



CRITICAL SEALING FOR HYDROGEN PRODUCTION AND STORAGE

At Technetics Group, we believe no challenge is too daunting and no strategy is unachievable. Because when maximum performance is mandatory, and failure is unacceptable, you need the utmost confidence that only Technetics Group can deliver.



Introducing Today's Speakers

Geraud Riffard

- Geraud Riffard has worked in the sealing industry with Technetics for more than 20 years in particular nuclear, semiconductors, and scientific research-related applications, mainly in Asia. Supported by an experienced scientific team involved in high-temperature electrolysis, he has also been working on the engagement of Technetics towards renewable energies and hydrogen applications for the last 4 years.

Brad Lodge

- Brad Lodge, President of Technetics Group has worked in various roles within the sealing industry over the past 14 years. He holds a BS in Mechanical Engineering from The Ohio State University and earned his MBA from Case Western Reserve University.

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Critical Sealing Requirements

- **For production, storage and usage**
 - Reduce the cost of Hydrogen
 - Reduce the risks of leakage
 - Improve overall efficiency
- **Providing the most suitable sealing configuration**
 - Lifetime
 - Safety



Challenges of the production & handling of (Green) Hydrogen

- **Electrolysis** : reliable and cost effective H₂
- **Fuel Cells** : produce competitive electricity on-demand
- **Turbines** : H₂ or mixed with Natural Gas to reduce CO₂ emissions
- **Transport and storage** : safety and cost

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Technetics' Experience in Critical Environments

- **Markets including:**
 - Nuclear
 - Aerospace
 - Semiconductor
 - Scientific research
- **Conditions including:**
 - Cryogenic temperatures
 - High temperatures
 - Ultra-high vacuum (UHV)
 - High pressure



Technetics Research & Development, Engineering

- **Materials**
 - Characterization
 - Qualification of systems under actual Hydrogen environment
- **Design and testing**
 - Custom-systems
 - Test benches with test campaigns
- **Expertise and analysis**



Technetics Solutions

- Metal Seals
- Elastomer Seals
- Mechanical seals
- We can be found in:
 - Pumps
 - Compressors
 - Valves
 - Turbines
 - Reactors
 - Exchangers
 - Cryogenic systems
 - UHV equipment



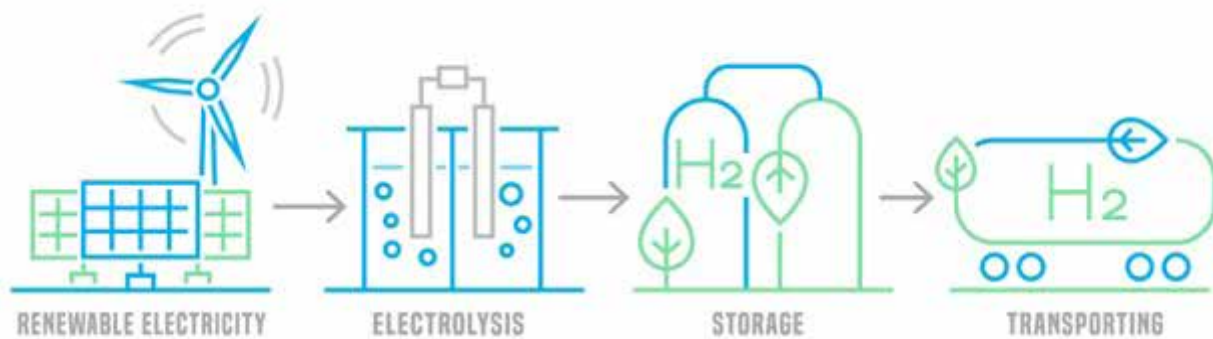


Technetics Embraces the Challenges of Hydrogen

- Solid oxide fuel cells
- High temperature electrolysis
- High temperature water stream electrolysis
- Proton exchange membrane fuel cells

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Technetics Completes the Value Chain of Hydrogen



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How we Currently Support the Hydrogen Industry



- Next generation of fuel cells and electrolyzers
- Transport and storage of LH2
- Aerospace industry
- Hydrogen turbines
- Scientific research

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R&D and Looking Forward



Our bottom line is to support :

- Efficiency
- Reliability
- Safety

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A graphic for Material Science research focus. The left side is dark blue with white text and icons. The right side is a bright blue image of a person in a lab coat using a pipette, overlaid with various scientific icons like chemical structures, graphs, and a microscope.

Material Science

Our research focus :

- Embrittlement prevention
- Safety



Challenge Meets Pedigree

