Hiden Analytical Europe GmbH

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Company Description:
Hiden Analytical celebrates more than 40 years of design, development and manufacture of quadrupole mass spectrometers. Our products address a diverse range of applications - precision gas analysis, plasma diagnostics by direct measurement of plasma ions and ion energies, SIMS probes for UHV surface science, catalysis performance quantification, thermo-gravimetric studies – over a pressure range extending from 30 bar processes down to UHV/XHV. Hiden Analytical is committed to providing systems which meet specifications of both new and existing clients, but further, enable the advancement of their work, whether it be pure research or the improvements or monitoring of products and process performance. We have a common vision, not only to supply the systems and instruments with first class performance specifications, long term reliability and professional service support, but also, and in many cases more importantly, to maintain close contact to ensure that our systems provide all that our customers expect, and more, from their investment in our organisation.

Special Offer for Hydrogen Technologies:
Hiden Analytical offers real-time Hydrogen measurement tools for precise clean energy creation. Hiden is a leading manufacturer of gas analysis instruments with advanced mass spectrometry solutions like the QGA 2.0. Hiden's systems ensure accuracy from 100 mbar to 30 bar with a rapid sub-300ms response. Their detection range spans from 100 % to 5 ppb, vital for hydrogen studies. Moreover, Hiden's Plasma and SIMS tools drive insights in hydrogen storage, fuel cells, and material studies.

robeko GmbH & Co. KG

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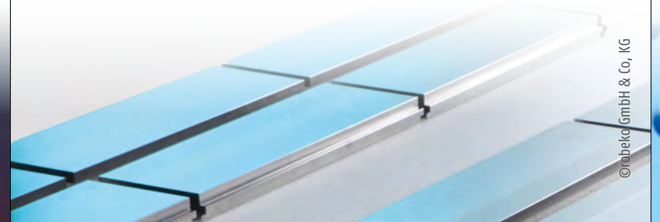
Company Description:
robeko is a supplier of components and materials as well as a technology partner for PVD & PECVD processes. We are European distributor for the cutting-edge products of our partners SCI, Ionautics, House of Plasma, Sairem, PLASUS, Magpuls and TFC. robeko provides planar and rotatable sputtering targets and bonding services for tribological, decorative and optical applications.

We are proud of our in house manufacturing capabilities for cast planar targets and planar target bonding. As a technology partner our capabilities are ranging from feasibility studies and layer development to upscaling and process transfer into industrial production. Our own application lab with three sputter coaters and analytical instruments allows for quick adaption to our customer demands.

Special Offer for Hydrogen Technologies:
- Components for Thin Film Manufacturing including coating sources, plasma treatment sources and process analysis tools
- Target manufacturing for thin film applications including new materials for noble-metal-free electrocatalysts
- Atmospheric pressure plasma sources for power-to-gas applications



AiF Research and Transfer Alliance Hydrogen

National Hydrogen Strategy
CO_2 emissions are one of the most important factors in global warming. The aim of the German government's National Hydrogen Strategy is therefore to reduce CO_2 emissions in industry, transport and energy production on the basis of hydrogen technology. Rapid changes in the Earth's climate and increasingly important geopolitical considerations have led to an urgent need for the introduction of self-sufficient sustainable energy technologies in Europe.

Involvement of the industrial SME sector
The German SME sector plays a central role in the implementation of the National Hydrogen Strategy. In order to profile Germany as a leading location in the field of hydrogen, the potential of SMEs in particular must be bundled and activated as enablers and framework setters. This requires close cooperation with producers, users, technology drivers and providers – and this potential can be activated and utilised efficiently and in a targeted manner via the globally unique structure and mode of operation of the AiF and joint industrial research as a cross-sectoral link to SMEs.

Strengthen research and synergy potentials
This work is to be expanded in a demand-oriented manner as part of the activities of the AiF Hydrogen Research and Transfer Alliance to increase the innovative strength and competitiveness of medium-sized companies in particular, and at the same time made more visible.

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CLEAN HYDROGEN CONVENTION

Thin Films for an Efficient Hydrogen Economy

Trade Fair Dresden, Germany
October 25-26, 2023

HZwo

EFDS
Europäische Forschungsgesellschaft Dünne Schichten e. V.
European Society of Thin Films

Thin Film Technologies for an Efficient Hydrogen Economy

Hydrogen technologies are an important factor in the energy transition and show a perspective for the transformation of the economy towards a climate-neutral and sustainable economy for the future.
Surface and thin-film technologies are the key to everything from hydrogen and battery technology to plasma-based chemical synthesis and photovoltaics. As a cross-sectional technology, surface technology offers innovative solutions for numerous issues and significantly supports emerging technologies and economic sectors. In order to tailor suitable functional surfaces, dialogue between actors, innovators and developers is necessary. Many companies and institutes have been active in this field for many years. They have developed and tested coating technologies for highly efficient fuel cells, electrocatalysts and electrodes, sensors for gas and permeation analysis or plasma technologies for gas conversion.
The EFDS has already been committed to the topic of hydrogen technologies for several years and has been a member of the AiF Research and Transfer Alliance Hydrogen since 2023.

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EFDS

Services & Offers

- Network for Thin Film Technologies
- Networking, Network Management
- Workshops, Conferences & Exhibitions
- Expert Committees & Project Coordination

Activities

- member of AiF – Forschungs- und Transferallianz Wasserstoff
- Workshops "Das Wasser ist die Kohle der Zukunft" – Wasserstoff als Schlüsselelement für die Energiewende 2024
- Coordination of projects for Industrial Collective Research IGF

Biomedical Technology

Tribological Systems

Coating technologies for optical and electronic functionalization

ANTACON GmbH

ANTACON high performance wear protection

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Company Description:
Discover enhanced durability and performance with ANTACON GmbH's advanced carbon-based wear protection coatings. Our patented technology creates superhard, stress-free diamond-like carbon (DLC 2.0) coatings known for their exceptional mechanical stability, hardness, and friction-reduction capabilities. These coatings can be applied at various thickness levels, making them versatile for numerous applications. Choose ANTACON for improved equipment performance and longevity, raising the bar in wear protection compared to traditional DLC layers on the market. Explore the future of wear protection with us today!

ANTACON SERVICES: Job Coating, Customized Coating Systems, Coating Design, Samplings, Consulting, Coating Analysis

Special Offer for Hydrogen Technologies:
We introduce DLC 2.0 coatings to optimize your hydrogen technology with the focus on:

- Exceptional Durability
- Safety Assurance
- Precision Solutions
- Sustainability

WHY DLC 2.0?

- Increase Service Lifetime up to Factor 20
- Better Production Quality and Process Reliability
- Improvement of Energy and Resource Efficiency
- Reduction of Maintenance and Servicing Costs
- New Fields of Application

Contact us to power up your hydrogen applications.

©ANTACON GmbH

FHR Anlagenbau GmbH

FHR A VITAL GROUP COMPANY

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Company Description:
FHR Anlagenbau GmbH is a worldwide supplier of special equipment & series products for thin film technology for research & industry. The medium-sized company was founded in 1991 and employs about 190 people at the Ottendorf-Okrilla site near Dresden.

As a leading provider of vacuum coating systems, industries such as electronics, MEMS and sensor technology, precision optics and display, solar thermal and photovoltaics rely on our cutting-edge thin film solutions. Sputtering, vapor deposition, PECVD, and ALD technologies are used in our equipment platforms.

Special Offer for Hydrogen Technologies:
We elevate H2 technologies with cutting-edge coating systems, materials, and services - unleash innovation with us. Our FHR coating equipment enhances your application by functionalizing substrate materials using vapor deposition and plasma processes. Our solutions safeguard fuel cell and electrolyzer bipolar plates against corrosion, optimize properties, and lower expenses.

We are The Thin Film Company, and this states our vision and our demands on ourselves.

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Fraunhofer Institute for Mechanics of Materials IWM

Fraunhofer IWM

Tribological and functional coatings | Department Tribology

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Company Description:
As a catalyst, innovator and problem-solver, the Fraunhofer IWM with around 300 employees provides materials competence to support our clients and project partners in their research and development tasks. The institute therefore combines know-how and experience in all fields of materials technology and materials science. We use state-of-the art material characterization methods and theoretical models from real components dimensions down to the atomic level. We boost special expertise in the design and construction of individual, application-adapted test rigs as well as in material digitalization. We offer clients and project partners individual solutions, unexpected insights and immediately actionable results for the development, production and application of functional materials, high-performance components and resource efficient manufacturing processes.

Special Offer for Hydrogen Technologies:
Our research aims to ensure the durability of components by measuring, describing, and controlling the effect of hydrogen on materials. We use experimental methods to investigate the mechanical and tribological behavior of materials in hydrogen atmospheres and develop theoretical models, which describe material degradation processes. We measure diffusional properties under mechanical and tribological stress and develop and test hydrogen barrier coatings based on PVD and CVD processes.

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