## **ENGINEERING SERVICES**







# EXPERTISE & TESTING FACILITIES ON DEMAND

Vallourec Engineering Services puts technology at your service, offering competitive and innovative solutions and helping you select the most appropriate products based on your specific needs from conventional and unconventional fields, line pipe, offshore and onshore, to special applications including geothermal, CCUS and hydrogen.

We assist you throughout your project, from engineering solutions to physical testing, and partner with you to evaluate load cases, safety factors and design scenarios, ensuring that you select the most appropriate grades and connections to reduce costs and enhance well integrity even for the most demanding and complex projects.

# OPTIMIZE YOUR PROJECT WITH DEDICATED ENGINEERING GUIDANCE AND TESTING

- A range of services and advisory support to optimize your project
- Testing facilities putting advanced technology at your service, from wells to top side and new energies
- Specialized engineering services that span the entire well life cycle
- Recommendation support service to enhance the well life cycle



#### **EXPERT SUPPORT**

— Our expert engineers offer in-depth recommendations and perform extensive technical evaluations for any application.



### WIDE RANGE OF TESTS

 We offer a vast range of test procedures for materials and products, and provide special testing packages to meet your needs.



#### STATE-OF-THE-ART FACILITIES

High-end testing equipment provides meticulous analysis ensuring product performance and efficiency.

# **ENGINEERING SERVICES**

#### **WELL ENGINEERING**



#### **WELL DESIGN**

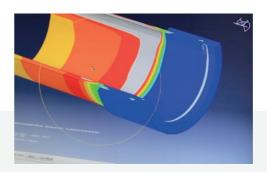
- Well design, casing and connection optimization
- Thermal analysis
- Torque and drag analysis
- Casing wear analysis & Post casing wear performance evaluation



#### **MATERIAL SELECTION**

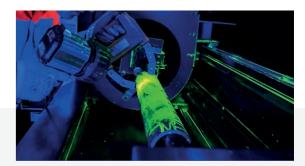
- Complete material recommendation including in-situ well condition evaluation and failure analysis
- Material selection optimization including compatibility study
- O Fit-for-purpose evaluation protocol

#### PRODUCT ENGINEERING & EVALUATION



### **CONNECTION EVALUATION**

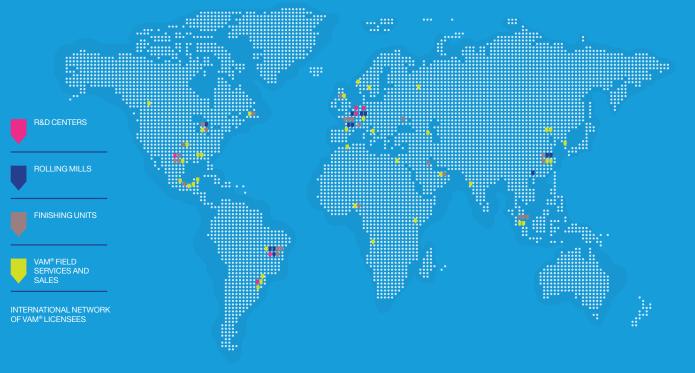
- Combined load testing including fit-for-purpose testing for adapted loads
- Casing wear-resistant connections and ID reinforcement coatings
- 2D and 3D FEA numerical simulation analysis including torque & mix torque validation and anti-galling verification
- Accessories design and performance calculations
- Machining of complex threaded parts



### PIPE EVALUATION

- Testing protocol definition
- O Pipe performance assessment
- Corrosion testing
- Surface treatment
- Non-destructive testing
- Thermal processes
- O Fit-for-purpose mechanical testing
- Universal testing machine
- Material science





#### **NEED MORE INFORMATION?**

Information is available online on solutions.vallourec.com



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