Safe and successful offshore construction operations depend upon precise and reliable surface and subsurface data. This is especially true in harsh environments and challenging conditions. Securing the right support services can make all the difference when dealing with project-critical time, cost and performance objectives.

**GLOBAL SOLUTIONS FROM FUGRO**

We provide comprehensive offshore field development, construction support and pipeline survey services designed to meet both the general and specific needs of construction contractors. These services include:

- Construction barge and work boat positioning
- Anchor handling support
- Structure installation guidance
- Pipe-lay positioning and touchdown monitoring
- Acoustic underwater positioning
- ROV survey sensors and system integration
- ROV inertial navigation
- Spool piece metrology
- Dedicated ROV support vessels
- Project management

Employing highly-trained and skilled personnel.
**PIPE-LAY SUPPORT**
Fugro offers pipeline installation contractors a range of services, from accurate site information, through installation to long-term inspection and monitoring.

Our proprietary regional databases contain vast volumes of geographic information concerning existing facilities, pipelines, wells and hazards for offshore field developments. These are used to assist clients in planning project and assuring safe operations.

We also provide an integrated survey support service using our state-of-the-art construction support vessels with integrated ROVs, ideally suited for pipe-lay operations. Our services include:

- Lay barge positioning and remote monitoring of anchor drop locations
- Pipeline touchdown monitoring
- Pipeline trench profiling for buried lines
- Mattress positioning
- Sonar monitoring of pipeline crossings
- Pipeline and PLET positioning
- Post-lay surveys
- As-built surveys and pipeline depth of cover surveys

**ROV/SUBSEA POSITIONING**
ROVs provide manoeuvrable platforms that support imaging and remote sensors, allowing real-time supervision of construction operations.

We work with the latest ROV technology, equipped with fibre optic multiplexors, acoustic, laser and vision sensors, suited to perform the most challenging of positioning and remote intervention tasks.

ROVs are essential when installing:
- Seabed structures
- Subsea risers, umbilicals and flowlines
- Cables and pipelines
- Hook-ups to FPSO facilities

**JACKET, PILE & TOPSIDES**
Our precise positioning, survey support and monitoring services are relied on for operations such as the tow out of structures, installation of platforms and jackets, and installation of monopiles for wind farms.

We offer project planning using 3D simulations, structural modelling and 3D visualisation monitoring during critical operational phases, such as float-over positioning for decks on jackets, or load-outs of structures where tight tolerances are involved.

Jacket, pile and topside installation services include:

- Load-outs and tow-outs of structures where tight tolerances are involved
- Remote inclination measurement of monopiles for wind farms
- Float-over positioning for decks on jackets
- Subsidence surveys to detect differential movement across structures
- Precision water level surveys
**SUBSEA METROLOGY**

Fugro’s subsea metrology service provides extremely accurate in situ measurement between pipeline flanges to guide the rigid link-engineering of spool pieces and jumpers.

Our surveyors use the most advanced measuring systems to ensure absolute precision in three dimensions and in marine environments that range from acoustically challenging shallow water to harsh conditions in deep water.

Our survey teams are equipped with robust, field-proven long baseline acoustic hardware, proprietary software and efficient work processes. We also provide dimensional control services at fabrication yards.

Subsea metrology services include:

- 3D acoustic metrology
- Subsea video and laser mapping solutions
- Dimensional control services
- Project management

**ASSET INTEGRITY/INSPECTION**

Fugro is at the forefront of inspection and survey technology, offering a range of precise subsea measurement and integrity management solutions tailored to your site.

Our services address maintenance requirements during the entire life of field developments, detecting wear, corrosion and movement over time. Our project management and data management services help to avoid downtime, reduce maintenance costs and protect the environment.

Asset integrity services include:

- Out-of-straightness surveys
- Anode inspections and cathodic protection surveys
- Wear and scour surveys
- Pipeline integrity surveys
- Damage assessment surveys
- Deformation analysis and forensic work
- Upheaval buckling, horizontal movements and freespan detection
- Change detection of seabed assets

**Using subsea laser scanning technology to produce jumper metrology results.**

**Deploying a Remotely Operated Vehicle (ROV) to carry out subsea IRM.**

**Providing comprehensive support for subsea field installations, together with inspection, repair and maintenance.**
Deepwater oil and gas developments demand innovative solutions to deliver complex facilities, safely and reliably into challenging environments. That’s where our experience and professional expertise counts. We excel at creating unique solutions that overcome the difficulties faced by construction engineers, optimising turnaround and budget parameters.

**DEEPWATER SERVICES**

**FPSO INSTALLATION**

We have the tools and experience required for installing FPSO production facilities at remote sites far from existing infrastructure.

Services include:
- Mooring system positioning
- Flowline and riser hook-up
- Shuttle tanker positioning and docking services
- Field support ROV services