



DHI MARKET AREA: ENERGY

OIL AND GAS

Ensuring continued sustainability of developments exposed to natural forces

Oil and gas developments are often found in areas exposed to harsh environmental conditions, far from the coast. This greatly influences the exploration and exploitation of resources at all stages - from the planning and design of offshore structures to the monitoring and optimisation of operations. Not only must structures be able to cope with the prevailing conditions, they must also be able to face extreme conditions, remaining safe and operating cost-effectively.

Another major challenge for the oil and gas industry is the impact of activities on the ambient environment. Being able to monitor and control this impact is crucial for the industry's sustainability and its compliance with environmental regulations.

- THE CHALLENGES**
- Coping with harsh environmental conditions
 - Ensuring sustainability of structures
 - Maintaining safety of operations at all times
 - Minimising environmental impact
 - Monitoring operations in offshore developments far from the coast

OUR APPROACH Oil and gas activities involve many challenges related to various professional disciplines. Our vast knowledge of water environments and our high-performance tools can help you face these challenges effectively. Our solutions are based on fifty years of experience within the field as global data providers, technology explorers and consultants worldwide. Our approach focusses on providing you with sustainable, cost-effective and tailor-made solutions.

- OUR SOLUTIONS**
- Metocean data
 - Forecast of wind, waves, water levels and currents
 - Online monitoring
 - Physical model testing and Computational Fluid Dynamics (CFD) analysis
 - Hydrodynamic load and response analysis – fixed and floating structures
 - Environmental Impact Assessments (EIAs)
 - Oil spill modelling and emergency response systems
 - Ecotoxicology testing

THE ULTIMATE GOAL SAFE, SUSTAINABLE AND COST-EFFECTIVE DESIGN & OPERATIONS OF STRUCTURES



Energy supplied by the oil and gas industry accounts for **57%** of the total global commercial energy consumption

OUR TOOLS AND SERVICES

We can provide you with everything you need to ensure safe, sustainable and cost-effective design and operations of your oil and gas developments. Our tools and services include:

- wide-range of numerical modelling, including:
 - wave and currents
 - water-structure interactions and scour
 - sediment and seabed morphology
 - oil spill
 - ecology and biodiversity
- physical model testing (in-house facilities)
- Computational Fluid Dynamics (CFD) analysis
- Vortex Induced Vibrations (VIV) analysis
- load and response calculations
- Metocean data — hindcast, nowcast and forecast
- Survey and monitoring (hydrographic, environmental, ecological and toxicological)
- Ecotoxicology testing (ISO 17025 accredited in-house laboratories)
- Ecotoxicological documentation
- Local Area Weather Radar (LAWR)
- GIS services
- Capacity building and training by THE ACADEMY by DHI

Contact us: info@dhigroup.com
For more information visit: www.dhigroup.com