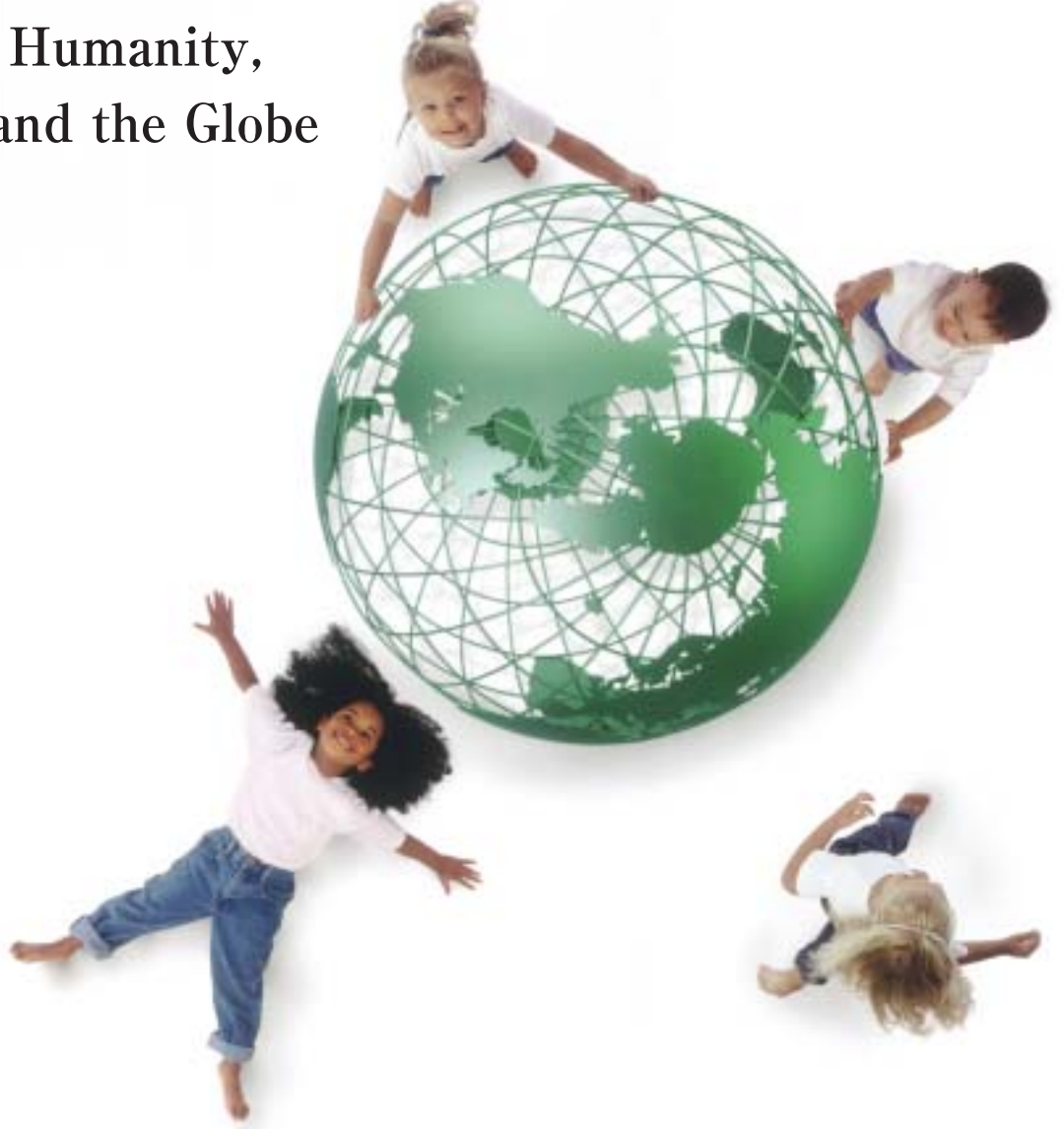


# Environmental And Social Report 2005



together with Humanity,  
Society, and the Globe



**Hitachi Kokusai Electric Inc.**

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Issued June 2005

You can also visit our home page and see these contents in PDF files there.

<http://www.h-kokusai.com/>

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- Paper : We use FSC-certified paper originating from timber from sustainable forests, which have been managed with the appropriate cycle of forestation, nourishment, and tree trimming, considering the ecological system and public benefit.
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- Print : We use waterless print requiring neither strong alkali developing solution in the plate process nor dampening water containing harmful substances such as IPA (isopropyl alcohol) in the print process.




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## As we make this report

### Editorial policy

This report is produced under consultation of "Guidelines for Environmental Report (2003 edition)" issued by the Ministry of the Environment and "2002 GRI Guidelines" by Global Reporting Initiative. We enriched the contents regarding the company's social responsibilities and activities, and therefore changed the title from "Report on the Environment" to "Environmental and Social Report." In order for a wide range of stakeholders to read the report, we have prepared the report both in Japanese and English as well as releasing the report on our home page. (URL <http://www.h-kokusai.com/>)

### Report coverage

Target period: Fiscal 2004 (from April 2004 to March 2005)  
Object business institutions: Hitachi Kokusai Electric Inc. and 8 domestic affiliated companies

- ◆ Hitachi Kokusai Electric Inc.
  - Toyama Works
  - Hamura Works
  - Koganei Works
  - Omiya Works\*
- ◆ Hitachi Kokusai Electric Services Inc.
- ◆ Kokusai Electric Semiconductor Service Inc.
- ◆ Kokusai Electric Techno Service Co., Ltd.
- ◆ Kokusai Denki Engineering Co., Ltd.
- ◆ Hitachi Denshi Technosystem, Ltd.
- ◆ Kokusai Electric Alpha Co., Ltd.
- ◆ Yagi Electronics Co., Ltd.
- ◆ Tohoku Electronics Engineering Inc.

The environmental load and environmental accounting were compiled with the data from the factories marked with ○.

\* The Omiya Works that were spun off in October 2004 and changed their name to YAGI ANTENNA INC. continue to compile environmental load data.

### Next issue

We have issued the Report on the Environment annually since October 2001. The next report will be issued June 2006.

## ● Status of ISO14001 certification

	Sites certified	Date certified	Scope of business
Internal	Toyama Works	1996. 10	Semiconductor manufacturing equipment systems
	Koganei Works	1997. 06	Broadcasting systems, image processing, and monitoring systems
	Hamura Works	1998. 02	Data processing systems and wireless communication systems
Main group companies	Tohoku Electronics Engineering Inc.	1997. 06	Electric appliances, communications and image systems, measuring devices and medical equipment
	YAGI ANTENNA INC.	1998. 12	Antennas, CATV systems
	Kokusai Denki Engineering Co., Ltd.	2000. 07	Wireless communications equipment, beacon equipment, electrical equipment, mobile radio equipment, microcomputer application devices, and computer peripherals
	Kokusai Electric Semiconductor Service Inc.	2001. 03	Manufacturing, maintenance and installation of semiconductor manufacturing equipment
	Hitachi Kokusai Electric Services Inc.	2002. 10	Maintenance and services of Hitachi Kokusai Electric products (excluding semiconductor manufacturing equipment)
	Kokusai Electric Alpha Co., Ltd.	2003. 02	Data processing systems and equipment, semiconductor manufacturing equipment, and ultrasonic application devices
	Hitachi Denshi Technosystem, Ltd.	2004. 11	Image processing and image recognition application products, wireless communication systems, oscilloscopes

## Profile

## Corporate profile (as of March 31, 2005)

Company name: Hitachi Kokusai Electric Inc.

Head office: 3-14-20 Higashi-Nakano, Nakano-ku, Tokyo 164-8511

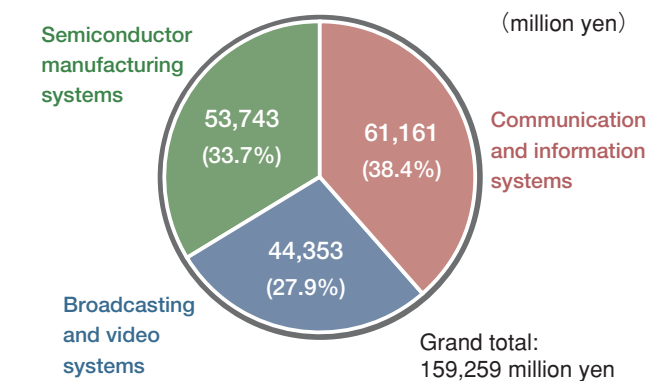
Founded: November 17, 1949

Capital: 10,058 million yen

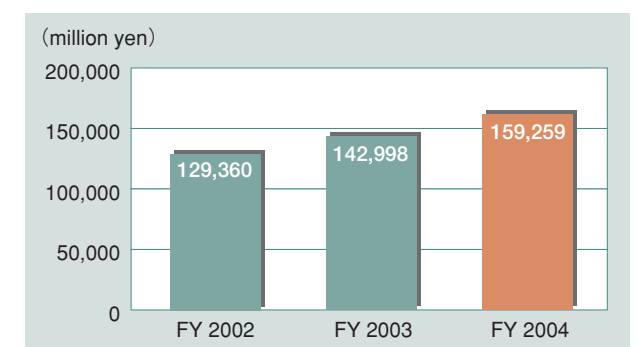
Sales: 159,259 million yen (consolidated)

Employees: 4,684 (consolidated)

### Consolidated sales by segment



### Consolidated sales



### Domestic business institutions/Main manufacturing group companies



**Toyama Works**  
Main products: Semiconductor manufacturing equipment  
We develop and manufacture vertical diffusion/CVD systems as well as ALD equipment, digressive systems, and plasma systems in dedicated clean rooms to meet the needs of major manufacturers all over the world.



**Akita Prefecture**  
Hitachi Kokusai Denki Engineering Co., Ltd.\*  
Yagi Electronics Co., Ltd.

**Hamura Works**  
Main products: Communication and information systems  
We manufacture wireless applications for defense, government and other public communications, and broadcasting. We also develop, design, and manufacture information equipment.

**Miyagi Prefecture**  
Tohoku Electronics Engineering Inc.

**Toyama Prefecture**  
Toyama Works

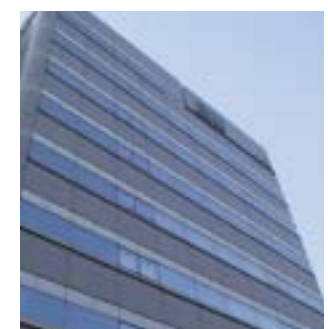
**Saitama Prefecture**  
YAGI ANTENNA INC.

**Tokyo**  
Koganei Works

**Tokyo**  
Hamura Works

**Tokyo**  
Hitachi Kokusai Denki Engineering Co., Ltd.\*  
Hitachi Denshi Technosystem, Ltd.

- Head Office
- Business institutions
- Main manufacturing group companies



Head Office



**Koganei Works**  
Main products: Communication and information systems, broadcasting and video systems  
We develop, design, and manufacture public and communication systems such as disaster prevention information systems and train radio systems, broadcasting systems, monitoring systems, and broadcasting and video systems such as those acting as inspection devices.

\* Kokusai Denki Engineering Co., Ltd. and Kokusai Electric Alpha Co., Ltd. were merged in Hitachi Kokusai Denki Engineering Co., Ltd. in April 2005.

# Hitachi Kokusai Electric in society

Hitachi Kokusai Electric delivers life- and business-supporting systems and products in communication and information, broadcasting and video, and semiconductor manufacturing. We contribute to society in many areas by offering communication infrastructure supporting advanced information networks, a wide variety of public and industrial wireless communication systems resulting from a combination of wireless communication technology and video technology, broadcasting systems from broadcasting cameras to transmitters and receivers, monitoring systems containing advanced video technology, compact high-resolution video cameras applicable to manufacturing, medical, biological, and other fields, and equipment manufacturing semiconductors with increasingly enhanced integration levels.

## In the field of wireless communication



● **Airport Wireless Communication System**  
Digital wireless systems used at major domestic airports



● **Cellular Phone Base Station AMP (Amplifier)**  
Power amplifier systems used at cellular phone stations



● **Disaster Preventive Administrative Wireless Communication System**  
Used for emergency communication and publication in municipalities when disasters occur



● **Wireless Broad Band System**  
Network established with micro waves where cable cannot be used such as across rivers, public roads, and places between buildings.

## In the field of semiconductor manufacturing



● **Vertical Diffusion/LPCVD System QUIXACE**  
New concept of vertical heat treatment systems with integration of batch type heat precessing technology



● **Batch Type Atomic Layer Deposition Process Tool ALDINNA**  
Batch type ALD systems making high quality membrane with high throughput at low temperatures



● **Single Wafer Plasma Nitridation System MARORA**  
Plasma processing systems without plasma damage by introducing original MMT plasma type



● **Batch Type Epi Si/SiGe Process Tool**  
Batch type Epi-SiGe systems, achievement of high quality cristal with high throughput at low temperatures

## In the field of examination, measurement, and surveillance



● **Minute Size Measuring Equipment**  
Noncontact measuring systems, measurable ultrasmall size as small as the submicron level



● **Public Facility Surveillance System (Road)**  
Surveillance system used for public facilitie (road)



● **Public Facility Surveillance System (Bridge)**  
Surveillance system used for public facilitie (bridge)



● **Network Camera**  
Network type surveillance camera



● **LCD Substrate Size Measuring Equipment**  
Highly precise measuring systems used for glass board and pattern dimensions of filters in the LCD manufacturing process

## In the field of information display, collection, and delivery



● **Noncontact IC Tag (Card) Systems**  
Locating systems by using IC tags attached to books



● **Multimedia Display Systems**  
Used for delivering and displaying data, images, motion pictures, and more via network



● **Stock Price Display Terminal**  
Displaying systems that show stock prices, currency exchanges, and such information in businesses and lobbies of stockbrokers and banks.



## In the field of broadcasting



● **Water-cooled 3kW Digital Terrestrial Broadcasting Transmitter**  
Transmitting systems at key stations, which transmit terrestrial digital TV broadcasting waves



● **Nonlinear Transmission System**  
Broadcasting systems that transmit broadcast programs, commercial messages, and more registered on the servers in accordance with programs



● **Broadcasting Cameras**  
Various types of broadcasting cameras such as high-definition-ready multistandard cameras

## Hitachi Kokusai Electric will work on creating a sustainable recycling-based society in order to make our global future better.

Hitachi Kokusai Electric group has the Fundamental Philosophy ; "Manufacture products that contribute to a safe and affluent society", "Looking to the future, never stop working for continuous improvement", and "Observe fundamentals, do things the right way, and be fair and transparent in all aspects of corporate conduct." It aims to respect human rights, observe the spirit as well as the letter of national and international laws and regulations and to achieve continued growth and development while contributing to the creation of a sustainable society.

On the basis of the philosophy, we develop and offer products and services in consideration of the safety, quality and environment, making efforts to obtain customer satisfaction and trust. We voluntarily and positively address the protection and improvement of our global and local environments.

In order to enhance our commitment to Corporate Social Responsibility (CSR), we established CSR Promotion Division, and have intensified our work toward compliance, contributing to society, and protecting the environment to promote further CSR-conscious management.

We have made our "Environmental and Social Report" with enhanced contents, starting this year, regarding social reports such as corporate governance, communication, and an employee-friendly working place. Please read our report for your information on our CSR activities, letting us know your honest opinion for our future activities.

We, the Hitachi Kokusai Electric group, will work together aiming a sustainable recycling-based society with your support from your confidence in us.



**Kunio Hasegawa**  
President and  
Chief Executive Officer

## We have established CSR Promotion Division to obtain the confidence of society through our strict compliance.

We have set our targets for FY 2005 and FY 2010, and now are on the way to achieve our mid-to-long term targets centering on eco-products (environment-friendly products), eco-factories (environment-friendly production), and eco-management (promotion of environment management).

We are pleased to inform you of the results of our environment protection work in FY 2004.

Regarding our eco-products, we achieved our target ratio of 70% in sales due to promoting environment-friendly products. For eco-factories, although we achieved our target of reducing waste by 83% by promoting the establishment of environment-friendly production facilities, CO2 emission primary units in production increased by 10%. Further efforts should be made for preventing global warming (energy conservation). We will continuously reduce CO2 emissions by shifting to energy-saving facilities. With regard to eco-management, we have worked on consolidated activities for environment protection with affiliated companies, and all of the affiliated manufacturing bases are scheduled to acquire ISO14001 certification in FY 2005.

We will work on creating environment-friendly products in compliance with green procurement requests from customers and responding to international environmental regulation trends including those in European countries, especially about harmful substances in FY 2005.

We will enhance the contents of our "Environmental and Social Report," to clearly inform readers of CSR activities of the Hitachi Kokusai Electric group so that the report be used for communication.



**Mikio Obuchi**  
Vice President and  
Executive Officer,  
General Manager-  
CSR Promotion Division

## Hitachi Kokusai Electric Code of Conduct

Hitachi Kokusai Electric, which respects human rights, observes the spirit as well as the letter of national and international laws and regulations, hereby adopts this Code of Conduct with a view to achieving continued growth and development while contributing to the creation of a sustainable society.

### Fundamental Philosophy

Manufacture products that contribute to a safe and affluent society.  
Looking to the future, never stop working for continuous improvement.  
Observe fundamentals, do things the right way, and be fair and transparent in all aspects of corporate conduct.

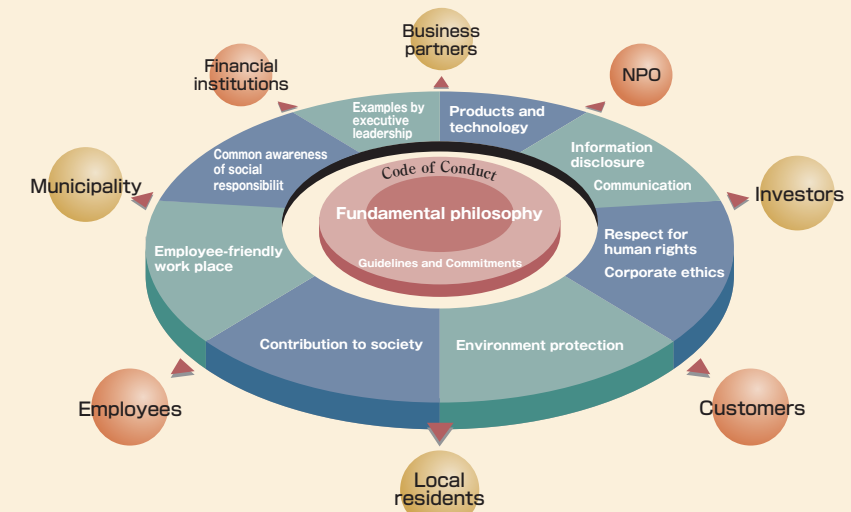
### Guidelines and Commitments

In accordance with the Fundamental Philosophy, Hitachi Kokusai Electric commits to the dissemination of this Code of Conduct with the following Guidelines and Commitments and to the maintenance of the related internal system.

1. Obtain customers' trust and confidence by developing and providing products and services in which the emphasis is on safety, quality and environmental soundness.  
Engage in fair and transparent competition and business activities,
2. comply with laws and be ethical in one's corporate conduct.  
Respect the diversity, character and individuality of all employees and provide a mentally and physically rewarding workplace environment.

3. Provide shareholders and other stakeholders with full and fair disclosure of corporate information.
4. Take a proactive, independent approach to protecting the global environment and improving local living environments.
5. As a good corporate citizen, engage proactively in philanthropic activities and other activities that benefit society.
6. Respect international rules and local laws, cultures, practices and customs and always strive to contribute to local progress and development.
7. Respect the value of other companies' business and technology information as well as our own, and implement proper controls regarding such information.
8. Comply with trade-related laws and regulations in order to contribute to the maintenance of international peace and security.
9. Should a situation arise that runs counter to this Code of Conduct, managers shall endeavor to resolve the matter, establish the cause and take steps to prevent a reoccurrence. They will also endeavor to provide a prompt and accurate disclosure and explanation of the facts of the matter, clarify where the responsibility lies and deal strictly with those concerned, including with respect to their own activities.

[Relationship between stakeholders and Hitachi Kokusai Electric Inc.]



We work hard to address environment protection in conformity with the Code of Conduct.

## Hitachi Kokusai Electric Global Environmental Charter

### Guidelines for Action

#### 1. Fulfillment of our social obligations

Harmony with the environment is one of our highest priorities. We are committed to solving global environmental issues because they are important issues common to all humanity.

#### 2. Reduction of environmental load

The environmental load caused by research, development, production, distribution, use, and disposal will be reduced to help build a resource recycling society.

#### 3. Complying with laws and regulations

International, national, and local environment regulations will be obeyed, and a voluntary control standard will be set up to

help prevent environmental pollution and improve the environment management level.

#### 4. Linkage with local communities

Efforts will be made to preserve the global environment, improve the local environment, and give employees a comprehensive environmental education to enhance their awareness of the environment.

#### 5. Preparation of intracompany system

An executive in charge will be appointed to prepare an environment management organization system and help promote ongoing activities for the environment, both internationally and nationally.

# Eco-management (promotion of environment management)

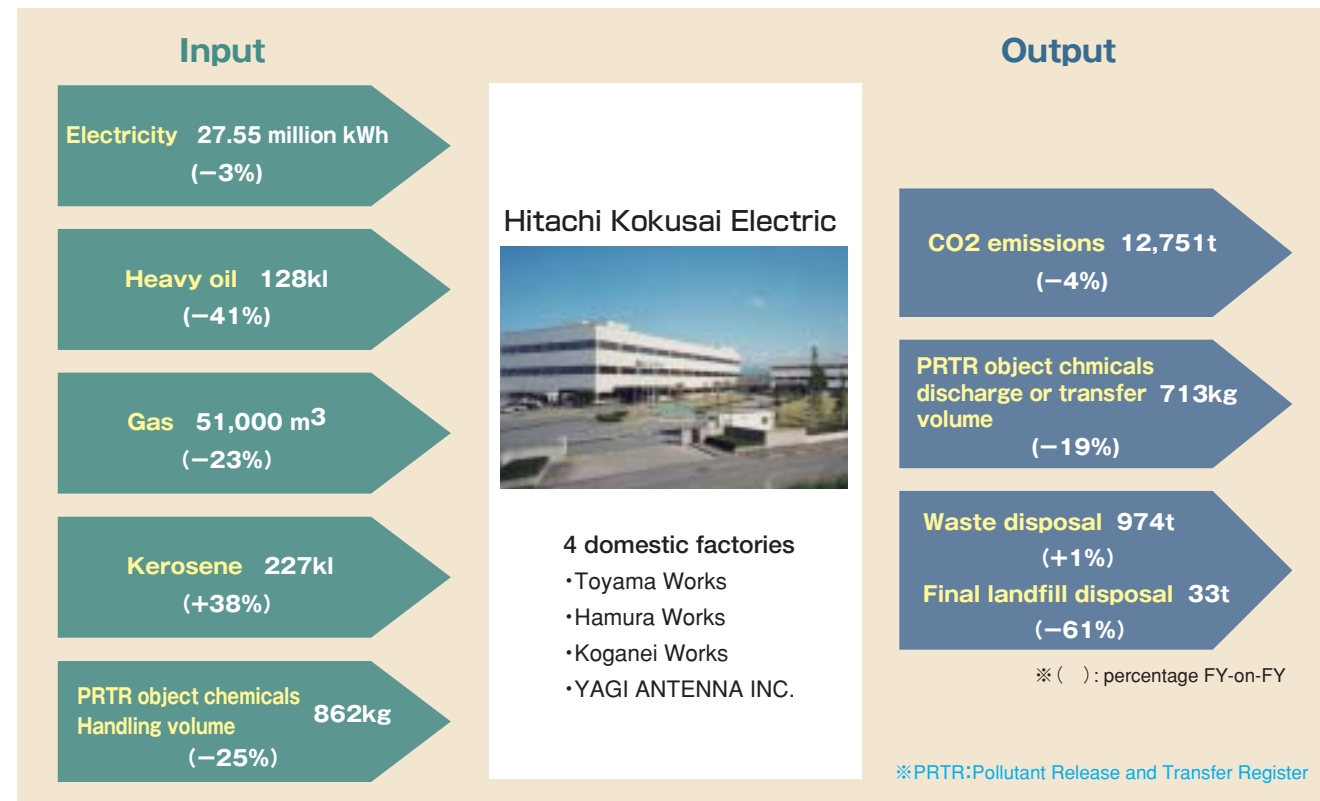
Hitachi Kokusai Electric established an environment management system based on ISO14001, and conducts ongoing improvement by setting environmental goals every fiscal year and working on realizing these goals.

## Business activities and environmental load

We quantitatively collect and analyze data concerned with how much resources and energy are used (input) and how much environmental load generating materials are discharged (output) during our business operation at 4 domestic factories.

From the results of these analyses, we establish a reduction goal of environmental load generating materials every year, and work hard to achieve this goal throughout our business operations.

### Business activity mass-balance



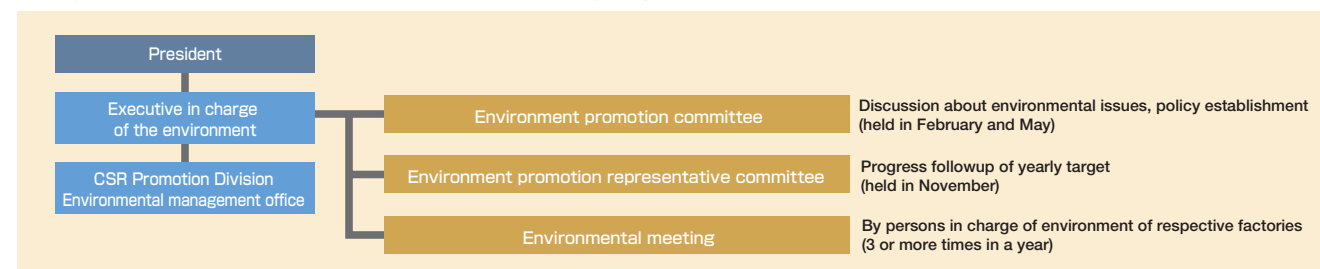
## Environment protection system

In the presence of our president, we hold our environment promotion committee with the executive in charge of the environment as chairman and the top executives of each factory and affiliated company as committee members. In this committee, we discuss and determine the mid-to-long term environment planning of the whole group, yearly targets, and priority subjects, then applying the results in each factory and affiliated company. Every factory and affiliated company appoints an environment promotion representative based on the structure of the environment management system, and works on environment activities suited for our business.

The environment management office, consisting of headquarters staff, plans and supports environmental strategies as well as conducts progress followup in the environment promotion representative committee. This work is based on the decisions in the environment promotion committee.

In addition, there is an environmental meeting consisting of persons in charge of the environment of their respective factories. They discuss the policy and activity planning of Hitachi Kokusai Electric group, reporting on results, information exchange, experience sharing, and problem solutions.

### Organization chart of Hitachi Kokusai Electric group



## Goals and results of environmental activities in fiscal 2004

As we move ahead toward the mid-to-long term target, we are focusing on three key areas, i.e. eco-products, eco-factories, and eco-management.

### ●Eco-products

We already achieved our FY 2006 goal of 80% for our percentage of environment-friendly products sales, ahead of schedule due to adopting the assessment of environment-friendly designs. We introduced the facilities and production process for lead-free solder connection in FY2003, and have applied it to 39 newly developed products. We will use lead-free solder connection for all newly developed products, step by step. We continue to work on the green procurement issue because investigation of RoHS Directive 6 regulated substance content and the shift from contained products to alternatives have not yet been completed.

We also continue to work on creating environment-friendly products in compliance with green procurement requests from customers.

### ●Eco-factories

Carbon dioxide emission was reduced by 12% due to promoting total optimization. Chemicals were reduced by 72% compared to FY 2000 due to reducing the amount used and shifting to alternatives. Then, the promotion of recycling reduced the final landfill amount by 95% compared to FY 1998.

### ●Eco-management

We conducted environmental audits at 2 sites: Tohoku Electronics Engineering, Inc. and Koganei Works.

※RoHS:Restriction of the use of certain Hazardous Substances in electrical and electronic equipment

### Goals and results of environmental activities in fiscal 2004

◎:Mid-long term target reached ○:Target reached △:Efforts in improvement required

	Main item	Mid-long term plan	Fiscal 2004 target	Results	Own evaluation
Ecological product	Environment-friendly products	Percentage of environment-friendly products sales 80% in fiscal 2006	Percentage of environment-friendly products sales 70% in fiscal 2004	Percentage of environment-friendly products sales 80% in fiscal 2004	◎
	Lead-free solder	Complete elimination of lead solder	Increase in lead-free solder connection products	Application to 39 newly developed products	△
	Green procurement	Complete abolishment of RoHS Directive 6 in fiscal 2005	Investigation of RoHS Directive 6 regulated substance content Shift from contained products to alternatives	Investigation request to 737 companies Alternative shifting not yet completed	△
Ecological factory	Global warming prevention (energy conservation)	Reduction of carbon dioxide (CO2) emission Compared to FY 1990 3% reduction in FY 2005 7% reduction in FY 2010	Reduction of carbon dioxide CO2 Compared to FY 1990 2% reduction in FY 2004	12% reduction in FY 2004	△
		Reduction of CO2 emissions in production Compared to FY 1990 20% reduction in FY 2005 25% reduction in FY 2010	Reduction of CO2 emissions in production Compared to FY 1990 18% reduction in FY 2004	10% increase in FY 2004	
	Reduction of chemicals	Compared to FY 2000 Chemicals to be reduced 30% reduction in FY 2005	Chemicals to be reduced 25% reduction in FY 2004	Chemicals to be reduced 72% reduction in FY 2004	◎
	Reduction of waste	Compared to FY 1998 85% reduction in FY 2005 Zero emissions in FY 2100	84% reduction Compared to FY 1998	95% reduction Compared to FY 1998	◎
Ecological management	Environmental audit	Enhancement of environmental audit (including factories and affiliated companies)	Implementation of environmental audits by Headquarters' environment management department ISO14001 periodic inspection	Environmental audit implemented at 2 factories Environmental audit by environment management office implemented at 3 internal and 6 affiliated companies	○
	Consolidated management	Promotion of consolidated management by factory	Assessment of environmental load (type, extent, and amount)	Environmental load data obtained	

## Environmental audit

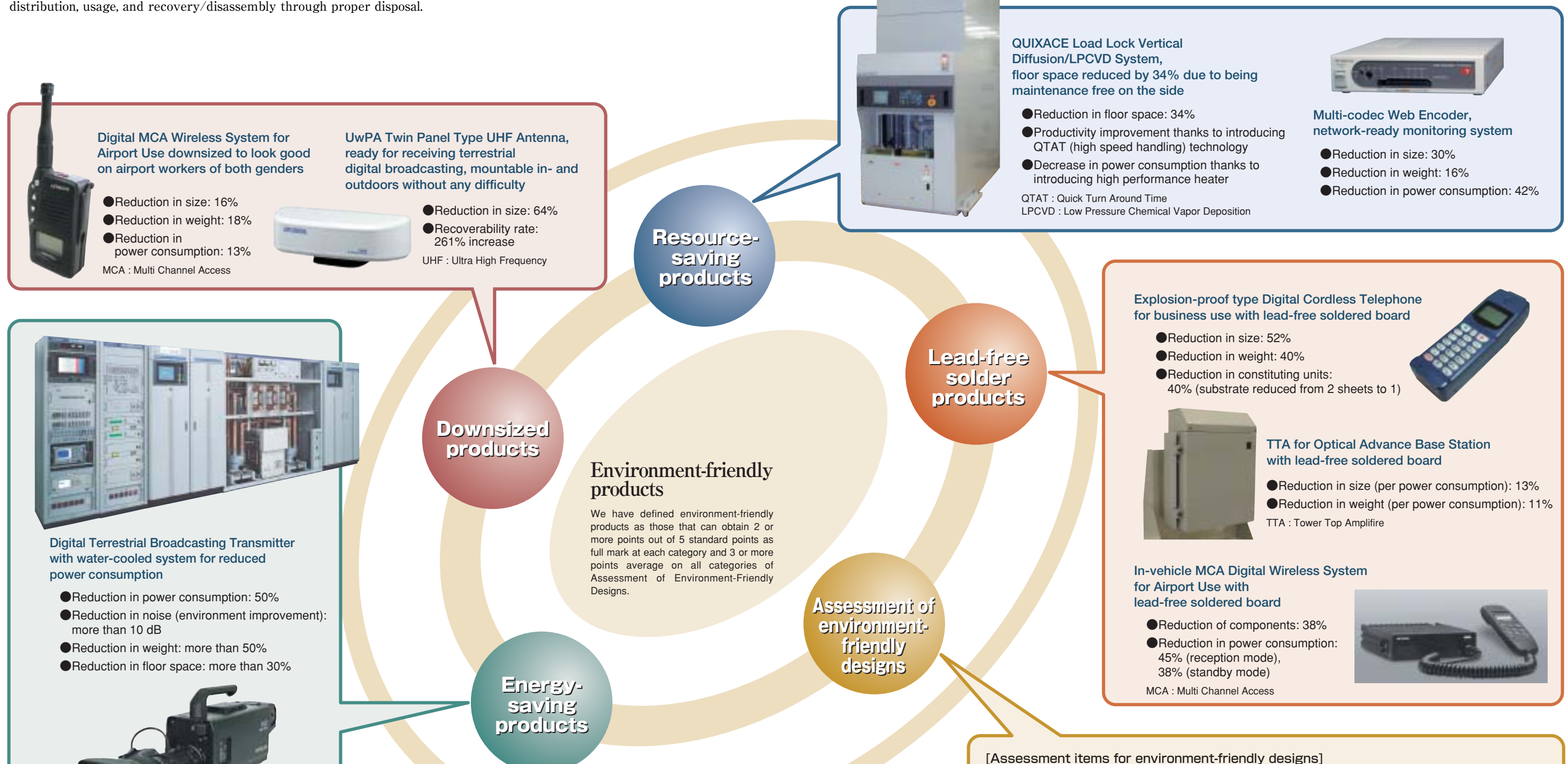
In addition to the internal audit based on the environment management system, the environmental audit (audit with regard to environment performance and compliance with laws and regulations) is conducted on in-company business institutions and affiliated company institutions by the environment management office. The audit is held every 2 years at in-company business institutions and every 3 years at affiliated company institutions.

In FY 2004, the environmental audit was held at Koganei Works and Tohoku Electronics Engineering, Inc. Problems and improvements were clarified in the audit, and thereby necessary action are taken.



# Eco-products (environment-friendly products)

We are developing products, introducing our original assessment of environment-friendly designs based on the concept of minimizing the lifecycle environmental load at each stage of the product lifecycle from material, production, distribution, usage, and recovery/disassembly through proper disposal.



## Resource-saving products

**QUIXACE Load Lock Vertical Diffusion/LPCVD System,**  
 floor space reduced by 34% due to being maintenance free on the side

- Reduction in floor space: 34%
- Productivity improvement thanks to introducing QTAT (high speed handling) technology
- Decrease in power consumption thanks to introducing high performance heater

QTAT : Quick Turn Around Time  
 LPCVD : Low Pressure Chemical Vapor Deposition

**Multi-codec Web Encoder, network-ready monitoring system**

- Reduction in size: 30%
- Reduction in weight: 16%
- Reduction in power consumption: 42%

**Digital MCA Wireless System for Airport Use** downsized to look good on airport workers of both genders

- Reduction in size: 16%
- Reduction in weight: 18%
- Reduction in power consumption: 13%

MCA : Multi Channel Access

**UwPA Twin Panel Type UHF Antenna,** ready for receiving terrestrial digital broadcasting, mountable in- and outdoors without any difficulty

- Reduction in size: 64%
- Recoverability rate: 261% increase

UHF : Ultra High Frequency

## Lead-free solder products

**Explosion-proof type Digital Cordless Telephone for business use with lead-free soldered board**

- Reduction in size: 52%
- Reduction in weight: 40%
- Reduction in constituting units: 40% (substrate reduced from 2 sheets to 1)

**TTA for Optical Advance Base Station with lead-free soldered board**

- Reduction in size (per power consumption): 13%
- Reduction in weight (per power consumption): 11%

TTA : Tower Top Amplifier

**In-vehicle MCA Digital Wireless System for Airport Use with lead-free soldered board**

- Reduction of components: 38%
- Reduction in power consumption: 45% (reception mode), 38% (standby mode)

MCA : Multi Channel Access

## Environment-friendly products

We have defined environment-friendly products as those that can obtain 2 or more points out of 5 standard points as full mark at each category and 3 or more points average on all categories of Assessment of Environment-Friendly Designs.

## Assessment of environment-friendly designs

## Energy-saving products

**Digital Terrestrial Broadcasting Transmitter with water-cooled system for reduced power consumption**

- Reduction in power consumption: 50%
- Reduction in noise (environment improvement): more than 10 dB
- Reduction in weight: more than 50%
- Reduction in floor space: more than 30%

**HDTV Camera with high sensitivity, high resolution, and high S/N with reduced power consumption**

- Reduction in power consumption: 40%
- Reduction in size: 40%
- Reduction in weight: 25%

S/N : Signal to Noise ratio  
 HDTV : High Definition TeleVision

## Downsized products

[Environment-friendly features of Digital Terrestrial Broadcasting Transmitter]

No.	Item	Conventional type (analog) Transmitter output: 10 kW	Developed transmitter (digital) Transmitter output: 1 kW	Remarks
1	Upgrade	SDTVS channel 1	HDTV channel 1 or SDTV channel 3	Due to digitalization (OFDM modulation)
2	Reduction in power consumption	30kW	More than 50% reduced	Reduction in transmission output
3	Environment improvement (noise)	65dB	More than 10 dB reduced	Shift to water cooling
4	Resource conservation	Weight	4,000Kg	More than 50% reduced
		Floor space	7.5m <sup>2</sup>	More than 30% reduced

[Assessment items for environment-friendly designs]

Category	Life cycle stage	Assessment criteria
Resource reduction	Selection of component materials, production, and distribution	Resource conservation, compactness, lightweight, conformity, high yield, standardization
Product longevity	Usage	Upgradability, ease of repair and maintenance, durability, reliability
Resource recycling	Reuse, distribution	Reusability, conformity/labeling of component materials, use of recycled materials, promotion of resource recycling
Ease of disassembly	Disassembly	Ease of disassembly, materials, ease of sorting, labeling of materials
Ease of processing	Production, distribution, disassembly	Crumbling, fragmentation, disassembly and separation, ease of processing
Environmental safety	Materials, production, distribution, usage, disassembly, disposal	Potential toxicity, potential harmfulness, explosiveness, potential hazard
Energy conservation	Usage, production	Energy conservation, longer durability, energy efficiency
Provision of information	Usage, disassembly, disposal	Provision of processing and product disposal information

# Eco-factories (environment-friendly production activities)

We strive for eco-factories with low environmental loads that prevent global warming by power conservation and facility improvement as well as by promoting waste reduction aiming at zero emissions.

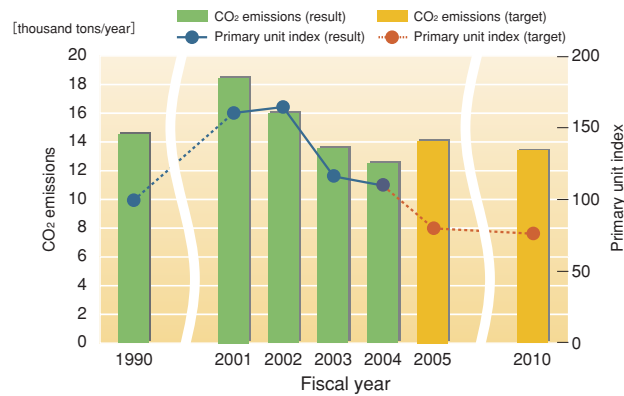
## Global warming prevention (energy conservation)

We have set ourselves the goal of reducing our carbon dioxide emission in primary unit index by 25% and in volume of emission by 7% by FY 2010 compared to FY 1990 levels. Carbon dioxide emissions were reduced by 12% in volume while our primary unit of carbon dioxide in production in FY 2004 increased by 10% compared to FY 1990 levels. The amount of carbon dioxide emissions from electricity use accounts for more than 91% of the total, and we are now engaged in upgrading energy-saving equipment and shifting to liquid-crystal-diaplay PCs to reduce carbon dioxide emissions further.

### <Major energy-saving measures in FY 2004>

1. Upgrading air-cooling equipment
2. Shifting to liquid-crystal-display PCs
3. Enhancing efficiency of lighting fixtures

### ■Trends in CO<sub>2</sub> emission and primary unit index



## Waste reduction

We have set ourselves the goal of reducing our final landfill amount by 90% as of FY 2010 compared with FY 1998 levels, and are working on reducing waste to achieve our goal of zero emissions.

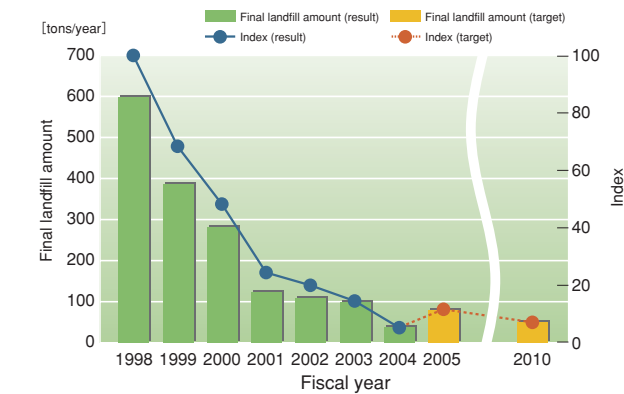
We reduced our final landfill amount in FY 2004 by 95% compared with our FY 1998 levels. In addition, we are engaged in efforts for waste control measures to ultimately reduce our final landfill amount to zero.

### <Major waste reduction measures in FY 2004>

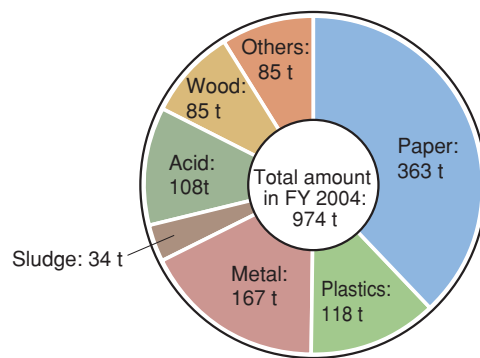
1. Thermal recycling (RDF) of waste plastics
2. Recycling of nitric acid fluoride
3. Recycling of sludge

※RDF:Refuse Derived Fuel

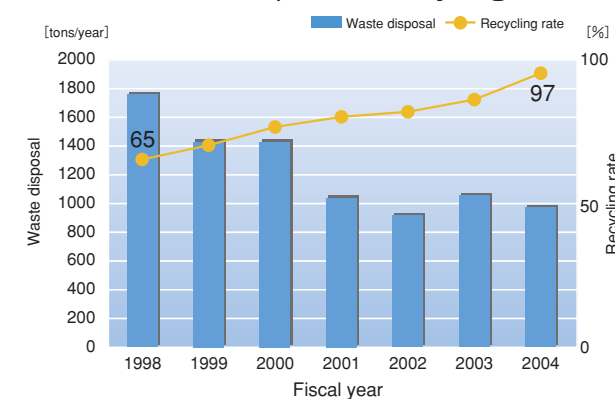
### ■Trends in final landfill amount



### ■Breakdown of waste disposal in FY 2004



### ■Trends of waste disposal and recycling rate



### Portable rechargeable battery recycling

In Japan, Hitachi Kokusai Electric participate in the End-of-Life Portable Rechargeable Battery Collection System managed by the JBRC (Japan Portable Rechargeable Battery Recycling Center). Both Hamura Works and Koganei Works placed battery collection bases to make efforts to recycle nicad batteries, nickel hydride batteries, and lithium-ion batteries.

## Prevention of soil and ground water pollution

Soil and ground water are part of the natural environment having close relations with our lives. Among the object substances specified in the Anti-Soil Pollution Law enacted in February 2003, we completely

eliminated volatile organic compounds by 2002. Each factory has conducted voluntary investigations of soil and ground water on the basis of laws and confirmed that there is no contamination.

### ■Results of soil investigation at Hamura Works

Object substance	Maximum amount detected	Standard amount
1,1-Dichloroethylene	Less than 0.0002 mg/L	0.02mg/L
Sis-1,2-Dichloroethylene	Less than 0.0002 mg/L	0.04mg/L
Tetrachloroethylene	0.0010mg/L	0.01mg/L
Trichloroethylene	0.0011mg/L	0.03mg/L



Sample collecting for soil investigation

## Investigation results of substances covered under the PRTR law

Based on the Law Concerning Assessment of the Amounts of Specific Chemical Substances Released into the Environment and Promotion of Management Improvement (PRTR Law) enacted in April 2001, it is required to report chemicals handled in amounts of more than 1 ton from FY 2003. We have had no such chemicals.

The total amount of substances we handled among 354 object substances specified in the PRTR Law is 862 kg, which was reduced by 25% compared to the last fiscal year. This is mainly because we reduced the lead used by 55% compared with the last fiscal year thanks to introducing lead-free solder.

※PRTR:Pollutant Release and Transfer Register

### ■Results of PRTR object substances release and transfer amount (unit: kg/year)

Chemicals	Amount handled	Amount consumed	Amount recycled	Amount transferred	Amount released
Hydrogen fluoride and its water soluble salts	370	0	0	350	20
Toluene	187	1	0	48	138
Xylene	135	7	0	1	127
Lead and its compounds	92	91	0	1	0

※Main handling substances are shown above

## Reduction of environmental load from chemical substances

To reduce the amount of chemicals released into our atmosphere, water, and soil in order to minimize the environmental load, we are voluntarily managing approximately 1,400 chemical substances by categorizing them into 3 types, which are to be prohibited, to be reduced, and to be managed. Especially, for substances to be reduced, we have set ourselves the goal of making the amount released into the environment be zero by FY 2005, and for

substances to be reduced having a 30% reduction by FY 2005, compared with FY 2000, in the amount released into the environment. In addition to complete elimination of the substances to be prohibited in FY2003, we have achieved our goal of 72% reduction, ahead of schedule, compared with FY 2000 by reducing the amount of substances used in the to be reduced category mainly by shifting to alternatives.

## PCB-contained equipment storage

Because of the Law Concerning Special Measures Against PCB Waste enforced in June 2001, we are obliged to enhance the storage management and to dispose of PCB waste until July 2016.

We, including affiliated companies, keep 36 high pressure capacitors, 176 low pressure capacitors, and 2,547 fluorescent light ballasts. We have put labels on those and locked the storage facilities in order to prevent loss and misplacement during long-term storage. We continue to put such items in storage boxes to prevent leakage due to damage and study appropriate disposal.



Repository

Inside container

# Evaluation of environmental activities

We monitor and analyze environmental activities based on quantitative evaluation criteria in order to improve the level of environmental management, reduce the environmental risk, and continuously promote the efficiency of environmental investment and environmental activities.

## Green 21 operation (Ver. 2)

The Green 21 operation works to continuously improve the environmental activities as the Hitachi group and to enhance them, based on certain evaluation criteria. We evaluate 53 items in 8 categories on a scale of 100 green points (GP) as the full mark, with a maximum total of 800 GP.

■ Operation period: FY 2002 - FY 2005

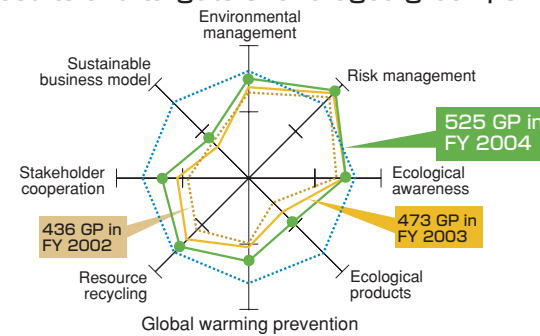
■ Trends of green points

Fiscal year	2002	2003	2004	2005
Target point	320	420	533	640
Obtained point	436	473	525	—

■ Evaluation items (53 items in 8 categories)

No	Category	Main evaluation items
1	Environmental management	Environmental management related, environment activity planning, environmental accounting
2	Risk management	Strict observance of laws and regulations, voluntary standards of establishment, strict observance of voluntary standards
3	Ecological awareness	General training of employees, specialized training, education, training of internal auditors
4	Ecological products	Achievement level of environment-friendly products, plan and achievement level of green procurement
5	Global warming prevention	Achievement level of energy conservation
6	Resource recycling	Achievement level of waste reduction, management of chemicals
7	Stakeholder cooperation	Information disclosure, communication activities, community activities
8	Sustainable business model	Systems and plans, recovery and recycle of products, environmental restoration activities

■ Results and targets of averaged green points



■ Results report

The average green points for FY 2004 reached 525 GP, resulting in an advance of 89 GP from 436 GP in the benchmark year. However, the target of 533 GP was not achieved. The points regarding the sustainable business model were as low as 42 GP because the system, vision, and strategy were still under consideration. The evaluation of ecological products was low due to incomplete elimination of RoHS Directive 6 resulting from delayed green procurement. We will work on these as well as other improvements from now on in order to achieve our final target point of 640 GP.

## Environmental accounting

Based on the Hitachi Environmental Accounting Guidelines, we have engaged in developing a system to quantitatively assess costs and effects related to environmental activities since FY 2000. As for costs, in addition to the capital investment connected with

environmental activities, also counted are research and development costs as well as operation and administration costs of maintenance equipment. On the other hand, in the aspect of effects, we compute economic effects recognized by a firmly substantiated basis.

■ Costs

Cost	Item	Cost (in millions of yen)			Main contents
		FY 2002	FY 2003	FY 2004	
Cost	1. Costs within factory area	144.3	153.1	178.3	Costs for maintenance and management of environmental load reduction facilities
	2. Upstream and downstream costs	0.3	0.3	0.3	Costs for green procurement and recycling
	3. Management activity costs	104.8	76.3	81.2	Personnel expenditures for environmental management, maintenance costs for environmental management system
	4. R&D costs	447.3	3803.8	2165.2	Costs for R&D and design of products to reduce environmental load
	5. Social activity costs	3.9	1.7	2.1	Costs for environment improvements such as greening and landscaping, PR, and publicity
	6. Costs related to environmental damage	0.2	0.2	0.2	Environment-related compensation, contributory money, and surcharges
	Total cost	700.8	4035.4	2427.3	
	Investment effect	254.6	63.7	51.5	Investments in direct environmental load reduction facilities such as energy conservation facilities

■ Economic effect

Economic effect	Item	Effect value (in millions of yen)			Main contents
		FY 2002	FY 2003	FY 2004	
Economic effect	1. Effect on real income	0.4	1.0	1.0	Profit on sale of recycled waste, etc.
	2. Expenditure reduction	1.9	3.4	4.8	Power cost reduction due to energy conservation, etc.
	3. Material cost reduction	52.0	43.0	39.0	Resource cost reduction due to resource saving, etc.
	Total amount	54.3	47.4	44.8	

■ Results report The total cost of FY 2004 decreased by 40% compared with FY 2003 thanks to reducing development costs for environment-friendly products. Although the environmental investment decreased compared with last fiscal year, investment in upgrading air-conditioning equipment and shifting to LCDs for PCs are still continuing. Major economic effects were resource conservation designs and reduction in material and energy costs resulting from energy-saving activities. We will attempt to improve investment effectiveness by referring environmental accounting as a tool for continuous improvement.

# Corporate governance

We work on enhancing corporate governance under an administration system where management and supervision are separate. For example, our in-company checking has been improved by establishing Compliance Office and providing a channel for employees to make internal reports.

## Management system

We have introduced business administration under the Committee System. The board of directors composed of outside directors as the majority supervises and audits the operating officers' business and the affairs of the company, as well as making basic decisions related to business management. We strive for efficient

management and fair business operation by using this system. To conduct the business and affairs of the company, we are advancing the compliance of laws, fair business and affairs by appointing an executive officer in charge of ethics, and by activating internal control system such as the Compliance Office, etc.

## Promotion of compliance with laws

● Compliance Office

We have established Compliance Office to ensure that laws and regulations are observed and daily work is conducted. This office, with the cooperation of the general managers of all divisions, conduct audit and education. Education and training provided through various opportunities focus on compliance with laws and employer and employee awareness that they work as a corporation with social responsibility. To verify that laws and in-company basic rules are observed on site, we promote creating a workplace with the awareness that the observation of laws and in-company rules is the first step to act within common sense, such as by conducting regular audits.

● Hitachi Kokusai Electric Group Helpline (for internal reporting)

The Hitachi Kokusai Electric Group Helpline (for internal reporting), which started in FY 2003, is one activity for maintaining fair management. The purpose of this helpline is for everyone to perform their tasks properly by building communications based on deeper trust between employer and employees. The committee, including an outside lawyer independent of corporate organizations, operates the helpline. The committee can deal quickly and fairly with all problems including legal violations and steps that go against common sense.

# Communication

We are offering various communication opportunities because we would like more people to understand our business.

## Information disclosure

We hold financial briefings quarterly to disclose corporate information to investors appropriately and positively. In addition, we have many participants in our subject-specific meetings and

specific reporting sessions. We conduct IR activities for people to understand our business more and more in diverse ways including hosting factory tours.



Medium-term management plan meeting



Company brochure

2004 Report on the Environment



Company introduction video (in Chinese)



## Quality Management

Aiming at offering customers satisfactory products and services based on the recognition of quality being an important management issue, we deal with company-wide quality improvement and work hard to continuously improve our quality management system.

### Quality policy

We define providing products and services that assure customer satisfaction as the quality policy of Hitachi Kokusai Electric in conformity with the code of conduct.

We are always committed to our customer creed, respond to customers' trust and expectations through sincere sales activities, and devote ourselves to improving our quality management system in all our business activities including planning, development, design, manufacturing, sales, and service.

### Quality organization

The Quality Assurance Center that controls the whole company and the Quality Assurance Departments that take charge of products and services lead and promote quality management systematically based on the quality policy under the control of the quality management officer.

### Approach to greater customer satisfaction

We conduct regular CS research with which we can understand customers' requests via questionnaires handled by a service company and ordinary communication in order to improve the customer satisfaction level regarding products and services.

The results of CS research are properly reflected in products and services and also in the improvement of our quality management system. We strive to improve customer satisfaction level from many directions.

### Approach to quality improvement

We have acquired ISO9001 certification at all our production factories, and attempt to continuously improve our quality

management system by using the process approach (PDCA).

What is more, we have the Quality Assurance Promotion Committee that meets regularly. The chairman is the quality management officer, responding to quality problems quickly, and making sure of the activity policy for quality improvement in the presence of the president, division heads, and other top management.

In addition to that, internal audit is taken place regularly to verify the activity is executed and the policy of Committee is progressed.

Moreover, the Quality Assurance Senior Managers Committee, composed of all the quality assurance senior managers, meets and implements preventive measures against quality problems and quality information sharing in order to enhance quality management.

※PDCA:Plan Do Check Action

### Approach to safety

To provide customers with safe products and services, we observe our internal standards established for safety in addition to domestic/international laws, regulations and standards. Our Product Safety Promotion Committee, of which the chairman is the general manager of the quality assurance center, meets and discusses information sharing regarding product safety and measures to prevent problems from reoccurring, based on real cases occurring internal and external of Hitachi Kokusai Electric.

### Approach to quality problems

Our Quality Assurance Promotion Committee mentioned above meets regularly, establishing a system where serious problems are reported to the president and top management as soon as they occurred in order to handle the quality problem quickly by the president and top management.

We discuss and determine information disclosure from the customers' point of view.

## Procurement

With regard to procurement activities, we strive for coexistence and mutual prosperity while deepening our mutual understanding with business partners, based on the promotion of fair business and the observance of social rules including laws and regulations.

### Basic policy for Hitachi Kokusai Electric Group material procurement

Hitachi Kokusai Electric group procures materials, services, and other items necessary for production and supply from global markets with reasonable prices, delivery time, and quality to provide customers with valued and appreciated products.

We conduct fair and open business, promoting the establishment of partnerships with business partners focusing on compliance with the laws concerned and environment-friendliness.

- Partnerships** Better partnerships with all business partners deepens mutual understanding, and we cherish the relationship of mutual trust.
- Open door** We conduct equal and fair business on the basis of free competition domestically and overseas.
- Selection of business partner** Selecting business partners is conducted by sufficient evaluation data regarding material quality, price, delivery time, management reliability, environment-friendliness, and capacity for technological development as well as following appropriate procedures.
- Provision of information** We sincerely respond to requests from business partners, informing business partners of information necessary for business. At the same time, we request useful information from business partners.
- Sales confidentiality** We strictly supervise confidential sales information and maintain confidentiality.

### Partnership

To establish strong partnerships with business partners on the basis of our motto of coexistence and coprosperity with business partners, we hold our Business Partner Meeting (BPM) to which major business partners are invited twice a year (April and October). In BPM, we provide invited guests with useful

information such as our budgetary policy, product development, production trends, and other information. We also attempt to strengthen the partnership by deepening the communication between managers from partners and our managers.

We also strive to build a system to work speedily such as by forecasts on the Web, data transmission for order placement, and establishing a delivery time management system by using a cooperative structure with partners.

### Green procurement

To promote green procurement, we are checking whether our major partners have acquired ISO14001 certification. We call ISO certified companies Green Suppliers, and this certification is an important criterion for partner selection.

We promote environmental standards recommended by Hitachi, Ltd. such as Hi-KES, EcoStage, and EcoAction21, mainly among medium and small enterprises that have difficulty acquiring ISO certification. We approve companies that have acquired any of those standards as Green Suppliers.

We aim to improve the Green Supplier rate among our business partners via our activities.

$$\text{Green supplier rate} = \frac{\text{Green procurement certified count}}{\text{Major supplier count}}$$

The Green Supplier rate at the end of FY 2004 is 60%. Our target rate on March 2007 is 100%.

### Green purchasing

We promote purchasing environment-friendly items, mainly office supplies, by using an Internet procurement system serviced by Hitachi Procurement Service Co., Ltd.

## Interaction with local communities

Hitachi Kokusai Electric considers it important for all its business institutions to develop sound relationships and mutual trust with their local communities. Therefore, we aim to deepen communication with local people via various activities and contributions to local communities.

### Toyama Works



Participation in a local sports event, Challenge Day 2004

Cosponsorship of a local festival, Etyu Yatsuo Owara Kazenobon



Winning the championship in the 16th self-defence fire-fighting team operation competition (2 consecutive years)

### Koganei Works

Cosponsorship of a local festival, Kodaira Citizens Festival



Participation in event held by the Kodaira Traffic Safety Association



Acceptance a company visit for environment study by local junior high school students

### Hamura Works



Participation in Kaze no Owara



Participation in Flower Campaign in Hamura-shi

# Employment, education, and personnel systems

Hitachi Kokusai Electric Code of Conduct stipulates, "Respect the diversity, character and individuality of all employees and provide a mentally and physically rewarding workplace environment", on the basis of considering that individual growth contributes to corporate improvement. We aim for individuality-conscious personnel development, fair evaluation and personal feedback, and creation of a workplace with job satisfaction. We do this, combined with upgrading training programs, personnel matters, and treatment systems from the viewpoint of human resource activation, in order to have a corporate culture with vitality.

## Individuality-conscious personnel development

Our basic philosophy of personnel development is to train employees who think and act for themselves. OJT and complementary training programs are offered on the basis of the independence with which each employee personally raises tasks, plans creative solutions, and applies solutions.

## Company activation

From FY 2003, we introduced an executive officer system as well as shifting the company with Committee System. We did this in order to improve business efficiency and enhance corporate governance, planning to speed up decision making and operation, and training management who will be responsible for the next generation.

In the medium-term business plan announced in March 2005, we aim for creating new products in worldwide markets by cooperating and collaborating following 3 businesses: communication and information systems (wireless system for public and independent business use), broadcasting and video systems (broadcasting systems, monitoring systems), and semiconductor manufacturing systems. An efficient corporate system started in April 2005 to achieve this plan.

## Human resource activation (fair evaluation and personal feedback)

### ●Skill qualification, wage, employee evaluation system

The personnel treatment system was integrated and revised in June 2003. The main feature is that a merit and performance system was adopted in which determining wages and bonuses, employee evaluations, and capability development are all considered, resulting in a total personnel treatment system with a job assignment and qualification standard manual specifying the capability for each qualification as the core tool. The wage system introduces a system with a wage range depending on qualifications to eliminate the seniority criterion. With regard to personnel evaluation, competence evaluation is primary, fairness and acceptability are improved, and feedback of evaluated results to the evaluated individual is arranged for the guideline for capability development.

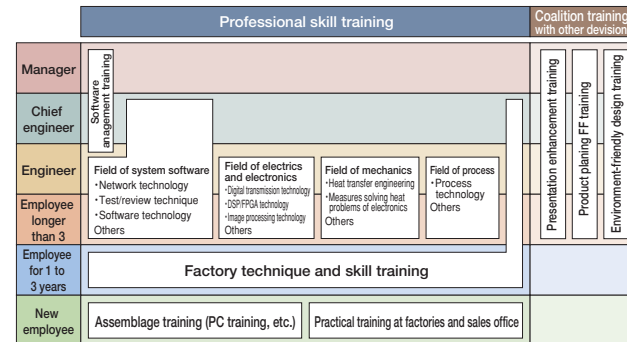
### ●Management-by-objective system

This is a system in which an employee meets with their boss every term to clarify their business target, then checking the achievement level of the target in their meeting in the next term. The meeting results are reflected in the personnel evaluation and let them challenge a higher target.

### ●Open challenge program (OCP)

We support each employee's independent career building. Making a group of ambitious employees is indispensable for achieving corporate targets. That is why the Open Challenge Program was launched in July 2004. So far, 3 employees have transferred in response to 5 offers with specific themes. Personal information from application to selection will never be disclosed.

## Technical education system (extracts)



## Creation of a workplace with job satisfaction

Some employees cannot work for some periods due to personal reasons such as child care and elder care even if they are willing to work. We offer such employees time-off systems.

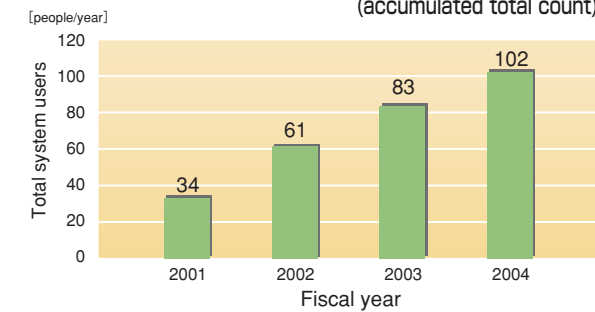
### ●Child-care leave system

We have defined 1 month for child-care for new babies if necessary and 6 months for waiting for entering a nursery until the end of March in a fiscal year in which a target baby becomes 1 year old as a child-care leave period.

(Employees who used the child-care leave system in FY 2004: 19)

To return to the workplace smoothly after the child-care leave period, we plan to develop an educational program for maintaining and recovering business capability during and after leaves and for supporting childcare costs.

## Trends of employees who used the child-care leave system (accumulated total count)



### ●Sexual harassment prevention

We conduct regular sexual harassment prevention training as part of human rights education and create a counseling counter run by labor and management to exercise equal partnerships for all employees as well as to eliminate and prevent sexual harassment.

### ●Employment of disabled people

The rate of employing disabled people is 1.48% as of April 2005. Although this number is below the legal employment rate (1.8%), we are developing jobs to create employment opportunities, improving the work environment, and considering measures for better work stability. We will achieve the legal employment rate in this fiscal year.

# Safety and health promotion

We strive to improve our management scheme for safety and health, maintain employee safety, and promote employee health with the basic position of protecting safety and health as the top priority.

## Management for safety and health

Our company-wide efforts are made to handle management for safety and health. Our basic position is a work environment where people can work with security established, an environment where all employees recognize safety first and risk reduction in the workplace is promoted.

Especially in 2005, we will strive to understand and reduce workplace risks by using risk assessment with the aim of introducing Occupational Safety and Health Management Systems (OSHMS), effective as a tool making management schemes for safety and health. Toyama Works acquired OSHMS certification in June 2001, and Kokusai Electric Semiconductor Service Inc. acquired OSHMS certification in July 2003.



Registration certificate of Toyama Works



Registration certificate of Kokusai Electric Semiconductor Service Inc.

## Health control for employees

We will conduct regular health and medical examinations for lifestyle-related diseases to protect the health of employees. We also conduct a workshop on mental health and promote early care using the counseling counter of external EAP (Employee Assistance Program) for mental health protection. What is more, to prevent overwork and health disturbance due to workplace stress, we strictly control employee health by reducing work time thanks to productivity improvement and managing workplaces to promote refreshment in mind and body.



Hamura Works Sports Festival

## No record of disaster

To reduce workplace risks from the viewpoint of safety and health and to establish a work environment where employees can work with security, we continuously conduct safety activities such as safety patrols and safety checks at equipment installations.

The Hamura Works achieved a type 5 no-disaster record in May 2004.



A memorial tree was planted to celebrate Hamura Works' no-disaster record for 35.5 million hours.



Mental health Employee Support Program brochure