market Conditions and Sales

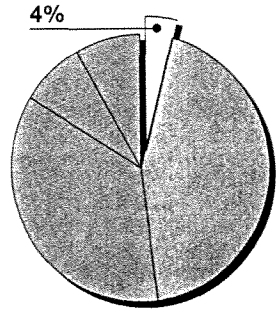
The economic climate in Canada remained on a relatively good level. Especially the growth in industrial investments and increased utility requirements contributed to an increase in demand for the company's products.

Order intake showed good development, though no large orders were booked. The $ 350 million HVDC link between Quebec in Canada and New England in the U.S. – the world's first multi-terminal system – is proceeding on schedule.

Region Share of Total Group Revenues



Region Share of Total Group Employees



Asia and Australasia

Regional Review

	Revenues* 1988 US$ in millions	%	Employees Year-end 1988	%
West and South Asia[1]	831	39	6,671	48
Southeast Asia	299	14	1,857	14
Northeast Asia	225	11	765	6
Japan	368	18	1,141	8
Australasia	388	18	3,346	24
Total	**2,111**	**100**	**13,780**	**100**

* Total third party revenues in each country. ABB companies in these countries also have exports.

[1] Affiliated Companies not included.
Arabian Peninsula included under Region "Others".

West and South Asia

ABB's strongest presence in West and South Asia is in India and Turkey, where major manufacturing facilities exist. In addition, ABB is present in ten other countries in the region.

In India, where it is a market leader, ABB has manufacturing facilities in six different locations, four R&D centers, and 13 sales and service units. ABB supplies the Indian market with domestically-produced high-voltage substations, medium-voltage switchgear, capacitors, automation equipment, electric furnaces, and electric drives. There is also considerable capacity in engineering, construction, and service, which enables the company to undertake complete turnkey projects in India. Other major ABB subsidiaries in India are active in environmental control and the building of power lines.

ABB's manufacturing presence in Turkey is in the form of a joint venture, in which ABB has a majority stake. It has sales as well as manufacturing capacity in power transmission products such as power and distribution transformers and high-voltage apparatus, and engineering and contracting skills.

Restructuring

The main restructuring activities are concentrated in India. Here, however, the planned measures will not be carried out until 1989, as two publicly listed companies must be merged.

Market Conditions and Sales

The Indian economy continues to be buoyant with eight percent growth in 1988. Order intake was good and profitability is rising.

Stringent economic programs were introduced in Turkey in order to combat inflation and balance-of-trade problems. This has led to postponement of major government programs.

Future

In India, ABB aims to further build up presence by continued investments in manufacturing and engineering facilities with comprehensive technology transfer – alone or in partnership with others. India's enormous need to develop its infrastructure will primarily be covered by domestic production, and ABB could very well double its employment in India in the 1990s. Good availability of engineers and a skilled work force will also make export possible in some areas. In the long run, ABB expects to continue complementing domestic production with individual import projects for power plants, power transmission systems, and railway equipment, though with increasing domestic content.

The cease-fire in the war between Iran and Iraq, as well as recent developments in Pakistan, are expected to increase business opportunities for ABB in these countries.

Southeast Asia

ABB's main activities in the region are in the six ASEAN countries, but the Group also has a presence in Burma, Kampuchea, Laos, and Vietnam.

Singapore, where the regional headquarters is located, has manufacturing facilities covering a variety of distribution and standard products, and a service workshop.

In Malaysia, Thailand, and the Philippines, domestic companies handle all major ABB areas of activity. All three companies have service workshops, and manufacturing facilities in low-voltage switchgear and capacitor banks. In addition, there are engineering facilities and low- and medium-voltage switchgear production in Thailand and Malaysia.

ABB has a manufacturing presence in Indonesia through a 49 percent holding in a joint-venture company. This company is active in motor assembly, service, and relay control panel manufacturing. ABB is also engaged in several major projects in Power Generation and Transmission.

Fläkt's subsidiary Gadelius has a number of companies in the region.

Restructuring

All necessary restructuring measures were implemented early in 1988. Consequently, all core activities in each country have been merged into a single domestic company.

Market Conditions and Sales

The economic situation in Southeast Asia remained favorable, with some countries showing double-digit economic growth in 1988. Order intake is increasing considerably.

Future

Balanced growth of domestic production and project export is expected in this dynamic region. ABB's strategy is to grow from within the evolving ASEAN inner market by specializing in different products in different countries and thereby increasing internal trade in the region. Technology transfer and employee training play an important role.

Northeast Asia

In the People's Republic of China, ABB has three branch offices with some 40 employees, supported by over 200 people in the ABB subsidiaries in Hong Kong. In total, ABB has nearly 50 technology-transfer agreements with the Chinese authorities, and ABB's local presence in the electrotechnical field is steadily growing.

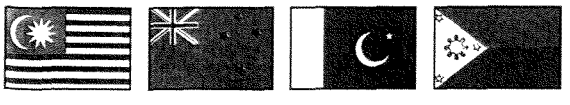
Increased local presence, through the combination of ABB investments and establishment of joint-venture companies, should also ensure continued growth in Taiwan and South Korea.

Market Conditions and Sales

In 1988, the Northeast Asian region experienced double-digit economic growth figures in many countries.

Today, over 60 percent of the electricity generated is consumed by industry. As industry is growing at 14 percent per annum and the power utilities expansion plans call for a yearly addition of 14,000 MW in power generating capacity, this is clearly a market where ABB has substantial business opportunities.

The considerable growth in order intake did not come from any one project but from broad-based expansion with many small and medium-sized projects.



Japan

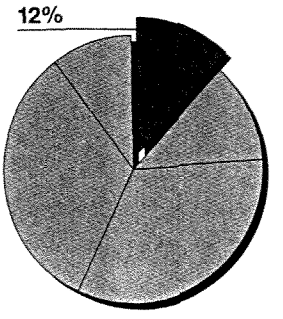
ABB is present in Japan mainly through its Fläkt subsidiary Gadelius, which has a widespread sales network, local manufacturing, and engineering capabilities. Furthermore, Gadelius has substantial real estate holdings, for which the market value exceeds book value by approximately $ 375 million, excluding taxes.

The strong Japanese economy in 1988 resulted in a number of major contracts for Gadelius. These include four orders totaling $ 80 million from the Japanese pulp and paper industry, and an additional $ 50 million order for a turnkey pulp plant from the Kanzaki paper manufacturing company.

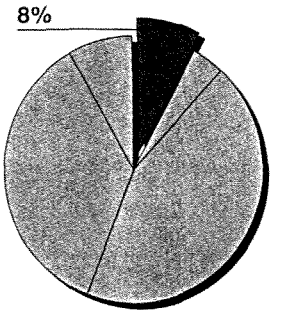
Domestic expansion is mainly in certain specialties within the core Business Areas. A fairly high volume of exports to Japan destined for third countries is also a part of the scenario.

The strategy for the future in Japan will be an important part of ABB's global strategy. Japan has a huge domestic market and is the home base of some major global competitors.

Region Share of Total Group Revenues



Region Share of Total Group Employees



Australasia

In Australia, ABB's subsidiaries are active in power plants, power transmission, power distribution, transportation, process automation, environmental control, power lines, service, and instrumentation. In several cases this includes local manufacturing capabilities.

In New Zealand, ABB is established with a manufacturing subsidiary and a number of service shops and wholesale outlets.

Market Conditions and Sales

The economic situation in Australia is recovering from a somewhat strained position. New Zealand is presently in a severe recession and investment activity is at a very low level.

During 1988, ABB experienced a major breakthrough in Western Australia with a $ 40 million order for 21 electric suburban trains. In February 1989, two orders worth $ 190 million were received for an HVDC transmission system in New Zealand.

A gradual continued buildup from an already strong position is anticipated and profit improvement is expected in both countries.

Others

Regional Review

	Revenues* 1988 US$ in millions	%	Employees Year-end 1988	%
Latin America	682	38	10,113	73
Africa and the Arabian Peninsula	934	53	3,731	27
Eastern Europe and the USSR	157	9	37	0
Total	**1,773**	**100**	**13,881**	**100**

* Total third party revenues in each country. ABB companies in these countries also have exports.

Latin America

The ABB Group is present throughout Latin America. In total, ABB has 31 operating companies and 33 manufacturing facilities in the region. Thus the Group has a separate company with local manufacturing capability in virtually every major country in Latin America.

Locally manufactured products account for approximately 70 percent of total ABB business and range from turbogenerators and power transformers to complete rectifying substations, power lines, and electric drives.

Brazil is the country where ABB has the strongest presence in Latin America. Through its Brazilian subsidiaries and associated companies, ABB covers power plants, transformers, power systems, switchgear, high-voltage apparatus, low- and medium-voltage distribution products, relays, electric drives, metallurgy, environmental control, and service.

Other countries where ABB has major operations include Mexico, Venezuela, Colombia, and Argentina.

Through the Westinghouse joint venture, ABB's local presence in Latin America has grown even further and now includes also electric and gas meters. These businesses are located in Brazil and Argentina, employing more than 1,500 people.

Restructuring

The rationalization potential in the region is considerable, as both ASEA and BBC already had operations in many Latin American countries.

One of ABB's three major plants in Brazil is being evacuated and sold, and the main activities transferred to the remaining two plants in early 1989. Central staffs have been decentralized and reduced, a process which will continue this year.

Similar measures have been or are being undertaken in Mexico, Colombia, Argentina, and Venezuela.

Market Conditions and Sales

The foreign debt situation is still a problem, although some countries have come to an agreement with the lending institutions on interest and repayment schedules. On the other hand, many countries suffered under extremely high rates of inflation, which led to reduced government expenditure.

ABB won a number of major orders. A $ 31 million contract for rectifying substations and a fume treatment plant for approximately $ 25 million were ordered by the Brazilian aluminum smelter ALBRAS. An order for dryers and electrostatic filters totaled more than $ 20 million. In Venezuela, a $ 16 million order for a gas turbine plant and electrical equipment was received.

Gradual growth based on domestic manufacturing will be the main theme for future years in Latin America. Occasional major export orders can be secured, provided financing or countertrade solutions can be found.

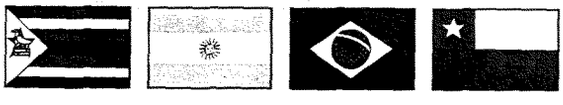
Africa and the Arabian Peninsula

By early 1989, ABB was present in 17 countries in the region. This includes companies with production facilities in six countries, to be increased to 10 by the end of 1989.

The largest presence is in Saudi Arabia where, in addition to the Riyadh headquarters and factory, ABB has five regional sales offices and two subsidiaries. In Saudi Arabia, ABB produces low- and medium-voltage switchgear, substations and relays, and control systems. ABB also has local engineering capability, for example in power transmission and distribution.

Market Conditions and Sales

The most significant event during the year for the Gulf region was the ending of the Gulf War. This has had a stabilizing effect on the overall situation in the Middle East. In 1988, however, the continued depressed prices for oil and other raw materials had a negative effect on the funds available in the region.

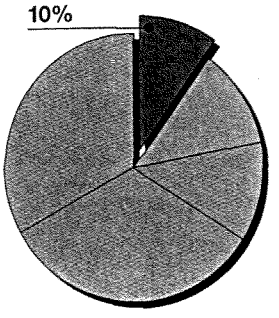


In Africa, the unresolved issue of debt rescheduling has meant that decisions regarding a number of major investment programs in African countries receiving aid or soft credits have been delayed.

The need for electric energy in the region opens up interesting business opportunities. ABB's multi-sourcing possibilities in Europe and North America place it in an ideal position to serve these markets.

In 1988, major orders included a $ 78 million order from Saudi Arabia for four complete gas turbine units, a $ 60 million order from Morocco for a hydrogeneration plant, and a $ 57 million order for two gas-insulated substations for Kuwait.

Region Share of Total Group Revenues



Eastern Europe and the USSR

During 1988, ABB reorganized its activities in Eastern Europe. A Swiss-based marketing company with representative offices in virtually all Eastern European countries was set up.

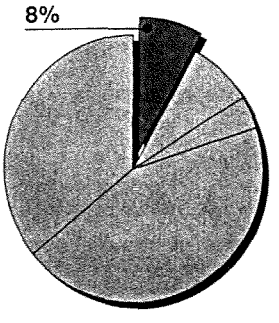
This new organization has expanded ABB's business in the region with particular emphasis on East Germany and the USSR. Contributing factors behind this expansion are the multidomestic structure of the ABB Group and the utilization of in-house trading, export financing, and purchasing organizations.

Overall however, business with the Eastern European countries continues to be hampered by their general lack of foreign exchange.

Towards the end of the year a general agreement was signed, covering the Soviet Union's plans to build a high-temperature nuclear reactor in cooperation with ABB and the Siemens subsidiary KWU. In addition, ABB received an order for control and instrumentation of two power station blocks in the Soviet Union.

Stable but moderate growth of ABB's business in Eastern Europe and the USSR is anticipated.

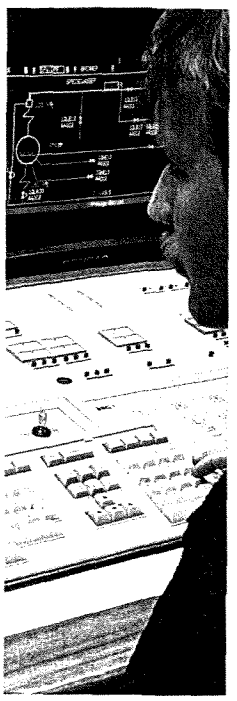
Region Share of Total Group Employees



Power Plants

Segmental Overview

	1988 US$ in millions
Orders received	2,194
Revenues	2,510
Order backlog	4,715
Capital expenditure	103
Number of employees	16,081



Sophisticated control systems play a major role in the smooth and efficient operation of a modern power plant.

Industry Background

The power plant equipment industry entered the 1980s with substantial overcapacity, and this has characterized the last 10 years. The oil crises in the 1970s reduced the growth rate for electricity consumption. Demand for new power generation capacity in the industrial world dropped from 100,000 MW in the period before the oil crises to 20,000–40,000 MW in the late 1970s. However, the equipment industry was late in reading the signals of change in the long-term trendline and added capacity throughout the 1970s. In the developing countries, the needs are enormous and the demand for equipment is increasing, even if most of these countries lack both domestic industry and financial resources for imports.

Scope of Activity

ABB offers solutions for practically all power generation needs. In addition to hydro- and conventional steam-power plants for utilities as well as industry, state-of-the-art power plant control systems are supplied. A full range of high-efficiency gas turbines for peak power plant needs and for industry is also available. Through its new Italian joint venture, ABB's product range now includes boilers. Combined-cycle plants, with their high overall efficiency and inherently good environmental characteristics, combine steam- and gas-turbine technology. ABB is the market leader in this field.

ABB is confident that nuclear power will make a comeback in the Western World as awareness of pollution problems grows. It will be ready with its advanced light-water reactor as well as the inherently safe high-temperature gas-cooled reactor. In the meantime, ABB will continue to supply fuel and services to nuclear reactors throughout the world and contribute to raising the efficiency and safety of existing plants.

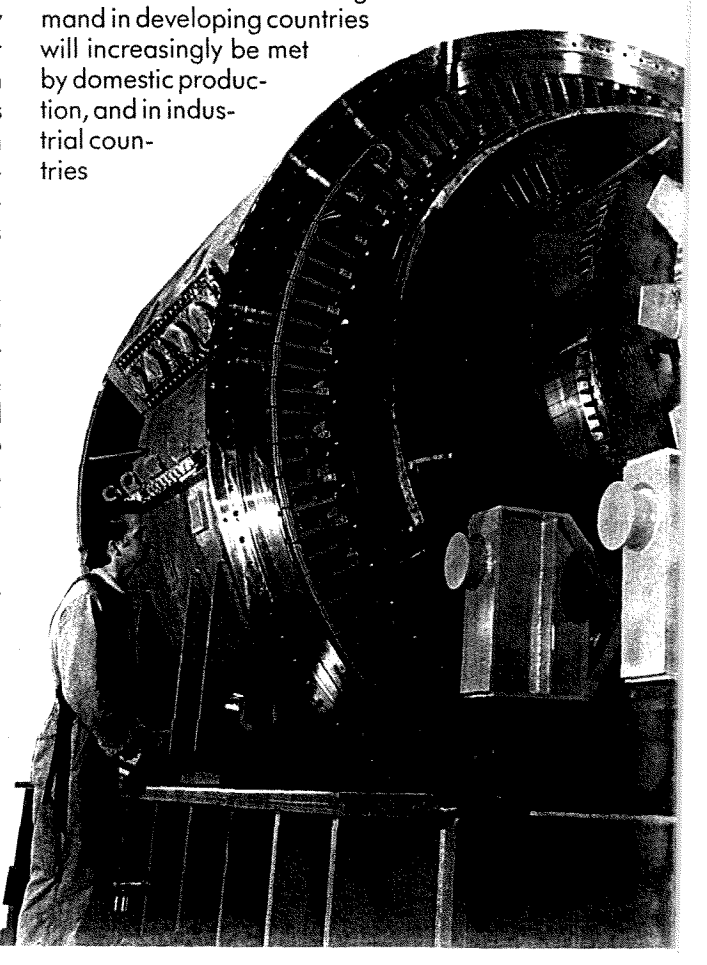
In the field of clean coal technology, ABB can today offer solutions with its PFBC technology (Pressurized Fluidized Bed Combustion). PFBC technology combines excellent environmental control of sulfur- and nitrogen-oxide emissions with very high efficiency and compactness. These features make PFBC technology suitable for rebuilding old plants and for locations in metropolitan areas.

Performance 1988

In view of the slack in demand in industrial countries, the order intake was satisfactory in most Business Areas. There was a noticeable increase in combined-cycle plants and gas turbines for peak load. The nuclear service and fuel business expanded in Europe, and in the U.S. power generation as a whole continued to expand. Although earnings were reasonably good, the potential for improvement through the restructuring program is significant.

Strategy

The current world scenario shows that the growth rate of electricity consumption is higher than the rate at which new capacity is being added in North America and Europe, thereby reducing production reserves in electric utilities. The day when new capacity is needed is coming closer. Postwar power generation equipment is aging and needs to be replaced or modernized; furthermore, it cannot meet today's more stringent environmental demands. The high demand in developing countries will increasingly be met by domestic production, and in industrial countries



the ongoing cuts in overcapacity will be speeded up as a result of recent acquisitions and crossborder mergers.

Against this long-term positive scenario, ABB's strategic objective is to become a low-cost producer through its programs for capital and cost reduction, and through exchanging products between plants and outsourcing components. The outcome will be a network of rationalized, specialized, multidomestic ABB manufacturing plants with cross-license arrangements.

A second goal is to maintain or strengthen ABB's technological position by continued strong investment in R&D.

ABB will participate in the continued globalization of the power plant equipment market in the coming years – not least important in Europe, with its planned single market and competitive public procurement.

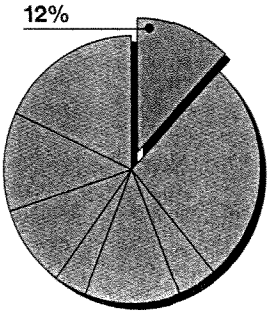
Future

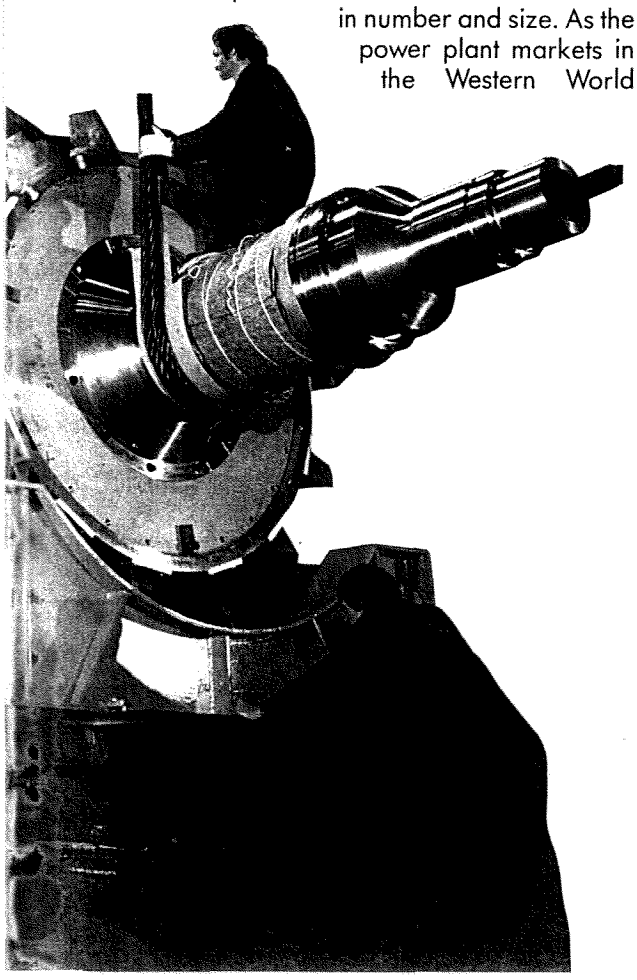
Through these efforts, ABB expects to achieve good profitability even before demand in the Western World has increased substantially. There are excellent growth opportunities in certain high efficiency/low pollution niches such as combined-cycle plants and PFBC. Revamping and upgrading of existing plants will also mean growth for modern control systems. The Group's manufacturing and engineering bases in North America and some major Asian countries will be increased in number and size. As the power plant markets in the Western World start expanding again in the 1990s, ABB will be in a position to exploit the additional opportunities offered.

Major Business Areas in the Power Plants Segment

	Revenues US$ in millions	%
Gas Turbine Power Plants	585	23
Utility Steam Power Plants	767	31
Industrial Steam Power Plants	190	8
Hydro Power Plants	409	16
Nuclear Power Plants	280	11
Power Plant Control	279	11
Total	**2,510**	**100**

Segment Share of Total Group Revenues



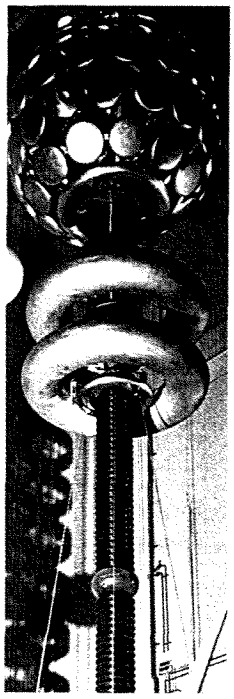


The key products of the ABB Power Plants Business Segment are primarily power generation equipment to produce electricity from just about any primary energy source. ABB has the know-how and the technology to make electricity production highly efficient, reliable, and environmentally acceptable.

Power Transmission

Segmental Overview

	1988 US$ in millions
Orders received	3,376
Revenues	3,619
Order backlog	3,164
Capital expenditure	101
Number of employees	23,569



Most products and systems for power transmission are designed to handle very high voltages and currents. They undergo stringent testing before shipment to the customers.

Industry Background

In the postwar period, the demand for power transmission equipment and systems has undergone several cycles. Starting in the late 1940s and continuing into the late 1960s, a growth rate of 5–7 percent was not unusual in most industrial countries. Investments in developing countries started at the end of the period.

In 1970–71, a trend break in the growth rate occurred in industrial countries and the downturn in demand that followed was further deepened by the oil crises of the 1970s. Since then, a low investment climate has predominated in industrial countries.

At the same time, demand from the developing countries has grown considerably, but over the years there have been marked regional shifts. Fifteen years ago, the focus was on South America; ten years ago, the oil countries dominated demand; and in the past five years it has been on Asia. These shifts were caused by financial difficulties in the regions, fluctuating oil prices, and by growing protectionism requiring transfer of know-how and local investments.

Scope of Activity

ABB's Power Transmission Segment holds the number one position in the transmission sector of the industry in terms of both technology and market. Taken as a whole, the nine Business Areas constituting the Segment have a breadth and depth in their product range and technical know-how that is unique.

They comprise:

HV Switchgear	Breakers and other high-voltage apparatus, conventional and gas-insulated substations;
Power Systems	Systems for high-voltage direct-current transmission and reactive power compensation;
Network Control	Supervisory control and energy management systems;
Power Transformers	Power and industrial transformers;
Distribution Transformers	Oil-filled and dry-type distribution transformers;
Relays	Protection and substation control relays;
Cables and Capacitors	Power, control, telecom, computer, and optical-fiber cables; winding wires; capacitors;
MicaComp	Transformer components and manufacturing equipment;
Elektrokoppar	Copper and aluminum wires.

Performance

Orders received have been satisfactory overall, although no major HVDC project was booked in 1988. Cables and High Voltage Switchgear showed good growth. The results for 1988, however, have been unsatisfactory, mainly due to major cost-overruns and warranty costs in a few projects. Restructuring through merging plants and exchanging products is making good progress. The positive effect of these measures will be reflected in the results for 1989 and onwards.

Strategy

ABB's strategy is based on utilizing synergies between the former ASEA and BBC power transmission operations. For example, the two transformer Business Areas, with 44 factories worldwide, are merging manufacturing plants in several countries to utilize economies of scale and to adapt capacity to a market which is still sluggish.

Another element of this strategy is to maintain and enhance the Segment's leading technological position. To achieve this, ABB Power Transmission invests approximately $ 250 million in R&D a year.

ABB's strategy also focuses on market coverage. Three centers of gravity will be created – located in Europe, North America, and Asia respectively. The Westinghouse joint venture in North America will add $ 1 billion in sales, increasing the Segment's worldwide total in this region to 30 percent. As each of the centers produces the majority of its products within the region, each has its own base for production and service. Systems sales efforts will generally be coordinated from Europe, and some components will be sourced globally.

Future

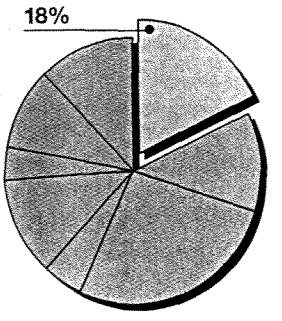
After restructuring has been finalized, Power Transmission will be well positioned for an expected upturn in utility investments. Factors influencing this anticipated development are:

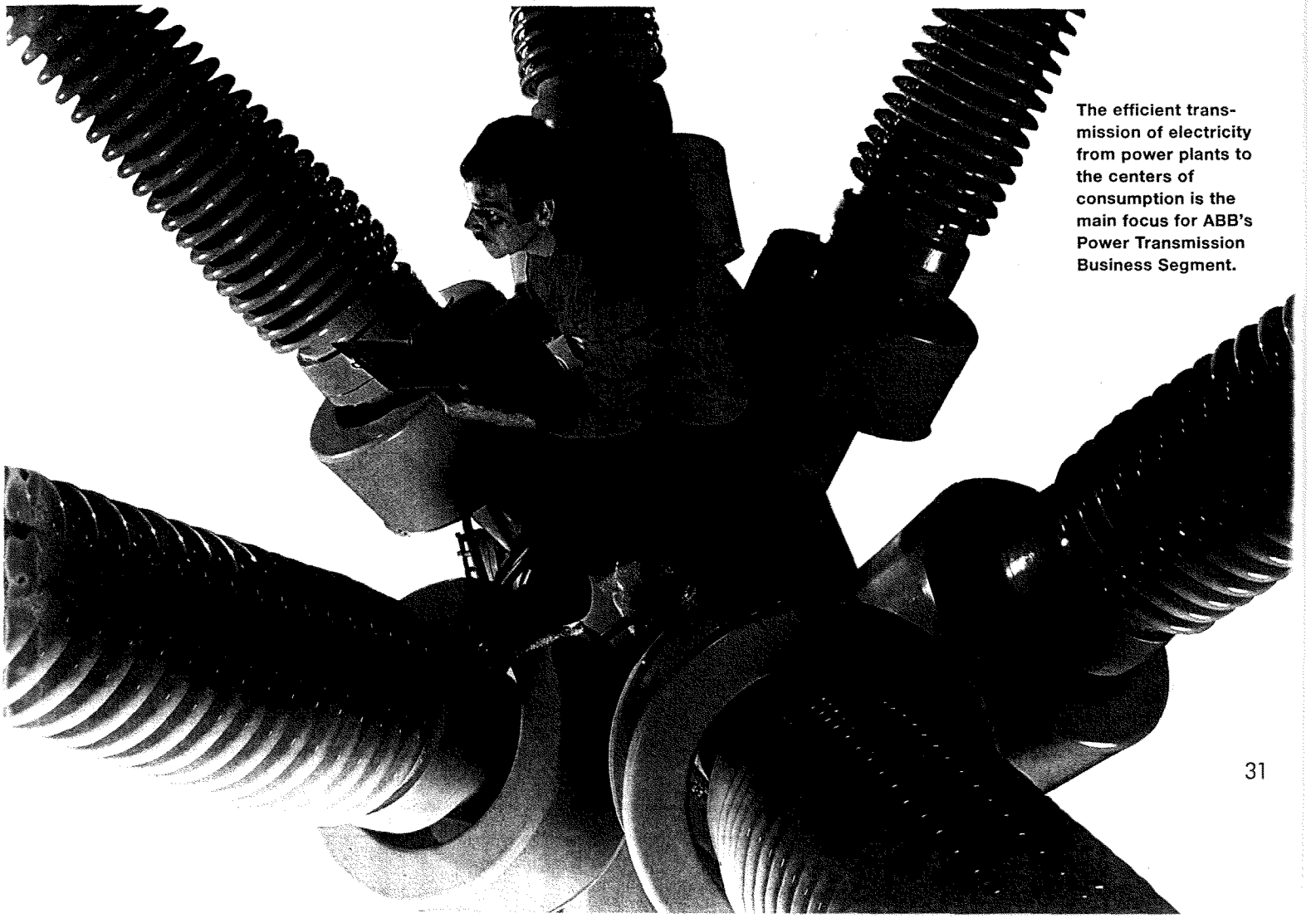
- The power transmission equipment installed after World War II is now approaching the end of its life-cycle and needs replacing.
- With the computerized designs and new materials available today, efficiency improvement is so substantial that, in some cases, it is financially justifiable to replace existing equipment.
- The lack of electric energy in some areas and the rising price of electricity will lead to increased domestic and crossborder upgrading of existing power networks.

Business Areas in the Power Transmission Segment

	Revenues US$ in millions	%
High Voltage Switchgear	815	23
Power Systems	290	8
Network Control	187	5
Power Transformers	653	18
Distribution Transformers	214	6
Relays	203	6
Cables and Capacitors	737	20
MicaComp	142	4
Elektrokoppar	378	10
Total	**3,619**	**100**

Segment Share of Total Group Revenues



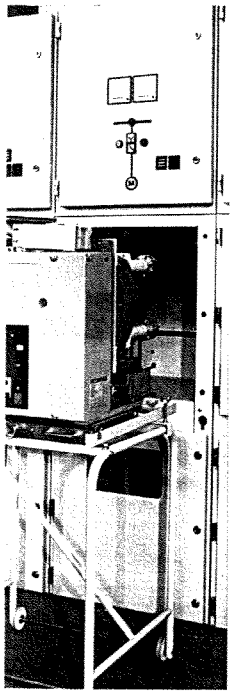


The efficient transmission of electricity from power plants to the centers of consumption is the main focus for ABB's Power Transmission Business Segment.

Power Distribution

Segmental Overview

	1988 US$ in millions
Orders received	2,522
Revenues	2,480
Order backlog	1,078
Capital expenditure	52
Number of employees	24,769



Compact size and easy access for installation, checking, and maintenance are important features of ABB power distribution products.

Market Background

Power distribution products and systems represent a major investment in electric power supply networks.

The world market for new investments is dependent on growth in consumption of electricity in various countries. In industrial countries, demand tends to follow building activity.

The replacement market for improved safety, reliability, and efficiency is growing in most industrial countries. The large electrical equipment suppliers dominate development of basic products for this market. However, there are also many local suppliers in the market for assembly and installation work.

Activities and Strategy

ABB's Power Distribution Segment offers one of the most comprehensive ranges of products, systems, and plant deliveries for cost-effective distribution of electric power to utilities, industries, commercial and other customers around the world. Manufacturing, engineering, and installation capacities are located close to the market in numerous countries. The word multidomestic describes the situation in this Segment very well. Increased manufacturing in developing countries is anticipated.

The Segment is organized to meet market demands for local service and adaptation. Base products are manufactured in specialized, cost-effective plants so as to utilize economies of scale.

ABB is a major supplier of Low Voltage Apparatus. The merger between the former ASEA and BBC activities has substantially increased both product range and market penetration. Its comprehensive product line includes circuit breakers, switches, contactors, fuses, push buttons, and programmable controllers, and covers requirements for industry, panel building, and OEMs (Original Equipment Manufacturers).

Within Low Voltage Systems, ABB offers a wide range of systems including switchgear, motor control centers, control centers, distribution boards, and control equipment. One hundred manufacturing units reflect its worldwide presence. ABB is preparing for future low-voltage systems, which will include more electronics.

The Installation Business Area covers all electrical equipment necessary for planning, erecting, and maintaining electrical infrastructure for buildings and plant sites. Installation activities tend to grow into new areas such as building automation and security systems.

ABB has a widespread network of regional units located within the major markets, primarily in Europe. Its goal is to strengthen the after-sales service network in Europe and to further expand throughout the world.

Medium Voltage Equipment supplies products and systems for electrical distribution networks normally in the range of 1 to 44 kV.

As the largest manufacturer in the world, ABB has the widest product range on the market and is at the forefront of development. Its product range encompasses products utilizing both vacuum and SF_6 technologies.

Although the market for medium-voltage equipment is mature, growth is assured through the depth and breadth of ABB's operations in combination with the quality and technology level of ABB's products. This applies particularly in some industrial countries, where the authorities are placing increased emphasis on the safety, reliability, and efficiency of their networks.

Within the Distribution Plants Business Area, ABB supplies complete distribution plants and transformer substations to industrial and developing countries. There is marked growth in developing countries, both for rural electrification and in the rapidly growing urban areas.

Performance 1988

Orders received have been satisfactory overall. There was good growth in the Low Voltage Apparatus Business Area, while Distribution Plant business in developing countries was down. Geographically, the Nordic countries and Italy showed the best growth.

Comprehensive restructuring and rationalization in North America and Europe through merging plants and exchanging products will gradually boost results in the years to come.

Business Areas in the Power Distribution Segment

	Revenues US$ in millions	%
Low Voltage Apparatus	384	15
Low Voltage Systems	283	11
Installation	1,105	45
Medium Voltage Equipment	540	22
Distribution Plants	168	7
Total	**2,480**	**100**

Segment Share of Total Group Revenues

12%

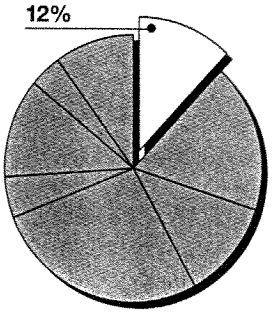
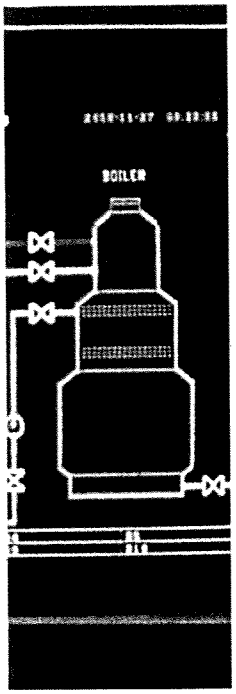


ABB has a very broad range of products and systems for the distribution of electricity on medium- and low-voltage levels. Reliability, safety, and competitive pricing are just some of the features customers expect.

Industry

Segmental Overview

	1988 US$ in millions
Orders received	1,966
Revenues	2,047
Order backlog	1,415
Capital expenditure	53
Number of employees	15,200



ABB's basic process control system is the core of its process automation activities, which include a vast range of applications.

Scope of Activity

The ABB Industry Segment handles a wide range of electrical equipment from components to complex systems for automation of industrial processes.

To meet these demands, the Segment is divided into four Business Areas:

- Drives includes AC and DC drives, larger motors, and the whole range of power electronics;
- Metallurgy includes high-pressure presses, test systems, steel making equipment, rolling mills, systems for flatness control, and other specialties;
- Marine, Oil and Gas includes a wide range of products and systems for off-shore, pipeline, and marine applications;
- Process Automation is the backbone of ABB's automation activities, providing distributed process control systems including application engineering for a vast range of external and internal market segments.

Performance 1988

1988 has been a year of restructuring for the Industry Segment with exchange of products, country specialization in engineering, and cost cutting. Good growth has been achieved in some product areas such as AC drives, off-shore applications in general, and automation for the pulp and paper industry. Loss operations have been eliminated.

Overall profitability was still unsatisfactory, partly because of cost-overruns in a handful of projects in Metallurgy and in a turnkey industrial plant for a developing country. Satisfactory profits were achieved in power electronics and in some application areas for Automation. Considerable improvement in results is expected in 1989, when the effects of the restructuring program become visible.

Strategy

ASEA and BBC brought complementary technologies, application skills, and market coverage into ABB. The current market position is generally strong in Europe. Furthermore, in some 40 countries ABB maintains or is establishing local engineering resources in order to be close to its customers for sales and service.

ABB's basic strategy is to concentrate on products and systems where it has a competitive edge through worldwide volume and/or advanced technology (e.g. power electronics or distributed process control systems). In addition, it focuses on application areas where the Group has particular experience and application skills (e.g. steel, pulp and paper, off-shore, food, cement). Applying this strategy to the revamping business in general and to new plants, particularly in developing countries, should lead to long-term average volume growth of some 15 percent per year. ABB will strive for increased presence in the manufacturing and engineering fields, notably in North America and some developing countries.

In Drives, ABB is already one of the world's main producers today. The merger of ASEA, BBC, Strömberg (Finland), and Parametrics (U.S.) provided a complete and competitive range in AC and DC drives and a strong position technologically in power electronics. A prime objective now is to use the new channels to expand distribution of the whole range. Large specialized factories are located in West Germany, Switzerland, Finland, Sweden, Italy, France, the U.S., India, and South Korea.

Marine, Oil and Gas is firmly entrenched in the Norwegian North Sea market. Supervisory systems for platform safety and control will partly be replaced by subsea systems, where good growth is anticipated in both the North Sea and other deep-water fields. Expansion is expected in the marine and pipeline market, where ABB traditionally is well established with supply points in Norway, Finland, West Germany, and Italy.

ABB Metallurgy has a strong position not only in Europe but also in North America, Brazil, and some countries in Asia. With its new organization and focus on profitable market segments, the forthcoming years should show a return to profits. The highest growth rates are expected in Asian countries.

The ABB Industry Segment offers a wide range of electrical equipment from components to complex systems for automating industrial processes.

In Process Automation, ABB's strategy is to continue building dedicated automation centers with sales, application engineering, and after-sales service activities close to the customer. Such automation centers already exist in 21 countries.

Distributed process control systems as well as weighing and force measuring activities employ the latest technologies. Major R&D investments have been committed to secure a long-term competitive edge. Development is carried out on an evolutionary basis to protect existing customer investments. Substantial amounts have also been invested in application packages for repetitive use.

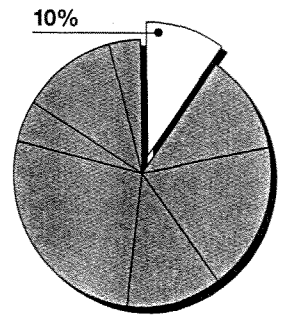
External sales dominate but ABB-internal customers in power, industry, and traction are also important. Plant deliveries from ABB often include automation packages which give a competitive edge to the plant in question. Process automation is therefore of key strategic importance to ABB.

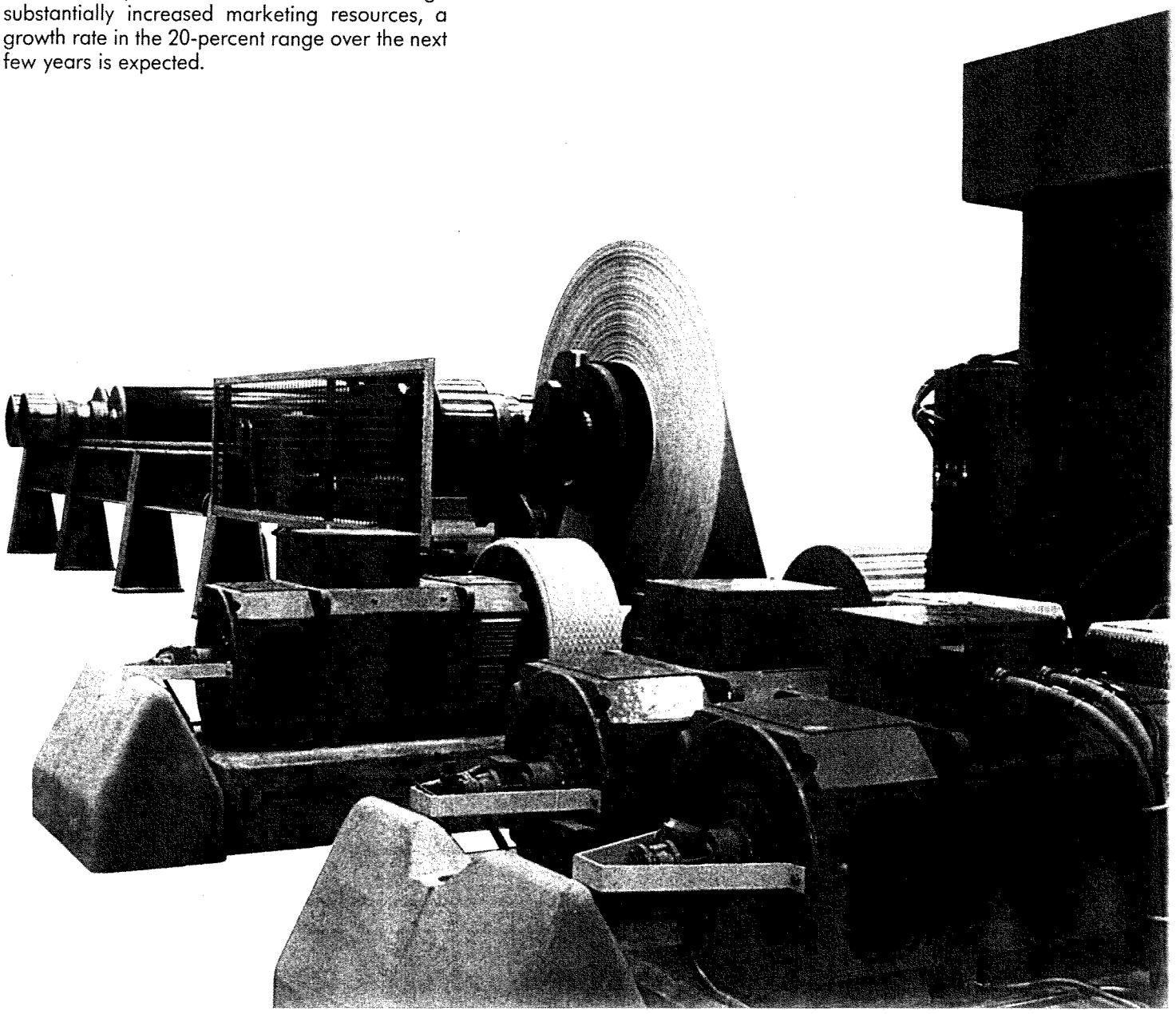
On average, the external market grows some 10 percent per year. However, ABB's market share in several important countries is small. Through substantially increased marketing resources, a growth rate in the 20-percent range over the next few years is expected.

Business Areas in the Industry Segment

	Revenues US$ in millions	%
Drives	885	43
Marine, Oil and Gas	298	15
Metallurgy	418	20
Process Automation	446	22
Total	**2,047**	**100**

Segment Share of Total Group Revenues

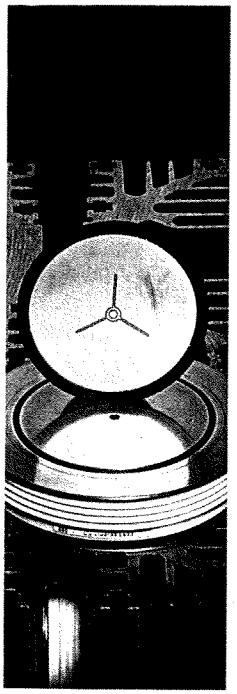




Transportation

Segmental Overview

	1988 US$ in millions
Orders received	993
Revenues	747
Order backlog	2,053
Capital expenditure	18
Number of employees	4,732



The extensive use of power electronics and microprocessor-controlled systems characterize ABB railway technology.

Industry Background

The world market for railway equipment is good, and so is the outlook for the future.

The background for this increased demand is the rapid change taking place in the transport sector. Environmental considerations and traffic congestion in metropolitan areas have set limits to further growth in road and air traffic. At the same time, railway networks are often underutilized and, with modern technology, can be upgraded to handle higher capacities. The focus today is on clean, electrically-driven urban rail systems such as subways, streetcars, and light-rail suburban trains. High-speed trains on new straight tracks, or adapted to existing old tracks, are gaining ground in Europe, North America, and Asia.

There is growing awareness that for environmental and efficiency reasons, long-distance heavy truck traffic should be put on rail. This, together with faster freight trains and growing combi-traffic, will also increase freight traffic on rail.

After decades of stagnation and decline, the railway alternative is once again on the move.

Scope of Activity

ABB's Transportation Segment offers its customers:

- Complete rail systems, either as a main contractor or as a partner;
- Complete electric or diesel-electric vehicles and complete passenger coaches, including electrical equipment and air conditioning;
- Freight wagons and freight handling systems;
- Complete power supply installations and, through its latest acquisition, signalling systems.

Performance 1988

1988 was characterized by a strong order intake and some important acquisitions and joint ventures in Europe.

While profitability was reasonably good, there is still considerable room for profit improvement.

Strategy

ABB is well established in most major markets in Europe. After the recent joint ventures in the UK and Denmark, ABB has nine home markets, each of which has major manufacturing and engineering facilities.

Outside Europe, ABB is growing steadily in the U.S. and Australia, and local presence is being reinforced. India offers a further large market, where ABB locomotives are being tested for large-scale introduction in both passenger and freight traffic. ABB conducts business in this field in 20 other countries.

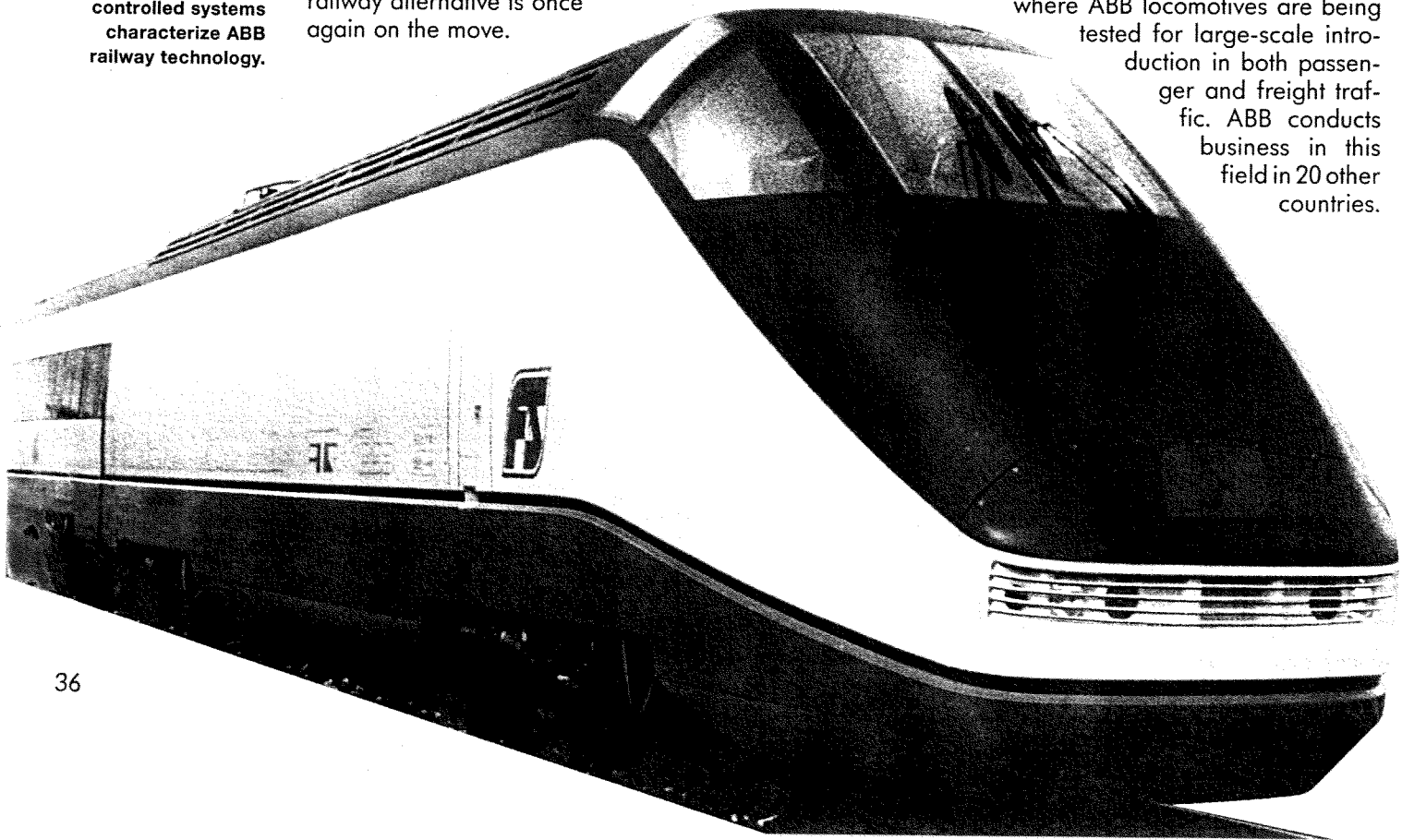


ABB is at the forefront of development in railway technology. The merger between the ASEA and BBC transportation operations complemented one another perfectly, ASEA being strong in mechanical design and BBC having come further in developing the AC propulsion system. Today, ABB has more than 750 vehicles with AC propulsion technology on order or in service. Another area of strength is the extensive use of microprocessor-controlled systems, including fault diagnosis. An important advantage for ABB is internal availability of a wide range of technologies supporting development and production of rolling stock in areas such as electronics, power semi-conductors, power supply, rotating machinery, materials.

Customers are increasingly focusing on lifetime costs and ABB Transportation is moving into heavy maintenance and service of vehicles in several countries. This gives customers the benefit of locomotives and trains with guaranteed performance. Leasing solutions will also increasingly be used.

Future

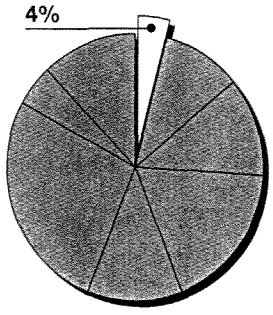
ABB expects considerable growth of railbound passenger traffic over medium distances, large-scale investments in urban transport systems in both industrial and developing countries, and growth in railway freight services. In addition to rolling stock, fixed installations in power supply, and signalling systems, ABB is active in line building, and in general contracting for turnkey projects.

With its technology and multidomestic structure, ABB is well positioned to serve these growing markets. It is anticipated that the growth rate for ABB Transportation will exceed the rate for the ABB Group as a whole.

Business Areas in the Transportation Segment

	Revenues US$ in millions	%
Rolling Stock	617	83
Fixed Installations	130	17
Total	**747**	**100**

Segment Share of Total Group Revenues

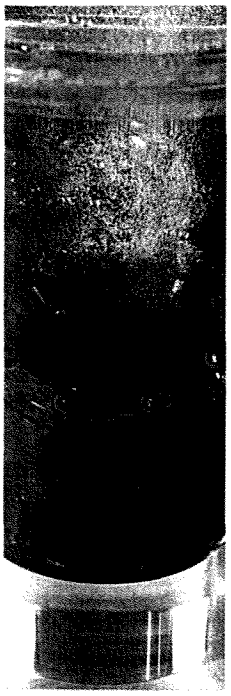


After decades of stagnation, the railway alternative is once again on the move. High-speed passenger train systems are expanding in Europe, North America, and Asia.

Environmental Control

Segmental Overview

	1988 US$ in millions
Orders received	2,786
Revenues	2,511
Order backlog	1,870
Capital expenditure	98
Number of employees	19,986



Water purification methods, both for drinking and for waste water, have been successfully introduced by ABB. New methods for separating heavy metals from incineration ashes are being tested.

Background Description

Based on air and energy-related technologies, the Environmental Control Segment – identical with the Fläkt Group in 1988 – is committed to improving indoor and outdoor environment.

The Segment's most important customer categories are the power, automotive, and forest product industries, as well as construction companies and real estate owners. These customers are primarily located in industrial countries, where the authorities and other bodies are setting up demanding standards for environmental protection, the efficient use of energy, and a healthy indoor climate. This is also reflected in the geographical breakdown of sales, where the Nordic countries account for 44 percent, Western Europe for 23 percent, North America for 11 percent, and Japan for 14 percent.

Operations have been rationalized during the past few years, thus cutting costs and working capital, and increasing efficiency in the manufacturing units. Customer service has been enhanced through a quality improvement program.

Performance 1988

Orders received increased by 34 percent to $ 2,786 million, while revenues amounted to $ 2,511 million, an increase of 23 percent. Earnings after financial income and expense improved substantially.

This year's performance indicates that measures taken in previous years to improve performance have now begun to show results. Further improvements are expected in 1989.

Markets, Products, and Strategies

The Environmental Control Business Segment comprises six Business Areas:

The Industrial Processes Business Area, with a 15-percent market share worldwide, is the world leader in its field of activity. This Business Area, in turn, is divided into three parts: Air Pollution Control, Paint Finishing, and Industrial Drying.

The air pollution control market is growing. The driving factors behind this growth are increased requirements for flue-gas desulfurization, reduction of nitrogen oxide emissions, and other air pollution control measures including ash handling.

As a result of more stringent pollution controls on paint finishing systems, the market is in an expansion phase. Here, the most important customer is the North American automotive industry.

Traditionally, the industrial drying business has focused its activities on the forest products industry, but it is presently broadening its scope of activities to cover other drying processes.

Indoor Climate supplies ventilation systems to residential buildings, offices, and industries. As a result of acquisitions, the Nordic market share today is roughly 35 percent. ABB's strategy is to exploit the rationalization potential in manufacturing created through acquisitions in recent years. At the same time, it will expand beyond its solid Nordic bases, primarily to the rest of Western Europe. Today, the Nordic countries account for 75 percent of this Business Area's sales.

Gadelius has operations in Japan, Southeast Asia, and the Nordic countries. It has been established in Japan since 1907, with some 1,100 employees in that country today. The company is firmly positioned in the traditional customer categories of environmental control. Core products include air preheaters for power stations, air pollution control equipment, and process equipment for the forest products industry. Gadelius also represents a number of other ABB Business Areas in Japan.

Gadelius is expanding its operations in Southeast Asia. A purchasing organization to serve companies in Europe is being established. Its Nordic operations are focused on marketing Asian-manufactured telecommunications equipment and industrial electronics in the Nordic countries.

Service provides systematic maintenance, overhauls equipment, and offers energy-saving services. Having grown approximately 20 percent annually in recent years, this Business Area has become the market leader in the Nordic region. It is now looking for growth opportunities in international markets.

Components supplies fans and heat exchangers to customers both within and outside the Environmental Control Segment. The international fan industry is very fragmented, and characterized by excess capacities and continuing restructuring measures.

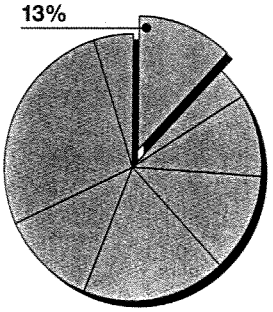
During 1988, a new business area, Cooling, was integrated into the Segment. Its objective is to attain strong presence in industrial refrigeration and air conditioning, and to take advantage of synergies with other Business Areas. Special focus will be on the European air-conditioning market.

Business Areas in the Environmental Control Segment

	Revenues US$ in millions	%
Industrial Processes	621	24
Indoor Climate	1,023	39
Gadelius	447	17
Service	194	7
Components	149	6
Cooling	197	7
Elimination	– 120	–
Total	**2,511**	**100**

Segment Share of Total Group Revenues

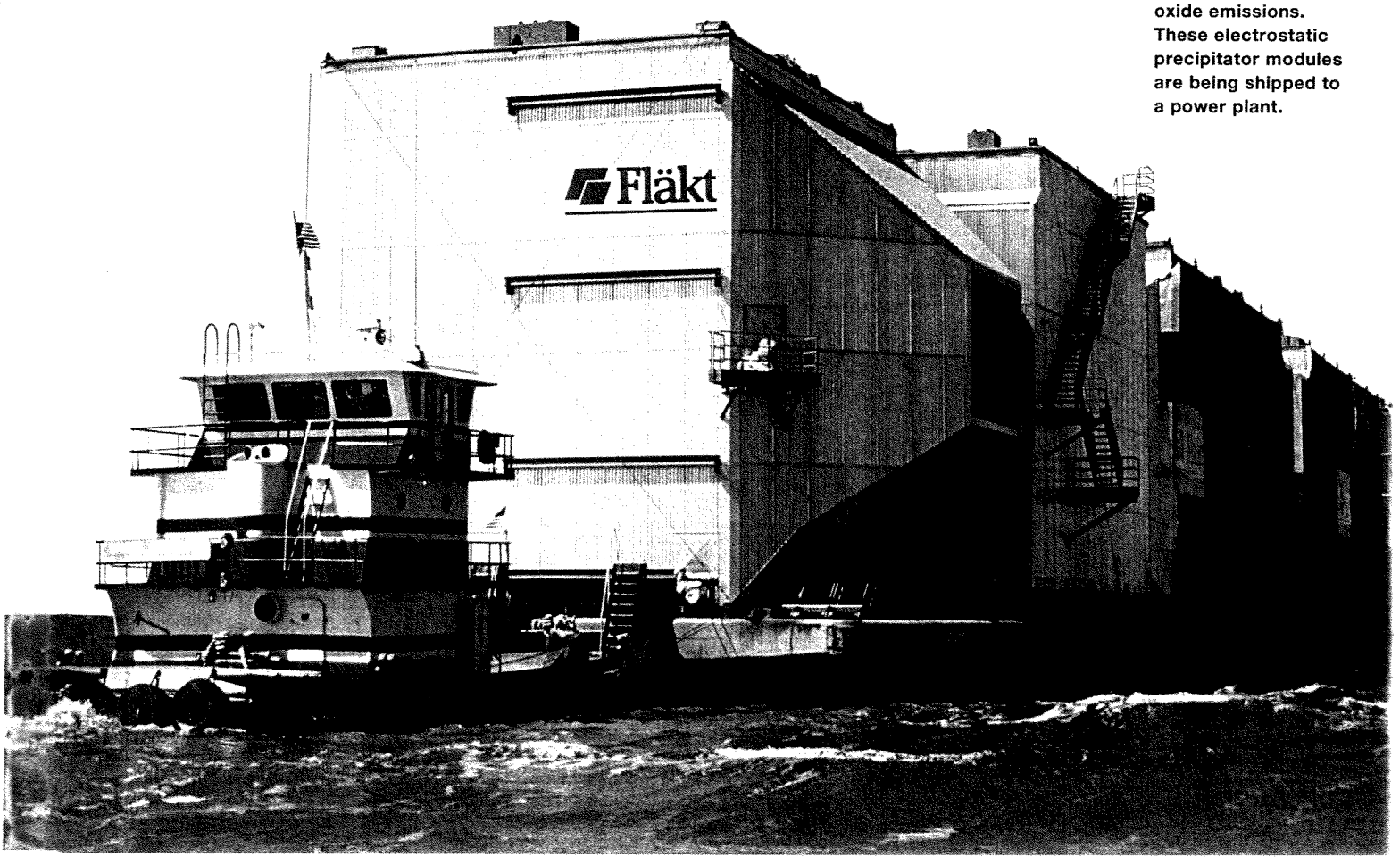
13%



Future

The Environmental Control Segment operates in markets where demand will grow as a result of the increasing number of regulations and requirements to protect our indoor and outdoor environment, and to save energy in industrial processes and buildings. These factors, in combination with streamlining the Segment's operations, should lead to a continued rise in profitability over the next few years.

The growing demand for environmental protection and energy conservation have created attractive markets for ABB, for example in the areas of flue-gas desulfurization or the reduction of nitrogen oxide emissions. These electrostatic precipitator modules are being shipped to a power plant.

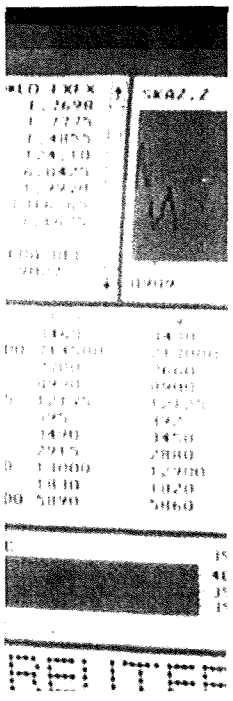


Financial Services

Segmental Overview

	1988 US$ in millions
Orders received	1,065
Revenues	1,046
Capital expenditure*	59
Number of employees	515

* Of which US$ 39 million for leasing operations.



Stockbrokerage, portfolio management, and insurance *are also part of the* activities of ABB Financial Services.

Objectives

ABB Financial Services has two main objectives: to maximize synergies with ABB's industrial operations, and to reach stand-alone profitability like any other Segment within ABB. To achieve these objectives, ABB Financial Services serves both ABB companies and external customers. External competition ensures that new products and technologies remain in the forefront, that critical mass is achieved, and that the best people are attracted.

Its customer relations with ABB's industrial operations are purely at arm's-length. The Group's industrial companies will utilize ABB Financial Services only if it is price competitive.

This ensures that ABB Financial Services remains price competitive. The autonomy of the industrial companies is respected and, at the same time, management of the Group's risks can be centralized.

Strategic Themes

ABB Financial Services is guided by four major strategic themes. The Business Areas making up the Segment focus on large, complex transactions. Furthermore, they concentrate on niches and products where they have special know-how. A third theme is awareness that ABB Financial Services is a "people business" and that special attention must be placed on attracting and developing qualified personnel. Finally, emphasis is placed on risk control, for example through specialized financial accounting and control systems, and the application of strict and predefined risk limits.

Scope of Activity

The Treasury Centers act as internal banks, managing the ABB Group's liquid assets, borrowings, and foreign exchange transactions. These activities are coordinated by the ABB World Treasury Center in Zurich. Local Treasury Centers are located in Sweden, Norway, Finland, and Italy, and presently being set up in the U.S.

The Leasing and Financing Business Area provides sales support to ABB's industrial companies by means of lease finance schemes to ABB's customers. This resulted in ABB's industrial companies receiving orders totaling more than $ 100 million in 1988. ABB Credit also undertakes financing for ABB's investments and "big ticket" leasing for external third party customers. Project finance is handled by staffs placed in the major ABB countries and coordinated from Zurich. Zurich-based EFAG is also active in project financing as well as forfaiting and leasing.

The Insurance Business Area includes primary insurance and reinsurance, insurance brokerage, and captive insurance. The first two are carried out through the Sirius Insurance Group. Risk management through insurance is an important activity for ABB.

The Trading Business Area comprises the London-based ABB Trading Group, with twelve offices around the world. Activities include commodity trading, countertrading, commodity futures brokerage, and forfaiting. Countertrade operations work in close collaboration with ABB's industrial companies. In 1988, this resulted in generating industrial contracts for the ABB Group totaling almost $ 300 million.

The Stockbrokerage and Portfolio Management Business Area is active in equity, option and bond trading, investment research, and corporate finance services through Aros Securities. The Business Area is also involved in investment management for ABB companies, e.g. pension and insurance funds.

Finally, ABB's worldwide venture-capital investments are managed within the Other Financial Services Business Area.

Performance 1988 and Future

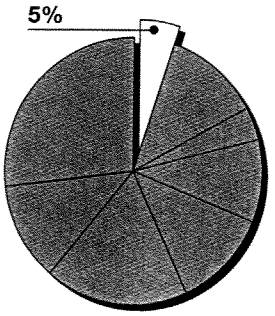
1988 earnings after financial income and expense were satisfactory and amounted to $ 76 million.

ABB Financial Services intends to develop both ABB-oriented and external business, especially in countries with a strong ABB industrial base.

Major Business Areas in the Financial Services Segment

	Revenues US$ in millions	Earnings after financial items US$ in millions	%
Treasury Centers	–	26	34
Leasing and Financing	33	8	11
Insurance	260	33	43
Trading	741	2	3
Stockbrokerage and Portfolio Management	12	7	9
Total	**1,046**	**76**	**100**

Segment Share of Total Group Revenues

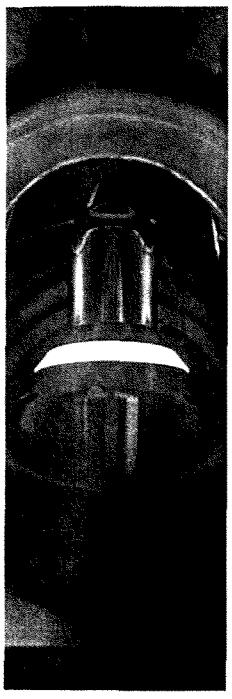


Financial services is primarily a "people business". ABB's Financial Services manages the ABB Group's liquid assets, borrowings, and foreign exchange transactions, and provides sales support to ABB's industrial companies, for example through leasing, financing, and countertrade solutions.

Various Activities

Segmental Overview

	1988 US$ in millions
Orders received	5,295
Revenues	5,375
Order backlog	2,490
Capital expenditure	278
Number of employees	64,607



Modern, highly-efficient vacuum tubes are a key component in ABB broadcasting transmitters; they are also used in nuclear fusion experiments.

Background

In one way or another, all 13 Business Areas that make up the Various Activities Business Segment are connected with the electrotechnical industry. However, interaction between the 13 Business Areas as such is limited. Consequently, the major Business Areas in the Segment are treated separately below.

Power Lines and General Contracting

The acquisition of Sadelmi Cogepi added approximately $ 380 million of backlog in general contracting business to the SAE Group. In the field of power lines the merged operations hold a 35-percent market share worldwide. This acquisition has provided the basis for expansion in countries like Spain, Saudi Arabia, Egypt, and Venezuela. It has further broadened the Business Area's scope of activity with power plant and other plant contracting skills. The volume decline in the traditional markets for power lines was offset by moving into these new fields.

The SAE Sadelmi Group enjoys good profitability and anticipates continued growth. Within ABB, its contracting capabilities provide many opportunities for synergy with ABB Segments making plant deliveries. These capabilities can now be fully utilized.

Instrumentation

The principal units in Instrumentation are the UK-based ABB Kent Group, ABB Metrawatt GmbH in Germany, and ABB Goerz AG in Austria. Together, their product lines cover a variety of instruments and systems, the unifying factor being "measurement for control".

There are three main market areas:

– Process control and industrial instruments and systems are large and technologically-advanced businesses with growth prospects in most industrial countries. ABB holds a leading position in certain application sectors and is growing in such key markets as North America.

– Laboratory and test instruments constitute a large, technology-driven and highly segmented market. Growth prospects are good.

– Liquid meters are high volume products, used mainly by water utilities worldwide. In domestic water meters, ABB Kent is one of the world leaders. It plans to broaden its product range and to increase penetration of the major markets.

Orders received have increased moderately, while results improved substantially. They are particularly strong in water metering.

Telecommunications

Telecommunications has its primary bases in Norway and Switzerland. In 1988, it supplied telephone exchanges, mobile telephones, power network communications and transmission systems.

Performance in 1988 was unsatisfactory primarily because the domestic Norwegian telecommunication market is being deregulated.

Early in 1989, some of the Business Area's activities in Norway are being divested in exchange for the Swedish Ericsson Group's signalling systems operations.

Robotics

ABB Robotics is the world's leading robot manufacturer today with more than 16,000 robots currently working in some 30 countries. There are 20 service and training centers.

ABB Robotics has a complete product program: all-purpose robots in various load-sizes, and special-purpose robots for assembly, welding, painting, and similar. Furthermore, application packages and complete flexible automation systems for the manufacturing industry are available.

In the early 1980s, many companies entered the robot industry. Since then, the industry has been going through a shake-out process and has left the infancy stage. This means a major opportunity for ABB, with its strong product program, application know-how, and international marketing network.

ABB Robotics' profitability in 1988 was satisfactory, with a strong profit improvement in Europe.

The non-automotive business had the highest growth rate. ABB's overall objective is to develop its current leadership position and further increase profitability.

Service

The Service Business Area is made up of various service activities which have been grouped together in special business units so as to focus on and develop the service concept. Experience has shown that this concept leads to faster growth and higher profitability.

ABB Service today has some 60 workshops in 30 countries and aims to provide customers with the highest possible equipment availability. The wide network of service shops and field service centers also promotes sales of new products. An increasing portion of Service business is servicing equipment from other suppliers.

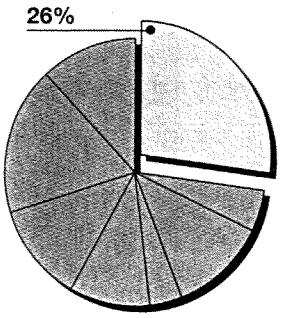
While service technology is developed for global use, service itself is a typically local business. This means running service operations close to the customer and on an entrepreneurial basis.

Service continued to grow in 1988 and profitability was high. Further expansion in the 10 to 15 percent range per year is expected.

Major Business Areas in the Various Activities Segment

	Revenues US$ in millions
Power Lines and General Contracting	988
Instrumentation	334
Telecommunications	409
Robotics	262
Service	392
Motors	329
Superchargers	194
Communication and Information Systems	132
District Heating	129
Integrated Circuits	43
Other Activities Sweden	1,001
Other Activities Germany	652
Miscellaneous	510
Total	**5,375**

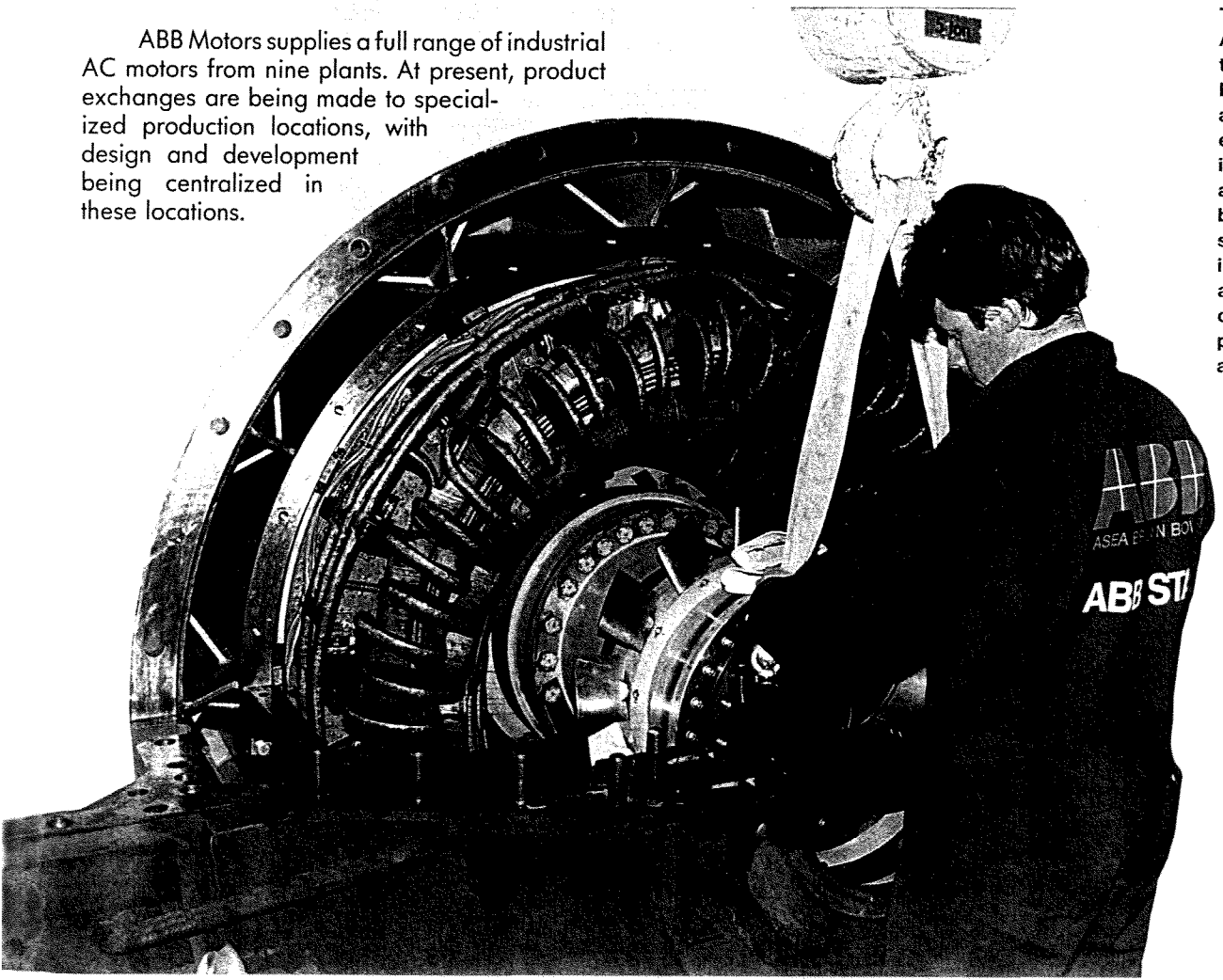
Segment Share of Total Group Revenues



ABB's concept is to fulfill customer requirements by using flexible manufacturing in combination with a high percentage of standard components. This not only allows ABB to be a low-cost

Motors

ABB Motors supplies a full range of industrial AC motors from nine plants. At present, product exchanges are being made to specialized production locations, with design and development being centralized in these locations.



The 13 Business Areas that make up the Various Activities Business Segment are all connected with the electrotechnical industry in one way or another. ABB service businesses have some 60 workshops in 30 countries, their aim being to give customers the highest possible equipment availability.

producer, essential in a mature business such as motors, but also to maintain a high level of service and quality.

In order to further upgrade its servicing capability, ABB has established a motor distribution center in West Germany.

Order intake and earnings during the year were satisfactory for most units. A program to increase productivity is under way.

Superchargers

ABB is a world leader in supplying and servicing superchargers for medium and large diesel engines.

Worldwide demand for superchargers increased during the year. ABB also increased its market share, especially in the U.S. Consequently, Superchargers recorded considerable growth in volume and earnings.

A broad investment program has been initiated to further streamline and automate production. This program, together with ongoing rationalization measures, should ensure continued strong profit development.

Others

ABB Asea Skandia, together with its Nordic subsidiaries, is the largest electric wholesaler in the Nordic Region. The wholesale business showed good growth figures because of favorable market conditions and an expanded product range. ABB Selfa primarily manufactures standard electric products and installation material, while ABB Truck produces battery-driven forklift trucks. Both companies showed satisfactory development. ABB Plast is an industrial plastics group specializing in composites and other advanced materials for demanding applications and for insulation materials. Profitability was good.

Busch-Jaeger Electro GmbH, ABB Stotz-Kontakt GmbH, ABB CEAG Licht- und Stromversorgungstechnik GmbH, and their subsidiaries in other countries manufacture and sell electric installation equipment for buildings as well as lighting and safety products. These companies have strong market positions in their respective product niches and are stable profit makers. In 1988, both domestic and international sales developed well and overall profitability was satisfactory. Continued growth in the electric installation business is envisaged.

In the area of Communication and Information Systems, ABB Infocom Ltd had a good business year. 28 high-power broadcasting transmitting systems were manufactured, 13 delivered and orders for 30 more received. The position as the world's marketleader has been confirmed. Profitability was good.

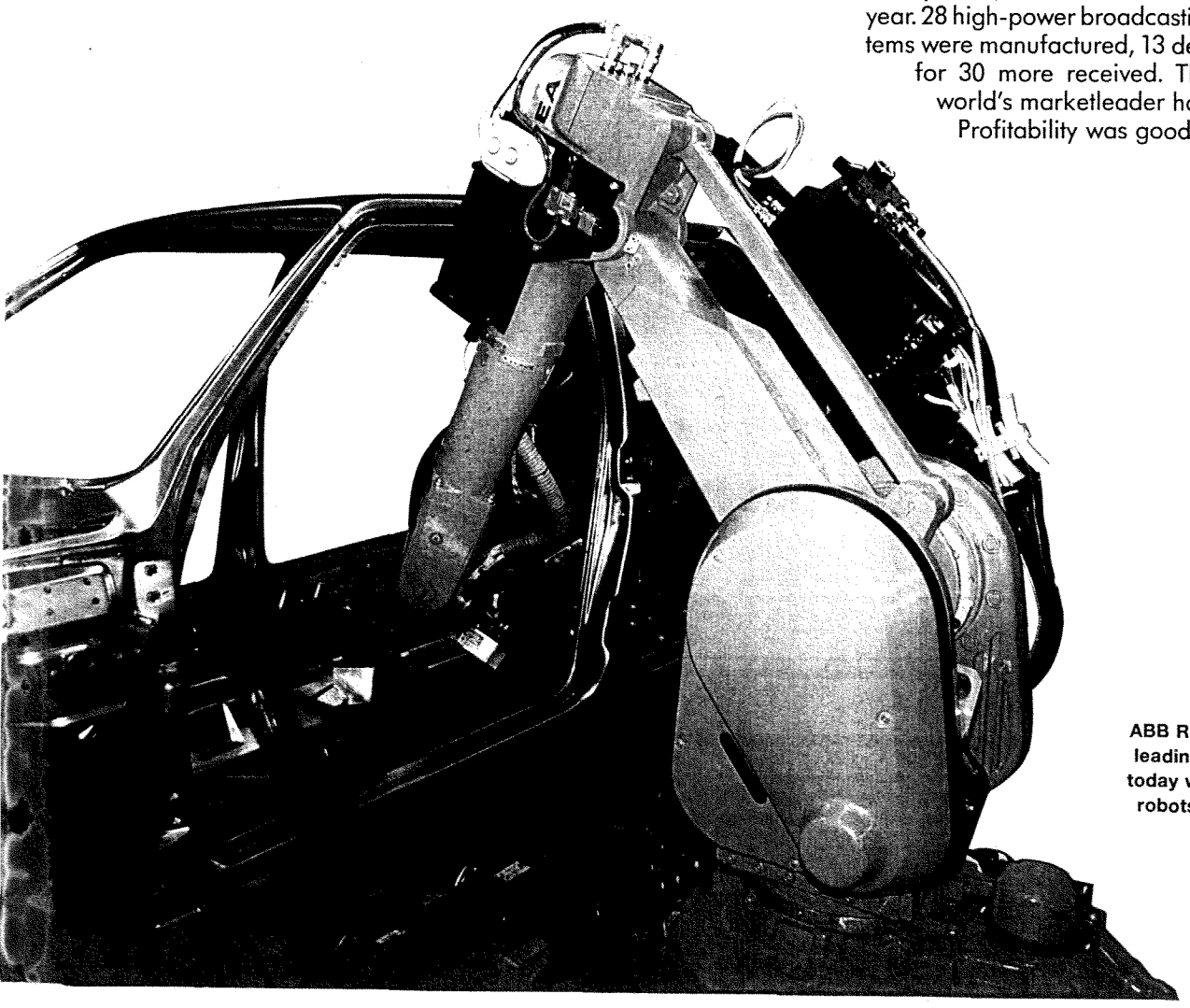


ABB Robotics is the world's leading robot manufacturer today with more than 16,000 robots currently working in some 30 countries.

Consolidated Income Statement

Year ended December 31		1988
		US$ in millions
Revenues	Note 1	**17,832**
Material expenses		– 8,251
Personnel expenses		– 5,625
Other expenses		– 2,749
Changes in work in progress and finished goods		161
Depreciation of fixed assets	Note 2	– 514
Operating Earnings after Depreciation		**854**
Dividend income		13
Interest income		504
Interest on advances		– 270
Interest expense	Note 3	– 565
Exchange and translation differences		24
Earnings after Financial Income and Expense		**560**
Nonrecurring income and expense	Note 4	– 24
Income before Taxes		**536**
Taxes	Note 5	– 127
Net Income before Minority Interest		**409**
Minority interest		– 23
Net Income		**386**

Consolidated Balance Sheet

December 31		1988
		US$ in millions
ASSETS		
Current Assets		
Cash and marketable securities	Note 6	3,496
Trade receivables		4,120
Other current receivables	Note 7	1,377
Inventories	Note 8	5,375
Total Current Assets		**14,368**
Fixed Assets		
Loans granted		540
Shares and participations	Note 9	394
Intangible assets		153
Construction in progress		76
Machinery and equipment	Note 10	1,565
Land and buildings	Note 10	1,869
Total Fixed Assets		**4,597**
TOTAL ASSETS		**18,965**

December 31		1988
		US$ in millions
LIABILITIES AND EQUITY		
Current Liabilities		
Trade payables		2,527
Provisions		2,860
Other current liabilities	Note 11	2,427
Short-term loans	Note 12	1,379
Total Current Liabilities		**9,193**
Advances from Customers		**3,394**
Medium- and Long-term Loans	Note 13	**1,541**
Pension Liabilities		**1,040**
Deferred Taxes		**289**
Minority Interest		**386**
Stockholders' Equity	Note 14	
Share capital		1,250
Restricted reserves		730
Retained earnings		756
Net income		386
Total Stockholders' Equity		**3,122**
TOTAL LIABILITIES AND EQUITY		**18,965**
Contingent Liabilities	Note 15	**829**

Consolidated Statement of Changes in Financial Position

Year ended December 31	1988 US$ in millions
Internal Financing	
Revenues	17,832
Material expenses	– 8,251
Personnel expenses	– 5,625
Other expenses	– 2,749
Changes in work in progress and finished goods	161
Financial income and expense	– 294
	1,074
Change in current receivables	– 306
Change in current noninterest-bearing liabilities	553
Change in inventories	37
	284
Nonrecurring income and expense	– 24
Capital gains on sales of fixed assets	– 596
Current taxes	– 141
Minority interest	– 23
Internal Net Financing	**574**
Investments in Fixed Assets	
Change in loans granted	– 366
Capital expenditure for:	
Acquisitions of shares and participations	– 544
Machinery and equipment, land and buildings	– 736
Sales of shares, machinery and equipment, land and buildings	1,052
Net Investment	**– 594**
External Financing	
Change in short-term loans	– 589
Change in advances from customers	112
Change in medium- and long-term loans	– 569
Change in pension liabilities	– 8
Change in minority interest	– 123
Translation differences and other	91
External Net Financing	**– 1,086**
Change in Cash and Marketable Securities	**– 1,106**

Principles for Consolidated Financial Statements

1 General

Uniform principles are applied in the consolidated financial statements of the ABB Asea Brown Boveri Group, except where otherwise stated. However, there are certain minor deviations as a result of differences in local accounting practices.

2 Principles of Consolidation

The consolidated financial statements include ABB Asea Brown Boveri Ltd and substantially all companies in which the parent company, directly or indirectly, has more than 50 percent of the voting rights or in which it exerts decisive influence. A few majority holdings of relatively minor importance to the Group as well as companies and institutions serving a social purpose are not consolidated. Companies acquired in the year under review are consolidated as from the date of acquisition, whereas companies disposed of during the year are excluded from consolidation from the beginning of the year.

The consolidated financial statements have been prepared in accordance with the purchase method, whereby the cost of acquisition of shares in subsidiaries is eliminated against the stockholders' equity of those subsidiaries at the time of acquisition. Any resulting difference is recorded either entirely as goodwill or as corrections to the carrying value of the assets and liabilities acquired, with any balance being treated as goodwill. Such goodwill is written off against stockholders' equity in the year of acquisition unless very substantial, in which case it is amortized according to a plan drawn up in each individual case.

Assets, liabilities, and equity as well as income and expenses of consolidated companies are reflected in their entirety in the consolidated financial statements. The shares in net income and equity attributable to minority shareholders are stated separately in the consolidated income statement and balance sheet.

Orders received and revenue figures are reported only to the extent that they relate to third parties. Interest income, interest expense, and dividends between Group companies as well as intragroup liabilities and receivables are eliminated. Internal transfer prices are based on market prices. Unrealized intercompany profits are eliminated.

3 Revenues

Revenues include sales invoiced, other operating income, and interest on advances.

The Group has a high proportion of advances from customers. Customer advances lead to lower gross margins than for orders without advance payments, i.e. operating earnings can be said to contain a hidden interest cost. In order to make the Group accounts more easily comparable with those of other companies, interest is calculated on advances from customers, and is included in both revenues (and also operating earnings) and interest on advances captions.

4 Revenue Recognition

Sales of products and services are recognized on the date of delivery. The sales amount is net of sales or value added taxes, returned goods, discounts, and rebates. Income from long-term contracts is recognized at agreed invoicing and delivery dates. For Group companies in those countries where it is mandatory to use the percentage-of-completion method, this method has been applied both in the individual company and in the Group.

Provisions are made to cover all anticipated losses on loss-making contracts.

5 Foreign Currency Translation

Assets and liabilities in foreign currencies of the individual companies have generally been reported at the lower/higher of the year-end exchange rate and the exchange rate at the date when the asset/liability was recorded. Cash and marketable securities have been reported at year-end exchange rates, while receivables and liabilities covered by forward contracts are stated at contracted future rates. Advances from customers have not been revalued, but are shown at rates at the dates when such advance payments were received, since repayment is not anticipated.

As regards asset management operations, the consolidated accounts allow for market value changes in the portfolio of forward contracts in foreign currencies. At the same time, receivables and liabilities not covered by forward contracts are reported at year-end exchange rates. The resulting unrealized exchange gains/losses are included in the determination of net income after recognition of applicable deferred income taxes.

Exchange gains and losses in individual companies are reported in the income statement either under other expenses or under exchange and translation differences.

Financial statements of Group companies expressed in other currencies are translated into US$ at year-end rates of exchange with respect to the balance sheet, and average rates of exchange for the year with respect to the income statement. Translation adjustments are included in stockholders' equity and have no effect

on net income. However, financial statements of subsidiaries in high-inflation countries are translated in accordance with the temporal method as follows:
- Monetary assets and liabilities are translated at year-end rates of exchange.
- Inventories (raw materials, work in progress, and finished goods), property, plant and equipment, and advances from customers are translated at appropriate historical rates of exchange.
- Income and expense items are translated at average rates of exchange, except for cost of goods sold and depreciation, which are translated at appropriate historical rates of exchange.
- Translation adjustments are included in the determination of net income.

Exchange rate differences arising from loans taken as hedges for investments in subsidiaries have been included in stockholders' equity in the consolidated statements in as far as they correspond to translation differences for the relevant subsidiaries taken directly to equity. Deferred tax assets/liabilities have been set up where appropriate. The same procedure has been applied for intragroup foreign currency transactions of a long-term investment nature.

6 Land, Buildings, Machinery and Equipment

Land, buildings, machinery and equipment are stated at cost, except that certain revaluations have been made in accordance with the accounting practices prevailing in certain countries, less accumulated depreciation.

Buildings, including revaluations when applicable, are depreciated for financial reporting purposes on the straight-line method over their estimated useful lives. Machinery and equipment are also depreciated on the straight-line method over two-thirds of their estimated useful lives, which corresponds to using the degressive depreciation method over their estimated total useful lives.

The depreciation periods are:
- buildings 25 to 50 years;
- machinery and equipment 3 to 15 years;
- production tools (other than wear and tear tools which are expensed) 3 years.

Land is not depreciated.

All lease arrangements are treated as operational leases.

7 Research and Development

Significant costs are incurred each year in connection with research, development, and engineering programs. Such costs are expensed as incurred, except to the extent recoverable under existing contracts.

8 Investments in Marketable Securities held by Brokerage and Asset Management Companies

Investments in marketable securities held by such companies are generally stated at market value, and unrealized gains and losses are taken into income after recognition of applicable deferred income taxes.

9 Inventories

Purchased goods are generally stated at the lower of cost – determined on the basis of weighted average prices or by the "first-in, first-out" method – or replacement value, while manufactured goods are valued at the lower of manufacturing cost or net realizable value. Appropriate provisions are made for obsolescence.

10 Accounting for Pensions

Various pension arrangements exist within the Group. The Group's pension commitments are based on actuarial calculation and include both funded and unfunded plans. Pension commitments in excess of recorded pension liabilities and to the extent not covered by plan assets are included under contingent liabilities.

11 Provisions

Provisions provide cover for identifiable warranties, penalties, loss orders, committed costs for delivered plant orders and rationalization measures, currency and country risks.

12 Taxation

All taxes estimated to be ultimately payable on reported income, capital, and property are provided for. These taxes are calculated in accordance with the tax regulations in force in each country. Unrecoverable withholding taxes paid on dividends received are included in the tax charge for the year.

In addition, deferred taxes on income are provided on a comprehensive basis for those items of income and expenses which affect both the financial statements and the income tax assessment, but in different periods (timing differences). The timing differences relate main-

ly to accelerated depreciation on machinery and equipment and buildings, reserves for future investments and inventory reserves as permitted by the tax laws in certain countries. In determining the tax rate, the liability method is used for those timing differences which are expected to reverse within the foreseeable future. For those timing differences that are not expected to reverse within the foreseeable future (normally more than three years) a tax rate of 30 percent has been used. No deferred taxes are provided for timing differences not expected to reverse.

Income taxes payable on distribution of retained earnings of subsidiaries are provided for unless it is reasonable to assume that such earnings will not be distributed.

13 Orders Received and Order Backlog

Amounts stated for orders received and order backlog are expressed at the price level estimated for the date of delivery of each order.

14 Definition of Key Ratios

a) Return on equity
Return on equity is calculated as net income as a percentage of average stockholders' equity.

b) Return on capital employed
Return on capital employed is calculated as earnings after financial income and expense plus interest expense and exchange and translation differences as a percentage of average capital employed. Capital employed consists of stockholders' equity, minority interest, pension liabilities, and short-, medium-, and long-term loans.

c) Debt / equity ratio
Debt / equity ratio is calculated as interest-bearing current, medium-, and long-term liabilities excluding pension liabilities divided by stockholders' equity plus minority interest.

d) Interest coverage ratio
Interest coverage ratio is calculated as earnings after financial income and expense plus interest expense on financial liabilities divided by interest expense on financial liabilities.

15 Auditing

The consolidated accounts of the ABB Asea Brown Boveri Group have been examined by independent auditors as shown in the audit report.

Similarly, the accounts of all Group companies are also examined by independent auditors. Since not all audits have been completed by the time the consolidated accounts are audited, some of the figures incorporated in the consolidated income statement and balance sheet are of a preliminary nature. However, the Group companies in question are not material, and experience shows that differences between the final figures and the preliminary ones normally are insignificant. Any changes are taken into account during the following year.

16 Exchange Rates

	ISO Codes	Average 1988 US$	Year-end 1988 US$
Australian Dollar	AUD	1.28	1.17
Austrian Schilling	ATS	12.26	12.51
Canadian Dollar	CAD	1.23	1.19
Danish Krone	DKK	6.68	6.86
Deutsche Mark	DEM	1.74	1.78
Finnish Markka	FIM	4.17	4.17
French Franc	FRF	5.91	6.06
Italian Lira	ITL	1,292.00	1,309.00
Netherlands Guilder	NLG	1.96	2.00
Norwegian Krone	NOK	6.49	6.56
Pound Sterling	GBP	0.56	0.55
Swedish Krona	SEK	6.10	6.13
Swiss Franc	CHF	1.45	1.50

Notes to the Consolidated Financial Statements
(US$ in millions)

Note 1
Revenues

Revenues include the following items:

	1988
Invoiced sales	17,052
Other operating income	510
Interest on advances	270
Total	**17,832**

Note 2
Depreciation of fixed assets

	1988
Machinery and equipment	443
Land and buildings	61
Goodwill	10
Total	**514**

Goodwill on the acquisition of group companies was amortized in 3 cases at 4 percent per year and in all other cases directly written off against equity.

Note 3
Interest expense

Interest expense is made up of the following items:

	1988
Interest on pension liabilities	80
Interest on financial liabilities	485
Total	**565**

Note 4
Nonrecurring income and expense

	1988
Capital gain/loss on sales of	
Participations	92
Land and buildings	504
Restructuring expenses	– 568
Other nonrecurring income and expense	– 52
Total	**– 24**

The sale of a substantial part of the Group's real estate in Sweden to a third party resulted in a net capital gain of US$ 351 million. The deal was structured as a sale-and-lease-back transaction.

Note 5
Taxes

	1988
Current taxes, income	– 100
Current taxes, other	– 41
Deferred taxes	14
Total	**– 127**

Note 6
Cash and marketable securities

	1988
Cash and bank	1,255
Marketable securities	2,241
Total	**3,496**

Placements totaling US$ 1,785 million relating to interest arbitrage transactions are reported as net figures in 1988.

Note 7
Other current receivables

	1988
Non-trade receivables	904
Prepaid expenses/accrued income	269
Advances to suppliers	197
Advances to contractors	7
Total	**1,377**

Note 8
Inventories

	1988
Materials	1,149
Work in progress	3,602
Finished goods	624
Total	**5,375**

Note 9
Shares and participations

Holdings in other companies

Company name	Group interest[1]	Book value
Franco Tosi Industriale S.p.A., Legnano	C	144
BBC Brown Boveri AG, Baden (held in trust)	–	51
Ascom Radiocom AG, Solothurn	C	29
ABB Elettrocondutture S.p.A., Milan	C	17
Nuova ADDA S.r.L., Lodi	B	9
Swedish Aircraft KB, Linköping	C	7
Svenska Charterinteressenter KB, Stockholm	C	7
Midland Cogeneration Venture, Ltd Partnership, Purchase	C	5
Scandia-Randers A.S., Randers	C	5
Svenska Elgrossist AB SELGA, Stockholm	C	4
SAE Guangzhou Galvanized Steel Structure Co. Ltd, Guangzhou	C	3
Nuova ESI S.r.L., Lodi	B	3
Brown Boveri-York Kälte- und Klimatechnik GmbH, Mannheim	C	3
European Silicon Structures S.A., Luxembourg	C	2
Others	–	105
Total		**394**

[1] Parent company's interest, direct and/or indirect: A = over 95%; B = 50% to 95%; C = less than 50%.

Note 10
Tangible fixed assets

	Machinery and equipment	Land and buildings	Total
Acquisition value	4,196	2,437	6,633
Accumulated financial depreciation	– 2,640	– 682	– 3,322
	1,556	**1,755**	**3,311**
Undepreciated amount of accumulated write-ups	9	114	123
Residual value of fixed assets	**1,565**	**1,869**	**3,434**

Note 11
Other current liabilities

	1988
Taxes due	194
Non-trade payables	1,227
Accrued expenses/deferred income	1,006
Total	**2,427**

Note 12
Short-term loans

	1988
Part of medium- and long-term loans falling due within one year	122
Other short-term loans	1,257
Total	**1,379**

Note 13
Medium- and long-term loans

Currency Denomination	ISO Codes	Local currency in millions	1988 US$ in millions
Swiss Franc	CHF	917	610
U.S. Dollar	USD	286	286
Norwegian Krone	NOK	1,428	218
Swedish Krona	SEK	1,323	216
Italian Lira	ITL	97,686	76
Deutsche Mark	DEM	90	51
Pound Sterling	GBP	16	29
Danish Krone	DKK	192	28
Finnish Markka	FIM	79	19
French Franc	FRF	109	18
Other currencies			112
Total			**1,663**
Less the short-term portion			– 122
Medium- and long-term loans			**1,541**

Note 14
Stockholders' equity

Group	Share capital	Restricted reserves	Retained earnings	Net income	Total
Opening balance	1,250	1,198	591	0	3,039
Transfers between reserves		– 265	265		0
Proceeds from BBC warrants and convertibles			82		82
Translation differences, goodwill and other		– 203	– 182		– 385
Net income 1988				386	386
Closing balance sheet	**1,250**	**730**	**756**	**386**	**3,122**

Note 15
Contingent liabilities

	1988
Discounted bills of exchange	208
Guarantees related to financial operations	372
Claims out of litigations and other contingent liabilities	249
Total	**829**

As part of the Group's business operations, there are – in addition to the contingent liabilities listed above – guarantees for the completion of various contractual undertakings. Some of these are of an on-demand nature. There is no indication that such guarantees existing at year-end for deliveries etc. will result in any payment.

Note 16
Generally Accepted Accounting Principles in the United States (US GAAP)

The most significant differences between ABB and US accounting practices are described in the following paragraphs:

Revaluation of assets
ABB accounting principles under certain circumstances permit a write-up of fixed assets above the acquisition cost, which normally is not accepted under US GAAP.

Deferred taxation
ABB provides 30 percent on timing differences which are not expected to be reversed in the foreseeable future. US GAAP require that the local statutory tax rate be used for deferred tax calculation.

Goodwill
Goodwill is written off against stockholders' equity in the year of acquisition unless it is very substantial, in which case it is amortized according to a plan drawn up in each individual case. US GAAP do not allow direct write-off of goodwill against equity. Instead, goodwill is capitalized and amortized over a maximum of 40 years.

Revenue recognition for long-term contracts
In most countries, revenues from long-term contracts are recognized at the completion of the contract or defined phases thereof. Under US GAAP, revenue recognition normally takes place on a percentage-of-completion basis.

Sale-and-lease-back
Under US GAAP, the profit arising from a sale-and-lease-back transaction is deferred and amortized to income over the leasing period or the period of depreciation of the asset. This method is not applied by ABB.

Reporting of shares in subsidiaries and associated companies
Under US GAAP, participations of more than 20 percent, but less than 50 percent, are normally accounted for using the equity method. ABB accounts for such participations at cost, and income from such investments is recognized on a dividend-received basis.

If US GAAP were applied, this would have the following estimated effects on net income and stockholders' equity:

	US$ in millions 1988
ABB Group Income Statement Adjustment to US GAAP	
Net income as reported	386
Increase / decrease for:	
● Revaluation of assets	– 8
● Sale-and-lease-back	– 254
● Goodwill	– 17
● Deferred taxes	– 168
● Restructuring expenses, not yet incurred	267
● Revenue recognition	78
● Other	– 1
Approximate net income, US GAAP	**283**

	US$ in millions 1988
ABB Group Stockholders' Equity Adjustment to US GAAP	
Stockholders' equity as reported	3,122
Increase / decrease for:	
● Revaluation of assets	– 300
● Sale-and-lease-back	– 317
● Goodwill	236
● Deferred taxes	– 576
● Restructuring expenses, not yet incurred	356
● Revenue recognition	158
● Minority interest in adjustments	18
● Other	431
Approximate stockholders' equity, US GAAP	**3,128**

The following table shows a summary of the consolidated balance sheet according to ABB accounting principles and US GAAP:

	Balance sheet as reported according to ABB accounting principles	Estimated numbers according to US GAAP
Current assets	14,368	15,994
Land, buildings and equipment	3,434	3,526
Shares and participations	394	394
Other assets	769	930
	18,965	**20,844**
Current liabilities	9,193	10,191
Advances from customers	3,394	3,394
Medium- and long-term liabilities	2,581	2,898
Deferred taxes	289	837
Minority interest	386	396
Stockholders' equity	3,122	3,128
	18,965	**20,844**

Note 17
Balance Sheet as of January 5, 1988

The ABB Asea Brown Boveri Group was formed by merging the assets and liabilities pertaining to the electrotechnical operations of the ASEA Group with those of the BBC Brown Boveri Group. Using the pooling method and applying the accounting principles stated above, the following balance sheet was established for the ABB Group as of January 5, 1988:

ASSETS	US$ in millions
Cash and marketable securities	4,602
Trade receivables	4,092
Other current receivables	1,099
Inventories	5,412
Total current assets	**15,205**
Loans granted	174
Intangible assets	157
Shares and participations	325
Construction in progress	63
Machinery and equipment	1,551
Land and buildings	2,066
Total fixed assets	**4,336**
Total assets	**19,541**

LIABILITIES AND EQUITY	US$ in millions
Trade payables	2,283
Provisions	2,802
Other current liabilities	2,176
Short-term loans	1,968
Total current liabilities	**9,229**
Advances from customers	3,282
Medium- and long-term loans	2,110
Pension liabilities	1,048
Deferred taxes	324
Minority interest	509
Share capital	1,250
Restricted reserves	1,198
Retained earnings	591
Total stockholders' equity	**3,039**
Total liabilities and equity	**19,541**

Auditors' Report

We have audited the consolidated financial statements of ABB Asea Brown Boveri Ltd and subsidiaries as of and for the year ended December 31, 1988 in accordance with International Auditing Guidelines.

The financial statements of material subsidiaries representing a substantial majority of the total consolidated assets and of the total consolidated revenues were audited by other auditors.

In our opinion, the consolidated financial statements present fairly the consolidated financial position of ABB Asea Brown Boveri Ltd and subsidiaries as of December 31, 1988 and the results of their operations and the changes in their financial position for the year then ended in accordance with International Accounting Standards and ABB Group Accounting Policies as set out in the Principals for Consolidated Financial Statements included in this report.

Zurich, March 31, 1989

KPMG Klynveld Peat Marwick Goerdeler SA

Dr. J. Follpracht H. N. Matthews

ABB Asea Brown Boveri Ltd, Zurich

The following two pages are excerpts from the Annual Report of ABB Asea Brown Boveri Ltd, the holding company of the ABB Group. Corporate Staff Investor Relations will supply the full Report on request.

Balance Sheet

December 31	1988
	Swiss Franc in 1,000s
ASSETS	
Current Assets	
Cash and marketable securities	764,640
Receivables	310,278
Total Current Assets	**1,074,918**
Fixed Assets	
Loans granted	108,888
Shares and participations	2,850,481
Machinery and equipment	3,600
Total Fixed Assets	**2,962,969**
TOTAL ASSETS	**4,037,887**
LIABILITIES AND EQUITY	
Liabilities	
Payables	74,057
Provisions	51,104
Medium- and long-term loans	728,713
Total Liabilities	**853,874**
Stockholders' Equity	
Share capital	1,600,000
Legal reserve	320,000
Other reserves	952,648
Net income	311,365
Total Stockholders' Equity	**3,184,013**
TOTAL LIABILITIES AND EQUITY	**4,037,887**
Contingent Liabilities	**1,563,493**

ABB Asea Brown Boveri Ltd, Zurich

Income Statement

Year ended December 31	1988
	Swiss Franc in 1,000s
Revenues	11,528
Operating expenses incl. depreciation	– 65,329
Dividend income	224,972
Interest income	58,855
Interest expense	– 35,706
Net profit from sale of participations	187,582
Merger costs and taxes	– 70,537
Net income	**311,365**

Proposed Appropriation of Profit

	1988
	Swiss Franc in 1,000s
Net income	311,365
Dividend on class A shares in favor of ASEA AB	–105,263*
Dividend on class B shares in favor of BBC Brown Boveri Ltd	–100,000
Net income carried forward to new account	**106,102**

*Equals net Swiss Franc 100 million after withholding tax

Auditors' Report to the Shareholders

As auditors of your company we have examined the financial statements for the year ended December 31, 1988 in accordance with the provisions of Swiss law.

We have come to the conclusion that

- the balance sheet and 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 evaluation prescribed by Swiss law and the requirements of the Company's statutes.

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

We further confirm that the proposal of the Board of Directors for the appropriation of the net income is in agreement with Swiss law and the Company's statutes.

Zurich, March 30, 1989

KPMG Klynveld Peat Marwick Goerdeler SA

Dr. J. Follpracht H. N. Matthews

Board of Directors

Fritz Leutwiler (born 1924), Co-Chairman
Zumikon, Switzerland.

Curt Nicolin (born 1921), Co-Chairman
Grödinge, Sweden.

Bernd Müller-Berghoff (born 1930)
Schneisingen, Switzerland.

Christian Norgren (born 1941)
Vaduz, Liechtenstein.

Stephan Schmidheiny (born 1947)
Hurden, Switzerland.

Gaston Thorn (born 1928)
Luxembourg, Luxembourg.

Peter Wallenberg (born 1926)
Stockholm, Sweden.

Heinrich Weiss (born 1942)
Hilchenbach, Federal Republic of Germany.

The **Chief Executive Officer** and **Deputy Chief Executive Officer** of **ABB Asea Brown Boveri** participate in Board meetings, but have no voting rights.

Auditors

KPMG Klynveld Peat Marwick Goerdeler SA
Zurich, Switzerland.

Group Executive Management

(As of March 1, 1989)

Percy Barnevik (born 1941)
President and Chief Executive Officer

Business Segment	Environmental Control

Thomas Gasser (born 1933)
Deputy Chief Executive Officer

Corporate Staffs	Audit, Corporate Control, Corporate Development, Legal Affairs, Management Resources, Taxes and Customs

Arne Bennborn (born 1932)
Executive Vice President

Business Regions	West and South Asia, Southeast Asia, Northeast Asia, Japan, Australasia, Africa and the Arabian Peninsula, Latin America

Erwin Bielinski (born 1926)
Executive Vice President

Business Segment	Power Plants

Sune Carlsson (born 1941)
Executive Vice President

Business Segments	Power Distribution, Various Activities (Instrumentation, Motors, Robotics)
Business Regions	France, Ireland, Norway, UK

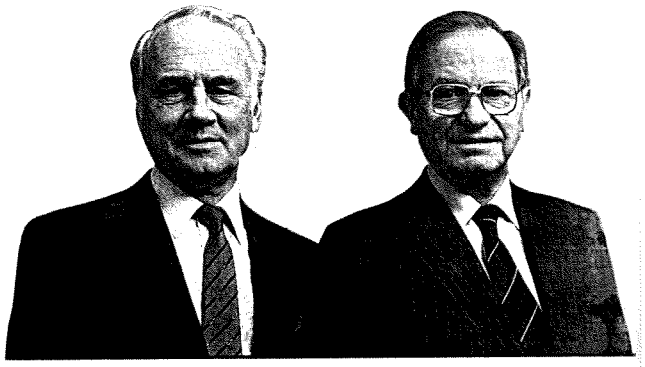
Eberhard von Koerber (born 1938)
Executive Vice President

Business Segment	Various Activities (Superchargers, Other Activities Germany)
Business Regions	Federal Republic of Germany, Austria, Benelux, Eastern Europe, Greece
Corporate Staffs	Information, Marketing

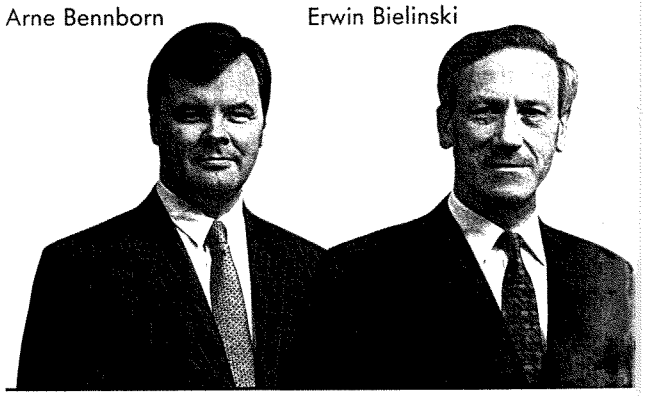
Göran Lindahl (born 1945)
Executive Vice President

Business Segment	Power Transmission

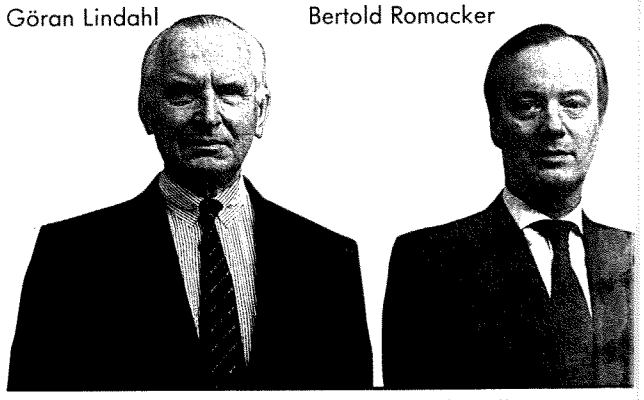
Percy Barnevik



Arne Bennborn Erwin Bielinski

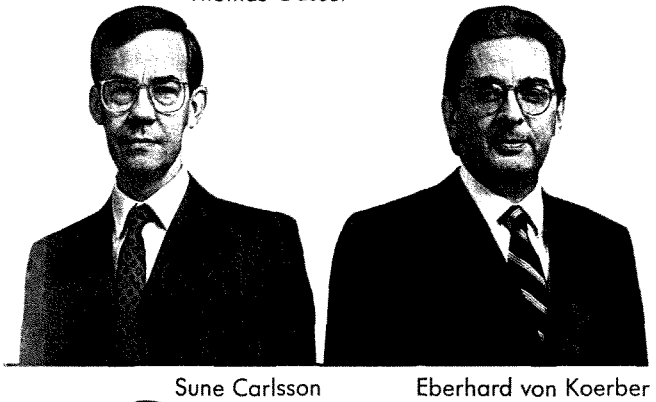


Göran Lindahl Bertold Romacker



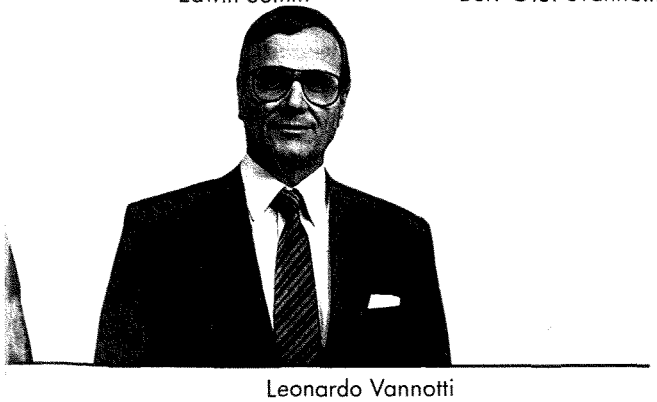
Werner Thommen Lars Thunell

Thomas Gasser



Sune Carlsson Eberhard von Koerber

Edwin Somm Bert-Olof Svanholm



Leonardo Vannotti

Bertold Romacker (born 1933) Executive Vice President	
Business Segment	Various Activities (Communication and Information Systems, Integrated Circuits, Telecommunication)
Corporate Staffs	Corporate Research, Technology

Edwin Somm (born 1933) Executive Vice President	
Business Region	Switzerland

Bert-Olof Svanholm (born 1935) Executive Vice President	
Business Segments	Transportation, Various Activities (District Heating, Services, Other Activities Sweden)
Business Regions	Denmark, Finland, Portugal, Spain, Sweden

Werner Thommen (born 1926) Executive Vice President	
	Special Projects

Lars Thunell (born 1948) Executive Vice President	
Business Segment	Financial Services
Business Regions	Canada, USA
Corporate Staffs	Corporate Finance, Insurance and Risk Management, Investor Relations, Project Finance, Purchasing and Export Control, Real Estate

Leonardo Vannotti (born 1939) Executive Vice President	
Business Segments	Industry, Various Activities (Power Lines and General Contracting)
Business Region	Italy

Management

(As of March 1, 1989)

Corporate Staffs

Audit	Klaus Ridder
Corporate Control	Jean-Pierre Dürig/ Tomas Ericsson
Corporate Development	Bengt Skantze
Corporate Finance	Günter Bauer
Information	Heinz Haussmann
Insurance and Risk Management	Hans Peter Leuenberger
Investor Relations	Per Ljungberg
Legal Affairs	Beat Hess
Management Resources	Arne Olsson
Marketing	Bruno Broich
Project Finance	Gunnar Johannesson
Purchasing and Export Control	Roland Andersson
Real Estate	Walter Stücklin
Corporate Research	
– Norway	Markus Bayegan
– Sweden	Jan Martinsson
– Switzerland/Federal Republic of Germany	Maurice Campagna
Taxes and Customs	Alfred Storck
Technology	Klaus Ragaller

Business Area Managers

Power Plants	
All Fossile Power Plants Business Areas	Göran Lundberg
– Gas Turbine Power Plants	Anton Roeder
– Utility Steam Power Plants	Alfred Hohn
– Industrial Steam Power Plants	Bengt Ljung
– Pressurized Fluidized Bed Combustion	Carsten Olesen
Hydro Power Plants	Karl Nysterud
Nuclear Power Plants	Lennart Fogelström/ Manfred Simon
Power Plant Control	Michael Pohr
All Power Plants Business Areas	
– in the Federal Republic of Germany	Manfred Simon
– in Sweden	Lars Torseke
– in Switzerland	Göran Lundberg

Power Transmission	
High Voltage Switchgear	Anders Narvinger
Power Systems	Anders Fraggstedt
Network Control	Howard Daniels
Power Transformers	Sune Karlsson
Distribution Transformers	Olaf Mehus
Relays	Ulf Gundemark
Cables and Capacitors	Lars Erik Wirsén
MicaComp	René Schnidrig
Elektrokoppar	Didrik Normark
All Power Transmission Business Areas	
– in the Federal Republic of Germany	Sune Karlsson
– in Sweden	Anders Narvinger
– in Switzerland	Willy Roos

Power Distribution	
Low Voltage Apparatus	Tom Sjökvist
Low Voltage Systems	Tom Sjökvist
Installation	Tom Sjökvist
Medium Voltage Equipment	Nicolaas Hellinga
Distribution Plants	Nicolaas Hellinga
All Power Distribution Business Areas	
– in the Federal Republic of Germany	Tom Sjökvist
– in Switzerland	Nicolaas Hellinga

Industry	
Business Segment Management Team	Leonardo Vannotti Rainer Grohe Lars Erik Lindbäck Alois Sonnenmoser
Metallurgy	Holger Schubert
Process Automation	Jörgen Centerman
Drives	Thorolf Damén
Marine, Oil and Gas	Leif Johansen
All Industry Business Areas	
– in the Federal Republic of Germany	Rainer Grohe
– in Sweden	Lars Erik Lindbäck
– in Switzerland	Alois Sonnenmoser

Transportation	
Rolling Stock	Eric Kocher
Fixed Installations	Eric Kocher

Environmental Control	
Fläkt	Björn Stigson
– Industrial Processes	Jan Strömblad
– Indoor Climate	Richard Olsson
– Gadelius	Göran Holmquist
– Service	Anders Berg
– Components	Bo Malmgren
– Cooling	Eric Herrmann

Financial Services	
Business Segment Management Team	Lars Thunell Peggy Bruzelius Lennart Blecher Lars Nilsson
Treasury Centers	Jan Roxendal
Leasing and Financing	Thomas Hjelm/ Kurt Herrmann
Trading	Staffan Encrantz

Various Activities	
Communication and Information Systems	Bertram Thurnherr
District Heating	Soren Vinther
Instrumentation	John Notley
Integrated Circuits	Erich Björck
Motors	Birger Titusson
Other Activities Germany	Georg Demling
Power Lines and General Contracting	Achille Colombo
Robotics	Björn Weichbrodt
Service	Göran Wikström
Superchargers	Heinrich Uehlinger
Telecommunications	Christian Brinch

Country Managers

Western Europe – European Community	
Belgium	Hubert van Vreckem
Denmark	Kaare Vagner
France	Gilles Breguet
Germany (Federal Republic)	Eberhard von Koerber
Greece	Olof Doverholt
Ireland	Diarmuid O'Sullivan
Italy	Giovanni Bertola
Luxembourg	Jos Graas
Netherlands	Hendrik Kok
Portugal	Hans Henning Hjort
Spain	José Montes Heredia
United Kingdom	Eric Drewery/ John Notley

Western Europe – EFTA	
Austria	Klaus Woltron
Finland	Matti Ilmari
Norway	Kjell Almskog
Sweden	Bert-Olof Svanholm
Switzerland	Edwin Somm

North America	
Canada	Peter Janson
USA	Klaus Agthe

Asia and Australasia	
Australia	Ian Imrie
Japan	Werner Flückiger/ Göran Holmquist
New Zealand	Ove Stoltz
Northeast Asia	John Kempster
Southeast Asia	Gösta Björkenstam
West and South Asia	Amiya Bhattacharyya

Others	
Africa and the Arabian Peninsula	Peter Felix
Eastern Europe and the USSR	Martin Thomann
Latin America	Roberto Müller

Investor Information

ASEA AB

In addition to its 50-percent holding in ABB Asea Brown Boveri Ltd, the ASEA Group today has three wholly-owned subsidiaries – the SEV Group (power utility), Hägglund & Söner, and Broströms – as well as substantial holdings in Electrolux, ESAB, and SILA.

ASEA has issued a total of 60,000,000 shares, each with a par value of 50 Swedish Kronor. Of these shares, 48,979,947 are restricted A shares, 1,134,871 unrestricted A shares, and 9,885,182 unrestricted B shares. The A shares carry one vote per share, the B shares 1/10 of a vote per share. Restricted shares may only be owned by Swedish citizens, whereas unrestricted shares may be held by both Swedish and non-Swedish nationals.

In 1985, ASEA issued a convertible debenture loan totaling 640 million Swedish Kronor. The loan carries an interest rate of 12 percent, and the conversion rate is 213.30 Swedish Kronor. On full conversion, the number of B shares will increase by 3 million.

ASEA's B shares are quoted on the Stockholm, London, Copenhagen, and Helsinki Stock Exchanges, on the Freiverkehr (OTC list) in Germany, and on NASDAQ in the United States in the form of sponsored American Depositary Receipts (ADR).

Including the convertible debenture loan, ASEA's market capitalization at year-end 1988 was approximately 25 billion Swedish Kronor ($ 4 billion), thus making it Sweden's third largest company in terms of market capitalization.

1988 per-share data (Swedish Krona, fully diluted)	
Net income	25.70
Net income, equity accounting	28.20
Dividend (proposed)	9.00
Equity[1]	213
Stockprice (B share)	
– High	395
– Low	285
– Year-end	390
Key ratios[2]	
Return on equity (%)	12.6
Direct yield (%)	2.31
Market-to-book (%)	183
P/E	15.2
P/E (equity accounting)	13.8

[1] Including convertible debenture loan

[2] Based on the B share year-end 1988 stockprice

BBC Brown Boveri Ltd

In addition to its 50-percent holding in ABB Asea Brown Boveri Ltd, BBC Brown Boveri Ltd has four wholly-owned subsidiaries – Sicommerce AG, IPT Industrial Projects and Trade Ltd, BBC Limmatkraftwerk AG, and Klosterbrühl Wettingen AG – as well as a 57-percent holding in Gewerbebank Baden.

BBC has three different classes of shares: registered shares, bearer shares, and bearer participation certificates (BPC). The registered shares may only be owned by Swiss citizens, whereas the bearer shares and BPCs may be held by Swiss and foreign nationals.

Each registered share carries one vote and has a par value of 100 Swiss Francs. Each bearer share also carries one vote, but the par value is 500 Swiss Francs and the dividend entitlement five times higher. The BPC has a par value of 100 Swiss Francs, but carries no voting rights.

At the end of 1988, BBC had 918,156 registered shares, 917,953 bearer shares, and 1,620,614 BPCs outstanding. Three convertible debenture loans and one warrant issue were also outstanding. Fully diluted, the total number of BBC shares outstanding would be 1,006,550 registered shares, 1,006,550 bearer shares, and 1,875,953 BPCs. All three classes of shares are listed on the Zurich, Basel, and Geneva Stock Exchanges.

At year-end, BBC's market capitalization, fully diluted, was approximately 4.2 billion Swiss Francs ($ 2.8 billion), thus making BBC Switzerland's 12th largest company in terms of market capitalization. Return on equity in 1988 amounted to 12.6 percent.

1988 per-share data (Swiss Franc, fully diluted)		
	Bearer Share	BPC
Net income	196.45	39.29
Dividend (proposed)	50.00	10.00
Equity	1,555	311
Stockprice		
– High	2,830	447
– Low	1,540	230
– Year-end	2,750	442
Key ratios[3]		
Direct yield (%)	1.82	2.26
Market-to-book (%)	177	142
P/E	14.0	11.2

[3] Based on year-end 1988 stockprices