

# Integrated Instrumentation Solutions

For wellheads and trees



# Optimize offshore operations with modular instrumentation packages

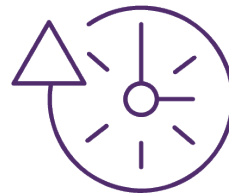
Modular instrumentation packages accelerate time to first oil by optimizing offshore operations with faster installation, reduced risk and increased safety.

TechnipFMC brings together pre-configured building blocks with engineering design know-how and project management expertise, improving your project economics.

Our instrumentation packages are manufactured, assembled, tested and installed in-house before offshore delivery allowing us to deliver a faster integrated instrumentation solution from the simplicity of one supplier.

## Modular instrumentation packages include:

- ▶ Engineering & design
- ▶ Project management
- ▶ Pre-configured instrumented wellhead and XT
- ▶ In-house manufacturing, assembly, testing and installation
- ▶ Offshore delivery and installation by a TechnipFMC technician



Faster installation



Reduce risk & increase safety



Engineering & PM Expertise



Pre-configured building blocks



Improve project economics



Simplicity of a single vendor

TechnipFMC delivers an integrated instrumentation solution to manage safety and limit risk

### Design

Instrumented wellhead and tree designed with 3D modelling:

- ▶ Early stage design validation
- ▶ Safety assessment
- ▶ Pre-drilled tree block

### Assembly & Test

Performed at TechnipFMC facilities:

- ▶ Validate System functionality
- ▶ Customer Witness test
- ▶ Reduce interface risks
- ▶ Improve project lead times
- ▶ Limit transport risks

### Offshore Installation

- ▶ All equipment tested during SIT prior to offshore installation
- ▶ Equipment ready to plug and play

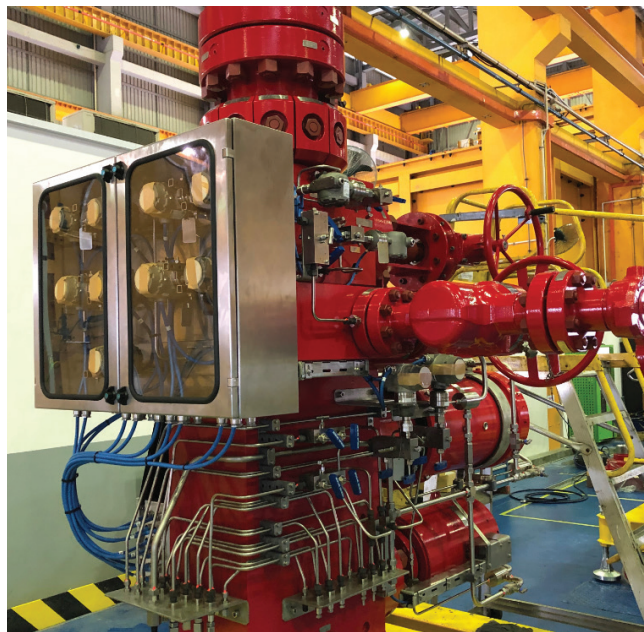
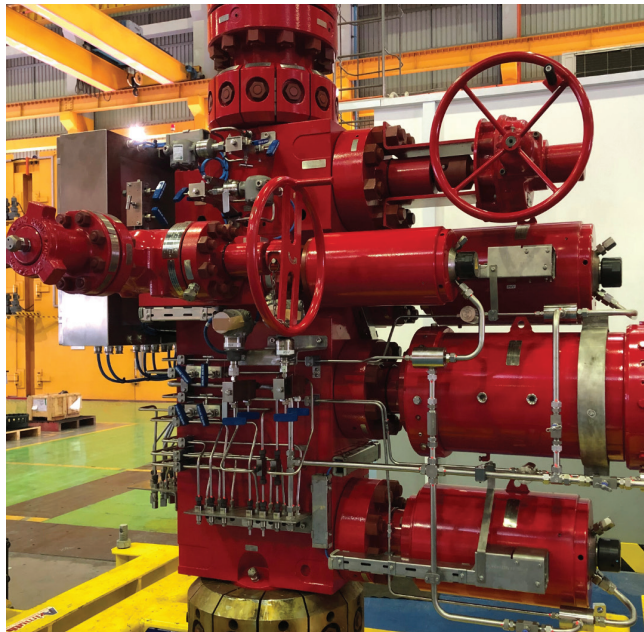
### Customer Platform Interface

Engineering documents provided at an early stage to allow for HAZID reviews during design verification

- ▶ 3D modelling
- ▶ Interface detail drawing
- ▶ P&ID

### Personnel & Manning

- ▶ A large cross trained TSP pool
- ▶ Detailed installation procedures



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