

# Quality assurance and product safety

From this fiscal year, we will roll out initiatives to contribute to customer expectations of high-quality and safe “ULVAC quality” by adding front loading activities to the ULVAC Group’s quality policy and implementing these activities at each company.

## ULVAC Group’s quality policy

“Customer confidence in quality of ULVAC production”

The ULVAC group is committed to provide the highest quality products and services to respond to the global needs of our customer and become their partner of choice.

### Action Policies

- We comply with all rules and procedures.
- We do not deliver any nonconforming products to the next process.
- We observe delivery times leading to the next process.
- We commit to the production budget.

In fiscal 2014, we merged the ISO 9001 certification of 18 companies in the ULVAC Group, in order to provide high-quality products, with the aim of achieving even greater improvement in quality from all companies in the ULVAC Group.

In fiscal 2015, we will merge the certification of another 19 companies, in order to deliver “ULVAC quality” that meets the demands of globalization throughout the world.

## Product safety

Businesses have seen the necessity of personnel training for the development of knowledge concerning machine safety with the purpose of preventing workplace accidents caused by machinery. At ULVAC, we have been systematically studying safe technology based on the international standards, and since the fiscal 2014, we have been implementing machinery safety education as a measure to entrench machine safety consciousness in design and at manufacturing sites. This fiscal year, we plan to apply this even more broadly and roll it out globally.



Risk assessment training



Front loading using 3D printed models and machinery safety education

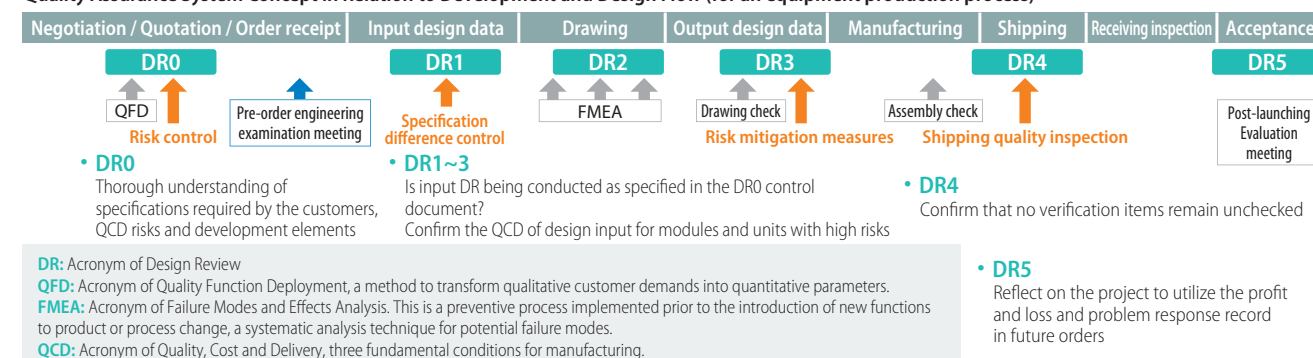
## Front loading and global expansion

In order to enhance front loading, we are creating links between our sales department, technology department, design department and manufacturing department and their technologies and skills, as well as sharing our experience and know-how and related information and data. We are also putting effort into activities to reflect each of our successes in our upstream design processes. Looking forward, we will deliver “ULVAC quality” throughout the world in order to respond to globalization, implementing education and upskilling, with direct control over our overseas quality assurance members.

## Global certification status

The ULVAC Group’s products maintain “ULVAC quality” by strictly managing and evaluating products for conformity with the ULVAC trademark usage policy.

### Quality Assurance System Concept in Relation to Development and Design Flow (for an equipment production process)



# Procurement (supply chain management)

At the ULVAC Group, we maintain and promote proper, just, and fair business relationships, working to build secure relationships of mutual trust with our suppliers. Furthermore, we are working to enhance product competitiveness through thorough cost reduction activities in conjunction with each division.

## Enhanced product competitiveness through thorough cost reduction activities

### We are promoting thorough cost reduction activities with all of our suppliers.

- 1 We promote cost reductions through forecasting and centralized purchasing.
- 2 We make effective cost reduction proposals (value engineering = VE proposals) through design review.  
We positively accept suggestions from our suppliers concerning VE proposals.
- 3 We make proposals with regard to standardization and replacement of purchased goods based on information from our suppliers.
- 4 We promote balanced global procurement.
- 5 We conduct activities that result in cost reduction, including allowing those who make orders, technicians and designers to actually visit and observe suppliers, and engage in exchange of opinions.

### We are promoting increased productivity through the continuation of cost table and cost benchmark education and plans to implement instructor development.

- 1 We are improving buyer skills through the continuation of cost price calculation ability education.
- 2 We are seeking appropriate pricing in conjunction with our suppliers.

## Supplier Expectations

At the ULVAC Group, the ULVAC Group Basic Procurement Policy has governed legal compliance, fair and free competition, and maintaining healthy and friendly relations with our suppliers up to this point. Looking forward, we humbly request that the following 9 items be included in response to the conflict minerals issue, for the purpose of building further partnerships with our suppliers and fulfilling our social responsibility including in our supply chain.

- Laws and Regulations, and Social Norms\*
- Fair Transactions and Corporate Ethics
- Respect of Human Rights and Occupational Safety and Health
- Safety and Quality of Products and Services
- Information Security
- Environmental Preservation
- Realization of Appropriate Prices and Delivery Times
- Improvement of Technical Strengths
- Sound and Stable Corporate Management

\* For the conflict minerals, refer to the above “Laws and Regulations, and Social Norms.”



Operations briefing for suppliers (held every year)

## Procurement risk reduction activities

We are undertaking activities to minimize supply risk for parts that are provided for important products and services in the event of a natural disaster or accident. We are working towards reducing procurement risk by working with our suppliers and sharing information.

Determination of applicable products and services	2013	2014	2015	2016
Step 1 Identifying the relevant product or component				
Step 2 Supplier interview				
Evaluation and improvement of supplier's system				

We have implemented the cycle of the investigations in step 1 and step 2 followed by evaluation and improvement for each of ULVAC’s products.

# HR Management

We are concentrating on increasing the abilities of each individual, while vitalizing organizations in order to build a value creation business model. Furthermore, we aim to invest in organizations and personnel that enable the ULVAC Group as a whole to contribute to society from a global perspective.

## Seeking an Organization that Ensures Rewarding Job Experiences

### — Invigorate the Individuals and Organization of ULVAC

We understand that a system whereby employees who make great efforts are rewarded properly is the basis for vitalization of both people and organizations. We are proceeding with continuous review of each of our rules and systems using the keyword of “reasonableness.” At the same time, we are aggressively conducting transfer of authority to create an environment where each employee can fulfill their responsibilities with passion and ambition as a full participant, with the desire to make ULVAC the best it can be and what it should be.

With regard to management by objectives and evaluation systems, we are putting energy into management and evaluation using clear benchmarks, while conducting systems management that more highly values boldly attempting to solve difficult issues and tackling tasks as a team, rather than merely focusing on results. We would also like to continue to value the flexible thinking and the open and dynamic corporate culture that has been essential as a development company.

Furthermore, we are devoting ourselves to increasing opportunities for education. We provide a range of programs, encourage personal growth, and actively promote targeted education in order for all employees to voluntarily engage in skills development.

We recognize that promotion of next-generation training and a rotation system are also essential to the invigoration of organizations. We are engaging in flexible organizational operation and conducting personnel exchange in consideration of the diversity of staff who shares different viewpoints and cultures, including both domestic and overseas Group Companies, while being conscious of achieving a balance between specialists and generalists.

## Aiming for cooperation that extends beyond borders

### — Level education system

At the ULVAC Group, we conduct group training to mark milestones such as beginning employment, beginning the second year of employment, obtaining internal qualifications, and appointment to managerial positions. Until now, the purpose of this has been to impress on employees the attitude that is necessary at each level of employment, but from the fiscal 2014, we have conducted training at all levels around the theme of cooperation. Although “cooperation” can

be said in a single breath, it can take a number of forms, including internal cooperation between superiors and subordinates or within a team etc., through to wider cooperation with external parties such as customers and suppliers. Students learned about the importance of cooperation as it relates to their level from multiple perspectives, such as through team discussions, and case studies based on actual cases.

At the ULVAC Group, we are using training to support our goal of further deepening cooperation that extends beyond the borders of an individual’s division or company.



### Basic Policy for Human Resource Development

(Revised in fiscal 2012)

1. Human resources who respect other individuals, trust each other and fulfill their responsibilities
2. Human resources who can see the true nature of each issue and create revolutionary technologies and projects with passion and tenacity
3. Human resources who are full of aspirations to improve themselves and take voluntary actions to achieve goals
4. Human resources who have a global perspective and aim to take leadership in exploring the world

## For inheritance and sharing of technology

### — Technician education

We are implementing “Engineer education” with the aim of handing down the ULVAC Group’s technology to the next generation. Since fiscal 2014, we have been conducting “technician education,” which takes our engineer education one step further. At ULVAC, we handle a variety of technologies and products, so the main component of technician education has been OJT at each laboratory and division. By creating an infrastructure through the integration of OJT etc., we have been able to systematically conduct education to learn the knowledge and skills necessary for each role. The form that this education takes varies according to the purpose, but it can include lectures, workshops, and observations etc. In fiscal 2015, we will devote ourselves to take root for instructor development and technician education.

## Aiming to achieve a work-life balance

### — Creating workplaces that are conducive to work

At ULVAC, we aim for employees to have both meaningful work and a fulfilling lifestyle.

- We grant annual paid leave from the date joining ULVAC
- We conduct spot leave promotion activities
- We are continuing our voluntary summer leave system
- We appoint work managers at each workplace, and closely manage overtime worked
- We have implemented optional staggered work hours and flex time policies, which have shown positive results.

Furthermore, with regard to promoting diversity, in recent years, female employees have had a particularly high rate of taking parental leave and returning to their position. Although we have few female employees, in the fiscal 2014, 2 of them took parental leave and 6 returned to work. This is a 100% rate of return.

Fiscal year	Commencement of parental leave	Return to work (conclusion of parental leave)
2014	2	6
2013	7	2
2012	1	1

### Notable support systems

- Parental leave (may be extended up to a year and a half)
- System of shorter work hours for childcare
- Leave to nurse sick or injured child
- Family care leave

### After conclusion of maternity and parental leave

Internal Auditing Office, Internal Control Audit Section

### Ayako Yasuki

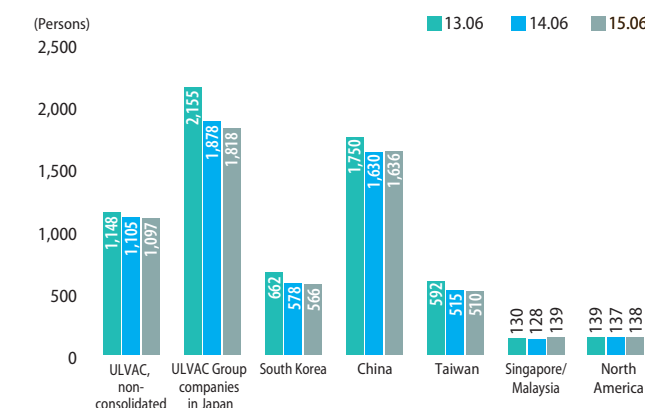
### Enabling both a career and parenting through internal cooperation

I returned to work after taking a total of 1 year and 4 months of maternity leave and parental leave. Before returning to work, I had many doubts about whether I would be able to pursue my career and care for my child at the same time, but since I first returned to work many managers and staff told me “your child comes first,” which was very encouraging. Also, by notifying which days I would be available for overtime and work-related travel in advance, we have been able to tailor my work schedule to my needs. Therefore, although there are constraints on my time, I have been able to work in the same role as before taking leave and I have experienced a fulfilling lifestyle.

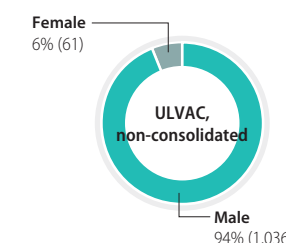


## HR data

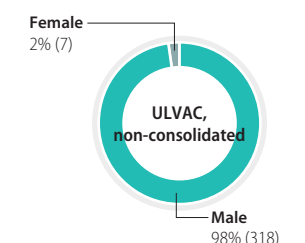
### ■ Number of employees of the ULVAC Group



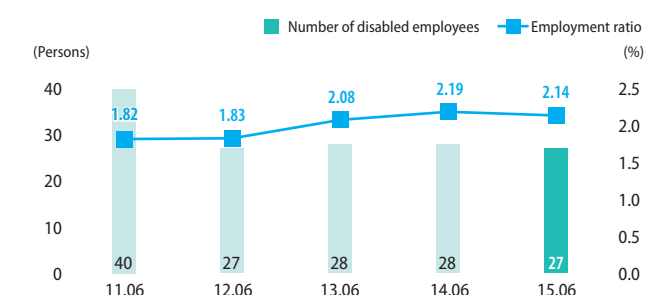
### ■ Gender ratio in employees [15.06]



### ■ Gender ratio in management positions [15.06]



### ■ The number and percentage of disabled employees





# Supporting the Manufacturing of ULVAC by Promoting Employees' Health

With the vision of “Vitalizing the Individuals and Organization of ULVAC,” the Health Promotion Office takes the initiative in promoting employees’ health so that they can work to achieve the highest possible productivity, thereby supporting the manufacturing operations of ULVAC.

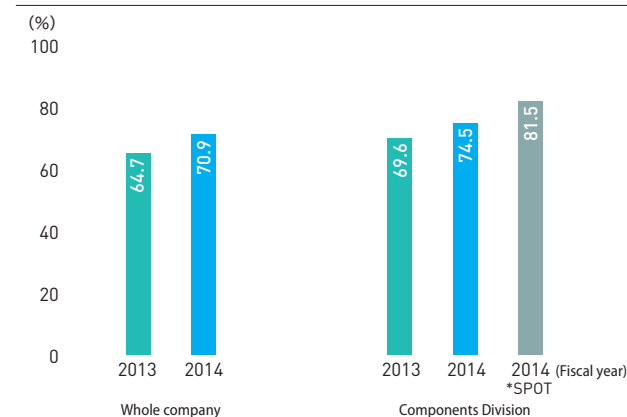
## Supporting the vitalization of individuals and organizations from a health perspective

At the ULVAC Health Promotion Office, we work towards the “vitalization of individuals and organizations,” which is our vision, by managing the health of employees. We conduct periodic internal surveys of health in “physical,” “mental,” and “social” areas for use as performance indicators for our activities. Of those surveys, feedback is given to the workplace in relation to the “social” items in particular, and we provide assistance to create an action plan for workplace vitalization. This initiative only began in the fiscal 2014, and it has been implemented in several departments as a model demonstration. We have received positive feedback from its implementation in the Components Division as indicated by the following interview. In the fiscal 2015, we contributed to the vitalization of individuals and organizations by rolling out this initiative to even more workplaces.



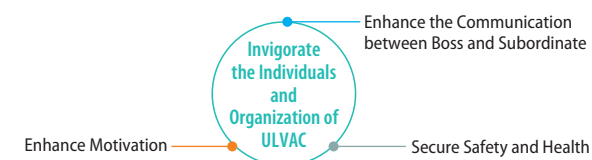
Collecting health feedback

### Health data (understanding expectations and roles)



\* Results of the survey conducted after receiving health feedback (January 2015)

### Vision and Targets of the Health Promotion Office



## Mental healthcare

Since 2013, we have offered self-care and line-care education based on the internal regulations called “Detailed Regulations for Ensuring Mental Health.” More than half of our employees have attended classes up to this point. Furthermore, we have maintained a low level of people missing work due to mental disorders due to the success of the return to work initiatives that we are continuing to implement.

### Mental Health Education System

	Self-Care Education	Line-Care Education
Objective	Enhance the communication between boss and subordinate	Secure safety and health Enhance motivation
Lecturer	Occupational health nurses	Occupation physicians
Target	All employees	All middle manager employees
Subjects	Listening Recognition Assertion	Fulfillment of the duty of company's obligation of health and safety Critical points of case management The basics of motivation management

### Interview

Executive Officer and  
General Manager of the Components Division

### Kiyokazu Yanagisawa



### Why did you decide to implement health feedback?

I was interested in looking at the division from a different perspective to simply looking at business progress or results. I expected that leveraging the strengths of individuals and organizations would lead to invigoration of organizations. At first I was worried that because this is not directly linked to business, managers would not actively participate; however, at this point, we are leaving the implementation up to the head of each division. Implementation has been more successful in some divisions than in others, so we have rolled out successful implementations to other divisions. With each repetition, we have been able to determine items for action. Through the voluntary initiatives of young employees, such as holding a division-wide end of year meeting for the first time in 10 years, I feel that we have enhanced our sense of unity as an organization. Looking forward, I hope this will lead to initiatives to enhance links with other departments and divisions.

# Occupational Safety and Health

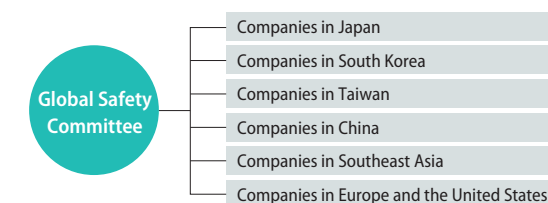
Among the ULVAC Group, “Safety First” is positioned as the fundamental principle of business operations, and as such we endeavor to secure safety in products and services for our customers and ensure a lively working environment where employees can work in good physical and mental health. These will be accomplished by operating our Occupational Safety and Health Management System (OSHMS) with a focus on risk assessment.

## ULVAC’s Safety and Health Initiatives

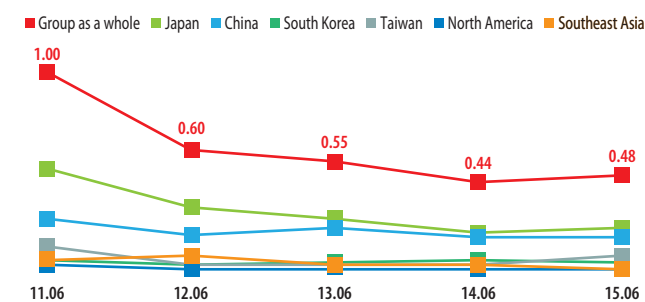
### — To ensure the safety and health of our customers and employees

To ensure the safety and good health of its customers and employees, the ULVAC Group regularly holds meetings of the Global Safety Committee, which are joined by representatives from the Group companies to determine the Group policies on occupational safety and health and ensure that they are evenly implemented, thereby promoting unified safety and health efforts of ULVAC on a Group-wide basis. Each Group company operates the OSHMS system, which involves management review by the president or the director in charge of safety and health activities and risk assessment by each employee to ensure company-wide involvement in safety and health management efforts from the top management to onsite workers. As a result of these efforts, the number of occupational accidents at the ULVAC Group has been declining year by year.

### ULVAC Group Safety Management System



### Frequency ratio of occupational accidents throughout the ULVAC Group



This graph shows the rate of work-related accidents in the entire ULVAC Group for each fiscal year, indicating the value for the fiscal 2010 as 1.00. In the fiscal 2014, the rate of work-related accidents increased slightly over the previous fiscal year, but compared to the fiscal 2010, the rate of accidents had declined by 52%, indicating a declining trend.



Forklift safety skills workshop  
(ULVAC Technologies, Inc.)



First aid workshop  
(ULVAC CRYOGENICS Inc.)

### Calling out the safety slogan each morning at the morning assembly (Korean region)

Activity Case Study  
1

The Korean Group is aware that it “cannot survive competition unless safety is assured” and that “safe operation leads to business competitiveness” and we believe that it is necessary to ensure that a safety culture is systematized and takes hold. In order for a safety culture to take hold, it is important for officers and employees to always consider safety, and to take responsibility as a company for creating a safety-first environment so that safety measures can be put into practice. At ULVAC KOREA, Ltd., we have been calling out the safety slogan of “safety is a practice, safety is a habit, safety is a lifestyle” every morning at morning assembly since July 2015, in order to improve the safety consciousness of officers and employees.



Implementation of the health and safety coexistence and cooperation program  
(ULVAC KOREA, Ltd.)



Sport competition for invigoration of organizations  
(ULVAC KOREA, Ltd.)

### Building a safety management system that is appropriate to the type of business conducted at each company (Chinese region)

Activity Case Study  
2

ULVAC (CHINA) HOLDING CO., LTD., which is responsible for the Chinese region, is promoting safety activities based on the principle that company-wide accident prevention is achieved through increasing the safety awareness of each employee. Before commencing a task, employees undergo safety education, with the effectiveness of this being confirmed through patrols by day to day work-site managers, ensuring improvement in areas that need improving, and building a safety management system that is appropriate to the type of business conducted at each company through the PDCA cycle. Furthermore, we have established a safety award system to celebrate employees who have greatly contributed to safety activities as role-models, as a measure to encourage increased safety awareness. Through activities such as these, we are working to reduce work-related accidents.



Fire extinguishing drill  
(ULVAC (NINGBO) Co., Ltd.)



New employee safety training  
(ULVAC (NINGBO) Co., Ltd.)

# Environment

The ULVAC Group works hard to develop and manufacture products that allow customers to make maximum contributions to the environment. Furthermore, the whole Group is promoting activities with the purpose of minimizing the environmental impact caused by business activities.

## ULVAC Group's environmental management

The ULVAC Group provides products that allow customers to feel that they have made environmental contributions based on our environmental policy of “Develop products that contribute to energy saving, resource saving and environmental conservation.” Furthermore, we are ensuring thorough management and saving of energy consumption and waste emissions and conducting activities with the purpose of minimizing environmental impact.

The ULVAC Group possesses a global production system that is focused on the Asian region, yet has expanded broadly to regions such as Europe and America. It is essential that we share information within the group and swiftly carry out instruction from top management etc. We are working to unify the ISO14001 certification currently held by each company, and strengthen group governance.

The ULVAC Group will continuously reduce the environmental impact through its products.

### Environmental Philosophy

ULVAC Group takes on one of major issues for everyone around the world, which is to conserve and protect the global environment. We will consider environmental conservation in all aspects of our business activities and will contribute to develop a better place to live and an enriched society.

### Environmental Policy

Develop products with a goal to save energy, reduce the use of natural resources and contribute to the conservation of our environment.

- ① ULVAC Group products/Final products
- ② ULVAC Group manufacturing process

### Providing products that contribute to energy conservation

## The DRYMONI freeze-drying process monitoring system

### The DRYMONI system visualizes the freeze-drying process, which contributes to improvements in productivity and quality

Freeze-drying is a drying method wherein an aqueous solution or food is frozen and the pressure is lowered to below the saturated vapor pressure at the freezing point, so the moisture content is sublimated. Until now, it was usual for a temperature sensor to be inserted in the substance to be dried in order to measure the temperature, and for a person to use his or her judgment to determine when the drying process was complete. However, when using large equipment or large containers, the temperature reading is not necessarily representative of the temperature throughout the container, so there may be portions that are not completely dry, or alternatively the drying time may be excessive in order to avoid this issue, which is not only a waste of time, but also of energy. However, we have developed the DRYMONI system, which is able to measure the amount of moisture in the drying vat by monitoring the amount of moisture being sublimated during drying, and creating a visualization of the drying process. Because this equipment is able to measure the amount of moisture sublimation during the freeze-drying process without measuring the temperature, this has quickly become standard PAT (process analytical

technology) for vacuum freeze-drying equipment used in the pharmaceutical industry, where quality control is strict.

Using this system to monitor the freeze-drying process and optimize the freeze-drying program contributes to improvements in productivity and quality, such as by preventing poor quality due to incomplete drying, and reducing wasted time through having precise knowledge of when drying is complete.

Furthermore, in response to customers who currently use equipment that has been fitted with DRYMONI, and who would like to use the system with their older equipment and equipment produced by other companies, we have also commenced sales of a standalone version.



Industrial Equipment Division,  
Design Department Development personnel



## ULVAC Group's environmental activities in the fiscal 2014

The ULVAC Group has engaged in energy conservation measures with the aim of “reducing energy costs by 10% in 5 years compared to the fiscal 2013.” We increased sales in this fiscal year; however, our energy usage (electricity) dropped by approximately 0.3% compared to the previous fiscal year. In Japan, our energy usage dropped by approximately 2.3% on average. However, due to the shift of production to overseas sites, overseas power consumption has increased by approximately 3%. Looking forward, it is likely that overseas energy usage will continue to increase as production optimization and overseas expansion continue. Furthermore, looking at figures over 5 years, although CO<sub>2</sub> output has increased, this is mainly due to the increase in the number of companies reflected by the total figure (overseas group companies).

In addition, total waste has increased by 15% over the previous fiscal year. This increase is attributable to increases in production volume etc. 3.7% of the waste ended up as landfill in spite of the ULVAC Group's standard being less than 3%. We are currently pursuing resource recovery as an initiative of all companies, and we are able to see the effects of that when comparing this fiscal year's figure to the figure of 4.9% from the previous fiscal year. In addition, our rate of recovery of valuable materials was 30%, which is an increase of around 8% from the previous year. Recovery of valuable materials is also important from the perspective of material recycling, which is a valuable resource, and the ULVAC Group will continue to promote it.

In order to reduce the environmental impact attributable to business activities, the ULVAC Group will continue to pursue environmental management activities at all companies.

### First Global Work Improvement Presentation

~Awarded the silver prize~

Facilities Manager, General Administration Department,  
ULVAC TOHOKU, Inc.

### Kohsei Komukai



All managers  
(The author is in the middle)

### Promoting aggressing energy conservation to achieve the Group's targets

At this presentation meeting, which included overseas companies, we made a presentation titled “ULVAC TOHOKU's Plant Energy Reduction Activity Report,” receiving a silver prize for our 3-year long-term energy conservation results. All employees will use this valuable experience of continuously striving to achieve results to devote themselves to the future growth of the Company through initiatives with lofty targets.

Furthermore, with regard to the target of “reducing energy costs by 10% in 5 years compared to the fiscal 2013” which the entire ULVAC Group is working towards, we will continue to pursue aggressing energy savings in order to achieve results that will enable us to participate in the Global Work Improvement Presentation once more.



Presentation at the presentation meeting

### Performance data

