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Environmental Protection, Occupational Health and Safety

2010 Report

Answers for life.

SIEMENS



Preamble

The new report in front of you addresses such topics as environmental protection as well as occupational health and safety at Siemens Healthcare. The subject of environmental protection is of special importance to the Siemens group and in particular to the Siemens Healthcare Sector. Of similar, special concern are occupational health and safety: Our products are manufactured at factories around the world – which means that our responsibilities are many: We have to adhere to different standards, provide safe workplaces for employees, identify substances that are injurious to the health of our workforce, and continuously improve products with respect to their environmental safety.

This report covers fiscal year 2009 and our forward efforts made on behalf of environmental protection as well as occupational health and safety. During this review, we consider the topics consonant with higher-ranking Siemens values: responsibility, excellence, and innovation. We exercise responsibility not only in regard to the environment that we treat with care using environmentally-friendly products, we also treat our employees with equal care by offering them safe workplaces – for example, by protecting them from hazards or radiation exposition. Only in an environment defined by responsible actions is it possible for Siemens Healthcare employees to display their full range of innovation and excellence. Only this type of environment is conducive to creating integral concepts such as the integrated product policy, which maps all “lifecycles” of a product with special emphasis on environmental aspects, for example.

Only in this way is it possible to create products such as SOMATOM Definition Flash or MAGNETOM Verio that, in addition to their clinical performance, convince through their energy and material efficiencies.

These topics are supported by extensive descriptions, facts, and background information in the present report.

I hope that we have succeeded in making environmental protection as well as occupational health and safety more palpable and hope you enjoy reading this report.

Sincerely,
Hermann Requardt

Table of Contents

Preamble	2
Profile of Siemens Healthcare	4
EHS – Overview	6
• Environmental protection	6
• Occupational health and safety	7
• Radiation protection	7
EHS management system	8
• EHS aspects	10
• Integrated product policy / Lifecycle management	12
• EHS product tests	13
Topics in the focal point	14
• Healthcare products in the Siemens Environmental Portfolio	16
• Environmental product declaration	22
• ErP – European EcoDesign-Directive for energy-related products	22
• Material restrictions in products	23
EHS worldwide	26
• Success stories at Siemens Healthcare	26
1. Proven Excellence – Sustainable Impact	26
2. Green+ Hospitals	26
3. Involved employees: “GREEN Teams”	26
4. Ecological cooling – an idea from Kemnath	27
5. Best-Performing Sites: Kemnath and Erlangen	27
• Healthcare Sites worldwide	28
EHS program	29
• Data and facts (by regions: Asia, USA, Europe)	30

The term “Siemens Healthcare” or “Healthcare Sector” used in the following is synonymous with the company’s official trade name.

All values provided refer to fiscal year 2009 (October 1 till September 30), if not stated otherwise.

Profile of Siemens Healthcare

Demographic changes and concomitant rising cost pressures in the healthcare industry require extensive diversified solutions that increase the quality of care and simultaneously reduce costs. Siemens accepts this challenge as one of the industry leaders of innovation and one of the largest manufacturers of healthcare equipment.

The company's extensive portfolio covers all areas of healthcare: from imaging systems for diagnosis and therapy, lab diagnostics and audiology, to modern information technology, as well as service, maintenance and last but not least consultation in the areas of process optimization or hospital planning. And Siemens Healthcare is continuously developing further: Through acquisitions, the company's leading position in clinical information technology, especially in the field of hospital information systems, was improved even further. For the first time, an integrated diagnostic provider came to the fore in the healthcare industry that combines imaging diagnostics, lab diagnostics, clinical information technology as well as consultation and service under one roof. Currently, close to 48,000 employees of Siemens Healthcare worldwide work in more than 130 countries. In fiscal year 2009, the company reached sales of 11.9 billion euros as well as an incoming order volume of 11.9 billion euros. The group result amounted to 1.4 billion euros.

The Environmental Protection, Occupational Health and Safety (EHS) department within Siemens has been in existence since 1995. The main tasks of the department are to advise and support to worldwide compliance with regulations, to reduce negative EHS aspects – these include, for example, the handling of hazardous materials – and provide a healthy and safe workplace. In addition, EHS is responsible for establishing improvement processes – for example, environmentally friendly methods for production or production design. At each site, the person responsible for EHS takes care that EHS topics are implemented. The large number of diploma thesis or dissertations written within EHS reflects the importance of the subject matter. The Healthcare Sector welcomes new ideas and supports scientific research in the field of EHS. During 2009, Siemens Healthcare supported a thesis dealing with the ecological aspect of "traffic" and its effect on the environment. Other topics dealt with solutions that help measure the effect of medical products on the environment and the creation of environmental objectives (e.g. the energy efficiency of a computed tomography system during an examination).



EHS – overview

At Siemens Healthcare, more than 100 employees worldwide work for EHS. They all contribute that our EHS policy is applied.

EHS-Policy

Our commitments

- Continual improvement of our EHS performance to protect the environment and provide a safe working environment
- Control and reduction of EHS hazards and business risks
- Create products and solutions to improve EHS aspects
- Conserve natural resources and prevent pollution
- Compliance to applicable EHS regulations to maintain market access

To achieve our commitments

- Executive management is responsible
- EHS is personal and employee participation is mandatory
- EHS regulatory compliance is mandatory
- We use our EHS management system as a living system
- EHS is part of all business functions
- EHS objectives and targets are implemented to improve our business processes
- We expect our business partners to cooperate with us to improve EHS performance

Environmental protection

Environmental protection includes such topics as immission control (immission of material and noise pollution), soil and water conservation (e.g. when handling water-polluting substances), and waste disposal (disposal of production waste and old products). Increasingly, the emphasis of environmental protection has moved from manufacturing to the overall view of the environmental effects of a product across all phases of its product life. The environmental effects of medical products are espe-

cially relevant during their usage. The use phase constitutes up to 75 percent of the energy expenditure of a medical product (e.g., computed tomography). With its integrated product policy, Siemens Healthcare aims to noticeably reduce environmental aspects. In addition, the Sector participates in the energy efficiency program which checks the energy consumption at worldwide factory sites and reduces it whenever feasible.

Occupational health and safety

Classic occupational health and safety addresses primarily the prevention of accidents and the protection of employees from work-related disease. Modern occupational health and safety goes beyond these efforts and requires additional preventive and integral solutions in the sense of an all encompassing operational health protection. For this reason, the Healthcare Sector developed a structure that allows for timely detection of hazards and the reduction of work-related risks. Within the Healthcare Sector, important tasks of occupational health and safety are the creation and implementation of a worldwide occupational health and safety organization within the framework of the EHS management system. The resulting organizational measures for the protection of employees, such as qualification, training in occupational medical and safety-related care, are also of significant importance. In addition, workplaces worldwide (including auxiliary tools and operating materials) are tested for their hazards and risks, actions are implemented to reduce these elements, and their implementation and observance are monitored. This allows for the early detection and minimization of possible work-related risks.

Because healthy and productive employees are the capital of a company, Siemens Healthcare values health protection: Occupational preventive services and emergency care for the employees are coordinated within the framework of health management. Medical employees work closely with executives and experts for occupational safety in evaluating hazards, health examinations, and emergency management.

Radiation protection

Protecting employees from radiation plays an important role at Siemens. Radiation protection applies, on the one hand, to ionizing radiation caused by X-ray tube assemblies or radioactive substances or, at the other hand, to non-ionizing radiation as it is present, e.g., when operating magnetic resonance imaging systems, lasers or UV radiators.

In 2009, Siemens Healthcare monitored approximately 9400 employees worldwide using personal dosimeters with the objective of knowing the exposition of employees at any time and to take corresponding measures where required. The results: Approximately 97 percent of the personnel monitored showed radiation doses of less than one millisievert (mSv) per year. The remaining three percent showed radiation doses between one and six mSv per year. This means that occupational radiation doses in Germany lie considerably below the strict legal limit of 20 mSv per year. The Healthcare Sector obtains these highly satisfactory results by taking such actions as due diligence in recording all activities involving ionization radiation and employing personnel qualified in radiation protection. A radiation safety officer is assigned in case of exposure to ionizing radiation. In addition, employees receive detailed instructions in radiation protection. Preventive measures also include medical surveillance of the employees with special focus on ionizing radiation and strong magnetic fields. Protection against laser beams as well as strong UV or infrared radiation is met by technical and administrative measures such as, e.g., protective housing or identifying laser protection areas by using access control as well as personal safety equipment (e.g., safety glasses).

EHS management system

Since 2006, Siemens Healthcare has operated a uniform global EHS management system that includes internationally recognized occupational health and safety protection management systems in addition to essential elements of environmental and radiation protection. An important element of the EHS management system is the organization oriented on the globally effective, three-level EHS organization of Siemens. A differentiation is made between functional responsibilities (management) and technical support.

Environmental Protection, Health and Safety (EHS) Responsibility within Siemens worldwide		
	Responsibility	Technical Support
1st level Siemens	CEO Member of Siemens AG Managing Board	Siemens Corporate EHS Offices
2nd level Sector / Divisions	CEO of Sector and Divisions	Healthcare EHS Department
3rd level Business Units	CEO of Business Units	EHS Officer

Three-level EHS organization at Siemens

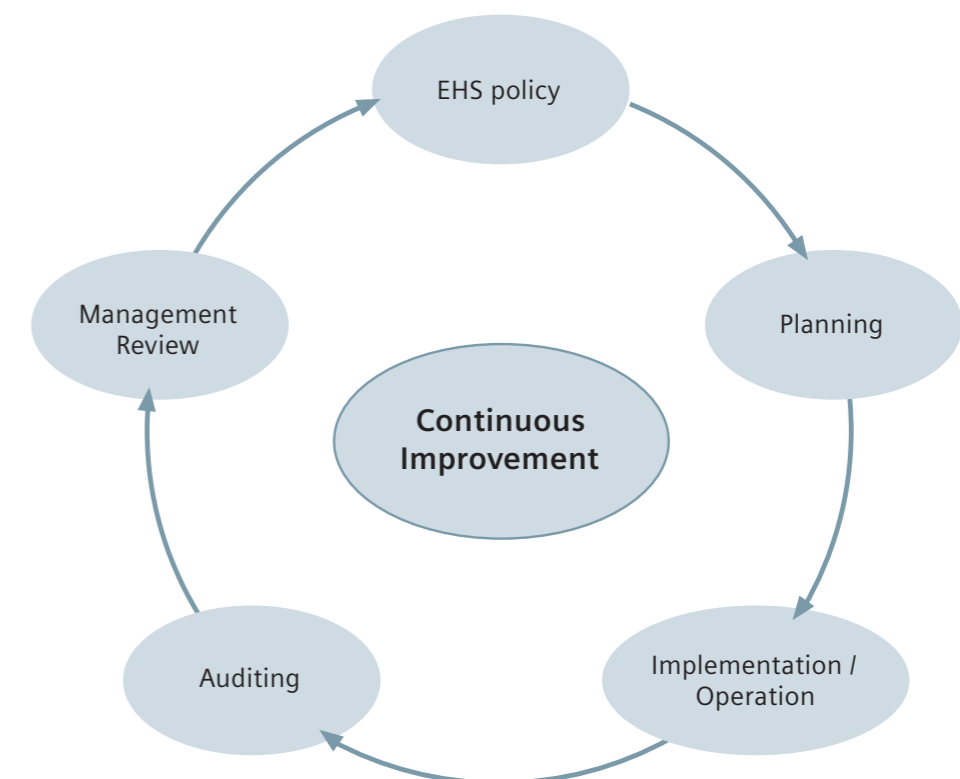
As shown in the figure, responsibilities are assigned as follows: the EHS manager is named at the highest level (Siemens Corporate) by the board member responsible. The EHS manager has to also demonstrate sufficient technical knowledge to successfully handle environmental protection as well as occupational health and safety issues. At the second level, the Sector level (Siemens Healthcare), the CEOs of the three Divisions – Bernd Montag (Imaging & Therapy) – Michael Reitermann (Diagnostics) and Norbert Gaus (Clinical Products), take care that the corporate guidelines and programs of Siemens are implemented. This level also names an EHS manager for the technical side. The same applies to the third level which includes the business units or sites.

Internal audits are another important element of the EHS management system. With their help, the effectiveness of the EHS management system is checked regularly. The same evaluation standards are used worldwide to meet the high requirements of the Healthcare Sector in the areas of environment as well as safety and health.

With the element “EHS across all product life phases”, the EHS management system provides an instrument for the sustained reduction of EHS aspects (e.g., less energy and material consumption) and provides verifiable environmental advantages for customers (less electricity costs).

The EHS management system provides / initiates

- Systematic acquisition of all EHS aspects and effects (e.g., use of contaminants, energy consumption, radiation)
- Detailed EHS requirements and solutions for product development
- EHS compliance for sites and products
- The establishment of EHS objectives and measures to reduce negative effects on humans and the environment as well as to determine their control and tests
- Continuous improvement of EHS performance
- Information provided by employees, customers, and the public
- Publication of data and facts, e.g., in environmental declarations and environmental product declarations
- Certifications



Functionality of the EHS management system with the objective of continuous improvement



EHS aspects

All relevant environmental and occupational safety aspects are acquired and evaluated at the Healthcare Sector using the EHS management system. For example, hazards at the employee workplace when handling hazardous material can be reduced as much as possible with this system. There are also advantages for the customer, e.g., the reduced energy consumption of products. Patients profit as well from the systematic use of the management system, for example, in the form of reduced radiation exposition during the examination.

However, it is not possible to relinquish certain hazardous materials in medical engineering. Lead, for instance, is used to shield off x-rays. To limit negative environmental effects to a minimum, Siemens Healthcare established a

number of safeguards across all product life phases, for example, the return of products at the end of their lifecycle.

When analyzing the effects of the company's products and processes on the environment as well as occupational health and safety, Siemens Healthcare examines the entire product lifecycle – from the availability of material to the manufacture and use as well as disposal of the product. This advanced and integral view of the integrated product policy enables the company to gain enormous ecological advances but also cost advantages, e.g., realized by lower energy and material usage.

There are two types of EHS aspects: direct and indirect aspects.

Indirect EHS aspects

Indirect EHS aspects are those that can be controlled only in part by the company – for example, they are not generated at the sites of the Sector, but rather in up-stream or down-stream processes. These include, for example, the procurement of raw material by vendors, transport logistics, its use at the customer site as well as correct product disposal.

Although Siemens Healthcare is not able to influence indirect aspects with the same effect as direct aspects, the course can be set for environmentally friendly products that are also not detrimental to human health: Already during the planning phase of new products, low energy consumption, fewer consumables and lower maintenance requirements are taken into consideration. Resource consumption is thus already greatly influenced during the use phase of the product. In addition, the Sector controls the quality of waste disposal. The Refurbished Systems Business Unit has made it the unit's task to refurbish used systems and subsequently return them to the marketplace at attractive prices. Also, extensive disassembly instructions are made available for all products.

Direct EHS aspects

Direct aspects are those over which Siemens Healthcare has full influence and control. The aspects in the area of occupational health and safety are acquired and evaluated using the hazard evaluation. Among these are:

- Mechanical hazards (e.g., tripping, falling or sliding)
- Hazardous materials (e.g., certain gases, liquids, solid material, vapors, dust)
- Fire and explosion hazards
- Biological substances: viruses and other microorganisms
- Electrical hazards
- Radiation (e.g., ultrasound, ionizing radiation, electromagnetic fields)
- Work environment: climate, noise, lighting

With respect to the environment, the following aspects play an important role:

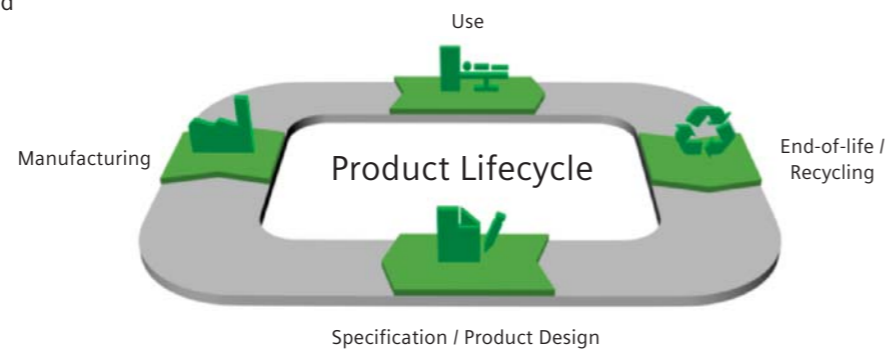
- Use of energy
- Use of water
- Use of raw material: material consumption
- Use of chemicals, operating material, and additives
- Waste disposal
- Waste water
- Emissions to air and water
- Noise pollution

Integrated product policy / Lifecycle management

Environmentally conscious actions are indispensable. Siemens Healthcare would like to sharpen the public's awareness accordingly and rises to this challenge. Due to the integrated product policy (IPP), the entire lifecycle of a product – from the very first idea up to its last time of use – is seen under the aspects of environmental protection, resource implementation, energy consumption, and disposal. For every new product, care is taken to reduce negative effects to the environment. The better the various phases of the product lifecycle mesh, the more environmentally friendly and resource-sparing a product will be.

The lifecycle of a product is divided into four phases:

- specifications / product design
- manufacturing
- use
- end-of-life / recycling



Product lifecycle at Siemens Healthcare

Phase 1: Specification / product design

In the specification and product design phase, Siemens Healthcare considers the environmental impacts of a new product across its entire lifecycle. Using its ambitious environmental objectives, the Sector is able to influence the impacts of a new product very well – for example by giving early consideration to the material used as well as the desired energy consumption.

Phase 2: Manufacturing

The manufacturing phase includes both the manufacture of the product as well as its transport. This phase ends by transferring the product to the customer. Environmental aspects occur mainly in the delivery chain and the manufacturing process: for example, material, energy and water consumption, waste as well as different emissions. Environmental management is responsible for either avoiding or at least minimizing hazardous environmental impacts.

Phase 3: Use

During this phase, medical devices greatly influence the environment, for example, through their energy consumption. For this reason, Siemens Healthcare minimizes environmental impacts – as much as possible – already in the product design phase. In addition, customers are provided with information so that they can operate their systems in an environmentally conducive manner.

Phase 4: End-of-life / recycling

Siemens Healthcare developed a four-stage return concept: Refurbished systems, reuse of components, extraction of spare parts as well as further use / recycling. Because of the exact knowledge of the material used for these products, the Healthcare Sector is able to supply the material for reuse and minimize effects on the environment. In addition, Siemens Healthcare provides information on how to handle products after their period of use has expired.

EHS product tests

Siemens Healthcare largely emphasizes product safety. For this reason, the Healthcare Sector established a central test lab that supports the Business Units worldwide in meeting legal and normative product requirements.

As early as during the development phase of medical products, requirements involving electrical, mechanical and functional safety as well as radiation protection and electromagnetic compatibility (EMC) are taken into consideration. This integral approach enables that safety

requirements are incorporated in the best possible way in the product design. After developing the product prototype, it is put through its phases. For testing electromagnetic compatibility, a modern EMC center is available with a 21 x 13 meter large absorber hall with a measurement path of 10 meters. During 2009, the test lab was accredited by the German Accreditation Council (DAR). This means that the test lab is considered highly competent in matters of test procedures according to a nationally authorized agency.



View into the absorber chamber which provides the electromagnetically "neutral" environment required for the product testing. With the shown testing facility the immunity against electromagnetic fields (e.g., broadcast, television, mobile radiocommunication etc.) can be tested.

Topics in the focal point

Siemens environmental portfolio

“Our environmental portfolio makes us one of the market leaders for green technologies”, says Peter Loescher, CEO of Siemens. The company has reached this position because its environmental portfolio addresses challenges such as increasing urbanization, the growing shortness of natural resources and the concomitant need for environmental and climate protection.

The environmental portfolio comprises products that are both energy as well as resource efficient and support customers in reducing their CO₂ emissions as well as product life costs and improve their ecological performance. But Siemens is not only involved in ecological aspects of its current products and solutions, the company also analyzes future technical developments.

The Healthcare Sector was able to steadily increase the number of products in the Siemens environmental portfolio.

The following EHS aspects play a decisive role:

- Materials
- Energy
- Hazardous materials
- Radiation exposure
- Emissions
- Waste
- Noise

Healthcare developed six criteria for the company's products – three for energy efficiency and three for resource efficiency:

When a product meets at least one of the six criteria, it can be proposed to the Siemens Sustainability Board for the environmental portfolio. The board is responsible for the entire topic of “sustainability” within the company – e.g. for the strategy and supervision used. The Sustainability Board decides whether the product will be included in the environmental portfolio or not. As a last step, this decision is examined by an external auditor. Within the past few years, the development of the “green” portfolio of the Sector has been very promising. While it reached eight percent of sales in 2008, it climbed to 12 percent in 2010.

Energy efficiency:

E1: 20 percent less energy consumption during standard examinations

E2: 20 percent less energy consumption during the product life phase “use” per number of examinations

E3: 20 percent less energy consumption during all life phases of a product per number of examinations

Resource efficiency:

R1: 20 percent less total weight per number of examinations

R2: 20 less weight for consumables per number of examinations (only when consumables are ecologically relevant)

R3: 20 percent less emissions or dangerous waste per number of examinations (only when emissions or waste are ecologically relevant)

Siemens Sustainability Board:

The Siemens Sustainability Board provides the strategic direction for the topic of sustainability. The board makes important decisions to make Siemens to a leading sustainable company.

The responsibilities of the board in detail:

- Determining the strategic direction
- Making decisions with respect to sustainability
- Checking and monitoring that sustainability objectives are met
- Moving sustainability initiatives forward

Healthcare products in the Siemens Environmental Portfolio



MAGNETOM ESSENZA

Environmental benefits

- Reduction of energy consumption up to 50 percent¹
- Reduction of installation requirements up to 25 percent¹
- Reduction of product mass up to 20 percent¹
- Zero Helium Boil-Off Technology: No helium consumption during normal usage

Customer benefits

- The most affordable², all-new 1.5T MRI
- Saves siting, electricity and construction costs
- Low installation costs
- Low connection values for energy and cooling

¹ Compared to conventional 1.5Tesla (T) MRI systems

² Data on file



MAGNETOM Avanto

Environmental benefits

- Zero Helium Boil-Off Technology: No helium consumption during normal usage
- AudioComfort: Noise development reduced by up to 30 decibel³
- Material is up to 93 percent recyclable
- All constituent materials are documented for high-quality use

Customer benefits

- Improved image quality and diagnosis thanks to Tim® (Total imaging matrix) technology
- Substantially lower operating costs
- Patient comfort increased considerably through reduction of acoustic noise

³ Compared to previous Siemens 1.5T MR system



SOMATOM Definition

Environmental benefits

- Uses up to 30 percent less energy than the previous model
- Reduced lead content by more than 80 percent from the previous model (from 110 kg to 19 kg)
- 97 percent recyclable

Customer benefits

- Sharp and detailed images
- Can distinguish between different tissue types in a single scan
- Lower radiation doses



Refurbished Systems

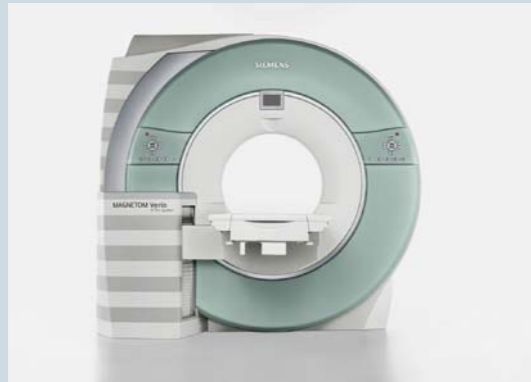
Environmental benefits

- Longer product lifecycle saves resources
- CO₂ emissions reduced by nearly 20,000 tons per year
- Energy savings in the range of 5,700 households per year

Customer benefits

- Economical refurbished systems with latest technology
- Proven Excellence quality standards as high as those for a new device
- Customized solutions

Healthcare products in the Siemens Environmental Portfolio



MAGNETOM Verio

Environmental benefits

- Reduction of mass up to 36 percent¹
- Small footprint
- Zero Helium Boil-Off Technology:
No helium consumption during normal usage
- Material up to 95 percent recyclable

Customer benefits

- Unique Tim™ (Total imaging matrix) technology that optimizes 3T power
- Increased patient comfort through 70 cm Open Bore Design
- TrueForm™ Magnet, Gradient, and RF design offers enhanced image quality by optimizing the homogeneity
- Minimized siting and operating costs by a new short, ultra-light 3T magnet

¹ Compared to previous Siemens 3T MR system



SOMATOM Definition AS

Environmental benefits

- Average energy savings of 30 percent for standard examinations²
- Dose reduction of approx. 15 percent³
- Contactless power and data transmission prevents abrasion and dust
- No more lead used for counterweights
- 98 percent recyclable

Customer benefits

- Sharp and detailed images
- Adapts for Complete Dose Protection
- Adapts to any clinical need
- Adapts to any space

² Compared to SOMATOM Sensation 64

³ Compared to state-of-the-art 64-slice CT scanners with approximately 40 mm z-coverage



ACUSON P50™

Environmental benefits

- 40 percent less mass than the prior generation product
- No mercury in flat panel display
- 99 percent recyclable

Customer benefits

- The platform enables immediate access to analysis, reporting, archive, e-mail, internet and other productivity applications
- Provides exceptional image quality in a platform that "moves" with the daily workflow



ACUSON P10™

Environmental benefits

- Least mass of any Siemens Ultrasound product
- No mercury in keypad backlighting
- Driven by a removable, rechargeable lithium ion battery

Customer benefits

- Instant power up; battery-saving display power management
- Improved diagnostic confidence through visual information
- Ultraportable

Healthcare products in the Siemens Environmental Portfolio

In 2010, three further Healthcare products were included in the Siemens Environmental Portfolio:



SOMATOM Definition Flash

Environmental benefits

- Average energy savings of 45 percent during standard thorax examinations¹
- Average energy savings of 85 percent during cardiac examinations¹
- No more lead used for counterweights

Customer benefits

- Currently the fastest CT scanner on the market
- Sharp and detailed images
- Dose reduction to less than one millisievert (mSv) for cardiac examinations

¹ Compared to SOMATOM Definition



AXIOM Luminos dRF

Environmental benefits

- Energy savings of typically 35 percent²
- Digital radiography and fluoroscopy: No film processing necessary
- Optimized floorspace: radiography and fluoroscopy in one room

Customer benefits

- True 2-in-1 system for fluoroscopy and radiography providing high utilization rates
- Complete digital workflow for faster and more efficient examinations
- Significant dose reduction with CARE (Combined Applications for Reduced Exposure)

² Compared to AXIOM Iconos R200 (equal workload)



AXIOM Ysio

Environmental benefits

- Energy demand per patient decreased by more than 20 percent³
- Digital radiography: No film processing necessary
- Optimized floorspace despite higher patient throughput

Customer benefits

- Imaging excellence (excellent image quality with new generation detectors, wireless mobile detector, DiamondView Plus)
- Enhanced workflow (more than 500 organ programs for automatic system positioning)
- Investment confidence (one system – tailored exactly to the individual imaging needs)

³ Compared to AXIOM Aristos MX/VX

Environmental product declaration

Customer buying decisions are largely affected by product characteristics – such as the material used, energy and water consumption, radiation intensity or maintenance costs. For this reason, Siemens Healthcare provides every product with product information that presents its ecological advantages at a glance. The standardized data sheet allows for a quick comparison across manufacturers with respect to environmental effects and savings potential.

Dr. Freimut Schroeder, head of EHS: “It is the objective of the environmental product declaration to make the ecological and economic aspects of the products in the use phase transparent to the customer before he decides to buy it.”

ErP – European EcoDesign Directive for energy-related products

In 2008, the European Commission selected medical engineering products as one of the next product groups to be tested within the “EcoDesign Directive” (Ecodesign for Energy-related Products Directive 2009/125/EC). This part of the EU environmental law should contribute in the long term to meeting the European Climate Protection Objectives. In the short term, its targets are reduced energy consumption and environmental pollution by products.

The framework offers two options: According to the first option, the European Commission determines the regulatory requirements that will be subsequently enforced by the respective national legislative body. One of the best known examples of the enforcement measures is the interdiction of conventional light bulbs in favor of energy-saving lamps.

The second option enables industry to enter into a bilateral contract with the European Commission. This is also known as self-regulation. Industry sectors are capable to set improvement objectives. As a prerequisite, they have to earn the trust of the stakeholders in the EU consultation forum, because this forum decides on self-regulation.

As the first industrial sector, the medical engineering industry received the approval of the EU consultation forum to implement the Self-Regulatory Initiative (SRI). In front of the consultation forum, the medical engineering sector is represented by COCIR (European Coordination Committee of the Radiological, Electromedical and Healthcare IT Industry).

With this Self-Regulatory Initiative all member companies of COCIR voluntarily agreed to reduce the energy consumption of ultrasound products brought to market in 2012 by 25 percent as compared to 2005. In the coming years, COCIR will improve the SRI process further to implement its ambitious objectives for reducing negative environmental aspects. To maintain transparency in this process and assign explicit responsibilities, COCIR members developed a six-stage process for all modalities. Each cycle is based on the principle of continuous improvement. As soon as a cycle has been completed – which will apply to ultrasound in 2012 – it will start again following new objectives for reducing environmental aspects. Furthermore, each year an additional modality will be incorporated into the six-stage process and start its own development cycle.

Currently, the medical engineering industry is preparing the modality to follow ultrasound. In addition, COCIR continues to work on improving the web-based information platform used to publish all environmental activities of the association. In this way, the public is able to follow all voluntary environmental activities of the Member Companies.

The following companies are represented in COCIR:

Agfa, Aloka, Elekta, Fujifilm, GE, Hitachi, IBA, Medison, Philips, Siemens Healthcare and Toshiba. The representatives in COCIR are supported by their respective CEO through an official written obligation that assures the environmental objectives developed in common. COCIR’s Self-Regulatory Initiative currently includes five modalities: computed tomography, X-ray systems, magnetic resonance tomography, nuclear medicine, and ultrasound. The election of the Siemens Healthcare representative, Dr. Freimut Schroeder, as chairman of the COCIR SRI Steering Committee emphasizes the leading role of the Healthcare Sector.



Dr. Freimut Schröder, chairman of the COCIR SRI Steering Committee and head of the EHS department at Siemens Healthcare

Material restriction in products

Numerous legal requirements limit the use of hazardous materials in electrical and electronic products (such as REACH and RoHS in medical devices). To meet the conformity with these requirements, Siemens Healthcare established a material data information system. With the exception of the lab diagnostic

business, the Sector procures and processes only very little material itself required for manufacturing core components such as detectors for computed tomography, special electronics or gradient coils for magnetic resonance tomography. Most of the components are provided by suppliers, making close cooperation with suppliers a must.

Registration, Evaluation, Authorization of Chemicals (REACH)

The objective of the new EU regulation on chemicals known as REACH (Registration, Evaluation, Authorization of Chemicals) is to unify as well as simplify chemical regulations throughout Europe. The major aim of REACH is to improve the protection of human health and the environment.

According to REACH, manufacturers or importers are responsible for the safe handling of chemical substances or mixtures marketed them. They must, for example, obtain a registration from the European Chemicals Agency (ECHA) for those chemicals which they produce in or import into the European Union in a quantity of more than one ton per year. If this registration is missing, the substance cannot be manufactured or imported. For registration, a sufficient set of data regarding the properties of the substance has to be presented (physical characteristics, toxicity, environmental characteristics, etc.)

In addition, it is required to obtain approval from ECHA for especially hazardous substances (substances of very high concern). Currently, the list is still empty. In

order that manufacturers can progressively replace these types of substances, ECHA published the first candidate list in 2008 which included substances that most likely will require approval in the future. The list will be supplemented every six months with new substances. The third part of REACH involves banned substances. These bans have been in effect for many years and involve, e.g., asbestos.

Restriction of Hazardous Substances (RoHS)

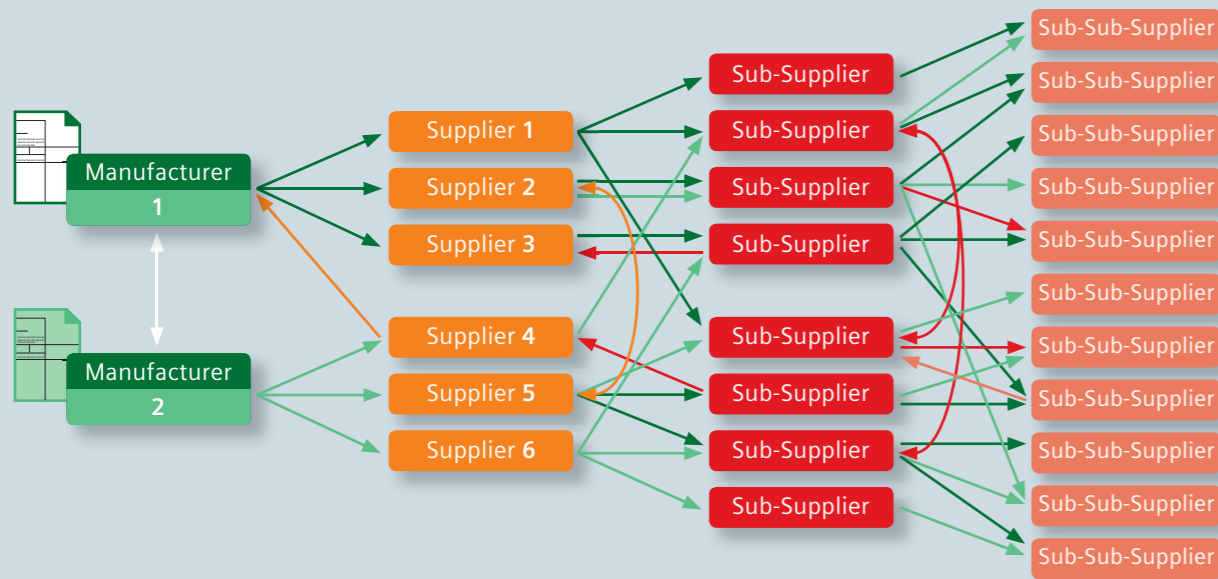
Another European guideline is RoHS (Restriction of Hazardous Substances). This guideline limits the use of lead, cadmium, mercury, chromium (VI) as well as the flame retardants polybrominated biphenyle (PBB) and polybrominated diphenylethers (PBDE). Since July 2006, RoHS has been in effect in the Member States. Also outside of Europe, numerous countries (e.g., China, Japan, South Korea, and individual states in the USA) announced that they will incorporate the substances listed in RoHS. Medical systems will be included in the scope in 2014 and devices for lab diagnostics in 2016.

BOMcheck – Cross-industrial Solution

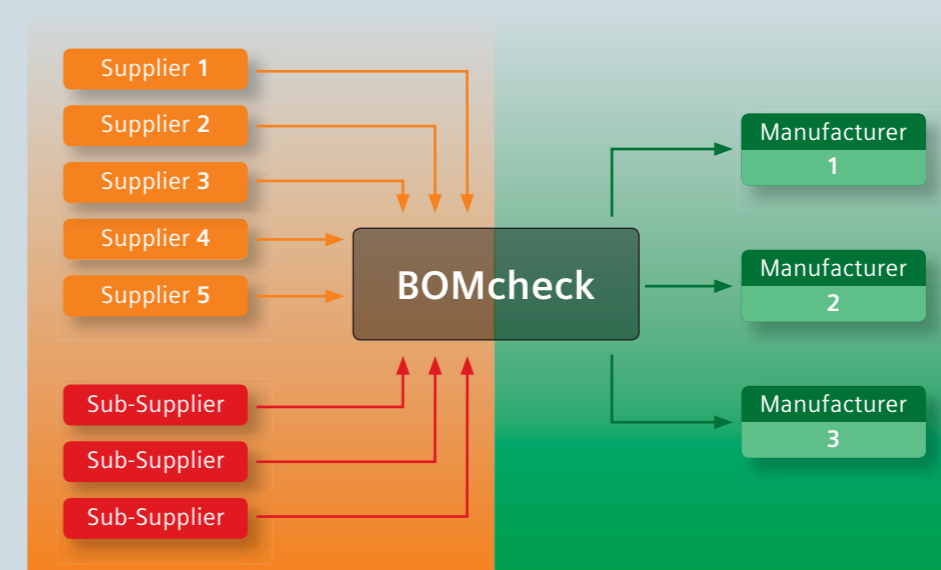
BOMcheck means Bill of Material. Currently, the Healthcare Sector receives the necessary information for its information system by using forms. This translates into a rather time-consuming process because the forms run serially through the delivery chain. Due to the initiatives by Siemens Healthcare and COCIR, a web-based database was created with BOMcheck. This solution supports manufacturers in mastering the constantly changing legal regulations for restricted substances. Suppliers as well as

manufacturers benefit from the large cost-savings provided by this web-supported solution. The declaration tool supports suppliers during material declarations by explaining the necessary legal requirements. In addition, it provides information about the common implementation of legally regulated substances in devices and lists available alternative substances. The materials have to be entered only once in the system and are subsequently available to all authorized users.

BOMcheck includes many mechanisms that allow information to automatically flow through the delivery chain. Furthermore, suppliers can enter their data in parallel during various stages of the delivery chain. This greatly reduces the time required. Siemens Healthcare started a pilot project for BOMcheck that has been completed in the meantime. The obligatory use of BOMcheck will be included in the supplier contracts across all Siemens companies.



Current situation without BOMcheck. Several levels of suppliers lead to incomplete and incorrect material declarations



BOMcheck is a globally and cross-industrial applicable system and database service for declarations of product materials

EHS worldwide

Success stories at Siemens Healthcare

Worldwide, Siemens Healthcare employees support the Sector in acting in an environmentally friendly and sustainable manner. There are many examples of their efforts.

Proven Excellence – Sustainable Impact

The Proven Excellence process of the Refurbished Systems Business Unit enables CO₂ reductions by 20,000 tons per year. Recently studies showed that this value corresponds to the CO₂ storage of approximately 32 hectares of rain forest. Refurbished Systems has developed a program to further counteract the increase in environmental pollution: Proven Excellence – Sustainable Impact has at its objective the reforestation of 32 hectares of rain forest. In cooperation with the NEW trees Replanting Initiative of the WWF Indonesia, Refurbished Systems plants a number of trees for each system sold in support of improving the Indonesian rain forest. Proven Excellence – Sustainable Impact is part of the Siemens-wide Green+ Hospitals concept that was created for a sustainable handling of resources.

Green+ Hospitals

The Siemens program Green+ Hospitals supports decision makers in healthcare in achieving both their economic and ecological goals – with a broad portfolio of products, solutions, and services for more sustainability

in healthcare. Green+ Hospitals is not only about environmental protection, reduction of emissions and energy savings: The plus stands for two further factors of success: efficiency and quality. For example, due to the implementation of new compensation systems, hospitals are managing the challenge to operate in a cost-efficient manner and to offer highest quality in medical care with the best possible comfort for the patients.

Within a Green+ Hospitals project, at first, the individual room for improvement of the hospitals regarding environment, efficiency, and quality is being defined. Then, the right solutions for the customers are chosen from the broad portfolio of Siemens. Amongst others, this comprises solutions for building infrastructure and energy, information and communication technology, medical technology and workflow as well as services.

Involved employees: “GREEN Teams”

Siemens GREEN is short for “Grass Roots Eco-friendly Employee Network”. Several environmentally conscious teams at Healthcare in the USA are participating in this initiative. Their goal is to increase environmentally friendly activities at their places of work. One of these “Green Teams” is the environmental team of Siemens Hearing Instruments (SHI) in Piscataway, New Jersey. The team is involved in retaining natural resources, in not creating waste, and in reducing environmental hazards. The volunteer work of these employees supported SHI in reaching environmental

objectives. It also created many possibilities for employees to get involved – the SHI Green Team was awarded for its performance with the “Siemens environmental prize 2009” in the category “Environmental management and environmental engagement”.

Ecological cooling – an idea from Kemnath

As a center of expertise in mechanical production, the manufacturing site in Kemnath, Germany is also very active in environmental protection. Currently, there are several projects running in parallel to help save energy and water, reduce waste, as well as design and construct more environmentally friendly products for the Components and Vacuum Technology (CV) Business Units.

The Healthcare employees in Kemnath worked actively on new ideas for protecting the environment. The maintenance and repair department proposed to return the coolant for processing centers directly from the container for metal shavings to the machine. In this way, the coolant does not come in contact with the outside and does not have to be disposed of when all quality requirements are observed. As a result, less coolant concentrate is required, reducing the level of hazardous waste. The consistent implementation of this idea leads to a cost reduction of more than 10,000 euros per year. The proposal was awarded with the “Environmental Prize of Kemnath”, which is annually awarded by the Kemnath site.

Best Performing Sites: Kemnath and Erlangen

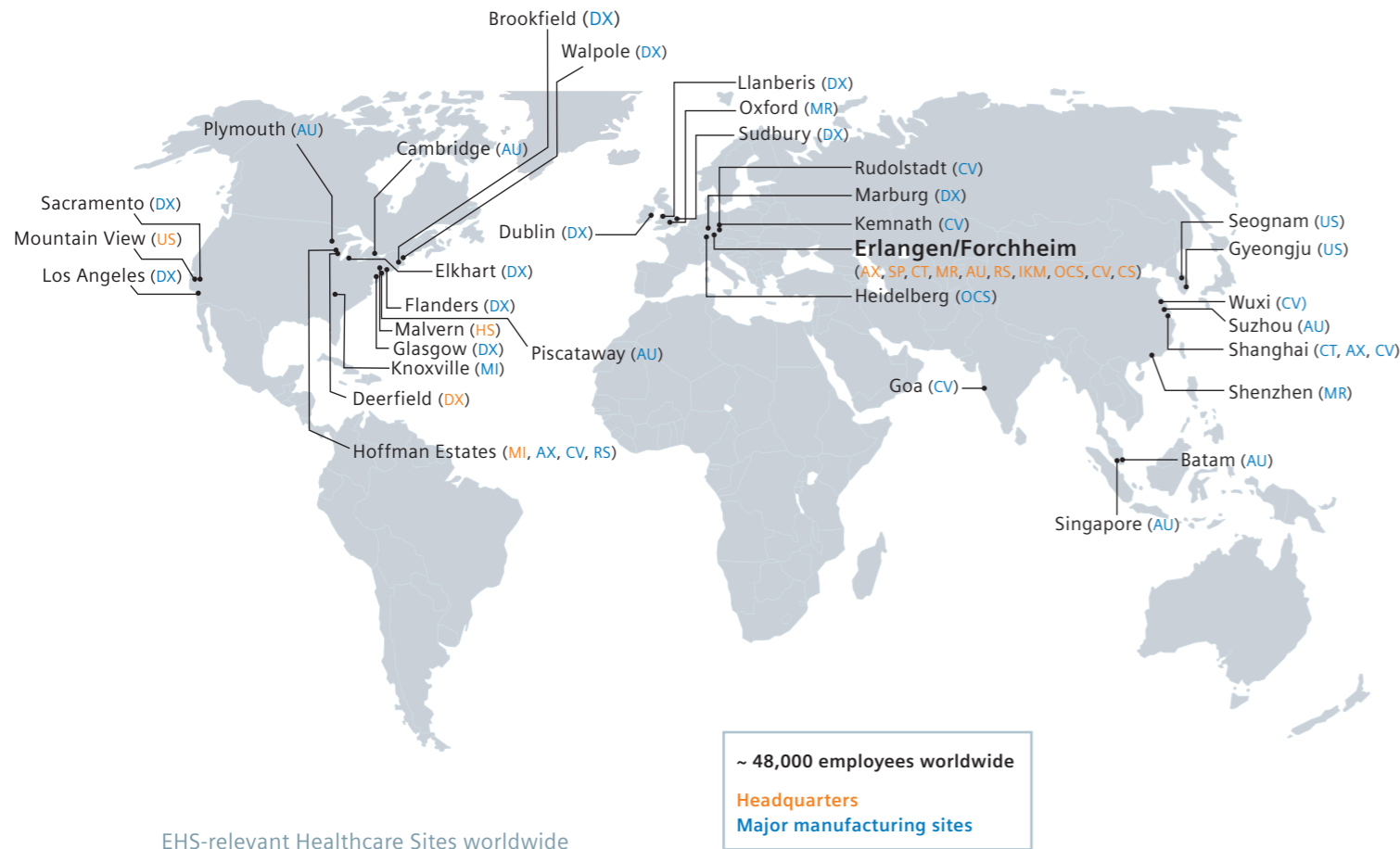
Every three years, Siemens internally awards the renown “Siemens Environmental Prize”. In 2009, two prizes were awarded in the category “Best Performing Sites”. One received the Kemnath site and the second common award received the sites Erlangen, Forchheim and Heidelberg. This category honors the locations that have over the years set a high standard in environmental protection. The evaluation includes the quality of environmental data, the environment management system, and the contributions to the environmental program. The EHS officers of the sites received the award from the hands of Siegfried Russwurm, member of the Siemens Managing Board and at that time responsible for environmental protection.



Healthcare sites worldwide

Siemens Healthcare is acting worldwide. The integrated EHS Management makes it possible to administrate the occurring EHS tasks such as EHS aspects, the assessment of goals, the revision of EHS performances and to operate worldwide according to uniform standards. With the Siemens Environmental and Technical Safety Information System (SESIS) Tool the

relevant EHS data are recorded worldwide. These data include, for example, energy consumption, emissions, waste accumulation, hazards and the corresponding precautions, hazardous substances as well as operational figures like number of employees, number of accidents, sales, and leased properties.



EHS-relevant Healthcare Sites worldwide

Legend:

- | | |
|--|-------------------------------------|
| AU: Audiology | IKM: Image and Knowledge Management |
| AX: Angiography, Fluoroscopic and Radiographic Systems | MI: Molecular Imaging |
| CS: Customer Service | MR: Magnetic Resonance |
| CT: Computed Tomography | OCS: Oncology Care Systems |
| CV: Components and Vacuum Technology | RS: Refurbished Systems |
| DX: Diagnostics | SP: Special Systems |
| HS: Health Services | US: Ultrasound |

EHS program

Our objectives should motivate our employees to work every day on innovative, sustainable and safe solutions. Without exemption, all management levels including top management have to work on these objectives.

Our EHS program is based on guidelines as well as on our own results and know-how obtained within the framework of our management process. Included are:

- The EHS policy of Healthcare
- Legal and normative regulations
- Customer requirements
- EHS aspects resulting by examining all activities and processes
- Technological, financial, operational and corporate requirements
- Requirements and opinions of different interest groups as well as
- Internal guidelines of the Siemens Group

The EHS program described applies to all locations and Division of Siemens Healthcare worldwide.

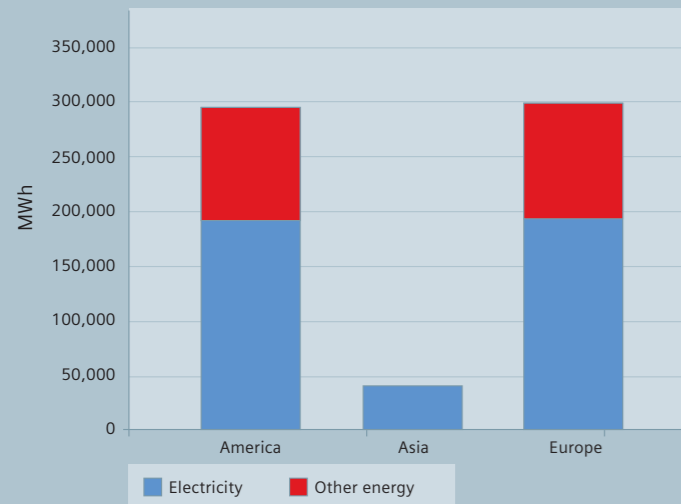
2010 – 2011 Objectives

- Further development of the worldwide EHS management system including the new Siemens EHS goals (version 2009)
- Implementation of the Energy Efficiency Program for Healthcare sites in Forchheim, Kemnath, Oxford, Shanghai, Knoxville, Malvern
- 20 percent of Healthcare sales by 2015 generated by environmentally friendly products (Environmental Portfolio)
- Reduce the number of accidents (Siemens initiative: Zero-Harm-Culture)
- Include suppliers in the topic of substances used, especially for the European guidelines RoHS and REACH (full knowledge about all hazardous material in parts delivered by suppliers)
- Constructive and proactive cooperation when developing new or revising national and international laws and norms

Data and facts

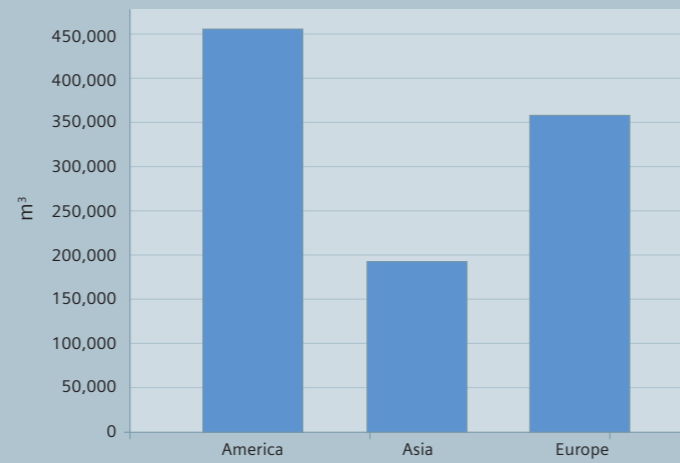
Environmental data according to regions

Siemens Healthcare Sector – Energy consumption in 2009



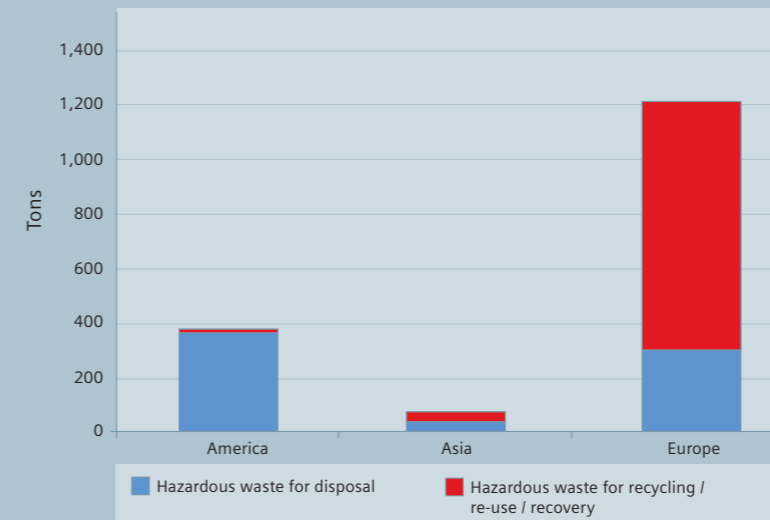
Total energy consumption by regions

Siemens Healthcare Sector – Water consumption in 2009



Total water consumption by regions

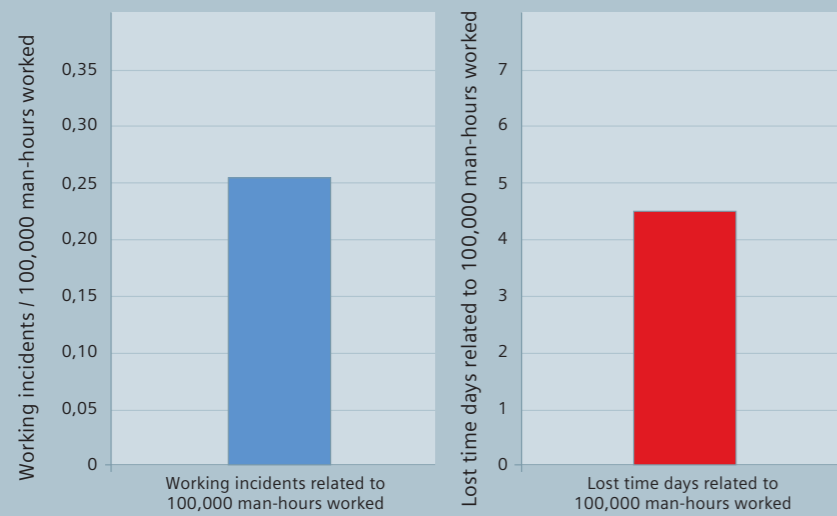
Siemens Healthcare Sector – Hazardous waste in 2009



Total hazardous waste by regions

Numbers of incidents worldwide

Working incidents / Lost time days at Siemens Healthcare in 2009



Working incidents and lost time days through working incidents at the Healthcare Sector worldwide