PROLOEWE

LOEWE Research Initiatives Network

LOEWE Research Cluster **RESPONSE**

Resource-Efficient Permanent Magnets by Optimised Use of Rare Earths

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Resource-efficient permanent magnets

Permanent magnets are strategic materials for the energy turnaround; they are essential components in modern wind turbines and electromobility. High performance permanent magnets currently contain significant quantities of rare earth elements, which are mined under environmentally problematic conditions and, because of their limited availability, lead to market dependencies. In the LOEWE research cluster RESPONSE, scientists from the fields of material science, chemistry and mechanical engineering are seeking alternatives. They are taking advantage of new material concepts to develop innovative magnetic materials that, for example, make use of iron-cobalt alloys, manganese-based alloys and iron nitrides. The goal is to achieve a drastic reduction in the amount of critical rare earths used in permanent magnets or, if possible, to substitute them completely.

RESPONSE
Ressourcenschonende Permanentmagnete durch optimierte Nutzung seltener Erden

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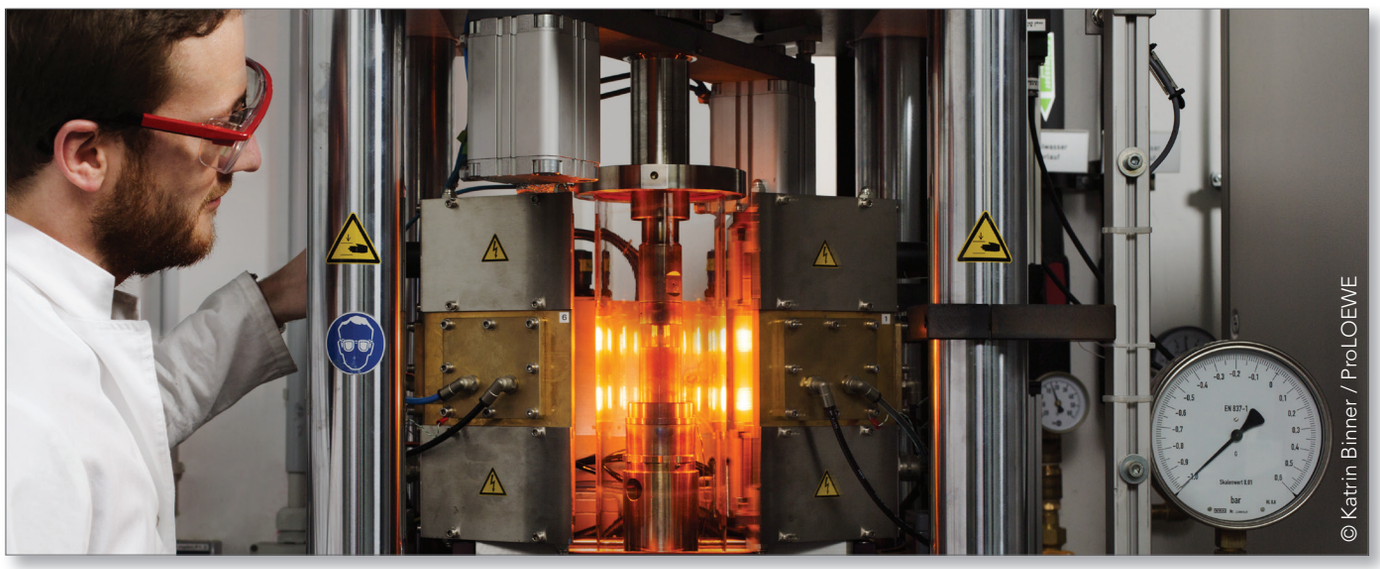

COORDINATOR
Prof. Dr. Oliver Gutfleisch,
Technische Universität Darmstadt

PARTNER
Technische Universität Darmstadt
ASSOCIATE PARTNER
Fraunhofer Project Group for Materials Recycling and Resource Strategies (IWKS), Hanau

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Darmstadt

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COORDINATION OFFICE
Sabine J. Crook
Phone +49 6151 16-76195
crook@fm.tu-darmstadt.de

INTERNET
www.proloewe.de/en/response

LOEWE and ProLOEWE

Since 2008 the German federal state of Hessen has been promoting outstanding research initiatives through its own excellence programme, LOEWE. To date, 11 LOEWE research centres and 35 LOEWE research clusters have been selected in a competitive process to receive funding.

ProLOEWE is the LOEWE research initiatives network: their common aim is to provide information about their activities, speed up access to their research and intensify their cooperation. The website www.proloewe.de/en provides an overview of the LOEWE research initiatives.