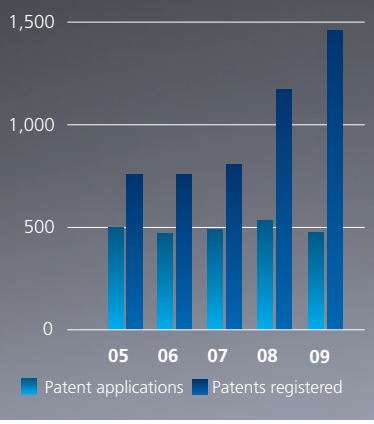
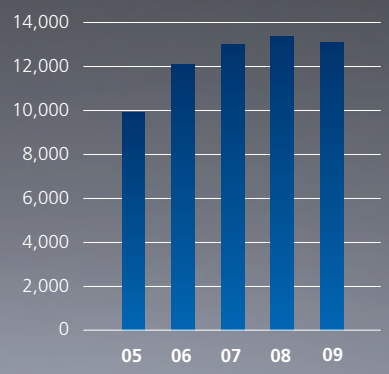
Research and Development

Patent Applications and Patents Registered



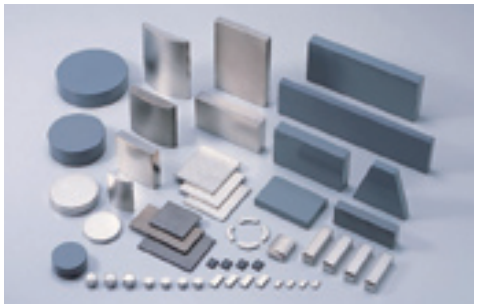
R&D Investment
(Millions of yen)



Investment in research and development for the fiscal year ended March 31, 2009 amounted to ¥13,083 million. Hitachi Metals held 1,456 registered patents as of the fiscal year-end.

In the context of its R&D activities, the Hitachi Metals Group has positioned the 12-month period ending March 31, 2010 as a year to promote and implement urgent measures aimed at further strengthening the Group's business and management platforms and rebuilding a robust corporate structure. To this end, every effort will be made to enhance the Group's R&D structure while accelerating the development of new products that anticipate market and technological changes. At the same time, the Hitachi Metals Group will undertake strategic R&D investments designed to expand its eco-friendly product business.

Development Topics for the Fiscal Year Ended March 31, 2009



Development of a New Manufacturing Method for Advanced Sintered Neodymium (Rare-Earth) Magnets

The Hitachi Metals Group developed a revolutionary new method for manufacturing sintered neodymium magnets that further boosts the performance of these advanced magnetic materials, which are already recognized as the world's strongest permanent magnets.

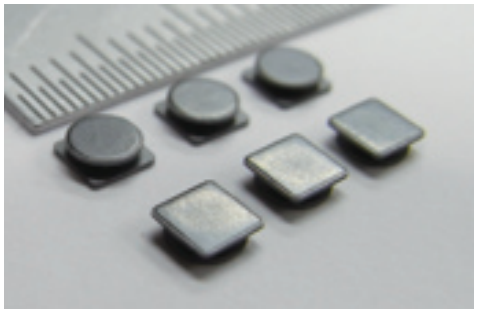
The use of heavy rare-earth elements such as dysprosium (Dy) is essential to improving the heat resistance of neodymium (Nd) magnetic materials. However, the mass production of items incorporating rare-earth elements, which are considered extremely precious natural resources, is limited. In addition to maximizing the effectiveness of how these precious resources are used, Hitachi Metals' new and unique deposition and diffusion manufacturing method has proven to be an extremely effective and simple production process. By controlling the Dy concentration distribution within magnetic materials, this technology helps improve the performance of advanced-functioning magnetic materials.

Hitachi Metals verified that sintered neodymium magnets made using this new method are able to maintain the same remanence as that displayed by the Company's existing permanent magnets with the same Nd component ratio while increasing intrinsic coercivity by 320kA/m (4kOe) or above.

Furthermore, this technology makes it possible to increase remanence by 40mT (400G) or more while preserving an intrinsic coercivity equal to that of existing products.

Taking a jump on its competitors, the Hitachi Metals Group filed its first patent application for this technology in March 2006 and has since made several filings for a wide range of other patents.

The Company is currently conducting production trials for customers with the aim of steadily expanding the application of this technology in response to specific customer requests.



Development of a New Ferrite Core

Hitachi Metals developed a new ferrite core that increases the initial inductance value approximately 13% by using unequal flange shapes. A ferrite core is a core material for coil-type inductors that are used for voltage conversion, noise reduction and other electrical applications. As a leading company in the field, Hitachi Metals developed the new ferrite core in response to demand for a thinner, more compact power inductor ferrite core with high inductance for use in compact digital devices. This breakthrough is part of the Company's ongoing ferrite core development efforts that combine low power loss and high magnetic flux density.

Hitachi Metals developed the new ferrite core, making full use of its proprietary manufacturing and materials technologies. The new ferrite core offers additional useful volume and an approximately 13% increase in initial inductance value compared with Hitachi Metals' existing round-shaped flange product of the same size. The flanges of the new ferrite core are square on one side and round on the other. The square flange makes core positioning and electrode formation simpler, thereby making it easier for customer to use.

For application in all power inductors used in electrical devices, including mobile phones and electronic music players, the new ferrite core contributes to electrical device performance improvement and miniaturization.