

SKF ENVIRONMENTAL REPORT 2001



SKF

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THE SKF GROUP



THE SKF GROUP is the leading global supplier of products, customer solutions, and services in the business of rolling bearings and seals. The Group's main competencies include technical support, maintenance services, condition monitoring and training.

SKF also holds an increasingly important position in the market for linear motion products, as well as high precision bearings, spindles and spindle services for the machine tool industry, and is an established producer of rolling bearing steel.

The SKF business is organized into five divisions; Industrial, Automotive, Electrical, Service, and Aero and Steel. Each division serves a global market, focusing on its specific customer segments.



Founded in Göteborg, Sweden in 1907, SKF is a public limited company, with shares listed on the Stockholm, London, Paris and Zürich stock exchanges, and on NASDAQ in New York.

The company has some 38 000 employees, 79 manufacturing sites and a sales network via its own sales companies, distributors or dealers covering 150 countries around the world. Net sales amounted to MSEK 43 370 in 2001.

Gamfior S.p.A., Italy and Nåiden Teknik AB, Sweden were acquired during 2001. The Italian-based manufacturing of sheet metal components was sold.

ABOUT THIS REPORT

SKF Environmental Report 2001

This report covers the activities of the Group's manufacturing units and distribution centres. Joint ventures are included where SKF has management control. The reporting period for the performance data is January - December 2001.

The section "Health and Safety" relates to SKF manufacturing units, distribution centres, technical and research centres, and those units providing installation and maintenance services to customers.

Since 1999, the SKF Environmental Report has been verified externally, by Lloyds Register Quality Assurance (LRQA). The LRQA verification statement for this report is provided on page 25.

The previous SKF Environmental Report, for 2000, was issued in March 2001, in conjunction with the Annual Report. The scope of this 2001 report has increased, by inclusion of performance data from the recently acquired units shown in Figure 1.

National environmental reports are produced by the SKF units in Germany, Italy and Sweden. Copies of these reports

Figure 1
Units added to the reporting scope since publication of the SKF Environmental Report 2000.

Country	Unit
France	SKF Actuators/Electrac, St Cyr en Val
Korea	CR Seals, Taegu
India	CR Seals, Bangalore
Singapore	SKF Distribution Centre
Sweden	Sealpool, Landskrona
US	SKF Aero Bearing Service Center, Charleston

are available from the EHS Country Co-ordinators; contact details are given on the SKF website: www.skf.com

Towards Sustainable Development

SKF has published environmental reports covering each year since 1994. The scope of the earlier reports focused on environmental issues, and health and safety. However, the Group's focus is now on Sustainable Development, and this 2001 report includes information on the economic and social aspects of SKF's operations.

SKF has adopted the "Sustainability Reporting Guidelines" issued in June 2000 by the Global Reporting Initiative (GRI).

The GRI is an international body promoting the voluntary reporting by organizations of the economic, environmental and social impacts of their activities, products and services.

Sustainability Reporting by SKF

The SKF Environmental Report 2000 complied generally with the GRI Guidelines for environmental, and health and safety performance. This 2001 report increases the coverage of environmental parameters; including carbon dioxide emissions, and the use of ozone depleting substances. Coverage of economic and social parameters is included for the first time.

The GRI recommendations are intended as guidance rather than strict rules. SKF has amended or deleted some GRI indicators, to suit the Group's activities and reporting principles.

The GRI organisation considers their guidance on environmental reporting to be well developed, while guidance on economic and social parameters is at an earlier stage. SKF participated in the GRI's structured feedback process during 2001, to assist with further development of the Guidelines.

Figure 2
The SKF bearing factory at Puebla, Mexico, received the federal government's "Clean Industry Award" in 2001, for outstanding environmental performance. Further details are given on page 12.



FOREWORD — SUNE CARLSSON

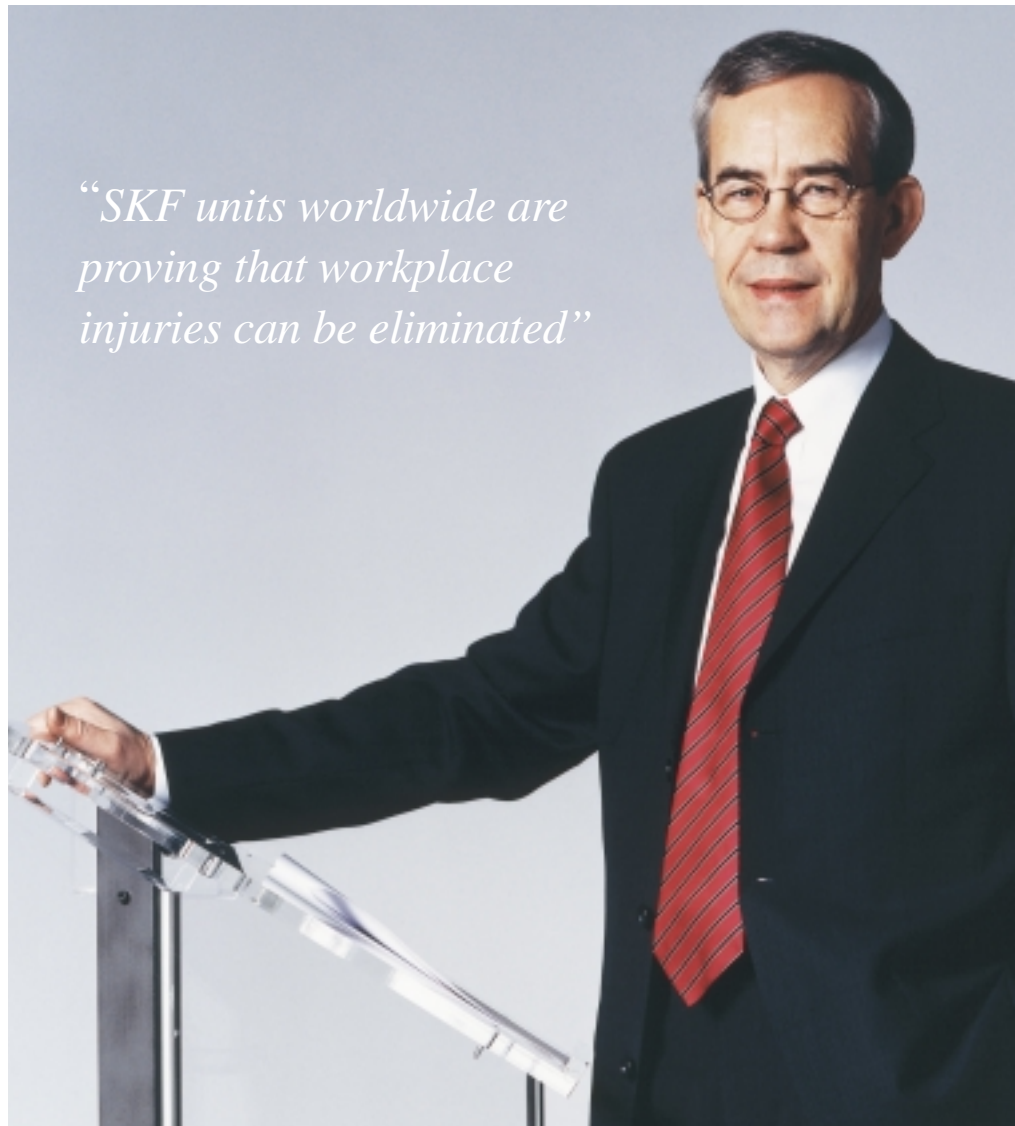
Dear Reader,

SKF has a long history as an international company. Only four years after “Svenska Kullagerfabriken” (Swedish Ball Bearing Factory) was founded in 1907 in Göteborg, an SKF factory was built at Luton, in England. More international factories and service workshops quickly followed, and the Group has now been manufacturing in more than 20 countries around the world for many decades.

This international presence has given us extensive experience in operating successfully in countries with widely differing cultures, customs, and legislation. However, despite these national variations, it is possible to identify many common principles of good management practice, which can allow an organisation to develop in a sustainable and profitable way, in any country. These common principles are incorporated in a new SKF Code of Conduct, which will be disseminated throughout the Group during this year. The Code is designed to reinforce and support the high standards of corporate governance which the Group has upheld since its foundation nearly a century ago.

An international company can have a very positive effect on the regions in which it operates. SKF strongly supports the spread of knowledge and “best practice” throughout the Group; in technology, systems and management. Thus, a company acquired by SKF in a developing country can quickly gain the expertise to improve its economic, social and environmental contribution to the local community.

It is hoped that the SKF Environmental Report may be viewed as an example of this spread of knowledge and good practice. Corporate environmental reports are expected to give information on the performance of the organisation, and the attainment of targets. The SKF reports are intended to provide also information on how successful results were achieved; both by providing case studies and by explaining the strategies used.



“SKF units worldwide are proving that workplace injuries can be eliminated”

SKF was one of the first international companies to gain world-wide certification to the environmental standard ISO 14001, and previous SKF Environmental Reports have explained our strategy for achieving this approval in a most cost-effective way. The Group has now embarked on an ambitious health and safety initiative “Zero Accidents”, with the result that more and more SKF units worldwide are proving that workplace injuries can be eliminated. It is

hoped that this report may encourage other organisations to adopt a “zero tolerance” of work-related injury and illness.

I hope that you will find this SKF Environmental Report 2001 both interesting and beneficial.

Sune Carlsson
Chief Executive Officer

EXECUTIVE SUMMARY AND KEY INDICATORS



Figure 3
SKF's new Distribution Centre in Singapore achieved ISO 14001 certification in 2001. This approval was helped by the Centre's energy saving project, which cut electricity consumption by 22% compared with 2000.

SUMMARY

More units gain ISO 14001

SKF has a multi-site certificate to ISO 14001, the international standard for environmental management. This certificate covers the Group's manufacturing, logistics and technical facilities. Six units recently acquired by SKF were approved to ISO 14001 in 2001, including the new Distribution Centre in Singapore. The Group environmental certificate now includes 76 companies in 21 countries, and demonstrates SKF's determination to work to the highest standards in all countries in which it operates.

Towards Zero Accidents

SKF introduced a new health and safety initiative "Zero Accidents" in 2000, which completed its first full year of implementation in 2001. The initiative is focused on the attainment of zero work-related (recordable) injuries at all units, rather than the setting of annual targets for reduced injury levels.

A total of 39 SKF units completed at least one year with zero accidents during 2001. Employees in these units worked a total of 3.6 million hours during 2000 - 2001 without a single recordable injury.

SKF Environmental Report 2001

SKF has adopted the Sustainability Reporting Guidelines, published by the Global Reporting Initiative (GRI), for its annual environmental report. This 2001 report is intended to comply closely with the guidance on reporting of environmental, health and safety parameters, and less strictly with the guidance on economic and social parameters.

PERFORMANCE INDICATORS

Key indicators for measurement of environment and social performance within SKF are shown in Figure 4, with results for 1999 - 2001.

Significant improvements in 2001

Water consumption continued the downward trend noted in 2000. Further details are given on page 16. The proportion of grinding swarf recycled throughout the Group increased by 10% in 2001. Further details are provided on page 17.

Figure 4
Key performance indicators for the SKF Group

Indicator	Unit	2001	2000	1999
Metal recycling	%	100	100	100
Grinding swarf recycling	%	74	64	38
Oil recycling	%	77	72	80
Water consumption	1000 m ³	16 490	21 970	33 240
Electricity consumption	GWh	1 840	1 850	1 720
Fuel oil consumption	tons	14 300	12 890	20 440
Natural gas	1000 Nm ³	50 130	57 010	44 920
Carbon dioxide equivalent	tons	482 050	N/M ¹⁾	N/M
Solvent consumption	tons	2 120	3 130	4 450
Employee retention rate	%, average for Group	95	N/M	N/M
Units with zero accidents	Number of units	39	9	N/A ²⁾
Production volume change	% ³⁾	-6	+10	-7

1) N/M - not measured

2) N/A - not applicable. See Health and Safety on page 21

3) Compared with previous year

POLICY

SKF's first environmental policy was issued in 1989. The policy is reviewed regularly, and was updated in 1994 and 1999, and revised in 2001 to increase the emphasis on health and safety.

In 1994 the "Group Manual - Environment, Health and Safety" was issued. This states the requirements and standards that all SKF units must meet in order to ensure compliance with the environmental policy. The manual was updated in 2001, to reflect the increasing standards within the SKF Group.

VOLUNTARY CODES

The Business Charter for Sustainable Development was issued by the International Chamber of Commerce (ICC) in April 1991. Shortly afterwards, in 1992, it was endorsed by SKF, and provided the framework for the Group's environmental activities in the early 1990's. This framework was supplemented in 1997 by Group-wide adoption of ISO 14001, the international environmental management standard.

As required by the ICC Charter, SKF applies the precautionary approach to the provision of products and services. Examples of this approach are provided throughout this report. For issues relating to corporate governance, SKF subscribes to the UN Global Compact Principles, the OECD Guidelines for Multinational Companies, and the ILO Declaration concerning multinational companies.

SKF Group Policy – Environment, Health and Safety

The Group's overall objective is to attain long-term and sustained profitability. The main task related to this objective is to develop, produce and market products and services that satisfy the needs of our customers and at the same time are safe for their intended use. They should be efficient in their use of energy, protective of the environment, and be recyclable or safely disposable.

- This policy describes SKF's commitment to health and safety as well as the internal and external environment.
- Current laws and regulations, and commitments to which SKF subscribes, are to be considered as minimum requirements.
- All SKF companies shall maintain long-term environmental, health and safety (EHS) plans which shall be continually adapted to developments, new discoveries, and experiences related to EHS.
- Operations shall be conducted in a manner that protects the health of our employees, protects the environment and conserves energy and natural resources. EHS performance shall be continually improved.
- EHS effects shall be taken into account when business decisions are made.
- SKF companies shall strive towards a constructive communication with their local communities as well as the EHS authorities concerned.
- Suppliers and sub-contractors shall be required to adopt the principles of this policy.
- SKF companies shall provide safe and attractive workplaces for all employees and shall ensure that the employees are sufficiently educated and trained to apply this policy in their daily work.
- Regular assessments of compliance with this policy shall be conducted by all SKF companies. EHS performance shall be measured and reported regularly to shareholders, employees and the public.



Figure 5
SKF Österreich at Steyr, Austria uses virtual reality simulators to train their forklift truck drivers. Trainees can learn to respond correctly to dangerous situations, without endangering themselves or their fellow workers while they learn.

Code of Conduct

The SKF Group developed a Code of Conduct in 2001, to specify formally the standards of behaviour expected from all people working for or on behalf of the SKF Group.

For an international company like SKF to be consistently successful, it is vital that the organisation, and every single employee in the performance of his/her duties, is seen and perceived as economically, socially and ethically responsible. This is the only way to ensure a lasting positive and acceptable financial and social development.

The Code covers four key areas of responsibility:

Responsibility towards customers.

To gain and maintain customers by continuous development and research; and to be able to provide products, services and solutions that meet customers' expectations regarding quality, safety and environmental care.

Responsibility towards employees.

To respect the employees and their rights; to offer safe and good working conditions; to offer non-discriminatory conditions and continually develop skills and competencies to ensure the individual's satisfaction and career possibilities.

Responsibility towards shareholders.

To protect the shareholders' investments and strive for a sustainable and improving return.

Responsibility towards society.

To manage the business as a responsible member of our society acting according to the laws in the different countries where we are present; to express our support and show respect to the protection of internationally proclaimed human rights. We must make sure that we are not complicit in human rights abuses; and always consider health, safety and environmental issues to contribute to a sustainable development.

The Code of Conduct is based on the SKF Group's core values - High Ethics, Empowerment, Openness and Team Work. Training will be provided at all levels in the organization to ensure correct understanding and implementation of the Code. A procedure for verification of compliance with the Code will be developed during the year.

Figure 6

Wenceslao Vidal, shown here at work in the Medium Size Bearing Factory at SKF Sverige, in Göteborg, Sweden, is one of the Group's 38 000 employees covered by the SKF Code of Conduct.





Figure 7
The Centre for Vocational Training at SKF GmbH in Schweinfurt, Germany, provides comprehensive training to apprentices before they join the skilled workforce in the bearing factory.

ORGANISATION

Environmental Affairs

Issues relating to environmental care and sustainable development are overseen by the corporate department “Environmental Affairs”, working within “Group Quality and Human Resources”.

SKF’s approach to Total Quality is focused on its people. In a Total Quality culture, the emphasis is on doing things right, first time, in all areas of the business. A commitment to excellence is essential in all the business areas, to ensure customer satisfaction and long-term sustainable growth. While technology helps to achieve objectives, it is SKF’s people who decide to aim for the highest standards in their business, and who develop strategies to ensure that these standards are reached.

The SKF people involved in development of standards for sustainable development include EHS Co-ordinators and Country Co-ordinators. There is an EHS Co-ordinator at each SKF manufacturing site and logistics centre, and a Country Co-ordinator for each country in which SKF has manufacturing facilities. The national Co-ordinator is generally a senior EHS Co-ordinator at one of the manufacturing units in that country.

The Country Co-ordinators provide the vital link between the local SKF facilities and corporate staff. The overall organisation is shown in Figure 8.

The Group’s “Zero Accidents” health and safety initiative is managed by a small Steering Group, reporting to the Senior Vice President - Group Quality and Human Resources.

Control of environmental issues has been standardised throughout the Group by world-wide adoption of ISO 14001, the international standard for environmental

management. This standard can be implemented successfully only by delegation of responsibility for environmental activities to all levels of the organisation, and appropriate training to support the increased responsibilities.

Further details of SKF’s certification to ISO 14001 are given on pages 10-11.

Figure 8
SKF Environmental Organisation



Training throughout the Group

Training in environmental awareness is a requirement for all employees in SKF. Many functions also need more specialised instruction, for example waste management or handling of oils and chemicals. In addition, each factory has a number of trained auditors, who make sure that the environmental management system is operating effectively at all SKF locations. The external cost for provision of training in environmental care, health and safety throughout the Group in 2001 was MSEK 6.1.

Country Co-ordinators receive regular training and briefings on the Group’s activities, to ensure that they can enact their role effectively.

Focus on customers

The Country Co-ordinators within the Group provide a link not only with the local manufacturing units, but also with customers and other stakeholders interested in SKF’s

environmental performance. The contact details for each Country Co-ordinator are available on the SKF website.

MANAGEMENT SYSTEMS

Global certification to ISO 14001

ISO 14001 is a voluntary, international standard for environmental management, to which organisations can be certified by third-party auditors. ISO 14001 was issued in 1996, and SKF recognised immediately the benefits that adoption of this standard would bring, both to customers and the environment. By early 1997, SKF sites in England and Germany had been certified to ISO 14001, and later that year the Group applied for a single certificate to cover all its established manufacturing units, with a target of global approval by the end of

1998. Only a few recent acquisitions were excluded from the certification project, due to the time necessary to bring these up to normal SKF standards.

The Group achieved its environmental goal, and was approved to ISO 14001 in December 1998. The certification covered 63 manufacturing sites in 17 countries, and was the first global approval to ISO 14001 of a major bearing company. By January 1999, work had started on bringing the recently acquired companies into the scope of the SKF Group certificate. Technical centres, and major distribution centres were included also in the project for certification.

Group-wide Environmental System

In order to qualify for a Group (multi-site) certificate to ISO 14001, SKF had to demonstrate to the external auditors that it acts as one company with a common environmental management system (EMS); rather than as many individual companies within a Group, each with a different, locally developed system.

SKF developed an EMS, conforming to ISO 14001, which is suitable for all the Group’s facilities, and is independent of product, and country of location.

The SKF bearing factory at Schweinfurt, in Germany, has replaced manual handling of hazardous chemicals by a safer automated system. The control unit (Figure 9) takes a precise quantity of liquid chemical from a central storage tank (Figure 10) and dispenses it to the correct machine using a series of pumps (Figure 11). Employee contact with the chemicals has been eliminated.

Figure 10



Figure 9

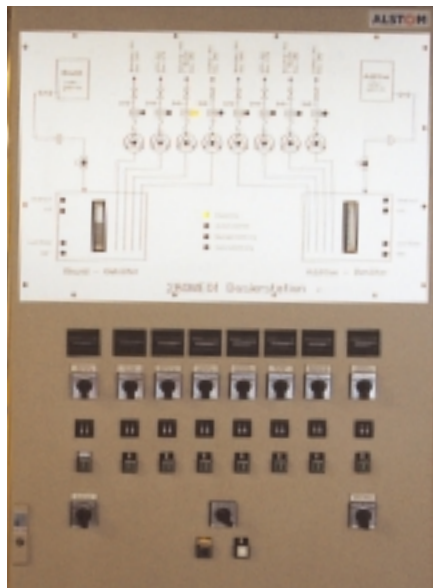
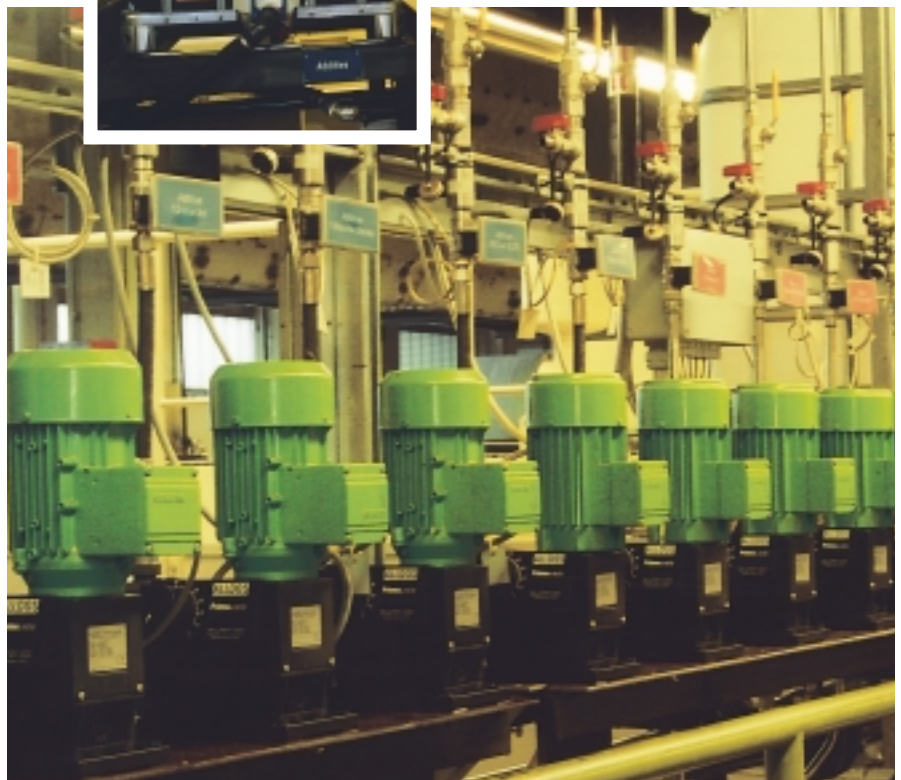


Figure 11



Increasing scope of certification

The Group's distribution centres at Tongeren in Belgium and at Hebron in the United States, were approved to ISO 14001 in 1999, together with recently acquired factories in Korea, Indonesia and the US. In the year 2000, a further 10 SKF companies joined the Group environmental certificate, including three bearing factories in China. These were among the first companies in China to be approved to the environmental standard.

Eight units were included in the Group's certification project for 2001. Of these, two were deferred during the year for business reasons. CR Seals at Bangalore, India is a new factory, and construction was not completed in time to allow full implementation of the Standard in 2001. Revolve Magnetic Bearings, in Calgary, Canada started a relocation project. Both companies are scheduled for certification in 2002. All other units in the 2001 project were successful. These included SKF's new Distribution Centre in Singapore, and the CR seals factory at Anhui, in China. All four of SKF's manufacturing units in China are now included in the Group's environmental certification.

SKF's certification includes all business processes

SKF decided early in 1997 that all its manufacturing units should be certified to ISO 14001. It was agreed at that time that no operations within a manufacturing site should be excluded from the scope of the auditing and certification. Thus SKF's environmental approval covers not just manufacturing processes, but sales, administration, maintenance and all other business operations at the locations specified on the Group ISO 14001 certificate. Only recent acquisitions are outside the scope of approval, and these are working towards certification, as shown in Figure 12.

Country	Company	Target Date	Status
Canada	Revolve Magnetic Bearings, Calgary	2002	
China	Anhui CR Seals, Anhui	2001	Approved
France	SKF Actuators/Electrac, Saint Cyr en Val	2001	Approved
	SKF Montigny	2002	
India	CR Seals India, Bangalore	2002	
Italy	Gamfior, Torino	2002	
Korea	CR Korea, Taegu	2001	Approved
Singapore	SKF Distribution Centre	2001	Approved
South Africa	SKF South Africa, Johannesburg	2002	
Sweden	Sealpool, Landskrona	2001	Approved
The Ukraine	Lutsk Bearing Plant, Lutsk	2002	
US	SKF Aero Bearing Service Center, Charleston	2001	Approved
	Roller Bearing Industries, Elizabethtown	2002	

Figure 12
2001-2002 schedule for ISO 14001 certification.

Involving Suppliers

SKF's Environmental Policy states: *"Suppliers and sub-contractors shall be required to adopt the principles of this policy"*.

Suppliers to SKF are expected to assist the Group in improving EHS standards world-wide. In order to evaluate the numerous suppliers in the most efficient manner, SKF Group Purchasing have identified some 150 "major suppliers". These each supply a number of SKF companies, and together provide the bulk of the Group's requirements for materials and services.

Major suppliers are subjected to comprehensive audits by SKF, which include assessment of environmental factors. During 2001, these companies were reviewed for ISO 14001 readiness. A directive requiring environmental certification of major suppliers will be issued during 2002.

STAKEHOLDER RELATIONSHIPS

As with other international organisations, SKF has many stakeholders interested in the Group's environmental performance. These include:

- Customers
- Shareholders
- Present and potential employees
- Regulators and local authorities
- Neighbours and local communities
- Universities and research institutions
- Suppliers

External recognition for excellence

SKF's environmental performance was recognised by a number of external stakeholders in 2001. The Group was included in the Dow Jones Sustainability Group Index (DJSGI) for the second year running. The DJSGI Guide, published in September 2000 states:

"The Dow Jones Sustainability Group Indexes track the performance of the top 10% of the companies in the Dow Jones Global Index that lead the field in terms of sustainability".

SKF was selected in 2001 for inclusion in the FTSE4Good Global 100 Index, for its achievements in the field of corporate social responsibility.



Award winning performance in Mexico

Since 1998, SKF’s bearing plant at Puebla, Mexico has participated in the federal government’s “Industria Limpia” (Clean Industry Program). This is a voluntary program aimed at improving environmental, health and safety (EHS) performance in the industrial sector. To participate, a company must agree to a rigorous schedule of EHS improvements, which is monitored regularly by government appointed auditors.

The Puebla factory implemented many environmental improvements to achieve certification to ISO 14001 in 1998, but inevitably, they identified further scope for improved performance when they applied for the “Clean Industry” Award. To achieve the award, the factory completed 95 separate improvement activities, covering:

- risk management
- water
- air emissions
- solid waste
- solid hazardous waste
- land
- noise
- EHS management

The factory’s progress in these activities is shown in Figure 15. The required standard was reached at the end of Quarter 4, 2000, and the award presented by the Mexican government in March 2001. Some details of the improvement activities are given in the section “Waste Management” on page 17.



Figure 13
All employees at SKF de Mexico helped the company to achieve the federal government’s “Clean Industry Award”. Some are seen here, at the award presentation.



Figure 14
The environmental certificate awarded to SKF European Distribution Centre by the regional authority in Province Limburg, Belgium, for excellent environmental performance.

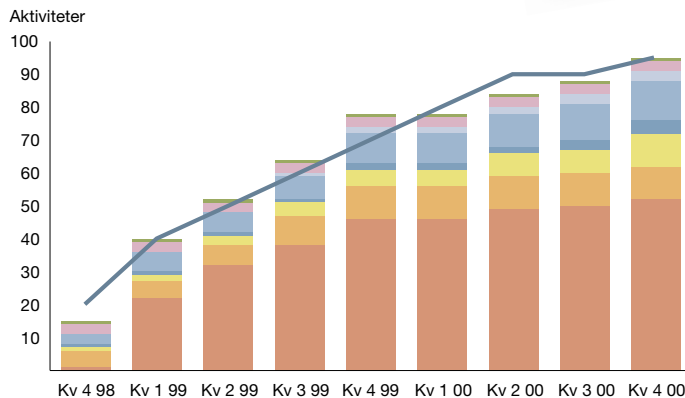


Figure 15
Activity chart showing progress towards the “Clean Industry” Award by SKF de Mexico, at Puebla.

Two awards for SKF in Belgium

In May 2001, the SKF European Distribution Centre (EDC), at Tongeren, Belgium received the “Environmental Logo 2001” from the regional government of Province Limburg. The Environmental Logo is an award given to companies which significantly exceed legal requirements for environmental performance.

EDC set a target to reduce “Class II” waste (plastics) by 10%, but by February 2001 had achieved a 41% reduction. Targets for reduction of energy and water consumption were also exceeded. EDC completed a successful year by receiving the “Milieuprijs” (Environmental Award) of the City of Tongeren, on 20 December 2001.

ENVIRONMENTAL PERFORMANCE

PRODUCTS AND SERVICES

SKF bearings help the environment

SKF bearings have a beneficial effect on the environment, due to their low friction properties. By reducing the friction needed for rotation and movement, SKF bearings cut the energy consumption of the machines in which they are installed. Saving energy leads to less depletion of fossil fuels, lower emissions of greenhouse gases such as carbon dioxide, and a cleaner environment.

SKF is continuing to develop and produce bearings with ever-lower friction levels. Another way in which this research produces environmental benefits is in the continual downsizing of bearings. A smaller, lighter bearing with the same load capacity as a larger one requires less raw material and energy to produce, and less energy to rotate.

Benefits in automotive applications

Downsized and therefore lighter bearings also save energy in mobile applications such as cars and trucks. Lower vehicle weight gives improved fuel economy, leading to reduced emissions and saving of fossil fuel. Smaller bearings also generally require less lubricant in use, reducing the amount of oil or grease consumed during the lifetime of the product.

Explorer Series: the new World Standard

The “EXPLORER” series of spherical roller bearings is the latest product of the Group’s development of ultra-low friction, high capacity products. Explorer bearings allow downsizing, due to their higher load ratings; and consume less energy in use.

Environmental impact studied in 2001

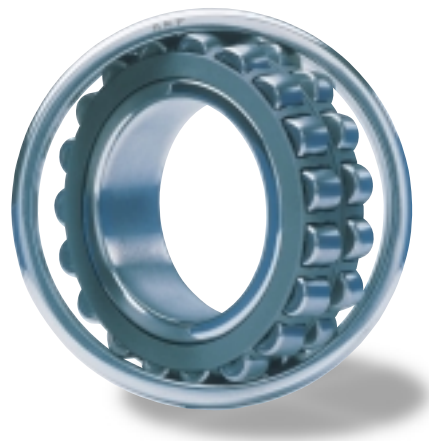
It is important for SKF, its customers, and society, to understand the environmental impact of the company’s products and services. Life Cycle Analysis (LCA) is a recognised tool for such an assessment, and has been applied to a typical, high volume SKF product: the spherical roller bearing 24024. In LCA the product is followed typically from the “cradle to the grave”, that is, from raw material to final disposal as waste. The SKF analysis performed in 2001 was conducted by Chalmers University of Technology, Göteborg, and covered the “cradle to customer” stage; that is, from raw material to finished product, and transport to the customer. A further study, covering the cycle of “customer to grave” will start during 2002. This will cover the environmental effect of the product in service, and disposal or recycling of the bearing.

A brief summary of the LCA conducted in 2001 is given below.

The study concluded that the main source of air emissions was the production of energy carriers: electricity, district heat, and heavy fuel oil. Production processes were considered very energy demanding. The contribution from transport was considered relatively minor.

The Life Cycle Analysis, on completion, will be used within SKF to ensure that improvement activities are focused on the areas with the greatest potential for environmental benefit.

Figure 16
A comprehensive life cycle analysis was conducted in 2001 on SKF’s spherical roller bearing type 24024.



Life Cycle Analysis on Spherical Roller Bearing 24024

Functional unit: one Spherical Roller Bearing type 24024, rust treated and packed in corrugated board box.
Components: Outer ring, inner ring, guide ring, 2 roller cages, 52 rollers.

Category	Unit ¹⁾	Result	Main contributor
Acidification ²⁾	kg SO ₂ equivalents	3.16E-02	Transport to customer
Ecotoxicity, aquatic	m ³ polluted water	6.50E+02	Production of LPG fuel
Eutrophication (max.)	kg NO _x equivalents	1.59E+00	Heat treatment
Global warming (100 years)	kg CO ₂ equivalents	7.84E+00	Electricity consumption
Human toxicity: Air	kg contaminated bodyweight	4.03E-02	Transport to customer
Human toxicity: Water	kg contaminated bodyweight	4.52E-06	Heat treatment
Photochemical oxidant creation (0-4 days, high NO _x)	kg ethane equivalents	1.76E-02	Production of LPG fuel
Resource depletion (Reserve based)	kg reservebase-1	7.03E-13	Chromium in bearing steel

1) Each category is reported in different units, which are not directly comparable with each other.

2) Technical terms are explained in the Glossary on page 26.

Drive-by-wire

A new car concept, developed by SKF and the Italian design studio BERTONE, was unveiled in 2001 (Figure 17). The new car, called "FILO" - Italian for wire - contains new, technically advanced products developed by SKF that have allowed a revolutionary design of the vehicle interior.

Steering, brakes, gear change and clutch are all controlled by SKF's by-wire technology. The result is a control arrangement that dispenses with the steering column and the pedals, which helps the car manufacturers to produce cars that are more environmentally friendly, and are safer. The brake-by-wire system, for example, allows for the elimination of the braking fluid: a toxic chemical. The steering column and the pedal assembly in normal cars are a significant safety worry in frontal impacts. The control system in the FILO concept eliminates both, freeing the driver's side of these potentially dangerous structures.

SKF's drive-by-wire technology has been chosen also for use in General Motors' AUTOmomy, a futuristic concept vehicle that combines fuel cells with drive-by-wire systems (Figure 18). This combination of technologies means the car of the future will be safer, cleaner and more versatile than today.

With the AUTOmomy technology, driver and passenger seat positions can be optimized for improved side impact protection, and with no front-end mounted internal combustion engine and no steering

Figure 17
A partnership between SKF and the Italian designers Bertone has produced "FILO"; a revolutionary car design with environmental and safety benefits.



column or foot pedals, the severity of frontal impacts can be greatly reduced.

Investments continued in 2001

SKF's research is not confined to product improvements; manufacturing processes are examined continually to reduce environmental impacts. A total of MSEK 43 was invested in environmental, health and safety improvement projects throughout the Group during the year.

Environmental benefits are cost effective

Nowadays, many SKF bearing types are provided with the lubricant they need for their entire life, minimising the amount of hydrocarbon material consumed during operation. The proportion of SKF bearings sealed and greased for life is increasing, thus minimising the environmental impact of the lubricant, and the operating costs for customers.

ENERGY AND HYDROCARBON USE

The total consumption of electrical energy at all SKF manufacturing units in 2001 was about 1760 gigawatt hours (GWh); 5% less than in 2000. Production volumes decreased by 5.9% in 2001. About 25% of the electrical energy was used in the steel mills and foundry.

The consumption of cleaning solvents was reduced in 2001, continuing the downward trend of recent years. An SKF research program to identify the optimum replacements for solvents will start in 2002.

Cutting carbon dioxide emissions

The low friction properties of SKF bearings provide an environmental benefit to customers, by minimizing the energy required to operate the machines in which the bearings are installed. However, it is recognised that the manufacture of bearings is energy intensive. SKF produces its own steel, to ensure the highest bearing quality, and steelmaking requires extremely high temperatures of about 1600°C to melt and refine the raw materials. During the production process, the bearing components must be heat treated, again at high temperatures (about 850°C); first to soften the steel to allow machining, and finally to harden it to resist wear in service. Numerous machining operations are required to finish the components to the high standards of precision essential for excellent performance in service.

Figure 18
General Motors' futuristic concept car "AUTOmomy" uses advanced SKF technology to improve safety and environmental performance.



Figure 19

Total consumption of electrical energy, fossil fuels and other hydrocarbons in 2001 in the SKF Group.

	Units	2001	2000	1999	1998
Electrical energy	GWh	1 760	1 854	1 717	1 849
Fuel oil	tons	14 300	12 896	20 435	21 332
Natural gas	1 000m ³ (std)	50 130	57 008	44 915	37 132
Coal ¹⁾	tons ²⁾	10 220	12 002	8 842	10 112
Liquefied petroleum gas	tons	18 030	20 737	18 438	18 903
Oils	tons	10 290	9 636	8 889	9 716
Grease	tons	1 210	1 341	1 348	1 254
Synthetic rubber	tons	5 760	6 297	5 922	4 997
Solvents	tons	2 170	3 127	4 449	4 590

1) Coal (carbon) is used by SKF as an alloying element in steel production, not as a fuel.

2) Only metric tons are used in this report.

SKF monitors the environmental impact of the energy consumed at its plants, and has for some years run energy reduction projects at all units. During 2002, the targets for energy saving at individual units will be supplemented by a Group strategy and specific target for reduction of carbon dioxide emissions. Carbon dioxide emissions associated with energy consumption by SKF are shown in Figure 20. It should be noted that the majority of these emissions are

generated by the energy suppliers, and not directly by SKF.

Saving energy and costs

Numerous energy reduction programmes are running throughout the Group. An example is provided by SKF's bearing factory at Göteborg in Sweden. The factory uses oil-based coolants for machining and heat treatment, which can form an oil mist in the factory atmosphere. The Göteborg

Figure 20

Carbon dioxide emissions associated with energy consumption by SKF.

Energy source	CO ₂ equivalent, tons CO ₂
Electricity	310 890
Heating energy	71 270
LPG	54 090
Fuel oil	45 690
Natural gas	100
Total	482 040

factory, like all other manufacturing units within the Group, has a comprehensive ventilation system to keep the internal air clean and healthy for the workforce.

However, such systems remove heated air as well as oil mist, and can increase heating costs and energy consumption in winter months.

Figure 21

A heat treatment furnace at SKF Sverige in Göteborg, Sweden, is connected to a new heat and oil mist recovery system, saving energy and costs.



Rainwater collected in a tank in the basement at SKF GmbH at Schweinfurt, Germany (Figure 22), is used in a washing machine (Figure 23) for cleaning of bearing components, reducing consumption from the city's water supply.



Figure 22

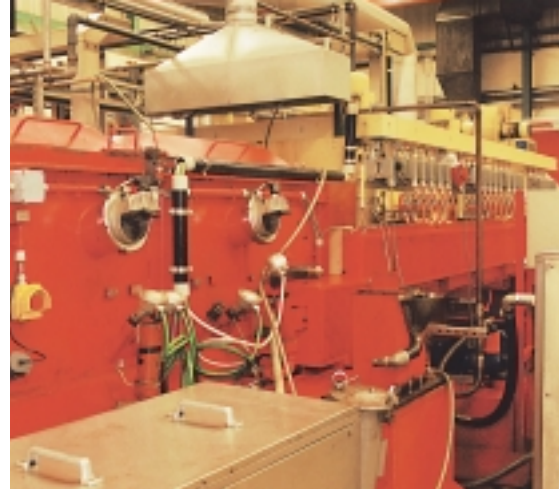


Figure 23

The D-Factory in Göteborg invested in a new system for recovery of both heat and oil mist. The equipment is designed to remove more than 99.99% of oil from the air, and gives energy savings of around 67%. Oil recovered from the system is recycled. Installation was completed in 2001, at a cost of MSEK 1.7. Annual cost savings are estimated at around SEK 300 000, giving a payback period of 5.8 years, and a significant environmental benefit. A part of the system is illustrated in Figure 21.

MATERIALS

Bearing and seal production represent about 90% of all manufacturing in SKF. The main raw material for bearings is steel, and this is almost entirely derived from steel scrap (recycled steel). A small percentage of other materials, such as lime and ferroalloys, is added at the steel mill. Impurities are then removed, leaving an ultra-clean steel suitable for production of high quality bearings.



Figure 24

A new drainage system at SKF Kogellagerindustrie, in Veenendaal, Holland, allows stormwater to be discharged to a soak-away pond in the factory grounds, reducing the burden on the municipal drainage system.

The main raw materials at the seal manufacturing plants are steel and rubber (mainly synthetic).

WATER

Water consumption in the Group during 2001 was 16.5 million cubic metres, a reduction of 25% compared with 2000. Significant improvements in water utilization were made throughout SKF in 2001. Examples of these improvements can be seen at two of the Group's bearing factories in Germany: SKF GmbH at Schweinfurt, and Mülheim.

The Mülheim factory reduced water consumption from 13 100 cubic metres in 2000 to 1100 cubic metres in 2001. The company moved in 2001 from an older facility into a new factory, designed for optimum environmental performance. The old factory relied on potable (drinking quality) water from the municipal supply for its production processes. In the new factory, water is taken from a small lake in the factory grounds, and continually cleaned and recirculated.

At Schweinfurt, the bearing factory collects rainwater in a basement tank (Figure 22), and uses this for washing of bearing components before assembly. As well as reducing consumption of the city water supply, the rainwater needs no water-softening treatment, reducing process costs.

EMISSIONS AND EFFLUENTS

Air and water emissions are controlled in all countries by strict legislation. However, compliance with regulations is a minimum requirement for SKF, and there are advantages for the environment and the company if performance is improved beyond even that required by law. By minimising the amounts of effluents and

emissions, the cost of treatment and disposal of wastes is minimised. Examples of cost-effective effluent reduction can be found at the SKF components factory at Veenendaal, in The Netherlands.

When the Veenendaal factory was constructed the drainage system was designed to collect both rainwater and industrial process water, and both were discharged into the municipal sewer. During 2001, the factory completed a new drainage system which separates process and rain (storm) water. The separated stormwater is clean enough to be discharged into a pond (Figure 24) on the factory site, where it soaks into the surrounding ground, raising the local groundwater level (water table).

In view of the beneficial effect on the surrounding environment, the local authority contributed to the investment cost of SEK 900 000. The reduction in waste water discharged to the municipal system is approximately 12 000 cubic metres per year.

A further reduction in waste discharge at SKF Kogellagerindustrie, Veenendaal was managed by the installation in 2001 of equipment for separation of oil from water used for washing of heat treated components (Figure 26). Bearing steel is hardened to make it wear-resistant in service, by heating to very high temperatures (around 850°C) and cooling quickly (quenching) in a special oil. Some of this oil remains on the components after quenching, and must be washed off to allow further processing.

The large amount of oil accumulating in the washing water meant that it had to be changed every day. By installing equipment to recover the oil, the factory reduced the effluent discharge by 600 cubic metres per year, giving an annual cost saving of about SEK 500 000. The payback period for this investment should be less than one year.

Figure 25

Recycling ¹⁾ percentages for main residual products.

Material	Total quantity 2001	Recycling % 2001	Recycling % 2000	Recycling % 1999	Recycling % 1998
Turning chips	93 800 tons	100	100	100	100
Grinding swarf	22 140 tons	74	64	38	37
Used oil	5 220 tons	77	72	80	84
Paper and carton ²⁾	2 950 tons	95	93	89	73

1) Incineration is considered as recycling if it includes energy recovery.

2) The quantity is probably somewhat underestimated, because some paper is discarded together with miscellaneous waste.

WASTE MANAGEMENT

Practically all metal scrap from SKF operations, totalling about 320 000 tons in 2001, is recycled. The recycling percentages for other main residual products are shown in Figure 25.

SKF research is successful

The most significant improvement in waste management in 2001 was the increased recycling of grinding swarf. The Group's research into opportunities for recycling was described in the SKF Environmental Reports for 1998 and 1999, and improvements seen in 2000 and 2001.

Several SKF factories in Italy and France are now recycling 100% of the grinding

swarf, whereas very little could be recycled in 2000.

SKF participates in EC research

SKF Mekan, the Group's iron foundry at Katrineholm, Sweden, produces housings and components for bearings, by metal casting. During 2001, the company participated in a European Commission project to minimise waste products from iron foundries. The foundry compresses waste metal in the form of dust and chips into solid blocks which can then be used as raw material for further castings. The process reduces both the consumption and transport of raw materials, and the quantity of waste produced.

Figure 26

Oil is separated from dirty washing fluid at SKF Kogellagerindustrie, in Veenendaal, Holland, to minimise the volume and cost of waste discharge, and recover the oil.



Figure 27

SKF Mekan, in Sweden, is assisting the European Commission in a research programme aimed at reducing the waste generated by iron foundries. Shown here reviewing the project are (from left to right) Torsten Bodelind, of Lafarge Svenska Högånäs; Jon Nilsson, from the Swedish Foundry Association; Marja Anderson, of SKF Mekan; Anne de Baas, Scientific Officer, European Community; Rikard Källbom, of the Swedish Foundry Association and Pentti Eklund, from the Technical Research Centre of Finland.



Figure 28

A new waste segregation facility at SKF de Mexico at Puebla, in Mexico, helped the company to achieve a government award for environmental protection.

ECONOMIC PERFORMANCE

SKF's operations have a significant beneficial effect on the local economies in the many countries in which the Group has a presence. The local infrastructure benefits from the wages and salaries paid to employees; the national economy benefits from taxes paid by SKF companies.

Economic summary

Full details of the Group's financial performance are given in the SKF Annual Report 2001. A brief summary is provided in Figure 29.

Economic effect

The geographic distribution of sales is shown in Figure 30. SKF employed around 38 000 people world-wide in 2001, in addition to contractors and suppliers. The total wage and benefit expenses by region, are shown in Figures 31 and 32. "Social charges" are the social costs paid in addition to wages, and include health insurance premiums and pensions.

Key economic indicators for the SKF Group in 2001	
Net sales, MSEK	43 370
Operating profit, MSEK	3 634
Profit before taxes, MSEK	3 120
Net profit, MSEK	2 167
Earnings per share, SEK	19.04
Cash flow, MSEK	4 271
Return on capital employed, %	14.9
Equity/assets ratio, %	41.1
Total wage expense, MSEK	11 123
Total social charges, MSEK.	3 689

Figure 29

Net sales by geographical area 2001

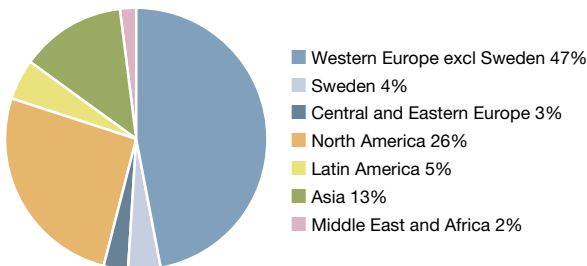


Figure 30

Total wage expense by geographical area 2001

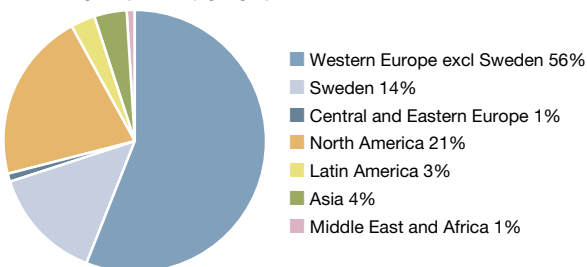


Figure 31

Total social charges by geographical area 2001

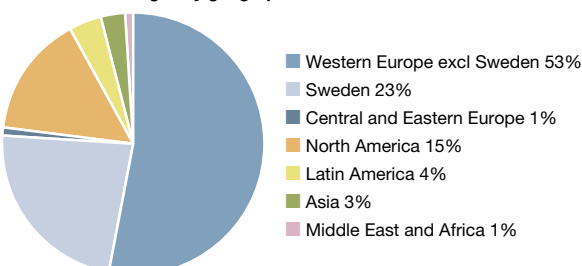


Figure 32



Figure 33

SKF is providing increased value, by optimising the efficiency of their customers' machines and equipment. This trend will increase the Group's need for skilled service engineers, in the numerous countries where our customers are based. Seen here are Michael Sandretto and Niclas Jackson, SKF Service AB.

SOCIAL PERFORMANCE



Figure 34

Eva Karlsson, seen here with Heikki Mäkinen, is responsible for the Large Size Bearing Factory at SKF Sverige, in Göteborg, Sweden. The Group is determined to ensure there are no gender-related obstacles to advancement within SKF.

HUMAN RESOURCES

SKF is the world's largest supplier of bearings and related products and services. In order to maintain and improve on this leadership position, the Group must attract and retain the best people in the industry. Once recruited, these people must be engaged in continual programmes of training and development, to the mutual benefit of the company and its employees.

An attractive employer

SKF is determined to be an attractive employer, offering fulfilling careers, with opportunity for development and progression. The opinions of employees about the working conditions are tested regularly, using a survey tool known as "Working Climate Analysis".

The Group must pay attractive wages and salaries, while keeping costs at a level that makes the price of products and services equally attractive to customers. SKF complies with all legislation regarding minimum wage levels, and exceeds these levels in the majority of countries in which they apply.

The average retention rate of employees was 95% in 2001, while 7 SKF units had 100% retention rates.

Developing people and the business

All employees within SKF have Individual Development Plans (IDP's), which identify their training needs, and monitor progress towards agreed targets. The average ratio of training costs to annual wage/salary costs was 2.1% in 2001 for the Group.

An example of training facilities within the Group is provided by the Centre for Vocational Training at SKF GmbH in Schweinfurt, Germany. This educational centre has been an integral part of the factory since the beginning of the operation in Schweinfurt over 50 years ago.

Besides the more traditional fields like mechanics and electronics, the education includes specialized courses in electro-pneumatic controls, CNC programming and robot automatization techniques. From the second year on, the apprentices receive part of their practical training by joining various production units.



Figure 35
 Students at the Centre for Vocational Training, SKF GmbH, in Schweinfurt, receive instruction in the complex technology for bearing assembly, from Gerhard Schleyer (far left).

Applicants are selected for entry in the program through theoretical examinations and interviews. Out of the 350 to 400 applicants who apply and participate in the examination, around 60 new apprentices are selected each year. Depending on their former education, the new apprentices are aged between around 16 and 20. Due to this preselection and the intensive training, the success rate is generally 100% after the completion of the program. Regularly, the graduates rank within the first places in state-wide examinations, reflecting the high standard of the technical education they receive at SKF.

Throughout the training, special focus is put on environmental care, health and safety. The prevention of injuries; the proper use of personal protective equipment; conservation of energy, and waste management become a significant part of the working routine. In addition, all apprentices receive a 2-day first aid seminar and an ISO 14001 introduction.

SKF takes legal compliance seriously
 High Ethics is a core value at SKF, and compliance with all national legislation is not considered questionable. Throughout the Group, there were no non-compliances or

penalties associated with child labour laws, and no grievances registered concerning forced labour.

Free to associate

All SKF units have employee forums and grievance procedures in place, irrespective of whether the site is unionised.

HEALTH AND SAFETY

SKF's commitment to the environment naturally starts with the maintenance of a safe and healthy environment for all its employees, contractors and visitors. For this reason, the Group has introduced a major health and safety initiative at all its units world-wide: "Zero Accidents". Implementation started in 2000, with 2001 being the first full year for the program. A brief summary of the initiative is given here.

Zero Accidents in a nutshell

"Zero Accidents" is a commitment to accident-free workplaces, based on the premise that every work-related injury and illness can be prevented. The focus of the initiative is therefore accident *prevention* rather than accident *reduction*.

The Group Environmental Policy states: "SKF shall provide safe and attractive workplaces for all employees..."

Zero Accidents is an initiative to ensure that this policy directive is applied in all SKF units world-wide. It is based on the spread of "Best Practice" throughout all units in the Group.

The Zero Accidents strategy requires all units to report work-related accidents and injuries to the Steering Group on a regular basis, with the results being monitored by Group Management. This allows corporate staff to focus improvement efforts on those units which may benefit most from available expertise within SKF.

SKF believes there is no acceptance level for accidents above zero, and the Zero Accidents initiative breaks with traditional practice in industry in having no intermediate targets for accident reduction.

Consistent definition of "accident"

In order to monitor accident levels in the many countries in which the Group operates, it was essential to have one consistent definition for "recordable accident", rather than use the numerous different definitions given by national authorities. The definition of "recordable accident" chosen by SKF is similar to that used by the US Occupational Safety and Health Administration (OSHA): "All work-related illnesses, and those work-related injuries which result in: loss of consciousness, restriction of work or motion,

Figure 36
Health and safety statistics for SKF Group in 2001

Parameter	Result 2001	2000
Number of reporting units ¹⁾	143	93
Number of units with zero accidents for one year minimum	39	9
Number of units qualifying for "Zero Accidents Award"	21	N/A ²⁾
Number of "recordable" accidents in the Group	1517	947 ³⁾
Number of employees	38 091	40 401
Accident rate ⁴⁾	4.96	6.0

1) The number of reporting units increased in 2001, as service units were added; and larger sites were split into Business Units for monitoring purposes.

2) The Zero Accident Award scheme started in 2001.

3) Number of accidents during the six-month period after the start of the Zero Accidents initiative in July 2000.

4) Accident rate is the average for monitored units within the Group. Sales and administration offices are not monitored by the Zero Accidents program, as the safety risks are relatively low in these areas.



transfer to another job, or require medical treatment beyond first aid". A definition of "first aid" is also given in "Zero Accidents" guidance to the sites.

Continual monitoring around the world

Zero Accidents was launched formally within SKF on 30 June 2000. Monitoring of "recordable accidents", according to the SKF definition, started immediately afterwards, with results reported to Group Management quarterly, i.e. every three months.

The accident rate for the Group is calculated using the formula:

$$\text{Accident Rate} = R \times 200\,000 / H$$
 where R = number of recordable accidents, and H = total hours worked.

The results for July - December 2000 were given in the SKF Environmental Report 2000. The results for January - December 2001 are given in Figure 36. These latest results can be compared with those for 2000, but not with health and safety statistics in previous SKF Environmental Reports. This is because the definition of "accident" changed within SKF in 2000, to allow all sites to use the same definition.

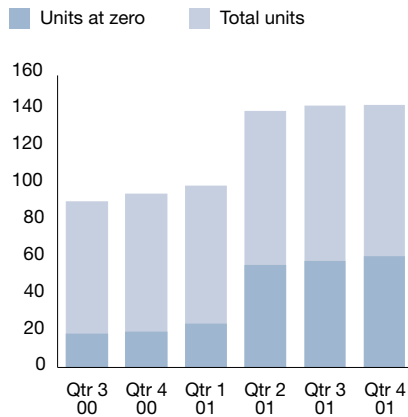
Figure 37
Pipework at SKF de Mexico, in Puebla is colour coded and labelled to ensure speedy identification in case of an emergency. The Service Business Unit at Puebla was one of 21 units to receive the SKF Zero Accidents Award in 2001.

More and more SKF units reach zero

Since the start of the Zero Accidents initiative in July 2000, the proportion of SKF units achieving zero accidents in any Quarter (quarter year) increased significantly, as shown in Figure 38. A total of 63 of the 143 units monitored throughout the Group achieved zero recordable accidents in Quarter 4, 2001.

Figure 38

This graph shows the proportion of SKF units achieving zero recordable accidents in each Quarter since July 2000: the start of the “Zero Accidents” initiative.



1. The number of reporting units increased in Quarter 2, 2001 as service units were added; and larger sites were split into Business Units for monitoring purposes.

New SKF award for excellence

In 2001, SKF introduced a “Zero Accidents Award”, to highlight excellent performance in health and safety management. The award is given to units which achieve one year (four consecutive Quarters) without a work-related injury or illness. A silver award is achieved after two years, with a gold award for three years of accident-free working.

Manufacturing units, and those working in logistics, customer service, and engineering can qualify for the award. Those units involved in sales and administration only are not eligible, as the safety risks are relatively low in these business areas.

Country	Business Unit	SKF Division	Location
Brazil	Service Business Unit	Service	Cajamar
Canada	Revolve Magnetic Bearings	Industrial	Calgary
China	SKF Automotive Bearings Company	Automotive	Shanghai
	Anhui CR Seals	Seals	Anhui
France	SKF Equipements	Industrial	Montigny
Germany	SKF Linearsysteme GmbH	Industrial	Schweinfurt
	Spindles Business Unit	Industrial	Schweinfurt
	Service Business Unit	Industrial	Schweinfurt
Korea	SKF Automotive Components	Automotive	Changwon-city
Mexico	Service Business Unit	Service	Puebla
Singapore	SKF Distribution Centre	Service	Singapore
Sweden	Vehicle Parts	Automotive	Göteborg
	Self Aligning Ball Bearings Unit	Industrial	Göteborg
	SKF Actuators AB	Industrial	Göteborg
	The Technical School	Industrial	Göteborg
	Manufacturing Development Centre	Industrial	Göteborg
UK	Service Business Unit	Industrial	Luton
US	North American Technical Center	Automotive	Detroit, MI
	Industrial Service Center	Service	Hanover, PA
	MRC Bearings, Colebrook	Aerospace	Colebrook, CT
	SKF Motion Technologies	Industrial	Bethlehem, PA

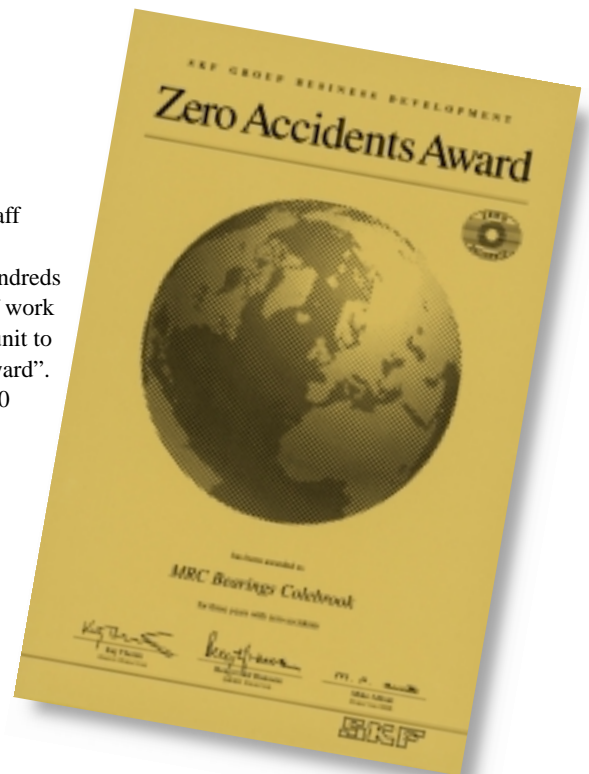
Figure 39

SKF units achieving the “Zero Accidents Award” in 2001.

Clearly, units with only a few staff should have a lower probability of accidents than those with many hundreds of employees. A minimum level of work hours has therefore been set for a unit to qualify for the “Zero Accidents Award”. Units must complete at least 50 000 work hours in a year to be eligible.

Figure 40

The SKF “Zero Accidents” Gold Award, presented to units achieving three years without a work-related injury.



Continual improvement in 2001

At the end of 2000, nine SKF units had achieved zero accidents in the six months since the start of the initiative in June 2000. By the end of 2001, 39 units had achieved at least one year with zero accidents, and 21 of these qualified for the SKF Zero Accidents Award.

First award goes to US bearing factory

All units within SKF adopted a standard definition of “recordable accident” in June 2000, to provide a consistent method of monitoring injury rates throughout the Group. However, SKF units in the United States had used this same definition for some years, as the Group adopted the definition provided by the US Occupational Safety and Health Administration. Thus, US units were able to evaluate their accident statistics prior to June 2000, against the new criteria for qualification for the Zero Accidents Award.

Two US units: MRC Bearings, in Colebrook, CT; and the Service Business Unit, in Hanover, PA, had achieved three years without a recordable injury by the end of 2001. The Colebrook factory achieved this in March 2001, and received the first “Zero Accidents Gold Award” within SKF, at a presentation in May 2001 (Figure 41). Hanover qualified for their “Gold Award” in December 2001.



Figure 41
Frank Baker (left), General Manager at MRC Bearings, Colebrook, US, receives the first ever “Zero Accidents Gold Award” from Kaj Thorén, President - Aero and Steel Division.

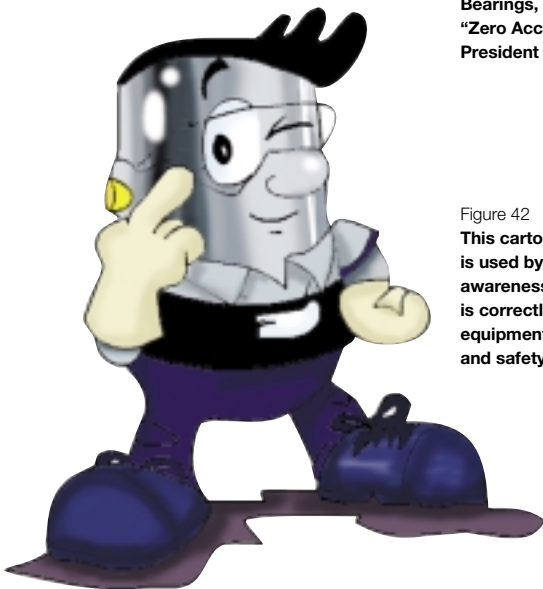


Figure 42
This cartoon character, an animated bearing roller, is used by SKF de Mexico to increase employee awareness of safety issues. Here, the character is correctly wearing his personal protective equipment: safety glasses, earplugs, gloves, and safety shoes.

ENVIRONMENTAL PERFORMANCE DATA

COMPLIANCE

Throughout the Group, SKF had a total of 6 penalties during 2001 for non-compliance with environmental regulations. In all cases, corrective actions were implemented to prevent a recurrence.

Clean-Up Actions

SKF's manufacturing operations are designed to prevent environmental pollution. However, like other long-established industrial companies SKF is involved in some remediation projects, resulting from historical activities.

Many SKF factories have disposed of various wastes at approved landfills.

Because of stricter laws and regulations - some with retroactive effect - concerning landfill disposal, a few SKF companies are currently involved in clean-up of old landfills, most of which have not been used for many years. The majority of these cases concern so-called Superfund sites in the United States. In most of these cases SKF USA was one of many companies contributing to the waste disposal at the landfill in the past, and in general the SKF share is very low - a few percent or less. The total estimated cost for SKF, including remediation at a few plant sites, is not significant, and relevant provisions have been made.

Figure 43

Environmental performance data for some of the larger factories within the Group. The data for other SKF factories can be found on the SKF Internet site; please refer to the contact details on the front cover of this report.

Parameter	Units	Cajamar	Schweinfurt	Hofors	Elgin	Veenendaal	Varese
Country		Brazil	Germany	Sweden	United States	Holland	Italy
Main product		Bearings	Bearings	Steel	Seals	Components	Seals
Raw material-metal	Tons	4 839	31 200	419 500	43	11 765	9 594
- rubber	Tons	1 650	6 253	0	165	0	776
Turning chips	Tons	1 768	9 020	2 300	0	0	10.6
	% recycled	100	100	100	N/A	N/A	100
Other metal scrap	Tons	1 460	5 800	116 100	34.7	4 626	58
	% recycled	100	100	100	100	100	100
Grinding swarf	Tons	763	3 000	644	0	797	0
	% recycled	100	100	83	N/A	0	N/A
Used oil	Tons	461	558	70	63	19.4	1.3
	% recycled	100	100	100	100	100	100
Paper and carton	Tons	131	350	53	87	23.1	5.2
	% recycled	100	100	100	100	100	100
Water	1000 m ³	41.6	895	238	86.7	247	18.52
Heating energy	GWh	0	90	40	0	0	0
Electric energy	GWh	29.3	115	370	15.6	15.1	17.6
Electricity - Co ₂ equivalent	Tons	24 000	8.3	12 200	12 800	9 830	1.2
Fuel oil	Tons	28.1	185	7 000	0	0	0
Natural gas	1000 Nm ³	0	2 181	0	26	1 852	736
Coal	Tons	0	0	10 200	0	0	0
LPG	Tons	27.7	79	9 800	15.3	8.5	0
Alcohols	Tons	1.1	203	0.5	16.6	0.2	8.8
Solvents	Tons	0.3	175	9	2.7	43.7	6.1
Oils	Tons	324	807	270	33	219	0.8
Grease	Tons	23	6.8	34	1.2	0	4.1
PCB on site	Yes/No	No	No	No	No	No	No
Ozone depleters - Class I	Kg	0	0	0	0	0	0
Ozone depleters - Class II	Kg	0	0	0	0	0	0

N/A = not applicable

VERIFICATION STATEMENT



Verification and Validation Statement

Lloyd's Register Quality Assurance Limited (LRQA) verified and validated the environmental, health and safety information in the SKF Environmental Report 2001⁰¹.

LRQA visited:-

- SKF Gothenburg, Sweden;
- SKF Schweinfurt, Germany;
- SKF Veenedaal, The Netherlands.

LRQA concluded that the source information and data sampled supported the content of the SKF Environmental Report 2001

LRQA concluded that definitions provided by SKF Group to SKF sites for data collection should be strengthened, additional time should be provided for the sites to compile the data, protection of data placed on the SKF website should be improved and that adoption of the Global Reporting Initiative Guidelines should be developed further.

LRQA noted that SKF has completed the implementation of recommendations from LRQA's Verification Statement published in the SKF Environmental Report 2000, namely:

- further development by SKF of procedures to ensure consistent reporting of raw material use;
- development of company-wide methodologies for calculations used to provide data for the report

On behalf of LRQA

February 2002

conqueror

⁰¹ The verification and validation was based upon the requirements of ISO14010, 14011 and 14012 (international standards relating to general principles of environmental auditing, environmental auditing procedures and qualification criteria for environmental auditors, respectively).

LLOYD'S REGISTER QUALITY ASSURANCE

GLOSSARY

Acidification Increase in acid content of the environment, through the release of substances which form acids in water or air.

Bearing A machine element for reducing the friction between moving machine parts. Today most bearings are rolling bearings, consisting of inner ring, outer ring, a number of rolling elements (balls or rollers) and a cage. Most bearings are made of steel.

Carbon dioxide A common gas with the chemical formula CO₂. This gas is generated in various processes in nature and in combustion of most fuels. CO₂ contributes to the global greenhouse effect.

Casting The forming of metal components, by melting the metal and pouring it into a mould, where it cools and solidifies.

Chlorinated solvent Liquid consisting of an organic substance containing chlorine. Formerly, SKF used it mainly for degreasing and washing of metal components and as a solvent for rust-preventive oil. Example: trichloroethylene.

Coolant Oil, emulsion or synthetic water solution for lubrication and cooling in turning and grinding operations on metal components.

Cutting oil Oil used as coolant.

Ecotoxicity A measure of the amount of substances released into the environment which can cause pollution of water.

EHS Environment, health and safety.

Elastomer Synthetic rubber.

Eutrophication A process by which pollution causes a lake, pond or fen to become overrich in nutrients, so that algae grow rapidly and deplete the oxygen supply.

Ferroalloy Alloy containing iron and one or more other metals. Used as a raw material in steel mills for obtaining the desired composition of the steel.

Gigawatt hour (GWh) One million kilowatt hours (kWh). Measure of electrical energy quantity.

Global warming Increase in the average temperature world-wide, believed to be due to the Greenhouse Effect.

Greenhouse effect The effect of certain gases when reaching the atmosphere to cause a reduction of heat radiation from the earth, thereby probably causing global warming.

Grinding swarf Debris from grinding operations. Contains particles from the ground component and the grinding wheel, and some of the coolant used.

Human toxicity A measure of the ability of pollution to affect human health.

Hydrocarbon Compound consisting mainly of hydrogen and carbon, often of fossil origin. Examples: oil and natural gas.

Landfill Designated area for disposal of waste.

Life-cycle analysis Systematic analysis of all environmental impacts of a product during its entire life cycle, i.e. from raw material to end-of-life product recovery or disposal.

Lime Calcium oxide. Produced from limestone (common mineral) and extensively used as a slag forming agent in the steel industry.

Liquefied Petroleum Gas (LPG) Propane, butane or similar hydrocarbon gas, usually compressed to liquid form.

Lubricant Grease, oil or other substance to facilitate the motion of surfaces relative to each other, e.g. in a bearing.

Photochemical oxidant creation A reaction between oxides of nitrogen and hydrocarbons in the presence of sunshine which causes a smog. These are often associated with large cities in the summer months when pollutants and sunshine create the conditions necessary for the chemical reactions.

Oil mist Oil in the form of aerosol (oil droplets) and vapour in factory atmosphere.

Remediation Clean-up and restoration of a contaminated site.

Residual product Other product than the main product from a production process. It may or may not have a net value. Residual products without a positive net value are wastes.

Resource depletion The reduction in the global quantity of natural resources. In this report, it applies to resources, the depletion of which is judged to become, or still be, a problem within the next hundred years.

Seal Steel or rubber component which is mounted between the outer and the inner ring in a bearing, or around the shaft outside the bearing, to prevent dirt and moisture from entering the bearing and the lubricant from leaking out.

Sealed bearing A bearing provided with steel or rubber seals to prevent lubricant from leaving the bearing and contaminants from entering it.

Superfund site Old landfill or plant site in the United States with soil or groundwater contamination, subject to a remediation program according to a federal law. Remediation funding is provided by those who contributed to the contamination.



ENVIRONMENTAL FRIENDLY PRINTING

In December 1998 the SKF Group received worldwide certification to ISO 14001, the international standard for environmental management. Considering the global spread of SKF manufacturing sites and customers, consistency is probably the most important feature resulting from our endeavours to achieve such a worldwide certification.

One of our ambitions is to select suppliers and raw materials that share our commitment to environmental care. With respect to the printing process, it is therefore important to us that our suppliers use only materials and processes which are environmentally approved. That is why we have chosen to print this publication at Billes Tryckeri AB, Göteborg, Sweden and on Arctic Silk stock, both environmentally approved.

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