A world leader in engineering, project management and technologies, serving the oil & gas industry for more than 50 years

A regular workforce of 23,000*
* In addition 3,000 people from outside companies

Confirmed leadership and proprietary technologies in 3 business segments:

**Subsea**
- Design, manufacture and supply of deepwater flexible and rigid pipelines, umbilicals and riser systems
- Subsea construction and pipeline installation services
- Five state-of-the-art flexible pipe and umbilical manufacturing plants
- Five spoolbases for reeled pipeline fabrication
- A constantly evolving fleet strategically deployed in the world’s major offshore markets

**Offshore**
- Engineering and fabrication of fixed platforms for shallow waters (TPG 500, Unideck®)
- Engineering and fabrication of floating platforms for deep waters (Spar, semi-submersible platforms, FPSO)
- Leadership in floatover technology
- Management of construction yards

**Onshore**
- Gas treatment and liquefaction (LNG), Gas-To-Liquids (GTL)
- Oil refining (refining, hydrogen and sulphur recovery units)
- Onshore pipelines
- Petrochemicals (ethylene, aromatics, olefins, polymers, fertilisers)
- Biofuel and renewable energies
- Non-oil activities (pyrotechnics, life sciences, metals, buildings and infrastructures)
In the last 20 years, Technip has been designing and delivering technological innovation to meet the Industry’s rising challenges of water depth, size and complexity.

**A LEADING EDGE CONTRACTOR**

Technip’s history is a marine contractor on the leading edge. Our projects are typically first-of-a-kind, or record setting in water depth, size or complexity. Whether it is the largest FPSO, or the deepest Spar or the heaviest open sea floatover, Technip is the contractor called upon to meet pioneering challenges. And it continues with the delivery and installation of the first floating wind turbine and the design of the world’s largest Floating Liquefied Natural Gas (FLNG) plant.

This history of innovation has created a portfolio of demonstrated technologies that provide overlapping solutions to our clients’ development challenges.

We recognise that no single technology is best fit for all applications, and look forward to the opportunity to work with our Clients to evaluate and help select the most appropriate solution for each project.

**INNOVATION**

Technip’s goal is to deliver world class facilities based on demonstrated technologies wherever possible, but also be ready to develop and validate new technologies that prove necessary to unlock value in frontier areas. And we are prepared to deliver such solutions through our network of international affiliates that will ensure the sustainable inclusion of local host country content.

The solutions are divided by field development type:

- **Deepwater oil & gas developments** (floating facilities)
  - Dry tree units: Spar, TLP, Deep Draft Semi, EDP
  - Wet tree units: Semi, FPSO, FLNG

- **Shallow water oil & gas developments** (fixed facilities)
  - Structures: TPG 500, jackets
  - Large decks
  - Installation methods: Unideck®, High Air Gap floatover

- **Arctic oil & gas developments**
- **Offshore wind developments**
- **Local content delivery**
Deepwater oil & gas developments
Floating facilities – Dry tree units

SPAR

Technip has a long established track record in deepwater Oil & Gas development with the delivery of 14 Spar platforms to-date. Technip Spurs have been deployed in a water depth range of 590 – 2,382 metres using both dry and wet tree completions. Low motions also make it excellent for supporting Steel Catenary Risers (SCRs).

The Spar technology continues to evolve with new innovations for:
- Ultra harsh environments in the Northern North Sea
- Ice resisting structures and moorings for the Arctic region
- Condensate storage for remote gas field developments
- Open sea floatover installation of large topsides

Technip has developed several technologies for dry tree units.

TLP

In water depths up to 1,500 metres, the Tensioned Leg Platform (TLP) offers a cost-effective platform for supporting dry trees. Technip has worked with experienced TLP designers to develop its own conventional TLP design.

Market ready designs are available for South East Asia that can utilise Tender Assisted Drilling (TAD). Designs are being prepared for the Gulf of Mexico (GoM) incorporating full drilling. These designs can be readily adapted to other regions.

DEEP DRAFT SEMI-SUBMERSIBLE PLATFORM AND EDP

Technip has two deep draft semi-submersible design options for supporting dry trees, both with the same wetted hull design that provides low motion performance.

The Deep Draft Semi is configured with floatover topsides, building on the successful wet mate installation of the Petrobras P51, P52 and P56* semi topsides. Topside weights of up to 25,000 tonnes are readily achievable using this method.

The Extendable Draft Platform (EDP) on the other hand lowers the wetted hull structure from its floating deckbox. This enables quayside integration of the topside facilities with the hull structure. Topside weights of up to 50,000 tonnes are achievable using this integration method.

A small scale unmanned EDP has been designed for use as an ocean science measurement buoy and, slightly larger, as a control buoy, supplying electrical and hydraulic power and controls to remote subsea developments.

* Planned for mid-2010
Deepwater oil & gas developments
Floating facilities – Wet tree units

SEMI-SUBMERSIBLE PLATFORMS

Technip has designed the topsides for three Petrobras deepwater production semis for deployment offshore Brazil. Technip was also responsible for the engineering and supervision of the topside installations by floatover. The three projects, P51, P52 & P56 represent the largest topsides floatovers onto semi hulls in the world.

FPSO AND FLNG

Technip continues to build on its experience of delivering world class FPSO projects. Its track record includes the largest FPSO topsides ever built, at 37,000 tonnes, for the Akpo FPSO. Other major references include Nkossa (30,000-tonne topsides FPS), Girassol (32,000-tonne topside FPSO) and Dalia (24,000-tonne topside FPSO).

Building on this FPSO experience, Technip is now a major player in the FLNG market with comparable topside weights and size. Technip has its own design for a 2 Mtpa Floating LNG vessel.

In mid-2009, Shell awarded Technip as leader of a consortium a 15-year Master Agreement for the design, construction and installation of multiple Floating Liquefied Natural Gas (FLNG) facilities. Technip and its partner are executing the FEED for Shell’s generic FLNG solution with a 3.5 Mtpa LNG capacity.

In late 2009, Petrobras awarded Technip and partners a lump sum contract for the FEED of a proposed FLNG unit as part of a design competition. This project would be the first FLNG unit in Brazil and is to be designed for a capacity of approximately 2.7 Mtpa of LNG.

In March 2010, Shell awarded the Technip-led consortium a further two contracts for the FEED and EPCI (subject to FID) for its Prelude FLNG development offshore Australia.

We will work with our clients to evaluate the relative economics between onshore and offshore LNG and help select the most appropriate solution for each specific project. Further details on FLNG and its related topics can be found in Technip’s Floating LNG brochure.

Technip has delivered various technologies for wet tree units.
Technip has designed several field proven technologies to meet installation challenges in shallow waters and is developing new floatover installation methods for higher air gap.

**STRUCTURES: TPG 500 JACKETS**

Technip has designed the 3 largest self-installing TPG 500 production jack-up platforms in the world with topsides weights of 17,000 tonnes (Harding), 30,000 tonnes (Elgin) and 20,000 tonnes (Shah Deniz).

Technip also designs conventional jackets for lift or floatover installed topsides.

**INSTALLATION METHOD: UNIDECK®**

Technip pioneered the floatover installation of large topside integrated decks in the long period swell conditions offshore West Africa. To overcome barge heave motions in this region, Technip developed the Unideck® system of hydraulic jacks which can set the deck down rapidly and prevent repeated shock loadings (that would occur with ballasting alone). To-date we have installed 4 large integrated decks offshore West Africa (up to 18,000 tonnes) using the Unideck® jacks and over 15 floatover operations in total worldwide.

Unideck® references: Cobo (Angola); Amenam 1 (Nigeria); East Area (Nigeria); Amenam 2 (Nigeria).

**INSTALLATION METHOD: HIGH AIR GAP FLOTOVER**

As major Oil and Gas field developments enter more challenging regions of the world in terms of environment so the envelope of floatover installation needs to expand. High Air Gap (HAG) floatovers are required in cyclone prone area of Asia Pacific, especially South East Asia and North West Australia where storm design wave heights require particularly large clearances between the topsides and sea level. Technip is developing designs to enable potentially the world’s largest HAG floatovers in the North West Australian shelf. This area is particularly challenging in terms of transporting very large topsides in excess of 30,000 tonnes over long distances and then floating them over fixed platforms with elevations more than 25m above sea level.
Emerging technologies

Building on their experience, Technip’s specialist engineers rise to the challenges of the 21st century: more extreme conditions, renewable energies, and technology transfer.

ARCTIC OIL & GAS DEVELOPMENTS

As drilling activity and Oil and Gas developments move into more Arctic regions, Technip is developing the designs and design methods that can allow for safe exploitation of resources in ice prone areas. Current designs have adapted Spars for applications in Eastern Canada, far Northern Norway and the Barents Sea offshore Russia. These designs can either resist very thick sheet ice or can routinely disconnect and move out of the way of icebergs.

OFFSHORE WIND DEVELOPMENTS

Technip is involved in several offshore wind related initiatives. Crucial in the development of wind farms is the ability to simulate the logistics, transportation and installation of wind turbines offshore in realistic changing weather conditions in order to properly design marine equipment and seasonal installation campaigns. Technip has developed such a simulator as the first step in identifying cost effective solutions for making offshore wind an environmentally safe and economically viable option. Combining the technologies from the offshore industry and wind energy, Technip has delivered the substructure for the world’s first full scale offshore floating wind turbine: Hywind.

LOCAL CONTENT DELIVERY

Technip takes great pride in delivering critical projects through regional organisations that maximise local content. The Spar delivered for the Kikeh field offshore Malaysia was built entirely in Malaysia, the first Spar delivery outside the USA. Final assembly of the Shah Deniz TPG 500 jackup production system was done in the Caspian. The 3 semi-submersible floating production systems for Petrobras were built in Brazil, the last one achieving over 70% local content. Fabrication of bridges and flare for the East Area 1A project was done in Nigeria. FPSO projects in Angola and Nigeria integrated locally-fabricated elements such as deck and sub-structures. Advanced technology can be made deliverable in developing nations through the efforts of Technip’s global procurement organisation and designers that keep in mind the strengths of local fabricators.
Technip is a world leader in the fields of project management, engineering and construction for the oil & gas industry, offering a comprehensive portfolio of innovative solutions and technologies. With 23,000 employees around the world, integrated capabilities and proven expertise in underwater infrastructures (Subsea), offshore facilities (Offshore) and large processing units and plants on land (Onshore), Technip is a key contributor to the development of sustainable solutions for the energy challenges of the 21st century. Present in 48 countries, Technip has operating centers and industrial assets (manufacturing plants, spoolbases, construction yard) on five continents, and operates its own fleet of specialized vessels for pipeline installation and subsea construction. The Technip share is listed on Euronext Paris exchange and over the counter (OTC) in the USA.

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