





### Seiko Instruments Inc.

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# SII Group Social and Environmental Report 2008

### Striving for Coexistence with Society and Harmony with the Earth

#### **SII Group Overview**

SII Group products are used in a wide range of applications throughout society, including consumer products, devices used for ordering in restaurants and taxis, and electronic equipment in offices, laboratories and factories. Our parts are key components for many products. This section introduces the SII Group products, and, how they add value to society.



Mechanical Watches Watch Movements Our traditional luxury Quartz movements are one of our bestselling components globally, mechanical wristwatches are known for their outstanding and our mechanical movements classical style and design. embody true value loved by every

generation.

Hard Disk Drive Comp Automatic Internal Grinders Based on our precision Our fully-automated, small

footprint, CNC internal grinders

are used by customers to produce

super-small bearings and high

processing technologies,

we supply key mechanical

components for hard disk



Liquid Crystal Devices CMOS IC Using advanced optical design Our small, low-power consumption and assembly technology, our and highly reliable CMOS IC products ultra-slim displays combine liquid are widely used in mobile devices. crystal panels and backlights to home electric appliances and



Quartz Crystal

small and highly accurate

products contribute to low

Microbatterie As backup power supplies Based on photolithographic technology, our extremely for the memory and clock functions of mobile devices our products provide a sense of security to customers.



ation cards/PHS Wireless Payment Term Our "CREPiCO" systems enable wireless credit card Based on our wireless communication and small terminal technology, our payments, and have been products contribute to the evolution widely introduced by taxi of a ubiquitous society. companies.

Order Entry Systems Our ordering system is ively used in restaurants, bars and golf courses.



Thermal Printers (Mechanisms

Assemblies and Peripherals)

Our compact, light, high-speed

in POS, medical measure

and logistics applications.

thermal printers are widely used

Large Format Printers/Plotters

Our printer lineup responds to

high quality images in the

customer needs for high speed,

engineering design and the large



#### Corporate Data

Corporate name : Seiko Instruments Inc. Established : September 7, 1937 Paid-in capital : 7,250 million yen Fiscal year end : End of February Products : [Mechatronics] Watches, watch movements, precision components, HDD components, machine tools, compact thermal printers [Electronic Components] CMOS ICs, LCD devices, microbatteries, quartz crystal devices, inkjet print heads

### [System Applications] Order entry systems, data communication cards, wireless payment systems, electronic dictionaries, large-format printers/plotters [Scientific Instruments] Measurement and analysis instruments [Other Products] Communication devices Annual sales (FY2007) : 149,800 million yen (nonconsolidated) 240,500 million yen (consolidated) Number of employees : (As of February 29, 2008) 3,030 (non-consolidated) 13,062 (consolidated)

#### Consolidated sales





Harmful Substance Detectors Our X-ray fluorescence analyzers are widely used to detect regulated hazardous substances including lead.

Communication Products

communication products and

services including network

integration and management

We provide broad band



Measurement and Analy

nstruments

Our scanning probe microscopes thermal analysis systems and other products are used in nanotechnology research.



Radiation Spectrosc Instruments Our precision measuring instruments are used by advanced institutes and labs for academic research and safety management.

#### Consolidated employee ratio





### Developing a company that contributes to society



#### Creating a business structure to be proud of

SII celebrated its 70th anniversary last year. We are deeply grateful to a lot of people, including our customers and business partners. We also appreciate the support we receive from the local communities and the efforts of all our predecessors over many years. SII was established in 1937 as a wristwatch factory for K. Hattori & Co., Ltd. (currently Seiko Holdings Corporation). Later, we recovered from the terrible damage of World War II. In 1964, we served as the Official Timer for the Tokyo Olympics, which showed off Seiko' s technical capabilities to the world. Since the 1970s, we have led the quartz watch technical revolution, and continue to diversify up to the present. Looking back over these years, the company history renews my confidence that our management and actions have been on the firm basis of the universal concept of "Time" and our basic attitude—"Integrity, Trust, and Appreciation"—which are our core values.

These core values mean that we do all of our work with integrity, respecting our relationships with society and customers, and with a sense of appreciation to each of our stakeholders. These values apply to all of our business activities. Based on these values, our management policy to "create the NEXT SII" was established. To achieve this goal, we promote healthy and rational "customerfocused management". Also we strive to develop a very solid business structure that provides consistent results, even in times of economic and social changes.

In addition, we maintain and develop our Corporate Social Responsibility activities. To establish a "worthy business structure," we need to cultivate the trust of our stakeholders and promote wider information disclosure and communication, while providing support and contributing to local regions and society.

#### Addressing social issues

Our society has many problems, including human rights violations, labor issues, and poverty. Since businesses operate across national boundaries and affect the entire world, it is important to contribute to healthy and sustainable growth in each region. People now have very high expectations of corporations. Corporations are benefiting from society through economic activities. So, they are responsible for understanding the issues in each region and society and participating in measures to help solve the problems. We at SII cooperate by doing what we can to fulfill our responsibilities.

#### Addressing global environmental issues

Global warming is an urgent issue, and the whole world must take action. There is strong pressure on manufacturing industries to use technology and knowhow to reduce CO<sub>2</sub> emissions. SII failed to meet our goals for CO<sub>2</sub> emissions in FY2007. While year-onyear performance was better at Japan sites, emissions increased at overseas sites. This meant overall performance was around at the same level as last year. Increased production canceled out facility energy savings.

From now on, we will actively switch to energy saving facilities and create even more efficient production processes by introducing new production technologies. In addition, we strive to raise the awareness of each employee to prevent global warming at work and at home.

#### Sustainable society and SII

The main focus at SII has been on manufacturing smaller and thinner watches and maximizing energy savings for ICs, motors, and other parts. Our "Craftsmanship, Miniaturization, and Efficiency," which includes resource and energy savings, have been passed down from generation to generation over the years. This technology gives us advantages, especially in the area of small electronic devices and small information terminals. We are currently taking a variety of steps to pass on even more advanced craftsmanship. miniaturization, and efficiency technologies. These efforts include establishing the Shizukuishi Watch Studio, developing a professional human resource system, and creating the SYO Technical College.

We also apply this technology to create "Green products" and "High Grade Green Products" to help reduce the impact on the environment. Through these products, we hope to contribute to a sustainable society.



#### **Developing our personnel** and our company

At SII, our employees are encouraged to participate regularly in discussions called "open and frank communications." As a result, a lot of open and frank communication has started spontaneously at our company. For example, meetings where business staff from different fields, engineers, and head office employees meet to exchange opinions. This habit has raised employees' awareness to problems and issues, and created opportunities for employees to get together. Discussion has helped people grow and broaden their perspectives, while developing new ideas.

At the same time, as the business structure expands, an environment is created where people with different backgrounds and ways of thinking work together. Business is becoming more multinational in many ways, which makes internal control even more important. We will continue to develop our internal control system to provide a highly reliable and efficient organization. Meanwhile, we strive to firmly establish the corporate culture we have developed to date in our organization, and to pass it to the next generation. Our corporate culture includes our core values and the "Craftsmanship, Miniaturization, and Efficiency" technology, as well as respect to society and the environment.

This is how we are creating the "NEXT SII" platform, to develop both our employees and our organization. Based on the expectations of our stakeholders and society, we will promote Corporate Social Responsibility and environmental activities to become a company that contributes to society.

We definitely appreciate your continuing cooperation and support, and welcome any comments and suggestions that you may have.

> Masafumi Shimbo, President Seiko Instruments Inc.

Marafumi Shimbo

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#### **About This Report**

- This report is published to provide all stakeholders with easily understandable information about the SII Group's environmental and social activities.
- In preparing this report, we have utilized various guidelines including the Environmental Reporting Guidelines 2007 issued by the Japanese Ministry of the Environment.

#### **Scope of This Report**

- This report covers each business unit, sales office and affiliated company of Seiko Instruments Inc.
- \* The report focuses on the efforts and achievements of nine Japan sites and seven overseas sites (which obtained ISO14001 certification).
- \* Seiko Instruments Inc. merged with SII Micro Parts Ltd. (currently the SII Sendai Unit) in November 2007.

#### **Period Covered by This Report**

• This report covers activities and results from March 2007 through February 2008, and also includes information about prior and ongoing initiatives.

#### **Contact us**

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Additional data and the latest information not covered in this report is indicated as 💻 and is available on the SII website.

http://www.sii.co.jp/eco/eg/

• Developed the world's smallest micro motor. P9 • Mass production of the high-visibility liquid crystal displays with memory retention.

## June

**P8** • "SYO Technical College" was launched to educate junior engineers.

-

• Released the SR-G8000 electronic dictionary for international engineers.

### nuarv

- **P10** Formed a business alliance to mass-produce lenses that can focus using liquid.
- P41 ●The Sendai Unit received the Prize for Outstanding Performance as part of the Outstanding Energy Conservation Equipment Awards sponsored by the Japan Association of Refrigeration and Air-Conditioning Contractors (JARAC).

"Family Tour" During SII's 70th Anniversary Celebration

SII celebrated its 70th Anniversary on September 7, 2007. In November, a "Family Tour" was held at the Makuhari Unit for all the SII Group employees and their families. 476 participants enjoyed a variety of programs including a mechanical watch assembling demonstration and a stamp collecting rally. The event helped to promote better understanding of SII among the employees' family members.



rally (President's office)

nstration

### **Highlights**



### "SYO" ism Skills and Techniques

SII's "Craftsmanship" concepts, used to create new value, are based on our time-honored, advanced skills and techniques. These include miniaturization technologies to reduce product size, precision processing technologies, rigorous design of energy efficient products, and their fabrication technology. Based on these competencies, embodied in our "SYO" ism technology concept, SII is committed to creating new value that will contribute to society.

#### **UV-LIGA** technology

Mechanical products like watches have gears, springs, and other minute mechanical parts. By raising processing accuracy of these mechanical parts, SII can add new functions to products-something that is difficult to do with conventional methods. Recently, the importance of production system development for small production lots of different parts has been increasing to meet diversified customer needs.

SII has been developing UV-LIGA\* technology to achieve two goals: high-accuracy processing of metal components and development of a production system suitable for manufacturing a wide variety of products in small quantities. UV-LIGA process uses photolithography to make highprecision molds. Using efficient electroforming (thick plating) to fabricate the molds, high-precision parts or metal molds can be manufactured.

UV-LIGA technologies enable the production of shapes, for example, 70 µm slits in every 250 µm gear tooth, which is hard to manufacture using conventional mechanical fabrication techniques. Creating these slits makes it possible to build gear trains with some elasticity in the teeth without gaps ("backlash") between the teeth of opposed gears. Therefore, it enables the building of products that achieve precise positioning without installing positioning sensors.

\*UV-LIGA: An acronym for ultraviolet and the German words for lithography (lithographie), electroforming (galvanoformung), and molding (abformung).



Gears made using UV-LIGA fabrication technology (from an image captured with a scanning electron microscope) A conventional gear (left) and a gear without backlash (right)

#### Hybrid magnetic recording head technology

Hard disk storage capacity continues to increase. Storage density per unit area is expected to exceed one terabits per square inch in the next few years. One new principle that enables ultra high-density storage involves using near-field light as a tiny thermal source (on the scale of nanometers) to heat microscopic areas for thermally-assisted magnetic recording. Unlike regular light, near-field light does not spread. Instead, it is trapped in a tiny space smaller than the light wavelength.

The technologies used to develop the SII probe microscope\* include manufacturing an optical aperture (with nanoscale fabrication techniques) that traps the near-field light, and generating the near-field light itself. Currently, SII has developed a prototype recording head that incorporates a near-field light emitting element into a head assembly used in magnetic recording devices. To manage the growing amount of diversified data at work and at home, this technology will be applied to make smaller, lighter, and more efficient storage equipment with high-capacity hard disks.

\*Probe microscope: Instrument that detects interactions between the slender, tapering probe and the surface of the material being examined. Used for observations and measurements of surface shapes and characteristics in microscopic areas.



Results of producing an optical aperture that traps near-field ight at the edge (image from an

ssembly with thin near-field ght head, which uses optical per to guide light, mounted on a

#### **MEMS-based device technology**

In addition to manufacturing semiconductor in the horizontal plane, MEMS\* technology enables highly accurate processing vertically. This technology will help to develop and add new functions to sensor devices and other products.

Currently, SII is focusing on instruments that incorporate MEMS technology and electronic sensor devices. Using fabrication techniques for creating via-holes on silicon wafers and forming thin-film sensors over the holes, an x-ray sensor was developed that has ten times more sensitivity than previous sensors. SII now markets a self-sensing cantilever with extremely tiny piezoresistors. This sensor enables measurements of surface topography at atomic and molecular levels in scanning probe microscopes.

\*MEMS: means "Micro Electro Mechanical Systems" technology. MEMS involves microfabrication and micromachining that combines electronics and mechanical structures and semiconductor manufacturing technology





High-sensitivity x-ray sensor

Self-sensing cantilever



Taking advantage of Open and Frank Communications—stimulating training sessions in the SYO Technical College

SII has held training sessions in the SYO Technical College since April 2007 for our junior engineers and technical experts. Sessions use technical challenges for the participants to enhance engineering skills and manufacturing technology. An interesting, solutions-oriented forum provides advice on scientific methods including CAE, quality engineering, device analysis, and evaluation techniques. Open and Frank Communications are encouraged among all who attend. Participants have learned engineering skills in a dynamic program that included a lecture by Mr. Kenichi Takahari (Director of the Manufacturing Shokason-Juku), plant visits to companies practicing Toyota just-in-time manufacturing, and a quality engineering competition. Our engineers can gain professional experience through these activities. The activities also help streamline R&D work by eliminating excessive prototyping, while promoting new and more efficient work habits. The program also encourages the creation of more eco-friendly and high-quality products.



#### **Development of inspection equipment** with specialized image processing

In factory production of small precision components, the difference between acceptable parts and defective parts is tiny nicks, scratches, and deformations, as well as dimensional errors. For this reason, manufacturers have used people with good vision and special training to find these defects. To automate this inspection, SII has developed specialized inspection equipment that can detect very minor defects in precision components. Image processing technology, for example, is crucial for instruments that measure the eccentricity of precision small-bore parts. The eccentricity of the inner and outer diameters can be instantly measured to the micrometer scale for part inspections and sorting. Production volume, measurement data, and other details are available in real-time. This makes it possible to provide feedback immediately to upstream processes when a fabrication defect is found. The equipment improves yields and streamlines production.



Instrument to measure eccentricity of recision small-hore narts



These training sessions in the SYO Technical College are more than just a chance to study how to apply scientific methods. The sessions aim to improve overall

technical expertise by improving engineering 💋 instincts and intuition, including cultivating the view and perspective as a professional engineer.



liroyuki Kihara, College Dire







The range of products using electronic devices is always expanding, including mobile devices (cellphones and digital cameras), home appliances (TVs and air conditioners), and automotive equipment (vehicle navigation systems and internal components). SII electronic devices meet and exceed customer expectations and help to make our lives more convenient and enjoyable. Based on technologies from watch manufacturing, our expertise at achieving compact sizes, complex design and high energy efficiency; knowhow of producing small high-



quality parts; and our technical insight and innovations, are used to create new values.

In addition to providing small, energy-saving products, SII has conducted its business with a focus on environmental friendliness in all aspects including manufacturing processes. At SII, we continue to apply our own, unique technologies and expertise for a more enjoyable, more convenient lifestyle—a lifestyle in harmony with the natural environment.



### **Continuing Evolution of Electronic Components**

#### Retains images even when turned off

#### Liquid Crystal Displays with Memory Retention

As its name implies, this liquid crystal display is able to retain its display even after the power is turned off. Since power is only needed to change the display content, this innovation can achieve significant energy savings. In addition to electronic shelf labels for supermarkets, this technology is expected to be applied to e-books and e-newspapers as

replacements for paper. You will only need one e-paper terminal to read a wide range of documents.

SII started mass production last year using proprietary technology from Nemoptic in France and SII's cellphone LCD production technology.



#### A World-First

#### Chip-Type Electric Double Layer Capacitor

This product is the world's first electric double layer capacitor in a chipshaped form, and is built on a ceramic package. The efficient rectangular shape includes tabs, enabling the world's thinnest and smallest\* profile, only 0.9 mm thick, which is difficult to achieve with conventional coinshaped capacitors. A durable ceramic package gives it a longer life. The products are especially useful as backup power supplies, for example, when users replace the main battery, for mobile phones and similar products. This breakthrough product and its thin, compact size meet the demands of small portable devices.

\*As of February 2008, according to SII research



Liquid-Based Focusing

#### **Liquid Lenses**

The focal distance of this lens can be changed by applying voltage to droplets in the lens housing (container) to control their shapes. SII is working with a French partner, Varioptic (the developer of this technology) to prepare for volume production of the liquid lens. Structurally, the lenses are very similar to the human eye. Its line of sight and focusing can be changed very quickly for different subjects. Possible applications include



cameras for tracking moving subjects (e.g., children) and keeping them in focus, and cameras that keep a sharp focus even during vibration or with unsteady hands.



#### Utilizing Solar Cells for Efficient Energy

#### Controller for Solar Cells Recharger

This controller boosts the ultra low-voltage output (0.4V) of singlecell solar cells to the charging voltage for rechargeable batteries. The controller has maximum power point tracking (MPPT) technology to respond to fluctuations in current and voltage caused by changes in sunlight strength. The technology provides constant output at peak power

and enables highly-efficient rechargeable battery charging. Combining solar cells and maintenance-free batteries makes it possible to install LED lights or other appliances in areas that commercial power grids cannot reach.



### Highlights

### **Creating time- Optimizing time- Enriching time**

"Creating time, Optimizing time, Enriching time" embodies the SII Group corporate identity. We have developed our "Time" business by approaching this from a variety of angles.

#### Welcome to a Japanese Mechanical Watch Historical Sanctuary

### Shizukuishi Watch Studio

The year 2008 marks the fourth anniversary of the Shizukuishi Watch Studio. which was founded based on our desire to establish "a landmark for Japanese mechanical watches". More and more people across Japan learn about the studio year by year. Visitors have steadily increased, and the Studio now attracts more than 2,000 people a year. The Studio gives children who have only seen battery-powered guartz watches before their first opportunity to see mechanical watches. Older visitors can stop and talk about times gone by. Mechanical watch enthusiasts who come long distances can enjoy fulfilling tours, and gain even greater understanding of mechanical watches. This is how the studio shares the excitement of this tradition with its visitors. We believe this effort is the starting point for renewing public interest in mechanical watches.

The elegant mechanical watches manufactured in Shizukuishi are examples of our "Creating time, Optimizing time, Enriching time" identity. A new history of Japanese mechanical watches is carved here reflecting the studio's production traditions-advanced parts manufacturing technology combined with artisan craftsmanship in assembly.

\*The Shizukuishi Watch Studio is located at Morioka Seiko Instruments, the Seiko Instruments' wristwatch production site (Shizukuishi-Cho, Iwate-Gun, Iwate Prefecture).







#### **Passing Down Expert Techniques**

#### SII takes a variety of initiatives to pass down the mechanical wristwatch production skills to the next generations. Iwate Mechanical Watchmaker Skills Assessment System:

In May 2006, Morioka Seiko Instruments Inc. established a regional mechanical watchmaker skills assessment system to expand and improve watchmaking skills, as well as to pass on the techniques to future generations. The assessment consists of lectures and practical skill tests including watch disassembly and cleaning, precision adjustment, and band adjustment. There are three certification grades for watchmaking skills: Second Class, First Class, and Iwate Watch Meister. Since this system is recognized as the first technical assessment system in lwate prefecture, successful applicants receive certificates issued by the lwate governor. In FY 2007, seven applicants passed the assessment out of forty-seven.

#### Mechanical Watch Seminar:

In July 2007, the first mechanical watch seminar was held at Morioka Seiko Instruments Inc. This seminar is designed to increase interest in watches and inspire more mechanical watch enthusiasts by presenting high-level technical expertise in mechanical watches and their elegance. Shizukuishi Watch Studio engineers serve as the lecturers. Using SII wristwatches with mechanical movements as educational tools, participants learned watch disassembly, cleaning, lubrication, and assembly. Twenty people attended, including visitors from distant cities like Kobe. At the end of the seminar, all participants received certificates of attendance.

#### Watch Technical Training and Education Center:

The Watch Technical Training and Education Center was established in April 2006 to organize a comprehensive internal education system of wristwatch principles, techniques and skills. It also aims to improve the skills of employees involved in mechanical watch development, design, production, and repair. We established diversified courses from introductory to advanced watchmaker levels to train engineers and technicians to maintain the high and unique quality of our wristwatches. Based on this education system, we pass down the SII mechanical watch technology, as well as accelerating its further evolution.



Practical skills performance assessment





### **Tradition and Craftsmanship** Watches Decorated with Lacquer



Due to its high endurance, lacquer can last for about 10,000 years. In Japan, high-quality lacquer has been used in traditional handicraft techniques including raden (mother-of-pearl decoration), makie (drawing with gold and silver flakes), or chinkin (gold inlaving). Lacquerware, called "iapan" in English, is one of the traditional crafts that the world recognizes as a symbol of Japan. Currently, the world-best lacquer is said to come from the Joboii district of Ninohe City in Iwate Prefecture.

This world-class lacquer attracted Yong-Bok Jun, an internationally recognized lacquer artist, who lives in nearby Morioka City. Working with expert watchmakers at the Shizukuishi Watch Studio, he created original lacquer watches that could only be made in Japan. The best SII techniques and skills are combined in these watches-CREDOR TENGA (inspired by the Golden Hall of the Chusonii Temple) and NODE. They use SII's 12-beat and ultra-thin movements, which are the highest achievement of their kind anywhere in the world. In addition, fine engraving and lacquer decoration are given to the watch exterior and movements with delicate and ultimate techniques. These Japanese original products. combining renowned artistry and craftsmanship, could only be made in this place. They represent the original concept of the Shizukuishi Watch Studio in the best way

Mr. Kiyoshi Terui, an engraver of mechanical wristwatches, won the Japanese

Since starting work at SII in 1970. Mr.

Kivoshi Terui has focused on processing

the external parts of wristwatches, including

cases and dials. Over almost four decades.

he has developed a variety of approaches

and improvements to manufacture precious

metal cases and luxurious dials. Mr. Terui

began engraving mechanical wristwatches in

1995. Using the highest skill in the extremely

fine engraving of luxury mechanical skeleton

watches, he has dedicated himself to

increasing the value of Japanese wristwatches

as industrial artworks. He has also mastered

the polishing, cutting and brazing skills

required for mechanical watch fabrication.

His work has greatly contributed to restoring

the prestige of Japanese luxury mechanical

wristwatches. The award honors these

\*The Jananese Medal with Yellow Ribbon is awarded

to individuals who are examples for others due to their

achievements

diligence in professional work.

Medal with Yellow Ribbon\* in fall 2007

### **Trusted Time Services** Chronotrust: Time Data Service for a Safe, Secure Digital Age

guarantees the accuracy of transaction time needed to be established.

society by providing "trusted time".

authentication, and other security measures



Chronotrust, the name of the SII time distribution and auditing service, combines Chronos (the God of time in Greek mythology) and trust. Due to recent expansion of digital telecommunications networks, an infrastructure has been established enabling instant exchanges and the sharing of vast amounts of digital data. On the other hand, more and more people are worried about the possibility of tampering with digital data and identity fraud, because digital data can be exchanged without leaving any trace. To enjoy the convenience of broadband infrastructure, a system that

The Chronotrust service provides "trusted time" on the web using PKI\* and high-precision time management technology. If reliable and reassuring time data is available, we can identify data and events and confirm their existence as of a particular time. This service helps to protect personal assets and status, including intellectual property, contracts, image data, meeting minutes, and voice memos. As the amount of information continues to grow, society will face a growing need for digital evidence. SII will contribute to increasing the safety and security of our IT

\*PKI: An abbreviation for the Public Key Infrastructure. Special "public key cryptosystem" coding is used for encryption, digital signatures,



The SII Group's Corporate Social Responsibility is at the very root of our core values, "Integrity, Trust and Appreciation". These values represent the basic stance of our relationship with society and our stakeholders. SII strives to stand as a company that society and our stakeholders need and trust, all through the ages.

## Core Values and Corporate Social Responsibility

As good corporate citizens, we place the highest priority on "Integrity" in all of our business activities, cultivate the "Trust" of our stakeholders and society, and value a sense of "Appreciation" for all of our stakeholders. Based on these Core Values, we established the SII Group Charter of Corporate Behavior to define SII's corporate social responsibility.

#### **Core Values and Corporate Identity**



#### SII Group Charter of Corporate Behavior (Established Octorber ,2005)

The SII group is committed to conducting its affairs ethically and lawfully. This Charter of Corporate Behavior establishes policies and procedures that are intended to secure our position as an entity concerned not merely with pursuing profits but also striving to be a needed and trusted part of society in perpetuity. The SII group is committed to providing value to all stakeholders, as well as society at large, desiring to fulfill its commitments and contribute to the creation of a more sustainable society.

#### <Core Values> Integrity - Trust - Appreciation

We approach all our business activities with integrity, fostering the trust of our customers and society, with a sense of appreciation towards all stakeholders.

#### <Offering to Stakeholders and Society>

Based on our mission and corporate identity "Creating Time - Optimizing Time - Enriching Time," we are committed to creating new value and producing safe, socially useful and high quality products and services through our conceptual approach "Craftsmanship and Excitement" and behavioral approach "Diligence and Creativity," while seeking a constructive relationship with society and nature in accordance with our environmental approach of "Coexistence and Harmony."

#### <Commitments to Stakeholders and Society>

#### Approaching corporate activities with integrity

- In conducting our corporate activities with integrity, we comply with all applicable laws and regulations and record/report information accurately and honestly.
- We maintain a sound relationship with governmental and administrative authorities and take a stringent, resolute posture against antisocial forces that pose a threat to our social order or security.

#### Respecting human rights

- We respect the human rights of all employees and keep working conditions comfortable and safe. We facilitate and support the advancement and growth of every employee and accord all employees the respect they deserve as individuals.
- We respect the human rights and individuality of all stakeholders in our business activities.

#### Creating harmony with the environment

 In recognition of the fact that environmental issues impact everyone in common, we will focus strongly on resolving such issues independently, so as not to place a burden on the public.

#### Establishing a constructive coexistence with society

- We communicate with society and promote disclosure of company information to become a more open enterprise.
- As a good corporate citizen, we extensively engage in philanthropic activities.
- Through our business activities on the world stage, we advance corporate management that contributes to the further development of each country pursuant to this Charter.

#### CSR Targets and Results

#### SII CSR committee promotes the CSR activities of the entire company with the SII President serving as the committee chairman.

	Item	Major items implemented in FY2007	Achievement	Related page	FY2008 Target and Plan
Management	Corporate Governance	Set up the Corporate Internal Control (CIC) Office	0	P15	Establish the internal control system
	Compliance	<ul> <li>Conduct Compliance awareness survey</li> <li>Extend the Helpline service to clients</li> </ul>	0	P16	<ul> <li>Continually implement on-line compliance quizzes</li> <li>Raise employees' awareness based on the survey results</li> </ul>
	Risk Management	<ul> <li>Launch risk management activities from headquarters</li> <li>Initiate risk management approach based on each operation</li> </ul>	0	P17	Continually implement risk management activities based on each headquarter business unit and operation     Review emergency response system
Social Report	Responsibility to Customers       • Conduct CS self-assessment         • Continually improve the quality of goods and services, and product safety         • Check operation processes         • Promote universal design		0	P19~21	<ul> <li>Continually improve customer satisfaction</li> <li>Continually improve the quality of goods and services, and product safety</li> <li>Continually check operation processes</li> <li>Continually promote universal design</li> </ul>
	Responsibility to Suppliers	<ul> <li>Provide education program for procurement organizations based on CSR, regulatory compliance and Green Purchase (Japan)</li> <li>Prepare the global purchase management manual (overseas sites)</li> </ul>	0	P22	<ul> <li>Enhance education, audit and supplier certification systems (Japan)</li> <li>Establish education systems (overseas sites)</li> </ul>
	With Employees	<ul> <li>Hold HR seminars for overseas HR employees (CSR, RM, technology and skills, know-how and human resource development)</li> <li>Verify positive actions</li> <li>Establish the "SII Group Occupational Safety and Health Policy"</li> <li>Promote health</li> </ul>	0	P23~25	<ul> <li>Put in writing respect for human life and dignity at each overseas affiliate company</li> <li>Modify HR system to respond to the Law of the People's Republic of China on Employment Contracts</li> <li>Check operation environment at overseas sites</li> <li>Continually promote health</li> </ul>
	With Regions and Society	<ul> <li>Contribute to local regions for each site</li> <li>Provide field-study and internship programs</li> </ul>	0	P26~28	Continually contribute to local regions for each site     Continually provide field-study and internship programs
Environmental Report	Responsibility to the Environment	<ul> <li>Increase SII Green Products sales ratio</li> <li>Decrease CO<sub>2</sub> emissions</li> <li>Reduce total industrial waste amount</li> <li>Decrease emissions of hazardous chemicals specified in the PRTR Law</li> </ul>	Δ	P29~46	<ul> <li>Create SII High Grade Green Products</li> <li>Decrease CO<sub>2</sub> emissions</li> <li>Increase the level of zero emission activities</li> </ul>

## SII's Sense of Corporate Social Responsibility

SII believes that the CSR challenge for a company is to value its harmony with society, while striving for sustainable business development.

#### Basic CSR and Active CSR

We look at CSR from two viewpoints: Basic CSR and Active CSR. Basic CSR includes the fundamental responsibility of a company to manage the business in an orderly manner and earn trust through compliance and ethical corporate conduct. In addition to compliance, or any other obligations, Active CSR is the proactive creation of meaningful value for stakeholders, and the enhancing of satisfaction for each and every stakeholder.



SII's Sense of Corporate Social Responsibility

### **Corporate Governance**

To earn the trust and meet the expectations of our stakeholders, the SII Group believes that monitoring and enhancing management is very important, while strengthening competitiveness to improve profitability.

#### **Basic Corporate Governance Policies**

We focus on transparency and fairness in our management as an important business priority. To achieve this, as our basic corporate governance policy, the SII Group strives to improve our corporate value by improving the company organizational structure and system, as well as implementing necessary measures and gaining the trust of our stakeholders.

#### **Corporate Governance System**

#### (1) Corporate Organization

SII has a board of auditors. Directors' operations are monitored and supervised by the board of directors, auditors and the board of auditors. Each SII affiliate company in Japan has a board of directors and auditors, regardless of its business scale.

#### Board of Directors (13 meetings were held in FY2007)

The SII board of directors, which consists of four internal and two external board members, supervises the company management and makes important business decisions for the SII Group, incorporating advice from outside board members and auditors.

• Board of Auditors (13 meetings were held in FY2007)

The board of auditors, consisting of one internal and three external auditors, conducts regular audits. Based on audit results, the board of auditors exchanges opinions and information to improve audit effectiveness. The Executive Overseers of Audits and Corporate Policy carry out audits of board members management operations by regularly attending Management Strategy Meetings and other important conferences, interviewing each board member and division head, reviewing critical approval documentation, and conducting field audits of each business unit and affiliated company.

#### Internal Audit

The SII Corporate Audit Office, which reports directly to the President, conducts internal audits of the SII Group operating divisions and affiliated companies based on the audit plan. In addition, each business section, including quality control, import/ export control, and environmental control, conducts internal audits.

#### (2) Internal Control System

Based on the belief that internal control is a critical system for business activities, SII continuously strives to enhance our system to ensure thorough compliance and reliable financial reporting, as well as efficient and productive operations.

In May 2006, in response to the revised corporate law which became effective at that time, the SII board of directors established the "Basic Internal Control System Policy". In order to operate our internal control system properly, we also review and improve the established systems based on the Basic Policy.

In addition, as of March 1, 2008, the Corporate Internal Control (CIC) Division, consisting of the Corporate Audit Office and the Compliance Department, was established to reinforce and enhance the management audit and internal control function of the company. The CIC Division plays the central role in improving the internal control system and strengthening monitoring functions.



We strive to achieve thorough compliance based on our belief that practicing moral and fair business with integrity, in accordance with laws, regulations and rules, is fundamental to business.

#### **SII Compliance System**

The SII Compliance Committee was established in 2001 to raise compliance awareness and respond to each compliance problem. Since we attach a high value to compliance in conducting our corporate activities, the SII President serves as the Chairman of the Committee.

Based on the Internal Control Basic Policy, the Compliance Committee will take the lead in further enhancing and improving our compliance framework.

## SII Code of Conduct / Behavioral Guidelines

To act in accordance with the SII Group Charter of Corporate Behavior and fulfill our commitments to society and stakeholders, SII established the SII Code of Conduct. This defines the basic requirements that all the SII Group directors and employees need to comply with.

In FY2007, the Behavioral Guideline for Japan sites was established. It provides a specific and detailed code of behavior to achieve thorough compliance and raise moral awareness.

Sll Code of Conduct

#### **Compliance Consultation Services**

If our employees discover a violation of compliance within the company, they can consult an outside attorney, through the SII Helpline, at any time. We also provide an internal consultation service for listening to any employee concerns including questionable actions of supervisors and colleagues.

In addition, since FY 2007, the SII Helpline service has been expanded to include our clients to receive any information regarding our employee's compliance violations.

During FY2007, seven cases were processed by the consultation service, and one case was reported to the Helpline.

#### **Compliance Education**

We provide continuous and comprehensive education to achieve thorough compliance. In FY2007, the SII Group executives and employees participated in an online quiz education program to confirm their understanding.

In addition, we promoted SII Code of Conduct education for the administration staff of overseas affiliate companies.



#### **Export Control Security**

To promote appropriate export control by each business unit and affiliate company based on proper understanding of export control, applicable laws and regulations, and, internal rules, we provide regular export control education and conduct audits of each operating unit.

#### **Compliance Awareness Survey**

SII conducted a compliance awareness survey targeted to all the employees and executives of the SII Group in Japan. The survey results were used to check how much the SII Group employees' compliance awareness was raised by past efforts, as well as to consider the next enlightening and educational measures.

According to the survey results, there are some differences in awareness based on each line of work, office and level in the hierarchy. We need to review our approaches to find more effective measures and programs.

We will conduct surveys on a regular basis to identify the problems and improve our employees' compliance awareness.

Survey Period: February1 through March 10, 2008 Target: Employees and executives of SII and affiliated companies in Japan No. of Respondents: 3,081 Response Rate: 74.4%

Q1: Do you always bear in mind the laws and rules concerning your operation when you are working?



Q2: Does everyone in your division or department fully understand the importance of compliance with laws and rules?



### **Risk Management**

To minimize the risk to our stakeholders, the SII Group continuously strives to properly manage a variety of risks which could affect our business.

#### **Risk Management System**

The Risk Management Committee was established, with the President serving as the Chairman, to raise employee's awareness and strengthen the risk management system. It strives to further enhance the risk management system in accordance with the Basic Internal Control System Policy.

#### **Group-Wide Risk Management Efforts**

The SII Group plans to comprehensively evaluate the risks of our business and consider countermeasures against them.

The past Risk Management Committee activities had mainly focused on the head office. In FY2007, the activities were expanded to each business unit. In addition to conventional business risk evaluation, we provided education and initiated actions in each business unit to organize a horizontal system based on a common viewpoint.

#### **Risk Management to Continue Business**

In production facilities, we manage risks to prevent production interruption, aiming to continuously offer products even in an emergency situation. Risk management ranges from operational improvements at the local-working level to fundamental improvement which requires equipment investment.

We also introduced earthquake-absorbing structures in newly established facilities to build a truly strong manufacturing system.

#### "10-Minute Rule & 2-Hour Rule"

In case of an emergency, the "10-Minute Rule & 2-Hour Rule" promotes rapid communication between employees and top-level management.

This rule requires that any event with potential corporate risk must be notified to the President within ten minutes if it occurs in the head office, or within two hours if it occurs outside the head office.

This rule does not specify any communication procedure or pre-screenings in the division, since we believe that prompt communication to the top management will minimize the risk. Since speedy reporting is given the first priority, we welcome all reports even though the initial content is not sufficient. This rule promotes efficient risk management and also creates an open corporate culture with prompt action.

#### **Preparation Against Disasters**

When a disaster strikes, it could be difficult for employees to go home, at least temporarily, due to close down of transportation. Japan sites have been preparing water, food, bedding and other emergency supplies based on the three-year plan. In FY 2007, the second year of the plan, we completed a two days' stock of water and food for all the employees. In FY2008, the amount will be increased to the equivalent of three day's stock. We will pursue implementing the plan taking into consideration cooperation with neighboring corporations and local residents.

### **Information Security**

Along with the development of IT infrastructure, corporate responsibility for information security is becoming increasingly important. The SII Group strives to achieve information security from a variety of viewpoints.

#### **Information Security**

A company assumes a grave responsibility to protect and prevent leaks of confidential information, including the personal data of customers and stakeholders. SII regards the system to manage this information as a significant asset of the Group. In order to prevent information system problems that could affect our business operations, we continuously enhance our system security from the managerial, physical and technological viewpoints.

#### Managerial Approach

We formulated the "Information System Security Policy" as the basic rules of information security management. Based on this Policy, a variety of rules and guidelines were also established to smoothly operate the system, to keep the data in safe custody, and to quickly recover from any contingency.

In addition to the conventional system audits, we have been promoting the enhancement of internal control audits in cooperation with the related sections.

We will comprehensively review the Policy and regulations and provide education programs for thorough compliance to improve and enhance the information security management system of the whole company.

• Physical Approach

In FY2007, we almost completed the consolidation of servers which store systems and data as information assets.

#### **Personal Information Protection**

SII established the Personal Information Protection Policy and related internal rules.

### **Intellectual Property Initiatives**

The SII Group pursues state-of-the-art technology through a wide range of research and development initiatives, and integrates the results for the best synergy. In order to promote these developments, and obtain and utilize them as assets, intellectual property-related activities are essential.

Basic Policy and Management of our Intellectual Property

Based on a mid- to long-term policy to "Develop a Business Culture that Respects Intellectual Property", we continuously enhance our intellectual property framework, working with the Intellectual Property Division, the R&D Divisions and the Production Technology Development Division. We also promote intellectual property initiatives in cooperation with each business unit according to business strategies.

As of March 2008, the SII Group owns about 1,600 patents in Japan and about 2,800 patents overseas.

#### **Invention Incentive System**

To encourage inventions and enhance SII's technological competitiveness, we established invention management rules and standards, and have operated an invention incentive system since 1965. In April 2005, this system was revised in line with the amended Japanese Patent Law Article 35. This attractive system motivates individual inventors to obtain upper-level patents. In FY2007, many new ideas were certified as valuable inventions.

#### Technical Approach

We promoted evaluations and the introduction of information security tools. Also, we strengthened our countermeasures against spam mails and unauthorized accesses by reinforcing access log analysis. E-mail archives were improved, too.

We continuously evaluate and research a variety of tools, including thin client, with a focus on creating an environment where internal information would not be taken out of the company.

We will establish a mid-term plan for the introduction of information security tools.

In order to prevent personal information loss or leakage due to negligence, we continuously provide education programs to each employee for achieving thorough compliance with internal rules and raising their awareness of confidential information.

Excellent incentive awards, and external and internal utilization incentives were offered to the inventors.

#### **Employee Education and Training**

Based on the level of each employee's understanding, we established intellectual property education programs consisting of introductory, primary, intermediate and advanced courses. The education program aims to develop employee knowledge and awareness for developing strong patents and preventing infringement of competitor's patents, as well as enhancing motivation in the area of intellectual property.

## Support to Intellectual Property-Related Associations

We have been actively supporting intellectual property-related associations which strive to achieve an intellectual propertybased nation. SII dispatches committee members and lecturers, and provides comments on proposals from the associations to the Patent Agency, as well as promoting local intellectual property strategies.

### **Responsibility to Customers**

The SII Group conducts its business under the basic "Rational and Customer-Focused Management" policy. We value the customers' voice to deliver safe products and services.

#### **Delivering Safe Products and Services**

To deliver safe products to customers, SII strives to obtain international quality management system certifications (including ISO9001 and ISO/TS16949) throughout the Group. We also develop a wide range of quality assurance processes including product safety initiatives and compliance with each country's engineering laws and regulations like the Electrical Appliance and Material Safety Law in Japan.

#### **SII Group Basic Quality Policy**

The SII Group Basic Quality Policy is to "Improve the Quality, Cost, Delivery and Safety of our Products and Services to create increased value for customers".

The Policy incorporates our strong commitment to achieve customer satisfaction with our product quality as well as meeting high standards of cost, delivery and product safety.

#### **Quality Assurance Promotion System**

The SII Group quality assurance and product safety promotion systems consist of the SII President, the Group's quality assurance representative serving as a chief executive, and quality assurance representatives in each operating division.

Each operating division conducts quality assurance activities based on the Basic Quality Policy. In cooperation with the Product Technology Development Division and the Instrumental Analysis Division, the Head Office Quality Assurance Department develops company-wide initiatives by information sharing with Division quality assurance departments, as well as active support, education and audit.



Improving Product Quality - Achieving High Quality Product -

As a part of quality improvement activity, SII ensures product quality in the development and design phases to raise the entire product quality level. For the most part, quality problems and variances occur due to causes in the development and design stages. So it is very important to improve product quality by closely monitoring the development and design phases while strengthening product reliability. To achieve this goal, SII has taken a variety of initiatives including enhancing engineers' views and ways of thinking, using quality engineering, CAE and instrumentation analysis. We also strive to minimize quality variances based on concurrent optimization of design and machining parameters, and to speed up the development and design processes by promoting evaluation efficiency by using simulations.



Increasing Technical and Manufacturing Strength by Operating Process Review

The Head Office Quality Assurance Division conducts an annual "Operating Process Review" of all the operating divisions in Japan and overseas. The review includes checking that all operation processes from development through manufacturing are implemented without exception; operations are conducted according to the basic rules; employee awareness is adequately raised; operation processes are systematically improved; and operations and employees are well managed. By reviewing on a continuous basis, we feel that our technical and manufacturing strength has increased.

#### Expanding a Single Case Study to the Whole Group

SII strives to expand a single case study horizontally to the whole Group. In addition to the annual "Case Example Introduction Caravan" and "Manufacturing Forum", we established the "SYO Technical College" in FY2007 for junior engineers to solve technical problems.

#### Product Safety

The SII basic product safety concept is "to improve customers' confidence by providing safe products and services" according to the SII Group Product Liability/Product Safety Policy.

To improve our product and technical safety, we established the Product Safety Network under the Quality Assurance Committee. This Network strives to solve a variety of product safety problems and to promote standardization. Also, for all the SII Group products, it conducts regular inspections of compliance with laws and regulations concerning product and technical safety, as well as verifying product safety and appropriateness according to each country's engineering laws and regulations.



Product and technical safety inspections

For product safety crisis management, the SII Product Safety Committee was established. It consists of the Group's quality assurance representative, the Head Office Quality Assurance Department, representatives from each operating division, and related sections including the legal and public relations departments. In case of emergency, the Committee reports to top management within ten minutes, as well as promoting information sharing throughout the entire Group and conducting horizontal activities to promptly solve and prevent problems.

In addition, we provide product safety education on a regular basis to raise product safety awareness and cultivate engineers with safety knowledge.

#### Valuing the Customers' Voice

We established the SII Customer Service Center to answer customer inquiries. In order to ensure customer satisfaction, the Center is committed to providing prompt, accurate and sincere responses. In addition to the Customer Service Center line, SII installed dedicated inquiry lines for electronic dictionaries and watches, respectively, and we also receive inquiries from product inquiry forms on the SII website.

Our customers' opinions, requests and complaints are communicated to the relevant operating divisions to make replies, and are used effectively for product and service quality improvement.

In addition, we focus on improving the quality of our aftersales service through repair service questionnaires filled out by customers.

#### "Kakaku.com Product Award 2007": Gold and Silver Awards in Electronic Dictionary Section

In February 2008, "SR-ME7200" and "SR-G10000" received the Gold and Silver Awards in the electronic dictionary category of the "Kakaku.com Product Award 2007".

The Kakaku.com Product Award features a unique selection method based on approximately 7,300,000 product reviews and comments placed on the Kakaku.com website.

The gold winner "SR-ME7200" earned a favorable reputation from the market for more than a year. Users have highly evaluated this compact, advanced dictionary with its gratifying English contents, as well as reasonable price. On the other hand, the silver winner "SR-G10000" has enjoyed high popularity as a professional model that is also the first model using a clear and vivid LCD.

Encouraged by these awards, we will continue to provide a wide variety of products valued by our customers.



#### Valuing partnership with our suppliers, the SII Group promotes fair and honest purchasing activities.

#### **Increasing Customer Satisfaction**

For the purpose of "Customer Creation", SII established the C2 Promotion Committee which has conducted company-wide activities to "increase customer satisfaction" on a continuous basis. In FY2007, to summarize the past efforts, we provided the opportunity to conduct self-assessments and to evaluate CS awareness in each business for all the sales department representatives throughout the entire company. This self-assessment consists of 36 questions regarding (1) CS basic policy, (2) management, (3) process and (4) awareness and the skill of people responsible. We focused on the driving power of CS in particular, and analyzed the power of an individual and an organization, respectively. As a result, at SII, individual driving power is relatively high as a whole, however, there are differences in organizational driving power between businesses. This result was shared with all SII sales departments. We strive to improve CS promotion activities by exchanging opinions.

#### **Universal Design Initiatives**

SII's sense of craftsmanship originated with, and was refined, through decades of precision wristwatch manufacturing. While developing compact products with multiple functions to optimize wearability and user interfaces, SII strives to incorporate user preferences into our products. This customer-focused approach is captured in the wide range of SII products created according to our Universal Design Concept, which was first established two years ago. Based on the concept "Integrity", with emphasis on "User-Friendliness", "Diversity" and "Beauty", the SII Universal Design Concept is practiced in each operating division.

<b>.</b> .	Integrity recognizing individual diver novative product creation.	sity, promotes
User-	Diversity	Beauty
friendliness	A wide range of designs that	Captures a sense of
Easy-to-understand, intuitive design	users can select according to their personal preferences and needs	beauty that will satisfy the users

In FY2007, we prepared the Universal Design Guidelines and delivered lectures focusing on colors and fonts. SII strives to set Universal Design directions which can maximize each product features, and to expand our universal activities based on a common view of "human centered design".

#### **Multi-Function Plotter Receives BERTL's BFST 2008**

The "Teriostar LP-1010", LED wide-format printer manufactured by Seiko I Infotech Inc. (SIIT), won the "BERTL'S BEST 2008" award for the Best Workgroup B&W Wide Format Multi-Function Plotter.

BERTL Inc. is a prestigious U.S. independent source providing evaluation of digital imaging devices. It evaluates a wide variety of products released during the previous year from the customer's viewpoint and awards "BERTL'S BEST" to the top products. LP-1010 was also awarded the highest rating-5 star.

LP-1010 achieved a smaller installation area with its compact

design, equal to an A1 plotter, (1,150mm width and 552mm length), while handling AO size printing. In addition, the latest print engine controller enabled high-speed (A1: 6.2 plots and A0: 3.4 plots per minute) and high-quality (600DPI) printing, meeting a wide variety of customer needs from printing through engineering.

Additionally, for the first time in the industry, consumable photoconductor drums were made into cartridges, enabling customers to replace cartridges by themselves. It has significantly contributed to decreasing downtime.



#### **Purchasing Policy**

SII develops our purchasing activities based on the following Purchasing Policy.

#### SII Group Purchasing Policy

- 1. Pursuing competitive market pricing in Japan and overseas to meet customer needs and to win their trust.
- 2. Strengthening partnership with suppliers based on fair and honest transactions to build Win-Win relationships.
- 3. Reinforcing moral and legal compliance to conduct fair purchasing activities.
- 4. Promoting SII Green Purchasing to buy articles free from hazardous chemical substances and with lower environmental impact.
- 5. Continuously promoting innovation and enhancement of the purchasing divisions.

#### **Supplier Certification System and** Criteria

SII established the Supplier Certification Committee to select fair business partners using the Supplier Certification Criteria, as well as to build the CSR framework based on the purchasing supply chain. Regarding certified suppliers as suppliers of the whole SII Group, not limited to a single transaction, we strive to strengthen our partnership with them.

**SII Group Supplier Certification Criteria** 

- Existing framework to conduct fair and honest business, respect human dignity and achieve coexistence with society
- Stable business condition
- Environmental management system
- Quality assurance system
- · Management system for confidential information, delivery and manufacturing

The Supplier Certification System, which started in FY2004, completed screenings of almost all Japan suppliers by the end of FY2007 and certified about 1500 suppliers.

We will continue to improve operation of the system and will prepare for overseas supplier certification.

#### **Fair Purchasing Activities**

The SII Group promotes a wide range of activities for fair and honest transactions.

Compliance with the "Act against Delay in Payment of Subcontract Proceeds, Etc. to Subcontractors (Subcontract Act)"

The Subcontract Act has a major significance in purchasing activities. We established the Subcontract Act Section in the Head Office to obtain the latest information from related organizations including the Japan Fair Trade Commission. The Section also gives appropriate guidance to daily management operations, and provides Subcontract Act education and audits. Through these activities, we strive to reinforce compliance with the Subcontract Act in cooperation with the Group's purchasing staff.

#### Helpline

The Helpline was established to receive any information concerning possible illegal activities or immoral behavior by our employees from our suppliers. (Please refer to P16.)

#### **Basic Education Programs for Purchasing Divisions**

To acquire basic knowledge of purchasing operations, education programs are provided to employees and managers in purchasing divisions, and have been recently expanded to include design, manufacturing and production control divisions. Since 1997, 858 employees in total participated in the education program.

In FY2008, the program will be enlarged to include overseas employees.

#### **Purchasing Audit**

Each fiscal year, the Head Office Purchasing Division visits 25 SII purchasing divisions in Japan to carry out audits of "internal control of purchasing operations", "compliance with the Subcontract Act" and "SII Green Purchase".

In the first half of the fiscal year, we point out issues which must be improved and give guidance for further enhancement. Then, in the second half of the year, follow-up audits are implemented to confirm the improvements.

#### Purchasing Activities including Overseas Sites

We have operated the SII Group management system focusing on the Japanese sites. In FY2007, to expand this operation to overseas sites, in FY2007, we conducted field surveys and provided basic education programs at five overseas sites as the first step.

In addition, in FY2007, the SII Group Purchasing Management

Manual was revised and reissued as a global edition including English and Chinese versions. These manuals will be used in education programs at overseas sites.



Education program at an overseas site

### With Employees

The SII Group focuses on creating an efficient workplace, while respecting employee diversity and individual characteristics.

#### Supportive SII Employee Development

SII personnel system is based on a fair evaluation of performance and results, and is designed to promote the employees' competence and career development.

#### **HR Policy**

- Develop independent employees who are self-reliant, and can establish their own careers and missions.
- Promote employee development to realize individual career design based on the corporate goals.
- Focus on proper evaluation and compensation based on employees job talents, potential ability and performance.
- Create a dynamic organization and culture through frank and open communication.
- Promote effective handing down of techniques, skills and knowhow to continuously develop business.

#### SII Group HR System

SII shifted from a traditional HR system, based on seniority, to a performance evaluation system, which attaches a high value to the employees' competence, performance and achievement. A new HR system based on the SII HR Policy was established throughout the whole SII Group including our overseas affiliated companies. The introduction of the new HR system by all the units will be completed by April, 2009. The same basic concept and evaluation approach will apply to every unit in Japan and overseas. The system was established with each unit's local employees in accordance with their regulatory compliance requirements and regional cultures.

#### Work/Life Balance

In Japan, SII established a variety of childcare and nursing care systems to support our employees in balancing their careers and family lives, and in nurturing the coming generations. Starting from March, 2008, employees are allowed to take childcare leave until the child's third birthday. For elderly nursing care, the maximum leave was extended from one year to two years per family member requiring full-time care, and employees are entitled to select shorthour work for nursing for three years. In addition, other systems were also improved and extended, including medical leave becoming available on half-day basis.

We will continue to improve our work environment to support our employees in balancing their careers and family lives.

#### System Results (Japan)

System	FY2006	FY2007
Childcare leave	22	17
Short-hours work for childcare	28	21
Elderly nursing care leave	0	2
Short-hours work for elderly nursing care	0	0

## Seiko Instruments Singapore Pte. Ltd. received the 'Model Workers' Award'

Based on a high evaluation from the Singapore government for its advanced new wage system, Seiko Instruments Singapore Pte. Ltd. (SIS) received the "Model Workers' Award" from the National Trades Union Congress in May 2007. The new wage system applies to all SII Group companies to promote fair evaluation of individual capability and performance. SIS introduced this system in November 2005.

In addition, as a model company, SIS made a presentation at the Singapore Tripartism Forum held in November.



Presentation at the Forum

#### **Career Development Support**

We promote development of independent and responsible employees who can manage their own career and improve themselves by setting their own goals. In order to foster the employee's career self-development, we provide two systems:

- Independent career design support This program offers career design training to employees every five years from the age of 28 to 48.
- In-house career development support To support employee career development within company and broaden career options, the "Free-Agent (FA)", "inhouse recruitment" and "open study abroad" programs were established.

#### **Professional Resources Management System**

SII introduced the "Professional Resources Management System" in FY2005. With this system, we certify "professional" employees who possess advanced expertise that will contribute to SII's continuous development. And we also ensure that their skills and techniques will be passed down to junior employees. The system includes Specialists, who are experts in fields like intellectual property, law, development and design; and Meisters, who specialize in manufacturing operations such as processing and assembly. Senior-level professionals are recognized with special titles along with gold and silver awards.

As of March 2008, SII has 39 certified Specialists and 20 certified Meisters who are actively training their successors in each field.

#### Senior Employment

SII actively promotes senior employment. In 2006, Seshika Inc. was established to provide opportunities to senior workers and to support operations within the SII Group. In FY2007, about 30% of retired employees were rehired on a contract basis.

#### Relationship with the Labor Union

SII has a sound and stable relationship with the SII Labor Union. The "Labor-Management Committee" is held on a regular basis to negotiate problems and labor conditions until both parties are fully satisfied.

To promote understanding of objectives management and to improve communication skills, in FY2007, SII and the SII Labor Union invited a visiting lecturer and provided seminars for employees.

#### International Human Resources Development

We held a variety of seminars for the key staff of overseas sites.

The past 5 seminars (20 days in total) included "Business Manners and Work Methods" and "Business Skills and Attitudes" for regional staff, as well as "CSR", "Risk management", "Transmission of Skills, Techniques and Know-How" and "Human Resources Development" for HR staff.

We will continually promote human resources development at overseas sites.



#### **Creating A Safe and Efficient Workplace**

SII continuously strives to create a safe and efficient workplace by preventing industrial accidents and enhancing our employees' health.

SII Group Occupational Safety and Health Management System

In addition to each unit's safety management system, the SII Group established a group-wide safety management organization. SII will continually improve occupational safety and health management for the safety and comfort of all people involved in the SII Group operations. SII Group Established the Occupational Safety and **Health Policy** 

The SII Group established the "SII group Occupational Safety and Health Policy" in March 2008.

#### SII Group Occupational Safety and Health Policy

#### **Basic Principle**

The SII Group has established the following basic policies and is committing itself to conduct business activities based on the belief that maintaining a safe and healthy work environment for all employees worldwide, as well as maintaining their physical and mental well-being, form the basis of a healthy company.

**Basic Policies** 

- 1. The SII Group will do its best to eliminate occupational injury and promote good health to increase safety and health levels.
- 2. For the purpose of decreasing safety and health risks, the SII Group organizes an internal system and sets targets for continuous improvement to create a comfortable working environment
- 3. In order to raise safety awareness, the SII Group makes every effort so that every employee fully understands these occupational safety and health policies and any other necessary issues.
- 4. The SII Group complies with occupational safety and health laws and regulations, other requirements which SII has previously agreed, and the rules and policies established within the SII Group.

The basic principle of this policy is the belief that maintaining a safe and healthy work environment for all the employees worldwide, as well as keeping their physical and mental well-being, form the basis of a healthy company. We will improve and increase workplace safety in all SII Group units including overseas sites on an ongoing basis.

In FY2007, we conducted workplace safety inspections for three times, disaster drills, and, fire prevention reviews in all offices.

#### **Employee Health Management Support**

Our health enhancement programs are held through mutual cooperation with the company, the SII labor union and the health insurance provider.

Mental Health Care

In FY2007, four mental health seminars were held by our industrial

physician. Line-care (on the job care) mental health seminars for management-level employees will be held in FY2008. In addition, we established a consultation service provided by an external specialized agency.

#### **Health Problem Prevention**

In order to prevent health problems caused by overwork, labor hours are closely monitored. Employees who work a lot of overtime are obliged to consult with our industrial physician. In addition, our industrial physician visits overseas units every two years to consult with employees stationed abroad.

#### Health Enhancement with Family

Our regularly held health enhancement programs includes shoulder stiffness and lower back pain prevention seminars and a walking with family campaign. In FY2007, 169 members in total participated in three walking campaigns.

The role of SII's medical checkup significantly changed in FY2008. Metabolic syndrome checks will be conducted for employees aged 40 or over. Based on the checkup results, employees will receive lifestyle, nutrition and exercise guidance. In addition to the concept of "early detection, rapid cure", we will focus on proactive enhancement of our employees' health.

#### Lifesaving Practice – Lifesaving Seminars –

Each SII Japan unit introduced Automated External Defibrillators (AEDs, medical devices that delivers an electric shock to the heart in case of a cardiac episode to restore the heartbeat), and holds lifesaving seminars on a regular basis. In FY2007, 250 employees attended seminars at all SII Japan sites. In the seminars, with a professional rescue instructor, employees learned lifesaving measures including initial handling of injured or sick people, calling for an ambulance, cardiac massage and AED operation. One of the employees who participated in the seminar explained that lifesaving is a critical skill for everyone in society. We will continually and actively

hold lifesaving seminars to encourage the SII Group employees to acquire lifesaving skills.



Lifesaving semina

### With Regions and Society

As a good corporate citizen, taking advantage of our core business, the SII Group strives for coexistence with society and contributes to the community.

#### Participation in the Think the Earth Project

#### Think of the Earth

The Think the Earth Project is a NPO (Non-Profit Organization) founded in 2001 based on the concept of "ecology and the economy in coexistence". Based on the belief that the most critical issue is public apathy and fatalism towards environmental and social problems, Think the Earth offers ways to contribute to society through business, encouraging companies and individuals worldwide to actively participate, and creates opportunities for each of us to think about our relationship with the Earth in a daily life.

The project receives a portion of the revenues generated by sales of related products and services, and uses these funds to support its own operation and to contribute to NPOs and NGOs.

SII has participated in the project since its establishment, and developed the project's kickoff product, the wn-1 Earth watch (northern-hemisphere version). A southern-hemisphere version, the ws-1 was produced later. In autumn 2007, the wn-2, made of aluminum, was released, and a "sliver" model with a mirror finished dome and a white drawing of continents on the watch face was added to the series. We hope that these Earth Watches will inspire people to think about the Earth.

The wn-2 Earth Watch, featuring a 24-hour hand, captures the double meaning of watching the Earth and being a watch of the Earth. We hope that this watch will provide the user with opportunities to think about and to do something to tackle global problems, including global warming, in everyday life.

Think the Earth website: http://www.thinktheearth.net/



ATI was founded in 1993 sponsored by SII. ATI's mission is to contribute to the promotion of learning, which is fundamental to the progress of human society, by creating a new concept of scientific technology and educating researchers for the next generation. In particular, the institute has emphasized "nanoscience" and has conducted unique research promotions from the dawn of nanoscience.

#### "Timing" Research Committee

Watch manufacturing is one of the main industries Japan is proud of. ATI established research committees to think about "time" from a variety of viewpoints, including history and technology, watch culture, and people's feelings. The committee will develop unique research activities with a different flavor than traditional scientific research.

#### **Research Committee**

Research committees are established to create new concepts through surveys conducted by researchers from different areas of expertise. Currently, five committees are undertaking research projects. Successful research results in the launch of new research projects and special research committees in academic conferences.

#### **ATI International Forum**

To publish research progress to the world and to promote worldwide academic exchanges, ATI actively stages an international forum and participates in global conferences.

#### **Research Grant**

ATI supports unique and creative research proposals and encourages development in new research field by providing grants to promising young researchers. The value of these grants has become widely recognized and is well received by academic societies. Since its foundation, ATI has supported over 220 researchers.



ATI international forum

#### ATI Forum (Public Lectures)

ATI holds public lectures twice a year to introduce the latest trends, from scientific technology to social and cultural topics. It provides an opportunity to think about a new age in response to public demands and their intellectual curiosity.

ATI Website: http://www.ati.or.jp/eg/

#### Christmas Illumination – SII Makuhari Head Office Building

During the Christmas season, SII displays a special holiday illumination using the windows of our Makuhari head office building. SII's Christmas illumination is a huge artwork of 80m high with total area of 8,300, and is created with room lighting and 1,200 window blinds. The illumination design for FY2007 was "The Reindeer Delivering Gifts" selected through an employee contest. People could see the illumination even from a distance and while driving since the building is located right beside one of the major expressways in the region.

In addition to sharing the festive holiday illumination with local residents, SII also contributed an amount equivalent to the illumination cost to the Chiba Environmental Foundation.



"The Reindeer Delivering Gifts"

#### Kid's Homepage "Let's Learn about Time"

June 10 is "Time Day" in Japan, and on this day in 2000, the three Seiko Group companies\* launched "Let's Learn about Time", a website for children and adults together to enjoy, learning about

time and watches. It contains fun and easy-to-understand segments such as Time & People, Time & Life and Mystery Quiz, and is regularly updated every month.

We will continuously conveying children, who will lead this 21st century, about the great meaning and value of our limited "time".



"Let' s Learn about Time" website: http://www.kodomo-seiko.com/

\*The Seiko Group Companies: Seiko Holdings Corporation Seiko Epson Corporation Seiko Instruments Inc.

#### Participating in the World Business Council for Sustainable Development

The Seiko Group is a member of the World Business Council for Sustainable Development (WBCSD). WBCSD is a global association of over 200 companies, promoting business development, environmental protection and social fairness for sustainable development. The council takes industry initiative on sustainable development issues and improvement of corporate social responsibilities.





• In response to the severe earthquake that struck Sichuan Province in China, each of the SII Group local companies made a donation through the regional administrative districts. SII also offered a donation through the Japan Red Cross Society for all those suffering from the cyclone which hit Myanmar.

SII started the "Pop Song Translation Competition" in 2004 for junior high and high school students. The competition is designed to provide students
with the opportunity to further utilize their electronic dictionaries for fun, in addition to study purposes. We received 84,000 entries in total. The fifth
competition, in 2008, and future competitions will be held by ALC Press Inc. under the new title of "National Pop Song Translation Competition". SII
will support the competition as a special sponsor.

#### **Contributions to Society**

SII NanoTechnology Inc. established an environmental action group named "Nano- Tech Green Club" to raise employees' awareness of the environment and to enable them to enjoy making an enduring contribution to society.

• "NPO FUJISAN Club"

SII NanoTechnology Inc. joined as a corporate member in the NPO FUJISAN Club which performs conservation activities of the natural environment around Mt. Fuji. The company actively participated in cleanup and environmental conservation activities held by the FUJISAN Club.

• Mt. Fuji Cleanup Activity

SII NanoTechnology Inc. signed up for the cleanup activities in Subashiri, Gotemba and Fujinomiya gateways of Mt. Fuji, which take place every summer as cooperative projects among Oyama-cho, Gotemba-city and Fujinomiya-city.

Local Cleanup Activity

SII NanoTechnology Inc. cleaned the local areas around its headquarters (Chuo-ku, Tokyo) and Oyama Unit (Shizuoka), the main business unit of the company.



Cleanup in Mt. Fuji

#### Work-Study Program

The Makuhari Head Office and the Takatsuka Unit (Chiba) cooperated with work-study programs which are a part of the "Career Education – Advanced Technology Experience Program" sponsored by Chiba Prefecture. On the first day, 20 junior high and high school students visited the showroom in the Makuhari Head Office. During the next two days, 6 students visited SII's semiconductor production department in Takatsuka. They gained three days of meaningful experience, learning about the semiconductor production process and taking a look at the interior of products incorporating semiconductors.



Students learning about the production process

#### **Field Study**

Ohno Unit (Chiba) offered a field study opportunity to the local elementary school students as part of the "We love our hometown" class in Life Studies. This class is designed to develop emotional attachment to the hometown by exploring many local places and communicating with people. During the watch engraving process tour, the students were surprised and impressed to see the precise work using microscopes.

Later, we received illustrated thank you letters from the students.



Letters from the students

#### **Contributions to Community**

Seiko Instruments (H.K.) Ltd. (SIH) participated in the "Tree Planting Challenge" at Tai Lam Country Park, which had been burned to the ground by a hill-fire in 2006. This event, organized by "Friends of the Earth", is a unique environmental activity that combines tree-planting, hiking and a challenge of self-endurance. In addition to planting trees, the participants had to climb up a rough slope while carrying seedlings and planting tools. A team of four SIH colleagues successfully accomplished the tree planting challenge. The SIH participants contributed to spreading the message of "Save Trees, Conserve Nature".

Also, SIH participated in the flag selling activity organized by Green Power, which is a non-profit green organization committed to environmental protection and education.



Tai Lam Country Park and SIH employees

### **SII Group Environmental Management**

The SII Group practices environmental management based on the "Three Green" concept: Green Process, Green Products and Green Life.

#### **SII Green Plan Concept**



#### **Environmental Management Framework**

SII established the environmental management system consisting of the SII President, the Environmental Management Director serving as a chief executive, and the Head Office Corporate Environmental Administration Department. The Department takes a leading part in operating the system in cooperation with each site and operating division. The Plan-Do-Check-Act cycle has been steadily implemented at each site and throughout the Group.



SII obtained ISO14001 certifications at major sites in Japan and overseas. (Please refer to page 35 and 36.)

IS014001 certified sites

#### **SII Group Environmental Policy**

#### **Environmental Concept**

As a good corporate citizen, the SII Group will continue to harmonize its corporate activities with the global environment, protect and improve the environment, and contribute to the establishment of a sustainable society that can coexist with all nature.

**Environmental Activity Guidelines** 

- 1. Continually strive to implement and enhance our environmental management system.
- 2. Observe all of laws, rules, regulations and agreements relevant to the environment, and prevent environmental pollution.
- 3. Provide products and services that enable state of the art environmental protection research, monitoring and compliance.
- 4. Continually reduce the environmental impact through the following actions:
- (1) Provide products and services that, throughout their lifecycles,

#### Internal Environmental Audit

To continuously improve the environmental management system and its performance, an internal audit is carried out with objectivity and independence. Auditors are invited from other sites and the Head Office to enhance the audit effectiveness and create a synergy effect through exchanging information between each site.

In FY2007, the internal audit identified 263 issues in Japan sites and 165 in overseas sites. The most frequently identified category was education and training with 83 issues.

In order to improve the internal audit reliability, we need to develop internal auditors. While holding internal auditors training regularly, we established "SII Environmental Auditor Certification System and also the refresh courses for internal auditors to raise their competency levels.

Completed Environmental Auditor Training		536
SII Certified Environmental Auditor		22
Official Environmental Auditor:12	Lead Auditor	6
(CEAR* Accredited Environmental Auditor)	Auditor	1
	Provisional Auditor	5

\*CEAR: Center of Environmental Auditors Registration

#### minimize their impact on the environment

- (2) Methodically conserve energy and proactively address global warming
- (3) Practice Reduce as well as Reuse and Recycle(3R), and promote effective use of resources.
- (4) Reduce environmental risks from chemical substances and promote the elimination of harmful substances use.
- 5. Promote SII GREEN PURCHASING and purchase eco-friendly products, parts, materials and services.
- 6. Enforce internal audits to improve corporate environmental management system
- 7. Contribute to society through our unique environment preservation activities.
- 8. Provide seminars and training to all employees to elevate their environmental consciousness, and encourage them to protect the environment in their personal life.
- 9. Proactively and openly disclose information about the implementation state of our environmental management system.

#### **Company-Wide Education**

SII headquarters conducts a wide range of environmental programs in three categories: general education, special education and training for internal qualification. We review the programs every year to establish an annual environmental education plan, and request each site to participate in the programs. In FY2007, 163 employees attended the courses held by headquarters, bringing the total number of employees who have passed these courses to 2,297. In addition to the headquarter programs, each site also conducts unique environmental education programs and enlightening activities.

In FY2007, the refresher courses were newly established for internal environmental auditors. Also, during the energy conservation session held at Tochigi Unit, a model plant, a practical education program was conducted with external lecturers by making a survey of the environmental facilities and identifying problems.

### **Conscious Management for the Second Consecutive Year**

SII was rated at the highest level for promoting environmentally conscious management by the Development Bank of Japan (DBJ) in DBJ's Ioan program. As we did in FY 2006, SII received the highest evaluation level for the second consecutive year, a first for precision equipment manufacturers.

This loan program for environmentally conscious management introduced a special method of "environmental rating". It uses a unique screening system (rating system) to evaluate corporate environmental management, and applies the three-stage interest rate according to the rating.

SII was evaluated highly for promoting environmentally conscious

In order to contribute to creating a sustainable society, the SII Group strives to reduce environmental impact through our business activities, products and services. This section focuses on our environmental initiatives.

#### Education Held at SII Headquarters

General Education				
Course	Participants			
Global environmental issues and SII's approaches	New employees			
Environmental protection course for mid-level employees	Mid-level staff			
Environmental protection course for managers	Managers			
Environmental protection course for sales persons	Salespersons			
Special Education				
Course	Participants			
Waste management	<ul> <li>Employees who handle chemicals and wastes</li> </ul>			
Chemical Control	• Operators of environment- related equipment			
Energy saving	<ul> <li>Manufacturing and production engineers</li> </ul>			
Eco-friendly Product	Product development personnel			
Training for Internal Qualification				
Course	Participants			
Internal environmental auditor training	Candidates from each business unit			
Internal environmental auditor brush up seminar	Internal auditors			

#### **Training for Emergencies**

Each unit has established its emergency procedure manual regarding actions and communications. Through periodic emergency response trainings based on the procedures, employees can review if the procedures are effective, and can practice emergency countermeasures to prevent the expansion of environmental contamina-

tion. Furthermore, we also conduct joint training in cooperation with outside contractors who work on SII premises, including tanker drivers who fill our tanks.



Chemical substance leakage emergency response training

Received the Development Bank of Japan's Highest Rank Award for Promoting Environmentally

activities at each product life cycle stage, and for creating environmentally friendly products, including SII Green Products conforming to ISO Environmental Labeling Type II and the SII High Grade Green Products labeling system with advanced environmental performance



### **Environmental Results and Future Plans**

#### FY2007 Overview and Mid-Term Plan

Our Japan and overseas sites failed to achieve many of their targets in FY2007.

However, in Japan, we reduced both CO2 emissions and waste generation from the last previous results.

	Environmental Pe	erformance Indicators							(O:Achieved ×:Not Achieved)
		Action Item	FY2007 Targ	jet	FY2007 Result	Rating	Page	FY2008 Target	Mid-Term Plan
	Eco. Eriandly Products Croation	Improve the sales ratio of SII Green Products.*1	General Purpose Products	92%	97.9%	0	P37~	Maintain the sales ratio at 94% or more.	Maintain the sales ratio of SII Green Products (general purpose products) at 96% or more.
Product			Large Products	30%	27.9%	×	F37~	35%	Increase the sales ratio of SII Green Products (large products) to 50% or more by the end of FY2010.
Related	Total Elimination of Hazardous	Eliminate cadmium, hexavalent chromium, mercury and lead from products.* <sup>2</sup>	Complete eliminatio	n	95.2%* <sup>2</sup>	×	P39	Maintain the sales ratio at 95% or more.	Maintain the ratio of cadmium, hexavalent chromium, mercury and lead-free products at 95% or more*2
	Chemical Substances	Eliminate polyvinyl chloride from products*3	Complete eliminatio	on	95.0%	×	100	Maintain the sales ratio at 95% or more.	Maintain the ratio of polyvinyl chloride-free products at 95% or more*3
	Action against Global Warming* <sup>4</sup>	Reduce CO <sub>2</sub> emissions.	69,803 tons-CO <sub>2</sub>	2	72,722 tons-CO <sub>2</sub> -1.1% from FY2007	×	P41~	Improve efficiency by 1% per year (71,631 tons-CO <sub>2</sub> or less)	Reduce energy related CO <sub>2</sub> emissions by 9% from FY1990 by the end of FY2010. (76,706 tons-CO <sub>2</sub> $\rightarrow$ 69,803 tons-CO <sub>2</sub> )
Japan Sites	Waste Reduction/Recycling	Reduce total waste generation.	2,747 tons		2,784 tons -7% from FY2007	×	P43	2,665 tons	Reduce the total waste generation by 50% from FY2000 by the end of FY2010. (4,322 tons $\rightarrow$ 2,161 tons)
Siles	Chemical Substances Reduction/Control	Reduce emissions of PTRT hazardous chemical substances.* <sup>5</sup>	25 tons* <sup>6</sup>		26 tons 1% from FY2007	×	P44	24.9 tons -5% from FY2007	Reduce emissions of PTRT hazardous chemical substances + SII's voluntary controlled hazardous chemical substances (HFCs, PFCs an SF <sub>6</sub> ) + VOC by 5% from FY2006 levels.
	Water Use Reduction	Reduce water use.	963,000 m <sup>3</sup> -1% fro	om FY2007	871,000 m <sup>3</sup> -10% from FY2007	0	P43	862,000 m <sup>3</sup> -1% from FY2007	Reduce water use by 1% every year.
	Action against Global Warming	Reduce CO <sub>2</sub> emissions.	42,743 tons-CO <sub>2</sub> -1% fro	om FY2007	44,010 tons-CO <sub>2</sub> +1.9% from FY2007	×	P41~	43,570 tons-CO2 -1% from FY2007	Reduce CO <sub>2</sub> emissions by 1% every year.
Overseas	Waste Reduction and Recycling	Reduce waste generation by 3% every year.	3,616 tons -3% fro	om FY2007	3,820 tons +2% from FY2007	×	P43	Recycle Ratio 55%*7	Increase recycle ratio by 3%.
Sites	Reduce office paper use	Reduce office paper use by 3% every year.	40.4 tons -3% fro	om FY2007	36.9 tons -11% from FY2007	0	_	35.8 tons -3% from FY2007	Reduce office paper use by 3% every year.
	Water Use Reduction	Reduce water use.	661,000 m <sup>3</sup> -1% fro	om FY2007	637,000 m <sup>3</sup> -5% from FY2007	0	P45	630,000 m <sup>3</sup> -1% from FY2007	Reduce water use by 1% every year.

Environmental Management Indicators		
	Action Item	
Environmental Management System	Improve the online site reports.	
Environmental Management System	Enhance operation-based themes.	
Community and Social Contribution	Promote employees' participation in environmental activities for community and society.	

\*1. From 2007, separate target values are established for general purpose products and large products.

\*2. Completed elimination by the end of May 2006 for products to be sold in the EU.

\*3. Except those used within the safety standards or difficult to substitute.

\*4. Due to an aggregation mistake, FY2007 green house gas emissions (HFCs, PFCs and SFe, not including CO2) turned out to be 18,694 tons -CO2. We will review our reduction

targets for FY2008 and later. The aggregation system was improved to prevent errors. \*5. Includes PRTR hazardous chemical substances, SII's voluntary controlled hazardous chemical substances (HFCs, PFCs and SF<sub>6</sub>), and volatile organic compounds (VOC).

\*6. The target was established in October 2007.

\*7. From FY2008, we will focus on improving recycle ratio to achieve the target value.

### **Environmental Accounting**

In FY1999, the SII Group introduced an environmental accounting system which assesses the cost and effect of environmental activities. To operate the system, we established the SII Environmental Accounting Guidelines based on the guidelines of the Ministry of the Environment. The FY 2007 results show that the total investment and the total expenses were increased to 1,433 million yen and 2,481 million yen,

respectively, mainly due to the establishment of new facilities.

Environmental Protection costs		Target: 9 Japan sites Period: from March 1, 2007 to	February 29, 2008	(million yen)
	Category	Content	Investment <sup>*1</sup>	Expenses <sup>*2</sup>
(1) Busine	ess Area Costs			
	1. Prevention of Environment Disruption	Related to water, atmosphere, noise and vibration	382.2	392.3
Details	2. Global Environment Protection	Related to global warming and ozone-layer depletion	574.9	409.4
Dotano	3. Resource Efficiency	Related to resource saving, waste reduction and recycling, procurement management	323.8	384.2
(2) Upstream and Downstream Costs		Eco-friendly products creation Recycling of products and packaging	146.4	156.5
(3) Administrative Activities Costs		Environmental education and environmental information disclosure Environmental management system operation	0.0	298.6
(4) R&D Costs		Environmental research and development	5.3	236.8
(5) Social Activities Costs		Supporting environmental protection groups and communities	0.0	5.1
(6) Restor	ation Costs	Restoration of contaminated soil	0.0	598.0
		Total	1.432.6	2,480,9

\*1 The investment for FY 2007 only. In case we judged that the total outlay included any costs other than environmental protection costs, only the portion deemed to apply to environmental protection was counted.

\*2 Includes depreciation expense for FY2006 or before. (Equipment and facility investment are depreciated over 5 and 10 years, respectively, in equal yearly increments.) In case we judged that the total outlay included any costs other than environmental protection costs, only the portion deemed to apply to environmental protection was counted.

Environmental Protection Results	
Environmental Impact	Quantity Reduced from FY2006 (FY2006-2007)
CO <sub>2</sub>	808 tons-CO <sub>2</sub>
Water	102,000 m <sup>3</sup>
Paper resources	11 tons
Industrial Waste	138 tons
General Waste	78 tons

New Material Purchasing Reduction <sup>\*3</sup> Single year result 587 tons

 $^{\star}\!3$  The total amount of recycled and reused waste oil and waste plastics was calculated as the new purchase reductions amount.

\*4 The new purchase reduction cost is calculated by converting the new purchase reductions amount.

Economies Achieved from	
Environmental Protection Activities	(million yen)
Content of Actual Savings	Cost Actually Saved (from FY2006)
Expense reduction attributable to energy conservation	-47.5
Reduced cost by water use savings	5.5
Reduced cost by paper use savings	1.0
Reduced general waste disposal cost	-2.4
Income from sales of valuable resources Single year result	34.6
Reduced cost by new material purchasing reduction <sup>*4</sup> Single year result	410.0
Total	401.2
Estimated Covings from Disk	
Estimated Savings from Risk	Savings Estimated
Reduction Single year result	
Avoidance of shutdown due to air/water pollution	290.5
Avoidance of illegal dumping penalties or others	57.2
Total	347.7
Total Savings	748.9

The SII Group believes that understanding environmental impact throughout the product life cycle is necessary to properly conduct environmental activities. The overview of FY2007 environmental impact is explained in the table below.



Environmental Report

	etails)
• Materials:	Metals, plastics, glass and other materials u production
• Packaging:	Plastics and paper to be recycled according t Law for Promotion of Sorted Collection and Recycling of Containers and Packaging
· Office Paper:	Paper for printers and copiers
Chemicals:	PRTR hazardous chemical substances, HFCs $SF_{\rm 6}$ and VOC
· Electricity:	Power purchased from electric companies
• Gas:	City gas and LP gas
· Fuel:	Kerosene and heavy oil
• Water:	Tap water, industrial water and groundwater

\*1: Transportation among the SII Group companies in Japan

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\*2: Estimated annual energy use of FY2007 SII Green Products

UTPUT	(Details)
· CO2:	From use of electricity, gas, oil, and, cooling and heating water
• NOx:	From use of gas and oil
· SOx:	From use of oil
	igures represent business units installing soot and g facilities which are regulated by the Air Pollution
• Chemicals:	PRTR hazardous chemical substances, HFCs, PFCs, SF6, and VOC discharged into the atmosphere and water
· Waste Water:	Released into rivers and sewer systems
· COD (Chemical	l Oxygen Demand): Pollution load
*Limited to the	business units subject to the regulations in the Water
Pollution Contr	rol Law covering the total pollution amount
· BOD (Biochemi	cal Oxygen Demand): Pollution load
	business units installing specified facilities as he Water Pollution Control Law
General Waste:	Paper waste and household-type waste generated by or as a result of industrial operations
Industrial Waste	e: Waste oil, acid, alkali, plastics, ash, sludge, and other materials generated by industrial operations
• Final Landfill R	ate: The ratio of the landfill amount to the total waste generation amount

The SII Group monitors environmental activities of 9 Japan sites and 7 overseas sites.

Tohoku Region		IN	OUT
Sendai Unit ISO 14001 Certification: February 1999 Location: Sendai-shi, Miyagi Business lines: Manufacturing of batteries, capacitors, electronic parts, and precision equipment materials		Energy • Electricity: 14,939,000kWh • LP Gas: 280,000 m <sup>3</sup>	CO2 Emission: 7,353 tons-CO2 Wastes     Total: 136 tons     Recycled: 124 tons     (including resalable waste)
Morioka Seiko Instruments Inc. (MSI) ISO 14001 Certification: April 1997 Location: Iwate-gun, Iwate Business lines: Integrated watch production, manufacturing technology development, and watch part manufacturing, Shizukuishi Watch Studio	511.0	Energy • Electricity: 20,263,000kWh • Heavy Oil: 19kl • Kerosene:1,195kl • LP Gas: 21,000m <sup>3</sup>	<ul> <li>CO2 Emission: 10,922 tons-CO2</li> <li>Wastes</li> <li>Total: 519 tons</li> <li>Recycled: 490 tons (including resalable waste)</li> </ul>
SII Microtechno Inc. (SMT) ISO 14001 Certification: April 1997 Location: Daisen-shi, Akita Business lines: Mobile phone LCD/LCM manufacturing and IC packaging		Energy • Electricity: 20,856,000kWh • Kerosene:1,141kl • LP Gas: 2,000m <sup>3</sup>	<ul> <li>CO2 Emission: 10,849 tons-CO2 Wastes</li> <li>Total: 334 tons</li> <li>Recycled: 284 tons (including resalable waste)</li> </ul>
Kanto region		IN	OUT
Makuhari Unit (SII Head Office) Including the Omiya, Mito, Tachikawa and Yokohama Office ISO 14001 Certification: October 2001 Location: Chiba-shi, Chiba Business lines: SII Group headquarters; development and sales of watches, electronic dictionaries, and IT devices; sales of electronic components		Energy • Electricity: 9,409,000kWh • City Gas: 25,000m <sup>3</sup> • District Heating and Cooling: 19,213GJ	<ul> <li>CO2 Emission: 4,246 tons-CO2</li> <li>Wastes</li> <li>Total: 201 tons</li> <li>Recycled: 174 tons (including resalable waste)</li> </ul>
Takatsuka Unit       *Including the Mito and Tsukuba Office         ISO 14001 Certification: November 1996         Location: Matsudo-shi, Chiba         Business lines: Development and manufacturing of semiconductors and electronic components; development of microtechnologies and electronic devices; development, design and production technology of micromechatronics		Energy • Electricity: 58,390,000 kWh • Heavy Oil: 47kl • City Gas: 2,453,000 m <sup>3</sup>	<ul> <li>CO2 Emission: 28,041 tons-CO2 Wastes</li> <li>Total: 983 tons</li> <li>Recycled: 831 tons (including resalable waste)</li> </ul>
Ohno Unit ISO 14001 Certification: March 1999 Location: Ichikawa-shi, Chiba Business lines: Manufacturing and sales of cutting tools, jigs, precision parts, and small automobile parts	AND	Energy • Electricity: 6,541,000 kWh • City Gas: 145,000 m <sup>3</sup>	<ul> <li>CO2 Emission: 2,828 tons-CO2</li> <li>Wastes</li> <li>Total: 292 tons</li> <li>Recycled: 292 tons (including resalable waste)</li> </ul>
SII NanoTechnology Inc. (Oyama Unit) ISO 14001 Certification: August 1998 Location: Sunto-gun, Shizuoka Business lines: Development and manufacturing of analysis and measurement equipment, and acoustic devices	SIC	Energy • Electricity: 5,120,000 kWh • Heavy Oil: 8kl • Kerosene:451kl • LP Gas: 4,000 m <sup>3</sup>	<ul> <li>CO2 Emission: 3,137 tons-CO2</li> <li>Wastes</li> <li>Total: 81 tons</li> <li>Recycled: 75 tons (including resalable waste)</li> </ul>
Tochigi Unit ISO 14001 Certification: February 1998 Location: Tochigi-shi, Tochigi Business lines: Manufacturing of quartz crystals		Energy • Electricity: 11,310,000 kWh • Heavy Oil: 382kl • Kerosene:0.3kl • LP Gas: 300 m <sup>3</sup>	<ul> <li>CO2 Emission: 5,345 tons-CO2</li> <li>Wastes</li> <li>Total: 237 tons</li> <li>Recycled: 237 tons (including resalable waste)</li> </ul>

 CO2 Emission: 179 tons-CO2 Electricity: 377,000 kWh • District Heating and Cooling: 1,113GJ

Energy

Same of the



technical support; after-sales service

ISO 14001 Certification: September 2002

measuring instruments, information devices and related products;

Business lines: Sales of electronic components, analytical and

**Osaka Branch** 

Location: Toyonaka-shi, Osaka

As a manufacturer, the SII Group believes that we are responsible for creating and supplying environmentally friendly products. We focus on eco-friendliness based on product life cycles starting from the planning and design stage.

#### FY2007 Overview

- The SII Green Products sales ratio was 97.9%, surpassing our target value 92% (excluding some large products).
- Sixteen products in six product categories were certified as SII High Grade Products.
- We achieved 95.2% elimination of the RoHS regulated hazardous chemical substances, and 95.0% elimination of polyvinyl chloride. (The use of RoHS regulated hazardous chemical substances was completely eliminated from products for the EU by the end of May 2006.)



#### SII Green Products and SII High Grade Green Products

To raise public awareness of our eco-friendly products, in December 2001, we introduced the SII Green Product Label System, which is equivalent to the ISO 14021 Type II environmental label. Products are assessed according to the SII Green Product Standards on a scale of one to five, and certified as SII Green Products with an average score of 3.5 and above. The SII Green Product Standards are reviewed once every two years. In 2007, the Standards were revised for all the

Products.

In October 2006, the SII High Grade Green Product System was introduced as a higher level certification of SII Green Products. In this system, we certify products as SII High Grade Green Products when they satisfy the mandatory item and one or more of seven selective items from the Additional Conditions, in addition to the SII Green Product Standards.



#### SII High Grade Green Product Standards

No.	Parameter
1	Power consumption during use
2	Power consumption during standby
3	Product weight
4	Use of reused parts and recycled materials
5	Recyclability of used products
6	Longer-lasting products
7	Limitation of including substances to be avoided*
8	Prohibition of substances to be abolished on condition*
9	Prohibition of including banned substances*
10	Smaller, more lightweight packaging
11	Limitation of foam packaging materials
12	Avoidance of polyvinyl chloride and heavy metals in packaging
13	Manufacturing process energy conservation
14	Manufacturing process resource conservation
15	Manufacturing process limitation of substances be avoide
16	Manufacturing process prohibition of banned substances
17	Green purchasing
18	Easy disassembly
19	Easy sorting of materials for recycling
20	Information disclosure in user manuals, and other related documents

	Basic Condition		Satisfies the SII Green Product Standards. (Average assessment of 3.5 points or above)
		Mandatory Item	Implemented the Life Cycle Assessment (LCA)*
	Additional Conditions	<ol> <li>Top rank in one or more of the SII Green Product Standards criteria</li> <li>Top ranking features including "the smallest" in the world, in Japan and in the industry, etc.</li> <li>Twice or more environmental efficiency compared to conventional products (functionality / environmental impact)</li> </ol>	
		Selective Items	<ul> <li>2) Unique environmental friendliness feature</li> <li>Achieved top-level environmental impact reduction through raw materials and processing methods</li> <li>Significantly reduced environmental impact utilizing innovative technology</li> </ul>
			<ul> <li>3) Extremely high environmental friendliness score</li> <li>SII Green Product Standards overall score: 3.0 or above for all criteria, 4.2 or above in average</li> </ul>
	LCA	Initiatives	

We initially introduced LCA initiatives in 2001 and established the SII LCA Guidelines in March 2002. While improving the guidelines, we continuously promote LCA. In 2006, the LCA implementation was added to the SII High Grade Green Product System as one of the criteria. This contributed to promoting the implementation and disclosure of the LCA results.

\*LCA (Life Cycle Assessment): the quantitative assessment of the environmental impact of a given product or service throughout its lifespan from raw material production, manufacture, distribution, use and disposal

#### **Certified High Grade Green Products**

#### PC21J Watch Movement

- Using a mercury-free silver-oxide battery, contributing to reduced environmental impact with a new technology
- Contributing to energy and resource conservation in manufacturing processes through continuous productivity increase



Chemical Substances Mercury-free silver-oxide batteries reducing chemical substances

, nufacturing Processe

#### • Eco-Friendly Features

"PC21" is a guartz wristwatch movement (drive unit) with the largest manufacturing volume among SII products. Its manufacturing process has been streamlined over the years to increase productivity, which significantly contributes to energy and resource saving in manufacturing processes.

In addition, using the SII High Grade Green Product certified mercury-free silver-oxide battery, developed and manufactured by the Sendai Unit, the movement has promoted popularization of the battery and further reduction of environmental impact.

#### **Eco-Friendly Production Equipment**

SII has taken eco-friendly initiatives for internal production equipment. The production equipment development division strives to achieve the goal of "Developing Eco-Friendly Equipment".

During the development of LT-4, a cam automatic lathe used to manufacture watch parts, an environmental assessment was conducted based on a checklist according to the SII Green Product Standard for products. As a result, the equipment achieved reductions in size and weight, and operation with drastically decreased setup time and without a running-in period.

For patent applications in the development stage, we prepared an evaluation sheet to calculate "SYO" points. This patent environmental evaluation enables the raising of environmental awareness at an earlier stage.

Since production equipment development covers a wide range, we will review and improve the checklist to expand our eco-friendliness.



#### **Certified Green Products**

#### Restaurant order entry system Shuttle Series "Scute"

"Scute", our order entry system, achieved streamlining of the menu registration and other installation procedures, as well as cost reduc-

tion, related to the system introduction. The "simple and attentive" feature of this new product is suitable for small family business and restaurants, where introduction of conventional ordering systems is difficult.



• Eco-Friendly Features

This product drastically decreased power consumption during use by 30% for handy terminals and 67% for multi-printers. The multiprinter's weight was also reduced by 38%\*.

The whole series made a significant contribution to energy and resource saving.

In addition, it has also saved energy and resources in manufacturing processes through the use of lead-free solder for boards, vinyl chloridefree electric wires for handy terminals, improving the parts yield ratio and labor reduction by reduced parts count.

\*Compared to the SII products in the same price range

#### **Collection and Recycling**

For effective use of resources, we promote the collection and recycling of used products and consumables.

Collection of Ink Cartridges

Used ink cartridges and bottles are sent to our collection center, where they are separated according to their constituent materials and then recycled. Plastics are crushed and recycled to produce plastic products or components. Metals are reused as raw materials. This procedure enables approximately 90% of all collected cartridges to be recycled.

- Collection of Data Communication Devices We participate in the mobile recycling network that was jointly established by the Telecommunications Carriers Association and the Communications and Information Network Association of Japan. By displaying the mobile recycle network on our product packaging, we promote customers cooperation.
- Recycling of Rechargeable Batteries Participating in Japan Portable Rechargeable Battery Recycling Center (JBRC), we collect and recycle small rechargeable batteries.
- Collection of Packaging We contracted with the Japan Containers and Packaging Recycling Association to collect and recycle packaging.

### Workflow: Green Purchasing to Green Product Creation



#### **Green Purchasing**

To create environmentally-friendly products, we need to use parts and materials with low environmental impact.

In 1999, SII launched the Green Purchasing activities, in cooperation with the Development/Design, Quality Assurance and Procurement Divisions, to evaluate product quality and price as well as to purchase products with lower environmental impact.

Using the "SII Group Green Purchasing Standards", SII investigates suppliers' environmental management systems and inclusion/use of specified chemical substances in production material. We certify products satisfying all of the following requirements as SII Green Products:

- Supplier's environmental system meets SII Green Purchasing Standards.
- Production material does not include any prohibited chemical substances.
- No prohibited chemical substances are used in manufacturing product material.

In purchasing, we give a priority to products certified as SII Green Products.

In addition to production material, we also apply Green Purchasing to office equipment and supplies. Products with lower environmental impact are preferentially registered in an electronic purchasing system, enabling a purchaser to easily perform Green Purchasing.

#### Contained Hazardous Chemical Substance Management

In addition to the RoHS\*-regulated substances including lead, cadmium, hexavalent chromium and mercury, SII voluntarily specified polyvinyl chloride (PVC) as a chemical substance to be eliminated. Despite those efforts, the overall RoHS-regulated substance elimination was 95.2%. PVC also failed to achieve total elimination due to unstable quality of the substitute material.

However, we almost achieved the total elimination of these substances from electronic components incorporated into end products, while meeting customer requirements involving inclusion thresholds even stricter than the Directive's specifications.

Also, our large-format printers and network devices for the EU market, consisting of thousands of parts and components, achieved complete compliance with RoHs Directives. To accomplish this goal, we implemented engineering changes including using substitute parts or materials and revising substrate designs.

In addition, we started initiatives to respond to newly introduced chemical substances regulatory directives including REACH and PFOS Regulations.

\*RoHS Directives (restriction of the use of certain Hazardous Substances) EU Directives that came into effect in February 2003. As of July 2006, the directives prohibit the sale of electrical and electronic equipment on the EU market that contains any of the following six substances: cadmium, hexavalent chromium, mercury, lead, PBBs (polybrominated biphenyls) and PBDEs (polybrominated diphenyl ethers).

#### **Environmentally-Friendly Design**

Based on the Design Guidelines and the Product Assessment Guidelines, SII designs products with low environmental impact over the entire course of their lifecycles. In addition to other related guidelines and standards, and in cooperation with each operating division by information exchanges, we strive to provide environmentally-friendly products that meet customer needs.

### SII Green Products:

SEA1200VX X-Ray Fluorescent Analyzer

#### SII Nano Technology Inc.'s X-Ray Fluorescent Analyzer

SEA1200VX achieved drastic improvement in sensitivity and measurement efficiency by introducing "Vortex", our proprietary high counting rate X-ray fluorescent detector. This product is certified as SII Green Products based on lower power consumption because of its reduced measuring time; easily maintained detector and printed circuit board; non-inclusion of SII prohibited chemical substances; as well as manufacturing and transportation free from liquid nitrogen involving CO<sub>2</sub> emissions.

The X-ray fluorescent analyzer enables speedy measuring without breaking test objects. It is used to respond to the EU RoHS Directives and to measure lead in toys as well as hazardous chemical substances in soil and food. By developing, manufacturing and offering an X-ray fluorescent analyzer, we support product quality assurance and management, and contribute to creating a safe environment.

#### Analysis Using SII Fluorescent Analyzer

In addition to the Green Purchasing Standards-based inspections and to insure non-inclusion of hazardous chemical substances in parts and components, SII prevents the use of chemical contaminants in manufacturing facilities by introducing SII fluorescent analyzers.



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## Award at the Annual Meeting for China Scientific Instrument Development

In March 2008, at the Annual Meeting for China Scientific Instrument Development, SEA1200VX was selected and awarded as the "Outstanding New Scientific Instrument" among scientific instruments released during 2006 and 2007. As the RoHS Directives has attracted increasing attention, the product's high resolution performance and sensitivity, as well as its liquid nitrogen-free feature, were highly evaluated.

### **Addressing Global Warming**

The SII Group addresses global warming throughout the course of our business, including energy savings in the production process and in offices, as well as providing energy-saving products.



\*Please refer to P35 and 36 for official company names.

#### **Our Concepts and Current Status**

In FY2007, SII Group's Japan and overseas sites failed to achieve the target goal for CO2 emissions from energy consumption. This failure is mainly attributed to increased production of electronic devices at Japan sites, as well as a rise in production of hard disk components and watch parts at overseas sites. However, at Japan sites, CO<sub>2</sub> pt emissions decreased from the previous year by introducing highly efficient equipment.

Our initiatives to reduce CO<sub>2</sub> pt emissions include the following:

- Energy conservation at existing facilities including free cooling systems, energy-saving equipment, and effective operation and management
- Promoting production process efficiency
- · Lighting and office equipment electricity saving, and proper temperature setting

In addition to existing activities, we started substantial initiatives in FY2007. These initiatives focus on major emission factors and include identifying and discussing energy saving activities that involve large scale investments.

#### **Other Substances Causing Global Warming**

SII uses PFC and SF6, which cause global warming, mainly in the semiconductor manufacturing process. We figured out that the data of substance amount used was not correct for FY2007 and before, due to an error in a data calculation process. The correct CO<sub>2</sub> converted amounts are shown below.

- FY2006: 15,505 tons-CO2
- FY2007: 18,694 tons-CO2

Currently, we are planning to introduce processing equipment to reduce FY2009 emissions.

**Received the Prize for Outstanding Performance of the** "Outstanding Energy Conservation Equipment Awards"

In February 2008, the Sendai Unit received the Prize for Outstanding Performance as part of the Outstanding Energy Conservation Equipment Awards sponsored by the Japan Association of Refrigeration and Air-Conditioning Contractors (JARAC). This award is given to companies which installed or introduced energy-saving air conditioning equipment. The Sendai Unit was awarded as a company introducing an energy-saving free cooling system.

At the Sendai Unit, a free cooling system is used in an absorption cooling and heating machine to prepare cool water for air conditioning. By efficiently using cold winter air, lower fuel consumption was achieved. (The system was installed by Hitachi Building Systems Co., Ltd)



#### SII Sites Case Study

- Under the Law concerning the Rational Use of Energy, the Takatsuka Unit falls under the Designation of Type 1 Designated Energy Management Factories. In October 2007, a field survey was conducted regarding rational energy use under the Law, and SII satisfied the rigorous standards.
- SII Microtechno Inc. improved the efficiency of its energy facilities. It evaluated the facilities' heat sources and reduced 1.097 tons-CO2 emissions in FY2007 by switching from oil-fired to highly efficient electric turbo freezing and introducing a free cooling system.
- Guangzhou SII Watch Co., Ltd. (GSW) searched for unnecessary lighting in facilities and eliminated 571 fluorescent tubes while maintaining required lighting intensity.

#### **Our Initiatives**

#### To address global warming, SII proactively participates in a wide variety of promotions held by Japan's Ministry of the Environment.

• SII has been a member of the "Team Minus 6%", the national project which promotes the Kyoto Protocol target achievement. Also, we encourage our employees to dress according to "COOL BIZ" (June to September) proposed by Japan's Ministry of the Environment.



• SII participated in the "Lights-Down Campaign" event planned by Japan's Ministry of the Environment. We turned off the rooftop and street-billboard lights of the Makuhari head office building, as well as calling for lights-down at home



SII original poste

#### SII Site Case Study

Guangzhou Seiko Instruments Ltd. (GSI) conducted a survey of its employees' environmental awareness. Based on the survey results, GSI made environmental program plans according to employees' awareness and environment conservation understanding level. The survey result, at the time of the semi-annual environmental education program, showed that only 40% of the employees "fully understood" the importance of environment protection. Consequently, GSI increased the education program frequency to monthly. In the follow-up survey, about 70% of the employees answered "fully understood", representing the profound effect of the education programs.

### **Logistics Initiatives**

We constantly strive to reduce environmental impact by improving our logistics system efficiency.

#### **Our Concept and Current Status**

To reduce environmental impact, we continuously improve our logistics, including packaging, cargo handling, transportation and storage.

Packaging and buffer materials are recycled as much as possible for efficient resource use. Packaging material size and weight reduction are part of the SII Green Products criteria (Please refer

• Seiko Instruments Singapore Pte.Ltd. (SIS) eliminated freezers using CFC12 as refrigerant. By introducing a highly-efficient new freezer, SIS achieved 11% energy reduction compared to the traditional equipment.

In addition, SIS consolidated separate air compressors and driers to improve a compressed air supply system, which reduced 4 compressors to 3.



Newly introduced freeze

 SII publishes quarterly in-house journals. In the 2008 Spring edition, "global warming" appeared as the special feature to raise employee's awareness. In addition, to promote "Green Life" including plastic bag use reduction, SII made original ecobags and distributed them to each employee.



SII original eco-bag

• The movie "An Inconvenient Truth" was shown at SII. In addition, SII has offered a wide range of information including encouraging "COOL BIZ" and providing "Eco Quizzes" using the "Eco-Town" bulletin board on the intranet.

to P37).

Transportation tray material was changed to improve durability and also to lower transportation impact.

In addition, although we are not designated as a freight carrier under the Energy Saving Law, we will continuously monitor our transportation data and strive to further reduce CO<sub>2</sub> emissions.

### **3R Activities - Reduce, Reuse and Recycle**

As a manufacturer, promoting the efficient use of limited resources is an important mission. The SII Group strives to improve the efficient use of resources in all of its processes.

#### FY2007 Overview

#### Waste Reduction





Waste generated in overseas sites: 3.820 tons

(92 ton increase, or +2% from FY2006)

Waste generated in Japan sites: 2,784 tons (216 ton reduction, or -7% from FY2006)

Water Use Reduction

Japan sites: the amount of water used was 871,000 m<sup>3</sup>, which achieved the target.(102,000 m<sup>3</sup> reduction, or -10% from FY2006) Overseas sites: the amount of water used was 637,000 m<sup>3</sup>, which achieved the target. (31,000 m<sup>3</sup> reduction, or -5% from FY2006)

#### **Our Concept and Current Status**

In FY2007, our total waste generation amount failed to achieve the target goal at Japan and overseas sites. For Japan sites, the failure is mainly due to the production increase in electronic devices, however, the generated waste amount decreased from the previous year. For overseas sites, the failure is also attributed to a production rise in electronic devices and watch-related products. For waste material recycling in our Japan sites, we promote quality improvement of the "zero emission initiative". Aiming to reduce the final disposal rate from 3% to 1%, we also review current recycling methods to shift to more effective methods. All of our production facilities in Japan finished reviews of the recycling methods for two-thirds of the waste material. Our overseas production facilities are promoting the improvement of the recycling rate to use resources more efficiently. In

\*Please refer to P35 and P36 for official company names.

particular, we have made significant progress in recycling machining oil, solvent cleaner and molding plastic.

#### Waste Treatment Audit

SII entrusts waste treatment to third parties and carries out on-site audits on a regular basis. To make the audits more reliable, the Head Office Environment Division also checks third parties' performance. In case a third party is entrusted with the waste treatment for more than one site, SII promotes information sharing.

#### SII Sites Case Study

Seiko Instruments (Thailand) Ltd. (SIT) recycled water-soluble grinding fluid used in grinding processes. Using sludge disposal equipment to recycle grinding fluid, which had been wasted before, the fluid usage decreased by 15%. In addition, SIT conducted audits of a third party handling SIT hazardous waste, and checked the third party's environment management system and its performance.



Waste treatment audit

### **Chemical Substances Control**

The SII Group believes that safe and appropriate chemical substance handling is important for risk management. We also strive to voluntarily achieve total elimination or reduction of hazardous substances in manufacturing processes and our products.

#### FY2007 Overview

To reduce annual chemical substance emissions, we set the FY2007 target to 25 tons. (October 2007)

The total FY2007 emission amount was 26 tons, including the

#### **Our Concept and Current Status**

To reduce the environmental impact of chemical substances used in our manufacturing processes, we continuously control the use of PRTR substances, SII voluntarily specified 21 substances, and 100 VOC substances. At overseas sites, we also promote complete elimination of chlorinated solvents.

As well as Green Purchasing, we proactively address the reduction

#### **PRTR Results**

FY2007 results for PRTR efforts are as follows. The volume of relevant hazardous chemical substances handled by SII decreased 225kg from FY2007. 2-aminoethanol was totally eliminated, which resulted in a 6 ton decrease. On the other hand, Xylene, Hydrogen fluoride and its water-soluble salts increased by approximately 3 tons, respectively, so the total volume did not change substantially.

#### FY2007 PRTR Results at Japan Sites

FY2007 PRTR Results at Japan Sites (Unit: kg)										
	Amount	Released			Transferred		Recycled	Consumed	Removed and Treated	
Substance Hand		1. Released to the atmosphere	2. Releases to public water systems	3. Released to soil	4. On-site Iandfill	5. Transferred to sewage systems	6. Transferred as waste	7. Transferred as valuable waste	8. Transferred as products	9. Break-down and reaction
Antimony and its compounds	1,324	0	0	0	0	0	0	1,059	265	0
Ethylbenzene	615	158	0	0	0	0	457	0	0	0
Xylene	21,992	2,326	0	0	0	0	19,664	0	0	2
Chrome/trivalent chrome compounds	8	0	0	0	0	0	2	0	6	0
2-thoxyethyl acetate	8,289	414	0	0	0	0	83	0	0	7,792
Inorganic cyano compounds (excluding complex salts and cyanates)	513	9	0	0	0	0	200	0	0	304
Mercury and its compounds	180	0	0	0	0	0	3	0	177	0
1,3,5-trimethylbenzene	1,242	37	0	0	0	0	1,180	0	0	25
Toluene	2,614	2,004	0	0	0	0	610	0	0	0
Lead and its compounds	7	0	0	0	0	0	0	5	2	0
Nickel compounds	2,303	0	15	0	0	0	1,268	418	602	0
Phenol	2,532	380	0	0	0	0	2,025	0	0	127
Hydrogen fluoride and its water-soluble salts	40,265	1,173	46	0	0	0	16,074	0	215	22,757
Boron and its compounds	123	0	107	0	0	0	11	4	0	1
Poly(oxyethylene) nonylphenyl ether	46	0	0	0	0	0	0	23	0	23
Manganese and its compounds	3,736	0	0	0	0	0	1,022	0	2,714	0
Total	85,789	6,501	168	0	0	0	42,599	1,509	3,981	31,031

\* PRTR (Pollutant Release and Transfer Register): This system is designed to assess, gather and disclose data on the volume of chemical materials handled, amounts released into the environment, and volumes transferred in waste materials to points outside of plant locations. Companies collect data on the relevant substances and report them to the appropriate government agency once a year.

PRTR substances, SII voluntarily specified substances (HFCs, PFCs and SF $_6$ ) and VOC, failing to achieve the target.

and total elimination of specified chemical substances contained in our products. By adding chemical substance standards used in our products and their production processes as SII Green Products criteria, elimination/reduction of specified chemical substances is designed to be systematically promoted in the creation of SII Green Products creation.

(Lipit: kg)

### **Environmental Protection at Our Production Sites and Environmental Risk Management**

To protect the environment of our production sites, the SII Group constantly enhances the facility preparedness for emergencies.

#### Soil Pollution Measurement Result

Because of soil pollution at our closed site in Ichikawa, Chiba, we immediately reported to the authorities and held an explanation meeting with the local residents. SII promoted soil purification actions under the authority's guidance.

The soil pollution was limited to within the premises, however, we disclosed the information and voluntarily took appropriate soil purification actions based on corporate social responsibility and environmental conservation. The soil purification was completed at the end of March, 2008 and we submitted the report to the authorities.

#### SII Sites Case Study

The Larkin plant of Instruments Technology (Johor) Sdn.Bhd (INTECH) improved its wastewater treatment. To enable better and more efficient wastewater treatment, its existing and standby septic tanks were integrated into a mechanical sewage treatment plant that uses an extended aeration system. The upgraded sewage treatment plant is designed to handle an average daily flow rate per capita of 225 litres, which is higher capacity than the existing septic tanks.



Upper side of the plant



Toshio Dobashi, Director Factory Manager(left) and Masato Yamaguchi, Managing Director

#### Dalian Seiko Instruments Inc. (DSI)'s initiative

17 years have passed since DSI started its operation at the Dalian Economic & Technical Development Zone. Along with regional development, we strive to conduct our business as a company in harmony with the environment.

#### **Challenge for Oil Pan Elimination**

DSI owns more than 600 camshaft automatic lathes to process watch parts and ABS components for automobiles. Since machining oil scatters when processing parts, oil pans are commonly placed under the machines. So, we decided to remove oil pans and not waste a drop of oil.

by 5,000 m<sup>3</sup> in FY2006.

We took a wide variety of measures including overhauling machines, repairing leakages, improving operational methods and raising employees' awareness. As a result, machining oil scattering and leakage was prevented, and oil pan elimination was achieved. This also leads to a reduction in machining oil consumption and effective work space usage. We will continue this effort to save our energy and resources.



Automated lathe without an oil pan

In China, environmental laws and regulations tighten every year. Our voluntary actions are very important, as well as compliance with laws and regulations. We promote a wide range of initiatives, including capital improvement and evaluating the use of energy-saving fluorescent lighting equipment, with due consideration to the environment



— Cooling wa Remodeled Design of Vacuum Furnace Cooling Water System

• To eliminate air conditioners using CFC12 as refrigerant, 44 air

emissions by 259 tons-CO<sub>2</sub> compared to the previous year.

conditioners were replaced with new ones. This decreased CO2

Recycling of cooling water used in vacuum furnaces was started.

By improving the cooling water system, water usage was reduced

### **Timelines: Company History and Environmental Activities**

Corpo	orate History	Env
1881	Kintaro Hattori established K. Hattori & Co., Ltd. (currently Seiko Holdings Corporation).	
1937	Daini Seikosha Co., Ltd. (currently Seiko Instruments Inc.) was established as the watch manufacturer for the SEIKO Group.	1
1964	The SEIKO Group served as Official Timer for the Tokyo Olympics.	1
1967	SEIKO products captured the highest awards in the Observatoire Cantonal de Neuchâtel competition held in Switzerland.	
1969	The SEIKO Group introduced the world's first analog quartz watch.	
1970	Released the world's first quartz watch using a CMOS IC. Launched its product diversification strategy.	
1983	Company name was officially changed to Seiko Instruments & Electronics Ltd.	
1988	Completed the world's first automated assembly system for multipurpose, small-lot production of commercial watch parts.	Dece
1992	Released the world's first full-text electronic dictionary. The SEIKO Group served as Official Timer for the Barcelona Olympics.	Au Dec
1993	SII Head Office was relocated to Makuhari.	A Au Nov
1994	The SEIKO Group served as Official Timer for the Lillehammer Olympics.	A
1995		Au
1996		Au Nov
1997	Company name was officially changed to Seiko Instruments Inc.	Dec
1998	The SEIKO Group served as Official Timer for the Nagano Olympics.	Feb
1999	Launched "CREPiCO", Japan's first wireless card payment system.	M. Oct
2000		Feb Nov
2001		Oct Dec
2004	Seiko Instruments Inc. officially changed its company Japanese name. Held the first Pop Song Translation Competition for Junior High and Senior High School Students. Opened Shizukuishi Watch Studio, Japan's only integrated production system for mechanical wristwatches.	M Au Oct
2005	Developed mercury-free and lead-free silver oxide batteries.	J
2006	Developed the 12 beat movement, providing the world's highest accuracy for mechanical watches.	Oct Nov
2007	Developed the world's smallest micromotor, 0.95 mm in diameter.	N

#### Environmental Awards

- Oct. 1996 6 Chiba Keiyo business units received Recycling Promotion Committee's Chairman's Award for paper recycling activities. Jun. 1998 SII Microtechno Inc. received Akita Prefecture's "Best Environment Activities" award. Jun. 1998 Morioka Seiko Instruments Inc. received Iwate Prefecture's award for "Excellence in Environmental Protection." May 2000 Makuhari head office received the Chairman's Award from the Chiba City Building Conference. Feb. 2005 Tochigi Unit received the Chairman's Prize for Excellence from the Kanto Region Electric Power Rationalization Committee. Morioka Seiko Instruments Inc. received the Chairman's Award from the Tohoku Seven-Prefecture Electric Power Promotion Committee. Feb. 2006 Tochigi Unit received the Kanto Bureau of Economy, Trade and Industry's Excellent Energy Conservation Factory, Director General Prize. Feb. 2007 Morioka Seiko Instruments Inc. received the Tohoku Regional Bureau of Economy, Trade and Industry's Excellent Energy Conservation Factory, Director General Prize. Feb. 2008 The Sendai Unit received the Prize for Outstanding Performance as part of the Outstanding Energy Conservation Equipment Awards sponsored by
- the Japan Association of Refrigeration and Air-Conditioning Contractors (JARAC).

/ironm	ental Activities
ember	Established the "Fluorocarbon Countermeasure Promotion Committee"
ugust æmber	Abolished the use of CFCs at Japan sites. Established Environmental Administration Office (currently Corporate Environmental Administration Department).
April ugust vember	Established the "Green Plan" environmental protection plan. Introduced the "Clean Arrow" used-paper collection truck. Abolished the use of trichloroethane at Japan and overseas sites. Abolished the use of CFCs at overseas sites.
April	Began monthly management of energy, paper use, and waste.
ugust	Executive council kicked off the Environmental Management System
ugust vember	Started publication of our annual environmental report. The Takatsuka Unit became the first SII Group business unit which obtained ISO14001.
ember	Launched our "Idling Stop" promotion. ,
oruary	Published the SII Chemical Management Guide.
larch tober	Completed ISO14001 certification for all of our major business units in Japan Major business units in Japan abolished the use of chlorine solvents, including trichloroethylene and methylene chloride. Issued the SII Group Green Purchasing Standards.
oruary vember	Introduced environmental accounting. Ohno Unit became the first SII Group business unit which achieved Zero Emissions.
tober ember	Makuhari Head Office became the first SII Group non-production site which obtained ISO14001. Introduced the SII Green Products labeling system.
larch ugust tober	Major Japan sites achieved Zero Emissions. Started to report social activities in our environmental report. Lead solder was completely abolished.
luly	Our environmental report changed its title to SII Social and Environmental Report.
tober vember	Introduced the SII High Grade Green Products labeling system. Received the Development Bank of Japan's Highest Rank Award for Promoting Environmentally Conscious Management.
Иау	"SII Green Products" achieved 90% of sales.