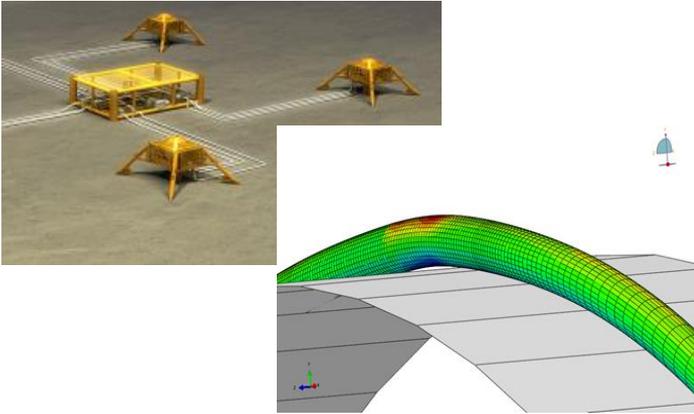




## Subsea Engineering Consultancy



### Subsea engineering expertise

Crondall Energy has in-depth technical expertise in the design and operation of subsea production systems from the wellhead to the process facility.

Our technical expertise covers the complete life cycle of an oil and gas field from concept definition, through to integrity management, life extension and final decommissioning. Crondall Energy has experienced people able to advise on all aspects of subsea engineering, including equipment selection, offshore installation, damage assessments, and inhibitor selection.

Our services cover the following main areas:

- Subsea hardware
- Flow assurance
- Pipeline and riser engineering

### Subsea hardware

Hardware consultancy covers the selection of subsea equipment such as trees, manifold systems, connection systems and control systems for project applications, assessment of market capabilities, assistance with qualification programmes and the development and implementation of reliability programmes.

### Flow assurance

Flow assurance consultancy covers the modelling and analysis of hydrocarbon production from the wellbore to the production facility. Our consultancy supports both projects and operations, addressing issues including multiphase flow, potential blockages, design of cooling loops, thermal management and inhibitor selection.

Experience demonstrates the importance of integrating flow assurance into the overall design of the subsea production system.

### Pipeline and riser engineering

Pipeline and riser engineering consultancy addresses all aspects of this wide-ranging multi-disciplinary subject, from basic pipe/riser sizing and material selection through to complex structural analysis and riser concept selection.

Crondall Energy has world class skills in many aspects of pipeline engineering, including elastic-plastic analysis for pipeline installation and the challenging design issues associated with lateral buckling and pipeline walking.

### Benefits

Crondall Energy has a strong focus on technology.

Our staff have led a number of industry technical research programmes to develop both design guidelines and new technology.

The resulting in-depth technical knowledge gives us the most up-to-date knowledge to apply to our consultancy services, peer reviews and Due Diligence activities.

An independent consultancy focused on providing the very best engineering and technical advice in the subsea engineering area