Advanced FPSO solutions
Automation, electrification and telecoms
We enable safe, smart and sustainable projects and operations.

Safe because we support the highest industry standards and always focus on risk reduction.

Smart because our integrated electrification, instrumentation, control and telecommunication solutions optimize production.

Sustainable because we know that efficiencies make the difference – environmentally and operationally.
Large complex projects
A core competence of ABB

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

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.

Illustration of FPSO

ABB is helping energy companies operate more efficiently and reduce their environmental impact, while enabling new, clean-energy value chains to fuel our future. With integrated and digitalized operations, we are able to sense, monitor & control, creating opportunities to consume less energy and produce less waste. Our solutions are enabling new value chains to transition the world’s energy while reducing today’s carbon footprint.
FPSO installations have made exploration and production of oil and gas in difficult to reach, remote and harsh environments possible. As such, FPSO installations are typically complex, requiring highest availability and reliability, and routinely go into cost and time overruns.

To help customers achieve shortest time-to-market without compromising on quality and cost, ABB has developed Adaptive Execution™, an agile method to industrial project execution. Through expert teams, new technology, proven methodologies and integrated infrastructure, Adaptive Execution™ helps energy customers adapt to changing and challenging market conditions.

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.

Large, complex projects in energy 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.

**Built to adapt**

**Adaptive Execution™**

**Capabilities**
Global project teams provide expert advice throughout the entire project lifecycle.

**Methodology**
Tech-enabled, standardized processes help accommodate change and drive effectiveness.

**Technology**
Pre-tested project deliverables drive efficiency and minimize issues.

**Infrastructure**
Connecting disparate systems and implementing project management tools accelerate collaboration and boost productivity.

Our 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. ABB is a clear partner to help companies exploit the promises of digitalization.

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

**Boost efficiency with digital transformation**

**ABB Ability™**

What does ABB Ability mean for the energy industry?
The ABB Ability range of digital solutions helps energy 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.

**Traditional execution**

Shipped components arrive and are integrated on-site, causing delays.

**ABB Adaptive Execution™**

Pre-integrated and tested components are easily and efficiently installed.

Streamlined execution
Pre-integrated and tested components are easily and efficiently installed.

- Modular components
- Standard systems are pre-constructed, integrated and tested before they ship.

Continuous digital build and test
Preventing real testing solutions avoids potential risks to change.

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On-going virtual testing optimizes design and allows project to adapt to changes.

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Streamlined execution
Pre-integrated and tested components are easily and efficiently installed.

- Modular components
- Standard systems are pre-constructed, integrated and tested before they ship.
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.
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

Full range of services, customised to your needs

ABB is constantly working to improve asset return that clients can expect from the systems we deliver. We do this by providing the best value proposition that can range from spare parts to under-taking repairs, commissioning and consulting through to complex services such as optimization, modernization and migration.

Rapid maintenance and field services

Over time, normal wear and tear degrades the reliability and accuracy of even the most robust system. ABB has a range of flexible and scalable service packages that allows for proactive, preventive and predictive maintenance, thus ensuring maximum uptime throughout the lifecycle of your plant.

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.

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 Environmen-
tal Services group offers compliant recycling solutions for PCB-contaminated equipment and takes care of the disposal or recycling of installed or returned parts.

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

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.

Performance improvement

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.
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

Selected reference list

Format: Project; Owner

1. Hebron; ExxonMobil
2. Peregrino; Equinor
3. Kraken; Bumi Armada
4. Johan Castberg; Equinor
5. Goliath; Eni
6. Anna Nery; Yinson