

Where energies make tomorrow ●

O&M Consulting

Breaking boundaries to maximize assets' value through operations excellence

T.EN

**TECHNIP
ENERGIES**

Delivering operational excellence

Technip Energies is a leading engineering and technology company for the energy transition with a 65-year history executing large and complex projects. We offer an extensive portfolio of technologies, products, projects and services.
















Your ideal partner to steward your Operations and Maintenance activities.

Our proficiency is evident by our diverse project references. Through our Consulting & Products focused business line, T.EN X, we support our clients to achieve operational excellence across multiple markets.

WE WORK CLOSELY WITH CLIENTS TO ACHIEVE OPERATIONAL EXCELLENCE, LEVERAGING:

- Proprietary process technologies and equipment
- Cost-effective O&M strategies based on asset design and digital tools
- Long-lasting relationships with vendors
- Access to a global pool of resources
- Valued partnerships with notable general maintenance contractors

EXTENSIVE MARKET POSITIONS

-  Agritech
-  CO₂ Management
-  Ethylene
-  Fertilizers
-  Hydrogen and Ammonia
-  Life Sciences
-  LNG and Gas Monetization
-  Mining & Metals
-  Nuclear
-  Offshore
-  Petrochemicals
-  Refining
-  Sustainable Chemistry

STRIVING FOR EXCELLENCE



OPTIMIZING PRODUCTION



BOOSTING UPTIME



REDUCING OPEX



+65
years successfully delivering large and complex projects



+500
operating plants delivered globally, giving us valuable asset knowledge



+15,000
employees in 35 countries providing a global pool of resources



+20,000
Construction and operations support personnel via our Global Construction Hub

Operations and Maintenance capabilities

Technip Energies provides Operations and Maintenance (O&M) services for any type of energy related asset. We leverage advanced digital expertise to pursue smarter ways to design, build, monitor and optimize the performance of assets.

We are proficient in providing services to asset owners in every stage and startup to decommissioning of the operating life cycle, from commissioning and start-up through to decommissioning. With Technip Energies, you have a trusted partner for the life of your asset.



ENGINEERING TECHNICAL SERVICES

- Operations & maintenance engineering
- Asset performance optimization
- Asset Integrity engineering
- Environmental footprint & energy management



TRAINING & STAFFING SERVICES

- O&M organization design
- Mobilization planning and recruitment services
- Competency assessment
- Training design, planning and execution
- Training & competency assessment system
- National content program



SITE INTERVENTION SERVICES

- Asset operations support
- O&M services
- Shutdown & turnaround management
- Integrity and inspection services
- Decommissioning support



DIGITAL SERVICES

- Asset performance monitoring
- Asset remote inspection
- Operational digital twin and visual intelligence
- Robotics based O&M
- Smart maintenance



PROCUREMENT & SPARE PARTS SERVICES

- Spare parts management
- Procurement services including proprietary equipment
- Obsolescence management



LOGISTICS SERVICES

- Warehousing services design & provision
- Logistics services – provision and optimization
- Full yard deployment

Solutions tailored to your needs

We understand the operational needs of our clients differ. Our O&M consulting teams are ready to prescribe solutions specifically tailored to your goals. Our focus is to work hand-in-hand with our clients to create value through operational excellence.

WE OFFER TWO UNIQUE SOLUTIONS THAT ENSURE FLEXIBILITY TO COVER OUR CLIENTS REQUIREMENTS:

- **Operations Support**
- **Asset Management Solutions**

	OPERATIONS SUPPORT	ASSET MANAGEMENT SOLUTIONS
CLIENT LOOKING FOR...	A solution to a specific need	An O&M contractor to support client self-managed asset operations
CLIENT ASSET OPERATIONS	Client self-managed	Client self-managed supervision, outsourced execution
DESCRIPTION	Stand-alone, flexible and ad hoc services	Multiyear integrated O&M services agreement

Case study: Coral SUL floating LNG

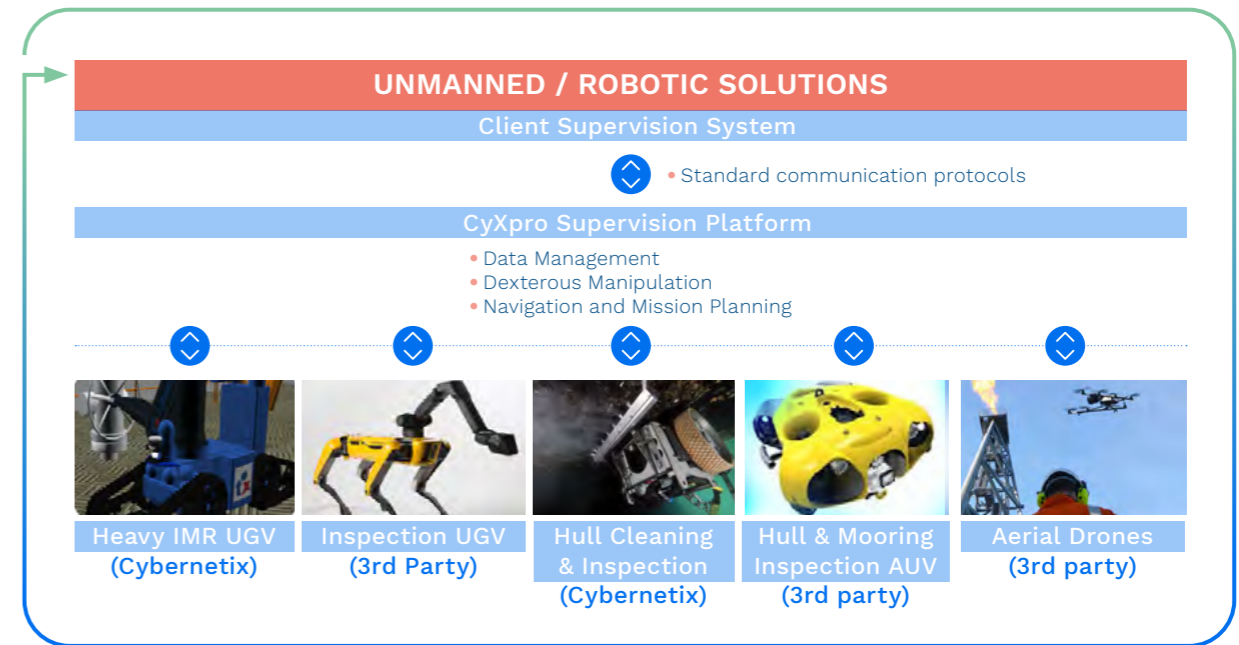
The Coral SUL FLNG turnkey contract covers a floating facility and SURF in deep water offshore Mozambique. It is the first FLNG project arranged with project financing. The O&M scope was defined from the FEED phase with a preliminary study to estimate OPEX, then during the engineering phase with the development of O&M engineering leading to operations for which Technip Energies will mobilize an O&M team and operate and maintain the FLNG until provisional acceptance criteria.

DATABASE DEVELOPMENT

- Reliability, availability and maintainability (RAM) > simulate the entire lifetime performance of the asset to identify the main loss contributors and to calculate the facility efficiency.
- Asset Register > tag hierarchy and attributes
- database developed for the implementation of CMMS.
- Maintenance (reliability centered maintenance (RCM) and inspection risk-based inspection (RBI) engineering and studies for implementation of computerized maintenance
- and inspection management system (CMIMS)
- Capital, startup, and operating spare parts
- Development of the dynamic simulator
- Development of the 3D model as built

DIGITAL SERVICES

- Cybersecurity: Continuously secure the FLNG by deploying on-premise and remote security operating center (SOC) to prepare, prevent, detect, respond and
- recover from cybersecurity threats and incidents.
- OTS and ITS (proprietary technology): Provide field and control room operators and maintenance engineers
- with access to OTS and ITS to continuously train to operate and maintain the plant.



ENGINEERING SERVICES

A multidiscipline engineering team to perform O&M activities such as:

- Develop global maintenance and inspection plan.
- Prepare the shutdown plan
- Study operability, maintainability, accessibility.
- Develop up-to-date digital twin of the plant, including “as built” at any time.
- Plan, optimize and assist shutdowns, turnarounds and outages (STO).
- Perform continuous maintenance engineering activities to optimize inspections and reliability

PERMANENT SERVICES

- Permanent operations and maintenance services onshore/offshore.
- Warehouse management.
- Development of competency assessment system with strong national content.
- Procurement and preservation of capital and operating spare parts.

LOCAL CONTENT

- Leverage and capitalize on our local engineering centers to ensure a smooth transition from project to O&M services.
- Develop local organization with a pool of resources to support engineering and O&M services.
- Mobilize future operation and maintenance team in early development phases.
- Develop training plan.
- Deploy continuity and transition from early development phases to post startup.
- Measure progress of local content indicators such as training and percentage of local mobilization.
- Encourage local partnerships for maintenance services when applicable using a strong selection and prequalification process.

- and manage spare parts quantities to promote best possible OPEX.
- Analyze performance of on-demand studies and calculations.
- Develop operating and maintenance manual.

TRAINING AND STAFFING

- Augmented reality training simulator for O&M personnel.
- Competency assessment system and training courses.



Our selected references

CLIENT	PROJECT DESCRIPTION	COUNTRY	SCOPE	SOLUTION
ENI	CORAL SOUTH FLNG	MOZAMBIQUE	O&M engineering, commissioning, startup and O&M execution up to provisional acceptance	Asset Management Solutions
QATARGAS	NORTH FIELD EAST	QATAR	Preservation and Inspection engineering O&M execution	Asset Management Solutions
BAPCO	REFINERY MODERNIZATION	BAHRAIN	Commissioning and startup. O&M engineering and execution	Asset Management Solutions
MIDOR	REFINERY EXPANSION	EGYPT	Commissioning and startup. O&M engineering and execution	Asset Management Solutions
LONG SON	OLEFINS PLANT	VIETNAM	Commissioning and startup O&M engineering and execution	Asset Management Solutions

CLIENT	PROJECT DESCRIPTION	COUNTRY	SCOPE	SOLUTION
SHELL	PRELUDE FLNG	AUSTRALIA	O&M technical assistance during commissioning, startup and operations	Operations Support
SABIC -PKIII	AL JUBAIL ETHYLEN PLANT	Kingdom of Saudi Arabia	Cracking furnace operation analysis	Operations Support
GALP	SINES H ₂ PLANT DECARBONIZATION	PORTUGAL	Decarbonisation study for H ₂ U, FCC & Cogen	Operations Support
ROMPETROL	H ₂ PLANT MAINTENANCE	ROMANIA	Supply of H ₂ U outlet subheaders and supports	Operations Support
DOW CHEMICALS	ETHYLEN PLANT UPGRADE	SPAIN	Study for convection section replacement	Operations Support





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O&M Consulting is also known as Operations and Maintenance Consulting.

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