Technip in Asia Pacific

The leading integrated engineering organisation in the energy industry
A world leader in engineering, project management and technologies, serving the energy industry for more than 50 years

A regular workforce of 36,500

Confirmed leadership and proprietary technologies in 3 business segments:

**Subsea**
In Subsea hydrocarbon field development, Technip’s activities include the design, manufacture and installation of rigid and flexible subsea pipelines and umbilicals. Thanks to its portfolio of technologies and industrial and operational assets, Technip offers a unique vertically integrated model in the industry.

The Group has 3 flexible pipe manufacturing plants, 4 umbilical production units, 9 logistics and pipeline assembly bases, and 1 construction yard. Technip’s worldwide leadership is supported by a modern fleet of vessels for subsea construction, pipelay development (rigid and flexible pipes using S-Lay, J-Lay or Reeled technology) and heavy lift applications.

**Offshore**
In the Offshore business segment Technip performs engineering, procurement, construction, installation, commissioning and the refurbishment/upgrading of offshore facilities for the oil & gas industry.
Technip provides these services for fixed platforms in shallow water with conventional sub-structures and self installing platforms such as the TPG 500 and for deepwater facilities including Spar, semi-submersible, TLP, FPSO and FLNG units. Technip is a world leader in floatover installation of topsides and its R&D effort is focused on technology transfer for local content and new frontier areas such as ultra-deepwater and the Arctic.

**Onshore**
Technip covers the full range of Onshore facilities for the oil and gas chain, petrochemicals and other energy industries (nuclear, renewables including biofuels and offshore wind). It holds many proprietary cutting-edge technologies and is the leader in the design and construction of LNG and gas treatment plants as well as ethylene, hydrogen and syngas units.

Technip is also one of the key actors in refining and petrochemical units, and has developed a leadership in the fertilizer industry. Moreover, the Group is very active in non-energy activities such as mining and metals, life sciences, buildings and infrastructures.
As a member of the Technip group, Technip in Asia Pacific with over 30 years of engagement in the region, has a local presence with a global reach. In doing so, we believe in creating value for our clients while generating opportunities for local industries and employment wherever Technip is present. We see a greater role in the energy value chain as the strategic partner to global majors, independents and state organisations by providing technological solutions, engineering and turnkey contracting expertise in Subsea, Offshore and Onshore.
A workforce of over 6,000 employees with more than 3,000 staff based in Kuala Lumpur, Technip’s regional headquarters
Located in Kuala Lumpur, Technip’s headquarters in Asia Pacific offers an ideal engineering hub for clients to plan and execute their projects. It is a fully equipped, high technology centre which provides technical and commercial support to its subsidiaries and affiliates in China, South East Asia and Oceania.

**Manufacturing Plant**

Asiaflex Products, Tanjung Langsat, Johor, Malaysia

**Regional Operating Centres**

- Bangkok
- Brunei
- Ho Chi Minh City
- Jakarta
- Perth
- Singapore
- Shanghai
**Assets in Asia Pacific**

**Manufacturing plant**
- Asiaflex Products - Flexible pipe & umbilical manufacturing plant

**Vessels**
- G 1201 - Rigid S-lay and heavy lift DP-2 construction vessel
- Deep Orient - Flexlay construction vessel dedicated for Asian market

**Yards**
- Batam Marine Base - Mobilisation and demobilisation for offshore marine projects
- MMHE - Affiliate in fabrication of oil and gas production facilities
# Feasibility studies to turnkey implementation

<table>
<thead>
<tr>
<th>Project phases</th>
<th>Scope</th>
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</table>
| **FEASIBILITY**      | ■ Economic evaluation  
                        ■ Technical and feasibility studies  
                        ■ Technologies agreements  
                        ■ Project management  
                        ■ Bankable feasibility study |
| **PROJECT MANAGEMENT**| ■ Cost estimate  
                           ■ Cost control  
                           ■ Planning and scheduling |
| **FINANCING**        | ■ Export credit  
                          ■ Project finance |
| **ENGINEERING**      | ■ Concept selection  
                        ■ Conceptual design  
                        ■ Front-end engineering design  
                        ■ Basic design  
                        ■ Detailed engineering  
                        ■ Model testing  
                        ■ Procurement engineering  
                        ■ Field engineering  
                        ■ As-builts |
| **PROCUREMENT**      | ■ Purchasing  
                        ■ Expediting  
                        ■ Shop inspection  
                        ■ Traffic coordination  
                        ■ Customs clearance  
                        ■ Tax exemption application |
| **CONSTRUCTION**     | ■ Supervision  
                        ■ Subcontracting  
                        ■ Fabrication, installation & hook-up  
                        ■ Subsea installation  
                        ■ Pipe laying and offshore installation  
                        ■ Hook-up  
                        ■ Pre-commissioning |
| **COMMISSIONING**    | ■ Commissioning  
                        ■ Start-up |
| **OPERATION**        | ■ Personnel training  
                        ■ Operating assistance  
                        ■ Computerised plant control and management |
| **FLEXIBLE CONTRACT SCHEMES** | ■ Reimbursable  
                             ■ Reimbursable with ceiling  
                             ■ Reimbursable with incentives  
                             ■ Alliance, risk/reward  
                             ■ Lump sum/Lump sum turnkey  
                             ■ Reimbursable to lump sum conversion  
                             ■ Cost plus  
                             ■ Guaranteed maximum price |
Our key references in Asia Pacific

- Solwara 1 for Nautilus Minerals Singapore, Papua New Guinea
- Prelude FLNG - Subsea Installation for Shell, Australia
- Wheatstone Subsea Installation for Chevron, Australia
- Greater Western Flank Phase 1 Pipelay for Woodside, Australia
- Ichthys Flexible Supply A – Production & Gas Export Lines for McDermott, Browse Basin, Western Australia
- Balnanes Flexible Supply for Apache Energy, Australia
- Fletcher/Finucane Flexible Supply for Santos, Australia
- Geographe Phase 2 Flexible Flowline Supply for Origin Energy, Australia
- Vincent Phase 3A & 3B for Woodside Energy, Australia
- Kitan Supply & Installation for ENI, Australia
- Cossack Wanaea Lambert Hermes (CWLH) for Woodside Energy, Australia
- Gumusut-Kakap Umbilical Installation for Sabah Shell, Malaysia
- Inpex Abadi Subsea for JGC Corporation, Indonesia
- Kikeh Subsea for Murphy, Malaysia
Technip is involved at every stage of the value chain, from subsea field layout, pipeline and umbilical design and fabrication right through to installation and condition monitoring during production. This vertical integration, unique in the industry, combined with our project management experience, logistics expertise and leading-edge assets make Technip a global leader from deep-to-shore.
Our Offshore activities include engineering, procurement, construction and the installation of fixed and floating platforms for the energy industry. Technip has developed its own innovative platform concepts and state-of-the-art technologies for the installation of topsides. We are involved in the design of the world’s largest floating structures including FPSO (Floating Production Storage and Offloading) and FLNG (Floating Liquefied Natural Gas) vessels.

From small to world-class EPCI contracts

Engineering achievements in Asia Pacific

- 4 deepwater floaters: Spar, Semi-submersible, FPU, TLP
- 8 FPSO/FSO, 1 FLNG
- >180 jackets/structural integrity (single largest 18,000 MT)
- >80 modules
- >80 integrated decks (lifted)
- >20 integrated decks (floatover) (4,000 to 35,000 MT)
- >30 lightweights, tripods and monopods
- >220 subsea pipelines, 260 risers
- >15 subsea pipeline end manifold (PLEM)
- Installation engineering: >120 installation projects
- >100 onshore pipelines
- >20 receiving storage terminals
Our key references within and beyond Asia Pacific

Deepwater
- Malikai TLP for Shell, Malaysia
- Gehem & Gendalo FSU for Chevron, Indonesia
- Gumusut-Kakap Semi-submersible FPS for MMHE, Malaysia
- Kikeh Spar DTU for Murphy, Malaysia

Greenfield development
- Ichthys FPSO Topsides Detailed Engineering for Daewoo Shipbuilding & Marine Engineering (DSME), Australia
- Wheatstone gas processing platform for Chevron, Australia
- Valemon topsides detailed engineering for Samsung Heavy Industries, Norway
- Petronas FLNG FEED for Petronas & MISC, Malaysia
- Turkmenistan Block 1 full field development for Petronas Carigali, Turkmenistan
- WHP8, WHP9 and WHPII development for Carigali Hess, Malaysia/Thailand Joint Development Area
- North Belut and Kerisi development for ConocoPhillips, Indonesia

Brownfield development
- Dulang field redevelopment phase 2 for Petronas, Malaysia
- RBDP-B Gaslift, Blocks 1 & 2 for Petronas Carigali Vietnam, Vietnam
- Tukau Revisit Project - Phase 1 for Petronas Carigali, Malaysia
- DI2 field development for Sarawak Shell, Malaysia
- PM318 field Puteri FWS pipeline replacement for Newfield, Malaysia
- Yetagun Phase 4 development for PC Myanmar, Myanmar

Marginal offshore facilities
- F28DR-A topside and F28 to F6 pipeline for Sarawak Shell, Malaysia
- Cili Padi development for Shell Oil & Gas Malaysia LLC, Malaysia
- Jerneh B for ExxonMobil, Malaysia
- South Furious Central SFJT-E Satellite for Sabah Shell, Malaysia
- Ruby B development for PC Vietnam, Vietnam
- Madura BD field development for Husky, Indonesia

Conceptual/Front-end engineering
- Thien Ung gas condensate field for Vietsovpetro, Vietnam
- Zawtika M9 development for PTTEPI, Myanmar
- Bunga Kekwa D for Talisman, Malaysia-Vietnam Commercial Arrangement Area
- Booster Compression platform for Carigali Hess, Malaysia-Thailand Joint Development Area
- Shwe field development for Daewoo, Myanmar
Technip in Asia Pacific has access to the broader Technip group’s state-of-the-art proprietary technologies and a wide range of world-class technologies in the domain of oil refining, gas treatment, natural gas liquefaction, production of ethylene, in particular for the design and construction of furnaces and mega-steamcrackers, and hydrogen/syngas. In addition, the Group has established alliances with major international licensors, particularly in petrochemicals and refining.

Within this segment, Technip in Asia Pacific covers the full range of onshore facilities:

- LNG/GTL
- Refining
- Hydrogen - Syngas
- Ethylene
- Petrochemicals
- Speciality chemicals
- Fertilizers
- Onshore pipelines
- Flexible pipe for refining applications
- Renewable energies
- Mining & Metals
- Life sciences
- Biotechnology
- Buildings & Infrastructures

Ningxia Hanas mid-scale LNG plant in Yinchuan, China

Dung Quat grassroots refinery, Vietnam

SMPO and MPG/Polyols complex, China
Expertise from preliminary studies to turnkey delivery for individual units as well as fully integrated complexes

Our Key references in Asia Pacific

Oil refining
- RAPID Petronas Grassroots Refinery, Malaysia
- CCG HDS project for Thai Oil Public Ltd, Thailand
- Kerteh refinery extension (KRX) for Petronas Penapisan Terengganu, Malaysia
- Dung Quat grassroots refinery for PetroVietnam, Vietnam
- PSR-1 Studies/Basic/PMC for Petronas Penapisan Melaka, Malaysia

Petrochemicals
- RAPID Petronas Petrochemical Complex, Malaysia
- Minas surfactant field trial for Chevron, Indonesia
- Epoxychlorohydrin Taixing for Solvay, China
- Methionine plant for Bluestar-Adisseo, China
- SAC/TDA/TDI for Bayer, China
- AN/MNB for Bayer, China
- H₂O₂ for Arkema, China
- SMPO/MG/Polyols plant for CNOOC/Shell, China
- THF/PolyTHF plant for BASF, China
- Polyisocyanate for Bayer, China
- PVC for Vinyl Chloride, Malaysia
- Hydrogen plant for Dow-Solvay JV, Thailand
- Ethylene crackers for MOC, Thailand
- EBSM upgrading for IRPC, Thailand

Gas/LNG
- Macedon gas project for BHP Billiton, Australia
- Yangling LNG for Shaanxi LNG, China
- Tongkai LNG for Tongkai Energy, China
- Hanas mid-scale LNG plant for Ningxia Hanas, China
- Onshore gas plant for Petronas, Turkmenistan
- Otway onshore gas plant for Woodside, Australia
- Kupe gas development for Origin Energy, New Zealand
- Pluto LNG Train 2 Pre-FEED for Woodside Energy, Australia
- Browse LNG Pre-FEED for Woodside Energy, Australia
- Gas Processing Plant B Debottlenecking for Petronas, Malaysia

Syngas
- Syngas plant for BASF-YPC, China
- Syngas plant for Air Products, Singapore
- Syngas plant for Sinopec-YPC, China

Terminals/Offsite Infrastructure
- Olefins complex offsites & infrastructure for Optimal Chemical, Malaysia
- Infrastructure plant for Bayer Polymers, China
- Crude Oil Terminal process upgrade for ExxonMobil, Terengganu

Non-oil
- Messier Bugatti Carbon Disk Plant, Malaysia
- Biodiesel plant for Neste Oil, Singapore
- Koniambu ferro nickel-smelter for Xstrata, New Caledonia
- Eramat grassroots nickel plant for PT Weda Bay, Indonesia
- HTY Elastomer Composite plant for Michelin, Thailand
- Vaccine plant for Chengdu Institute of Biological Products, China
Starting with the Kuala Lumpur office in 1982, Technip in Asia Pacific has grown to become a true engineering hub with more than 13 offices in the region.

The growth of Technip in Asia Pacific

1982
- Incorporated regional head office in Kuala Lumpur, Malaysia for South East Asia operations

1993
- Front runner as the largest oil and gas engineering company in Malaysia

1994
- Accredited to ISO 9001 Quality Systems Standard
- Opening of branch in Kerteh, Malaysia

1995
- Introduced the use of 3D plant modeling and design tools

1996
- Became South East Asia’s largest oil and gas engineering company
- Vietnam representative offices, established in Hanoi and Ho Chi Minh City
- Technip Engineering Brunei, established in Kuala Belait

1997
- Technip Engineering (Thailand) Co. Ltd. established in Bangkok

1998
- Indonesia subsidiary, PT Technip Indonesia, established in Jakarta
- China operations placed under Kuala Lumpur’s umbrella

1999
- Technip Singapore Pte. Ltd. established

2001
- Accredited to OHSAS 18001 Health and Safety Management Standard
- Balikpapan operations opened under Indonesia expansion
Constantly innovating, we are dedicated to meeting today’s challenges and anticipating our Client’s future needs

2002
- Oceania operations placed under Kuala Lumpur’s umbrella

2003
- Accredited to ISO 14001 Environmental System and upgraded to ISO 9001:2008 Quality System Standard

2005
- Rayong operations opened under Thailand expansion

2006
- Accredited to ISMS 27001 Information Security Management System Standard
- Sustainable development initiatives implemented
- 50% increase of workforce to 3,000

2008
- Investment in Asiaflex Products, a flexible pipe & umbilical manufacturing facility in Tanjung Langsat, Johor, Malaysia

2010
- Asiaflex Products commenced operations
- Technip Vietnam Co. Ltd. established in Ho Chi Minh
- Technip New Zealand established in New Plymouth
- Established a long term strategic collaboration with MISC Berhad and Malaysia Marine and Heavy Engineering Holdings Berhad (MHB)

2011
- Established Technip MHB Hull Engineering Sdn Bhd with MHB
- Opening of Miri office in Sarawak, Malaysia
- Acquisition of Global Industries worldwide, with its Asia Pacific operations placed under Kuala Lumpur’s umbrella

2012
- Established Genesis Malaysia, an independent consultancy, subsea and offshore engineering services company, in Kuala Lumpur
Achievement and recognition

1982
First CIS involvement
Turnkey EPC contract led by Technip’s Paris office and associated Malaysian, export credit funding for Turkmenistan

1989
Successful completion of the Carigali Kerteh Onshore Gas Terminal in Terengganu, Malaysia
Design of the Erb West offshore platform in Sarawak, Malaysia

1991
First major overseas project
Engineering of the IDD El Shargi North Dome field development in Qatar
Design of largest subsea structure (136m, 9,900-tonnes) for Shell in Sarawak, Malaysia

1993
Second alliance project
Petronas/DSM/Polifin Polyethylene in Terengganu, Malaysia
First score in South Pars gas field

1994
First major turnkey EPC project
BP/Petronas polyethylene, Malaysia

1996
Awarded first contract in the Philippines for an LPG terminal
Delivered three separate facilities in LPG plants and oil product depot Cambodia

1997
Awarded turnkey EPC contract for PTA Plant project by BP in Kuantan, Malaysia
Engineering of light weight structures enabling marginal field development, Malaysia

1999
Awarded project management consultancy of grassroots refinery for Petronas Penapisan Melaka, Malaysia

2000
Awarded eight major petrochemical contracts in China by Shell, BASF, Bayer and BP
Awarded the turnkey EPCI field development contract - CTOC Cakerawala in Malaysia - Thailand Joint Development Area

One of the world’s fastest completion of a polyethylene plant in Kerteh, Malaysia
Awarded turnkey EPC contract for CTOC Cakerawala in Malaysia - Thailand Joint Development Area

Awarded project management consultancy of grassroots refinery for Petronas Penapisan Melaka, Malaysia
First alliance project with risk/reward sharing, with BP polyethylene plant project in Merak, Indonesia

Successful completion of the Carigali Kerteh Onshore Gas Terminal in Terengganu, Malaysia
Design of the Erb West offshore platform in Sarawak, Malaysia
<table>
<thead>
<tr>
<th>Year</th>
<th>Event</th>
</tr>
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<tbody>
<tr>
<td>2003</td>
<td>Second major offshore EPCI contract</td>
</tr>
<tr>
<td>2004</td>
<td>Market entry into offshore West Africa, with ExxonMobil East Area project in Nigeria</td>
</tr>
<tr>
<td>2005</td>
<td>Awarded turnkey EPC contract for Vietnam’s first grassroots refinery in Dung Quat by PetroVietnam</td>
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<tr>
<td>2006</td>
<td>Awarded Malaysia’s first deepwater contract development project - the Kikeh Spar floater and subsea installation turnkey EPCI contract</td>
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<tr>
<td>2008</td>
<td>Studies/ EPCM contract of the Koniambo nickel smelter unit by Xstrata in New Caledonia</td>
</tr>
<tr>
<td>2009</td>
<td>Petronas overseas venture project. The Turkmenistan Block 1 gas field development turnkey EPC contract with MMHE-led JV</td>
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<tr>
<td>2010</td>
<td>Awarded FEED for the Wheatstone gas processing platform 35,000-tonne topsides - one of the largest single integrated floatover installation</td>
</tr>
<tr>
<td>2011</td>
<td>Awarded FEED for the Shell Prelude, the world’s first FLNG project to go into FID</td>
</tr>
<tr>
<td>2012</td>
<td>Awarded FEED for Integrated Refinery and Petrochemical (RAPID) Complex by Petronas</td>
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**Technip in Asia Pacific**
Our commitment to Quality, HSE and Security

Adding value to our business through the proactive management of Quality, Health, Safety, Environment and Security

Quality
Business excellence
Working with our clients to improve performance and provide innovative solutions. Utilising Lean & Six Sigma to create value.

Client satisfaction
Listening to and understanding our clients current needs. Anticipating future needs.

Compliance
International, client and our own internal standards form basis for improvement.

HSE
Health
Promoting the wellbeing of our people in all areas by continually promoting and implementing health care initiatives.

Safety
Our ultimate objective it to provide an incident free working environment. The Health and Safety of our people is something we will not compromise.

Environment
Our professionalism and engineering expertise are combined with sound environmental management practices in order to eliminate or minimize any negative impact.

Security
Protecting our people, facilities and assets.

People
Robust and tested personnel security processes and procedures are constantly updated depending on risk.

Information
Information security management in Technip is certified to ISO/IEC 2700:2005 Standard.

Facilities
Our vessels have dedicated security services in place to ISO 9001-2008 Standard. Business continuity and crisis management planning are a key part of the security services provided.

PULSE - the brand name for Technip’s unique global HSE climate change programme, giving the skills and tools to take HSE further

Protecting the health and safety of our people is a core value and an absolute commitment
Sustainable development

- Strong commitment to sustainable development and ethics set forth in 6 charters defining the Group’s core principles
- Technip supports and promotes the 10 universal principles of the UN Global Compact
- Recognized performance in the Dow Jones Sustainability Indexes

Sustainable development initiatives in Asia Pacific:

Dedicated Sustainable Development Committee in the region to promote staff awareness and participation in:

**Social and community responsibility**
- Philanthropy
- Blood donation
- Occupational Health and Safety programmes
- Talent development
- Employee welfare
- Education and training programmes

**Environment initiatives**
- Educational talks and site visits in partnership with local NGOs
- Reduction in waste emission
- Lowering of energy and water consumption
- Protection of local flora and fauna

Excellence in safety, health and security

Fair return for our business partners

Responsible human resources

Environmental efficiency and renewable energies

Local content and support to communities