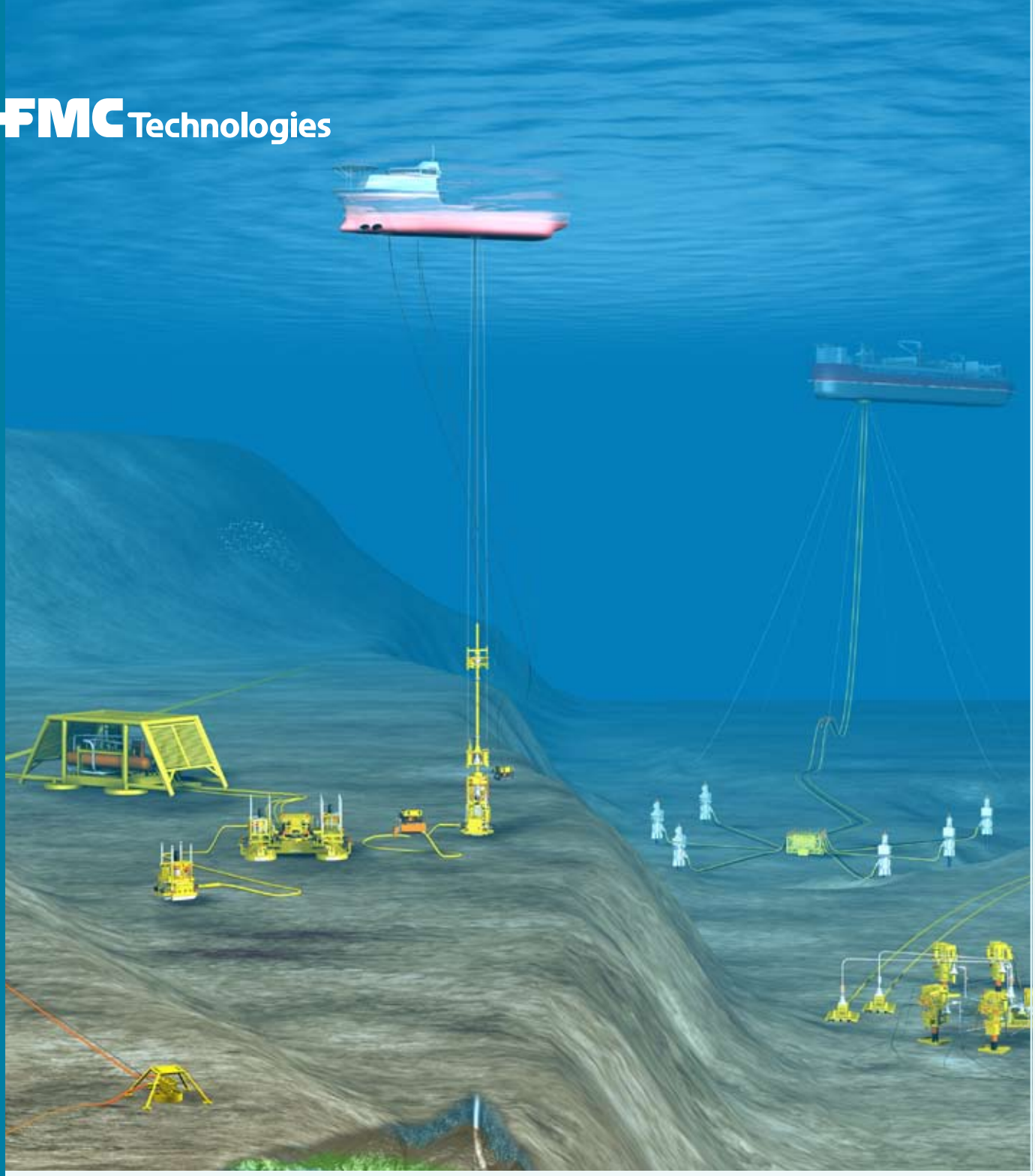
FMC Technologies



Total Subsea Solutions

Total Subsea Solutions

Developing new energy reserves, managing, and improving producing fields means an unprecedented number of technical challenges. In partnership with our customers, FMC continually develops new technologies and solutions which achieve the full potential of our customer's projects.

FMC Technologies is the leading provider of subsea solutions for the energy industry. From project inception to abandonment, FMC has the resources necessary to deliver integrated solutions that minimize costs, maximize performance and optimize bottom-line results.

FMC offers a full compliment of engineering and customer support services such as field development studies with graphical tools, system engineering, flow assurance and project management.

Being a global manufacturing leader with facilities worldwide enables FMC to machine major components, assemble equipment, and perform required qualification testing, acceptance and systems integration testing.

Houston, USA

Kongsberg, Norway

Singapore

Rio de Janeiro, Brazil

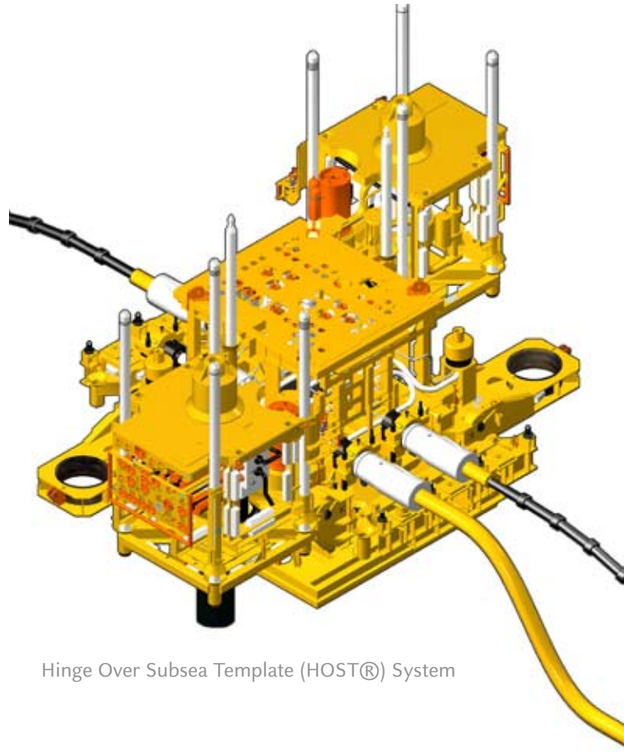
Luanda, Angola

EPC Subsea System Deliveries

The delivery of a total Subsea System by one experienced and reliable supplier enables the customer to manage, reduce interface risks, and to control overall costs of the project.

Project Management and System Engineering

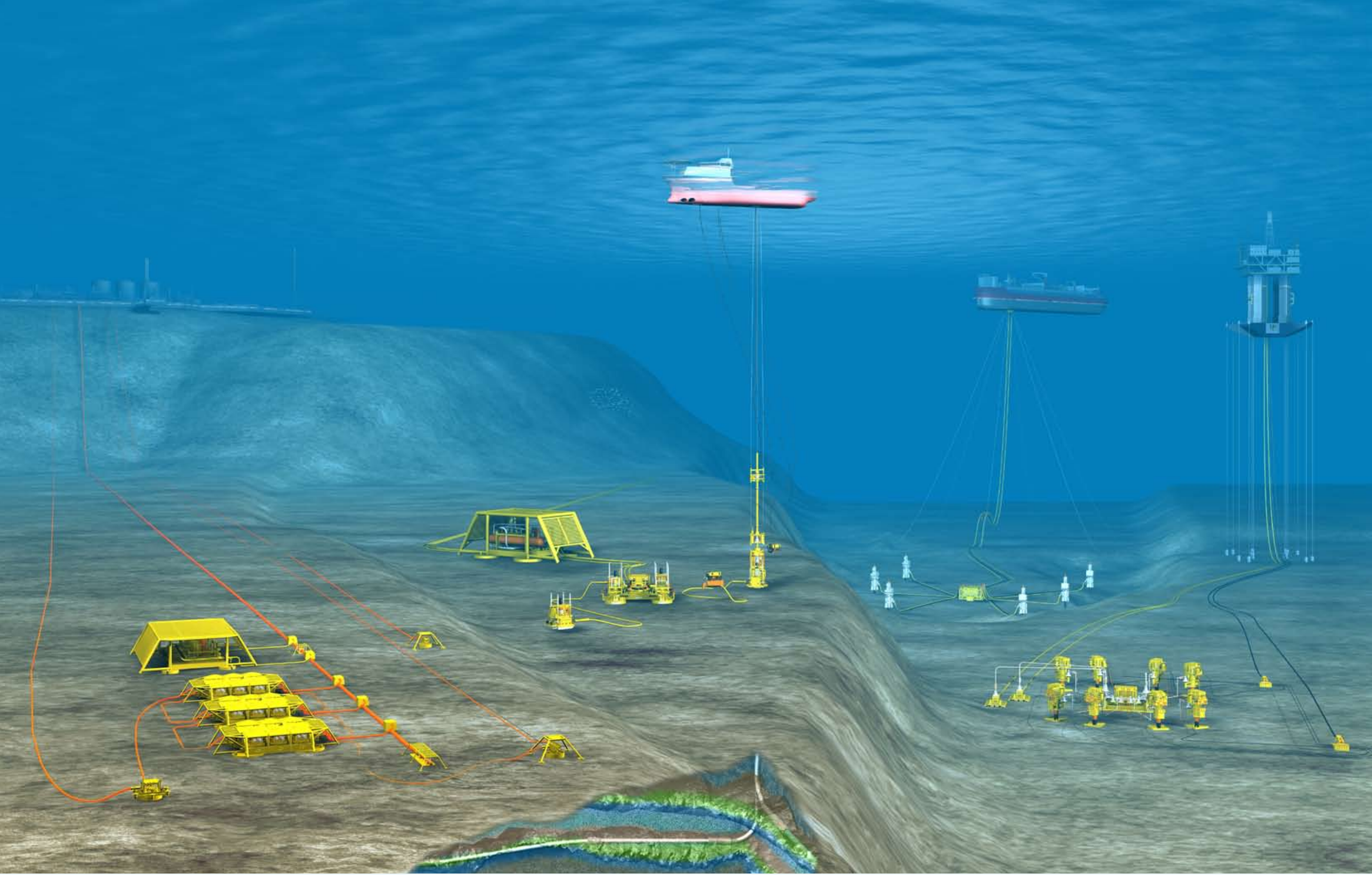
FMC's project management systems provide for an integrated management of HSE, scope, quality, cost and schedule. System engineering services are available to support the development of large and complex systems, where our unique knowledge of field architecture and component design can make a significant impact on cost and reliability.



Hinge Over Subsea Template (HOST®) System

Local Content

FMC is commited to developing long-term local content sourcing plans for future projects globally. These plans encompass our own engineering presence as well as local suppliers, joint ventures and investment opportunities.



Subsea Production Systems

FMC Technologies is the leading manufacturer and supplier of subsea production systems, including subsea trees, controls and manifold and tie-in systems. In addition, FMC has a compliment of engineering and customer support services encompassing system engineering, flow assurance, flow measurement, and project management.

Subsea Trees

FMC Technologies is the worldwide leader in the manufacture and supply of subsea trees. Through frame agreements, alliances and standalone contracts, FMC maintains a dominant market position.

Enhanced Horizontal Subsea Tree

FMC continually sets deepwater records through development of advanced subesea technologies.

Enhanced Horizontal Subsea Tree (EHXT)

Offered in two varieties: 10,000 psi EHXT and 15,000 psi EHXT. The 5-inch by 2-inch 15,000 psi system is based on the widely field-proven 10,000 psi EHXT system and FMC's extensively qualified 15,000 psi EVXT system. The technology from the two systems has been merged to produce a modular design that retains the best features of both.

Enhanced Vertical Subsea Tree (EVXT)

Rated at 15,000 psi, 350° F (175° C), the EVXT's are high-pressure, high-temperature (HPHT) systems representing the most technically advanced oil and gas subsea completion systems in the world. The trees are modular so they can be customized for specific customer requirements.

Enhanced Vertical Deepwater Tree (EVDT)

The tree is fully rated for 10,000 ft (3,000 m) water depths and up to 350° F (175° C) and was developed for global applications in response to a growing demand for reduced total life cost. The system features FMC's proven configurable flow module providing maximum flexibility, ability for the tubing hanger to be installed directly in the subsea wellhead or in a tubing head spool, and a BOP-on-Tree interface. Future configurations for subsea boosting and gas compression technologies is also available.

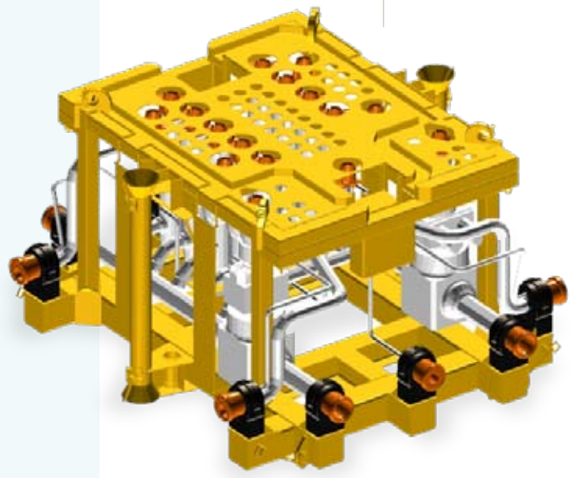
Enhanced Vertical Subsea Tree

Control Systems

Advantages of using FMC control systems is our proven communications on power to control, monitor and operate the different subsea components. This proven technology reduces the size and complexity of the umbilical system and reduces the number of copper lines and the overall cost of the umbilical. We also offer a fiber optic system to meet the increasing demands for more data and higher baud rates at very long distances.

FMC offers several types of electro/hydraulic subsea control systems and modules which operate trees with as few as six subsea functions to as many as 46 functions. These systems are modular and standardized to be configurable to meet each customer's unique requirements. The various systems are designed to operate trees as close as three miles and as far as 90 miles from the topside facilities.

4 slot Manifold



FMC's control systems are designed to operate and monitor subsea trees, manifolds, pipeline terminations and subsea process equipment. We also supply installation and workover control systems (IWOCS) that monitor, operate and control the deployment and retrieval of subsea trees and production equipment.

Subsea Control Module

Manifolds

FMC Technologies is a global supplier of manifolds, PLETs, PLEMs and sleds.

Designed to direct flow from multiple individual wells into multiple production flowline headers, proven manifold systems from FMC are solving subsea flow control challenges worldwide. The compact manifold design allows the production headers to be sized using nominal pipe diameters. All manifold piping connections are welded to minimise leak paths and increase reliability. Many manifolds feature a removable pigging loop to allow round-trip pigging of the production flowlines. Manifolds are designed to operate for up to 25 years at water depths to 10,000 feet (3,000 meters), working pressures to 15,000 psi and temperatures to 350° F (175° C).

Tie-In and Flowline Systems

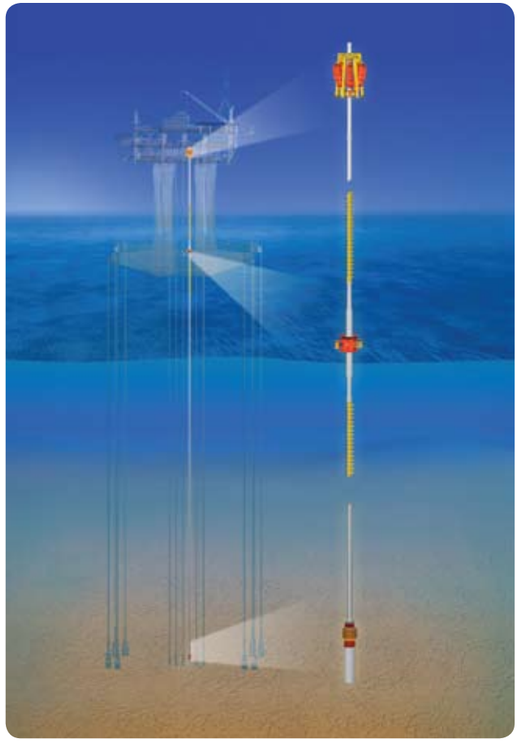
Over the past decade, FMC has developed a complete range of tie-in connection tools to meet varying customer requirements. The tools are based on standard components, producing significant cost savings throughout a project. Tie-in and installation tools are available on a rental basis.

Custom jumpers or spool pieces are used to connect manifold systems to wells, sleds to wells and/or manifolds to sleds. FMC Technologies offers rigid and flexible configurations as well as vertical or horizontal solutions based on system selection. Designed for water depths exceeding 10,000 feet (3,000 meters) and working pressures to 15,000 psi, all jumpers or spool pieces are installed using guidelineless techniques.

KC Connector

Vertical Tie-In System

Production Riser System



Direct Vertical Access (DVA) Well Systems

FMC's DVA well systems use a combination of surface and subsea technology to connect the floating production platform to the subsea wellhead at the seabed. The DVA system consists of a Top Tension Riser (TTR) which extends from the subsea wellhead, a riser tensioning system at the surface, a dry surface tree system and short flexible flowlines and umbilicals, which connect to a tree platform.

FMC has supplied production well systems for Spars and TLPs. FMC Technologies' proven DVA well systems have been reliably meeting customer demands and reducing overall costs for TLP and Spar riser system applications since their introduction in 1983.

Completion and Workover Riser System

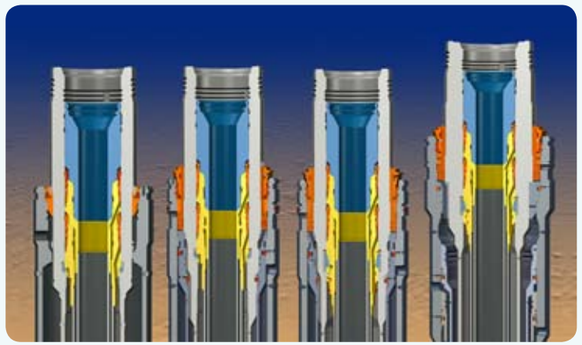
FMC Technologies' completion and workover riser systems are designed with modular components. These components obtain optimal conversion between configurations, maximize expansion capability and utilise existing equipment designs when possible.

FMC's monobore riser configuration can withstand working pressures to 15,000 psi and is designed for water depths to 8,200 feet (2,500 meters) and temperatures to 250° F (120° C), operating from Dynamically Positioned (DP) or moored vessels.

Through Tubing Rotary Drilling stack-up

Subsea Drilling Systems

FMC Technologies subsea wellhead systems leads the industry with reliable and cost-effective drilling solutions which meet customer demands for Standard, Slimbore and High Capacity drilling systems with production in water depths from a few hundred feet to more than 10,00 feet. FMC provides world-proven weight-set installation, metal-to-metal sealing, and multi-function tools. The FMC subsea wellhead family of systems can be configured in a multitude of applications, reducing installation time and money over competitive designs.

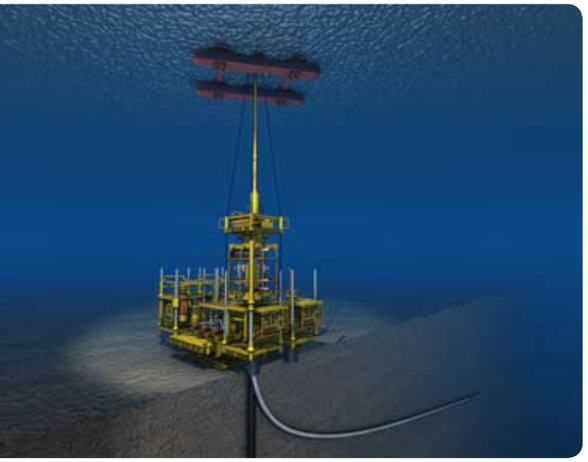


UWD-15 Subsea Drilling Systems

Rated for working pressures of 10,000 psi and 20,000 psi, FMC's subsea wellhead systems offer a complete range of shallow and deepwater drilling and production scenarios.

The High Capacity Wellhead System (UWD-HC) is the next generation wellhead family featuring a 4M lbs. wellhead string capacity, 30" SHD connector profile with a 32" open water casing string option.

The UWD-10 Slimbore Systems are designed for a complete range of drilling and production applications in shallow and deepwater with subsea or surface BOPs and is suitable for H2S service. The 13-5/8" UWD-10 Slimbore system is uniquely designed allowing the Slimbore tubing hanger to be installed in the wellhead.



Through Tubing Rotary Drilling

Increased Oil Recovery

Increased Oil Recovery (IOR) from mature oil fields is time-critical and a growing challenge. FMC Technologies has developed solutions to meet the IOR challenges: Through Tubing Rotary Drilling (TTRD), Riserless Light Well Intervention (RLWI), Composite Cable and Subsea Processing.

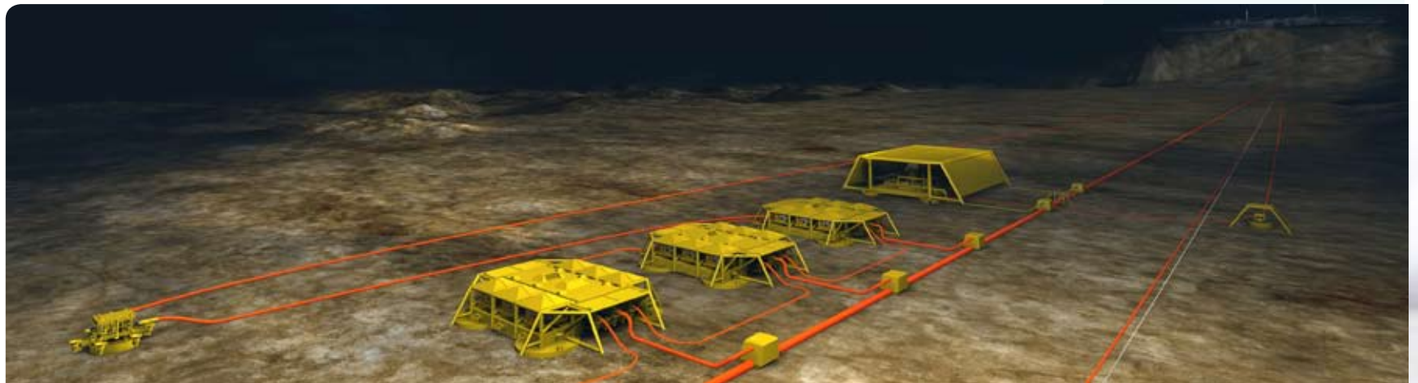
Electric Subsea Technology

FMC's experience with Electric Subsea Technology began in 2001. This technology is growing due to its inherent environmental and functional advantages. FMC's field proven subsea electric technology is powered by rechargeable batteries and offers a solid platform for further development. FMC's electric technology is suitable for a range of other applications which include: ultra- long distance tiebacks, water injection wells, manifold valves, retrofit hydraulic actuators, retrofit manual valves and chokes to add remote actuation, process control valves for subsea separation and anti-surge valves for subsea gas compression. FMC is working with customers to develop electric subsea technology that is dependable, reliable and safe.

Subsea to Shore / Gas Compression

For a subsea-to-shore field development, all processing and boosting of produced fluids are processed subsea close to the wells, or onshore. Typical value drivers are reduced OPEX and CAPEX, mitigation of environmental aspects such as ice, icing of surface faclilities or other challenges caused by arctic climate or environmentally sensitive areas.

Templates with Gas Compression Station



Flow Management

FMC Technologies offers a broad range of solutions and services to cost effectively manage the flow of hydrocarbons from the reservoir to the export point. These services and solutions can be applied at various stages of a field life cycle, from initial discovery through the mature production phase, to maximize the operator's return on investment. The services includes: Flow Assurance, Fowline Products, Flow Manager, Flow Meters, Subsea Thermal Management and Topside Process Systems.

Customer Support

FMC's global Customer Support organization provides service and strategic life of field solutions to operators worldwide. Experience with an installed base of over 1,200 subsea production systems enables FMC to deliver a customized package of services to satisfy demanding installation and intervention requirements. ISO-14001 certification ensures that all services adhere to the highest possible HSE standards.

Our Life of Field service ensures a field performs efficiently and maintains optimum production from post-installation through abandonment. Our solutions focus on reducing installation/rig time, extending the life of the subsea production system equipment, extending the life of a well, and improving performance of the subsea production equipment.

FMC Technologies provides world-class training for its Customer Support teams, including classroom and hands-on training as well as E-learning courses.

FMC Technologies

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