

Hitachi Koki carries out its R&D activities based on the motto “Striving for the timely development of products that respond to and satisfy customers’ needs.” While respecting the creativity of individual researchers, we work toward the development of leading-edge technologies not only to expand market share for products but also to ensure that the technologies that support these products remain firmly positioned at the forefront of each respective industry.

The Research and Development Laboratory is divided into the Research Dept. I, which covers electric power tools and life-science instruments; the Research Dept. II, which carries out research in laser-beam printers; the Research Dept. III, which handles ink-jet printers; and the Design Center, which is responsible for product design. Each of these units maintains close ties with Hitachi Koki’s product groups.

A Review of Fiscal 2002

Several years ago, Hitachi Koki adopted the Digital Engineering (DE) system, which has shrunk lead times 30% and significantly reduced development costs. The lowering of development costs has improved the profitability of each product group and played an important role in enabling the Hitachi Koki Group to operate in the black for the past two fiscal years.

Principal Issues in R&D

Hitachi Koki is dealing with three principal issues in R&D.

The first issue is strengthening capabilities for developing strategic products. The Power Tools Group employed DE to quickly develop and market the WH12DM cordless impact driver, which offers considerably improved performance. As a result of that performance and its innovative design, the WH12DM cordless impact driver has become a major hit product in Japan. The ET14DM multifunctional recharger, launched in fiscal 2002, has been highly evaluated as the industry’s first product that serves as both a recharger and a power source. It also received the Electric Science and Technology Award (the Ohm Award) in view of its power source control and recharging control technologies, which have enabled power tools to be made more compact and thereby promote resource conservation. The Printing Systems Group launched the DDP70 monochrome cut-sheet laser printer for print-on-demand use in fiscal 2001, and the DDP92 higher-speed version of that product was marketed in fiscal 2002. A noteworthy new strategic product of the Life-Science Instruments Group is the CF16RX versatile compact centrifuge, which offers a one-touch rotor mechanism

and other features that simplify its operation and also carries the CE mark of conformance with EU quality standards.

The second issue is to further increase the sophistication of Hitachi Koki’s basic technologies and strategic core technologies. Technology-upgrading programs for the Power Tools Group are aimed at strengthening capabilities for (1) enhancing product performance by increasing the speed and output of products as well as increasing the use of electronics technologies; (2) increasing products’ ease of use by reducing vibration, reducing product sizes, and lowering product weights; and (3) reducing environmental impact by lowering noise output and extending usable life spans. R&D programs on behalf of the Printing Systems Group are seeking to improve mainstay laser printers by upgrading image quality, increasing speed, and introducing color printing technologies. For the Life-Science Instruments Group, technologies for making mainstay centrifuge products easier to use are a primary objective.

The third issue is obtaining and making strategic use of intellectual property rights. Hitachi Koki is striving to expand its intellectual property rights portfolio, principally by obtaining rights associated with strategic products. The Company is also augmenting its efforts to obtain overseas patent rights and thereby build an intellectual property rights portfolio that is a powerful resource throughout global operations.

Design

Besides reducing development lead times and raising product quality, the introduction of 3-D CAD/CAM/CAE technologies has recently enabled Hitachi Koki to respond to recent progress in ergonomics by designing products that are more ergonomically sound and therefore easier to use. For example, the Company is designing power tools with easier-to-use handles and printers and life-science instruments that incorporate easier-to-use operation systems.



ET14DM Super Charger

QUALITY ASSURANCE

Six Sigma Programs

To foster high-quality management activities focused on customer satisfaction and to realize cost reductions in each of its operational fields, Hitachi Koki began Companywide Six Sigma programs in April 2001. During fiscal 2002, 10 employees were trained under the direction of a consulting company to serve as Black Belts (project leaders), and 10 Six Sigma teams were formed and began operating. In April 2002, a Six Sigma center was established to ensure that Six Sigma programs are sustained and related benefits are maximized. To enable the

implementation of Companywide, horizontally integrated project themes and undertake in-house training of Six Sigma project leaders, the Company arranged

for the training of Master Black Belt employees. Currently, Six Sigma programs focused on 52 themes that are proceeding.

History of Certification under ISO 9001/9002

Company	Certification	Date obtained
Domestic Plant, Subsidiaries		
Katsuta Plant		
Printing Systems Group	ISO 9001	January 1994
Power Tools Group	ISO 9001	August 2000
Life-Science Instruments Group	ISO 9001	October 1995
Hitachi Koki Haramachi Co., Ltd.	ISO 9002	August 1996
Hitachi Koki Yamagata Co., Ltd.	ISO 9002	January 1995
Overseas Subsidiaries		
HKM (Malaysia)	ISO 9002	December 1997
HKF (Fujian, China)	ISO 9001	March 1997
HKG (Guangdong, China)	ISO 9002	January 1999
HKA (Hong Kong)	ISO 9002	February 1996
HKE (Ireland)	ISO 9002	April 1995
HIKIS (USA)	ISO 9001	January 2000

ENVIRONMENTALLY CONSCIOUS

Environmental Report Issuance

Quick to recognize the importance of environmental protection issues, Hitachi Koki has proactively undertaken environmental protection programs. In 1996, it obtained ISO 14001 certifications that attest that its environmental management systems conform to global standards. The Company has also worked proactively to develop products that feature superior environment friendliness due to their energy- and resource-conservation virtues, reduce carbon dioxide generated at the Company's facilities and during transport operations, conserve water, recycle waste products and reduce the volume of waste products disposed of as

waste, recycle products, and recover batteries. Progress in these activities had led to considerable environmental protection benefits. In addition, the Company has provided steady support for the environmental education programs of schools and otherwise helped raise the level of environmental awareness throughout society at large.

To broadly disseminate information on such activities, the Company has begun publishing annual Japanese-language environmental reports, starting with an edition covering activities in fiscal 2001, and it has also increased its Web site's coverage of environmental matters. Plans call for supplementing the annual

Japanese-language environmental report with an English-language version in the near future.

The Winner of the Top Prize for Advertisements of the Hitachi Group's Environmental Protection Activities

A Hitachi Koki employee who responded to a program for encouraging the submission of candidate advertisements for the Hitachi Group's environmental protection activities recently won a noteworthy prize. The advertisement, which has the theme "The recycling-oriented society the Hitachi Group is aiming for" was highly evaluated by those visiting the Ecoproducts 2001 exhibition, and it was therefore selected as the winner of that event's top prize. Hitachi plans to place the advertisement on its bulletin boards and place it in various mass media.

History of Certification under ISO 14001

Company	Date obtained
Domestic Plant, Subsidiaries	
Katsuta Plant	
Hitachi Koki Sawa Co., Ltd.	September 1996
Hitachi Koki Yamagata Co., Ltd.	September 1996
Hitachi Koki Haramachi Co., Ltd.	January 1998
Hitachi Koki Haramachi Co., Ltd.	January 2000
Overseas Subsidiaries	
HKA (Hong Kong)	November 1997
HKE (Ireland)	January 1998
HKS (Singapore)	December 1998
HKM (Malaysia)	July 2001