

Research and Development



Murooran Research Laboratory



Hiroshima Research Laboratory

Research and development activities were almost entirely funded by the parent company (The Japan Steel Works, Ltd.). Combined spending on research and development for the Steel Products business and the Machinery Products business amounted to ¥4,178 million (US\$43 million).

As a materials and mechatronics company, we strive to develop new products and production techniques using our own technology, while also actively promoting widespread technical alliances and joint development in an effort to put new products and technologies into effect as quickly as possible. In terms of the direction of research and development, our Research & Development Headquarters continues to promote cooperation with individual business divisions in order to: (1) improve the capabilities, performance and reliability of our core products and (2) develop products and businesses to meet requirements in new business fields.

Our Research & Development Headquarters encompasses our headquarters (located at Head Office), the Murooran Research Laboratory (situated on the premises of the Murooran Plant), and the Machinery Research Laboratory (located at the Hiroshima Plant).

Our basic research and development policy is as follows.

1. Promoting the development of new products and businesses by focusing on the technological fields of new energy & energy savings, information & telecommunications, nanotechnology & materials, and new production technologies, which are directly related to our current business activities. We aim to expand our fields of business by improving our core technologies while pursuing increased collaboration between the Research & Development Headquarters and our business divisions.
2. Promoting promising themes for future technology and basic research to fulfill the needs of 21st century society, and developing them into research and development projects that will translate into new products and businesses in the future. Simultaneously, we conduct research on elemental technologies used in existing products to realize innovations for those products.
3. Making strenuous efforts to identify new themes for

research and development that meet current market needs, and selecting new key development projects that have a high potential to become significant earners for the Company in the future. We will make investments in human resources and property, and allocate funds to selected fields, while forming alliances to shorten development time where it is thought appropriate.

Overview of R&D activities by business segment

▶▶▶ Steel Products

In terms of the development of materials-related products, we have been carrying out research and development in such areas as clad steel pipes for natural gas transportation, high alloy materials for high-efficiency thermal power generation, forged steel products for next-generation nuclear power plants, and high-performance nonferrous alloys. We have also been developing hydrogen-absorbing alloys, as well as their applied systems, such as hydrogen tanks for fuel cells. For fiscal 2008, spending on steel product research and development totaled ¥1,573 million (US\$16 million).

▶▶▶ Machinery Products

In the field of machinery-related products, we have been developing low-cost production technologies for high-performance magnesium alloy injection molding machines, the commercialization of aluminum die-casting devices, and high-precision molding technology for plastic extruder and injection molding machinery. We have also been working on laser applications, including systems for cutting-edge laser annealing equipment used in the production of TFT (thin-film transistor) liquid crystal displays, and other applications for laser devices. In the field of new energy, we have been working on the design of wind turbine blades for use at wind power generation plants, and are endeavoring to establish various related analytical technologies. We are also developing pressurized hydraulic compressor equipment. Spending on machinery product research and development totaled ¥2,605 million (US\$27 million) for fiscal 2008.