Advanced FPU solutions
Automation, electrification and telecoms
ABB has over 50 years of experience in oil and gas, with hundreds of completed projects in the industry. We have delivered pioneering technology and service solutions to more than 70 floating production unit (FPU) projects around the world.

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**Large multiscope projects**
A core competence of ABB

From floating production units to subsea, ABB can provide innovative, next-generation solutions to help you succeed.

With a truly global reach and more than 70 successful floating production projects delivered around the world, we can offer cutting-edge professional project management for turnkey projects.

ABB’s solutions for floating production units bring safe and reliable power and automation to your vessels, lowering costs of engineering by up to 30%.

Innovative systems and reliable solutions ensure your vessels work at maximum efficiency.
Optimize with execution transformation

Intelligent projects

FPU installations have made exploration and production of oil and gas in difficult to reach, remote and harsh environments possible. As such, FPU installations are typically complex, requiring highest availability and reliability, and routinely goes into cost and time overruns.

To help customers achieve shortest time-to-market without compromising on quality and cost, ABB has developed an intelligent project approach that combines intelligent engineering with intelligent infrastructure to shorten schedule, cut costs and minimize risk. In addition, intelligent applications and intelligent services ensure optimizations are carried over from project to operation.

This extremely flexible approach streamlines integration of packaged units and electrical equipment, setting a new standard in the execution of automation, telecommunications, electrification and E-house solutions for FPU projects. Together with our life cycle services, it makes us the ideal partner throughout the entire life cycle of an offshore installation.

Intelligent engineering

Intelligent engineering embraces ABB’s expertise as a main automation contractor (MAC), main electrical contractor (MEC) and main instrumentation contractor (MIC). As the main contractor, ABB provides project management together with design and engineering expertise. It also oversees interface management of the engineering suppliers and takes responsibility for the data transfer between parties.

ABB’s proactive approach during project execution entails close cooperation with the client, other contractors and suppliers to implement best-in-class solutions, and makes itself accountable for interfacing with other participants. This ensures effective integration of all components and systems.

Intelligent infrastructure

Intelligent infrastructure integrates products and systems from ABB’s complete portfolios. The intelligence within ABB’s smart devices and systems refers to the fact that many have Ethernet interfaces. These are enabled for data analytics and can drive the fourth industrial revolution – connecting the physical world to the digital one.

Integrating engineering and infrastructure lies at the heart of ABB’s intelligent projects.

Key components are engineering in the cloud, standardized processes, automated data management, smart I/O systems and soft marshalling leveraging ABB Ability™ System 800xA to decouple the hardware and software engineering activities.

Intelligent applications

Intelligent applications are software solutions and system components that help improve efficiencies and optimize performance across the enterprise. Supported by technical experts, these applications work in tandem with intelligent infrastructure to ensure sustainable efficiency and profitability.

Intelligent services

Intelligent services ensure that the implemented project attains its full life cycle potential. ABB has a suite of services that allows companies to improve their uptime and reduces unnecessary cost from reactive maintenance to a planned and predictive maintenance strategy.

Boost efficiency with digital transformation

ABB Ability™

With an installed base of more than 70 million connected devices and more than 7,000 digital control systems across a range of industries, coupled with its deep understanding of the oil, gas and chemicals industry, ABB is a clear partner to help companies exploit the promises of digitalization.

Proven approach and technological capabilities are in place to help customers analyze data more intelligently, optimize production, boost productivity and enhance profitability while reducing risks to schedule and safety, a paramount factor in a FPU installation.

Transforming data into actionable insights takes ability. ABB Ability™.

What does ABB Ability mean for the oil and gas industry?

The ABB Ability range of digital solutions helps oil and gas companies manage complexity. From electrical condition monitoring in the Barents Sea to developing the world’s largest industrial computer network for plant integration in Saudi Arabia, ABB Ability infrastructure offers tried and tested solutions for each stage of your operational life cycle.

ABB Ability Collaborative Operations - A proven solutions for bringing together people, operations and information

Optimize operations

Cut capex by 20-30% via intelligent projects that streamline execution and speed up delivery through single source integration.

Increase productivity

Intelligent services that improve uptime by 20% and extend lifetime of facilities by up to 20 years.

Ensure safety & productivity

Reduce operational risks while avoiding unnecessary costs and hazards through intelligent applications.

Large, complex projects in oil, gas and chemicals industries often include delays, cost increases and inefficiencies. In fact, 64 percent of projects have budget overruns and 73 percent of projects go through scheduling delays. A new approach to project execution is needed.
As one of the world’s leading engineering companies, ABB works continuously to create and support a comprehensive range of products, systems and services to suit the dynamic oil and gas market.

These cutting edge solutions go beyond traditional approaches, in order to minimize complexity and attain maximum benefits.

E-house solutions
The main advantage of ABB’s E-house solutions is that all systems within the house or module are wired, tested and commissioned before shipment to yard, reducing costs, risk exposure and onsite work.

In several FPU projects, ABB has successfully delivered topside E-house solutions, pre-installed with all electrical systems (process power management system; high, medium and low voltage switchgear; motor control centers; and transformers); integrated control and safety systems (process control system, process shutdown system, emergency shutdown system, fire and gas system); and telecoms systems. In addition, vendor supplied third party packages are also installed and integrated by ABB in the house or module before shipment to yard.

Subsea solutions
ABB is an innovator in subsea solutions, critical in powering, controlling and monitoring of subsea processing equipment vital to stimulate subsea oil and gas reservoirs effectively.

Since entering the subsea market in 1980, it has continued to launch and deliver proven solutions, complementing FPU in expanding capacity, extending lifespan and reducing cost for oil and gas fields.

Collaborative Operations
ABB, as a pioneering technology leader in digital, has proven solutions to help customers develop an end-to-end digitalized ecosystem where people, equipment and systems talk the same language and are integrated into one centralized, often remotely controlled operation.

Collaborative Operations delivers timely, manageable data-driven insights to optimize decision making through intelligent integration of data across engineering, infrastructure, applications and services, leading to reduced risk, schedule and costs.

Four key components of ABB Collaborative Operations

Platform
Collaborative Operations utilizes the ABB Ability platform and cloud infrastructure. The platform enables you to securely integrate and aggregate data, apply predictive analytics, and generate insights that can help drive profitability.

People
Collaborative Operations harnesses people and information. It uses technology to bring your high industry, application and operational expertise with ABB’s electrical, automation and digital expertise to drive power of collaboration.

Places
ABB today delivers digital services from many locations around the world. We are now taking this approach to the next level by investing in our Collaborative Operations Centers, staffing them with additional expertise and deploying new technologies. This network provides expertise, connecting ABB and you.

Profitability
The highest value ABB can offer is to help you optimize operations and increase productivity. The more efficiently you operate, the more product you make and sell profitably. Cost reduction is important too; Collaborative Operations helps identify opportunities to reduce raw material, energy and maintenance costs, so more of your money flows to the bottom line.
Partnering as your service provider
Maximizing the lifetime of your assets

The extensive and proven experience of ABB’s service team ensures the right maintenance mix, processes and tools are implemented so as to allow for full life extension of your assets.

We are here to solve your toughest challenges through the vast resources and knowledge in our local, regional and global organizations, helping you to:

- Better comply with environmental, health and safety regulations
- Improve asset life by full restoration, upgrades and/or modernization
- Improve plant reliability and financial performance
- Conduct maintenance management with a business mindset
- Increase the reliability and life expectancy of your process equipment
- Manage change and create a service culture

Life cycle management

Spares and consumables
Keeping an optimal inventory of spare parts is a balancing act. Too large a stock adds to the cost of maintenance, but too little increases the risk of a shutdown.

ABB analyzes assets, identifies risks and offers strategies that optimize costs. We also keep critical spare parts available for selected equipment, and they can be conveniently ordered via www.abb.com/partsonline, which provides 24-hour access to information about ABB’s factory-certified stock, including the option to place immediate orders.

Replacement
When equipment becomes obsolete, or has reached the end of its life cycle, ABB will be able to offer replacement solutions. Our wide product portfolio adds to the ease of selecting an optimal replacement with the correct features for your application, and may be fully interchangeable with the original units, no matter whether the original was from ABB or another manufacturer.

End-of-life services
ABB products are mostly made from steel, copper, aluminum, oil and plastic. Approximately 90 per cent of this material is reclaimable after the end of a product’s useful life. ABB’s Environment and Safety Services group offers compliant recycling solutions for PCB-contaminated equipment and takes care of the disposal or recycling of installed or returned parts.

Condition monitoring is one example of predictive maintenance. Monitoring can be done locally, centrally and remotely to ensure that equipment is performing as planned, resulting in reduced cost of maintenance.

Repairs
The global set-up ensures that technical experts are available 24/7 to provide quick and competent troubleshooting support when carrying out on-site repair work.

Rapid maintenance and field services

For ABB’s switchgear, we offer decommissioning, disposal and recycling of material, including the management of sulphur hexafluoride gas.

Maximizing the lifetime of your assets through collaboration to improve equipment effectiveness, reduce energy use and minimize maintenance costs

Operational efficiency

Remote services
Provision of remote services allows fast response to emergency call-out. ABB offers remote services for electrical, instruments, control and safety systems, as well as telecom systems.

Training
Operations and maintenance personnel play a key role in plant performance. ABB’s standard course-ware and customized training will equip them with the skills they need to extract the highest possible productivity and returns from their technology.

Performance improvement

Extensions, upgrades and retrofit

Today’s demands on plant availability, efficiency and maneuverability are increasing continuously. In many cases, older systems from previous generations of technology cannot meet these requirements.

Modernization through upgrade or retrofit offers numerous benefits, such as enhanced functionalities through upgrades of a DCS (distributed control system), including improved data collection, monitoring, alarm management and safety functions. Either a step-by-step or a full-scale retrofit, including replacement of outdated equipment, can be done depending on your plant’s maintenance schedule.

ABB offers low-risk migration strategies for a broad range of products and systems to assure maximum return on investment while enhancing equipment availability and performance.

Engineering and consulting services

Minimal downtime and operating costs is possible with ABB’s consulting services that identify opportunities and solutions that improve system and equipment performances, production processes and regulatory compliance.

Process safety is one such area of consulting services, that works to improve performance across the total life cycle while conforming to IEC 61508 and 61511.
Case example of an optimized solution with integrated power and automation systems for floating production unit, drilling and wellhead platforms and subsea solutions.
Global references

Format: Project; Owner

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