



PROJECT MANAGEMENT



EXPERTISE & TECHNOLOGY



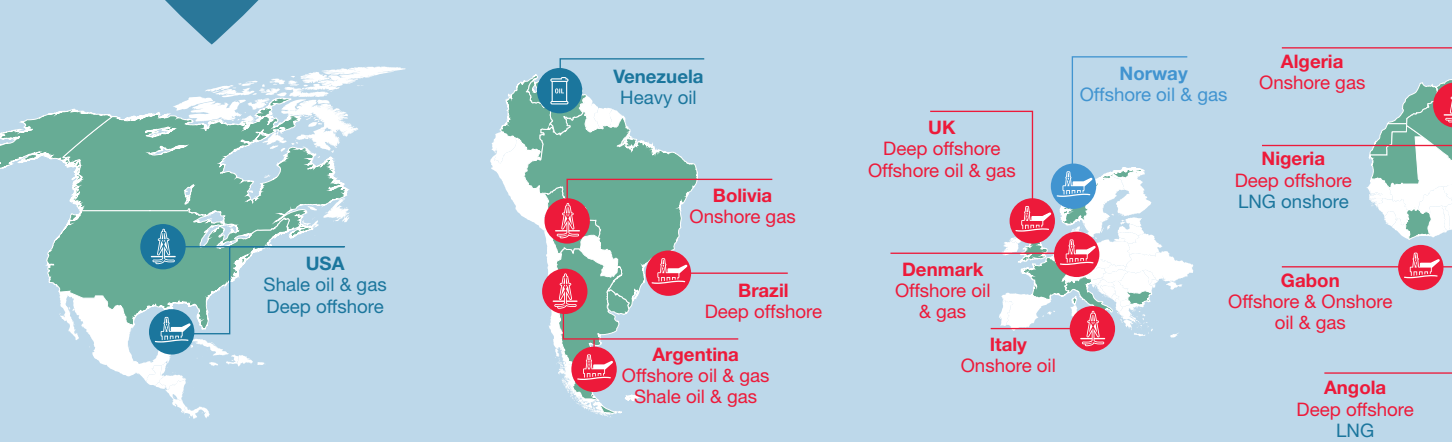
CONSOLIDATED EXPERIENCE AND EXPERTISE

Kaombo Norte, maneuvering prior to setting sail for block 32 offshore Angola

At Total, our mission is to meet the challenges facing the energy industry. In our management of projects, our capacity for innovation using tried and tested expertise along with our process standardization techniques all combine to ensure our projects are delivered safely, on time, and within cost.



DIVERSE TECHNICAL PROJECTS ACTIVE IN EVERY CONTINENT





WORTH NOTING

Total undertakes a full HSEQ assessment (Health Security Safety Social Environment and Quality) at the beginning of all project appraisals.

A WORLD OF EXPERIENCE

Long and short term projects of all sizes forged across the globe ensure that Total remains at the forefront of knowledge

and technology. Through research and development, exploration and production, Total has a wealth of data and know-how ready to use.

SAFETY, A CORE VALUE

We carry out development studies and execute large international projects, we can manage budgets deadlines and ensure

profitability, however, to do any job properly we must design "in-built safety" for people, equipment, and the environment.



WIDE RANGING EXPERTISE IN MAJOR PROJECTS

At Total we have the "savoir-faire" to manage major projects. From field discovery to production, for both greenfield and brownfield developments. We understand time and change management and cost control. The highly regarded technical ability of our development teams is employed throughout. We undertake rigorous

development using clear and detailed methodologies, derived from proven technical know-how and using a range of high-performance in-house managerial tools. Our ability to ensure low technical costs by controlled planning in developing small or large fields is well known, and demonstrated by a long list of successful projects.



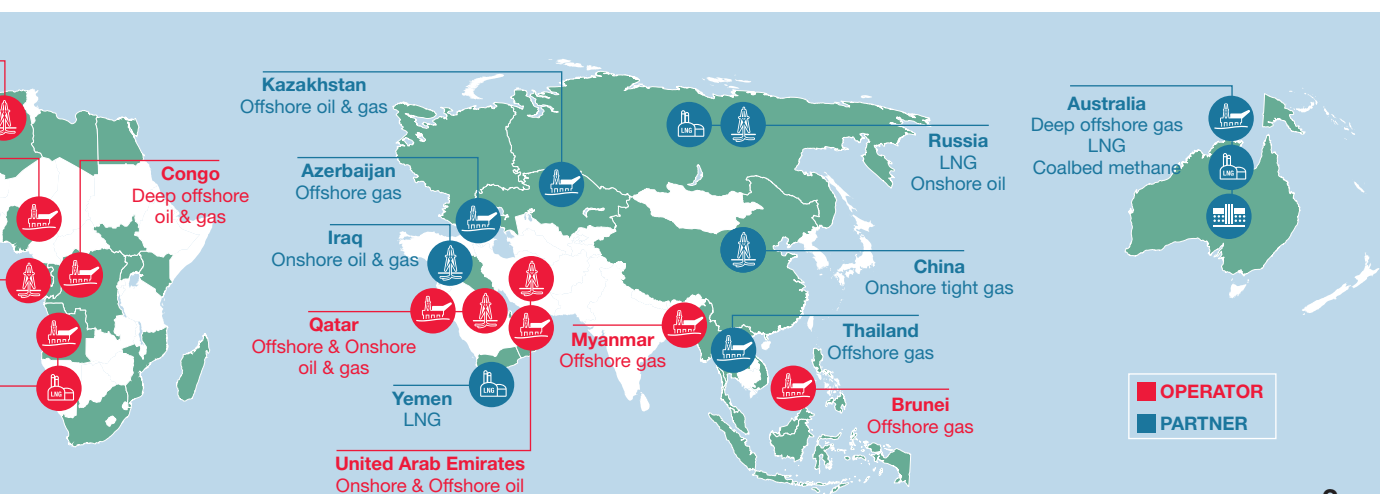
Key figures

30

new project representing > 800 kboe/d already sanctioned in 2018 or to be sanctioned.

720

managers and engineers continually working on projects.





A DEFINED AND STRUCTURED APPROACH

Badamayar, off the coast of Myanmar, on time and below budget.

Wherever we operate our project strategy is defined and structured, we combine knowledge and expertise, we make optimum use of local content. This structure is critical.

Our projects are held in high esteem by our industry peers and have been voted winner of three OTC (Offshore Technology Conference) and IPTC (International Petroleum Technology Conference) awards in recent years.

THE LIFE OF A PROJECT

We offer a standardized approach in all our projects, small or large. This makes for good "up-front" cost control. To enable this we ensure that our operating rules are acceptable to our partners and applied by our contractors.

▶ Integrated project organization combining geosciences, drilling, facilities and operations engineers all fully accountable to project deliverables and deadlines. This is how we work, and demonstrable across a large international project portfolio. A key element is the creation of clear and comprehensive "road maps" early in design and planning.

▶ Our method of conducting development studies by separating out pre-project from basic engineering or

using to the more traditional "FEED" (Front End Engineering Design) study approach with our engineering contractors allows the flexibility to deliver an early and more advanced project definition, saving time and money during execution.

▶ Total is committed to strong "in country value", performing comprehensive industrial surveys and analyses early in project planning to determine the most appropriate industrial development program.



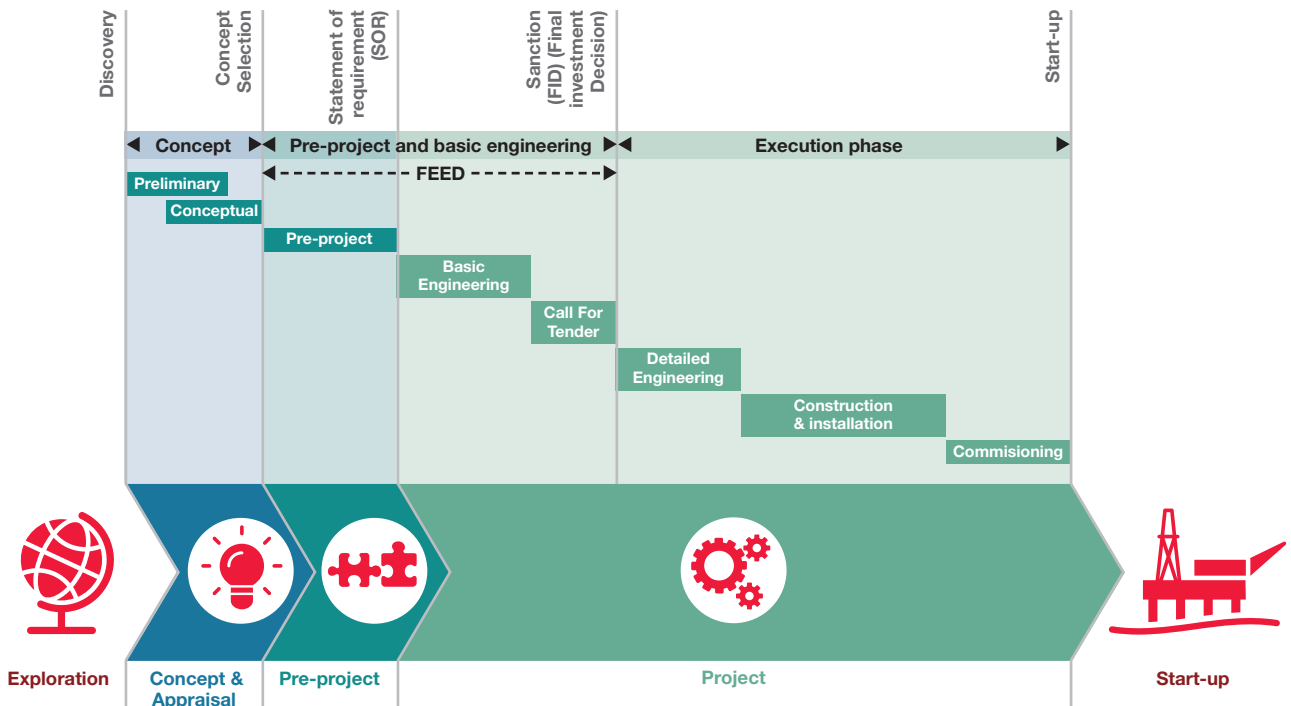
WORTH NOTING

In E&P our technical standards and procedures are controlled centrally but can be adapted per project by authorized derogation.

Project Risk Management (PRM) is employed on all development projects at Total. This ensures enhanced accuracy of cost and scheduling estimates and optimum resource allocation to the project team. This is

achieved through Schedule and Cost Risk analysis. Project maturity is evaluated by project reviews following concept/pre-project/basic engineering stages, and during execution, by senior specialists from each discipline.

WELL DEFINED PROJECT STAGES SAVING TIME AND MONEY



HIGH PERFORMANCE TOOLS ENSURE SPEED AND PRECISION

The use of recognized project management tools means our customers are able to easily identify and track project progress using universally accepted protocols.

Project Tool Kit (PTK) improves project organization by promoting good working practices and developing a common approach for the management of all of our projects.

U-cost, an in house software package, used across our projects ensures consistency, good cost control from the onset plus an excellent longer term budget overview.

New Prodom Generation based on PIMS®, ensures a

robust project electronic document and information management system.

Quantum portal, the Digital Twin of an installation, starts at project phase, allows a visualization of the 3D model, interfaces with all key technical data and operational information systems and enables a smooth transition through to operations once the project is completed.

On larger projects our surface and sub-surface teams are integrated working side by side. Development is one of our core strengths, and our geosciences teams use state-of-the-art patented tools fully integrated within an interpretational platform

for analysis and strategy optimization. This platform enables us to reduce modeling uncertainty and improve reliability, as well as offering considerable performance gains verses traditional methods.

Sismage-CIG®, our proprietary suite of seismic interpretation software tools, developed by Total and used by over 650 associates in 25 E&P subsidiaries.

Equipped with advanced processing capabilities, Intersect® is a next generation reservoir simulator, it is connected to our integrated geoscience chain and is designed for parallel computations on diverse and complex reservoirs.



Kaombo, in the ultra-deep ocean off Angola producing 230 barrels of oil a day.

We combine technological progress with social commitment.

As well as ongoing improvement in plant safety and efficiency, our project management fosters consensus building and communication in and around our activities. In partnership with local social and economic stakeholders, we contribute to the development of the regions where we operate.

BADAMYAR: PROJECT MANAGEMENT DELIVERING ON TIME AND BELOW BUDGET

Operated by Total (31.2%) the Badamayar project, located offshore 220 kilometers south of Yangon in the Republic of the Union of Myanmar, will extend the Yadana gas field's 8 billion cubic meters per year by four years. The project faced the particular challenges of tight scheduling, to avoid the monsoon seasons when offshore activity could not continue, plus the impact of the economic downturn impacting the entire industry post 2014. With an all-round teamwork approach that entailed good integration with affiliates and contractors Badamayar was



Badamayar, offshore from Myanmar, high local content and an impressive safety record

completed on schedule and 20% below budget, demonstrating our capacity to effectively implement cost control and reduction. Additionally with more than

5 million man hours worked, offshore and onshore, including SIMOPS, the project demonstrated an impressive safety record with no lost time injury (LTI) recorded.

KAOMBO (ANGOLA): AN INDUSTRY GAME CHANGER

Operated by Total (30%), Kaombo illustrates how responsive dynamic project management can be. Faced with an oil price falling to \$35, the Kaombo project team demonstrated exceptional skill and flexibility. Forging new contractor relationships and leaner business practices they were more efficient and cost effective, thus ensuring the success of this mega project. At between 1400 and 1950 meters in the “ultra deep” water of block 32, 260 kilometers from land,

Kaombo is Angola’s largest offshore development covering an area of 800 km². Kaombo Norte, the first of two enormous Floating Production Storage and Offloading (FPSO) units, both converted from Very Large Crude Carriers to keep project costs down, came on stream in July 2018, the second, Kaombo Sul, in April 2019. Combined production will reach 230,000 barrels of oil per day

with associated gas being exported to the Angola LNG plant. Kaombo provided over 100 million manhours worked across 20 countries, more than 19 million in Angola, an unprecedented level of local content.

“KAOMBO and INCAHUASI are two great examples of our adaptability: Deep offshore at KAOMBO, sub-contracting build and daily running, and at INCAHUASI, a remote onshore project, working around complex logistical and environmental challenges.”

Jean-Yves Poulet
Head of Projects and Construction Total E&P



INCAHUASI (BOLIVIA): INNOVATIVE AND CHALLENGING HIGH IN THE ANDEAN FOOTHILLS

Operated by Total (50%) in the remote Andean foothills, Incahuasi provided challenges akin to any deep offshore project. The field, is situated about 250 km from the city of St Cruz de la Sierra. The production site at 1400

meters above sea level in steep terrain, 150 km from a gas interconnection had no road access. It is located amid sensitive ecosystems, home to indigenous communities, and was separated from the reservoir below by 5,600 meters of hard folded rock. Nothing would be easy. Logistics were formidable and great distances were covered by road. Bolivia is land locked and the nearest entry port was Arica in Chile, 1500 km away. Large pipeline sections came from Argentina, and overall more than 20 million kilometers were driven during the project. Safety is paramount when transporting onshore for such a large development and mechanisms were put in place to ensure this

was done properly and safely. At peak, project logistics employed 3000 people at six different sites. In more than 1600 lorry trips, no accidents were reported, this success can be attributed to adherence to safety policy and a cooperative effort between contractors and Total. This is a sensitive and remote area and Total made certain that those living nearby were aware of all activity, and ensured of a positive local impact. Employing local workers was a critical part of the community outreach effort. Every time a contractor required labor, local people were employed as a priority. Incahuasi was completed on budget, with no fatalities and just one LTI over the 179 million man hours worked.



Total Community Liaison Officer meeting local mayor near Incahuasi

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Total is a major energy player that produces and markets fuels, natural gas and low-carbon electricity. Our 100,000 employees are committed to better energy that is safer, more affordable, cleaner and accessible to as many people as possible. Active in more than 130 countries, our ambition is to become the responsible energy major.



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