Corporate Profile

- Company name: Hitachi High-Technologies Corporation
- Headquarters Address: 24-14, Nishi-Shimbashi 1-chome, Minato-ku, Tokyo, Japan 105-8717
- Established: April 12, 1947
- Capital: 7.9 billion yen
- Subsidiaries and affiliates: 16 in Japan, 21 outside Japan
- Offices: 25 in Japan, 76 outside Japan in 24 countries

Main businesses and products

**Electronic Device Systems**

**Life Science**
Automatic Clinical Chemistry Analyzers, Immunodiagnostic Analyzers, Liquid Chromatographs, Spectrophotometers, Amino Acid Analyzers, DNA Sequencers, NMR Spectrometers, and Magnetocardiographs

**Information Systems and Electronic Components**
Chip Mounters, OLED (Organic Light Emitting Diodes) Production Equipment, Semiconductor Products, IT Solutions, Information and Control Systems, Consumer Electronics, Optical Pick-Ups

**Advanced Industrial Products**
Steel, Plastics, Nonferrous Metals, Circuit Boards for Ball Grid Arrays, Components for Smart Media, Procurement Solutions Business, Silicon Wafers, Components for LCD Projectors, Optical Components, Optical Media Components, Optical Communication Components

Consolidated net sales

- (Million yen)
- 2002: 778,229
- 2003: 831,050
- 2004: 936,865

Consolidated ordinary profit

- (Million yen)
- 2002: 12,104
- 2003: 13,673
- 2004: 25,863

Consolidated number of employees

- (Persons)
- 2002: 8,073
- 2003: 10,043
- 2004: 9,868

Net sales by business segment (fiscal 2004)

- Electronic Device Systems: 313,923 (33.5%)
- Life Science: 229,275 (24.5%)
- Information Systems and Electronic Components: 286,584 (30.6%)
- Advanced Industrial Products: 83,866 (9.3%)

Net sales by region (fiscal 2004)

- Japan: 459,065 (49.0%)
- North America: 87,454 (9.3%)
- Europe: 7,888 (0.9%)
- Asia: 95,874 (10.2%)
- Other: 126,885 (13.5%)

(Unit: Million yen)

(As of March 31, 2005)
Editorial policy

Hitachi High-Technologies began to publish an annual environmental report in 2002 in order to provide our stakeholders with more information on this portion of our activities. In the current issue, we have expanded the range of topics and renamed it our “corporate social responsibility” (CSR) report. This report describes the managerial, social, and economic aspects of our activities as well as the environmental features.

Website

This booklet is an abridged and translated edition of our CSR Report, which is available on our Japanese website. For more information on our general corporate activities, please visit our "Global Site" at:


Scope of this report

Organizations covered:
Hitachi High-Technologies Corporation and group companies.

Reporting period:

Next scheduled publication:
June 2006.

Reference guides:

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13 Product Spotlight 2004
   Sparking a Revolution in Cardiac Care Magnetocardiograph System MC-6400
The role of corporations in society has gained more importance in recent years. Earning a proper return is essential to the survival of a corporation, but one of the basic premises underlying the activities of Hitachi High-Technologies is that a corporation can only earn a proper return when it has fulfilled its social roles and responsibilities.

Hitachi High-Technologies has a tradition of resolute corporate ethics and contributions to worthy causes. Nevertheless, with the rising concern today for social sustainability and the increasing impact of CSR initiatives on investments and sales, we have placed these principles at the foundation of all our operations.

Hitachi High-Technologies fundamentally revised its basic corporate philosophy in 2003 in the determination to fulfill the duties of CSR while sharing in the growth and development of society. Our goal is now to build a company that wins ever-greater trust from all its stakeholders*. We must contribute to the progress, development and prosperity of society by creating value through technological products and services. We have also committed ourselves to fair and transparent business practices and to environmental responsibility.

This basic philosophy is the foundation of our CSR program and it will form the basis of all our corporate activities.

Producing and distributing eco-friendly products as both a manufacturer and a trading company

Hitachi High-Technologies is both a manufacturer of advanced technology and a global trading company. One of our most important objectives is to reduce the environmental impact of the products we manufacture in-house as well as those we purchase as a trading company. We are currently building a system to assure that.

In addition to our independent initiatives on environmental issues, we recently established an Environmental CSR-Compliant MONOZUKURI Committee. The committee designates the materials and stages of each manufacturing process that may affect environmental preservation, including the conservation of energy and natural resources, recycling, and hazardous substance management. We are committed to ensuring that our

*1 Shareholders, customers, suppliers, communities, employees, NPOs, and other individuals or entities involved with the corporation.
products and services contribute to the realization of a sustainable society that coexists with the natural environment.

Hitachi High-Technologies is in an excellent position to promote CSR across the product supply chain, both upstream and downstream, because of its position as an intermediary. We recognize this as an important opportunity for our company to make a unique contribution.

Conducting fair and transparent operations and promoting CSR company-wide

Hitachi High-Technologies has worked aggressively to improve corporate governance with the adoption of the "company with committees" system in June 2003 to achieve more highly transparent management, a more effective internal control system, and the establishment of the Compliance Committee.

We had implemented CSR-related initiatives under our CSR Promotion Project, but in April 2005, we re-organized the project into the CSR Promotion Department, dedicated to conducting CSR and environmental initiatives. We also assigned an executive officer to oversee our CSR activities.

Hitachi High-Technologies is committed to a united effort in our CSR initiatives. We will make decisions based on an ethic of right and wrong, not merely the calculate of profit and loss. We will never forget our founding principle of "contributing to the progress and development of society with business practices grounded in the creation of value through high-tech solutions".

June 2005

Masaaki Hayashi
President,
Chief Executive Officer and Director
Hitachi High-Technologies' CSR Vision

Basic management philosophy and corporate vision

In 1984, in admission of Hitachi High-Technologies' corporate social responsibility and vital role in the communities, we established a Corporate Code of Conduct. The aim of our code was to point the way for continuing to develop as a trusted corporation. We revised our basic philosophy in 2003, befitting the expansion of our high-tech solutions business, and established a new corporate vision.

Hitachi High-Technologies' basic philosophy

Our basic philosophy is the foundation of Hitachi High-Technologies' CSR initiatives. All our corporate activities are conducted on the basis of this ideal.

Hitachi High-Technologies' Corporate Vision

The basic philosophy is the foundation of our corporate vision, a vision that charts our course for the future and articulates ethics that all our employees are expected to understand and obey.

Corporate Vision

To consistently aim to be Global Top in high-tech solutions

Corporate Culture Policy

1. To respect the abilities of every employee and inspire confidence to tackle new challenges.
2. To build a vibrant, enterprising company that is open to new ideas.
3. To encourage speedy and efficient performance through teamwork.

Business Policy

1. To place the customer first, growing with our customers by providing the best solutions, consistently a step ahead of market needs.
2. To contribute to value creation in the global community through synergies between our strengths in cutting-edge technologies and our capabilities as an established trading company.
3. To aim for reliability and excellence based on our core assets of talent and technical resources, and to maximize our corporate value.

Management Policy

1. To aggressively disclose information and conduct business in a highly transparent manner.
2. To exercise social responsibility as an environmentally aware corporate citizen.
3. To conduct legally and ethically sound business activities.
Management

Hitachi High-Technologies adopted the “company with committees” system in 2003 to build a highly transparent management system. We are working to increase stakeholder trust in our company by developing compliance, risk management, and internal control systems.

Corporate Governance

Under our “company with committees” system, authority for the execution of business activities has largely been transferred from the directors to the executive officers. This splits the supervisory and execution functions and provides for fairer and more transparent management. Priority operational decisions are made in the Executive Committee, which uses consensual decision making to ensure checks and balances. The Board of Directors, which includes outside directors, makes decisions on basic management policies and concentrates on supervising the execution of business activities by the directors and executive officers.

The Audit Committee monitors the overall internal control system based on audits and reports from the Internal Auditing Department on the legality and appropriateness of financial conditions and the handling of business operations. The Audit Committee also conducts independent investigations if necessary. In this way, the committee is strengthening company-wide auditing.

In response to legal and social demands for the development of and reporting on an internal control system, Hitachi High-Technologies launched an Internal Control System Implementation Project in 2004. We have created an environment for the development of a management-based internal control system.

Compliance and Risk Management

Hitachi High-Technologies is moving forward with the development of a compliance and risk management system in order to ensure we can obtain company-wide risk assessments and respond appropriately.

In fiscal 2003, we appointed a Chief Risk Management Officer (CRO) to oversee company-wide risk management. We also established a Compliance Committee composed of vice presidents and executive officers and determined the roles of committees and departments in addressing individual risks.

We regard Compliance as the top priority for risk management, as scandals and violations of laws and regulations would hinder the company’s ability to win the trust of all stakeholders and damage corporate value. Accordingly, we are implementing a number of compliance-related initiatives including compliance training programs and developing an Internal Whistle-Blowing system. In addition, we are also developing risk prevention systems. One of these is a Business Continuity Plan (BCP), to enable the quick recovery of business activities following a disaster or accident. We are also developing a personal information management system in response to Japan’s Personal Information Protection Law.
Relationship with Society

Business Connections

Customers
Hitachi High-Technologies’ quality policy calls for continual improvements to its product quality assurance system, unstinting effort in ensuring product safety, and enhancing customer satisfaction. The company has established a quality assurance standard and product safety guidelines, and is working to raise the level of customer satisfaction group-wide. We are improving quality and safety throughout the lifecycle of our products through product designs based on the safety standard, quality evaluation tests to check product safety, and gathering post-shipment safety information. On the customer support front, our group service companies have built a system to provide prompt and impeccable service so that customers around the world can maximize the features and performance of our products.

The Naka Division, Kasado Division, and manufacturing and service group companies have already acquired ISO9001 certification and have implemented improvements in quality management. In fiscal 2004, with the aim of further improving customer satisfaction, we directed the head office business divisions to prepare for ISO9001 certification.

Suppliers
Hitachi High-Technologies is an intermediary along the product supply chain, so it plays the role of a coordinator, linking suppliers and customers. In this role, we are promoting a cooperative framework with suppliers to achieve global manufacturing focused on the reduction of environmental impact throughout the product life cycle. We raised this issue during our Environmental CSR-Compliant MONOZUKURI Activities in 2004.

Employees
We are currently improving our human resources system, enhancing our educational programs, and raising our safety and health standards.

To motivate employees to reach their full potential, we are building a human resources system which is fair and very transparent. We are also revising our child care leave and volunteer leave systems to enable employees to lead meaningful lives as members of society. In fiscal 2004, our employment of persons with disabilities reached 2.7%, exceeding the 1.8% rate mandated by law in Japan. In the area of education, we are preparing a variety of educational programs in four fields: rank-specific training, internationalization, business, and technology.

On the safety and health front, we have made focused efforts in the areas of health management and prevention of industrial accidents. As a result of these efforts, Hitachi High-Technologies received the Prime Minister’s Award for Distinguished Safety in fiscal 2003, and the Certification of the Longest Zero-accident Record in the manufacturing industry in fiscal 2004 for the third straight year. Our zero-accident record still stands today.
cooperation with all its stakeholders to this end. The Hitachi High-Technologies Group collaborates with all our stakeholders in a number of cultural, social, and environmental activities as a good corporate citizen.

Supporting cultural activities — Scientific Live “Sapiens”

Since 1992, Hitachi High-Technologies has sponsored Scientific Symposium, “Sapiens,” a scientific forum held twice a year by Nikkei Science Inc. to promote the popularization of science and culture. In fiscal 2004, Japan’s leading specialists were invited to give talks on the themes of “New medical care and health potential of sugar chains” and “Probing the mysteries of the brain and mind with images.” About 900 people, including company employees, researchers, and students, attended the symposium.

Supporting education — Environmental and scientific lessons for elementary and junior high school students

A service company of the group based in Tokyo have prepared a program that enables elementary and junior high school students to experience the microscopic world using an electron microscope, an advanced device which regular classes could never use. This program is implemented as part of students’ comprehensive studies and science elective classes. During the summer time, the group company in Hitachinaka City invites elementary school students from around the city to its Science Laboratory for hands-on studies in which students use an electron microscope to observe samples they bring in. There are growing concerns that children are losing interest in science, but we are providing opportunities for children to experience the wonders of science and technology.

Community interaction — Open house days

Hitachi High-Technologies has business divisions in Hitachinaka City, Ibaraki Prefecture and Kudamatsu City, Yamaguchi Prefecture. Each of these divisions has established open house days on which facilities are open to local residents, with the aim of deepening our interaction with communities and introducing people to our businesses and environmental initiatives.

On the day of the open houses, we receive many visitors, mainly people living nearby. We promote interaction with community residents through a variety of activities including tours of the production lines, scientific experiments and quizzes, and an environmental corner with a children’s art show and gardening classes.

Protecting the global environment — Hitachi High-Technologies Yasato Forest

Hitachi High-Technologies has started planting trees as part of its efforts to help protect the global environment. Our plan is to cultivate a section of forest over a 60 year period by planting 5,600 saplings on a 2.3 hectare (about 5.7 acre) plot of national forest land located in Yasato Town, Ibaraki Prefecture. In April 2005, employees and their families held a tree-planting ceremony. We will continue to look after the trees, ensuring they grow up into a rich forest that contributes to the protection of the global environment and helps to prevent global warming.
### CSR Initiatives


<table>
<thead>
<tr>
<th>Category</th>
<th>Subcategories</th>
<th>Main fiscal 2004 initiatives and results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eco-management</td>
<td>1. Promotion of environmental management</td>
<td>Ranked first for two consecutive years in the trading company category of the Environmental Management Survey conducted by Nihon Keizai Shimbun Inc.</td>
</tr>
<tr>
<td></td>
<td>2. GREEN 21 ver. 2</td>
<td>528 points, including group companies</td>
</tr>
<tr>
<td></td>
<td>3. Other</td>
<td>Obtained integrated ISO14001 certification for the Naka Division and three group companies to consolidate environmental management</td>
</tr>
<tr>
<td>Eco-mind</td>
<td>Environmental education</td>
<td>Distributed the “Talking together about the environment “ booklet to the families of all Hitachi Group employees</td>
</tr>
<tr>
<td>Eco-products</td>
<td>1. Eco-friendly products</td>
<td>Registered 19 new products; achieved eco-friendly product ratio of 72%</td>
</tr>
<tr>
<td></td>
<td>2. Measures against hazardous substances contained in products</td>
<td>Implemented investigations of suppliers, mainly by business divisions (on-going)</td>
</tr>
<tr>
<td>Eco-factories &amp; Eco-offices</td>
<td>Preventing Global Warming</td>
<td>Reduced CO₂ emissions per unit of production by 29% compared to base year Currently measuring effectiveness of energy conservation investment plan at head office building</td>
</tr>
<tr>
<td></td>
<td>Promote Zero-emission facilities</td>
<td>Zero emissions achieved at Naka Division and Kasado Division</td>
</tr>
<tr>
<td></td>
<td>Managing Chemical Substances</td>
<td>Reduced substances targeted for reduction by 43%, using a comprehensive chemical substances management system</td>
</tr>
<tr>
<td></td>
<td>Eco-factories maintenance</td>
<td>Implemented measurements to prevent air pollution and vibrations</td>
</tr>
<tr>
<td>Worldwide Stakeholders Collaboration</td>
<td>Environmental Communication</td>
<td>Published Environmental Report 2004 Sent to all shareholders, distributed at exhibitions and other occasions</td>
</tr>
<tr>
<td></td>
<td>Global Citizens’ Activities</td>
<td>Interaction with local communities at division facilities Started tree planting campaign at the Hitachi High-Technologies Yasato Forest</td>
</tr>
</tbody>
</table>

- We had no violations of environmental laws or regulations. We responded appropriately to comments and complaints from outside the company.
Environmental accounting tabulation standards
1. Scope: Hitachi High-Technologies Corporation, domestic group companies
2. Reporting period: April 1, 2004 – March 31, 2005
3. Costs: Labor, R&D, depreciation, etc.
4. Results: Effect on real income and Effect on cost reduction

Results

<table>
<thead>
<tr>
<th>Results</th>
<th>Cost of environmental preservation (Fiscal 2003)</th>
<th>Fiscal 2004 results</th>
<th>Main environmental goals and initiatives for fiscal 2005</th>
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<tbody>
<tr>
<td></td>
<td>Cost</td>
<td>Investment</td>
<td>Cost</td>
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<td>○ ○</td>
<td>348</td>
<td>321</td>
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<td>58</td>
<td>57</td>
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<td>1,322</td>
<td>1,423</td>
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<td>148</td>
<td>110</td>
<td>118</td>
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<td>○ ○</td>
<td>162</td>
<td>5</td>
<td>175</td>
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<td>388</td>
<td>91</td>
<td>313</td>
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<td>11</td>
<td>9</td>
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<td>5</td>
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Evaluation of fiscal 2004 performance
○ Target achieved
△ Needs improvement

(Unit: million yen / year)

Main environmental goals and initiatives for fiscal 2005

- Strengthen consolidated environmental management
  → Aim to become a company that creates environmental value

- Fiscal 2005 target: 640 green points

- Obtain integrated ISO14001 certification for trading companies
- Draw up a plan to promote environmental management at bases outside Japan

- Foster a keen "eco-mind" in all employees and their families

- Achieve 70% or more application of eco-friendly products by fiscal 2006
- Improve environmental efficiency by 20% by fiscal 2010
- Promote the removal of hazardous substances from products
- Achieve a 100% green supplier rate by fiscal 2006

- Reduce CO₂ emissions per unit of production by 25% by fiscal 2010
- Reduce Electricity use at the head office building by 5% by fiscal 2006

- Achieve zero emissions at group companies by fiscal 2006
  (Hitachi Science Systems Ltd., Hitachi High-Tech Manufacturing & Service Co., Ltd.)

- Reduce emissions of chemical substances:
  Total abolition of prohibited substances by fiscal 2005
  30% reduction of substances targeted for reduction by fiscal 2005

- Implement earthquake countermeasures and comply
  with Soil Contamination Countermeasures Law

- Publish Hitachi High-Technologies CSR Report and site reports
- Implement factory open houses (e.g., summer festivals) and site tours,
  and complying with survey requests

- Contribute to the society by planning volunteer activities
  and active employee participations to local volunteer activities

Total 2,438 206 2,421 237 20 82
Promoting Acquisition of ISO14001 Certification

- **Naka Division and three group companies acquire integrated certification**

  A division of Hitachi High-Technologies located in Hitachinaka City and three nearby group companies, had held separate ISO14001 certifications until then, acquired joint certification in November 2004. Their purpose in the joint certification was to strengthen consolidated environmental management, and establish an efficient and consistent joint environmental management system. These four sites are working together to maintain and improve their environmental preservation methods. In fiscal 2005, the head office, branch offices in Japan, and six trading companies began to prepare for integrated certification.

- **Expanding certification in Europe and Asia**

  Hitachi High-Technologies IPC (Malaysia) Sdn. Bhd. was certified under ISO14001 in September 2004, and the head office and the Mannheim office followed the Munich office of Hitachi High-Technologies Europe GmbH in March 2005. With these new certifications in addition to the previously approved Taipei office, we now have five certified sites outside Japan. We will continue to promote ISO14001 globally so as to establish an environmental management system.

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Ranked first for two consecutive years in the trading company and other category in Environmental Management Survey

For the second consecutive year, Hitachi High-Technologies came in first place in the “Trading company and other” category on the 8th Corporate Environmental Management Survey conducted by Nihon Keizai Sangyo Shimbun. We also came in seventh place overall in the newly established Office Measures ranking. Survey results appeared in the morning editions of the Nihon Keizai Shimbun and the Nikkei Business Daily on December 6, 2004.

This survey, with the aim of evaluating how consistently companies improve management efficiency and environmental measures such as the reduction of greenhouse gases and waste, features a multi-factor analysis of companies’ efforts to preserve the environment. Hitachi High-Technologies achieved high evaluations on the recent survey due to its recognized group-wide initiatives in six assessment categories: operational structure, environmental education, long-term objectives, pollution countermeasures, resource recycling, and global warming countermeasures. In the future, we will continue making every effort to maintain and improve the level of our environmental initiatives.

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Hitachi High-Technologies is working globally to establish an environmental management system, promote environmentally conscious business activities, and contribute to environmental preservation.
Promoting Environmental CSR-Compliant MONOZUKURI Activities

The Hitachi Group is determined to help create a sustainable society that thrives in harmony with the environment through its products and services. The Group will do its best to fulfill its corporate social responsibility by promoting global manufacturing, for the lowest possible environmental impact throughout the product lifecycle. In line with this basic philosophy, the Hitachi Group has instituted Environmental CSR-Compliant MONOZUKURI practices that emphasize environmental safety throughout the lifecycles of all its products, from hardware to software, systems, and services.

All Hitachi High-Technologies products—in-house products and other companies’ products that we handle as a trading company—must conform to this program. We have established an Environmental CSR-Compliant MONOZUKURI Committee and are making thorough arrangements to lay out a framework of implementation. Going forward, we will tackle the following four issues: (1) Investigating hazardous substances; (2) building a traceability system; (3) adopting substitutes for hazardous substances; and (4) building an information system.

Increasing the Ratio of Eco-friendly Products

The Hitachi High-Technologies Group accredits and registers as “eco-friendly” those in-house products with a low environmental impact. This is evaluated several ways, including resource/waste reduction and energy efficiency, using the Hitachi Group’s proprietary Design for Environment Assessment System. We are determined to contribute to protection of the environment by increasing the share of sales accounted for by our eco-friendly products (sales of eco-friendly products / total sales for concerned divisions and group companies). In fiscal 2004, Hitachi High-Technologies registered 13 new eco-friendly products while Hitachi High-Tech Electronics Engineering Co., Ltd. registered six. This has brought the overall share of Group sales from eco-friendly products to 72%. Our fiscal 2006 target was 70%; this has been reached ahead of schedule.

We are committed to maintaining and improving the contribution to sales of our eco-friendly products, with a target of 80% in fiscal 2010.

<table>
<thead>
<tr>
<th>Ratio of eco-friendly products</th>
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<tbody>
<tr>
<td><strong>Product ratio (%)</strong></td>
</tr>
<tr>
<td>2002</td>
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<td>2003</td>
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<td>2004</td>
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<tr>
<td>2005</td>
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<tr>
<td>2006</td>
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<td>2010</td>
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</tbody>
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* EU directives on Waste Electrical and Electronic Equipment
Sparking a Revolution in Cardiac Care

Development of a magnetocardiograph system

Nearly 100 years since the invention of the electrocardiograph, Hitachi High-Technologies is transforming the techniques used for electrophysiological studies of the heart. The magnetocardiograph system, the world’s first product from Hitachi High-Technologies, will benefit society greatly through the early detection of heart disease.

Changing preventive medicine in the 21st century: Preventing sudden death and reducing medical costs

Heart disease is the second leading cause of death in Japan today, accounting for 15.5% of deaths (Vital Statistics of Japan, 2002 Ministry of Health, Labour and Welfare).

Myocardial infarction is a frightening disease. Complete obstruction of the arteries surrounding the heart causes intense spasms of pain in the chest. About half of the people who suffer these spasms are led to death.

Actually, myocardial infarction does not take place suddenly. It occurs after experiencing angina pectoris (chest pain), which results from ischemia. However, angina pectoris is frequently unaccompanied by subjective symptoms. It is therefore very difficult to detect with a traditional resting electrocardiogram.

The highly precise measurements of a magnetocardiograph make it possible to detect angina pectoris early on, which has until now been very difficult. If heart disease is discovered at the stage of angina pectoris it can be treated relatively easily with medicine or surgery using a catheter to re-widen the coronary arteries. Sudden death caused by myocardial infarction can therefore be prevented, and the aftereffects and medical costs associated with post-operative rehabilitation can be held down. The magnetocardiograph provides an immeasurable benefit to preventive medicine in today’s Japan, where an aging society and Westernization of eating habits is resulting in increasing cases of angina pectoris and myocardial infarction.

Speedy, safe, and accurate: New patient-friendly technology rivals a full workup in just 30 seconds

An electrocardiograph is the usual means of screening for heart disease. If a disease is suspected, the patient undergoes a detailed examination. This includes myocardial perfusion imaging and cardiac catheterization test.

While myocardial perfusion imaging is a necessary test for diagnosing and identifying the exact location of disease, it involves radiation exposure and so cannot be repeated over a short term and cannot be used on pregnant women. Catheterization is risky, quite painful, causes a
great psychological burden on the patient, and requires a few days of hospitalization to stop the bleeding.

“During a magnetocardiograph test,” explains Shigeaki Naito, General Manager of the Magnetocardiography System, “the patient simply lies on a bed under the sensors for about 30 seconds. The test does not subject the patient to any radiation, external magnetic field, or ultrasonic waves. It causes no physical pain, and is performed with the patient clothed.” It is truly a “patient-friendly” testing procedure that does not affect the patient’s body in any way and induces very little physical or mental burden. Nevertheless, this quick and simple test can detect ischemia with a precision that rivals a full workup. The magnetocardiograph system has significant potential to save many people in the future from death due to myocardial infarction.

A magnetocardiograph measures the magnetic field generated by the heart. Since magnetic field is not affected by internal organs, blood, and bones, it can capture the state of the heart more accurately than an electrocardiograph.

However, the heart’s magnetic field is very faint, merely one millionth that of the Earth’s magnetism. An extremely sensitive magnetic sensor is therefore needed to measure it. Such a sensor, known as a SQUID (Superconducting Quantum Interference Device), was developed using superconductor technology. Hitachi High-Technologies’ magnetocardiograph, fitted with 64 built-in SQUIDs, can examine the entire heart in close detail in a single measurement. Hitachi High-Technologies’ advanced technical capabilities have made it possible to create a highly precise magnetocardiograph.

**Contributing to peoples’ health with advanced technology**

“Every week for a year and a half, I traveled to the National Cardiovascular Center in Osaka to gather clinical data for pharmaceutical approval,” says Masahiro Murakami, an engineer in the Medical Systems Design Department. “Based on the opinions I collected during that field work, we were able to make improvements in the commercial product version, such as reducing the amount of liquid helium. I want to continue developing our magnetocardiograph, making it easier to use, by incorporating the opinions of doctors and patients. Someday, I hope to make magnetocardiograms available to everyone, at hospitals and clinical centers, as part of comprehensive general health screenings.”

In addition to testing for ischemia, the MC-6400 enables the analysis and prediction of the location of arrhythmias, as well as cardiac examinations of a fetus.

Hitachi High-Technologies’ magnetocardiograph technology is being widely recognized. Last year, it was a winner of R&D Magazine’s R&D 100 Awards program, which selects the 100 most technologically advanced products in the world, and also received Nikkan Kogyo Shimbun’s Best Ten New Products Prize. Hitachi High-Technologies will continue to rise to the challenge of developing products that contribute to society through advanced technology.
Cover photo
Kazuo Tsukamoto’s photograph, “A Summer’s Day,” winner of the Hitachi High-Technologies Award of the Earth Photo Contest 2005, sponsored by President Co., Ltd. Hitachi High-Technologies Corporation is among its co-sponsors.

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E-mail: csr-promotion@nst.hitachi-hitec.com