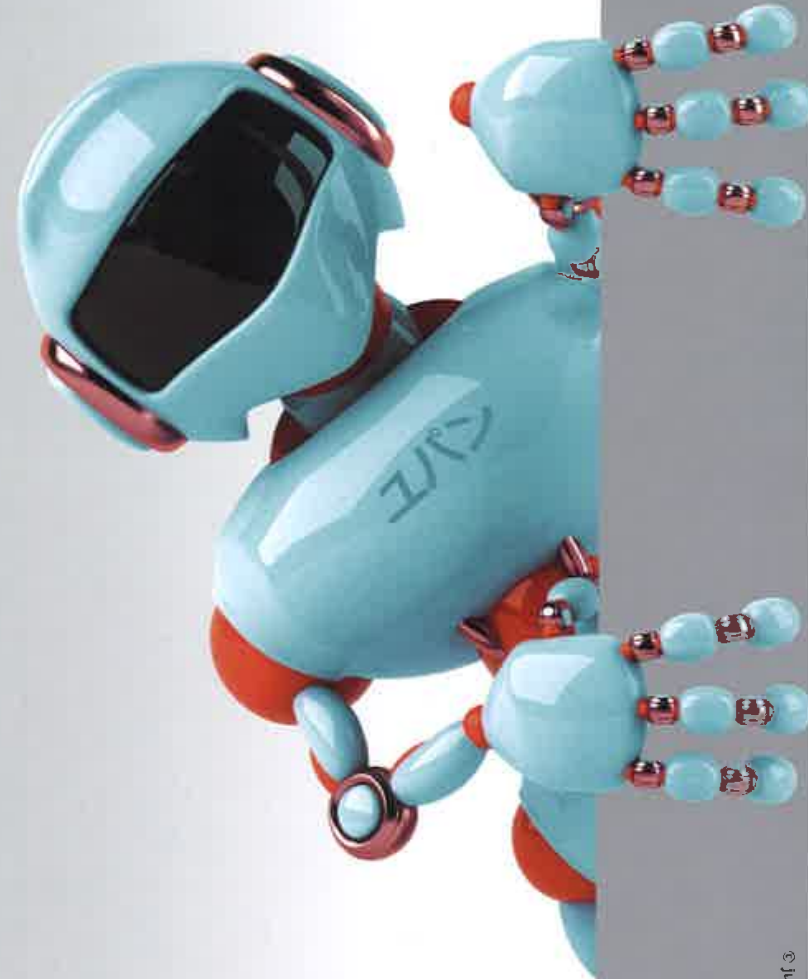




UNLOCKING THE POTENTIAL OF EU-JAPAN SCIENCE AND TECHNOLOGY COOPERATION

Examples of joint research projects carried out
under EU's Research Framework Programme





Rare metals comprise only minuscule amounts in any device, and take on exotic names that are often hardly known. These tiny amounts, however, play a fundamental role in the production of today's hi-tech products such as disk drives, magnets, solar panels, screens and displays, amongst many other items.

Iridium Manganese (IrMn) is one of these rare elements found in hard disk drives and magnetic storage devices. Its use has expanded enormously over recent years particularly in electrical devices, but also in electrochemical and other devices.

The research cooperation on the 'Heusler Alloy Replacement for Iridium (HARFIR)' project is jointly funded between the EU and Japan Science and Technology Agency (JST). The goal of the project is to discover an antiferromagnetic alloy that does not contain the rare metal Iridium.

The project brings together the collective expertise, techniques and electrical and magnetic measurement facilities from partners such as the University of York, the University of Bielefeld, University of Konstanz, Budapest University, Mackintosh Consultants, Tohoku University and High Energy Accelerator Research Organization (KEK). They will work together on the project for 43 months starting in 2013.



The project was triggered by three trilateral conferences between the EU, the US and Japan concerning restrictions to the supply of rare earth supplies. At the same time, the JST and DG RTD started a call for proposals to involve researchers from Japan and Europe in practical research.

Professor Koki Takanashi, of Tohoku University, the co-ordinator on the Japanese side, is convinced that the accumulated knowledge "will find new materials and new compositions of Heusler Alloys to replace the need for Iridium in spin electronic devices."

» JAPANESE PARTNER

Tohoku University

Professor Koki TAKANASHI

"We will seek to find new materials and new compositions of Heusler Alloys to replace the need for iridium in spin electronic devices, which impacts on the strategy for the rare metals."



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