

About the Course

Get a proper introduction to subsea technology through this Subsea Awareness Course: Here, we will bring you to world leading companies, where you will receive an introduction to their products and technologies from the subsea industry in the Bergen region of Norway.

The unique mix of visiting Equinor, one of the world's leading operators of subsea development, in combination with the leading subsea system vendors like OneSubsea and TechnipFMC, will give you the latest insight within subsea technologies and a good understanding of subsea production systems.

Target Group

This three-day course is aimed at engineers who are:

- new to the offshore industry
- transferring to the subsea industry from other disciplines
- refresher for experienced engineers to update their knowledge

Most of the course will be presented in a classroom, but will also be combined with tours of the factory, giving you hands-on experience of the subsea building blocks.

The course will also be interactive and there will be opportunities to ask questions and discuss with the expert presenters about what has been learnt. In particular, visual components have been included wherever possible to enable delegates to view products, both hardware and software, destined for subsea service.

Participation and Costs

SUT member rate: NOK 12.000,- + VAT total 15.000,-

Non-member rate: NOK 12.500,- + VAT total 15.650,-

All refreshments, transportation to/from Bergen and copy of the course notes are included in the fee.

Travelling costs and accommodation is not included in the fee, and must be handled by the participant themselves.

Registration

Please register here:

<https://gceocean.pameldingssystem.no/sut2022>



Cancellation Policy

Cancellations later than 4 weeks before the course starts, is subject to a fee of 3.000,- NOK. Cancellations later than 10 days before the course starts, will not be refunded.

Cancellations have to be in writing and sent to **Tom Eriksen, Project Leader SUT** at terikse2@gmail.com.

Subsea Awareness Course

Be familiar with the future technology in subsea oil and gas.

25 – 27 October 2022

**at Equinor, Schlumberger/Framo and
TechnipFMC sites outside Bergen**



Day One: 25 October at Equinor's offices, Sandsli, Bergen

09:00 – 16:00

- Subsea history of Equinor from 1985 to present
- Why Subsea Production?
- Flow assurance – From pore to process
- Introduction from an end user of building blocks for a standard subsea field, including X-mas trees, manifolds, gas lifts, control systems, etc.
- Optimized production from a mature subsea production system – Gullfaks Field
- Lunch
- Underwater Intervention System, also includes drones
 - Inspection Maintenance and Repair (IMR) – What is needed to keep the “Subsea factory” going throughout its lifetime
 - Decommissioning – “Cleaning up”
- New technology - All-electric Vertical X-mas Tree, Use of subsea drones, Subsea processing
- Carbon Capture and Storage and CO2 injection
- Sustainable energy, Offshore Sea Wind generating systems, floating and sea bed located

Day Two: 26 October at TechnipFMC, Ågotnes, Øygarden

09:30 – 16:30

Presentation of main subsea systems. Also use of animation to visualize the different installation sequences;

- Wellhead tool and equipment
- X-mas tree
- low control module
- Tubing hanger & tree cap
- Subsea control module
- Work over tool and control system
- Intervention tools

Tour of TechnipFMC workshop to witness key subsea building blocks like subsea X-mas trees, flow control modules, intervention tools, etc.

- Lunch
- Subsea field development and operation
- Operational experience for a subsea field
- Pipeline systems
- Pipeline repair systems (PRS)
- Summary

18:30 Dinner in Bergen

Day Three: 27 October 2022 at OneSubsea, Horsøy, Askøy

09:00 – 16:00

- Subsea processing building blocks
- Optimize production from pore to process – The key to improve production and recovery
- Increase production on the seabed by Multiphase Boosting Pump System
- Why wet gas compression on Gullfaks Field? – 8 years of successful operating experience on the seabed
- Lunch
- Active use of multiphase meters for production optimization
- **Tour of OneSubsea's workshop**
- Inspect production & assembly of subsea multiphase meters
- Inspect subsea multiphase pumps & compressors
- Inspect multiphase test loop facility

14:30 **ClampOn**

- ClampOn Subsea Instrumentation
- Application of subsea instrumentation
- Condition Monitoring; Pipe Integrity, Vibration, Corrosion, Erosion

15:30 **Metas**

Subsea Leak Detection on the seabed:

- Available technology review
- Field selection considerations
- Regulatory Expectations for monitoring leakages on the seabes

16:15 Transportation to Bergen or Flesland Airport