

FROST & SULLIVAN

ABB

2022
TECHNOLOGY
INNOVATION
LEADER

GLOBAL OIL AND GAS
AUTOMATION INDUSTRY

Best Practices Criteria for World-Class Performance

Frost & Sullivan applies a rigorous analytical process to evaluate multiple nominees for each award category before determining the final award recipient. The process involves a detailed evaluation of best practices criteria across two dimensions for each nominated company. ABB excels in many of the criteria in the oil and gas automation space.

AWARD CRITERIA	
<i>Technology Leverage</i>	<i>Business Impact</i>
Commitment to Innovation	Financial Performance
Commitment to Creativity	Customer Acquisition
Stage Gate Efficiency	Operational Efficiency
Commercialization Success	Growth Potential
Application Diversity	Human Capital

Commitment to Innovation

ABB excels in innovation with its subsea systems and electrification services. The company leads the subsea systems automation market by providing underwater control solutions for offshore and submerged industrial systems, particularly the natural gas and oil sector.

ABB covers the unmet market need for subsea automation. ABB technologies stand out in the industry due to their uniqueness within the specific subsea field being a pioneering solution. For the first time, oil

and gas companies have access to reliable subsea energy supply, reaching up to 100 megawatts of power, covering up to 600 kilometers into the sea and 3,000 meters of water depth at high pressures and extreme conditions. By installing powering pumps and compressors on the seabed in a location nearer to the reservoir, ABB's subsea power distribution and conversion technology can decrease power consumption considerably while lowering carbon emissions and saving energy by using power from the shore. The company developed this innovative power technology subsea system through

“The company has achieved transformational growth in the automation segment via its subsea technologies. ABB covers an unmet market need for subsea automation, working with specialists in an effort spanning years. It drives growth and innovation in the oil and gas automation industry, achieving enormous technology advancements.”

**– María Agustina de Sarriera,
Oil & Gas Analyst**

research, design, and development spanning years in collaboration with Equinor, Chevron, and TotalEnergies at an investment of approximately \$100 million.

Commitment to Creativity

ABB's commitment to creativity is evident in the design of its subsea technological systems. Its team of technology experts has designed equipment capable of withstanding conditions more extreme than ones present in space exploration. Its subsea equipment complies with enduring reliability standards and can stand about 30 years in extreme water depths with little to no maintenance without disintegrating. ABB has achieved an elevated level of technology development through remarkable dedication, expertise, perseverance, and intensive collaboration with a team of about 200 scientists and engineers from ABB, Equinor, Total, and Chevron in a multi-year joint effort.

ABB values creativity in its team and provides initiatives that allow it to collect bottom-up ideas at business and corporate levels. The company nurtures innovation through technological functions and assesses various technology proposals based on merit, potential, and viability.

The company prioritizes creativity and innovation by implementing initiatives, such as ABB Technology Ventures, aimed at startups. The unit seeks partners and invests in fledgling technology firms in various fields, such as the internet of things (IoT), artificial intelligence (AI), and robotics. The ABB Industrial AI Accelerator is another effort that supports the deployment of AI technologies in firms that solve key challenges in industrial environments. Frost & Sullivan commends ABB for its unwavering effort and commitment to cultivating creativity among its teams and partners.

Success in Innovation

ABB's success lies within its relationships with end users and operators. The company establishes a deep dialog with the customer and assists them throughout the purchasing process. A key aspect for ABB's subsea solutions success is its product uniqueness and the exclusivity that comes with fulfilling a market need that no other company is able to fill. The main driver for the commercialization of the company's subsea services is the location of the reservoir.

ABB's competitors do not offer solutions that reach the distance and water depth levels that its technologies do. ABB's solution is the only one of its kind available for a certain segment of the market

“ABB demonstrates a high degree of vision and technology leadership with the launch of its innovative subsea technologies. Its solutions can withstand extreme conditions in environments never explored before by the industry. The reliability standards of these technologies are impressive and endure up to 30 years at the bottom of the sea.”

*– María Agustina de Sarriera,
Oil and Gas Analyst*

and specific applications. It offers CAPEX and OPEX advantages that are more attractive than competitor solutions. The biggest threat to the company's commercialization potential in the subsea segment is that the oil and gas industry is known for being conservative, and ABB's technological subsea solutions may not typically appeal to industry players. ABB's solutions are highly innovative, visionary, and technologically advanced within the industry. The company tackles this challenge by highlighting the efficiency and reliability of its solutions.

Operational Efficiency

ABB places a big focus on achieving operational efficiency as a key component of its business. The company has a philosophy of continuous improvement and innovation. ABB's Adaptive Execution™ is its approach to ensuring projects thrive by focusing on the integration of expert qualified teams, innovative technologies, agile processes, collaborative knowledge, and proven methodologies into a highly evolved end-to-end solution. This solution ensures risk minimization while providing major cost and schedule reductions on capital projects. It maximizes operational efficiency by providing CAPEX savings of between 15% and 40%, reducing startup work hours by 40%, and compressing schedules by 10% to 40%.

Financial Performance

In the first quarter of the year, cash flow performance was good, reaching \$523 million. ABB experienced steady recovery during the second quarter, with increases in customer activity, orders, and revenue compared with 2020 results. In the third quarter of 2021, ABB registered high demand for orders, increasing by 29% despite facing supply chain constraints. However, it improved its operational earnings and margins, recording strong cash flow, improvements in portfolio adjustments, and rollout of new products. In its subsea segment, ABB secured a project worth \$120 million with Chevron Australia and Aker Solutions to engage in power provision from shore and subsea out to the Jansz-Lo field. Frost & Sullivan recognizes ABB for its solid recovery in 2021 and standout financial performance in the highly volatile market.

Growth Potential

ABB's technology focus continues to reinforce its brand and showcase its prowess in the technology segment and capability expansion of its original technological offerings. The company is positive about its future growth prospects and is strongly positioned in the industry. ABB maintains its laser focus on serving important verticals to remain relevant in the oil and gas industry and support the energy transition. Its philosophy of constant improvement and innovation will propel ABB to sustainable growth in the years to come.

Conclusion

ABB demonstrates outstanding innovation and technology development with its subsea electrification systems. The company highly differentiates itself from its competitors in the oil and gas automation industry by providing a solution to satisfy a market need not covered previously by any other company. The degree of technological advancements and creativity involved in designing its subsea technologies is simply outstanding and deserves recognition within the industry.

For its strong overall performance, ABB earns Frost & Sullivan's 2022 Global Technology Innovation Leadership Award in the oil and gas automation industry.

What You Need to Know about the Technology Innovation Leadership Recognition

Frost & Sullivan's Technology Innovation Leadership Award recognizes the company that has introduced the best underlying technology for achieving remarkable product and customer success while driving future business value.

Best Practices Award Analysis

For the Technology Innovation Leadership Award, Frost & Sullivan analysts independently evaluated the criteria listed below.

Technology Leverage

Commitment to Innovation: Continuous emerging technology adoption and creation enables new product development and enhances product performance

Commitment to Creativity: Company leverages technology advancements to push the limits of form and function in the pursuit of white space innovation

Stage Gate Efficiency: Technology adoption enhances the stage gate process for launching new products and solutions

Commercialization Success: Company displays a proven track record of taking new technologies to market with a high success rate

Application Diversity: Company develops and/or integrates technology that serves multiple applications and multiple environments

Business Impact

Financial Performance: Strong overall financial performance is achieved in terms of revenues, revenue growth, operating margin, and other key financial metrics

Customer Acquisition: Customer-facing processes support efficient and consistent new customer acquisition while enhancing customer retention

Operational Efficiency: Company staff performs assigned tasks productively, quickly, and to a high-quality standard

Growth Potential: Growth is fostered by a strong customer focus that strengthens the brand and reinforces customer loyalty

Human Capital: Commitment to quality and to customers characterize the company culture, which in turn enhances employee morale and retention

