

## Press Release

# ROSEN GROUP ESTABLISHES DEDICATED HYDROGEN TESTING CAPABILITIES FOR MATERIAL TESTING

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**Stans, Switzerland, August 2021** – The ROSEN Group sets the course for the future and establishes its own hydrogen testing capabilities at the Lingen, Germany, location.

The energy industry as a whole has come to realize the potential of hydrogen as a viable alternative to fossil fuels. However, this hydrogen economy cannot function without a safe and efficient infrastructure. A large part of hydrogen transportation will take place via existing gas networks and/or newly constructed pipelines dedicated to hydrogen.

Based on its many years of experience in a wide variety of material testing, the ROSEN Group is expanding its existing material testing capabilities and dedicating a separate section to the topic of hydrogen. Hydrogen can have an adverse effect on the fracture and fatigue properties of steel. The magnitude of the effect can vary, depending on steel grade and microstructure, concentration of hydrogen, and other factors. Therefore, integrity assessments need to be based on the material properties in hydrogen, which are usually not known in case of existing lines and must be assessed as part of the process of (re)purposing the lines for hydrogen transportation. Guidance on the design of hydrogen pipelines is given in ASME B31.12, including fracture toughness testing.

In response, ROSEN's testing capabilities offer the possibility of conducting material and exposure tests in a hydrogen atmosphere (hydrogen blends and pure hydrogen) at a temperature of up to 200°C and a pressure of up to 150 bar. The facility will be equipped to complete:

- Environmental fracture toughness tests
- Constant load/displacement KIH tests according to ASME B31.12
- Rising displacement J-R tests according to CSA CHMC 1
- Environmental fatigue crack growth tests according to CSA CHMC 1
- Tensile tests in hydrogen atmosphere
- Environmental slow strain rate tests
- Material testing of new pipe according to ASME B31.12

With this laboratory, the ROSEN Group offers the industry all the material testing methods necessary to ensure the safe transportation of hydrogen in pipelines. In addition, internal research and development activities in the field of hydrogen will be supported and promoted. The construction work for the facility is in its final phase, and with the delivery of the necessary equipment, it is on track to be completed in early 2022.

The ROSEN Group is a leading global provider of integrity solutions for the safe and reliable operation of industrial facilities in order to guarantee the protection of people and the environment. Hydrogen has been a focus of our technology group for several years and represents an important cornerstone of its long-term corporate strategy. Recognizing the ability to join expert knowledge, the latest inspection technologies and material testing methods, the ROSEN Group supports pipeline operators in the safe and efficient conversion of existing gas networks and in the reliable operation of hydrogen pipelines.



Caption: ROSEN's hydrogen testing capabilities offer an opportunity to conduct various material and exposure tests to ensure the safe transportation of hydrogen in pipelines.

### **About the ROSEN Group**

The ROSEN Group is a globally leading provider of cutting-edge solutions in all areas of the integrity process chain. Since its origins as a one-man business in 1981, ROSEN has rapidly grown and continues to do so. Today, the business is still privately owned and consists of a team of more than 3,800 employees operating in more than 120 countries.

ROSEN's products and services:

- Inspection of critical industrial assets to ensure reliable operations of the highest standards and effectiveness
- Customized engineering consultancy providing efficient asset integrity management
- Production and supply of customized novel systems and products
- Market-driven, topical state-of-the-art research and development providing "added-value" products and services

For more information about the ROSEN Group, go to: [www.rosen-group.com](http://www.rosen-group.com).

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