A world designed to last

Liquefied Natural Gas

Global leader in LNG plant design and construction



TECHNIP ENERGIES



First class engineering for the LNG industry

With a 60-year record of success, we bring our clients the skills, creativity and agility needed to deliver top-rated liquefied natural gas projects. Among these, are some of the largest and most complex export terminals now successfully in operation such as Yamal LNG. Working with our partners, we have delivered more than 20% of the world's LNG capacity through mid-scale to large-scale plants, both onshore and offshore in remote locations and harsh environments. We offer a complete range of services to support our clients' capital projects from concept to delivery. Our capabilities include the design and construction of all facilities and associated LNG infrastructure. We are also clear leaders in the design, engineering and construction of offshore liquified natural gas facilities, having built three of the first Floating LNGs in the industry.

ACCELERATING THE JOURNEY TO A LOW CARBON SOCIETY

We combine our engineering and construction capabilities with our technology and know-how to develop new solutions that will support the world's energy transition.

To meet our client's expectations to reduce LNG plant emissions, we:

- Rely on decades of R&D in energy efficiency to reduce CO_2 emissions;
- Combine solutions based on carbon capture and storage for existing facilities;
- Use power generated from renewable sources in new facilities.

+60 years
of operating LNG capacity

1.2 million
tons of modules built (LNG Projects)

20%
of the market share

Top-rated project execution

Our highly-skilled teams coordinated across our worldwide network of offices provide turnkey delivery of complete LNG facilities. With unparalleled experience in engineering and procurement, we have the capacity to design and execute several brownfield and greenfield projects at the same time.

We accompany our clients from the early stages of a project when we carry out conceptual studies, pre-FEED and FEED, to establish designs that meet all environmental regulations and are industrially sound. We offer CAPEX estimates of possible solutions leveraging feedback from our extensive EPC experience. Technip Energies provides execution schemes that are optimized to deliver cost-effective projects on schedule and with the highest HSE standards.

With our strong balance sheet, we can meet the financing requirements of LNG and other mega-projects.

WORLDWIDE ENGINEERING AND PROCUREMENT NETWORK

Our multiple engineering centers are able to be close to our clients and their developments wherever they may be. Our strong procurement organization provides equipment that meets all client specifications at the most competitive price, allowing them to reach optimal performance. Maintaining an exceptional track record for on-time delivery, our site teams can rely on strong home office engineering support during construction, commissioning and startup.

Guaranteed cost, schedule and performance

Predictable and controlled project delivery

Turnkey execution culture and track record in megaprojects

Multidiscipline in-house engineering teams and organized cadre of experts

Global procurement organization

Advanced construction methodology

Performance

Front End design includes EPC lessons learned
Comprehensive process performance guarantees

Offering a full range of services

Technip Energies is best known for the design and construction of large natural gas liquefaction and export terminals. We have built on this to cover import terminals, FLNG, mid-scale LNG plants and the upgrade of existing facilities.

In all these areas, we offer a full range of project services covering design, project execution and operational support.

- Feasibility studies
- Project management
- Engineering
- Procurement
- Construction
- Commissioning
- Plant expansion
- Plant decommissioning
- Digital services

Our international teams of engineers are endowed with sound financial, technical, and project management skills. We are making improvements to first generation digital tools already used for construction planning, material management etc. and offer our clients in addition, digitalised engineering models and associated project information in a way that is configured to assist operations and reduce unplanned outages and maintenance costs.



Pioneer in modularization

We have successfully delivered modularized LNG and FLNG facilities that are recognized for having broken new ground in this area in terms of scale, number of parallel sites, project management and logistics. Modularization helps de-risk the execution of onshore LNG trains in remote locations by providing greater certainty with respect to costs and schedules. Notable examples include Yamal LNG, which was assembled from 142 prefabricated modules in Asia, or the Petronas FLNG Satu project in Malaysia.

Leading expertise in Offshore LNG

We are the pioneers in Floating Liquefied Natural Gas (FLNG), providing an alternative to traditional onshore LNG plants. Floating LNG avoids the need to build and operate long-distance pipelines and related onshore infrastructure.



An attractive solution to monetize stranded, associated and remote gas resources

A modern floating facility offers a fast, commercially attractive and energy efficient solution to monetization of offshore gas fields. We benefit from key EPC project references such as Prelude, PFLNG Satu or Coral South FLNG, in addition to multiple engineering studies. We currently offer intensified processes for higher production per vessel, mega modularization for construction efficiency and design practices improved over three EPCIC contracts. Our offer also includes offloading solutions that ensure the safe transfer of LNG between FLNG and LNG carriers, even in the roughest seas.

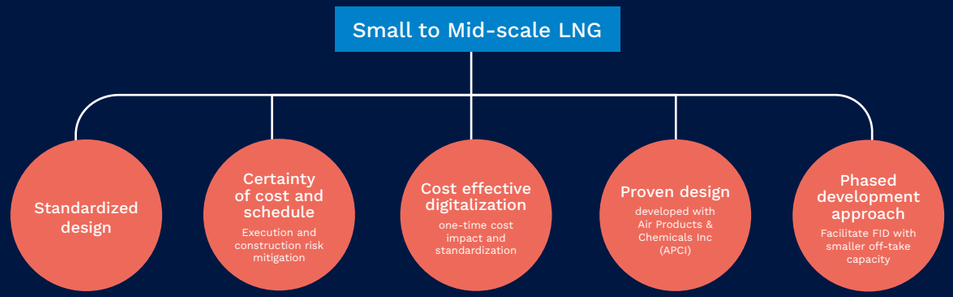
“Innovating to expand new opportunities in the market.

COVERING ALL LNG CORE DISCIPLINES

- Gas processing and liquefaction
- Offshore modularization
- Marine and naval engineering
- LNG transfer

Best solutions for small-to-mid-scale LNG plant design

Mid-scale LNG is an attractive solution for inland sites providing greater gas marketing flexibility.



LNG products

When associated with truck-based exports, it can be suitable for remote areas without gas pipeline access. With our credentials as an LNG plant designer, technological solution provider and EPC contractor, together with our longstanding involvement in the industry, we offer our clients the best solutions for the design and construction of mid-scale LNG facilities.



LNG storage and loading systems

Import and regasification terminals

We have experience in the complete range of services for LNG receiving terminals, from conceptual design studies to EPC. We can furthermore call on our experience in front-end design and execution for export terminals.

FREEPORT LNG RECEIVING TERMINAL

In 2003, Technip Energies completed FEED studies on behalf of Freeport LNG Development LP for a receiving terminal to be located on Quintana Island, Texas. Early 2005, as JV leader, we were awarded the EPC contract for the terminal, with a send-out capacity of 1.5 Bcfd* of gas. The project was executed by our operating center in Houston, and the Freeport Terminal began operating in April 2008.

*Bcfd: billion cubic feet per day

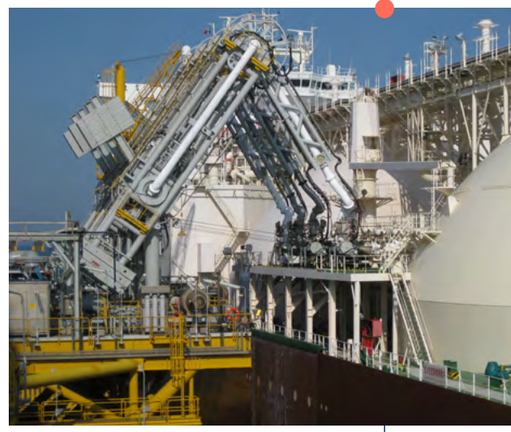
Extensive experience in loading systems technology

With more than 500 LNG marine loading arms installed worldwide, we have developed an unmatched range of efficient solutions for onshore and offshore LNG terminals:

- Large-scale marine loading arms for LNG imports
- Small- to mid-scale marine loading arms for redistribution and reception at remote terminals

Our safe and user-friendly solutions are based on our proprietary technologies:

- Swivel joints
- Emergency release systems (ERS)
- Quick connect/ disconnect couplers (QC/DC).



Innovative LNG receiving terminals

Technip Energies offers a new look at LNG import terminals.

- GSRU: Gravity (base) storage and regasification units are offered as an alternative to more traditional FSRU's.
- Modularized regasification units bring standardization to lower costs and shorten schedules.
- Integrated LNG to power solutions deliver value.
- Complete EPC solutions integrate loading and transfer systems with LNG storage and regasification in floating or land-based import terminals.

World-class technological offering

Technip Energies offers world-recognized best technologies to clients, either through agreements with process licensors or from its own portfolio. In the absence of other client preferences, we recommend Air Products' natural gas liquefaction technology. Our own technology portfolio includes state-of-the-art NGL recovery and nitrogen rejection from LNG.

Heat exchangers for LNG

Energy efficiency and compactness for the gas industry.

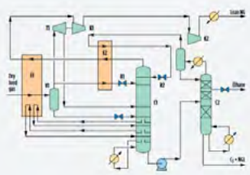
The enhanced heat transfer solutions developed with Wieland and Kelvion provide improved energy efficiency, reduction in CO_2 emissions, and substantial savings to LNG and gas plants.

- With Wieland, Technip Energies has developed two main products: GEWA-PB enhanced boiling tubes, and GEWA-KS enhanced condensing tubes.
- With Kelvion and Wieland, we have developed DIESTA, an innovative finned tube technology for air-cooled heat exchangers.



"Top technologies improving energy efficiency and reducing CO_2 emissions."

CRYOMAX® process for NGL recovery



Energy-efficient, cost-optimized cryogenic process. Since the early 1980s, the development and inclusion of cryogenic NGL recovery processes in large gas treatment plants has been one of Technip Energies' hallmarks.

Our process designs provide energy-efficient and cost-optimized solutions for a wide range of gas processing requirements.
Our CRYOMAX® family of processes for gas fractionation can be used for:

- Recovery of C2+ and C3+ hydrocarbons from natural gas and refinery off-gasses
- Achieving a high NGL recovery rate and reduction of the investment cost per ton of produced ethane or propane as compared to conventional expander plants
- When associated with LNG, CRYOMAX® processes enable the efficient production of ethane and propane as makeup for mixed refrigerant processes.

CRYOMAX® is now available under a stand-alone license in response to demands for the independent selection of the best NGL recovery technology at an early stage of project development.



Gas processing

Five decades of leadership in gas monetization enables us to offer designs of fully optimized and integrated gas processing plants.

We master every stage of the project from early conceptual studies to full engineering, procurement and construction (EPC).

We can also assist in projects for the upgrading of existing installations.

- We provide a wide range of process options thanks to our alliances with major technology licensors.
- We rank among the top contractors for sulphur recovery units installed in refineries and natural gas processing plants.

Based on our experience in the field of sour gas processing, we can help clients evaluate the gas sweetening or sulphur recovery chain, and recommend the most appropriate technologies for their use.

Research Centers

Technip Energies operates several Research Centers in the US and Europe for the development and testing of new technologies.
Our laboratory in Weymouth, Massachusetts has a 50-year track record of providing research that leads to commercial processes, devising experiments at bench or pilot scale, evaluating catalysts, kinetics studies and reactor design. It is also equipped for the testing of natural gas processes.
Our Cybernetix laboratory in Compiègne, France, has demonstrated expertise in advanced non-destructive testing and multi-instrumented tests for evaluating and qualifying coating materials and structures for cryogenic spill protection.
The combination of mechanical engineering and non-destructive testing skills allows our laboratory to characterize and understand the fundamental behavior of tested materials or equipment.

Project references

Technip Energies has been a pioneer in LNG from 1960 and has built liquefaction export terminals representing 100+ Mtpa production capacity since 2000. With this exceptional 60-year track record, we take on the most challenging projects and drive them to success.



NIGERIA

BONNY ISLAND
- Contract: EPC
- Award: 1996
- Delivery: 2007 (Train 6)
- Client: Nigeria LNG Limited (NLNG)

In joint venture with Snamprogetti, KBR, and JGC, we completed Africa's largest LNG complex to date, with a total production capacity of 22 Mtpa and 4 Mtpa of LPG and condensate.



RUSSIA

YAMAL LNG
- Award: 2014
- Delivery: 2018
- Client: Novatek, CNPC, Total, SRF

Technip Energies, leader of a consortium with JGC and Chiyoda, was awarded a contract for one of the world's largest LNG facilities, located in Arctic area. Completed one year ahead of schedule, the plant produces a total of 16.5 Mtpa of LNG for the Asia-Pacific and European markets. Yamal LNG is a triumph on many fronts: it involved technological advances in engineering in extreme conditions, as well as improved processes, organization and management tools.



RUSSIA

ARCTIC LNG 2
- Award: 2019
- Delivery: 2026
- Client: Novatek, Total, CNOOC, CNPC, JOGMEC/ Mitsui
- Location: Russia, Gydan peninsula

Technip Energies, in consortium with Nipigas and Saipem, was awarded a contract for a fully modularized LNG facility located in Arctic area, and consisting of 3 trains, each on a concrete gravity-based structure incorporating LNG storage. The three trains will produce a total of 20 Mtpa of LNG.



CHINA

SHAANXI YANGLING
- Award: 2012
- Delivery: 2015
- Client: Shaanxi LNG Investment & Development Co

Technip Energies delivered this mid-scale LNG plant in the Yangling Demonstration Area, Shaanxi Province, China. The plant has a capacity of 500,000 tons per year.



MEXICO

ENERGÍA COSTA AZUL (ECA) LNG PHASE I
- Contract: EPC
- Award 2020
- First LNG: 2024
- Client Sempra LNG, IEnova and Total
- Location: Bja California, MX

Technip Energies is adding a single LNG train with approximate nameplate capacity of 3.25MTPA



CHINA

HANAS LNG
- Contract: EPC
- Award: 2009
- Delivery: 2011
- Client: Ningxia Hanas Natural Gas

One of the largest facilities of its kind in China, the two trains each have a capacity of 400,000 tons per year. The LNG is subsequently distributed to the Chinese market by truck.

QATAR



QATARGAS PROJECTS
- Contract: EPC
- Award: 2004
- Delivery: 2010
- Client: Qatargas

In a joint venture with Chiyoda, we successfully delivered 6 LNG trains of 7.8Mtpa each on the Ras Laffan site. These projects included building the world's largest-capacity gas reception facilities, gas treatment units, LNG trains, utility systems, and LNG storage and export terminal.



QATAR NFE
- Contract EPC
- Award 2021
- Delivery 2027
- Client Qatargas

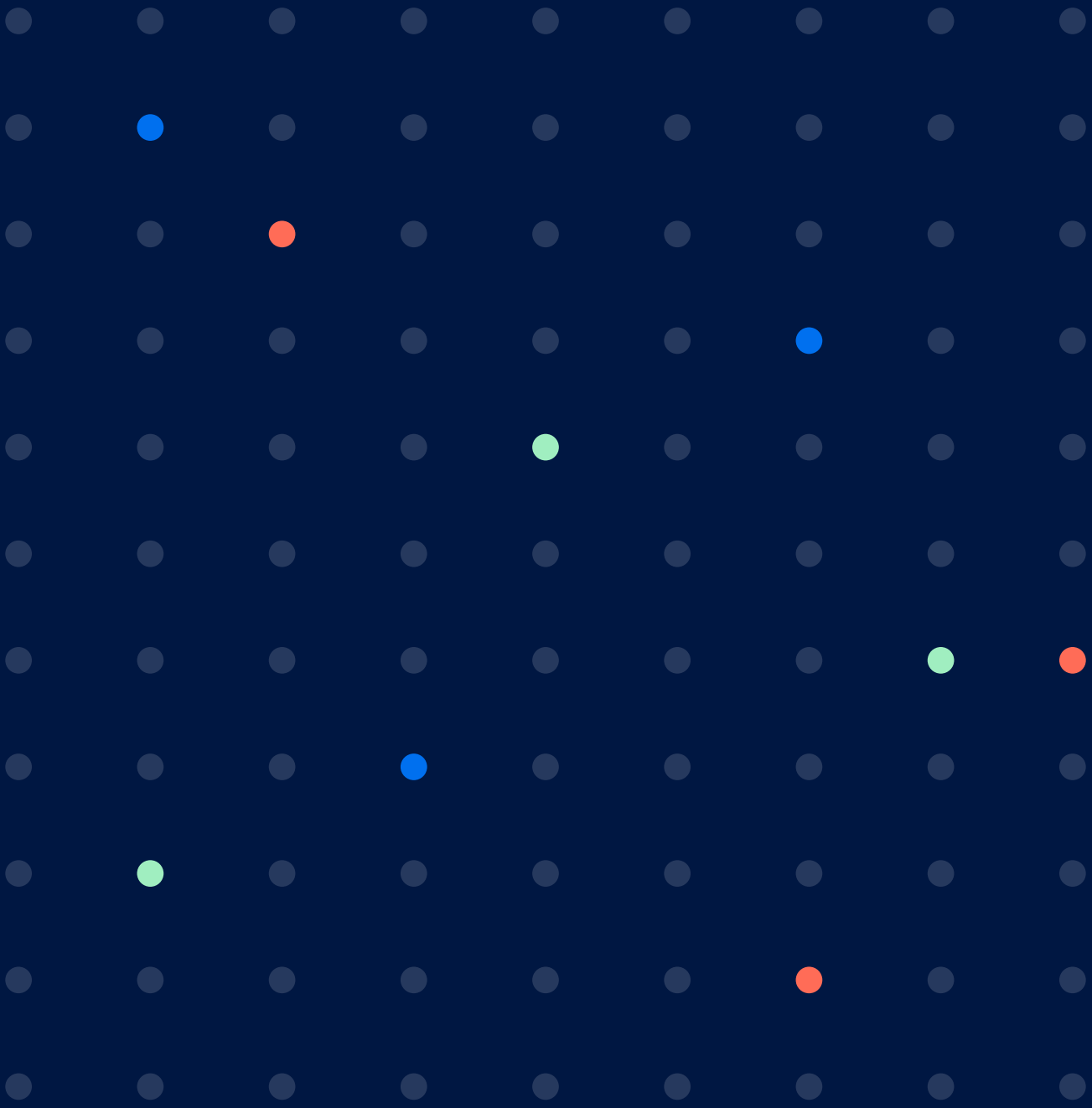
Technip Energies and JV partner Chiyoda are building 4 additional trains of 8 Mtpa each at Ras Laffan

YEMEN



YEMEN LNG
- Contract: EPC
- Award: 2005
- Delivery: 2009
- Client: Yemen LNG

Technip Energies performed the FEED for Yemen's largest industrial facility to date that led to the EPC joint venture with JGC and KBR. The two trains have a total capacity of 6.7 Mtpa.



Philip Hagyard
VP LNG Product Line
Tel: +33 1 47 78 27 17
philip.hagyard@ten.com

Dominique Gadelle
Director, Technology & Consulting, LNG
Tel: +33 1 47 78 22 43
dominique.gadelle@ten.com

www.ten.com

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