



# EHS Report 2008

Siemens Healthcare

**Environmental Protection, Occupational Health and Safety**  
**Striving for the best solutions. Together.**

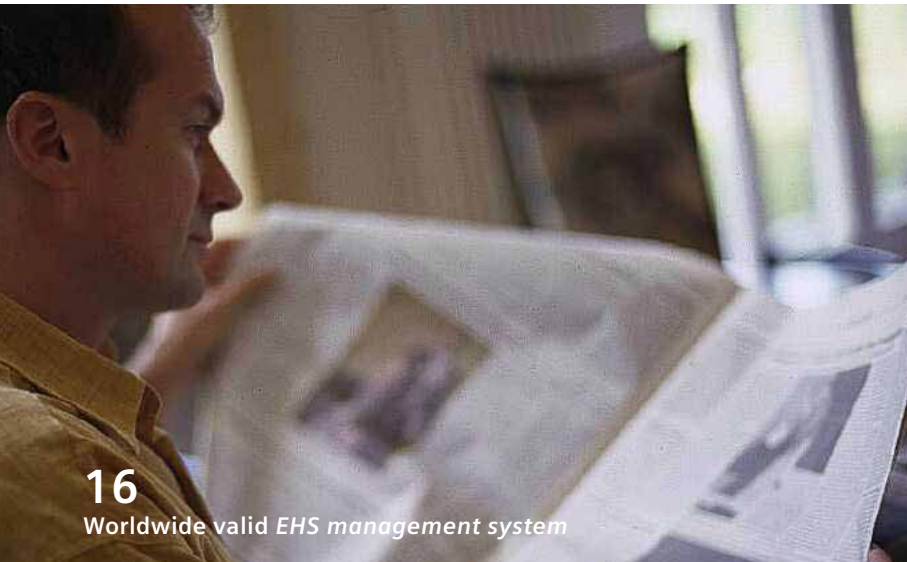
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**SIEMENS**

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Worldwide valid EHS management system



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Aspects and impacts

## About this report

This report is the first EHS report<sup>1</sup> for businesses making up Siemens Healthcare. It is supplemented with sites profiles provided in separate documents.

This report and the document „Standort-profile Produktionsstandorte in Deutschland (Sites profiles of the German production sites of Siemens Healthcare)“ contain statements and associated images and graphics which are marked by a green line on the left side of the text. They represent the joint declaration regarding the environment, according to the specifications prescribed by EMAS<sup>2</sup>, for the German production locations.

The Siemens organization was restructured effective January 1, 2008. As part of the restructuring, Siemens Medical Solutions was renamed Siemens Healthcare. The term „Siemens Healthcare“ as used below stands for the legal entity Siemens AG, Healthcare Sector. Terms that are shown in italics in either this report or the location profiles are explained in the glossary.

The complete report is available both in German and in English. To make reading easier we have refrained from using any gender-specific double entries, i.e. he/she or his/her.

Unless otherwise specified, all numbers relate to the fiscal year 2006/2007<sup>3</sup>. Since this is the first EHS report of Siemens Healthcare, previous contents have also been taken into consideration, where they contribute to a better overall understanding. The next EHS report in this form is planned for 2009.

<sup>1</sup> The abbreviation „EHS“ stands for Environmental, Health and Safety and in German designates the area of environmental protection and occupational health & safety.

<sup>2</sup> „EMAS“ stands for Eco Management and Audit Scheme. This term denotes the European Community system for environmental management and eco-audit in accordance with EC Directive 761/2001.

<sup>3</sup> Oktober 1, 2006 to September 30, 2007



## Dear Readers,

I am pleased to share the first report on environmental, health, and safety (EHS) matters of the Healthcare Sector of Siemens AG.

As a company that is fully aware of its significant responsibilities, we are committed to protecting the environment and meeting the highest standards in health and workplace safety. Our approach encompasses more than meeting minimum legal requirements. We want to be among the best in our industry when it comes to environmental protection and the health and safety of our employees, while simultaneously improving the capabilities we bring to our customers and the patients they serve.

To reach this important goal and to continually improve, we work closely with our customers and also exchange ideas and experiences with our partners and suppliers. In addition, we engage in open dialogue with competitors, professional organizations and authorities that set EHS standards all over the world.

Single and uncoordinated solutions usually do not contribute to sustainable success when it comes to keeping environmental impact to a minimum, protecting the health of our customers and their patients, and caring about the safety of our employees in their daily work. Effective cooperation of all parties involved is therefore key for our combined success. Actually, this holds true for all phases of our products' lifecycles – from development to daily application to disposal or refurbishment.

Let me provide you with one example that illustrates how important it is to interlink environmental protection and health and safety matters. Some of our products must contain lead. On the one hand, lead has the positive effect of reducing radiation exposure for hospital staff and patients. On the other hand, lead is a hazardous substance. Our experts for workplace safety therefore monitor that this material is handled safely – while our experts for environmental protection try to limit the use of lead to



Jim Reid-Anderson  
CEO Healthcare Sector

the minimum level necessary. Only when these experts share their knowledge and cooperate with product designers are we able to find optimum solutions that meet patient needs while also strictly observing environmental protection and the health and safety of those involved. This is how harmonized practices and technical innovation can contribute to the benefit of all.

With this first EHS report we would like to inform you comprehensively about our activities, successes, and challenges. At the same time, this report is intended to initiate a dialogue with you. I cordially invite you to share your thoughts with us.

With best regards,

Jim Reid-Anderson  
CEO Healthcare Sector  
Member of the Executive Committee  
of Siemens AG

# Company profile

**As one of the three sectors of the newly formed Siemens AG, Siemens Healthcare is one of the largest healthcare suppliers worldwide.**



**We are renowned for our innovative products, services and complete solutions which are designed to contribute to greater efficiency in the healthcare sector and to optimal individual patient care. By offering these products, services and solutions we strive to ensure people's long-term well-being.**

Siemens Healthcare sees itself as a medical solution provider with core competencies in both diagnostic and therapeutic technologies as well as in knowledge engineering. This includes information technologies and system integration, with the help of which workflows in hospitals and practices can be optimized. With its acquisitions in laboratory diagnostics, Siemens Healthcare is one of the first fully integrated diagnostics company that combines imaging and lab diagnostics, therapy solutions and medical information technology and also supplements these with consultation and services. Siemens Healthcare provides solutions for the entire supply chain under one umbrella – from prevention, early detection and diagnosis to therapy and aftercare.



## Challenges in the healthcare sector

The demographic development of the worldwide population presents a major challenge for the healthcare sector. The world's population is growing rapidly, and is expected to increase from its current level of 6.7 billion to 9.3 billion inhabitants by 2050. The average age is also rising rapidly, both in the industrial nations and in China. The UN expects that there will, for the first time, be more old people (60 years and older) than younger ones (younger than 15 years) worldwide by the year 2050. The demand for healthcare services will thus experience a significant increase over the next several years. In addition, more and more people are developing a stronger awareness of health and life quality, and are prepared to invest financially in their physical well-being. New technologies such as genetic engineering and molecular biology will further contribute to maintaining health, vitality and zest for life well into advanced ages.



## Result-based solutions along the supply chain

The aim of Siemens Healthcare is to support its customers in patient-oriented and high-quality provision of healthcare along the entire supply chain. Improved processes and innovations in deployed technologies are the central levers to increase quality in healthcare and to keep costs stable. We can, however, only achieve a verifiable improvement of processes for our customers if we assess the overall system and understand the various dependencies within this system. In our consultancy projects, we therefore include the entire supply chain in our analyses. Such analyses comprise all supply steps, from prevention, early detection and diagnosis to therapy and care.

We believe that workflows in healthcare play a decisive role in this. Our solutions help to optimize workflows in that, for example, they regulate the chronology of

measures, support the exchange of information between patients, doctors and nursing staff and thus also contribute to processes that are preserving resources. For the decision-makers in hospitals and radiology practices, the impact of new products and solutions on the workflow is thus one of the most important selection criteria for procurement.

## Product portfolio: integrated solution provider

With respect to the market requirements, Siemens Healthcare is developing from a product to a solution provider along the entire value-added chain. We provide solutions for the increasingly knowledge-based applications and services, so as to improve patient care. These solutions are based on our existing product portfolio, which includes both diagnostic and ther-

apeutic technologies as well as information technology solutions, molecular in-vitro and in-vivo technologies and consultancy and services.

Over the past few years, we have aligned our company according to this strategy. With the acquisitions of Shared Medical (2000), Gesellschaft für Systemforschung und Dienstleistungen (2007) and Cyclotron Technology Inc. (2005), we significantly expanded our competence in the area of molecular in-vivo diagnostics. With our acquisition of Diagnostics Product Corporation and Bayer Diagnostics (2006) as well as Dade Behring (2007), we were also able to expand the area of in-vitro diagnostics including molecular diagnostic technologies; in this way we became a fully integrated diagnostics company.

## Imaging & IT

Angio & X-Ray	Computed Tomography	Magnetic Resonance	Molecular Imaging	Ultrasound	Information Technologies
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## Workflow & Solutions

Oncology	Cardiology	Neurology	Mammography	Urology	Surgery	Audiology	Complete Offers	Services Business
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## Diagnostics

Immuno-assay	Blood Gas and Emergency Analytics	Clinical Chemistry	Hematology	Urin-analysis	Laboratory Automation	Molecular Diagnostics
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Siemens Healthcare: a fully integrated diagnostic company

## The three Siemens Healthcare Divisions

The previous Groups of Siemens were re-structured effective January 1, 2008. The previous Medical Solutions Group is now named Siemens Healthcare and, along with the Sectors Industry and Energy, is one of the three Sectors of Siemens AG. Siemens Healthcare includes the Imaging & IT, Workflow & Solutions, and Diagnostics Divisions.

**Imaging & IT:** This Division comprises a wide range of products for early diagnosis, intervention and prevention directed to the patient. This includes imaging systems such as computer tomography or ultrasound. There are also new information technologies such as hospital information systems, medico//s, image processing and archiving systems as well as knowledge-based technologies used for diagnostic support. The aim is to establish integrated workflows without incurring any friction losses.

**Workflow & Solutions:** This Division provides products that are solution-oriented and optimized in terms of the relevant workflow, and which support work processes in practices and clinics. The products are structured according to specific clinical pictures, such as oncology, cardiology, neurology, mammography, urology, surgery and audiology. Complete offers for hospitals, accompanying

consultancy and the service business round out this Division.

**Diagnostics:** This sector contains the former Siemens Medical Solutions Diagnostics Group, including the acquisitions Dade Behring, Bayer HealthCare Diagnostics and Diagnostic Products Corporation. It covers our product range of in-vitro diagnostics, including immune diagnostics, microbiology and molecular diagnostics, and comprises offers for the automation of complete large laboratories.



## Good results: Overview of commercial facts and figures

Siemens Healthcare makes a major contribution to the operating profits of Siemens. In 2006/2007, operating profits of Siemens Healthcare showed an increase compared to fiscal year 2005/2006 of 34 percent, rising to 1.323 billion euros, while the Group profit margin rose to 13.4 percent.

In the same period, the number of employees grew from 36,248 worldwide by 6,387 employees to 42,635. Approximately 23 percent of all employees of Siemens Healthcare work in Germany, 17 percent in the rest of Europe, 41 percent in the USA, and approximately 19 percent in Asia.

## Future-proof trendsetter

Investments in research and development are an essential component in securing the future of Siemens Healthcare in the long term. Over its 125 year history, Siemens Healthcare has been a trendsetter and innovation leader in the medical engineering sector. For instance, we launched the first industrially manufactured and electrically driven tooth drilling machine on the market in 1890, followed by the first x-ray tube in 1896 - one year after discovering x-rays. We also launched

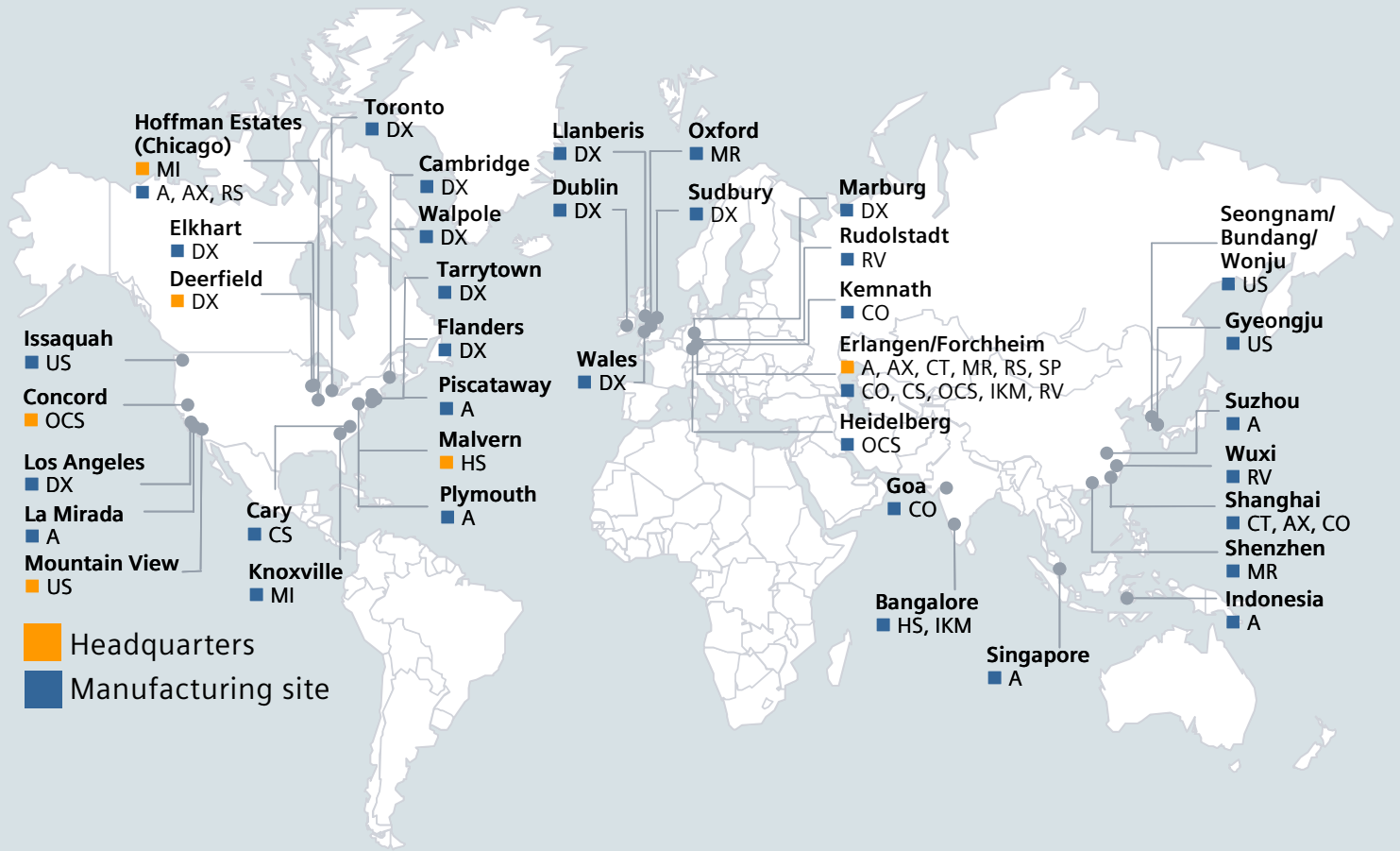
(in Euro million)	End of fiscal year September 30		
	2007	2006	Change in %
<b>Group profit</b>	<b>1.323</b>	<b>988</b>	<b>34 %</b>
<b>Group profit margin</b>	<b>13,4 %</b>	<b>12.0 %</b>	
<b>New orders</b>	<b>10.271</b>	<b>9.334</b>	<b>10 %</b>
<b>Total revenue</b>	<b>9.851</b>	<b>8.227</b>	<b>20 %</b>
<b>External revenue</b>	<b>9.798</b>	<b>8.164</b>	<b>20 %</b>
<b>Therein:</b>			
<b>Germany</b>	<b>875</b>	<b>682</b>	<b>28 %</b>
<b>Europe (other than Germany)</b>	<b>2.462</b>	<b>1.843</b>	<b>34 %</b>
<b>Americas</b>	<b>4.578</b>	<b>4.044</b>	<b>13 %</b>
<b>Asia-Pacific</b>	<b>1.468</b>	<b>1.222</b>	<b>20 %</b>
<b>Africa, Near and Middle East, C.I.S.</b>	<b>415</b>	<b>373</b>	<b>11 %</b>

### Overview of business figures

the electro cardiogram with electronic signal augmentation in 1911, the electrical hearing aid in 1913, a universal measurement system for nuclear medicine in 1956, the implantable pacemaker in 1958, the first ultrasound echography device with real-time display in 1966 and the first instant picture with a computer tomograph in 1975.

Siemens Healthcare will continue to provide Siemens with technical innovations in the future. Siemens Healthcare submits more than five patent applications each work day. In terms of patent applications, Siemens as a whole is number 1 in Germany and number 3 in Europe. Nu-

merous prizes and awards testify to our innovative power. For instance, in 2006 our developers were presented with the renowned Innovation Award of the German Economy for the TIM (Total Imaging Matrix) recording technology in magnetic resonance tomography. TIM has allowed for the first time an examination area of up to 205 cm in height to be recorded, i.e. to display a whole body in one piece, using magnetic resonance tomography.

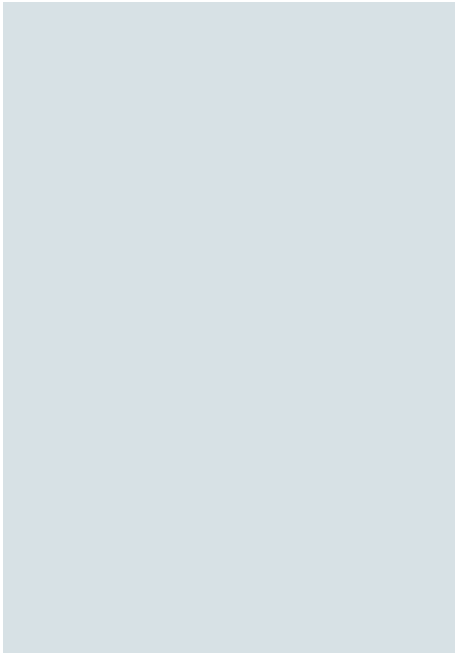


Worldwide sites of Siemens Healthcare, the abbreviations designate the Divisions operating at the sites:

A:	Audiology	MI:	Molecular Imaging
AX:	Angiography, Fluoroscopic and Radiographic Systems	MR:	Magnetic Resonance
CO:	Components	OCS:	Oncology Care Systems
CS:	Customer Service	RS:	Refurbished Systems
CT:	Computed Tomography	RV:	Vacuum Technology
DX:	Diagnostics	SP:	Special Systems, for example Urology, Mammography, Surgery
HS:	Health Services	US:	Ultrasound
IKM:	Image and Knowledge Management		

## Sites of Siemens Healthcare

Detailed information regarding products and production procedures' *EHS aspects*, goals, data and facts of the relevant locations are summarized in the sites profiles.



Overview of sites profiles

Sites profile	Sites	Country
Germany	Erlangen, Forchheim, Heidelberg, Kemnath, Rudolstadt	Germany
Oxford	Oxford	Great Britain
DX	Marburg	Germany
	Llanberis, Sudbury, Wales	Great Britain
	Dublin	Ireland
	Toronto	Canada
	Cambridge, Deerfield, Elkhart, Flanders, Los Angeles, Tarrytown, Walpole	USA
OCS	Concord	USA
MI	Hoffman Estates, Knoxville	USA
A	Hoffman Estates, La Mirada, Plymouth, Piscataway	USA
US	Issaquah, Mountain View	USA
	Bundang, Gyeongju, Seongnam, Wonju	South Korea
HS	Malvern	USA
Shanghai	Shanghai	China
Shenzhen	Shenzhen	China
Wuxi	Wuxi	China

# The challenge of occupational health and safety

There is more to health than just the absence of illness. The World Health Organization (WHO) defines health as physical, psychic, mental and social well-being.



Dr. Freimut Schröder  
(EHS management representative at Siemens Healthcare and head of the Sector department Environmental, Health and Safety),



Dr. Eva Winnik  
(representative at Siemens Healthcare for health management and head of the company medical office),



Klaus Müller  
(senior safety engineer for occupational safety at the locations of Erlangen, Forchheim and Heidelberg),

**talk about the future of occupational health and safety at Siemens Healthcare.**

**Dr. Schröder, why did you place the emphasis of this first EHS report on workplace safety, i.e. occupational health and safety?**

SCHRÖDER: Healthy and efficient employees are our assets. Only if our employees are healthy and efficient can we develop and successfully launch innovative and sustainable products. This is why we must attach particular importance to occupational health and safety, if we want to continue leading the world market into the future. We should also consider both to be closely intertwined with one another.

Production processes, without doubt, pose risks to our employees. Here we must design the workplaces as ergonomically safe and healthy as possible. Being a medical engineering company, we do, however, know that a lot of illnesses are attributable to the lack of prevention. As we are a responsible company, we let our employees benefit from our products and knowledge as a matter of course.



Dr. Schröder, Mr. Müller and, Dr. Winnik (from left to right) talk about the future of occupational health and safety at Siemens Healthcare.

**Dr. Winnik, you have been the head of occupational health at Siemens Healthcare since 2001. Where do you see your most important tasks?**

WINNIK: My primary focus is the health of our employees, thus maintaining and improving their work capability and efficiency. We want to provide our colleagues with medical support in the work process, counteracting undesirable developments in the workflows, detecting illnesses at as early a stage as possible and offering competent help immediately in the case of illness. To do this, I must be available on site and hold regular clinics to provide individual consultancy to both employees and managers. Here the keyword is prevention: This also involves us running campaigns, for example, informing our employees about health risks and preventing illnesses. If an employee has already fallen ill, we attempt avoiding any aggravation of that illness by consulting

him appropriately. And finally my colleagues and I assist employees, after a severe illness, or disabled colleagues in their return into the work process.

The benefit of our work is obvious: Only a healthy employee will, in the long term, be able to fulfill his tasks in the company. And an employee who is given medical support in a company will furthermore identify much more with that company.

Along with occupational health or statutory checkups or those checkups which are prescribed by the German Accident Prevention and Insurance Association, we thus offer preventive actions. Over the last years we have at German sites, for example, performed thyroid checkups using ultrasound and cardiac checks including blood tests. Currently, a program for the detection of malignant skin changes is being conducted at the German locations.

In addition, I think the precautionary travel checkups with advice on vaccination and the performance of all required vaccinations, including the one for yellow fever, as well as the advice and support provided during health problems outside Germany are very important.

**Mr. Müller, you are the occupational safety officer at the Erlangen location. Where do you see the interfaces between your work and occupational health?**

MÜLLER: Being a doctor, Dr. Winnik talks about ensuring the continued health of our employees. Being an occupational safety engineer, my goal is clear-cut: zero accidents at my locations. However, it is not that easy to achieve this. It necessitates safe workplaces and workflows. We developed a multi-stage concept for this, which also incorporates occupational health.



### "Healthy and efficient employees are our assets."

Dr. Freimut Schröder  
EHS management representative at Siemens Healthcare and  
head of the Sector department Environmental, Health and Safety

The first step in our concept is to assess the risks of every workplace. Here we scrutinize, in cooperation with the relevant manager, all possible risks at a workplace, in consultation with the company medical doctor. Examples of such risks are the handling of dangerous substances, the lifting of heavy loads or contact with ionizing radiation. Cleanliness at the locations also plays an important role for the prevention of accidents.

The second step: Together with the manager and the company medical doctor, we coordinate measures that are suitable to reduce those risks.

These are defined and documented in the risk assessment. The responsible manager provides instruction, implements all necessary steps and monitors them within the scope of the relevant organizational and supervisory duty.

The third step involves a regular check of the effectiveness of the protective measures. In a company like ours, work processes and thus workflows in product manufacture change almost daily. This is why we must adapt our protective measures again and again or replace them with new measures.

If an employee is hurt, cooperation with the company medical doctor is of particular importance. In addition, following recovery of an accident victim, the return

of that individual into the work process is important.

We are convinced of our concept and the result also speaks for itself: With under four company accidents per 1,000 employees per year, we are way below the average of the precision and electronic engineering sector, which has close to 16 accidents per 1,000 employees per year.

#### **If you could look into the future what would your wish be with respect to your joint occupational health and safety work?**

MÜLLER: I would wish for workplaces that are adapted to suit the ergonomic needs of people and meet the highest safety standards, because every accident is one too many. This is why it is so important that we, as experts, are included at an early stage in workplace design or the procurement of work equipment and substances as well as in a comprehensive risk assessment.

SCHRÖDER: The topic of workplace design is also of great concern to me. And it is precisely in Germany that we do have good prerequisites. In this country, the law already combines the topics of occupational safety and occupational health as occupational health and safety. The expert for occupational safety and the company medical doctor work hand in hand at Siemens Healthcare. We intend

to further advance this close link between occupational safety and occupational health at our foreign locations too. By using an integral approach, we can identify health risks at an early stage and make our employees' workplaces safer.

WINNIK: I can do nothing but emphasize this. It is important for every company medical doctor to know the employees, workflows and risks associated with them and to assess them, such that both employees and managers are supported appropriately and effectively. Our experience has shown: treatment by the company doctor for acute health problems prevents illness and thus non-productive time; this ensures the continuity of work processes.



Klaus Müller and Dr. Eva Winnik

## What do you think are the greatest challenges for the future? Where are the limits of your influence?

MÜLLER: Nowadays, the world of work is undergoing constant change. At the same time, pressure to perform is continuously growing for each employee. Due to globalization, we have to handle risk situations that are difficult to foresee, especially in the developing and emerging markets.

In the end, what matters is that we create and improve basic conditions worldwide, in cooperation with both employees and managers, so that everybody can work safely and no one becomes ill due to work. However, this also requires that each individual assume responsibility for both his work and his workplace.

WINNIK: Health protection is work on and with the person. Preventive illness advice and treatment for illnesses takes time; for example, where it relates to employee concerns with respect to viral infections during stays abroad. Furthermore, our work is not all about accidents at work but also about non-productive time resulting from other illnesses. Here, psychological stress due to a high work load, a poor professional climate or personal problems may come into play.

In addition to all this, the various different mentalities and cultures of our em-

ployees in the various different countries also require a high level of empathy.

SCHRÖDER: I think our biggest challenge is to transfer the positive starting points from Germany to all our locations worldwide. I believe that we have elaborated an excellent concept for this that will benefit both our employees and our company. In the next few years we have to demonstrate that we are able to apply this concept worldwide.

**Dr. Winnik, Dr. Schröder, Mr. Müller, thank you very much for talking to us!**

## Occupational health and safety

In Germany, the term „Arbeitsschutz“ (occupational health and safety) means measures taken to ensure the health and safety of employees at work. Our comprehensive understanding of this term is that it includes the prevention of accidents at work, occupational illnesses and work-related health risks, including designing work processes to take the needs of employees into greater account. This also includes issues relating to working time (for example, work on public holidays) and to the protection of groups requiring special protection (youths and pregnant women, for example). Occupational health and safety does not, however, include issues relating to employment (e.g., employment contracts) or payment (e.g., collective bargaining agreements).

Source: Bundesanstalt für Arbeitsschutz und Arbeitsmedizin (Federal Institute for Occupational Safety and Health)

[www.baua.de](http://www.baua.de)



# Global EHS management system

Since June 1, 2006, Siemens Healthcare has had a worldwide uniform *EHS management system*.

**No matter where - whether in the USA, Europe, Asia, Canada, China, India, Indonesia, or Great Britain: each of our businesses fulfills the same prerequisites to meet our requirements in the areas of environmental protection and occupational health and safety.**

Our EHS standards are based on the global ISO 14001 environmental standard, and are consistent with the recognized OHSAS 18001 and ANSI Z.10 occupational health and safety standards, and conform to the established Eco Management and *Audit* scheme (EMAS) of the European Union. All of our German factories have already been validated in accordance with this EU directive since 1996. Since then, we set up an integrated *EHS management system* that meets the requirements of ISO 14001 and OHSAS 18001. Today, every Siemens Healthcare site worldwide is subject to the stringent

requirements of this management system. If we acquire new businesses, these businesses have a period of two years to implement our *EHS management system*.

The *EHS management system* of Siemens Healthcare covers a lot of topics which can be processed systematically and uniformly within the company. These include:

- environmental protection
- occupational health and safety
- fire protection and emergency services
- radiological protection
- handling dangerous substances
- transportation of dangerous goods and materials



## EHS policy

Our efforts in the area of environmental protection and occupational health and safety are backed by a clear EHS policy. This policy focuses on five obligations, to which every employee of Siemens Healthcare is committed:

1. Continual improvement of our EHS performance to protect the environment and provide a safe working environment
2. Control and reduce EHS hazards and business risks
3. Create products and solutions that have as little impact as possible on health and the environment
4. Conserve natural resources and prevent pollution
5. Compliance to applicable EHS regulations and maintain market access

## Jointly for reduced costs, more safety and satisfied customers

The benefits of a uniform *EHS management system* are obvious: Double work and overtime are a thing of the past if shared business tools, templates and training documents can be used at every location. We communicate good ideas that have led to cost reductions and process improvements, worldwide.

The *EHS management system* is, however, an important instrument that we can use to better achieve our market goals and to ensure access of our products into international markets. For example, our customers are increasingly asking specifically about the number of work accidents at our locations, our energy consumption levels, whether our products are free from hazardous materials and whether they can be recycled.

## Efficient planning on the basis of systematic analyses and specified targets

An important part of our management system is the evaluation of processes and products with respect to their *EHS aspects*. Siemens Healthcare businesses and sites record, for workplaces, products, plant and procedures, all of the relevant *EHS aspects*, such as risks, energy and water consumption, *emissions*, waste water, radiation exposure and waste, so as to evaluate them in terms of how significant they are and to what extent they can be influenced. Where risks for employees and customers or serious impacts to the environment can arise or statutory requirements must be fulfilled, we rate the relevant aspects as significant and implement controls. The controls can range from pure monitoring, to internal rules (for example waste collection instruction, handling of dangerous substances), to engineering controls, through to implementation of improve-

ment targets to improve aspects and performance.

A multitude of relevant standards and legal directives apply to our sites and products. These are subject to constant change. Information about new laws and changed directives are provided by legal newsletters, websites as well as information services. However, we also obtain extensive knowledge from our own company offices for environmental protection and occupational health and safety as well as from our collaboration in associations and standardization bodies.

To ensure that relevant directives are available in full and are up-to-date, these are recorded in databases, evaluated with respect to their significance for our sites and products and appropriate corrective action is initiated, where applicable.

	Responsibility	Technical responsibility
Level 1: Siemens AG	Managing Board of Siemens AG	Corporate offices for environmental protection and occupational health and safety
Level 2: Healthcare Sector	Head of Healthcare Division	EHS sector office and medical service
Level 3: Operations	EHS responsible of operation	EHS representative

EHS organization of Siemens AG illustrated by the Healthcare Sector

This includes:

- Changes to internal directives
- Issuing notifications to authorities
- Adaptation of processes, plant, workplaces and products; and
- Re-evaluating aspects

To drive continual improvement in the area of environmental protection and occupational health and safety, Siemens Healthcare has a systematic target setting process. When defining goals, we are supported by the instruments offered by the *EHS management system*. Many improvement ideas are created while evaluating *EHS aspects*, within the scope of EHS reporting or during internal *audits*. Improvement measures are manifold; They range from energy saving measures at a site and environmentally sustainable plant operation through to product innovations and the optimization of workplaces.

The company suggestion system is another core element: The employees' ideas are collected and evaluated within the scope of idea management, 3i (ideas, initiatives, innovations). It was also confirmed in the past years that the management system can only function and develop its full performance with the employees' ideas, knowledge and initiative.

## The basis of a functioning management system: The EHS organization

Only if responsibilities and tasks are clearly delegated, can a globally-applicable management system be introduced and further developed in a structured fashion. In organizational terms, the EHS activities of Siemens Healthcare are incorporated within Siemens as a whole. The organizational and supervisory duties, as well as guideline competence and control authority with respect to all EHS requirements of Siemens as a whole, are assumed by a member of the managing board of Siemens AG.

Due to the company's size as well as to the decentralized responsibility structure, where Divisions are to a great extent managing themselves, two responsible management levels were established: the division heads (for Siemens Healthcare this is Imaging & IT, Workflow and Solutions and Diagnostics) and the level of the heads of the operations. The operations can be either sites (in the European and Asian Regions) or Business Units (in the American Region).

The corporate offices for environmental protection and occupational health and safety provide advice to the responsible managing board member of Siemens AG, and coordinate and supervise any resolved measures. At Siemens Healthcare, EHS support for the Divisions is provided by the Sector EHS office and the company medical office. The operational control

for EHS at the level of the operating companies is provided by EHS representatives.

The EHS representatives of the operations and the supervisors within the various Business Units take care that the occupational health and safety tasks are performed. Tasks, competencies and authorities of the employees with managing, executive and supervisory functions are specified in organizational charts, job descriptions and instructions.

## Implementing goals: All employees are called to act

To ensure that our EHS policy is implemented and our goals are achieved, every organizational unit is required to establish appropriate operational controls (as applicable, equipment as well as procedures) as well as emergency and control measures. Due to its special importance for the health of employees, customers and patients, the management of hazardous substances is globally controlled within Siemens Healthcare. Hazardous substances used in our factories or products must pass through a release procedure in which measures to minimize risks for both employees and the environment during handling of these dangerous substances are defined and registered in a global database. A check is also carried out as to whether the number and quantity of used hazardous materials can be reduced.

### Brief information for sales staff about the EMAS environmental management system



Training ensures that our employees know the instructions and are sufficiently qualified for the requirements of the EHS system. Special tasks, for example the development of environmentally sustainable products, waste management or handling dangerous substances, require further qualification. Supervisors plan further training for their employees and determine specific training, should new requirements arise from work.

Intranet pages and employee newsletters provide further information to our employees. Special attention is placed on providing information about our commitment to the environment to our customers. In this way we have, for example, prepared what is referred to as EHS sales cards, for our sales staff. These cards contain information as bullet points about our environmental performance.

### Controls, corrections and new solutions by internal and external audits

*Audits* and inspections are important instruments for us, to continually review and further develop our EHS system. Our German sites take part in the European Eco Management and *Audit* Scheme (EMAS) and in occupational health and safety certifications in accordance with OHSAS 18001, and are evaluated by external auditors. Operations outside Germany are checked by the Siemens Healthcare Sector EHS office. In internal *audits*, qualified auditor teams regularly review

the implementation of policy and target specifications as well as the functional ability of organization, instruments and processes. Where nonconformances are identified during the *audits*, the operations define the appropriate corrective actions which are monitored by the EHS representatives.

Beyond the continual control of the EHS system, we are supported by both internal and external *audits*, in particular in developing ideas, increasing the safety at workplaces, protecting the health of both employees and patients and preserving our environment.

Along with the regular *audits*, relevant EHS metrics are obtained, trended and passed on to responsible management reports.

Reliable statistics are a central instrument for monitoring our EHS performance and the definition of new goals. With the Siemens Environmental and Technical Safety Information System (SESIS) we determine basic data worldwide from all countries and areas. This includes, for example, energy consumption, *emissions*, waste volume, accident statistics, risks and measures, hazardous substances data, and also operating indicators such as staff numbers, absenteeism, sales, floor spaces etc. For sites not taking part in EMAS, the EHS representatives issue reports every six months and forward these to the Sector EHS office. Furthermore, reports on product-related environmental protection are issued every six

months. All of this data provides us with a reliable overview of the status of EHS activities and helps us to identify weaknesses. The relevant data on the individual Business Units and sites can be found in the sites profiles.

### Performance review at all hierarchical levels

Management reviews take place every year, at all three hierarchical levels: At these reviews, the technical experts inform the EHS representatives about the current status of the management system as well as about *audit* results and associated corrective measures. The EHS representatives evaluate the extent to which the management system is suited to implement the EHS policy and decide on further steps. The *EHS management system* is thus a management instrument used to improve occupational health and safety as well as environmental protection, taking risks, costs and benefits into account at the same time.

# Aspects and their associated impacts

Our integrated *EHS management system* helps us to identify, evaluate and improve, in a comprehensive fashion, the effects our products and processes have on the environment as well as the safety of our employees and customers.

Our primary focus is on avoiding effects that are detrimental to our environment and health. Nowadays, however, there are many environmental and safety aspects we cannot completely eliminate, the impacts of which we can only reduce instead. For instance, the production and utilization of our products requires energy, the consumption of which leads to *CO<sub>2</sub> emissions* in most cases. Nor can we prevent our patients' exposure to X-rays. However, we can reduce it to as great an extent as possible, without jeopardizing the quality of our products.

When analyzing the effects of our products and processes on the environment and occupational health and safety, we assess the entire product life cycle, from the supply of materials and production through to end-of-life of the product. This progressive, comprehensive system perspective allows not only for outstanding progress in EHS protection but also secures financial advantages due to lower energy and material consumption. Using product environmental declarations we inform our customers about the key environmental aspects of newly developed devices.

Siemens Healthcare differentiates between direct and indirect *EHS aspects*.



Assessment of the product life cycle

## Direct *EHS aspects*

Direct aspects are those which we can fully control through our activities.

The aspects in the areas of occupational health and safety are recorded and evaluated with the risk assessment. Such evaluation criteria include:

- Mechanical hazards (for example, stumbling, fall and slide situations)
- Hazardous substance hazards (for example, specific gases, liquids, solids, vapors, dust)
- Fire and explosion hazards
- Biological hazards: viruses and other micro-organisms, genetically modified organisms, toxic substances of



- micro-organisms
- Electrical hazards
- Radiation (ultrasound, ionizing and non-ionizing radiation, electromagnetic fields) hazards
- Cold and hot media hazards
- Vibration hazards
- Work environment hazards: climate, noise, lighting
- Psychological hazards (for example, strenuous posture, stress, personal conflicts, social conditions)

In the environmental area we must consider, in particular, the following aspects:

- Energy consumption: Primary energy sources (such as gas and oil) and secondary energy sources (such as electrical power)
- Water use (drinking and ground water)
- Use of raw materials: Material consumption
- Use of chemicals, operating materials

- and auxiliaries
- Waste volume
- Waste water volume
- Emissions into air and water (for example, solvent emissions, volume of contaminants in waste water)
- Stress by odors
- Noise emissions

At Siemens Healthcare, we perform a systematic evaluation of all described *EHS aspects* for workplaces, products, processes and procedures, to determine how important and influential they are and to initiate appropriate improvement measures, if necessary (see location profiles).

#### Indirect *EHS aspects*

Indirect *EHS aspects* are aspects that our company can only influence, since they do not occur at our locations, but instead in upstream or downstream processes. These include, for example, the purchase of raw materials by our subcontracting

firms, transport logistics, the use of the product by the customer as well as its technically appropriate end-of-life treatment.

While Siemens Healthcare cannot influence the indirect aspects to the same extent as it would the direct ones, we can, in particular in product development, pave the way for environmentally sustainable products that do not adversely affect health. By paying attention to having low energy consumption, few consumables and little need for maintenance as early as the planning stage for new products, we can decisively impact resource consumption in the use phase. With our system for the reuse of old devices and by providing disassembly instructions for our products, we are also controlling the quality of device end-of-life treatment.



## Environmental protection in the entire life cycle

Traditionally, management of the direct environmental impacts has been the main task of environmental protection representatives. This includes, for example, the reduction of environmental impacts that we can affect directly by reducing energy and material consumption. In the last few years, however, the significance of environmental aspects in upstream and downstream processes (indirect environmental impact) has increased significantly. This requires a holistic view of both products and processes. For instance, by making suppliers aware of an ecological optimization of the purchased parts or by giving customers advice with respect to the careful use of our devices, we can effectively reduce the adverse environmental aspects throughout the entire life cycle of the products.

### Direct environmental impact at our sites

Direct environmental impact at our sites occurs mainly within the production processes. It results from aspects that can be directly controlled, such as material use, energy consumption, water consumption, occurring waste and various emissions. To reduce the adverse impacts of these

aspects is a basic task of environmental management (see sites profiles).

Regional impacts of our sites and processes include what is referred to as *summer smog* as well as ground and water acidification by nitrogen oxides and sulphur dioxide ( $SO_2$ ). When burning gas and oil, carbon dioxide ( $CO_2$ ), as well as other acidic gases are produced, the emissions of which directly contribute to the global greenhouse effect and to global pollution. Added to this is the use of electrical energy. In those countries where we have locations, such energy is also mainly generated with the help of fossil fuels, leading to a corresponding emission of greenhouse gases.

In 2007, numerous locations used innovative technology and performed energy saving programs. One important step was the installations of a solar power plant in Malvern (USA). This plant generated 188,000 kWh in its first year of operation (2006). The solar plant is part of the site's efforts to contribute to climate protection. Since 2003, Malvern has been repeatedly awarded the Energy Star Rating from the American environmental authority (USEPA) for its commitment, and is rated as one of the leading companies in its category.

At OCS in Concord (USA), we were also able to save the equivalent of 1,000,000 kWh overall in 2007 through various energy saving measures, including installing motion detectors, switching off unused devices and the introduction of new lighting regulations. The importance of making employees aware of this issue is made clear by the communication campaign of our "Audiology" Business Unit in Piscataway (USA). By changing our employees' behaviour and using advanced technologies, we were able to reduce energy consumption in 2007, by 241,000 kWh within 9 months.

In terms of the global *greenhouse effect*, the insulation gas sulphur hexafluoride is also very important at Siemens Healthcare. At our sites in Erlangen, Kemnath and Rudolstadt, this gas is used for radiation therapy devices, to test components. Our environmental representatives deem this gas to be particularly relevant, since it has a greenhouse factor of over 20,000 times more than carbon dioxide. The emission of one kilogram of sulphur hexafluoride corresponds to the  $CO_2$  emissions of an average passenger car after driving 110,000 km (68,750 miles). In Erlangen, Kemnath and Rudolstadt, we are presently focusing on the consistent recovery of sulphur hexafluoride.

In the medium term, Siemens Healthcare intends to refrain from using sulphur hexafluoride for component tests. However, this necessitates modifications to the design of our products. In Erlangen we have already succeeded in replacing this gas with compressed air for most of the tests and, in this way, have avoided its use to a great extent.

An essential environmental aspect of our production is the use of certain hazardous substances, such as lead. Traces of hazardous substances can reach the environment and lead to pollution of the ground, can damage flora and fauna and ultimately even pose health risks to people.

The European Directive, *RoHS* (Restriction of Hazardous Substances) limits the use of lead, mercury, cadmium and hexavalent chromium as well as of two classes of flame retardants in electrical and elec-

tronic devices to a few precisely described applications. Medical products are not currently covered by the directive, since the use of lead is essential for providing protection against X-rays and the specified heavy metals in sensors reduce the patient's exposure to radiation significantly, while maintaining the same level of image quality.

However, the European Commission is planning to include medical products in the scope of application of the directive and to increase the number of restricted substances. Here Siemens Healthcare is collaborating in bodies and associations that are cooperating in drafting the future directive. In this process, one important topic concerns the definition of application cases in which the use of specific substances is still permitted. Furthermore we are, however, already adapting our processes such that we only use the affected substances where their use is absolutely vital.

For example, in Piscataway, we eliminated the use of lead in 2007 in the soldering process in the production of hearing aids.

We also are asking our suppliers to take appropriate action. This includes, for example, banning lead from counterweights, not using substances covered by the *RoHS* in printed circuit boards, selecting semi-finished parts with a low lead content as well as not using chromated surfaces.



## Indirect environmental impacts

Indirect environmental impacts mostly arise outside our own production, during all phases of the life cycles of our products. By analyzing the life cycle phases, we determined that the consumption of electrical energy during use of our devices has the greatest impact on the environment. In long-life medical devices, such as computer tomographs and magnetic resonance systems as well as X-ray devices, the use phase accounts for more than 75 percent of energy consumption totalled throughout all product life phases. Further essential impacts are attributable to transportation or result from the environment-related behaviour of our suppliers, contractors and employees.

## Ecological opportunities in product development

We can best reduce environmental impacts caused by our products by assessing their aspects as early as in the development phase and by setting ourselves ambitious goals. This is why we agree on environmental performance targets for each significant product development project. Following the development phase, we assess the achievement of these targets as well as any further environmental performance of the new product. The experiences gained in this process are incorporated in process

improvements as well as in new product developments.

One example of a product environmental improvement is the new magnetic resonance tomograph, MAGNETOM Verio. Thanks to a coordinated new development of essential system components (magnet, coil systems and covers), our developers reduced the tomograph's overall mass by more than four tons, compared to the previous model. The 3-Tesla high field system, MAGNETOM Verio is still, nevertheless, one of the most powerful magnetic resonance tomographs on the market and, with its tunnel opening diameter of 70 cm, provides a high level of patient comfort.

The savings achieved in terms of mass have a positive impact on all product life phases. Fewer raw materials are thus required for production, and less energy is needed for transport. There are fewer requirements imposed on installation location at the customer's premises, leading to savings in building materials. Likewise, there is less material to dispose of later. Like most cases, the mass reduction of the MAGNETOM Verio comes hand in hand with a reduction in size. This allows the customer to use smaller rooms and thus leads to further savings in resources.

Another example is the computer tomo-

### Requirements imposed on product development

- Binding definition of environmental performance features and definition of individual improving targets as early as at the start of product development
- Exclusion of *banned substances* and recording of *critical substances* (since 1994) and *selective treatment parts* (since 2003), including suppliers
- Systematic documentation of all materials used in products
- Implementation of product-related environmental improving targets
- Provision of information for end-of-life treatment operations for the proper handling of the products (since 1994)
- Provision of information for customers, authorities and the public in the form of product environmental declarations (since 2007)
- Implementation of ecological product assessments (since 2003)



graphy system SOMATOM Definition AS+. Compared to its predecessor model, SOMATOM Sensation 64, we reduced energy consumption during image acquisition by 30 percent on average. At the same time we were able to reduce the radiation dose by 15 percent on average.

Our colleagues in China also succeeded in reducing the energy consumption of the MAGNETOM ESSENZA by up to 50 percent compared to an existing MR system. At the same time, the use of a "Zero-Helium-Boil-Off technology" made it possible to re-condense the helium that vaporizes during operation in the operating breaks, resulting in refilling intervals of typically one year being extended to more than ten years.

At Siemens Healthcare, product development is implemented at almost all production sites worldwide. This facilitates communication between the employees working in development and production. To incorporate global Sector environmental requirements in development, we set up an international team that collects the product-related environmental requirements, incorporates them into a joint internal regulation and ensures its global implementation.

### International transport logistics

Transport logistics outside the factories of Siemens Healthcare is characterized by truck and airfreight transports. Maritime freight is also gaining in significance. Considering the globally increasing trade relationships, it will be very difficult to reduce greenhouse gas *emissions* in logistics. We are nevertheless working on achieving this goal in the processes wholly or partly controlled by us.

In the 2006/2007 fiscal year, we shipped, for the first time, 41 magnetic resonance tomographs from Germany to the USA by ship rather than by air. This measure alone lead to *emissions* being reduced by close to 126 tons of CO<sub>2</sub> equivalents for each transported device. For ecological and economic reasons, we are interested in increasing the number of magnetic resonance tomographs transported by ship. The transport of magnetic resonance tomographs by ship is, however, only possible if the devices arrive at the customer's premises within 20 days. If this period is exceeded, an enormous quantity of liquid helium is required to cool down the magnet to bring it back to operating temperature. Since we are not able to collect the helium at the customers' locations, it would be unrecoverable.

### Digitization of processes: Remote maintenance

With our remote maintenance service, Siemens Remote Service (SRS) and the Remote Update Handling (RUH) service offered for software distribution and updates since 2006, we support the reliable operation of customer equipment and at the same time save on valuable resources. SRS and RUH allow various IT-based services to be performed via remote data transmission. With respect to SRS this also includes preventive service through active monitoring. These technologies lead to a reduction of the number of assignments of service engineers on site. We proved that the requirements demanded of SRS regarding availability, confidentiality, integrity and commitment were met, through an effective and efficient Information Security Management System (ISMS) to ISO 27001 which was certified by German TÜV.

Remote maintenance with SRS contributes to a reduction of environmental impacts since we can correct up to fifty percent of system malfunctions by remote access and thus avoid a lot of service trips. Conservatively, we put this saving at, on average, 1.4 million car kilometers per month. Another success factor is, moreover, that the number of customers



availability of remote maintenance continues to increase.

At the same time, the number of equipment suitable for remote software update, RUH, as well as the number of customers using this service, is rising continually. By digitizing this process, we are avoiding car kilometers to a similar extent as for SRS.

Both measures allow us to achieve a monthly reduction of  $CO_2$  emissions of approximately 26 tons.

### In dialog with suppliers

To achieve our environmental goals, we are also involving external business partners. In this process, we take numerous environmental protection aspects into consideration when selecting and evaluating suppliers. Together with our suppliers, we are continually looking for possible improvements in packaging and product design as well as in logistics workflows.

The suppliers from which we buy components or materials for the production of our products are required to supply only those products that do not contain any substances that are banned within our sales markets. We furthermore ask our

suppliers to provide information about any hazardous substances and about parts that require special selective handling at the end of the product life. Such information is important for the creation of disassembly instructions, for example.

Since the 2005/2006 fiscal year, we have also systematically recorded, along with the *critical substances* and the *selective treatment parts*, all other materials for new products. In this process, we provide our suppliers free of charge with our Microsoft Excel based "ProMed" software.

Employees of suppliers who are directly working at the premises of Siemens Healthcare, are informed that they are bound by the applicable environmental protection guidelines. This relates, for example, to separate waste collection as well as emergency response rules.



### Environmental protection through reuse

An essential part of the commitment of Siemens Healthcare to the environment is the handling of old devices. These are reused, used for a different purpose, recycled or disposed of appropriately.

We take back those devices and components that are suitable for reuse and refurbish them professionally, mostly in Forchheim for the European and in Hoffman Estates (Chicago) for the US market. This includes systems for

- computer tomography,
- magnetic resonance tomography,
- angiography,
- fluoroscopy and radiography,
- molecular imaging,
- mammography, urology and surgery,
- ultrasound and
- radiation therapy.

In the 2006/2007 fiscal year, we re-sold more than 800 refurbished systems worldwide. During refurbishment, worn parts are replaced, hardware and software updated such that they correspond to the latest state of the art and complete system tests performed, as they are for new devices. The systems thus refurbished are provided with the „Proven Excellence“ quality seal.

Compared to new products, the energy required to supply materials as well as that for some manufacturing processes is not needed for Proven Excellence systems. A Proven Excellence system is thus a sustainable medical product. It opens up very good market opportunities for Siemens Healthcare and allows our customers to meet the requirements of changing environmental awareness. The demand for systems bearing the Proven Excellence seal is currently increasing significantly worldwide. One of the reasons is that the environmental behaviour of hospitals and doctors has also increasingly become the focus of both health insurance companies and patients.

An online survey conducted by Siemens Japan in September 2006 showed that the majority of patients are in favor of active environmental protection in health facilities and would prefer to go to those facilities. With our sustainable products, we can support our customers in this environment and provide them with a competitive edge.

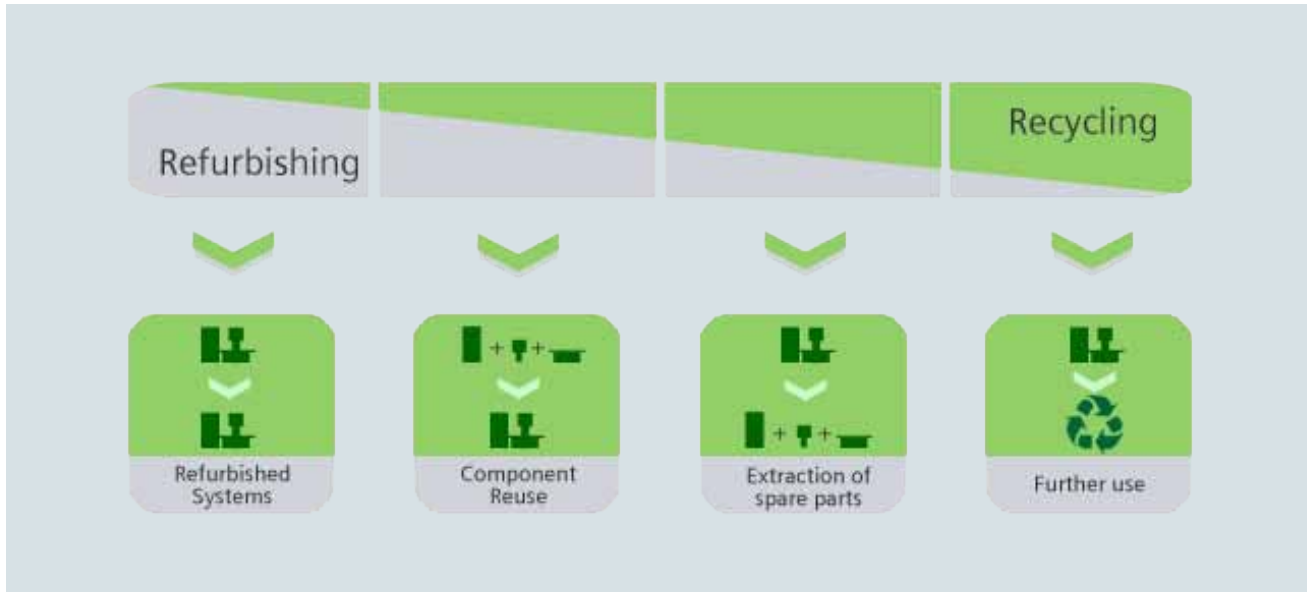
Another example for the successful reuse of device parts is our X-ray tubes. X-ray tubes that are subjected to a high level of stress have an average life time of two to three years. After this time, we arrange for them to be returned to the Erlangen-based tube factory. This allows wear-free parts of the tube to be reused. Based on a defined process, we check the quality of



the released parts and refurbish them, if necessary. These "as good as new" parts can then be reused for the assembly of X-ray tubes. Close to fifty percent by weight of an X-ray tube is returned to the reuse cycle.

As early as the development stage of new products, we start considering how we can reuse as many product parts as possible at a later stage. This puts us in a position to conserve raw materials and reduce the energy needed for the manufacture of the components. We guarantee quality through our compliance with the IEC 62309 standard „Dependability of products containing reused parts“. In the 2006/2007 fiscal year, our reuse quota, in relation to product value, was around 24 percent.

In recognition of our particularly effective reuse procedure that takes environmental aspects into special consideration as early



System for the reuse of products



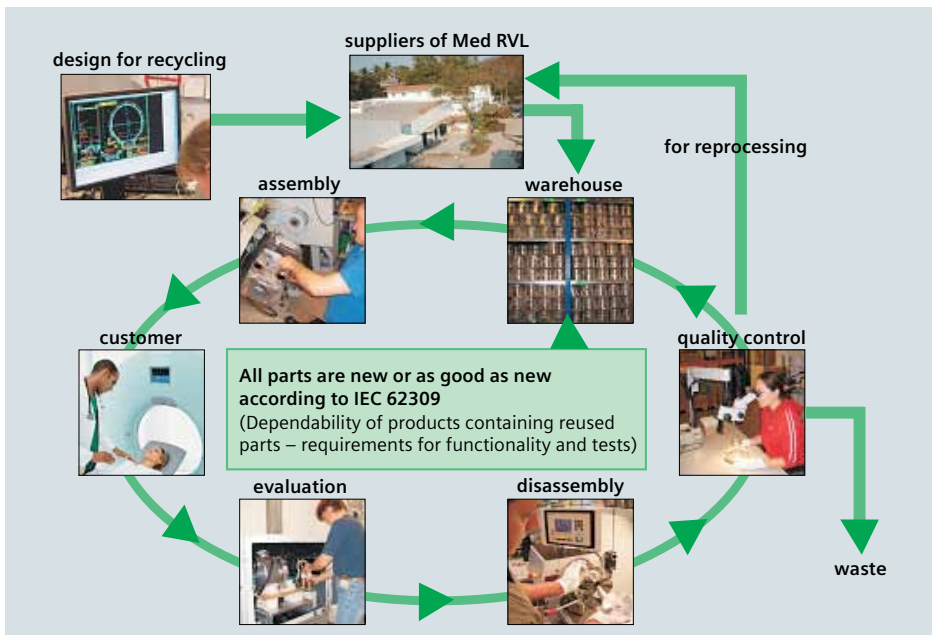
Presentation of the national EMAS Award 2007

as product design, the European Commission awarded Siemens Healthcare the national EMAS Award 2007 in the large company category. Innovative developments for the avoidance, reuse and recycling of waste were the primary focus of this award in 2007.

### Disposal of old devices

Only when we have checked and utilized all alternatives, do we submit used equipment for end-of-life treatment. Our end-of-life treatmentsystem is organized worldwide and is the responsibility of the national companies. All national companies have instructions regarding the environmentally responsible end-of-life treatment of products, which they must take into consideration in addition to national laws. Partners commissioned by us dismantle the used devices into its constituent parts. *Critical substances* and selective treatment parts are removed prior to recycling the substances. In the 2006/2007 fiscal year, close to 650 tons of old medical devices were taken back in Germany, on behalf of Siemens Healthcare, for end-of-life treatment.

By taking back old devices and documenting their end-of-life treatment, we are fulfilling our product responsibility within the context of the statutory requirements of the European Union. In Germany, these are regulated by the law concerning the placing on the market, taking back and environmentally responsible end-of-life treatment of electrical and electronic devices (ElektroG).



Reuse process for high-performance X-ray tubes



## Occupational health for employees

**In 2005, a study conducted by the World Health Organization (WHO) impressively demonstrated the effectiveness of preventive measures and measures that are beneficial to health. Preventive measures avoid illnesses or at least offer the opportunity for early and thus frequently more effective treatment. Siemens Healthcare is among those who have a vital interest in maintaining its employees' efficiency. Against the background of the forecasted shortage of technical staff in the industrial nations, Siemens Healthcare, being a medical engineering company, depends more than ever on qualified, healthy and happy employees.**

For more than 100 years, our company doctors have been attending to our employees' health. Since occupational medicine has always been about avoiding illnesses and accidents, we also see it as an opportunity to respond to social trends in the health area and to protect our employees. We are counteracting the ever increasing rate of cardiovascular diseases, cancer, diabetes, diseases of the musculoskeletal system and psychological disorders in the industrial nations with early detection and prevention programs.

An essential task of occupational medicine is the provision of advice in the ergonomic design of workplaces. Over the past few years, we have come to the conclusion that the design of conditions, requirements and structures at the workplace not only avoids hazards but also promotes healthy behaviour.

### Occupational health at Siemens Healthcare

With its products, Siemens Healthcare wants to contribute to improved diagnostics and therapy. Special solutions, in particular in the IT area, furthermore serve to shorten processes in medicine, make them more transparent and improve them in qualitative terms. This relates both to the areas of early detection and diagnostics as well as to therapy and aftercare.

While our employees contribute to maintaining the health of others in this way, Siemens Healthcare ensures, with its activities in the area of occupational health, that our employees in turn stay healthy and efficient.

The company medical practice is responsible for providing support to employees at the Erlangen, Forchheim and Kemnath locations, in terms of occupational and emergency medicine, as well as for coordinating occupational medicine and occupational health worldwide within the Siemens Healthcare Divisions. Our company doctors cooperate closely with managers, technical experts for occupational safety and work councils in all issues concerning occupational medicine, such as risk assessment, healthcare and emergency management. The Siemens company health insurance fund is also an important occupational health partner in Germany. The fund celebrates its centennial in 2008 and is one of the largest company health insurance funds in Germany. Ever since its inception, the activities of this insurance fund have been primarily focused on the concept of actively promoting prevention.

Our company doctors deal with the interdependence of work and profession on the one hand and people, their health and their illnesses on the other. This requires an integral approach, comprising the handling of dangers, provision of consultancy to employees and managers, early detection and, if possible, the prevention of illnesses. Overall, occupational health at Siemens Healthcare comprises the following aspects:

- Protection against illnesses and accidents at the workplace
- Help in acute cases of emergency and illness
- Return to work following long-term illness or in the case of disablement and avoiding consequential damage
- Early detection and intervention through regular checkups
- Improvement of the ability to work under pressure and of people's well-being

## Protection against illnesses and accidents at the workplace

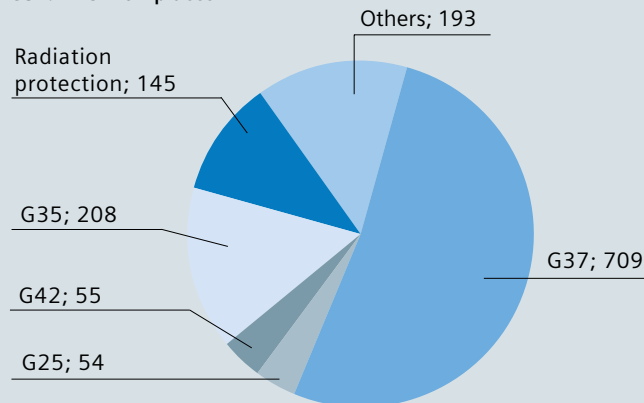
Preventive medical checkups serve to protect our employees' health. To avoid and detect work-related ailments and illnesses at an early stage, we conduct regular occupational health checkups. This applies particularly to those employees handling hazardous substances or requiring protection against infection. In cooperation with our safety experts, our company doctors provide advice to managers in the planning and design of workplaces and conditions. Once an employee occupies a workplace, the company doctors support this employee in handling the specific risks of said workplace correctly and in a responsible manner.

Some employees are subjected to a higher risk of illness if they are, for example, working in hospitals, i.e. in catheter laboratories, for instance. Here a preventive medical checkup including individual advice and vaccination to provide protection against infections is required.

Due to the international presence of Siemens Healthcare, many employees travel abroad for work where they are exposed to special strains in terms of climate and health. Employees who travel frequently are examined by our company doctors at regular intervals. In counseling sessions, they inform employees about necessary vaccinations and special health risks in the country of travel. If required, we provide our employees with a first-aid kit comprising appropriate drugs. On our Intranet site, employees have access at all times to basic medical information relating to their travel as well as to links to further websites.

We also offer yearly influenza vaccination to our employees. At the Erlangen Nord and Forchheim locations alone, we vaccinated a total of 1239 people against the flu in 2007.

G25: Checkups in the case of driving and steering activities  
G35: Checkups prior to travel outside Germany  
G42: Danger of infections  
G37: VDU workplaces



Occupational health preventive medical checkups 2006 at the Health Care Center (Erlangen Nord and Forchheim)

## Help in acute cases of emergency and illness

Even with far-reaching preventive medical measures in the area of occupational safety, acute cases of emergency and illness cannot be excluded. To help our employees quickly in the case of emergencies, our company medical practices thus have ambulances at their disposal. These facilities are manned by standby nursing staff who are the first point of contact in the case of acute health issues and work in close coordination with the company doctors.

Since employees can consult the company medical service quickly and in an open-door fashion, it is often possible to avoid long downtimes by having early treatment. This even applies to health problems of a simpler nature which could lead to work interruptions of several hours, if a general practitioner had to be consulted. If any specialist consultation is required, the company doctors can, as case managers, transfer the affected employee specifically to a competent colleague.

In emergency cases, employees can contact the plant security center via the general emergency number. Plant security can directly request a doctor or nursing staff via wireless communications equipment.

In this context, the company medical practice also organizes the training of first-aiders. More than 567 employees at the Erlangen Nord and Forchheim locations have the appropriate training. We attach great importance to first-aiders learning about the essential basics of resuscitation and this is why training on AED devices (automatic external defibrillators) is part of their training. We have a total of 30 AED devices at the Erlangen, Forchheim and Kemnath locations. These can apply electrical shocks in the case of cardiac arrest through ventricular fibrillation. At the same time they are safe enough to be operated by lay persons.

If an emergency occurs abroad, our company doctors support the employee by contacting the doctor treating the relevant person locally. If need be, we help in organizing, in conjunction with the International SOS, the employee's transport back to Germany and coordinate with the treating hospital in Germany so as to ensure that there is no interruption in the patient's medical care.

### Reincorporation - Return to work

Siemens Healthcare enables a phased return to their workplace of those employees who suffered a long-term illness. Initially the company doctor is the point of contact and counselor for the employee. He can start providing consultation to the relevant colleague during the illness and clarifies, with the latter's manager, the options for reincorporation at the workplace. Furthermore the company doctor gets in touch with the treating general practitioner or specialist as well as with the personnel department. In some cases, we also involve the work council and social counseling service in the return-to-work procedure. In 2007, we succeeded in arranging for a total of 60 employees with very different illnesses to return to work. Our experiences from this process are encouraging. A successful return-to-work makes a significant contribution to employees' motivation and to a positive attitude towards the company. Furthermore, we were able to observe a high level of social responsibility assumed by superiors, and also a great deal of understanding and willingness among colleagues to take over additional workloads, if a permanent improvement can be achieved by doing so.



### Early detection measures

Over the past several years, we have invested repeatedly in the early detection of health risks for our employees. In this process, we organize temporary wellness programs at our locations. This includes ultrasound examinations of the thyroid gland, preventive bowel cancer medical checkups and a cardiac checkup. Due to the high level of acceptance of our company doctors among the employees we reach an above-average number of people, compared to the average in Germany. Every employee is provided with an explanation of his checkup result, further health tips and, if necessary, we refer him for treatment by a specialist.

We were very pleased with the participation in the colo-rectal cancer screening conducted in 2005 at the Erlangen, Forchheim and Kemnath locations. Of close to 2000 employees above 45 years, more than 800 took part. This corresponds to a participant quota of more than 40 per cent. This colo-rectal cancer screening in Germany was a joint campaign by company management, the Health Care Center, the Siemens company medical insurance fund, the Computed Tomography (CT) Division and Erlangen University.

In spring 2006, we also organized a cardiac checkup at the Erlangen, Forchheim

and Kemnath locations. This checkup allowed the individual cardiovascular risk to be ascertained by a detailed blood test and by completing a validated questionnaire, the costs of which were generally not borne by the statutory health insurance funds. With the support of the Siemens company health insurance fund, we were able to offer the cardiac checkup for a personal employee contribution of as little as ten euros. Of 1371 employees undergoing the checkup, 252 employees displayed risk factors. All participants were given detailed consultation and tips on changing their habits. The cardiac checkup campaign prompted many employees to change their lifestyle. Furthermore, some employees took advantage of the offer to take a "Siemens cure".



## Increase in ability to work under pressure and in people's well-being through a healthy way of life

It is in the interest of Siemens Healthcare that employees lead a healthy life. At the same time, we are aware of the physical and psychological strain associated with work. We promote our employees' health in many different ways.

Support for employees wishing to lead a healthy life or who are already doing this is provided, in particular, by our company sports organization. For instance, the Siemens sport and leisure complex in Erlangen has been offering sports for more than 50 years. The complex offers a wide-ranging and low-fee program of leisure sports, recreational exercise and fitness and exercise for all age groups.

A first individual instruction for a healthy way of life is provided, for example, by the Siemens health seminars. They extend over three days, where one doctor and one sports instructor each counsel 16 participants. The seminars are intended to convey, by presentations, dialogues and practical exercises, information about a healthy and active way of life in an interactive fashion. In this process, participants can try out various different sports activities to see which sport is suit-

able for them. Supported by performance diagnostics, we can also explain how overstrain caused by everyday working life can be avoided.

The "Siemens cure", however, is even more intensive. This three-week program for employees is offered at the Bad Steben and Höchenschwandt locations. It pursues a holistic approach incorporating the elements of movement, diet and relaxation. Three sports instructors and one to two doctors attend to the participants in this process. Our experiences have shown that close to a third of the participants change their lifestyle in the long term, due to the "cure". Siemens was the first large company to offer something like this, which has yet to be matched in German industry. To embed what has been learned even better in everyday life, we offer three-day refresher seminars. The participants of the Siemens "cures" are thus given the opportunity to freshen up and deepen their knowledge. The "cures" as well as the health and refresher seminars are certified for their quality management, to DIN EN ISO 9001:2000.



## Safety at the workplace

The task of occupational safety is to maintain and promote the life and health of all people working in a company. To achieve this goal, it supports the various corporate sectors in designing workplaces, work procedures and workflows in accordance with the physical, mental and psychological efficiency of employees. In this way, it promotes efficient and undisturbed working and, at the same time, makes an important contribution to corporate success.

### Guidelines for occupational health and safety

According to the German labor protection law, employers are required to undertake all measures required to ensure the safety and health of their employees during work. In accordance with the law, the employee must "check measures as to whether they are effective and adapt them to changing conditions, where required. In this process, he must aim to improve the occupational health and safety of employees" (§3 of the German labor protection law, ArbSchG).

Furthermore, Siemens Healthcare complies with further internal guidelines:

1. The best strategy against hazards, risks and accidents is prevention by design. All business and site processes and workplaces as well as any modifications to them should thus be designed, constructed and introduced such that they ensure safe and ergonomic use throughout their entire life cycle.
2. Wherever possible, we should avoid hazardous substances or replace them with lower hazard substances.
3. Prior to commissioning new plants (buildings, machines, equipment) and in the case of changes to existing plants or during the introduction of new technologies, a qualified safety expert conducts a safety inspection. These inspections are documented and repeated at appropriate intervals.
4. Special attention is paid to the working environment and to the regulations relating to air and light quality, noise protection, unobstructed escape routes, operational safety of both machines and tools as well as the handling of dangerous substances.
5. Accidents can occur despite all of those precautions. However, these are investigated carefully to avoid any recurrence.
6. We maintain ready-to-use and documented plans to identify emergencies and counteract them. We test and evaluate fire protection, civil protection and evacuation plans regularly to confirm their effectiveness.

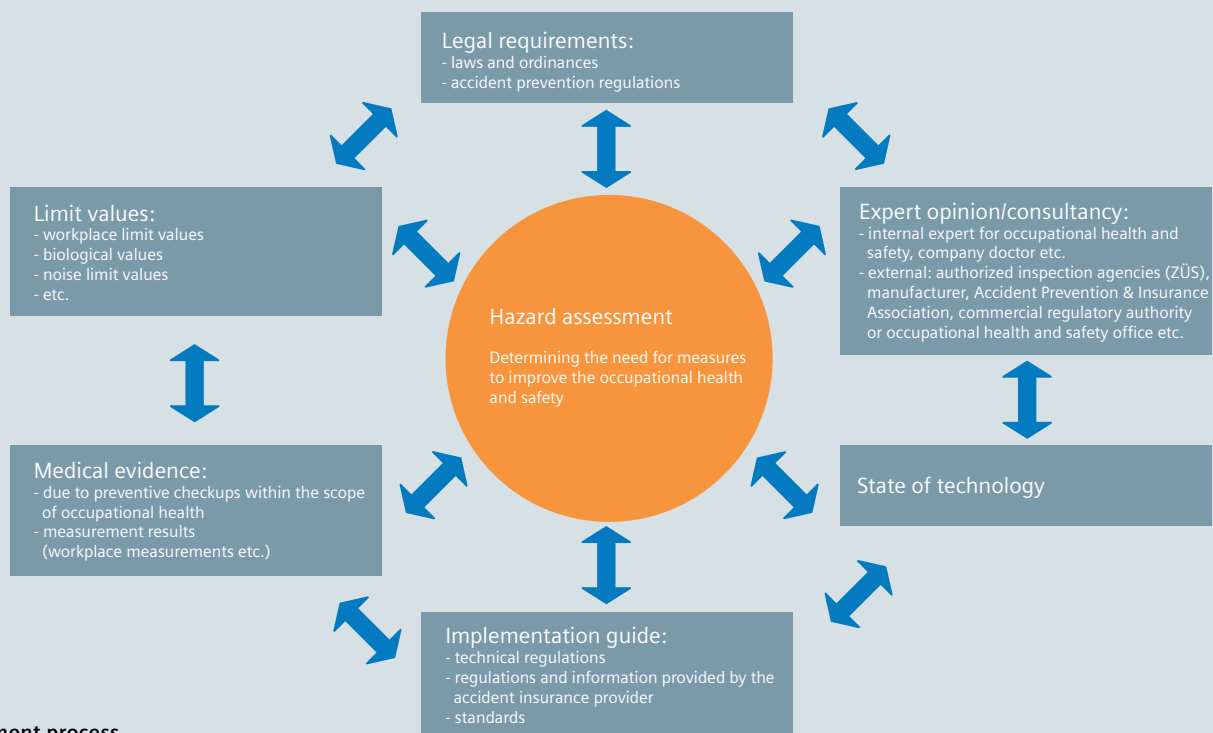
Over the past several years, labor protection legislation has changed significantly due to the deregulation of existing accident prevention guidelines on the one hand and the coming into effect of new ordinances on the other. The new regulations include, for example, the Ordinance on Industrial Safety and Health, the Ordinance on Hazardous Substances and the Health and Safety at Work Act which provide a new basis for the specific tasks of occupational health and safety in the operating companies. If previously there was a large number of individual and accident prevention regulations that proposed measures for almost every instance, the employee - and thus ultimately the responsible manager - had to determine possible hazards in their entirety and define and determine suitable measures himself. The specifications and requirements thus necessitate a comprehensive risk assessment. We involve our EHS experts systematically in the planning and implementation of this evaluation. All managers are responsible for implementation.

§ 5 and § 6 of the German labor protection law provide the basis for risk assessment at all locations.

Hazards can arise in various different ways, for example

- by the design and setting up of the workplace, for example traffic routes, lighting, general safety,
- by the design, selection, use and condition of the operating equipment (for example machines, devices) as well as of work and auxiliary materials,
- by physical, chemical and biological effects such as noise, climate, radiation, hazardous substances or viruses and micro-organisms,
- by work processes, work procedures and processes or
- by man-machine interfaces and the environment of the activity area (transport routes, machines in the vicinity, etc.) as well as the work and auxiliary materials used.

Risk assessments are conducted by the responsible managers together with the safety experts and company doctors before an employee takes up a new activity. Changes in the work processes and flows, in the field of activity or in regulations require a revision of the risk assessment.



Risk assessment process

### Management of dangerous substances at Siemens Healthcare

Since 2005, Siemens Healthcare has been using a uniform global procedure for the evaluation and release of hazardous substances that is aimed at minimizing risks and hazards for our employees, service providers, customers and the environment. In this process, both the hazardous substances used to manufacture our products and those being used in our products must be recorded, evaluated and released for use.

The benefits of hazardous substance management are manifold. The data collected in the software tool helps us during the creation of necessary operating instructions relating to substances, the workplace and activities; it also serves as the basis for risk assessments and allows us to create the schedule of hazardous substances automatically. The database provides important information both for our employees and our service providers. Transparent data form the basis for recruitment and preventive medical check-ups by our company doctors and service providers use the database for their risk assessments. In this process, all users can rest assured that the data and legal regulations are up-to-date and updated continually. All information is archived and is available for many years, for evaluations and inquiries (for example in the case of inquiries with respect to occupational illnesses). Since hazardous substance management has been introduced, we have reduced the number of hazardous substances used worldwide by ten percent.



### Occupational health and safety measures

The measures to be performed on the basis of a risk assessment may be of a technical or organizational nature or be person-related. Technical measures include, for example, the guarding of hazardous areas by physical barriers, technical safety systems such as emergency off or fault current switch, technical work aids as well as ventilation and air extraction. Administrative controls can, for example, include the checking of plant, operating equipment and facilities, operating instructions and the provision of instruction as well as release procedures for specific activities. Furthermore, we train our employees to be aware that having a greater awareness of reliability and safety issues and wearing personal protective clothing significantly reduces hazards.

### Accident statistics on the decline

During the reporting period, Siemens Healthcare was also very successful in intra-company terms, with respect to its occupational safety measures. For instance, at Siemens Healthcare, the number of company accidents dropped in the calendar year 2007 to 3.5 accidents per 1,000 employees. In Siemens as a whole, this figure was 5.3 for the same period. The number of industrial accidents comprising vehicular (including bicycles) accidents and accidents at work amounted at Siemens Healthcare to 6.8 accidents per 1,000 employees in 2007.

## Information and special campaigns

It is not just the described established regulations and procedures at Siemens Healthcare that serve to continually improve occupational safety. These regulations and procedures are also supplemented by targeted information and advanced training measures as well as special campaigns. In this context, another annual conference of the safety officers took place in October 2007 - this time in Fürth, Germany - attended by 56 participants from the Forchheim, Erlangen and Heidelberg locations as well as the entire occupational health and safety team from Fürth itself and official representatives. One of the presentations, for example, dealt with healthcare and occupational health during business trips outside Germany. Two information events for managers took place at the Kemnath location in January 2008. This event dealt specifically with the managers' responsibility for occupational health and safety.

Within the scope of a cooperation project with the local university, our American Audiology Division in Piscataway introduced ergonomic exercises for employees in production. These exercises are the result of an ergonomic study at the workplace and in 2007 contributed to reducing workplace-related injuries by 50 per cent.

With respect to route safety, June 2008 saw the seventh bicycle campaign being organized by the occupational safety department at Erlangen and Forchheim, themed "Fit and safe on the bike". The resonance of this campaign is increasing from year to year. Many of our employees use the opportunity and arrange for their bike to be checked by competent experts, for its fitness for traffic. Our employees receive vouchers towards the cost of any required repairs. In addition, technical experts provide information around the topic of road safety and health throughout this campaign. We also offer driver safety training each year, to both car drivers and motorcyclists.

## Radiation protection

An important topic in the area of occupational safety is, in particular, radiation protection. This relates to ionizing radiation (such as by X-ray tubes or radioactive substances) and non-ionizing radiation (for example by magnetic resonance tomographs, laser or UV rays) in products and at workplaces. In 2007, close to 3,000 people at Siemens Healthcare in Germany were monitored using personal dosimeters measuring the exposure to ionizing rays. More than 99.9 per cent of the above group displayed yearly doses of less than one millisievert (mSv) while as many as 90 per cent did not even reach the detection limit. In overall terms, the personal doses in the company remained clearly below the natural radiation exposure levels. At present, these range between one and ten millisievert in Germany, where the mean value corresponds to about two millisievert per year. Precautionary measures include medical supervision of covered employees.

With respect to the safe handling of radiation sources, the necessary permits and licenses have been obtained from the responsible authorities and radiation protection instructions issued, compliance with which is monitored by the radiation protection and laser protection officers.

Compliance with the radiation protection regulations is ensured in close cooperation with the technical experts for occupational safety, such as during the protection against non-ionizing radiation.

The transport of radioactive substances (this comprises the packaging, dispatch, transferring for transport or transporting the substances oneself) is performed by Siemens Healthcare employees or external contractors.

Within the scope of monitoring effective radiation protection, the radiation protection office, as well as the supervisory authorities, conduct regular inspections of operating facilities. The high level of radiological protection at Siemens Healthcare facilitates the implementation of the regulations and is thus to the direct benefit of both employees and the company.



# EHS program

Significant progress and continual improvements in environmental protection, occupational safety and radiation protection are only possible if we set ourselves clear and ambitious goals.

Our goals should motivate our employees to work on sourcing innovative, long-term and safe solutions every day. It is beyond question that all management staff, up to highest levels, must pursue these goals.

Our EHS program is based on specifications as well as on our own results and findings gained within the scope of our management process. This includes:

- the Siemens Healthcare EHS policy,
- legal and normative regulations,
- customer requirements,
- *EHS aspects* resulting from the review of all activities and processes
- technological, financial, operative and entrepreneurial requirements,
- requirements and opinions of various different interest groups as well as
- internal specifications by the overall Siemens company.

This EHS program applies to all locations and Divisions of Siemens Healthcare. It is supplemented by detailed local specifications and goals which we review regularly - as we also do in the case of the EHS program - and adapt, where necessary (see location profiles).

EHS policy Siemens Healthcare Sector	Goals 2008-2010	Detailed goals 2008-2010
<ul style="list-style-type: none"> <li>• Continuous improvement of EHS services for the protection of both employees and the environment</li> <li>• Reduction of risks for employees and the environment as well as of business risks</li> <li>• Development of long-term products and solutions</li> <li>• Preservation of natural resources and minimization of environmental stress</li> <li>• Adherence to legal and normative requirements</li> </ul>	<ul style="list-style-type: none"> <li>• Further development of the worldwide EHS management system</li> </ul>	<ul style="list-style-type: none"> <li>• Final implementation of the <i>EHS management system</i> in all business units and integration into new business units within 2 years</li> <li>• Standardization of workflows and processes as well as transfer of national best practice experiences</li> <li>• Regular review of the effectiveness and further development of the <i>EHS management system</i></li> </ul>
	<ul style="list-style-type: none"> <li>• Recording of all relevant processes and product-related <i>EHS aspects</i> throughout the entire product life cycle.</li> <li>• Reduction of negative EHS effects</li> </ul>	<ul style="list-style-type: none"> <li>• Definition of at least three EHS goals for the reduction of relevant <i>EHS aspects</i> for every new product</li> <li>• Reduction of the number of work accidents to below 5 per 1,000 employees</li> <li>• Replacement of dangerous substances in new product developments, if technically feasible</li> </ul>
	<ul style="list-style-type: none"> <li>• Further development of internal and external EHS communication and training</li> </ul>	<ul style="list-style-type: none"> <li>• Second EHS report for the Siemens Healthcare Sector</li> <li>• Environmental product declarations for all new products</li> <li>• Further development of EHS communication and training materials for all locations</li> </ul>
	<ul style="list-style-type: none"> <li>• Incorporation of suppliers in <i>EHS management system</i></li> </ul>	<ul style="list-style-type: none"> <li>• Regular information and training of suppliers with respect to EHS requirements of Siemens Healthcare</li> <li>• Review and adaptation of the EHS criteria for the selection of business partners and regular auditing of suppliers</li> <li>• Joint further development and implementation of EHS goals</li> </ul>
	<ul style="list-style-type: none"> <li>• Cooperation in the design of new and the revision of existing national and international laws and standards</li> </ul>	<ul style="list-style-type: none"> <li>• Cooperation and active collaboration with respect to all EHS topics in specialist associations, authorities and with the public</li> <li>• Active collaboration in the design of European guidelines <i>RoHS</i> (Restriction of Hazardous Substances) and <i>EuP</i> (Energy using Products) for medical products</li> </ul>
	<ul style="list-style-type: none"> <li>• Benchmarking with other companies and implementation of innovative solutions</li> </ul>	<ul style="list-style-type: none"> <li>• Review of innovative, alternative solutions for the improvement of EHS services, and the development and implementation of improvement proposals</li> </ul>

# Glossary

## Audit

An audit is a systematic and independent review to determine whether activities and the associated results satisfy the planned requirements and whether those requirements are efficiently implemented and suitable for reaching the defined objectives.

## EHS aspects

A part of an organization's activities, products, or services that may impact either directly or indirectly on the environment, safety, and health.

## EHS impacts

Any change to the environment or health or working environment, whether negative or positive, occurring at least in part as a result of our activities, products or services. This does not only affect ground, air, and water but also flora and fauna.

## EHS management system

The EHS management system (EHS stands for Environmental, Health and Safety) comprises occupational health and safety as well as environmental and radiological protection. It takes the entire product life cycle into consideration. The goal is to continually improve the EHS performance as well as to reduce business risks and costs. In this way, market access and business processes are supported in the best possible way.

## Emission

Emission is the output of substances, sound, vibrations, light, heat, radiation, odors or similar phenomena to the environment which, within the meaning of environmental protection, may be generally of a harmful nature.

## EuP

The EU guideline 2005/32/EG „Energy using Products“, referred to as EuP in brief,

defines a framework for specifications with respect to the environmentally conscious design of products that consume energy. The focus is on reducing energy consumption as well as the consumption of other resources during the manufacture, operation and disposal of affected products.

## Carbon dioxide CO<sub>2</sub>

Carbon dioxide (CO<sub>2</sub>) is a colorless, odorless and non-poisonous gas. It is a naturally-occurring component of air. However, the problem is that the excessive emission of this greenhouse gas will increase its greenhouse effect, thus giving rise to the concern that the worldwide climate will change.

## Critical substances

Critical substances are substances, the use of which is not banned in medical products. Their use may nevertheless be limited for the following reasons, such as existing or planned regulations, customer requirements or typical properties which pose a danger to the environment. The use of such substances should be avoided or minimized, if technically and economically justifiable. Examples include: Lead, mercury, cadmium.

## ProMed tool

The ProMed tool is a software tool developed by Siemens Healthcare to record product materials.

## RoHS

The abbreviation RoHS stands for „Restriction of the use of certain hazardous substances in electrical and electronic equipment“ and designates EG-Richtlinie 2002/95/EC and its relevant implementation in national law. The directive regulates the use of hazardous substances in electrical and electronic devices

## Sulphur dioxide SO<sub>2</sub>

Sulphur dioxide (SO<sub>2</sub>) is a colorless gas with a pungent odor. When discharged into water, sulphurous acid is formed. The burning of fossil fuels leads to emissions of sulphur dioxide, which can cause great strain on the atmosphere as well as on both flora and fauna (acid rain).

## Selective treatment parts

Selective treatment parts are parts which must be removed from a device before recycling and submitted to separate processing. They generally contain critical substances.

Examples include: Batteries, electronic assemblies

## Summer smog

Summer smog describes the increased concentration of ground level ozone which typically occurs during warm seasons.

## Greenhouse effect

The solar radiation emitted during daytime is stored as heat and re-emitted to space overnight, via infrared radiation. Part of this radiation is absorbed and reflected in the atmosphere on trace gases (CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O etc.) which are relevant to the climate; cooling is reduced. The trace gases thus function like the glass panes of a greenhouse, they let sunlight enter but retain infrared radiation.

## Banned substances

Substances which in accordance with international, national or local provisions may - generally or in specific applications - not be used in medical engineering products.

Examples include: Asbestos, arsenic dioxin



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