



2024 EDITION

CAPABILITIES STATEMENT

CONTENTS

WE: DELIVER

1	WHO WE ARE	4 - 7
2	LOW-CARBON SOLUTIONS	8 - 11
3	RENEWABLE ENERGY SERVICES	12 - 15
4	ASSET INTEGRITY MANAGEMENT	16 - 21
5	INSPECTION SERVICES	22 - 37
6	QC SERVICES	38 - 41
7	COMPLIANCE SOLUTIONS	42 - 49
8	ADVISORY SERVICES	50 - 55
9	MARINE SOLUTIONS	56 - 59
10	AXESS DIGITAL	60 - 67
11	AXESS TECHNOLOGIES	68 - 84
12	WE VALUES	85
13	GLOBAL OFFICES	86 - 87

WE COMMUNICATE WELL
WE ARE CONSIDERATE
WE ARE ENTERPRISING
WE KEEP DEADLINES
WE ARE RESPONSIBLE
WE STRIVE FOR CONTINUOUS IMPROVEMENT



WHO WE ARE

Axess Group creates world-class sustainable solutions for leading players in the oil and gas, wind energy, marine, and infrastructure industries worldwide.

As a trusted global partner with 27 years of experience, we have worked on over 800 assets worldwide. With a strong focus on Health, Safety, Environment and Quality (HSEQ), we are dedicated to helping our clients achieve maximum production uptime, zero harm, and operational efficiency.

Headquartered in Molde, Norway, Axess has five additional offices across the country, located in Oslo, Bergen, Trondheim, Orkanger, and Stavanger. Over the years, the company has developed a strong global presence, with offices in Rio de Janeiro, Houston, Singapore, Cape Town, Luanda, Accra, Dakar, Pointe-Noire, Walvis Bay, Abidjan, Perth, Busan, Mumbai, Taipei, Dubai, Dammam, Kuala Lumpur, Doha, Aberdeen, Mostar, Gdańsk, Hamburg, Paris, St. John's, Ciudad del Carmen, Georgetown, and Boston.

With a global team of over 900 full-time personnel, including degreed engineers, technical specialists, project managers, support staff, and contractors, we specialise in asset integrity and engineering projects, delivering innovative solutions across various industries.

Our wholly-owned subsidiaries, Axess Digital, Axess Technologies, and Praxis, offer inspection software, material handling technologies, and fabric maintenance services, respectively.


We Values

Since the inception of Axess Group in 1998, our We Values have helped to shape our culture and guided us in making the right decisions, especially in a dynamic environment and unknown situations where procedures may not provide enough guidance.

- We communicate well
- We are considerate
- We are enterprising
- We keep deadlines
- We are responsible
- We strive for continuous improvement




27
Years of experience




800+
Assets on reference list



900+
Full-time personnel



33
Offices worldwide



27
Countries worldwide



Our Vision

We create **world-class sustainable solutions** for the future.

Our Mission

We are a **long-term strategic partner** to our clients. We are dedicated to help our clients achieve **maximum uptime** and **zero harm** with **sustainable integrity and engineering solutions**.

Market Sectors We Serve



Renewables



E&P



Drilling



FPSO



SURE/SPS



Infrastructure



Refinery



Marine



2 LOW-CARBON SOLUTIONS

Our mission is to significantly reduce carbon emissions from the oil and gas industry by staying at the forefront of technological innovation and providing our customers with the most climate-efficient solutions.

Global CO₂ emissions from the energy industry is one of the major contributors to climate change and rising sea levels. Axess Group acknowledges that internal and external climate consideration efforts are important to lower these emissions.

We have created policy initiatives that affirm our commitment to zero emissions from our own and our clients' operations. Together with our clients, we will continue to strive for the most sustainable solutions.

We combat climate change and its impact by reducing our own carbon emissions and offering low-carbon solutions to our clients. With our competence, experience, and global footprint, we have a unique opportunity to support our clients worldwide to work more efficiently, reduce their carbon emissions and develop sustainable operations.

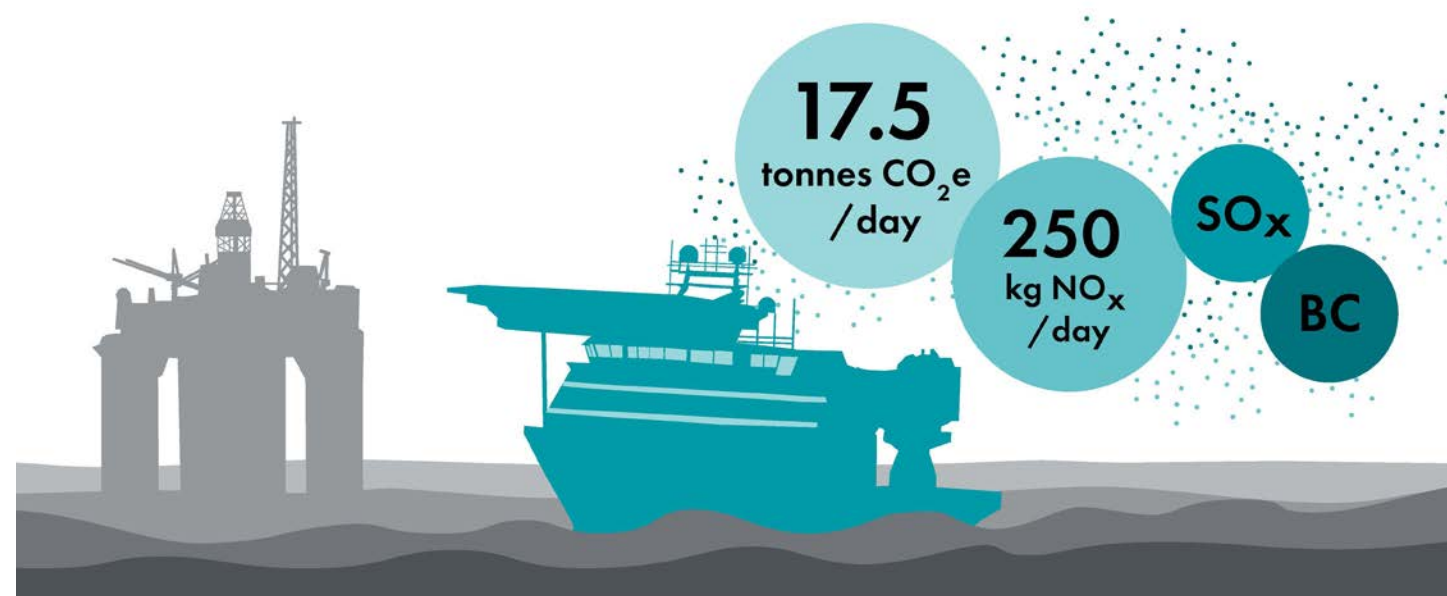
In 2018, we established our Climate Roadmap with goals for how we can reduce our own emissions ("footprint") as well as what we can do to help our clients reduce theirs ("handprint"). The three focus areas identified are support vessels, avoid flaring, and service efficiency.

2.1 Focus Area I - Reduce the use of support/IMR vessels

Complex subsea operations are usually supported by Inspection, Maintenance and Repair (IMR) vessels that burn about 5,000L of fuel and cost around USD 95K each day.

We offer innovative lifting solutions that avoid the use of support or IMR vessels, including ROV and tailored design and fabrication of lifting equipment and mechanical cutting gears.

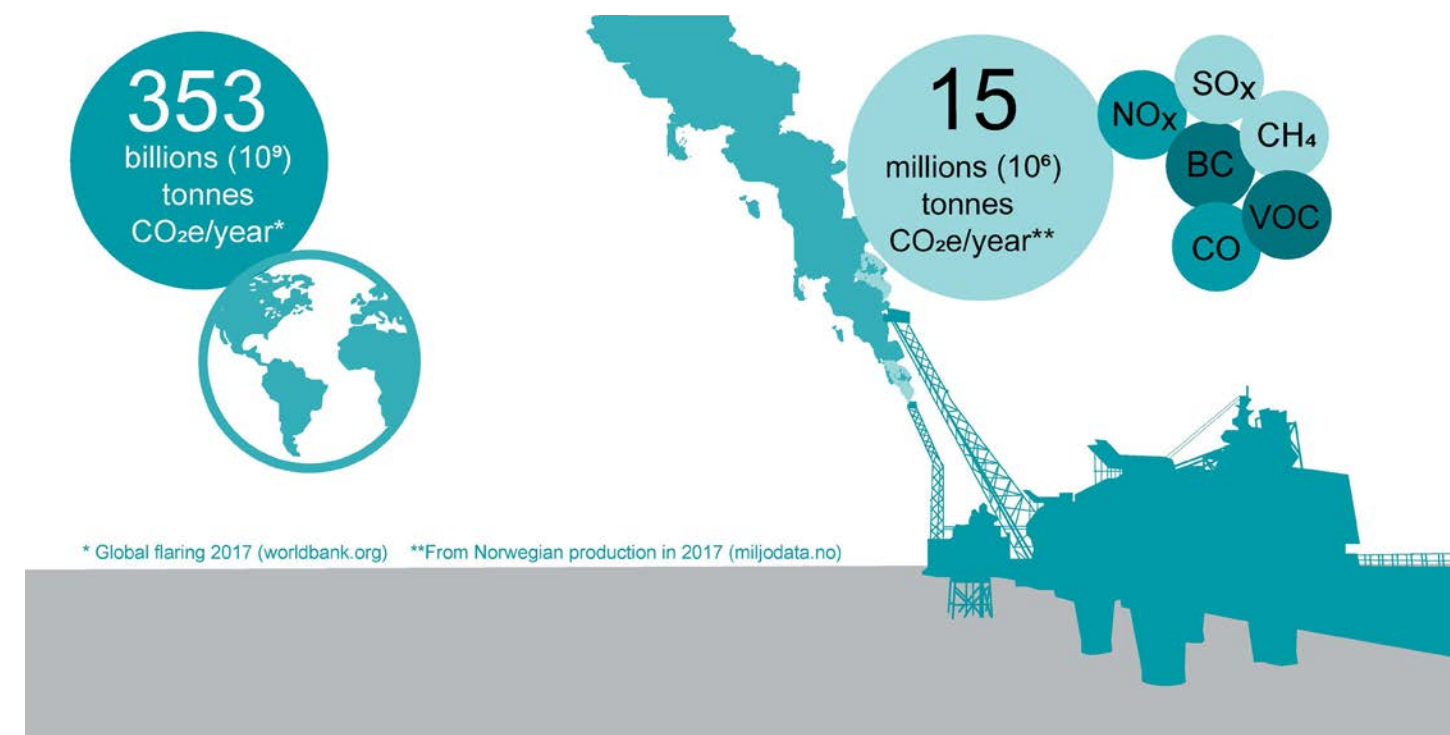
Our caisson replacement and thruster replacement services reduce 200 t CO₂ per caisson and 100 t CO₂ per thruster respectively.



2.2 Focus Area II - Avoid Flaring

Flaring is the second biggest source of greenhouse gas emissions in oil & gas production. To reduce emissions, it is crucial to avoid production shutdown during operations with advanced lifting and advanced inspection technology. We offer products such as the Alpha Winch that avoid production shutdown and flaring. Its reduction potential is 100 to 500 t CO₂ per month, depending on the customer case.

Our Non-Intrusive Inspection (NII) services help to minimise production downtime, predict equipment condition, and ensure asset integrity.



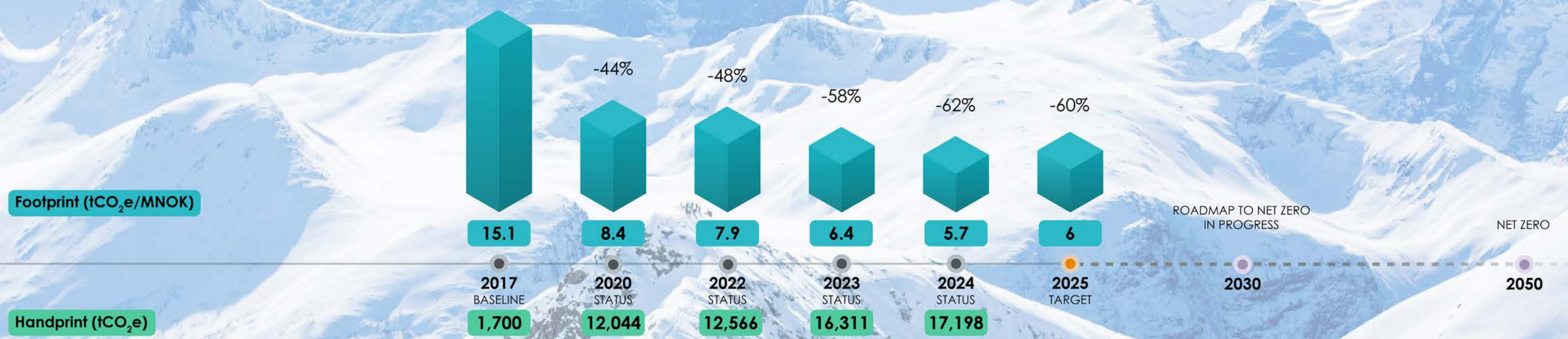
2.3 Focus Area III - Ensuring service efficiency

We bundle services and plan systematically together with customers, to increase service efficiency and reduce the number of mobilisations/ travel activity. With a large international client as our pilot customer, we have documented a reduction of 40% man-mobilisations/cost from 2016 to 2020.

Bridge, our digital inspection software, optimises inspection and reporting processes, thus increasing efficiency.

Climate Roadmap

Our goal is to maximise our handprint while reducing our footprint to a minimum.



Footprint focus

Our footprint is the GHG emissions from our own operations.

Commuting

Facilitate carbon-efficient transport to our offices.

Business travel

Reduce our air travel related to business and sales meetings.

Production and transport

Reduce footprint from steel products manufactured and transported for Axess. Reuse and recycle steel products.

IT consumption

Reduce our footprint from IT hardware and cloud storage. Collaborate with suppliers.

Purchased equipment

Reduce our footprint from purchased equipment. Reuse and collaborate with suppliers.

Mobilisations

Reduce our travel and transport related to mobilisations of personnel and equipment.

Handprint focus

Our handprint is how we reduce our customers' footprint, through our solutions.

Flaring

Products and solutions that avoid production shutdown and flaring. Handprint target for 2025: 50 tCO₂e/MNOK

IMR vessels

Innovative lifting solutions to avoid the use of IMR vessels. Handprint target for 2025: 10 tCO₂e/MNOK

Service efficiency

Products and solutions that reduce the need for mobilisation of personnel and equipment. Handprint target for 2025: 5 tCO₂e/MNOK

Find out more about our [Climate Roadmap](#).

3 RENEWABLE ENERGY SERVICES

Shaping the future of the wind energy industry

Axess Group provides a wide range of services and products for the offshore and onshore wind energy industry. As a company committed to conserving and protecting the environment, we understand the need for a balanced, sustainable production and consumption of energy. With our deep industry knowledge and expertise, we endeavour to deliver reliable asset integrity management and engineering solutions to our clients in the wind energy industry.

Our team of experienced engineers and multi-skilled technicians carry out services across all phases of the assets' life cycle:

- FEED/Project Development
- Construction
- Installation and Commissioning
- Operations and Maintenance



3.1 Onshore Wind

We place a lot of emphasis on combining complementary services to achieve synergies and efficiency gains during the construction and operations phase of onshore wind farms. Our global team of multi-skilled technicians, supported by strong in-house engineering capabilities, enable us to deliver multiple services with the same personnel.

Our key value proposition is to tailor integrated service packages to each specific park. We work together with the park operator and other service suppliers to ensure that the wind park keeps running predictably at minimal cost. In our broad service portfolio, we have demonstrated that this approach reduces the number of mobilisations, number of hours on site and costs related to managing supplier interfaces.

Our services within onshore wind include:

- Asset integrity and maintenance management
- Statutory inspections and compliance management
- Conventional and advanced NDT
- Blade inspections and repairs
- LPS (Lightning Protection System) checks
- Electrical services (including HV termination & testing)
- Bolt integrity and torque verification programmes
- Rope access services
- Service, maintenance, modifications and repairs

These services are supported by Axess Digital's powerful software suite, Bridge, which improves the efficiency of our inspections and the quality and consistency of inspection data. In addition, it also gives asset owners insights into their assets' performance over time.

3.2 Cable Pull-In & Termination and Testing

Cable pull-in and termination & testing are key stages of the cable installation process for wind farm projects. At Axess Group, we ensure project success by leveraging our experience in designing and building cable pull-in systems and executing cable pull-ins for export to substation and inter-array cables in WTG foundations. From there, we complete the scope by safely terminating and test the cable in the switchgear.

We perform both cable pull-in and termination & testing services as an integrated package to achieve efficiency gains in cable installation for both bottom-fixed and floating offshore wind turbines. This reduces the project's overall risk and capital expenditure (CAPEX).

Cable pull-in operations involve risks of cable damage. We offer solutions to manage these risks and to ensure the cables are installed on time. All of our multi-skilled technician teams are experienced in complex rigging solutions and have full support from our engineering department which specialises in designing products and solutions for complex lifting and material handling challenges for bottom fixed and floating offshore wind farms. We offer a wide range of cable pull-in systems, from 2 to 20 tonnes, in both rental and purchase options. We understand the unique risks and challenges cable pull-in operations involve and have solutions to mitigate them.

We terminate and test cables up to 66kV. Our multi-skilled teams directly continue with the installation of hang-offs, stripping and routing after the cable pull-in operations. We work closely with our customers to develop tailor-made solutions and optimise the installation schedule to reduce the overall risk and cost. We easily combine our core activities with additional material handling options to further increase efficiencies. An example would be the removal or installation items such as foundation cover, messenger wires, CMS and anode strings.

Our capabilities include:

- Design and construction of cable pull-in systems up to 20 tonnes
- Engineer of complex rigging solutions, including procedures and risk assessments
- Mock-up trials
- Project management
- Installation of export and inter array cables
- Specialised cable pull-in equipment
- Design and supply of supporting cable equipment
- Cable stripping and routing
- Installation of final hang-off
- Termination and jointing of power cores
- Splicing & termination of fibre optic cables
- Cable Testing

Offshore wind farms bring about an additional challenge for carrying out cable pull-in operations, with higher and more dynamic pull-in forces as well as accessibility challenges. We work with developers and inter-array contractors to solve these challenges and provide a route to industrialisation of floating offshore wind turbines.



3.3 Integrated BoP Services

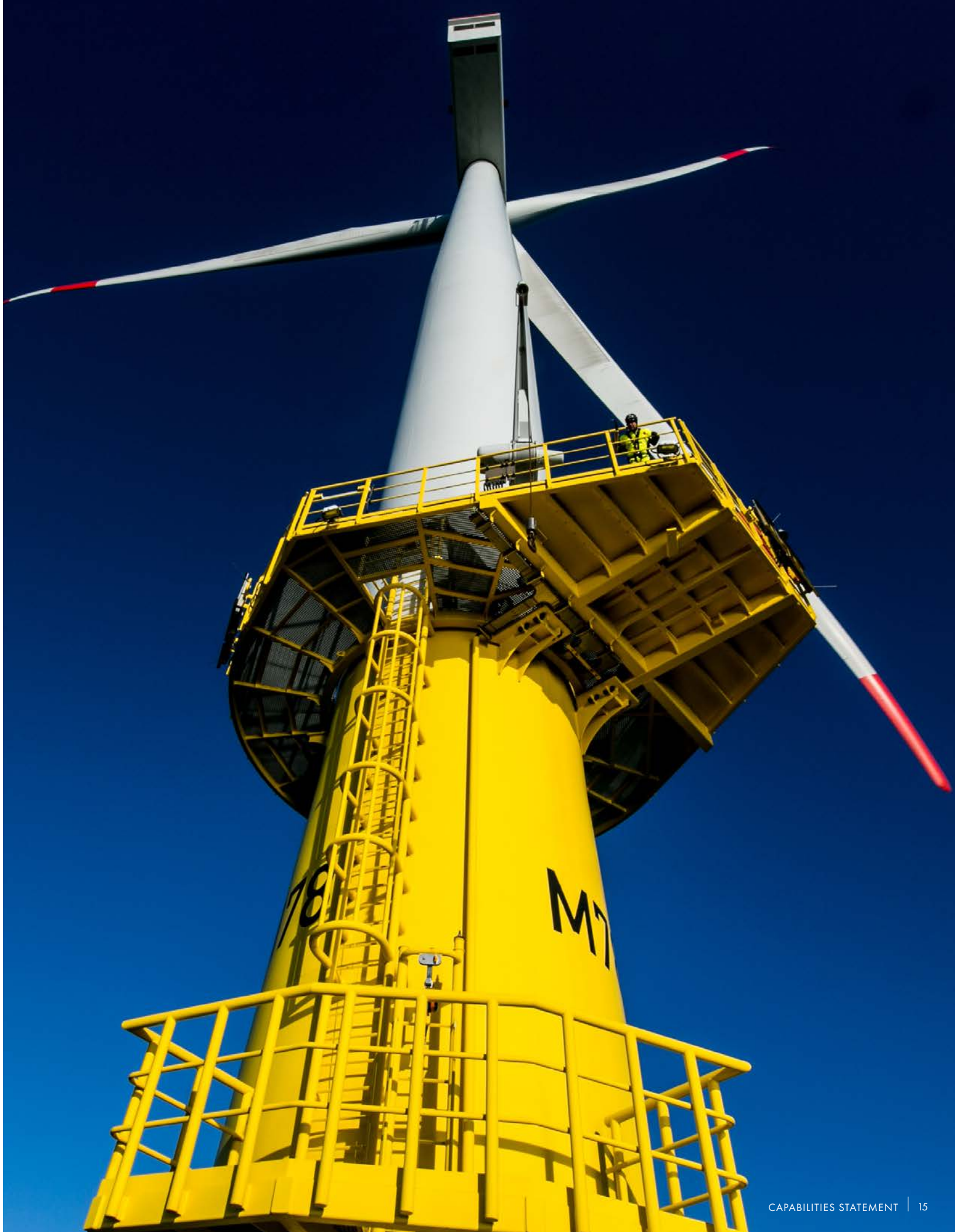
At Axess Group, our integrated approach to Balance of Plant (BoP) combines several inspection and maintenance services for both topside and subsea to gain powerful synergies. With over two decades of experience in inspection and maintenance in the global energy industry, we have a strong focus on ensuring safe and reliable operations.

We utilise Axess Digital’s software solution, Bridge, as part of the inspection process, which ensures that inspections are conducted more efficiently, in accordance with an inspection programme. The inspection data collected is of consistent high quality and thus suitable for analysis across assets and over time. The system also helps park owners manage compliance of all their equipment, providing overview and transparency for statutory authorities and other stakeholders.

We tailor our BoP service package to our client’s O&M strategy, WTG service suppliers and SOV sailing schedule to maximise operational synergies. The service packages include, but are not limited to:

- Visual and NDT inspections
- Statutory inspections
- Drone inspections
- ROV inspections carried out from TP platform, i.e. no need for dedicated vessel
- Bolt torquing checks
- LPS and earthing checks
- HV inspections

Packaging these services and tailoring team compositions allow us to increase efficiency while reducing vessel days, personnel transfers and number of contractual interfaces.

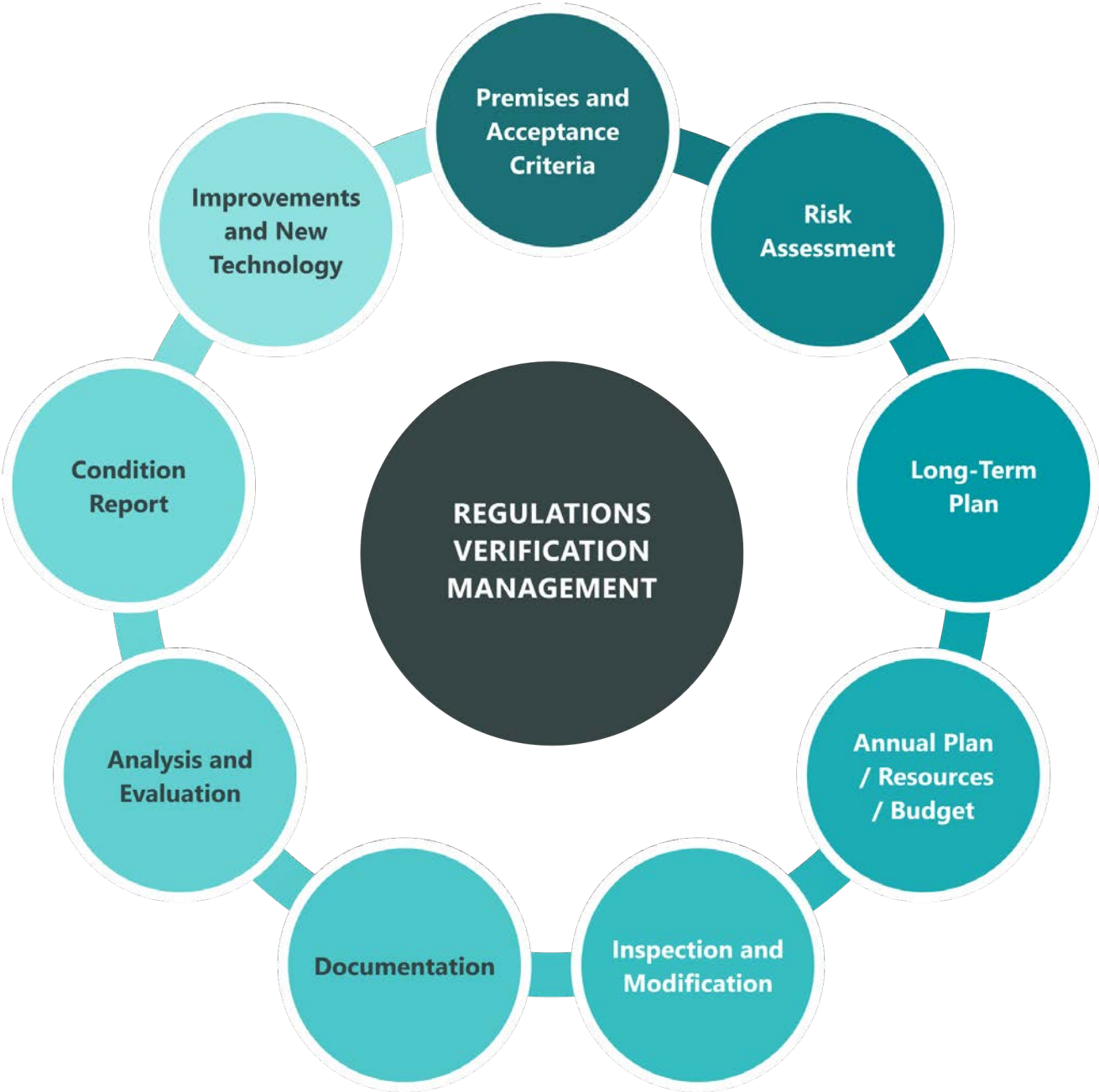


4 ASSET INTEGRITY MANAGEMENT

Asset Integrity Management (AIM) is important to achieving safe and reliable operations, as well as avoiding unplanned downtime and incidents.

With over two decades in the oil and gas industry, Axess Group has extensive experience in AIM for offshore assets, to ensure their integrity throughout their lifecycle. To date, we have performed annual inspections on more than 150 different offshore units worldwide and provided integrity management services to more than 300 different installations.

Axess Group can support you in the development of an effective AIM system that covers various asset components, including static pressurised equipment, dynamic pressurised equipment, hull and structures, as well as subsea equipment. Our AIM framework integrates performance analysis and integrity evaluation with meticulous documentation and direct communication to develop an overarching work process applicable to various assets.



4.1 Crane and Lifting Integrity

It is important to ensure that cranes and lifting appliances are safe and reliable as their failure can have catastrophic consequences for the asset and even the personnel.

With over two decades of experience in the oil and gas industry, Axess Group has established itself as a well-respected global independent specialist in cranes and lifting appliances. We possess extensive experience in ensuring regulatory compliance in relation to lifting operations.

In combination with our engineering resources in various disciplines such as strength calculation, control systems, electrical systems, hydraulic systems, compliance, maintenance and cranes, we provide you with the best possible support, guidance and advice related to cranes and lifting.

We can perform the following services:

- Crane and lifting technical responsible
- Compliance assessments
- Investigations after incidents
- 3rd party audits or audits on behalf of the company
- Lifetime and condition assessments
- Advisory and support services
- Design verifications
- GAP analysis
- Design and Strength calculations
- Feasibility studies within crane and safe lifting operations
- Crane specifications
- Risk assessments



4.2 Maintenance Management

Developing proper maintenance policies for your equipment, facilities, operations and structures exponentially decreases the risk of accidents, asset failures and unnecessary downtime. Preventive maintenance is key to maintaining operational performance in the field or process facilities.

At Axess Group, we provide extensive maintenance management services to meet a diverse set of conditions and requirements. With our deep industry knowledge and experience, our maintenance strategies improve asset reliability, ensure regulatory compliance and allow you to have control over your most valuable assets.

Our expert maintenance engineers have developed an integrated maintenance engineering framework for a variety of industries including energy and maritime. Our unparalleled maintenance management program boosts the effectiveness and reliability of your assets while keeping costs at a minimum.

Close the maintenance management gap and reach sustained peak performance with our wide range of services:



4.3 Process Integrity

In asset-intensive industries where equipment, facilities and structures are the backbone of the business, we understand that having a reliable, multi-level Process Integrity Management system is critical.

A contemporary approach, Axess Group’s Process Integrity Management system focuses on improving your businesses’ operational integrity, efficiency and reliability while minimising costs. Detailed risk and root cause analysis, inspection and evaluation of process plant equipment are conducted to ensure that they are fit-for-service.

We have worked closely with hundreds of partners within the oil and gas, petrochemical and chemical industries, as well as with the regulatory authorities, to successfully develop a Process Integrity Management system tailored to your needs through:



- Evaluating work process for integrity and maintenance management of pressurised static equipment and marine structures
- Delivering integrity management and procedural documents to attain optimal efficiency
- Evaluating clients’ organisations to manage the integrity and maintenance management
- Delivering detailed risk analysis report based on a thorough understanding of process equipment, materials and corrosion mechanisms
- Developing long-term process plant integrity management programmes tailored to clients’ needs
- Evaluating degradation and delivering Service Life Calculation to extend lifecycle of equipment
- Delivering corrosion engineering and root cause analysis
- Developing an unrivalled Corrosion Under Insulation (CUI) management programme
- Establishing effective barrier management to mitigate major accidents

Our CUI management strategy combats the ever-pressing problem of corrosion due to external moisture.

Despite the advances in Asset Integrity Management, CUI problems still cost companies millions each year. With our unique risk-based inspection analysis and mitigation strategies integrated into our inspection and technical condition evaluation programmes, you can focus on what really matters the most – your core business.

4.4 Structural Integrity

Structural Integrity Management is key to the safety of people and resources on offshore units, which are often exposed to enormous waves, freezing temperatures or storms. Axess Group understands the complexities involved in monitoring the integrity of your offshore units. SIM involves assessing the unit’s structural design, fabrication quality, technical documentation and inspection processes. This is necessary for the detection of any weak spots in the structure and for developing compensating measures.

Our goal is to derive the best outcome by balancing practical efforts in the field and structural integrity assessments in the office. With our strong theoretical background and extensive field experience, we use the collected data to assess the actual condition of your structures.

We offer a full range of structural integrity services tailored to your needs:

- Defining performance standards and inspection strategies
- Designing and modifying long-term inspection programmes
- Evaluating inspection findings, performing root cause analysis and suggesting repairs and modifications
- Assessing the inspection, repair and modification history to determine the current structural integrity
- Quantifying uncertainties of structural analyses, inspection quality and detailed designs
- Performing structural reliability analyses, fatigue assessments and structural monitoring analyses
- Handling structural certification and ensuring regulatory compliance
- Performing lifetime extension studies

The structural integrity engineer is supported by other skilled engineers to provide related services such as:

- Inspection of Hull and Structures
- Conventional and Advanced NDT Methods
- QA/QC Fabrication

4.5 Total Rig Integrity Management (TRIM)

Axess Group’s Total Rig Integrity Management (TRIM) concept involves the bundling of scopes, to deliver a cost-efficient inspection, certification and verification package to our clients.

We evaluate assets, monitor performance, ensure regulatory compliance, close inspection findings and present audit reports to help you achieve your business goals. We also put emphasis on streamlining the maintenance system to minimise mobilisations, boost rig performance and reduce unnecessary costs and downtime.

Our TRIM concept is specifically tailored for the offshore market and the objectives are to:

- Minimise risk and prevent asset failures
- Ensure compliance with HSE standards
- Maintain safety barrier functions
- Implement fleetwide, digital and standardised solutions
- Meet current and future statutory and company requirements
- Improve our clients’ financial results by optimising operations at a fixed and predictable cost



5 INSPECTION SERVICES

With over 20 years of experience in the oil and gas industry and more recently, in renewables, Axess Group is a trusted inspection partner of some of the leading players in the market.

Inspections help to prevent incidents that compromise the safety of assets and personnel. In our relentless pursuit of excellence, we optimise mobilisations and document inspection results in intuitive reports to ensure quality standards, compliance to relevant regulations, and that client expectations are consistently met.

5.1 Lifting Equipment Inspection and Certification

As one of the major global players in lifting equipment inspection and certification, Axess Group ensures that regulatory standards and requirements are met, to ensure safe lifting operations and minimise unnecessary delays or downtime.

Our team of multi-skilled engineers and experts have extensive experience in structural design and calculation, control systems, electrical, mechanical and hydraulic systems to provide 24/7 back office support to our inspectors and to meet client requests.

We have gained extensive experience through frame agreements and projects for our clients worldwide, across industries such as oil and gas, marine and renewables. With specially adapted systems and highly competent employees, we can perform the following services for lifting equipment such as elevators, lifting appliance and lifting gear:

- Initial certifications
- Baseline inspections
- Periodic inspection of complex and non-complex lifting equipment
- Recertifications – 5 yearly or after special circumstances
- Design verifications, GAP analyses and advisory services

All our services comply with national rules and regulations, client-specific requirements and manufacturer's recommendations. As a global provider of inspection services, we have deep industry knowledge and experience with most regulatory frameworks such as NORSOK, LOLER, CAPP, NR12, API, ILO 152 and Class rules (DNV, ABS, Lloyds).



Our certifications, accreditations and memberships:

- Certified Enterprise of Competence since 2003 by the Norwegian Labour Inspection Authority
- LEEA membership
- Norwegian Maritime Authority – approved Enterprise of Competence A-1 and B-1
- American Petroleum Institute (API) Crane inspectors – individual approved crane inspectors
- Global Wind Organisation (GWO) – certified personnel in the wind industry
- Frame agreement with the Norwegian Ocean Industry Authority (Havtil) for technical evaluation related to investigation and supervision

Reporting is done in Bridge, Axess Digital's software. Lifting equipment inspections will be reported in the Equip module, a purpose-built software solution to handle compliance of all lifting equipment for equipment owners, providing them with full control of the status and history of equipment and their documentation. Aside from Axess and our clients, third parties also utilise Equip to achieve streamlined and high-quality inspections.

In addition to periodic surveys and certifications, Axess Group, as an Enterprise of Competence, has proven to be a value-adding partner for our clients in the following areas:

- New builds, Upgrade and Modification projects
- Comprehensive knowledge of rules and regulations
- Design verification and certification of lifting equipment and lifting operations
- Special projects including temporary lifting arrangements, special lifting equipment and operations
- Technical support during engineering, planning and execution of projects
- Training programmes

By having a lean organisation, efficient project management and the right tools, we aim to give our clients the best combination of services to achieve predictable cost and response time.

5.1.1 Elevators Inspection and Certification

Axess Group has extensive experience in the inspection of elevators, or lifts, according to maritime rules and in later years, experience with maintenance and modifications. We also have the relevant knowledge and skills to ensure that our clients' elevators operate in compliance with the standards and regulations of the region that they are located in.

With a global team of qualified inspection specialists and engineers, we provide our clients with the relevant regulatory knowledge and expertise to carry out the following services for elevators:

- Regular assessment of elevators and their components
- Elevator certification, recertification and approvals
- Thorough inspection and examination of equipment performance
- Periodic maintenance of elevators
- Equipment upgrades and modifications
- Equipment specification and deliveries
- Regulatory compliance and standards
- Consultancy

Elevator inspections can be carried out together with other services we offer, such as lifting equipment inspection, to improve operational performance.

Elevator inspection and maintenance are typically based on the following standards and regulations:

- IMO – SOLAS
- DNV – Rules for certification of lifts in ships and Mobile offshore units and offshore installations
- ISO 8383 Lifts on ships – specific requirements
- European Standards – EN 81-20, EN81-50, EN81-3, EN81-31 (EN 81-1, EN 81-2)
- Lifting Operations and Lifting Equipment Regulations (LOLER)
- NORSOK R-003 and R-002
- Canadian Association of Petroleum Producers (CAPP)

Axess Group holds the ISO9001:2015 certification, LEEA approval, and approval according to the Norwegian work regulation. We undergo annual audits by DNV, Norsk Sertifisering and Norwegian Maritime Authority (NMA).

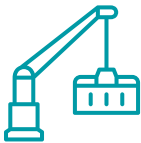
5.1.2 Lifting Appliance and Lifting Gear Inspection

At Axess Group, inspections of lifting equipment are performed and documented according to statutory, class and company requirements. Our inspections have the necessary external and internal approvals to perform the inspections and the control according to valid requirements for the specific equipment type or category. Approved procedures and checklists covering the scope of work of the specific inspection are used and the results are documented on Equip, one of the modules in our inspection software, as well as our clients’ systems when applicable.

The periodic lifting appliance and lifting gear inspections and certifications performed by Axess Group are based on relevant equipment standards and the manufacturer’s instructions for use, which typically includes:

- Verification of documentation, certificates, etc.
- Review of the previous inspection reports
- Maintenance and equipment history
- Control of analysis of oil and grease from cranes
- Use of lifting appliance in relation to design lifespan and assessment needed for initiating lifespan analysis
- Condition control (including marking)
- Test of all functions, safety functions and limit switches
- Test of all emergency operation systems and functions
- Measurement of wear and tear
- Visual inspection
- Wire rope sheave and wire rope inspection
- Reporting and signing for completed control

We carry out lifting appliance and lifting gear inspections according to relevant procedures and checklists in our HSE & QA system to ensure safety and dependability of the following equipment:



Lifting Appliances

- Offshore cranes
- Cranes (all types)
- Winches and hoists
- Drilling equipment (lifting-related)
- Elevating work platforms (access basket)
- Attachments and beams



Life-Saving Equipment

- Lifeboat davits and winches
- Life raft davits
- Lifeboat Skidding system
- Release mechanism
- Securing arrangement
- Escape chutes
- Escape lines
- Gangway systems
- Rescue boats – davits and winches
- Personnel transfer carriers



Personnel Safety Equipment

- Harness
- Lanyard
- Fall block
- Tripod
- Stretcher
- Rescue kit
- Rescue accessories

We go beyond basic lifting appliance and lifting gear inspections, by providing complementary services including:

- Certification and Re-Certification of Lifting Equipment based on NORSOK R-002 Annex H
- Temporary Lifting Equipment based on NORSOK R-002 and in accordance with NORSOK R-003 Chapter 8
- Equipment rental and supply
- Rigging loft solutions
- Crane condition evaluations
- Rest life analysis and GAP analysis
- Visual wire rope inspection and Magnetic Rope Testing (MRT) according to ISO 4309

5.2 Drilling Equipment Inspection

As part of our asset integrity management programme, we offer the inspection of drilling equipment, which safeguards the integrity of rigs and the safety of the crew, thereby increasing operational performance.

Axess Group is your strategic partner in achieving long-term benefits. Over the past 20 years, we have developed competencies within the drilling sector, providing inspection services for different types of rig equipment, according to the relevant regulatory standards. Our vast project portfolio serves as a testimony to our expertise, with successful inspections and assessments worldwide.

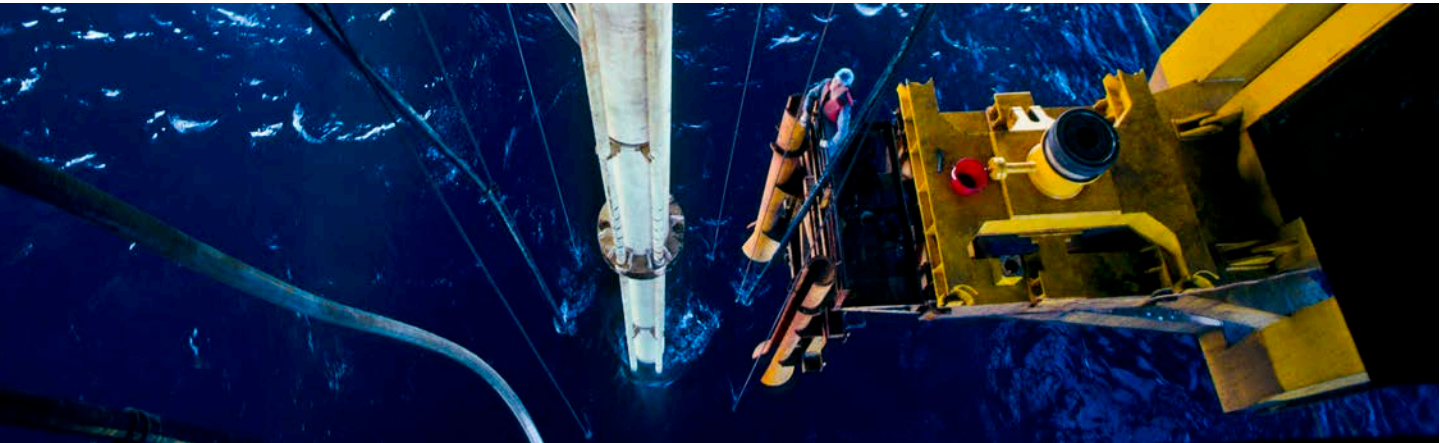
Our comprehensive range of inspections for drilling rigs is focused on enhancing technical integrity for reliable operations, improving health and safety for crew, as well as achieving compliance with national and international regulations. Our rig inspection strategies are specifically designed for our partners in the offshore drilling industry. Some of our services include dimensional control, NDT inspections, visual inspections and function testing.

With our Risk-Based Inspection (RBI) framework by means of Non-Destructive Testing (NDT), we are able to prioritise inspection and zone in on the equipment’s true state, which is a vital element in ensuring optimal operations at minimum cost.

Following our thorough inspection, we assess the results, deliver effective and cost-efficient solutions for assets that are most at risk, and provide our clients with targeted analyses. We can also provide reports of the thorough examination carried out by a competent person as required by Lifting Operations and Lifting Equipment Regulations (LOLER).

This results in a number of benefits, such as:

- compliance with our partners’ requirements;
- the ability to combine delivery to execute NDT needed and Enterprise of Competence;
- compliance with rules and regulations (NORSOK, LOLER, CAPP, API, ILO 152);
- safe drilling operations;
- and verification on the status of inventory.



Our integrated approach allows us to provide our clients with tailored solutions. Aside from drilling equipment inspection, we can design a multi-level programme that employs strategies and methodologies to assess the different aspects of our clients’ businesses.

5.3 Static Pressurised Equipment Inspection

At Axess Group, we perform inspection of pressurised systems to obtain valuable data for maintenance planning and to verify the safety of our clients’ static pressurised equipment and ensuring their lifespan.

As a world-leading provider of inspection services, we help our clients effectively assess the risks associated with static pressurised equipment, through systematic inspection, well-documented results and by providing visualisation of the degradation. We provide them with suggested actions to reduce the risk.

Our entire inspection process is carried out by certified, multi-skilled and experienced personnel to ensure proper execution of inspection methods and optimise resources and mobilisation. Combining our deep industry knowledge with cutting-edge software inspection tools, we equip our clients with the data they need to gain competitive advantage and achieve business goals.

Our static pressurised equipment inspection services include:

Inspection Execution

- Efficient inspection with on-site competence to readily recommend adjustments according to inspection results
- Performed by multi-skilled inspectors and NDT technicians within safe operating limits

Reporting and Documentation

- Intuitive and results-oriented reports that present the technical condition status and recommendations to prevent equipment failure
- Evaluation of data and finding with tailored recommendations for further action and integrity engineering or maintenance planning
- Test point documentation based on pictures, piping and instrumentation diagram (P&ID), isometric drawings and 3D models

Our major inspection categories are:

In-Service Inspection

From implementing a comprehensive risk-based inspection program to managing compliance inspections, we provide our clients with cost-effective services that improve safety, proficiency and productivity.

Replacement Inspection

Early detection is key in ensuring your assets are working at full capacity. We inspect equipment’s pipe systems, identify issues and address them in the earliest stages to reduce the risk of failure and cost of interruption in production. Aside from the thorough inspection of the equipment, we also take care of fabrication and installation of pipes to guarantee that they are done right and on time.

Shutdown and Turnaround Inspection

We provide our clients with shutdown and turnaround inspection and support to ensure integrity, safety and extend the life cycle of their equipment.

Inspection Planning

We design a comprehensive long-term inspection programme tailored to our clients’ needs, from determining suitable NDT inspection methods to assessing data to optimise asset performance and meet their requirements.

5.4 Hull and Structures Inspection

Since our inception in 1998, we have been performing inspections of hulls and structures on a variety of offshore assets. Our structural inspectors are experienced in identifying deterioration on marine structures such as fatigue cracks, corrosion, buckling or dents, which is critical for structural integrity assessments.

With a good understanding of the risks and the procedures involved, they are able to perform the job safely, even under challenging conditions including at height, in the splash zone or in confined spaces. Axess has developed long-term inspection programmes for new assets and modified them to suit ageing assets. Combined with our extensive field experience, we can identify how and what information should be collected for the client.

Our structural inspectors are supported in the field by our quality control department with NDT-technicians, coating inspectors, welding inspectors and other specialists, as needed, to perform their jobs in an optimised manner.

The scope of work includes:

- Defining work scope
- Making work packages
- Managing inspections
- Leading inspections in the field
- Performing NDT and visual inspections
- Reporting the condition of the structures
- Reporting of findings
- Carrying out follow-up repairs and modifications

5.5 Pressure Safety Valves Inspection

Pressure Safety Valves (PSVs) protect pressure vessels and piping systems from excessive internal pressure. At Axess Group, we deliver pressure testing of PSVs, with pressures up to 25,000 PSI, to make sure that they “pop” within the accepted pressure range, enhancing safety on offshore assets.

Our global team of experienced technicians conduct the tests according to American Petroleum Institute (API) standards (API 527, 510 and 576).

We adopt a Risk-Based Inspection (RBI) approach to create tailor-made inspection programmes for our clients. With our TRIM concept and team of multi-skilled personnel, we can combine testing of PSV with other services, such as inspection of HP/LP pressurised systems, instrument calibration, to minimise the number of mobilisations and reduce unnecessary costs, downtime and carbon emissions.

In addition, we mobilise test equipment on a pallet which we rig up in the mechanical workshop, instead of a big container, thus saving our clients costs and space onboard the rig.

At the end of the project, we upload all documents to Bridge, which our clients can easily access and review.

5.6 Jacking System Inspection and Maintenance

A jacking system is one of the most critical components of a jack-up, an offshore platform commonly used in the energy industry. A jack-up can be used in multiple ways, such as an exploratory oil and gas drilling platform, an offshore wind farm service platform for Installation, Operations & Maintenance (O&M) activities, and an accommodation platform for offshore personnel.

Due to jacking operations, there is often wear and tear in different components of the jacking systems. To ensure their integrity, we perform inspection and maintenance according to OEM and Class guidelines, such as:

- ABS - Rules for Building and Classing Mobile Offshore Units January 2020, Part 7 Surveys 7-2-5/7.1.1 General Visual Inspection (GVI) and 7.3.2 Close Visual Inspection (CVI)
- DNV-RP-0075 - Inspection & Maintenance of Jacking Systems
- DNV-RU-OU-104 - Rules for Classification, Offshore Units (Self-elevating units) - Chapter 8, Section 3

At Axess, our team of multiskilled inspectors utilise a wide range of conventional and advanced Non-Destructive Testing (NDT) techniques to carry out these inspections. To date, we have completed numerous projects around the world with some of the largest jack-up drilling contractors. We have experience in different jacking systems such as but not limited to LeTourneau, Baker Marine, National, Friede & Goldman, NS 400, Gusto MSC.



5.7 Dropped Object Management

As a leading global Dropped Object Prevention Scheme (DROPS) solution provider in the oil and gas industry, we provide a range of dropped object management and inspection services, to prevent injury to personnel and damage to offshore and onshore assets. These services are fine-tuned according to the industry best practices and in compliance with relevant regulatory requirements.

At Axess Group, safety is our top priority. We do not simply accept dropped objects as an inherent workplace hazard, in fact, we believe that the risks can be managed. As a result, we have meticulously designed our solutions such as personnel training, DROPS manuals, and program delivery and verification. In addition, our Bridge software has an eDROPS module that is developed to ensure cost-effective, methodical planning as well as execution of surveys and strategies focused on dropped objects prevention and management.

We are committed to providing comprehensive dropped objects safety solutions. Dropped object management and inspection services can be integrated with our Total Rig Integrity Management (TRIM) concept, thus, equipping our clients with multi-skilled personnel capable of executing a wide range of jobs while mobilised.

Together with our team of experienced inspectors and specialists, we endeavour to optimise your production by eliminating incidents involving dropped objects and help our partners effectively and efficiently save lives, costs and time.



5.7.1 Design and Verification

For new builds, early involvement in design and specification verification is key in developing a strong DROPS philosophy to ensure safety from the design and construction phase to the operational phase.

Our multi-disciplined engineers and specialists help our clients ensure that their newly built installations meet the highest safety standards. At Axess Group, safety is at the center of everything we do. We understand the causes of dropped objects, including environmental elements, corrosion, deterioration, vibration and human error. This enables us to deliver unparalleled design and verification services and continue to push the boundaries of safety and risk prevention within the workplace.

Our DROPS Design and Verification services offer the following advantages:

- Reduce the risk and cases of dropped object incidents by establishing DROPS Philosophy throughout the design and construction phase
- Safeguard personnel, assets, and working environments by implementing and securing secondary retention methods for equipment as part of a dropped object prevention program
- Ensure technical requirements of equipment are met and comply with relevant standards by carrying out objective design reviews to avoid problems later on
- Verify whether sub-contractors have met their agreed work scope and assure the quality of work delivered
- Save mobilisation costs with our multi-skilled and competent team of dropped object prevention specialists
- Thorough assessment and rectification of findings while controlling installation status
- Execute DROPS strategies in the most effective way for increased operational efficiency



5.7.2 DROPS Baseline Survey

DROPS baseline survey is a critical component of our inspection services as it helps us identify potential risks and develop the most efficient safety maintenance strategy, tailored to our clients’ needs.

Dropped objects are responsible for hundreds of injuries and fatalities in industries such as oil and gas. To improve workplace health and safety, ensure HSE compliance and alleviate the risks involved with dropped objects, it is vital to perform proper inspection and implement preventive measures.

Our DROPS baseline survey includes:

- DROPS inspection and bolt inspection
- Closing of DROPS findings and tidying at height
- Verification and correction of securing methods at height
- Compilation of DROPS management system with picture books, Pre-Task and collision checklists, and procedural guides and user manuals
- Review of existing DROPS barriers and establish better safety measures

With our qualified team of specialists and technicians, we conduct a thorough inspection and detailed survey of tools, equipment and structural part of each inspection area of the rig to identify potential dropped object threats, incidents and scenarios. Our baseline survey aims to accurately identify and implement the most appropriate DROPS strategy that fulfills regulatory requirements and meets international standards through site photographs, checklists, user manuals and immediate repair recommendations.

We ensure proper documentation during the survey’s conclusion by recording all inspection object data into our clients’ DROPS management system. This enables us to measure and monitor year on year changes and make improvements based on the rig’s needs.

We understand how crucial baseline surveys are in developing dropped object control and prevention strategy. This is why we promote early involvement and deliver on our promise – to help you identify, record and assess potential dropped object hazards, as well as recommend necessary corrective actions.

With our state-of-the-art eDROPS software, we can effectively manage and control all potential Dropped Objects within your fleet and provide you with safety statistics and alerts to monitor items within your fleet following any failures.

5.7.3 DROPS Inspection System for Rig Crew

With our DROPS Inspection System, we help our clients increase overall awareness and understanding of preventive measures against dropped objects, from rig crew to top management.

First, we provide an introduction and basic training course on DROPS best practices to achieve zero dropped object incidents in the workplace and ensure alignment with international standards.

Subsequently, we provide tailored checklists and manuals focused on preventing accidents resulting from dropped objects, while ensuring alignment with industry best practices and legislative requirements.

Our comprehensive DROPS Inspection System for rig crew establishes a culture of safety in the workplace through:

- Educating and increasing awareness of dropped object hazards
- Developing preventive plans
- Equipping personnel with correct materials for secondary retention
- Rectifying existing measures and recommending new solutions to close DROPS findings from inspection reports

The success of such a system is anchored on the capability of the inspection team and the cooperation of all rig personnel. Thus, we have developed our DROPS Inspection System for rig crew for personnel who are responsible for carrying out routine inspections and monitoring internal implementation of dropped object management systems.

To ensure effective implementation, we have divided the system into two:

Zone-Specific Inspection System

Manual and Checklist:

- Divided into inspection points or zones.
- All zones have a specified inspection frequency.
- Provide descriptive pictures and text
- Pocket-size design to easily fit in the pocket of a coverall.
- Robust paper for in-field use.
- The pictures and examples tell the personnel what to inspect.

Findings and deviation are registered and can be registered in our maintenance system.

Object-Orientated Inspection System

Manual and Checklist:

- Covers every single object the surveyor should inspect.
- All areas and equipment included will be defined together with the client.
- Descriptive pictures and text telling the surveyor what to look for.
- Easily understandable text, drawing and pictures to describe where the object is.
- Available space for the surveyor’s notes and fail descriptions.
- Our system describes the chronological order for efficient inspection.

All objects are criticality evaluated and divided into 7, 30, 90 and 180 days inspection intervals depending on severity.

5.7.4 3rd Party DROPS Inspection

As a leading partner in inspection services worldwide, we constantly deliver premium third-party DROPS inspections that comply with local regulatory requirements and international standards.

Capitalising on over two decades of experience in the oil and gas industry, we provide a full range of comprehensive and cost-effective third-party DROPS inspection services. We set ourselves apart from the rest by consistently closing DROPS findings based on detailed audits to ensure the safety and integrity of all assets and personnel.

Our DROPS inspections are divided into three forms:



Internal inspections in accordance with DROPS inspection programme



Annual third-party inspections of all areas included in the DROPS programme



Annual third-party audit and control of the DROPS management system

Our multi-skilled personnel can carry out several work scopes during a single DROPS mobilisation, optimising inspection resources, time and costs. We successfully close our findings with comprehensive inspection reports that, at the minimum, deliver the following:

- Detailed audit documented in the picture log and findings list
- Summary of SOW, findings and results
- Recommended corrective action
- 3D mapping of the findings

With our intensive and proactive approach to third-party DROPS inspection, our clients can confidently cultivate and sustain a safe work environment with zero cases of dropped object incidents and injuries.

5.7.5 Closing of Findings

After a thorough inspection of our client’s assets, our certified inspection specialists would recommend an integrated corrective action plan based on their findings to promptly address potential dropped object hazards. Subsequently, we would implement solutions to close both the common and critical dropped object findings.

To ensure all actions relating to our inspection findings are successfully completed, we carry out the following:


- Conducting tailored inspection of all objects at height and comprehensive survey of DROPS management system
- Designing a comprehensive program that includes complete bolt and structural inspections in the derrick
- Rectifying findings, which do not require special tools or equipment, during the inspection, to save costs and time
- Providing access to one of the most advanced documentation and audit systems in the industry
- Mobilising resources, personnel and additional supplies and materials required during closing campaigns
- Delivering competence in effective closing of findings that require rope access

5.7.6 DROPS Training


As a foremost provider of satisfactory DROPS inspection services, we provide DROPS training for offshore and onshore personnel that is tailored for your operations, environment specifications and site requirements. With this training programme, we aim to help raise awareness of potential dropped object hazards, explore prevention methods and carry out industry best practices to reduce the occurrence and severity of dropped objects incidents on assets worldwide.

Our DROPS training focuses on boosting the understanding and knowledge of the causes and risks of dropped objects, as well as best practices and preventive measures against dropped objects. In turn, we help the target audience improve its capabilities in identifying potential falling object threats in the workplace and implement adequate dropped object countermeasures, thereby establishing a sustained culture of safety.


Target groups that will benefit from our DROPS training include:




Top Management




Drill and Deck Crew




Welders




Crane Operators




Personnel working at height



Electricians



Purchasers and Storekeepers



All 3rd Parties working at height

5.7.7 DROPS Barrier Management

Barriers are vital to operational safety as they prevent hazards such as dropped objects from manifesting themselves and to mitigate negative consequences. With our comprehensive DROPS Barrier Management services, we help our clients gain insight into their overall safety performance and provide world-class solutions to strengthen barriers, thereby ensuring safe operations.

To begin, our certified, multi-skilled engineers and specialists perform a thorough review of all human, organisational and technical barriers that our clients have in place, through extensive data analysis. In addition, we gain further insight into their safety performance by studying employees’ knowledge, attitudes and behaviours through social anthropological methods.

Our DROPS Barrier Management services provide you with the following advantages:

- Reveal the strengths and weaknesses of your company’s DROPS philosophy
- Identify all human, technical and organisational DROPS barriers
- Gain a holistic view of safety risks and workplace hazards
- Manage threats, undesirable incidents and major casualties
- Plan and manage the implementation of better safety measures and DROPS management system improvements
- Reveal and improve crew’s drive to properly establish DROPS barriers
- Continuous monitoring and follow up of the changes and improvements in DROPS barriers

5.8 Non-Destructive Testing

We provide conventional and advanced Non-Destructive Testing (NDT) services to ensure the integrity of your assets with minimal to no operational interruptions.

With over two decades of experience in the oil and gas industry, we are well-positioned to provide both off-the-shelf and tailored NDT services to companies around the world, in industries including oil and gas, marine, infrastructure and renewables.

In accordance with industry best practices and international standards, we deliver practical benefits including:

- Reduced shutdown time and inspection costs
- Improved integrity of assets through early detection of flaws
- Minimised workplace risks, threats and accidents
- Increased sensitivity, accuracy and Probability of Detection (POD)
- Safe, effective and reliable operation of assets throughout their life cycle
- Closing of audit findings with tailored practical solutions

Equipped with state-of-the-art technology, we offer conventional and advanced NDT services that solve today’s toughest integrity concerns, including:



Conventional NDT Methods

- Ultrasonic Testing (UT)
- Radiographic Testing (RT)
- Magnetic Particle Testing (MT)
- Eddy Current Testing (ET)
- Liquid Penetrant Testing (PT)
- Positive Material Identification (PMI)
- Visual Testing (VT)



Advanced NDT Methods

- Phased Array Ultrasonic Testing (PAUT)
- Pulsed Eddy Current (PEC); CUI detection without stripping of insulation
- Automatic Ultrasonic Testing (AUT)
- Time of flight diffraction (ToFD)
- Computed Radiography (CR)



5.9 Drone Inspection

Drone inspections are a form of remote visual inspection (RVI), a non-destructive testing (NDT) technique for visual observation of a component or region from a remote location. This is especially suitable when there is limited access or when it is unsafe to access.

Drone inspections are being performed in most industries that requires visual inspections as part of maintenance procedures. By using a drone to collect visual data on the condition of an asset, it helps inspectors avoid having to place themselves in dangerous situations. Hence, reducing risk and significantly reducing cost.

To utilise drone inspection technology, strict rules and regulations must be complied with. Axess Group is a certified RPAS operator by the Civil Aviation Authority of Norway. Our pilots are certified according to Norwegian law and Civil Aviation Authority guidelines.

We provide the following services:

▪ High-resolution video inspections

This enables time and cost-efficient inspection of areas that are not easily accessible such as piping and structures, removing the need of costly techniques such as rope access and scaffolding. High quality pictures that are captured can be utilised for thorough condition assessments.

▪ Thermal imaging

Utilising aerial mounted thermographic imaging technology, inspections can be performed in a very effective and timely manner. Potential troublesome hot spots that can cause unexpected downtime and maintenance can be detected quickly.

▪ Photogrammetry

This method produces the most accurate data available for 3D modelling and dimensional mapping for volumetric calculations. This greatly increases understanding of an asset’s condition to support decision making.



Aside from drones, we also offer push or crawler cameras to conduct RVI in confined spaces. This enables timely assessments and real-time evaluations.

▪ Visual inspection

Efficient high-resolution internal inspection of piping and vessels with push or crawler cameras. Range of up to 200m. For specific needs, this can be extended.

▪ Evaluation

Internal weld or degradation evaluation performed by EN-ISO 9712 or NS415 certified personnel

▪ Documentation

3D-modelling of inspected piping

5.10 Ex Inspection

At Axess Group, we provide a full range of Ex inspection services to various industries, including oil and gas as well as marine, to ensure full compliance with all relevant safety regulations, best practices and international standards. With our extensive experience and team of highly trained specialists, we carry out well-tailored inspection strategies that are proven to reduce workplace electrical hazards.

Optimise your Ex equipment’s integrity, safety and reliability with our methodical inspection and maintenance services directed toward achieving flawless operations with minimal to zero unscheduled downtime.

We endeavour to assist our clients in improving safety during hazardous electrical installations through:



Visual Inspection

To identify defects that are apparent to the eye without needing access to the equipment



Close Inspection

To identify defects that can only be determined when the equipment can be accessed



Detailed Inspection

To identify defects that can only be detected when the enclosure is opened

Why invest in Ex inspection?

- Optimise inspection grade or frequency and maintain the integrity of Ex assets
- Enable compliance with pertinent regulations and performance standards
- Reduce human error in maintenance operations and intrusive inspections
- Improve equipment performance and service life
- Ensure implementation of effective risk-based Ex inspection regime
- Eliminate unnecessary expenses
- Improve knowledge sharing and implementation of best practices

5.11 Vendor Inspection

Hired equipment can present safety risks to personnel and the installation if they arrive in poor working condition or do not comply with regulations. We conduct quality inspections on the vendor’s equipment prior to mobilisation, avoiding any unnecessary costs and downtime.

At Axess Group, we help clients focus on their businesses by handling the inspection aspect of the procurement process. With over two decades of experience in the oil and gas industry, we are very familiar with the specifications and regulations related to equipment.

Our team of highly qualified and experienced inspection engineers can help to ensure that the equipment is in proper working condition with the right certifications and are following the relevant regulations, furthermore, as an independent third-party inspection company, we provide impartial advice and are only influenced by hard data.

We typically review the certifications, carry out the inspections at the vendor’s premises, complete the relevant checklists (electrical, mechanical, or structural) and conduct function tests wherever feasible.

With our global team of experts, we can provide vendor inspection services for our clients worldwide, for a wide range of equipment, including:

- Pressure equipment
- Lifting equipment
- Electrical equipment



6 QC SERVICES

At Axess Group, we believe that manufacturing follow-up increases safety and quality during the manufacture of assets. Our inspectors and engineers have extensive experience in helping clients ensure that production satisfies project-specific requirements and standards, as well as consistent quality from suppliers.

With specialised and tailored inspection tools as well as expert monitoring and compliance services, we are well-positioned to help our clients meet their project timelines and budgets. Supported by cloud-based inspection reporting platforms, our global presence enables us to provide advisory, field inspection and surveillance, whenever and wherever our clients need it.

Our highly competent and experienced inspectors can oversee:

- Manufacturing processes
- Inspection and/or testing of materials
- Compliance with company, contractual or regulatory requirements

6.1 Fabrication Follow-Up

With our multidisciplinary teams comprising experts from various disciplines within construction and manufacturing, we provide fabrication follow-up services to support our clients in every step of the fabrication process, from documentation review and engineering studies to welding, NDT and surface treatment.

We corroborate findings and areas of concern through inspection, monitoring and testing. Subsequently, we provide feedback to the asset owner or general contractor on the project’s evolvement and the products’ compliance to standards and specifications. In every project, we aim for timely delivery with high quality at predictable costs.

Specific deliverables include:

- Welding engineering
- Welding inspection and surveillance services
- Conventional and advanced NDT inspection and Level 3 services
- Coating inspection, surveillance and Level 3 services;
- Engineering solutions
- Asset Integrity Management services

6.2 Welding Solutions

At Axess Group, we aim to support our clients with expert knowledge and technical know-how within the welding and brazing disciplines. Our experienced engineers provide technical advisory services such as standard interpretation, material selection and welding procedure qualifications. We also assess steel fabrication suppliers, to assure our clients that the suppliers are working according to expected quality levels.

We offer the following welding solutions:

Certification of welders and brazers

Qualified welders and operators are essential for high-quality welds. Our experts provide you with all important welder qualification tests and help you to combine different certifications in one step. On behalf of DNV, we perform examination of welders and brazers as well as two- and three-year renewals according to:

- ISO 9606 (Manual welding)
- ISO 14732 (Operators)
- ISO 13585 (Brazers)

Over the years, Axess has provided our clients with more than 3000 certificates.

Qualification of welding procedures

In order for a welding procedure to be qualified, the process must be documented through testing and verification activities. For many years, Axess Group has supported clients in developing Welding Procedure Qualification Records (WPQRs), the documentation for welding procedure qualification, within a variety of construction environments. Our experience in material selection and welding processes enable us to develop both general and asset-specific WPQRs.

All welding procedures supplied through us are verified by DNV and we assist with qualification of welding procedures according to:

- ISO 15614
- EN-1090
- NORSOK
- DNV rules for welding

Welding inspections

Welding inspections are conducted for several reasons, most commonly to determine whether the weld is of suitable quality for its intended application. Codes and standards developed specifically for a variety of welding fabrication applications are used during welding inspections to dictate what levels of weld discontinuities are acceptable.

With our team of certified welding inspectors, we perform welding inspections before, during and after welding according to applicable requirements and specifications.

Welding coordination

Welding is a special process, which requires the coordination of welding operations in order to establish confidence in welding fabrication and reliable performance in service. The tasks and responsibilities of personnel involved in welding-related activities (e.g. planning, executing, supervising and inspection) should be clearly defined.

EN ISO 3834 is a standard that ensures that quality is maintained to achieve a well-functioning quality system in the execution of various welding applications. The standard defines three quality levels, depending on the type of weld performed.

The standard is currently used in most European countries. Nevertheless, there are many companies that have not yet seen the benefits of introducing a quality system according to this standard. Requirements may come from other standards as well as customers or authorities. Among others, both NS-EN 1090-2: 2018 and the standard for industrial piping system refers to EN ISO 3834.

We have a team with highly-skilled welding engineers that are certified according to IIW guidelines on IWT and IWE levels. They are able to provide coordination services for any given welding fabrication work and at any level specified within EN ISO 3834.

6.3 Coating Solutions

For over two decades, we worked with a variety of surface treatment, coating and insulation systems on subsea pipelines, on- and offshore structures and piping.

Axess Group supplies third-party inspectors, or quality assurance (QA) inspectors, and corroborates the findings and measurements of the coating application company. This position is vital in ensuring that no corners are cut and that all aspects of the project are followed to specifications. This would help to extend the life of the asset, and prevent unnecessary costs and potential hazards resulting from the failure of premature coating.

We possess in-house resources and equipment to take on a large variety of testing and inspection works. From developing tailored inspection and test plans (ITP/TIP) to inspection execution, we help to ensure your suppliers' compliance with standards and specifications.

Our coating and insulation services include:

- Client representation and inspection on- and offshore
- Participation in kick-off and prefabrication meetings
- Development of tailored inspection and test plans (TIP/ITP)
- Compliance evaluation and revision of project specific technical documentation
- In-house NACE and FROSIO certified personnel
- In-house FROSIO Insulation certified personnel
- Level 3 services
- IRMII certified personnel
- PQT, PPT and production follow-up of rigid pipeline coating and insulation (Linepipe, field joint, custom coating)
- Supplier surveying during thermal spray and coating of structures, components and parts
- Inspection of technical insulation on piping, vessels, and structure in process areas
- Reporting of coating conditions and recommending corrective actions

Our coating inspection methods include:

- Visual assessment
- Surface assessment (ISO, SSPC, NACE, NORSOK)
- Surface profile (Comparator, testex, digital)
- Surface contamination (dust, chloride, nitrate, sulphate)
- Climatic conditions
- Coating thickness measurements (Wet film, dry film)
- Adhesion testing (Pull-off, cross-hatch)
- Holiday detection (Wet, dry)
- Additional site or client specific technical requirements as agreed



7 COMPLIANCE SOLUTIONS

At Axess Group, we leverage our global presence and extensive industry experience to ensure full compliance in all phases of projects.

We understand that the legislative and regulatory compliance processes can be taxing and unpredictable, especially in the offshore Oil & Gas industry. With over 20 years of experience, we provide full regulatory compliance support and turnkey solutions to clients worldwide, to ensure maximum uptime and operational efficiency. Along with our exceptional track record, we have built a global network of engineers and specialists to keep lead time and mobilisation costs at a minimum and enable us to carry out efficient customer collaboration anywhere in the world.

We support our partners in all phases of the asset lifecycle project:

- Early stages including FEED, design and engineering
- Commissioning, site inspection and certification
- Audit reports from clients and authorities
- Full support for advisory and recertification during operations

7.1 Brazilian Compliance

With extensive experience and full understanding of Brazil's unique regulatory environment for offshore installations, Axess Group is well-positioned to help you comply to Brazilian regulations when operating in their waters. This prevents you from facing any unexpected shutdown or delays resulting from non-compliance.

We have over 90 offshore assets in our reference list globally, including drilling rigs, Floating Production Storage and Offloading (FPSO) and support vessels.

Our team of certified Brazilian CREA engineers based in Brazil, North America and Asia, allow us to mobilise at short notice at an affordable cost.



As not all of the technical requirements are clearly specified, different auditors may have different understanding and interpretation of the requirements. In addition, some of the requirements are informed only on technical notes or laws. With a full understanding of the varied interpretations, we are able to advise on the following:



Normas Regulamentadoras

We provide consultancy and site inspections for all the applicable NRs, with focus on the most labour-intensive scopes:

- Electrical (NR 10)
- Equipment and Machines (NR 12)
- Boilers, Pressure Vessels and Piping (NR 13)
- Safety Signalling (NR 26/30)
- Offshore Requirements (NR 37)



NORMAM

Our support and consultancy services will help you meet the requirements of the Brazilian Maritime Authority (Navy), including the specific requirements for marine systems (NORMAM 01) and the certification of helideck (NORMAM 27).



IBAMA / CONAMA

We provide guidance towards the environmental agency requirements, including Law 9966.



ANVISA

We provide instructions for adequacy to the specific requirements related to health and hygiene.

Additionally, to tailor to our clients' needs and preferences, we have developed a modular programme that offers additional scope increments related to Brazilian Compliance tasks, such as:

- Design review for the identification of non-conformities early on the design stage
- Review of purchase orders and technical requirements of mechanical and electrical equipment
- Workshop to introduce the client to the Brazilian requirements and present solutions and samples from other offshore rigs
- Inspections of helideck, marine and safety systems
- Execution of pressure tests as required in the NR-13 regulation
- Calibration of instruments (pressure relief valves (PRVs), pressure safety valves (PSVs), pressure gauges, transmitters, etc.) in compliance with the Brazilian Institute of Metrology
- Non-Destructive Testing (NDT) services, e.g. Ultrasonic Thickness Measurement for the integrity verification requested in the NR-13 regulation
- Ex inspection for Hazardous Areas
- Thermography inspection
- Due diligence on suppliers, e.g. audit, sample inspection
- Fabrication of posters, plates and stickers in dual language (English/Portuguese) as required by the Brazilian Maritime Authority
- Fabrication of pipe marking according to Brazilian Technical norms
- Specification of personal protective equipment (PPEs), collective protective equipment (CPEs), etc
- Restoration of technical documents and calculation
- Extended piping inspection planning based on risk
- Audit follow up to be the client representative and clarify any queries immediately avoiding non-conformity

7.2 NORSOK Compliance

At Axess Group, we assist our clients in compliance with NORSOK standards, to effectively minimise operational risks and achieve optimal operational efficiency. The NORSOK standards are developed by the Norwegian petroleum industry to ensure adequate safety, value adding and cost effectiveness for petroleum industry developments and operations.

Operations of oil and gas rigs in the Norwegian Sector of the North Sea are highly dependent on safe, reliable structural and equipment performance. Although it is vital to monitor all assets and keep them in good working condition, it can be a challenge due to the volume of rig structures and equipment.

In our unwavering commitment to safety, HSEQ has become our top priority. We provide cost-efficient, value-added solutions to support our clients in the early detection of non-compliance.

With over two decades of experience in the oil and gas industry, our team of specialists are well-positioned to provide advisory on engineering design, asset management and equipment manufacturing services to our clients.

We offer industry-leading design reviews, on-site surveys, gap analyses and maintenance management of all your critical assets in compliance with NORSOK regulations, one of the most stringent international standards.

Some of these regulations include:

- NORSOK R-002: Lifting Equipment Certification, Material Handling Plan, Offshore Crane Studies
- NORSOK S-003: Working Environment Studies

From servicing a wide range of clients in different market sectors, we have expanded our knowledge and experience and have successfully built a diverse network of engineers familiar with Havtil's historical audit findings. We fully understand the underlying safety principles required by Havtil and work towards helping our clients increase the rate of approval to operate and at the same time ensure adherence to relevant international standards.



7.3 Material Handling

Axess Group offers a fully developed system covering all stages of offshore material handling procedures, from the concept phase to decommissioning. We ensure that you meet regulatory requirements and achieve maximum uptime through our engineering competencies and unique data solution.



Early Stage Involvement

Havtil requires that all mobile offshore units operating in the Norwegian Continental Shelf must have a material handling plan. At Axess, our design review of offshore handling is aligned with NORSOK R-002, an international standard supported by Norwegian petroleum industry organisations. Implementing these technical requirements for lifting equipment at the early stage of design and construction phases allow us to deliver optimal solutions for safe and cost-efficient offshore operations.

Material Handling System

For the Norwegian petroleum energy sector, all items over 25kg which are expected to be moved during the lifetime of an installation need a dedicated mechanical handling plan. With our subsidiary, Axess Digital's online material handling database, MHP, our clients can easily access individual equipment lifting plans for all items above 25 kgs. They can do so by searching the database, via the items' serial numbers, wherever and whenever needed. The online database is a valuable tool to ensure continuity in operation and minimising downtime in the event of equipment failure or breakdown.

Material Handling Services

- Description of all material handling equipment.
- Description of standardised dimensions, orientation, foundations and suspension points of the lifting equipment.
- Requirements regarding certification and marking of foundations and suspension points of the lifting equipment.
- Description of the most important methods of material handling in connection with internal transportation routes within the installation.
- Description of function, size and location of storage space and laydown areas.
- Description of any element to be handled weighing more than 25kg, including identification number, location, weight, dimension, expected maintenance/replacement intervals, type of lifting equipment, lifting/handling procedures, transportation route, etc.
- Requirements regarding transportation routes/roads including the width and height of the different areas.
- Description of goods handling to/from the helideck
- Description of the handling of loading hoses including replacement of hoses.
- Description of areas requiring special protection of equipment.
- Material handling drawings based on 3D plans of pipes and valves including:
 - The entire amount of equipment to be handled, including lifting gears, monorails, access roads, etc.
 - A table showing identification numbers of the equipment to be handled, including corresponding identification numbers of the lifting equipment to be used
- Loading capacity for areas and transportation routes/road

Main Advantages:

- Ensure reliable operations
- Improve Health, Safety and Environment standards (HSE)
- Avoid downtime
- Ensure compliance with national laws and regulations
- Increase economic margins
- Prevent damage on structure
- Increase technical integrity
- Comply with regulatory requirements

7.4 Pre-Inspection Survey

Pre-inspection surveys are vital in the early stages of construction or conversion. We carry out these surveys to equip our clients with an in-depth overview of the state of their assets and highlight any systematic installation issues through condition, performance, and capability assessments to ensure the assets meet all regulatory standards and unique client requirements.

As pre-inspection surveys are essential to avoid systematic installation issues, we have designed our surveys to fit different service offerings within our portfolio to minimise unnecessary costs, improve system reliability and boost workplace safety. Our approach reduces findings during baseline inspections and allows our clients to rectify any problems as soon as possible.

With over 20 years of inspection experience on both onshore and offshore assets, we have established ourselves as a global expert in pre-inspection surveys, successfully completing dozens of these inspections to date.

7.4.1 Pre-DROPS Inspection

Highlighting the systematic installation issues related to potential dropped objects onboard assets, this survey focuses on the methods of retention used for main equipment installed at height including but not limited to:

- Floodlights
- CCTV Cameras
- Spotlights
- Corrosion shielding
- PA Speakers
- General bolting arrangements/methods

We work together with our clients and align our strategies based on their internal DROPS procedures, EPC contracted agreements regarding DROPS requirements, and in accordance with the Best Practices (SfS, DROPS Online, Shell ABC, etc.). With our audit reports, we give both EPC and our clients ample time to rectify findings before asset handover, DROPS baseline, and sail away to ensure EPC contractors fulfil their contractual obligations and allow for safer operations and minimal baseline inspection costs.

Conducted over several days by our team of specialists, the survey is carried out through a visual inspection from walkways and decks with fall arrest, covering all the necessary areas:

- Derrick / Tower / Mast
- Flare tower
- Helideck
- Cranes
- Laydown Areas
- Walkways (Primary)
- Modules
- Escape ways
- Navigation towers
- Accommodation Areas
- Lifeboat Areas / FRC
- Other necessary locations requested by the client

7.4.2 Pre-HAS Inspection

The aim of our Pre-HAS inspection service is to highlight as early as possible the systematic installation issues that threaten the safety of workers and the integrity of the equipment within the hazardous areas. The survey’s goal is to equip our partners with detailed reports of our findings, allow correction of issues before the asset installation, and save time and money by reducing the number of findings during later inspections.

Prior to the initial hazardous area survey, we examine the rig’s build plan and layout to assess the following common findings:

- Incorrect gland installation
- Over tightened
- Wrongly installed or assembled
- Rings and Teflon inserts missing
- Missing plugs
- Equipment not suitable for the EX zones
- Missing bonding and earthing issues
- Inadequate strain relief of cables
- Holes or bolts missing in explosion proof panels
- Missing mandatory EX inspection/repair equipment (rubber mats, suits, lockouts, meters etc)

The close and visual inspections from walkways and decks are carried out by a team of certified specialists with deep industry experience. The survey is conducted for several days and covers the following main equipment within the necessary areas:

- Derrick / Drill Floor / Tower
- Moon Pool / Turret
- Mud Rooms (Treatment Room, Mud Pit Room, Agitators, Tanks, Mud Pit Room, etc.)
- Shaker Houses
- Battery Rooms
- Well Test Area
- Modules
- Hose Reels
- Heli Fuel Tank / Skid
- Paint Stores
- Other necessary locations requested by the client

7.4.3 Pre-NR Inspection

The purpose of a Pre-NR inspection is to allow early detection of systematic equipment issues and documentation errors related to the requirements of the Brazilian Compliance onboard assets destined or tentatively going to Brazilian waters. The survey also determines the current compliance status of a vessel to give our clients enough time to complete the requirements needed to meet the Brazilian Compliance standards. These requirements include but are not limited to equipment colours, documentation, electrical panels, equipment protection, helideck inspections and fire plans, etc.

We can carry out inspections on new builds, conversions or vessel upgrades — covering the basic requirements across the most relevant NRs to ensure compliance, minimise delays and avoid subsequent unnecessary costs.

Carried out by our team of CREA certified engineers, our Pre-NR inspection reports are proven accurate and concise, focusing on the main showstoppers seen during the inspection.

The survey ensures clients meet the following requirements:

- NR 10 – Safety in Installations and Electrical Services
- NR 12 – Machinery and Equipment
- NR 13 – Boilers and Pressure Vessels
- NR 26 – Safety Signs
- NR 30 – Health and Safety at Water Transportation
- NORMAM 01
- NORMAM 27
- IBAMA / CONAMA



8 ADVISORY SERVICES

Over the past two decades, Axess Group has successfully delivered high-value advisory services for a broad portfolio of projects, including new builds, conversions and upgrades. These services are based on a combination of hands-on experience, deep industry knowledge and business understanding.

We continue to provide a wide range of independent advisory services to our global clientele, from asset evaluation and litigation and arbitration to transactional services and risk management services.

The earlier issues are identified and resolved, the better the outcomes. Clients will benefit most from early project involvement where significant change is possible and can be done without additional cost. This is valid for any multi-phase undertaking, including but not limited to concept development, feasibility studies, transaction processes and dispute resolutions.

8.1 Asset Evaluation

Axess Group provides a range of asset evaluation services to clients in various sectors, including renewables, E&P, drilling, FPSO, SURF/SPS, infrastructure, refinery and maritime.

Drawing on experience from more than 450 installations worldwide, we are a strong and reliable partner for financial institutions, law firms, insurance/P&I providers and asset owners around the world.

8.1.1 Condition Surveys

We have over 20 years of hands-on experience in surveying and assessing the condition and integrity of offshore and marine assets. Our extensive track record in Asset Integrity Management brings unique expertise and insights to condition surveys.

Either as part of our technical due diligence services or as a standalone service, our condition surveys give our clients an overview of the status of overall technical integrity. In addition, we often advise on aspects such as operating conditions, management systems and certification status of assets and equipment including, but not limited to:

- Hull and structures
- Drilling equipment
- Lifting equipment
- Pressurised systems



8.1.2 Pre-Purchase Surveys

We help our clients to make well-informed purchase decisions by providing insights and projections upon conducting on-site surveys and analysing the necessary data.

8.1.3 On/Off-Hire Surveys

Our team of specialists conducts On/Off-Hire Surveys to deliver objective condition audits of assets prior to the change of owner or time charter.

8.2 Litigation and Arbitration

To strengthen our clients' cases in dispute resolution such as litigation or arbitration, we focus on bringing supporting facts and evidence.

We support our clients by mobilising cross-disciplinary teams of engineers and consultants and engaging closely throughout all steps of the process.

Typically, our services include, but are not limited to:



Scrutiny of documentation
and data records



Various field services
and surveys of assets



Preparation of expert
reports/opinions

8.2.1 Expert Witness

In the event where an unforeseen lawsuit or workplace incident occurs, we assist our clients by providing a comprehensive evaluation, inspection and key information necessary to form an objective expert opinion. As an expert witness, we harness our deep industry knowledge and practical engineering experience in assessing existing documents, preparing expert reports, performing site inspection and equipment testing and establishing effective dispute resolutions.

8.2.2 Compliance

Our firm grasp on local and international laws and regulations including Norwegian, GOM and Brazilian, gives us an edge in understanding compliance challenges and developing appropriate solutions.

We execute complete desktop review and on-site compliance surveys to ensure adherence to relevant regulatory requirements, identify gaps in the technical compliance of offshore assets, as well as deliver comprehensive compliance insights, audits and advice.

8.2.3 Accident Investigations

Working in the industrial sector involves operational risks which may result in various unforeseen accidents and potential lawsuits.

In the event that an unfortunate incident occurs, we conduct thorough root-cause, event tree and FMEA analyses, to ensure a complete and objective accident investigation. We also assist asset owners and financial institutions in determining the impact of the subsequent downside of failure and devising measures to mitigate the reoccurrence of undesired accidents and their consequences.

8.2.4 Document Review

Document review and desktop surveys can be carried out as a standalone service or a complementary service in preparation for a more comprehensive offshore inspection and case review. Document review is an important part of due diligence processes as well as litigation and arbitration matters.

8.2.5 Training

We provide tailored personnel training in technical topics in relation to arbitration cases, claims adjusting and other general needs.

8.3 Risk Management

Risk management enables clients to attempt to control future outcomes. Having this proactive approach is key as it can influence project success or failure. Integrating risk management in the early stages, when the ability to influence outcomes is at its peak, helps to minimise risks and unnecessary costs.

Experience has shown us that the key reasons why projects fail fall under the following 3 main categories:



Bad project development and planning

- Failing business case
- Unknown risks in the selected solution
- Insufficient specifications
- Poor contracts/execution strategies
- Unrealistic budget and schedule targets



Bad execution

- Lack of systematic follow-up
- Inadequate buy-in from owners/stakeholders



Bad luck?

- Risk taking is in the very nature of any business
- Bad luck or bad management?
- Known versus unknown risks
- Seemingly those being well prepared also seems to be having better luck

We provide various risk management services including:

- Qualitative Risk Assessment
- Quantitative Risk Assessment
- Upside vs Downside Risk
- Workshop Facilitation
- Cost/Schedule Risk
- HSEQ Risk

8.3.1 Risk-Based Management

In asset-heavy industries, the risk picture is highly influenced by how assets are designed, built, maintained and operated. In addition, the environmental condition in which they operate in is also a factor to be accounted for.

It is important to bear in mind that there are both upside and downside risks. The greater the downside potential, the greater the upside, that is, if it has been identified, understood and acted upon in due time. By proactively managing the entire risk picture, downsides can be avoided and upsides may be exploited.

Our five-step risk management process identifies and quantifies risk allowing our clients to implement measures on an as-needed basis.



8.4 Transactional Services

Through our transactional services, we assist banks, financial institutions, law firms and asset owners in making well-informed investment decisions. With our cross-disciplinary teams, we gather, examine and analyse all available information and on-site inspection findings to give clients an overall view of the current and projected performance of an asset or business. In addition, we provide initial and final reports and carry out follow-up activities as needed, such as construction and operations monitoring.

We provide prospective investors with an improved understanding of assets through our transactional services:

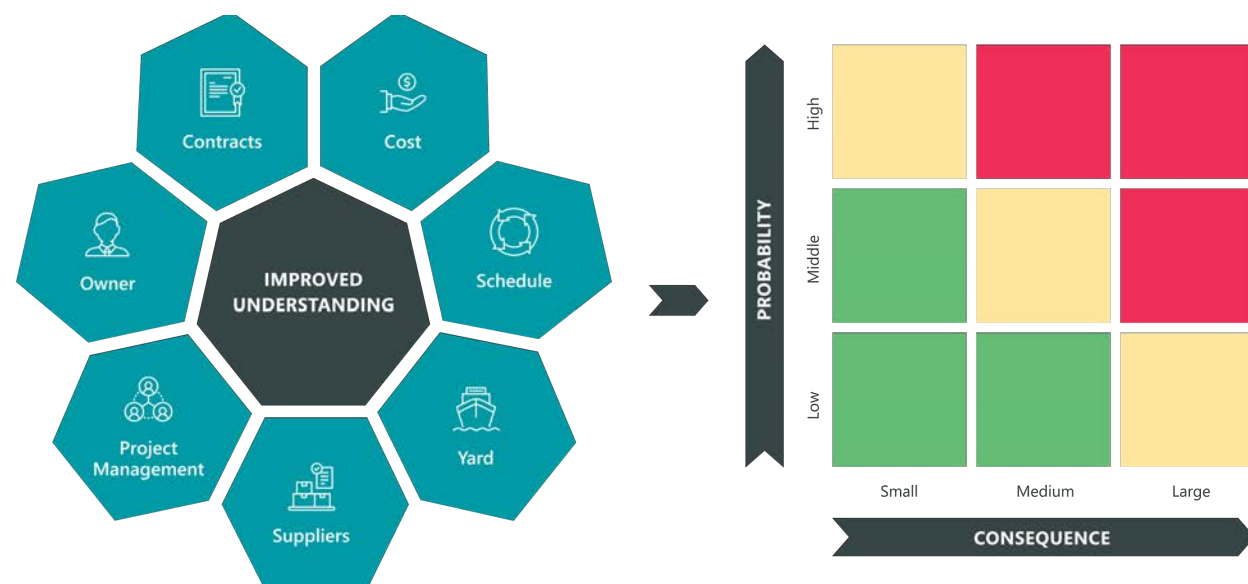
- Building on our expertise and values
- Leveraging our multidisciplinary teams and cutting-edge capabilities
- Optimising opportunities and value creation
- Reducing or mitigating risks with innovative solutions

8.4.1 Technical Due Diligence

The overall objective of Technical Due Diligence (TDD) is to provide clients with a qualitative evaluation of technical risks associated with an asset such as execution strategy, design, rules and regulations, operations philosophy, equipment, and more generally, overall condition. An opinion of the overall adequacy of an asset for the intended purpose or operation is typically included.

A TDD exercise aims to disclose risks in order to enable transaction parties to manage risks posed by issues such as such as cost overruns, delays as well as poor technical and operational performance.

We translate unclear dependencies into quantifiable items, in the form of a risk matrix/register:



8.4.2 Commercial Due Diligence

The overall objective of a Commercial Due Diligence (CDD) is to scrutinise a company and its assets' commercial attractiveness and provide a full overview of its internal and external environments. This is typically prior to an investment decision.

We provide a thorough understanding of a company and its assets' ability to meet forecasted results, considering the external landscape in which it operates/will operate in. Both the competitive landscape and market share will be taken into consideration. Based on this, an informed decision on whether to proceed can be made.

8.4.3 Owner's Engineer

Acting as an Owner's Engineer, we provide the prospective owner/buyer with an improved understanding of technical issues allowing informed decisions to be made, such as an investment decision. In this role, we may look into and opine on items such as:

- Design
- Main Project Participants
- Risk Register
- Project team
- Contracts
- Project Schedule
- Budget (CAPEX) including contingencies
- Market
- Economic Robustness
- Operations Philosophy
- Operations Budget (OPEX)
- Rules, Regulations and Class

8.4.4 Lender's Engineer

Acting as a Lender's Engineer, we protect the interests of a lender, for example, that HSE requirements are adhered to or that quality of workmanship is in accordance with specifications. This involvement may be in the follow-up of the construction of a single piece of equipment or a complete system or structure. Also, elements such as cost, schedule and project team composition, would typically be included. This role typically extends to other areas such as engineering, construction and commissioning.

8.4.5 Construction Monitoring

Making sure that construction is progressing as intended is key to meeting project objectives, successful handover and final acceptance. Factors such as time, cost and quality must be monitored over time to make sure that no single issue is allowed to develop into a serious one.

During construction monitoring, monthly or bi-monthly progress reports are typically issued to clients, regarding key project milestones and more.



9 MARINE SOLUTIONS

In recent years, we have expanded our capabilities beyond engineering and asset integrity management, to include marine solutions, in order to meet the challenges of the offshore market – oil and gas, offshore wind and maritime.

At Axess Group, operational safety is at the heart of all solutions. With our strict implementation of measures to ensure Health, Safety, Environment and Quality (HSEQ), we are determined to uphold the highest safety standards while remaining at the forefront of technology and innovation.

9.1 Dynamic Positioning

We work closely with our clients to deliver dynamic positioning solutions at highly competitive rates to reduce risk, minimise downtime and boost productivity while ensuring compliance with environmental and safety standards.

Our global team of highly-skilled marine specialists are well-positioned to provide a wide array of dynamic positioning solutions for all types of offshore vessels, including:

- DP FMEAs
- DP Trials: Proving, Annual, and 5-Yearly
- DP Operations Manuals
- ASOG/CAMO (Activity Specific Operating Guidelines/Critical Activity Mode of Operations)
- DP Capability Assessments
- DP System Audits
- Risk Analysis
- FMEA Workshops
- HAZID/HAZOP
- Crew Competency Assessments
- DP Incident Investigations

9.2 Marine Assurance

Axess Group provides a comprehensive range of marine assurance services. Our global team of experienced marine specialists ensure that offshore operations run smoothly and are in compliance with the highest standards.

We deliver innovative marine assurance services that meet quality requirements and client specifications, including:

Vessel Assurance	Project Critical Systems	Marine Representation
<ul style="list-style-type: none">▪ Client Vessel Surveys/Assurance Audits▪ IMCA CMID Inspections (Common Marine Inspection Document)▪ OCIMF OVID Inspections▪ Condition Surveys of Marine Assets▪ Pre-Purchase Surveys▪ On/Off Hire Surveys▪ Damage Surveys▪ Rig Inspection	<ul style="list-style-type: none">▪ Risk Analysis and Assessments▪ Rig Reactivation▪ FMECA▪ Critical Spares Assessment▪ Pipelay Systems▪ Lifting Equipment▪ A&R Systems▪ Jacking Systems▪ Cranes	<ul style="list-style-type: none">▪ Crew Competence Assessment▪ 3rd Party Verification and Review▪ HAZID/HAZOP▪ Review of Engineering Documents▪ Company Representative▪ Offshore Supervisor▪ Technical Supervisor▪ Yard Supervisor



9.3 Marine Engineering Solutions

A global partner in marine engineering solutions, we enable our clients to achieve seamless operations with minimal downtime and delays.

Axess Group’s unique approach to marine engineering is derived from over two decades of experience in the oil and gas industry. We assist our clients throughout their journeys by offering a comprehensive range of professional marine engineering services, including design, installation, verification and certification.

With our global team of marine engineering experts, we are able to mobilise immediately.

We deliver the following marine engineering services:

Project Solutions	Marine Engineering	3rd Party Engineering
<ul style="list-style-type: none">▪ Turnkey solutions▪ Crane▪ Lifetime extension▪ Early phase▪ Marine operations planning▪ 3rd party verification▪ Transportation verification	<ul style="list-style-type: none">▪ Calculation of ERN▪ Mooring Analysis▪ Lifting Analysis and Plans▪ Seafastening Calculations▪ DP Capability Plots▪ Site Approval▪ Deadweight surveys	<ul style="list-style-type: none">▪ Review of engineering documents▪ Review of procedures▪ Independent verification▪ Vessel suitability surveys▪ On- and offshore attendances▪ Certificate of approval

9.4 Marine Warranty Services

At Axxess Group, we provide our clients with marine warranty services to ensure safe operations. Our global team of highly-skilled marine specialists ensure that all offshore activities, such as transportation, installation, rig moving and decommissioning, are performed in compliance with governing regulations. Our global presence enables us to conduct surveys and inspections of assets anywhere in the world.

Our marine warranty services include:

- Client Vessel Surveys/Assurance Audits
- IMCA eCMID Inspections
- OCIMF OVID Inspections
- Condition Surveys of Marine Assets
- Pre-Purchase Surveys
- On/Off Hire Surveys
- Damage Surveys
- Site Approval
- Rig Move Attendance
- Risk Assessment
- Certificate of Approval
- HAZID/HAZOP
- Review of Engineering Documents
- Review of Procedures
- Independent Verification
- Vessel Suitability Surveys
- On- and Offshore Attendances



10 AXESS DIGITAL

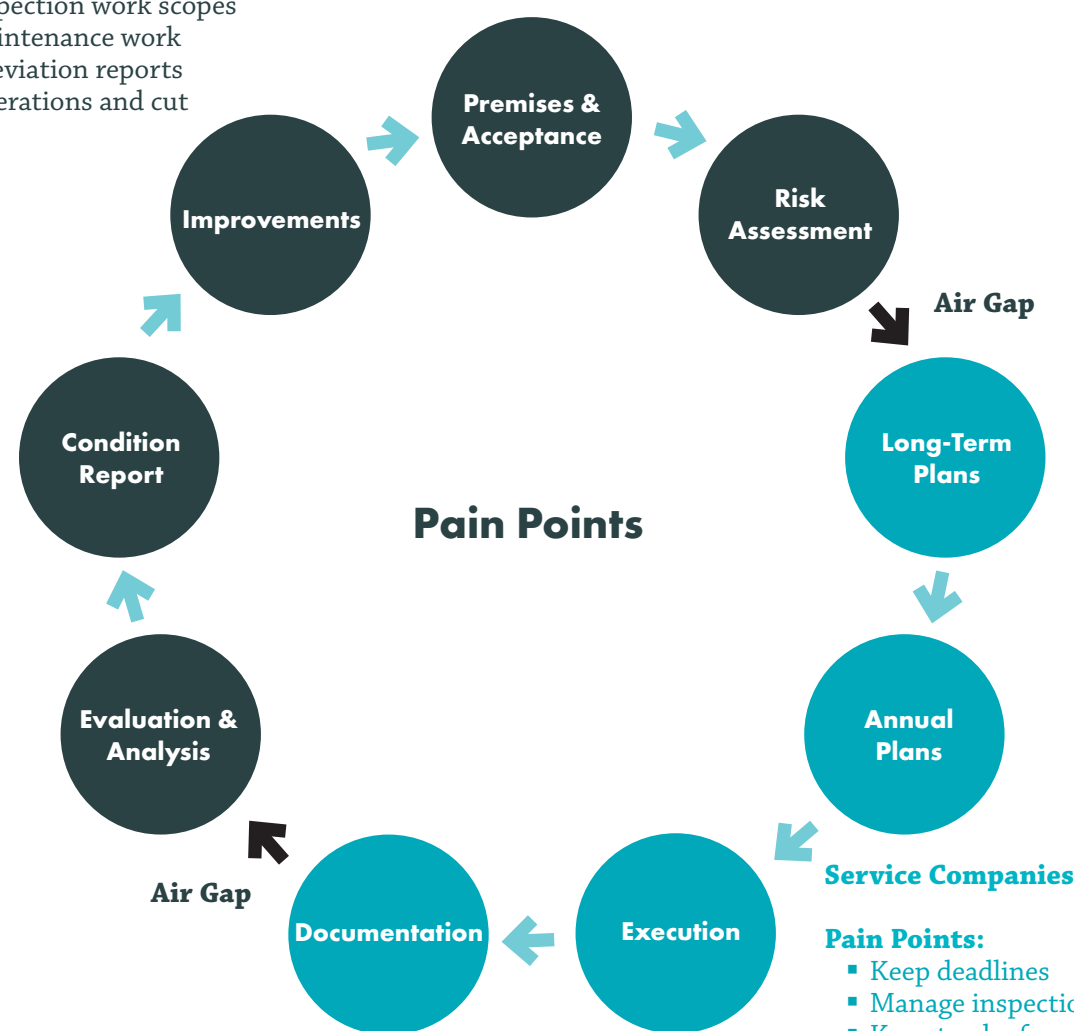
Axess Digital is the software house in Axess Group, responsible for the development, hosting, and provision of software solutions to our clients.

Our background is in integrity management and inspection management, and we have a combination of engineers that have worked with integrity management, inspection management, risk analysis of process plants, and NDT inspection. Our software developers are trained in our clients' domains to understand their needs and workflows. This diverse competency allows us to understand the work processes of our clients and provide solutions to create value related to inspection management. We believe that convenience drives consistency!

Big Asset Owners

Pain Points:

- Document technical condition
- Reduce risk
- Be in compliance
- Keep deadlines
- Manage inspection work scopes
- Manage maintenance work
- Close out deviation reports
- Improve operations and cut costs



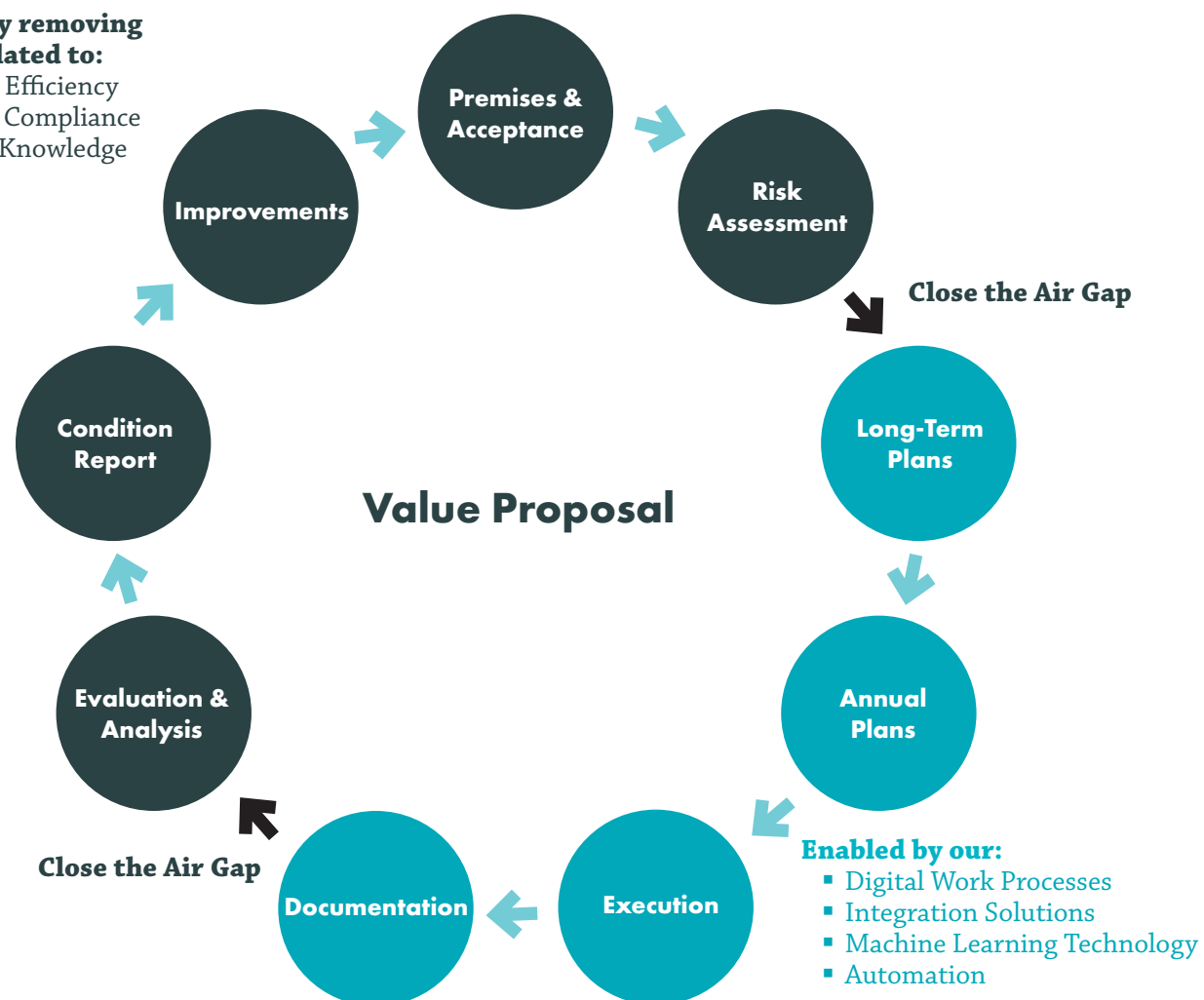
Service Companies

Pain Points:

- Keep deadlines
- Manage inspection work scopes
- Keep track of recurring work scopes
- Generate reports
- Document technical condition
- Ensure quality
- Time on tools

Create value by removing pain points related to:

- Operational Efficiency
- Control and Compliance
- Insight and Knowledge
- HSEQ



10.1 Bridge

Our applications assist in inspection management and digitalise the whole workflow to achieve operational efficiency, demonstrate control and compliance, create insight and knowledge, and stay true to HSEQ requirements. Let us help you to keep control and demonstrate compliance with our suite of applications - a comprehensive, user-friendly digital platform that automates and streamlines your entire inspection programme and reporting processes. Bridge puts you in control of your equipment. Our applications are the Axess Group's main tool to perform work on- and off-shore, report findings, manage documents, and more. Axess Digital Bridge is available to all asset owners and service providers, with a user-friendly web interface where all related work files are synced and integrated.

The Bridge portal consists of several software applications tailored to specific inspection work processes. These applications are available to all interested parties and come with an integration platform that enables them to share data with other applications such as maintenance management software.

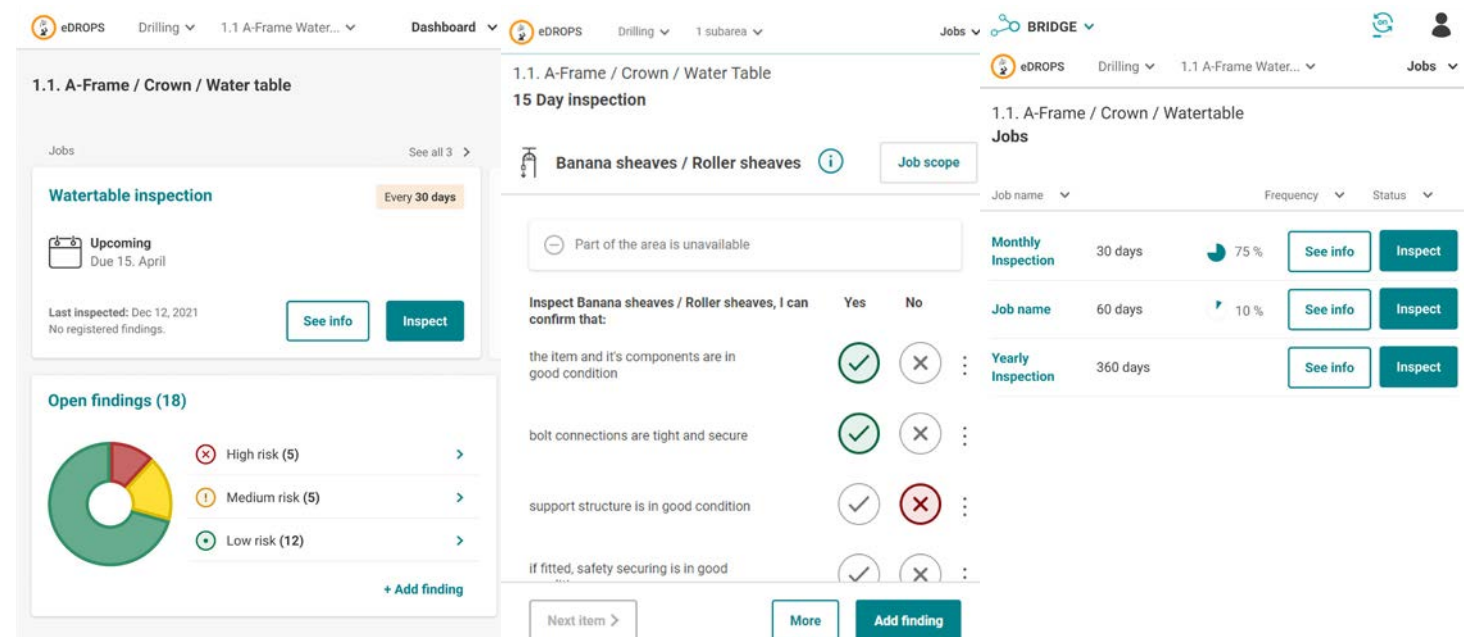


10.1.1 eDROPS - Dropped Object Inspection Management

The latest and most advanced DROPS software in its field, eDROPS is a powerful tool to ensure the development of effective dropped object prevention programmes, execution of DROPS surveys and management of findings. Both crew and third-party use eDROPS for dropped object prevention scopes and the reports are automatically generated during the inspection work.

eDROPS is created together with our clients. eDROPS is designed to boost safety culture and increase overall awareness and understanding of dropped object preventive measures from top management to crew members. eDROPS is designed to be easy and intuitive to use on handheld devices in the field. The software works seamlessly online or offline.

Even with its intuitive user interface, eDROPS have advanced options for reporting, analyses of data and KPI dashboards for management.



10.1.2 Equip - Lifting Equipment Compliance Management

Equip is a web app tailored for maintaining the integrity and control of all lifting gear and lifting appliances from asset to company level.

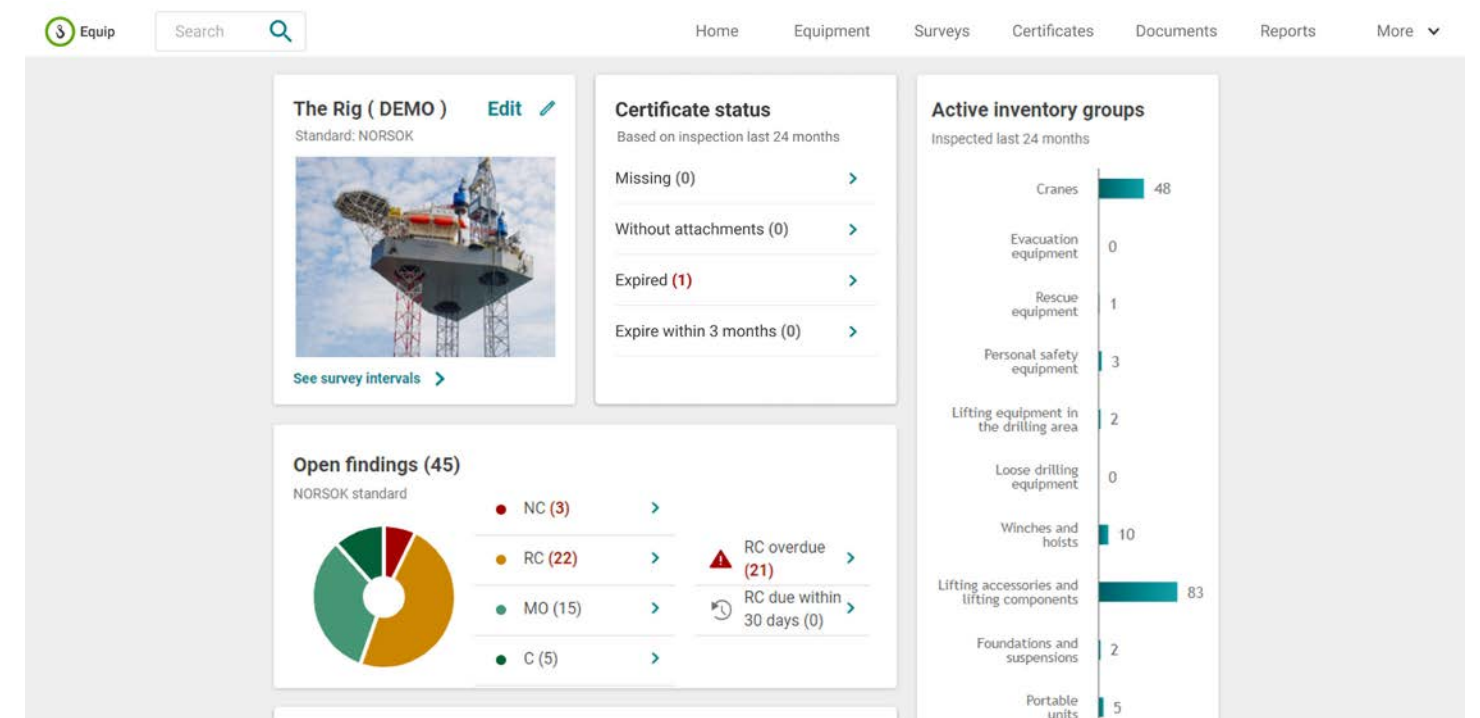
Every item in Equip can be registered by ID, TAG, location, arrangement, manufacturer, supplier and lifting capacity and is presented in a grouped equipment hierarchy. Pictures are used as aid for recognising the equipment and for documentation of findings and corrective actions. All required documentation like certificates, user manuals and declaration of conformity are attached to the equipment and can easily be found by a simple search.

The Enterprise of Competence surveyors use Equip for registering survey status of all active equipment. In this way, the equipment owners have full control of their inventory, inspection status and documentation. After a survey, Equip is used to follow up on rectifications of survey findings. By using Equip actively together with the CMMS, the client will always maintain control of which equipment is safe to use and which equipment need repair or replacement.

The dashboard of Equip displays the survey and equipment status instantly and you can navigate straight to the equipment with open findings or missing documentation, making it easy to display control for auditors and authorities.

Equip has advanced reporting options where you can generate register list, findings list or report of thorough examination from any survey. Filters help pinpoint the report to the desired equipment.

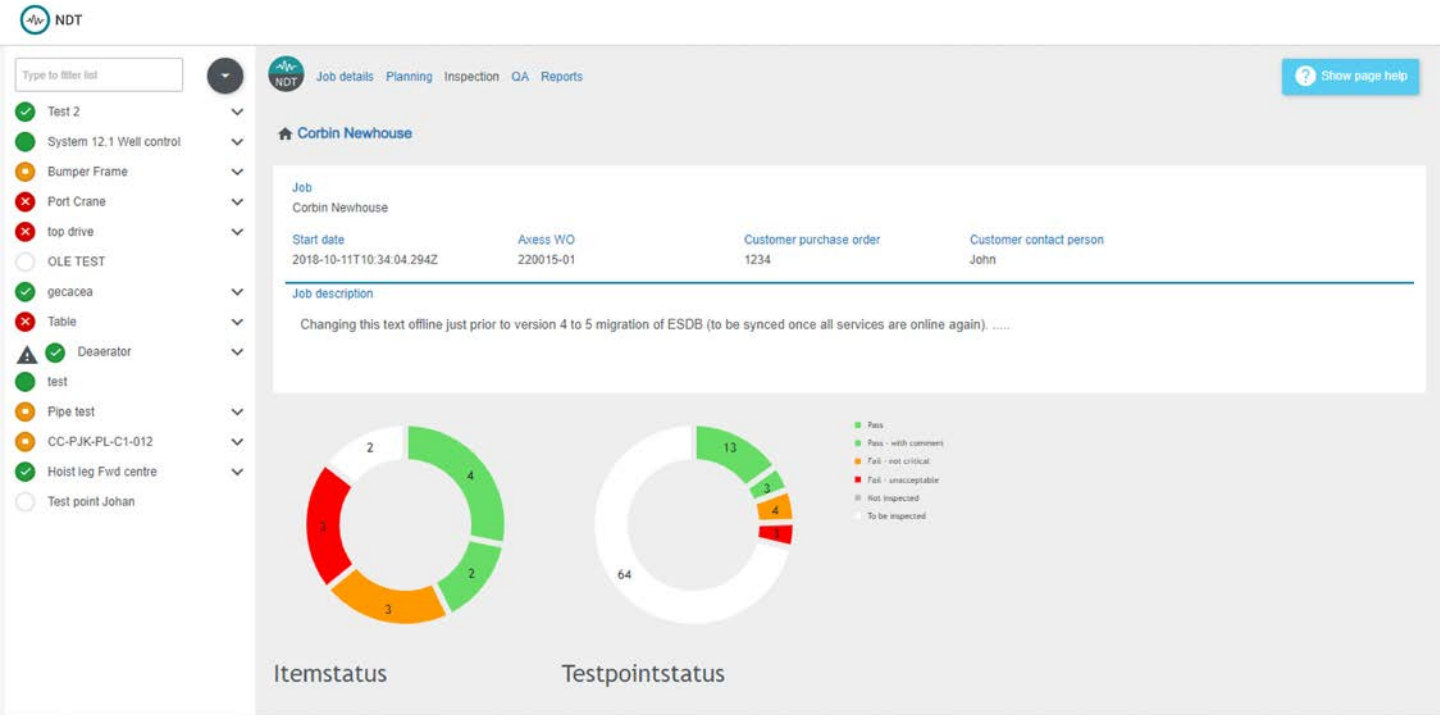
During surveys, Equip can be used offline when working in the field. Equip works online and offline on Windows, Apple and Android platforms. If desired, Equip can be integrated with most maintenance management systems.



10.1.3 NDT - Non-Destructive Inspection Management

This software application streamlines the entire NDT inspection process, from tracking past inspections and organising client data into a single database to forecasting jobs and analyzing reports. It facilitates a fast, accurate, and consistent NDT work process from initial planning, scheduling, and execution to providing real-time access to inspection data.

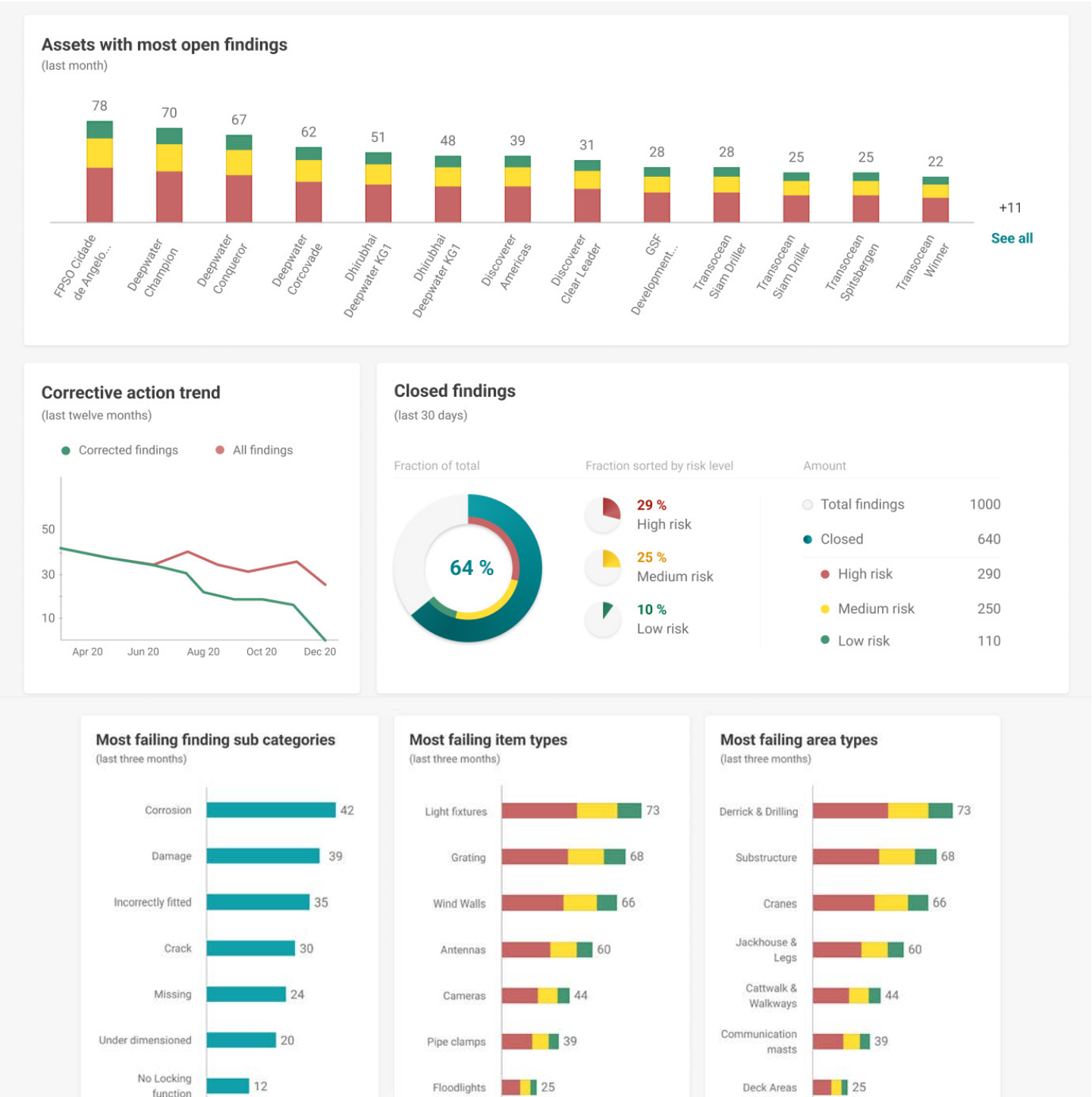
Our NDT application is designed to optimise the inspection process, improve data quality, and provide inspectors with a real-time reporting software tool where they can execute inspection and data reporting simultaneously.



10.2 Other Software Solutions

10.2.1 PowerBI, Analysis and Dashboard

Our applications gather data and we want to create value from it by having our clients use this data. In Bridge, users can get an overview of their assets in a company-wide dashboard, where it is possible to evaluate the performance of each asset. The data can also be provided as data packages that can be imported to any application that our clients use to present KPIs or perform evaluations. We offer PowerBI templates customised to our clients' needs, and connect them to the relevant data from our applications.

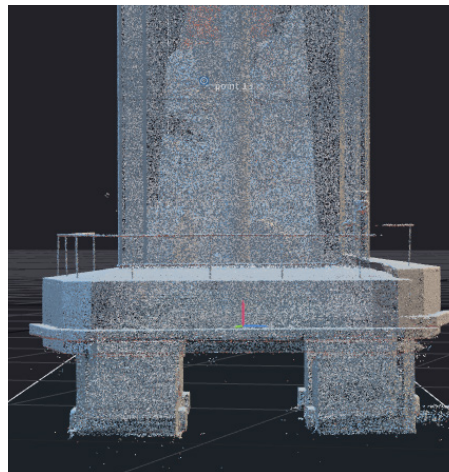


10.2.2 AI and 3D for Defect Detection in our New App

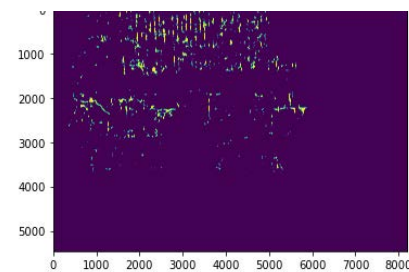
From our background in inspection and integrity management, we have access to high-quality data on defects and have used this to establish AI models for computer vision tasks. Combining this with 3D models created with Photogrammetry combined with GSNN or Laser scans, it is possible to not only detect defects but also calculate their size and location in the 3D model of the Asset.

We can perform surveys of large assets with increased efficiency, provide results that allow for a better understanding of the as-is condition, and allow for detailed planning of necessary maintenance. All of which will reduce overall costs related to inspection and maintenance.

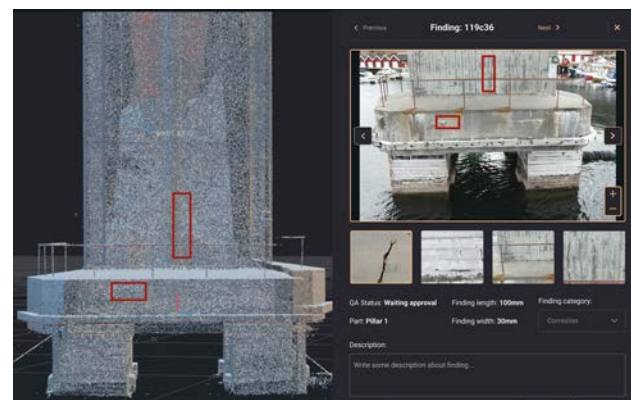
Captured 3D Model



Defect Detection from images



AI/3D App Model + Detected Defects



11 AXESS TECHNOLOGIES

Axess Technologies (formerly Alpa), a wholly-owned subsidiary of Axess Group, offers a wide range of engineering and material handling solutions for leading players in the oil and gas and wind energy industries worldwide.

The Engineering department in Axess has also been merged into the company, enabling stronger concept development capabilities, a wider portfolio of products and services and increased capacity to provide turnkey solutions for our clients.

In recent years, we have experienced significant growth both locally and internationally, resulting in an increased demand in emerging markets. With our deep industry knowledge and expertise, we endeavour to deliver reliable solutions to our clients.

Today, we have approximately 100 employees located in Oslo, Molde, Trondheim and Bergen, in addition to employees in international offices worldwide.

11.1 Material Handling Products

We deliver the highest quality material handling products designed to help our clients attain operational efficiency - designed by experts to ensure safety, performance, and reliability while keeping maintenance costs at a minimum.

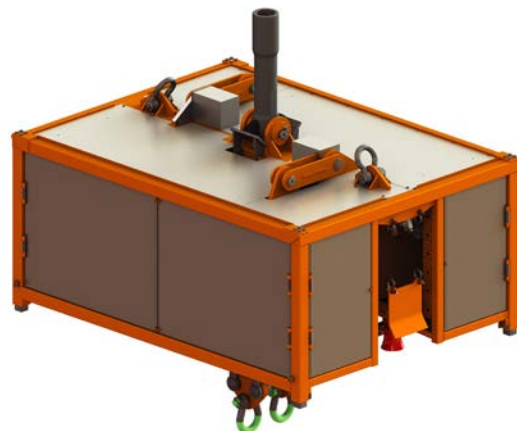
We are a one-stop shop for all your unique lifting needs. Our products are designed based on our clients' specific goals, activities, and the environment in which they operate in. Committed to helping our clients achieve more, we bring together our engineering knowledge with our manufacturing expertise to continually design turnkey solutions that meet key operational objectives.

A selection of our products:

11.1.1 Alpa Winch

The Alpa Winch systems are designed for safe and efficient lifting of various loads above hydrocarbon pressurized systems (live systems).

- Eliminates production shut-in when lifting above pressurized systems
- Eliminates shut-in and start up risks
- Increased safety by reduced stress
- Reduced flaring
- SWL 10 - 50 mt



NORSOK R-002, Annex K (high risk application), Class II, is used as a basis in the design and approval. The strict requirements in this standard ensures a redundant system with optimal safety in the complete design. Combined with high risk requirements in EN 13135 this has resulted in a redundant application where one single failure in the load path or in the control system will not lead to drop of the load.

The system is designed inherently safe, preferably with redundancy in all load bearing components and control measures. This means that safety measures are included and that there are secondary means to contain the load. Software and hydraulic systems are in addition to this designed to avoid critical situations by use / misuse of the system.

Despite that the system design shall avoid misuse, system knowledge is critical and a thorough theoretical and practical training is recommended. This to ensure that all safety aspects are properly evaluated and maintained.

The verification and certification of the system shall be defined as Level: Medium according to DNVGL-SE-0480.

11.1.2 Riser Pull-In Winch

The riser pull-in winch system ranges from smaller electrical winches to large hydraulic driven systems. All of our systems have space-efficient designs with safety and efficient mobilisations as priority.

We can deliver a pull-in arrangement as a one-stop shop:

- Project planning and concept discussion
- Complete pull-in arrangement
 - Pull-in winch
 - Routing sheaves
 - Foundation
- Installation
- Verification / Third-party approval

Typical winch specifications

- SWL: 10 - 150 mt
- Hydraulic or electric
- Precise speed control
- Adjustable Constant Tension
- Radio remote control
- Continuous load monitoring
- ATEX Directive 2014/34/EU
- EN 14492-1 Power driven winches
- NORSOK R-002 Lifting Equipment
- DNVGL-OS-E301 Position mooring (relevant parts)



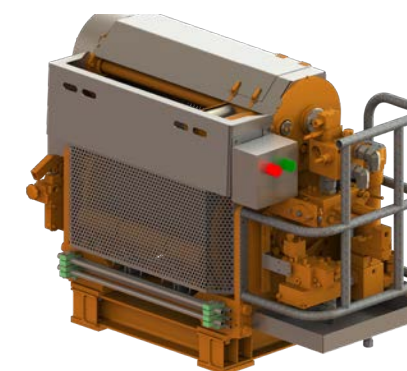
11.1.3 Utility Winch

The Utility Winch is designed for safe and reliable operation, and easy maintenance, on fixed or floating offshore installation.

The winch is operated locally on the winch or from a radio remote control panel.

The winch design is based on standard components from high-quality suppliers. Competence and experience from our service engineers are actively used to ensure that the winch has a durable design and to hold the maintenance to a minimum. Examples are availability of spares, clean design and easy access to maintenance points.

- 5 - 25 t lifting capacity
- Adjustable foundation interface
- Electric or Hydraulic
- Low Load Mode for better tension control
- Modularised and maintenance-friendly design
- Radio Remote (Optional)
- DNV-GL - ST - 378 & NORSOK R-002 (Optional)



11.1.4 Active Heave Compensated Winch

The Electrical Alpa AHC Winch system is designed with focus on accurate Active Heave Compensation with as low as possible maintenance cost. Our high responsive electrical solution ensures good dynamic properties and low environmental footprint by low energy consumption.

- Precise AHC by Permanent Magnetic Motors which allows good dynamic properties
- Integrated Alpa Control System and Condition Monitoring
- High quality frequency drives with optional re-generation of power

11.1.5 Gripper Yoke with Quick Connector

The Alpa Gripper Yoke with quick connector is designed for safe, flexible and efficient pipe and material handling.

It gives the operator and deck maximum functionality and minimal physical interference.

The Gripper Yoke is designed for safe, flexible and efficient pipe and material handling. The remotely operated quick connector gives the operator increased safety and efficiency with a minimum of manual operations. The machine fulfils all relevant safety requirements put forward by the certifying authority.

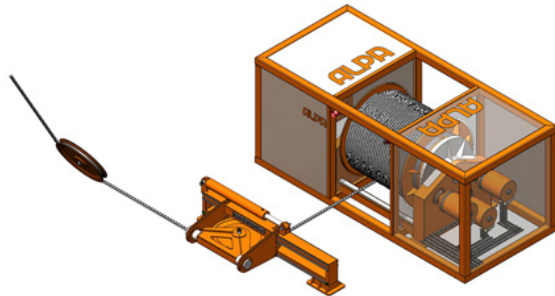
Alpa provides complete control systems for maximum integration and functionality, as well as integration in various 3rd party crane systems.

- 360° slew with encoder
- Yoke travel for balancing of load
- Fail safe
- Quick connector for Gripper Yoke and Hook
- Cylinder position feedback
- Auto rotation of yoke
- Complete control system for maximum integration of functionalities and possibilities.

11.1.6 Access Basket

The Alpa Access Basket ensures increased access compared to conventional access basket. This is achieved by the dual hinge point in the basket tip. The design is also maintenance-friendly where all maintenance areas are easily accessible.

- Maximum accessibility
- Easy installation and maintenance
- 360° basket slewing
- Basket tilt
- Boom slewing
- Telescope
- Class approved (optional)



11.1.7 Material Handling Crane

We can deliver cranes which satisfy the strict requirements for the offshore industry. The cranes can be delivered according to both NORSOK and DNV regulations.



11.1.8 Alpa Crane Control System

The Alpa Control System is designed for replacing the original control system. The system is based on the latest Siemens S7 PLC and are operated from the graphical user interface on the touch screen. The system can be adapted to fit most crane brands and can be delivered with an integrated Condition Monitoring System.

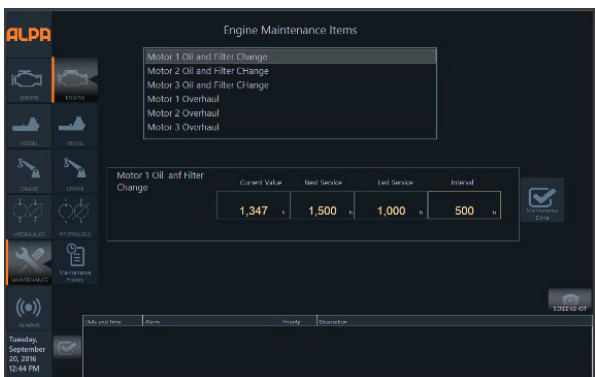
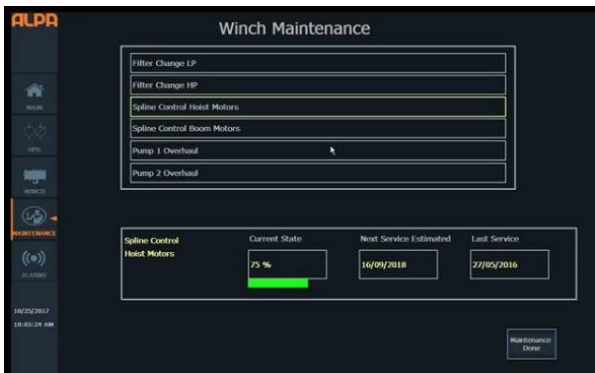
- Stand alone (retrofit) or integrated system
- Can be adapted to most handling equipment
 - Crane
 - Winch
 - Skid
 - Manipulator
 - And more
- Can be adapted to most crane brands
- Graphical User Interface
- Safety PLC
- Remote Access (optional)
- Condition Monitoring System (optional)
- AHC (optional)



11.1.9 Condition Monitoring System

The Alpa Condition Monitoring System gives the operator real-time feedback of the cranes' status and enables the owner to plan service and component replacement. The logged information gives control and extension of the installation's lifetime and can be accessed at all times

- Stand alone (retrofit) or integrated system
- Open information
- Appliance lifetime estimation (DWP calculations)
 - ISO 12482 Cranes - Monitoring for crane design working period
- Condition Monitoring with maintenance planner
- Event recorder for reconstruction of incidents
- Remote access



11.2 Service & Modifications of Material Handling Equipment

We have long experience performing service and modifications on a wide range of cranes and winch products for the offshore and maritime industry.

Our service and modifications team is made up of skilled engineers with a wide range of competence. With experience from most crane vendors, we can perform both planned maintenance, modifications and upgrades, both on own deliveries and other brands.

Our dedicated team is able to provide technical support in all disciplines, such as control (automation), electrical, hydraulics, mechanical and structural, as well as analysis. We work in close cooperation with our clients, to ensure as little downtime as possible.

From our warehouse, we are also able to provide tools and equipment packages to comply with all types of assignments. Spare parts can also be provided on request.



Modification

- Control cabin replacement
- Inventory replacement (Chair, Operators panel, etc)
- Retro-fitting of Radio Remote Control
- HPU upgrades
- Modifications for increased lifetime
- Modifications for increased lifting capacity
- Modifications to correspond to rules and regulations
- Drivability improvement – hoist, luffing, slewing
- Active damping of crane oscillation
- Boom rest structures
- Access platforms
- Pipe or hose replacements



Services

- Preventive and condition-based maintenance
- 4- and 5-years maintenance
- Training
- Preservation, storage and arehouse services
- Technical Support
- Analysis / Strength calculations
- Pre projects to define clients requirements
- Crane studies
- EPCIC
- Cost and benefit studies
- Installation planning
- FMECA
- Analysis (structural, fatigue, life-time estimates)

11.3 Engineering Solutions

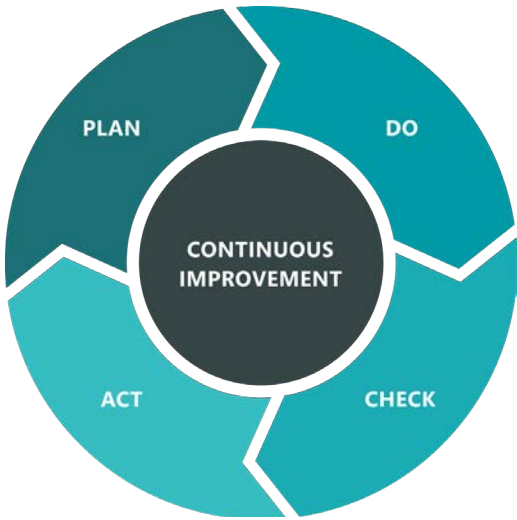
Axess Group delivers excellent engineering solutions such as lifting, rigging and material handling, even in complex and challenging environments.

With over 20 years of experience and over 2,000 projects around the world, Axess Group has established itself as a leader of safe and efficient operations in the oil and gas industry through developing innovative solutions while ensuring full compliance to regulations.

We draw on our strong global presence to support clients worldwide. Our team of experienced engineers work closely with our clients to provide them with optimal solutions.

Continuous improvement is of utmost importance to us. Our project and task execution is based on the Plan – Do – Check – Act model. With this model, we create plans, assess risks, understand and learn along the way.

Whether it is a crane replacement or change of windwalls in the derrick, we make sure to work according to plan. No matter the project, our goal is always to achieve a safe operation.



We offer:



Experienced engineers with extensive knowledge of best practices



Close collaboration to provide you with the optimal solution



Innovative methods and equipment tailored to your requirements



Global footprint to support you wherever you need it

Type of projects

EPCI Projects

We take charge of overall management of Engineering, Procurement, Construction and Installation (EPCI) projects. These are often turnkey projects for our clients. Examples are crane replacements and flare tip replacements.

We offer:

- Project management
- Project execution plans with detailed timelines
- Interaction management
- Task planning and integration of plans with client organisations
- Engineering
- Material handling
- Risk assessments with mitigation proposals
- Equipment
- Installation planning, lift planning and material planning
- Production follow-up

Maintenance, In-Service Projects and Modification Projects

During operations, we frequently find process and/or drilling equipment that need replacement, maintenance or modification. In such projects, we provide tailor-made solutions based on our clients’ requirements.

Safe Lifting and Material Handling

We execute all parts needed for efficient and safe execution of rigging and lifting projects. Including;

- Risk assessments
- Enterprise of Competence
- Inspection, and certification of lifting equipment

- Field Engineers
- Extensive experience in relevant rules and regulations
- Practical approach for safe execution
- Multi-discipline Teams
- Rope Access Technicians NS9600 and IRATA
- Lifting plans and procedures
- Logistics planning
- Complete equipment packages
- Onshore engineering support within all required disciplines
- Capability to perform analysis, design, 3D modelling

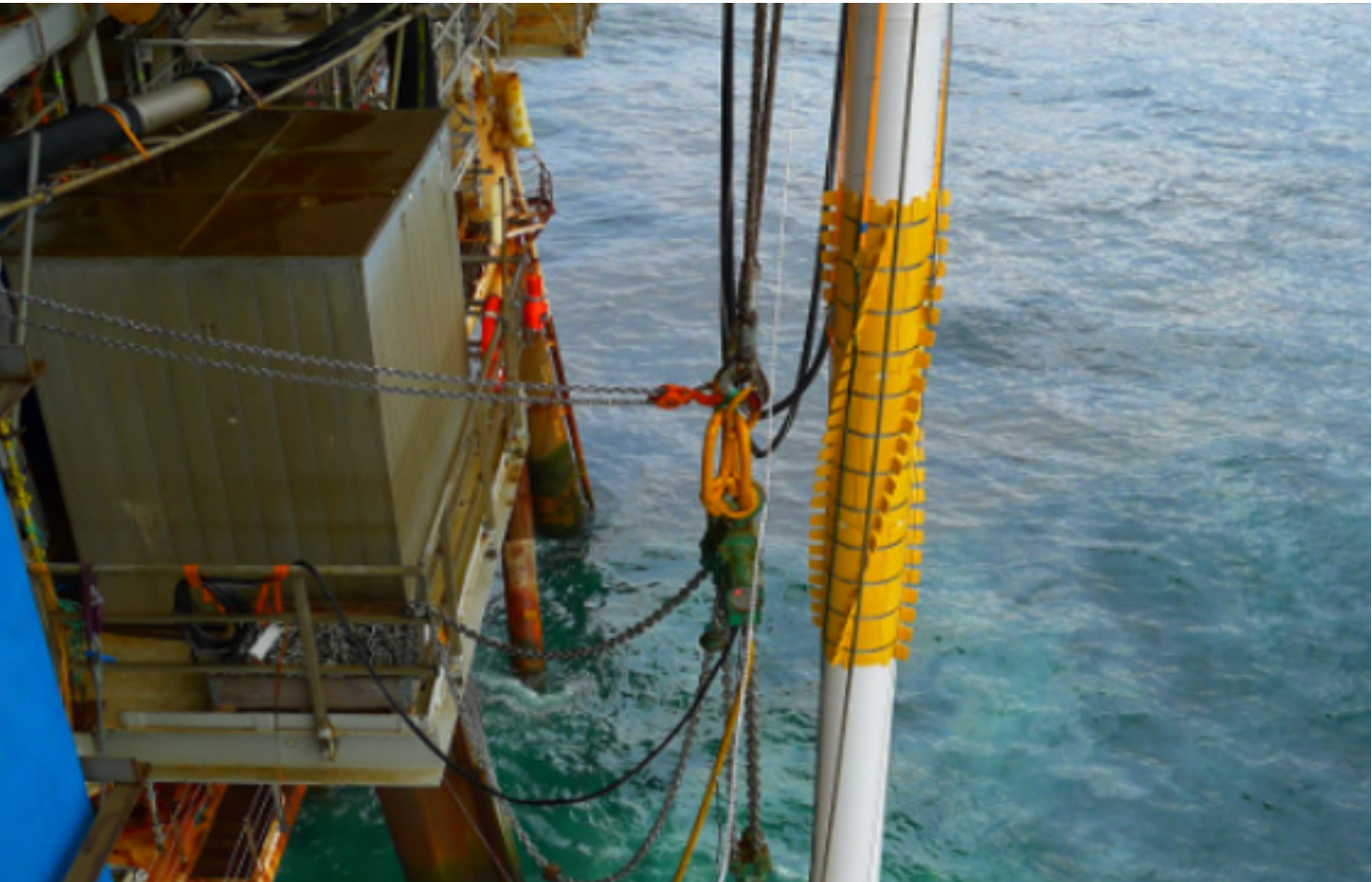
Studies

Over the years, we have carried out numerous projects. Our capabilities allow us to help our clients with special requirements. We are method-, product- and solution-independent, which means we always choose the best method for any of our clients’ challenges.

11.3.1 Caisson Replacement

For many years, caisson replacement was considered time-consuming and too expensive. In some projects, the replacement of one caisson can cost almost 20 million USD. As there can be 10 to 15 caissons on an offshore platform, it is understandable that some energy companies have postponed these replacement projects and relied on temporary repairs instead.

In the past 20 years, Axess Group has developed safe, lean and innovative methods for lifting operations, allowing us to replace caissons faster and at a fraction of the cost of what it used to be. We have gained substantial experience within the field and replaced many caissons in recent years, with excellent feedback from our clients.



Damage to caissons

Caissons are key components of steel jacket structures – one of the most common types of offshore platform foundation in shallow and mid-water. Damage to caissons can cause severe problems if not dealt with correctly, with production shutdown and major accidents being the most critical.

Common types of damages:

- Corrosion and resulting wall thickness reduction due to wear and damages in surface treatment, lack of cathodic protection
- Galvanic corrosion problems due to the use of dissimilar metals in caissons and pumps
- Structural fatigue cracks due to dynamic movements and loads

Risks associated with caisson replacement

Caissons come in many different designs. For a typical mid-water installation, they have a length of 50 to 100 meters and weigh 20 to 40 metric tons. Caissons are usually manufactured and installed at the same time as the jacket structure itself. They are usually not designed to be replaced during the expected lifespan of the platform. Most are produced with either welded or flanged joints, with welded joints being the most common.

It is impractical to replace or install caissons in its complete length, thus, it must be done section by section. Removing the old caisson by cutting it into smaller sections can be challenging and time-consuming, if not planned and executed accurately. Furthermore, as the reason for replacement is typically excessive corrosion or fatigue cracks, it is very important to secure the caissons to prevent them from breaking during these operations.

What we offer

A caisson replacement project is complex. The most important factor to success is having an efficient and cost-effective solution for installation of the new caisson elements. We have experience with both flanged and welded types, and more recently, the pin-box connection type, which has proven to be a very robust and cost-effective solution.

We strive to meet any request from clients, but typical deliverables for caisson replacement are as follows:

Planning and engineering

- Project management and administration
- Technical and engineering management
- Design engineering
- Structural engineering
- Lifting method planning
- Mechanical work and equipment planning
- Subsea work and equipment planning
- LCI engineering

Fabrication and procurement

- Assistance with the procurement of new caissons, or
- Complete delivery of design and procurement of new caissons
 - Production follow-up / inspection and quality assurance
 - Special focus on installation friendliness
- Fabrication of custom made lifting equipment

Offshore execution

- Installation management
- Complete offshore crew and equipment package
 - Subsea preparation work
 - Mechanical and cutting work
 - Lifting/rigging/rope access operations
 - Subsea installation operations
 - Pin-box installation crew and/or welding crew
 - Inspection and certification work

11.3.2 Flare Tip Replacement

Flare tip replacements are necessary to ensure safe operations and minimise downtime. Axess Group offers cost-effective flare tip replacement solutions to clients worldwide, with a focus on safety.

We understand that every project can have its constraints, thus, we will assess the context and advise on a solution that best fits, be it using a helicopter or mechanical-operated lifting appliance.

Helicopter

We offer specially equipped helicopters to replace flare tips for both fixed and floating assets, such as Floating Production Storage and Offloading (FPSO), semi-submersible rigs, Floating Storage and Offloading (FSO) and Tension Leg Platform (TLP).

With a maximum lifting capacity of 4,500kg, we use a long line to lift the flare tip from the helicopter. Our innovative guide and locking systems help to ensure that the process is a safe one. This method promises an exceptionally short shutdown duration, saving costs for clients.



Mechanical

In comparison, the mechanical method requires a longer shutdown duration.

We offer an autonomous and safe flare tip handling method using various mechanical-operated lifting appliances. Constructed with lightweight and high-grade aluminium, these lifting appliances can handle loads ranging from 100 kg to 10 ton and reach where conventional cranes have difficulty accessing.

Operated by winches from the main deck level, they are suited for use on fixed platforms and floaters. Prior to project execution, the multi-discipline team will devise lift plans and develop a method statement, structural calculation report as well as a 3D model of the step-by-step execution.

The flare tip can be brought back to the main deck of the asset, or alternatively, directly lifted to a supply vessel. Since we perform the lifting from the asset itself, we can precisely calculate the load and take the necessary precautions to safely guide and secure it throughout the process. This also reduces downtime.

It is not just about lowering the old flare tip and lifting the new one. We also offer complementary services such as structural inspections and repairs or additional installation works of pilot/steam/ignition lines, junction boxes and Aircraft Warning Lights (AWLs), in order for the flare to function efficiently.

11.3.3 Offshore Crane Replacement

Cranes are important in offshore operations. They need to be in good condition to ensure safe and efficient operations. At Axess Group, we have a strong track record in repairing, modifying and replacing cranes. Our multi-discipline team work closely together to deliver such projects.

What we offer:

- Offshore Crane Studies according to Norsok R-002, appendix B.6
- Consultancy services for establishment of the crane specification
- Consultancy services for offshore crane purchase
- Method studies for offshore crane replacement
- Turnkey delivery of offshore crane dismantling:
 - Method development and evaluation
 - 3D scanning of existing crane
 - 3D modelling of existing crane to establish weights and COG
 - Prepare lifting plans and work packages
 - Structural analysis of lifted objects, landing areas, support structures and for sea fastening/transport
 - Design of custom-made lifting appliances
- Offshore execution:
 - Offshore management
 - Competent person and lifting supervision
 - Multi-skilled personnel, i.e. riggers, RAT personnel, mechanics and hydraulic technicians
 - Diamond wire cutting
 - Complete equipment package for lifting and mechanical work
- Turnkey installation of new offshore crane:
 - Planning and design and sea fastening/transport of new crane
 - Design of custom-made lifting appliances
 - Design, fabrication and installation of new boom cradle
 - Installation of new pedestal adapter
 - Alignment and machining of slew bearing flange
 - Design, fabrication and installation of new access walkways
- Offshore lifting and installation of new crane in close cooperation with crane supplier:
 - Offshore management
 - Competent person and lifting supervision
 - Multi-skilled personnel, i.e. welders, electricians, NDE operators, riggers, RAT personnel, mechanics and hydraulic technicians
 - Complete equipment package for lifting and mechanical work
- Assistance during commissioning of crane

11.3.4 Thruster Replacement

Thrusters are a key component of Dynamic Positioning. As floating assets often operate in challenging subsea conditions, frequent replacements are required to ensure that they continue to function. Axess Group offers thruster replacement on all types of floating assets, such as FPSOs, FSOs, FLNGs and semi-submersible vessels.

Over the course of the last two decades, we have built an impressive track record of executing offshore thruster replacement projects, making Axess the preferred supplier for many energy companies. We understand the complexity of such critical operations and will advise our clients on solutions that best suit each specific case.

With a typical thruster weighing around 20 to 50 tonnes, thruster replacement is a complex and potentially hazardous operation.

Traditionally, floating assets are dry-docked to carry out the replacement of the thrusters. This is an exceptionally costly operation, taking into consideration all facets of the project, such as demobilisation of the asset, rental of the dry-dock facilities and the loss of operating revenue during replacement.

What we offer

Axess Group carries out thruster replacements offshore, thus removing the costs incurred from dry-docking. In addition, we save further costs by managing and executing the project from the asset itself, utilising smart Remotely Operated Vehicle (ROV) solutions and purpose-built lifting equipment. This removes the need for a Dive Support Vessel (DSV), Divers and/or an Inspection, Maintenance, Repair Vessel (IMR).

Typical services include:

- Creation of a thruster replacement procedure, including lift planning and equipment listing
- Revision of an existing thruster replacement procedure and optimisation of the methodology
- Design of specialist equipment, lifting arrangements and/or winches which reduces or even removes the need for DSV, divers and/or an IMR vessel
- Design, fabrication, procurement, testing and/or Enterprise of Competence certification of the lifting equipment
- Interface management of involved suppliers and contractors
- Complete project organisation onshore and offshore
- Multi-discipline offshore operators selected according to project specifics, minimal impact on the bed space capacity offshore



11.3.5 Redundant Lifting Solutions

Some lifts have exposure that will be considered not acceptable for normal lifts, this could be exposure to persons, dangerous materials, chemicals, critical structure, pressurised pipes in live plants, wellhead or pipelines. Common among these cases is the fact that the consequence of a failed lift is much larger with regards to damage of the lifted object itself or the immediate surroundings. These lifts are all in the category of high risk as per NORSOK standards and requires measures.

Lifting appliances and lifting operations in the category as listed above, shall be designed and planned so as to mitigate and prevent the amount of risk. NORSOK R002 Annex K (informative) describes possible methods and applicable means.



We have experience in planning lifting operations and manufacturing lifting equipment in accordance to NORSOK R002 Annex K for:

Lifting of emergency valves

- Developed method and lifting plan to gain for effective and safe execution offshore
- Design and fabrication of special designed lifting appliances in accordance to NORSOK R002 Annex K
- Installation and removal of emergency valves performed by multi-skilled rope access team consisting of:
 - Engineers with EoC competence
 - Engineers with wide range of lifting operation experience
 - Experienced rigging personnel with O-2.2 and O-3.2 certifications

Reinforcement of helicopter deck structure

- Documented method and lifting plan based on principles as defined in NORSOK R-002, Annex K, High Risk Application.
- Lifting above life boat station. Redundancy lifting system connected simultaneously to object. Lifting components dimensioned to withstand the load impacts if any failures during lifting operation
- Helicopter deck used as temporary attachment points for lifting appliances. Strength of attachment points calculated and verified according to NORSOK R-002
- Installation performed by multi-skilled rope access team consisting of:
 - Engineers with EoC competence
 - Engineers with wide range of lifting operation experience
 - Experienced rigging personnel with O-2.2 and O-3.2 certifications

11.3.6 Life Extension

Axess Group provides structural life extension services to increase the lifespan of offshore oil and gas installations worldwide.

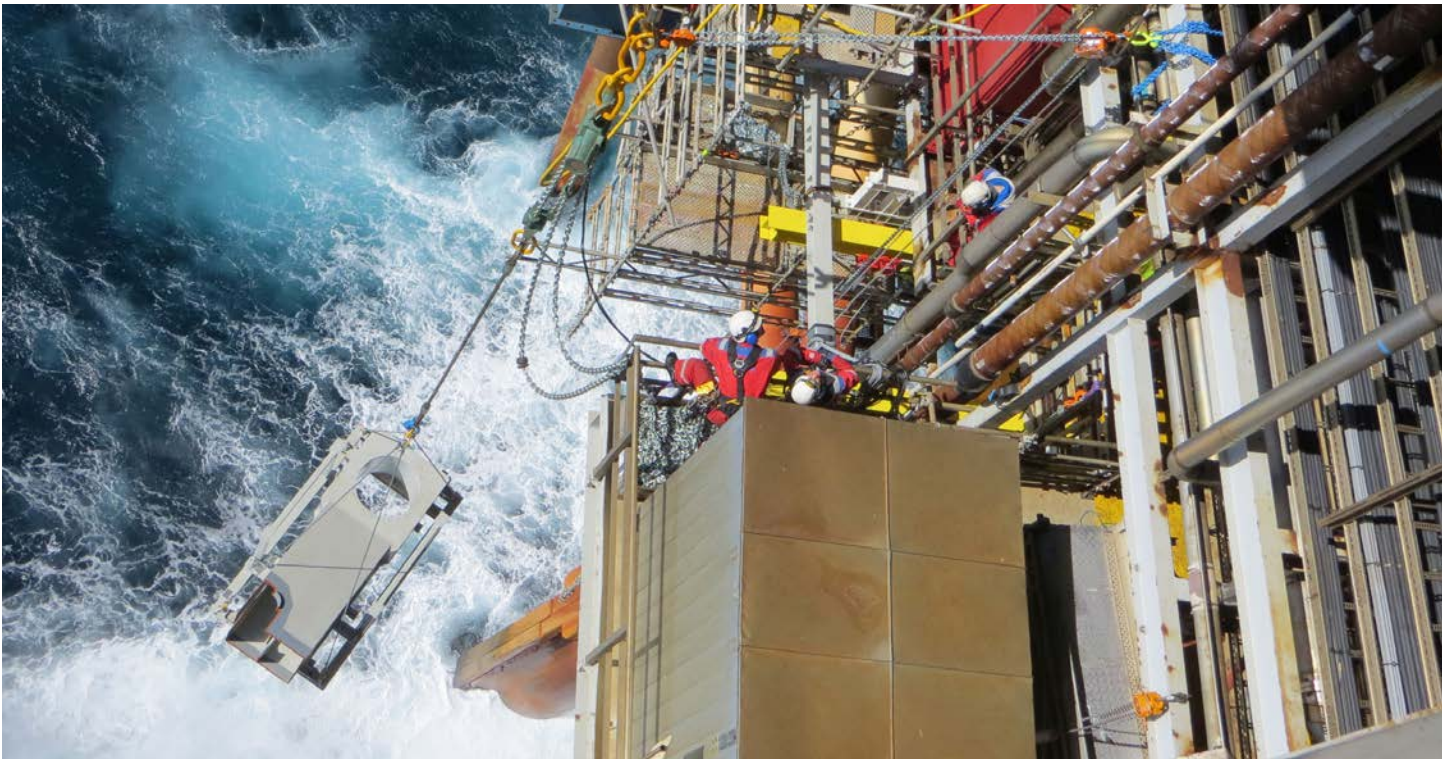
The majority of offshore assets around the world have been operating for at least 25 years, which meant that they are now approaching or operating past the original intended duration. With the continued demand for oil and gas in the foreseeable future, there is an increasing need to extend their operational lifespan.

A fundamental part of any life extension process is the reinforcement and/or installation of new structural steel or piping in the platform jacket, such as:

- Jacket bracings and other structural steel members;
- Gangways, stairways, and platforms;
- Conductor guide frames, well slots;
- J- and I-tubes;
- Risers and caissons;
- Supports, clamps, and guides;
- Riser guards and boat fenders.

What we offer:

- Rope Access team, both NS9600 and IRATA qualified
- Asset integrity management and inspection services
- Method and early phase concept assessment
- Engineering, analyses and practical, installation focused structural design
- Procurement, logistics planning and fabrication follow-up
- Construction, installation, testing and certification
- Platform-operated advanced lifting and rigging solutions
- Specialised equipment
- Enterprise of Competence, approval of lifting and suspension points

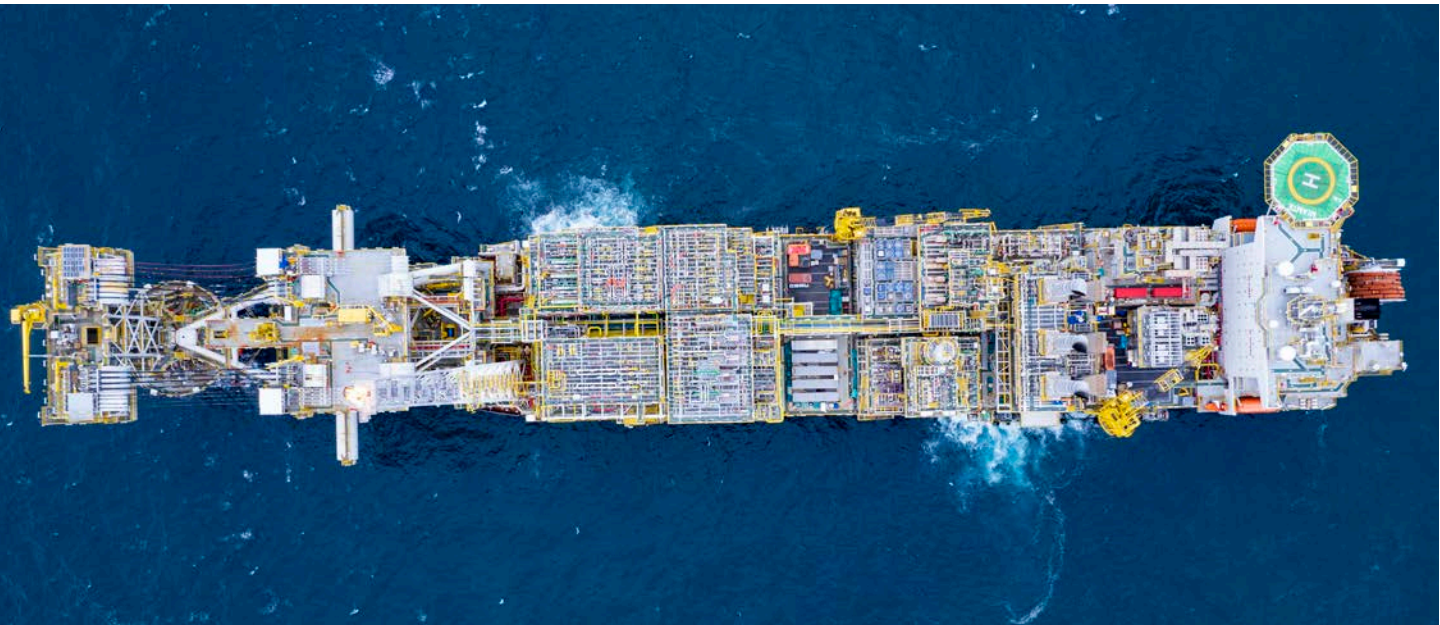


11.3.7 Hook-Up and Commissioning

With over 20 years of experience and profound industry knowledge, Axess Group has extensive know-how in providing platform HUC services. The company adds value to both existing and new facilities, using in-house personnel and strategic partnerships while working at over 600 assets globally, including drilling installations and FPSOs.

The hook-up process consists of conducting the necessary connections and function tests for all the systems of an asset on the road to oil and gas production. It represents a critical stage in preparation for the first oil.

Commissioning involves the necessary systems tests to ensure that they are all in good operating conditions or, if this is not the case, to detect any faults or potential improvements that could be tackled before the handover. Once completed, verified, and signed off, commissioning dossiers will form part of the final transferral to the client's operations, also known as "take-over".



Our HUC services include the following and various other auxiliary services:

- Project management
- Procurement
- Warehousing
- Onshore and marine logistics
- Personnel staffing
- Safe lifting operations
- Rigging
- Instrumentation
- Welding, electrical, and mechanical works
- Dynamic commissioning of system packages

Our team can manage the project from the launch phase to its completion, starting from procurement and engineering services all the way to the final commissioning process.

This approach has safety benefits thanks to our enhanced control over the activities, along with remarkable cost advantages. It maximises onshore pre-commissioning, which translates to minimal offshore HUC hours.

Safety is key, so our system ensures that commissioning progresses securely and orderly up to completion, the delivery, and beyond.

11.3.8 Construction and Installation

Our construction expertise spans the full range of complexity seen in EPCI projects, from simple add-ons to full structures which will house the assets critical for oil production, whether these focus on building well foundations or repairs and upgrades of structures for jack-up rigs and semi-submersibles.

Installation entails setting up an asset’s prefabricated components, relying on modular construction. Often, a combination of both construction and installation is carried out to set up the asset for optimal long-term production, going smoothly from first oil toward maturing operations.

Our construction and installation services include the following and various other auxiliary services:

- Installation of piping and production wellhead components
- Fabrication of spools, flow line, drain line and VSD skid
- Helideck engineering, construction and installation
- Welding certified by ABS, advanced welding techniques, materials and consumables supply
- Construction and installation of welding habitats

Welding – construction:

- Welding procedures review
- Welding pipelines repair and modification
- Welding quality and control
- Welding inspectors
- Piping management and maintenance
- Advanced rigging. Spools rigging alignment and installation, crane modifications
- Jib crane / davit installation, knuckle boom crane cylinder replacement
- Rigging and installation of Christmas trees
- Thermal isolation packages – construction
- PGA system CCTV installation
- Punch list review

Ensuring that construction advances optimally is paramount to fulfilling a project’s core goals, a successful hand-over, and final acceptance. Therefore, we closely oversee both cost and quality throughout the construction and installation phase so that issues do not evolve into problems. We issue monitoring reports to clients related to either crucial project milestones or set periods of time to so that they gain complete peace of mind.

Our multi-disciplined engineers and specialists safeguard that the client’s newly built installation meets the highest safety. Safety is at the center of our work, enabling us to deliver unequalled construction and installation services.

11.3.9 Material Handling Solutions

Material handling on an offshore installation should be characterised by systematic efficiency and extreme focus on safety. The result is to reduce downtime, if any, and consequently increase economical margins. We are committed to assisting our clients to achieve material handling compliance in all phases of new-build and modification projects.



What we offer:

GAP Analysis & Risk Assessment in accordance with contract requirements and the following rules/regulations:

- DNVGL-ST-0377 and DNVGL-ST-0378 (formerly DNV 2.22 Lifting Appliances)
- NORSOK R-002 – Lifting Equipment
- Health and Safety at Work etc Act 1974
- LOLER 1998 – Lifting Equipment
- PUWER 1998 – The Provision and Use of Work Equipment Regulation

Material Handling Philosophy, FEED Review and Design Review

- FEED Review: Checking the main concern points based on Material
- Handling document of pre-engineering phase
- Review & Enhancement of Material Handling Philosophy
- Material Handling Workshop: Providing the follow-up action list
 - 3D Model Review (Navisworks, PDMS, AutoCAD, etc.)
 - 2D Design Drawing Review

Material Handling Plan

Detailed report of material handling equipment which includes:

- Mechanical Equipment Handling Specification
- Valve Handling Specification
- Transportation routes
- Vertical handling (Shaft & Hatches)
- Lifting operation between installation and vessel
- Operation and Maintenance Study
- Laydown and storage area
- List of all items that need to be handled, etc.

Offshore cranes and services cranes study

- Lifting Zones and Lifting Restriction chart plan
- Line of sight / blind zone area study plan
- Offshore Cranes & Service Cranes study related to Material Handling

Other services

- Bumpers, Guiding & Protection Structure for Norwegian projects
- Audit Report Analysis Study of Cranes & Lifting Equipment which is issued by Petroleum Safety Authority Norway

Material Handling Philosophy - NORSOK R-002 B.5

Material handling philosophy applies to all areas, equipment and operations of mobile offshore installations. This philosophy shall provide guidelines for the engineers to achieve a robust technical design that will promote efficient and safe handling of equipment, as well as to secure access for maintenance in all operational conditions.

The document answers the following:

- How do you handle equipment on board?
 - What is the heaviest/biggest equipment in each room/area?
 - What lifting equipment to use?
 - How to transport it all the way to workshops or supply vessel?
- Does the lifting equipment have sufficient capacities?
- Does deck on board have sufficient capacities?
- Is there enough space for handling/transporting the equipment?

Offshore Crane Study - NORSOK R-002 B.6

Offshore Crane Study is the feasibility study of handling loads by the offshore crane.

The document answers the following:

- How can the crane operator transfer a load at the installation in a safe way?
- Will there be any blind zones for the crane operator during lifting operations?
- What is the weight and height limitations for the different laydown areas?
- In which situations shall the crane boom be brought into rest position?

The offshore crane study is a basis for preparing operational procedures.

Lifting Zones - NORSOK R-002 B.3.3

The main purpose of lifting zones study is to analyse the potential effect of a “load’ being dropped and drop of crane boom over certain lifting areas/zones.

The document answers the following:

- What is the consequence if the load is dropping in a certain area?
- Where can the crane operator bring his load and not?
- What parts of the installation do I need to protect – dropped object protection (DOP)?
- What are the maximum weights/heights I can bring into these areas?

All areas within the working area of the deck crane are to be evaluated and classified according to the consequences of dropped objects. A lifting restriction chart shall be made for the installation.

Material Handling Survey - NORSOK R-002 B.7

During the late phase of the building process, material handling surveys should be carried out to verify the following factors.

- Installation of lifting equipment
- Transportation routes

Material Handling Plan - NORSOK R-002 B.7

Identify all equipment above 25 kg that needs to be handled due to regular maintenance.

- Describe the method to be used
- Lifting equipment to be used
- Describe the transport route to be used

Equipment requirements for material handling is shown in NORSOK R-002. The material handling report shall be updated periodically to reflect the latest changes in equipment layout, Material Handling Philosophy, significant change in equipment/component weights and dimensions until this report reaches “completion of fabrication” stage.

12 WE VALUES



WE VALUES

WE GIVE HSSEQC TOP PRIORITY

WE STRIVE FOR CONTINUOUS IMPROVEMENT

- We are observant and learn from every assignment
- We search for the right solutions and share experiences
- We go to work because we want to make a difference

WE COMMUNICATE WELL

- We communicate job expectations and risk elements
- We avoid misunderstandings because we are open, precise and listen actively

WE ARE CONSIDERATE

- We create a good working environment
- We consider the consequences before we act
- We are compliant to laws and regulations
- We contribute to sustainable development

WE ARE ENTERPRISING

- We know that our colleagues are an irreplaceable resource
- We invest in health, safety, security, quality and climate
- We offer the most climate friendly solutions to our customers

WE KEEP DEADLINES

- We plan well
- We ensure that our time limits allow us to work safely

WE ARE RESPONSIBLE

- We reduce climate emissions
- We engage in each other’s safety
- We always look for more efficient solutions
- We dare to speak up

Zero harm to people, assets, environment and climate is a mutual responsibility.

Lasse Iversen
CEO

13 GLOBAL OFFICES



900+ full-time
personnel in 27
countries worldwide.

Europe

Norway (Headquarters)

Axess AS
Grandfjæra 22C,
6415 Molde, Norway
+47 982 43 600
post@axessgroup.com

B&H

Axess Digital d.o.o.
Kralja Petra Krešimira
IV., Mostar, Bosnia and
Herzegovina
+387 6362 0620
post.axessdigitalbih@
axessgroup.com

Germany

Axess Germany GmbH
Fischertwiete 2,
20095 Hamburg
+49 175 7219604
post.germany@axessgroup.com

UK

Axess North Sea Ltd.
Axess House, Twin Spires Business
Park, Mugiemooss Road, Bucksburn,
Aberdeen, AB21 9NY, United
Kingdom
+44 (0)1224 394060
post.uk@axessgroup.com

Americas

Brazil

Axess do Brasil Ltda
Rua Eduardo Guinle, 57 - Botafogo,
Rio de Janeiro - RJ, 22260-090,
Brazil
+55 (21) 4108 0532
post.rio@axessgroup.com

USA - Boston

Axess Offshore Wind Inc.
PO Box #1207,
New Bedford, MA 02741,
United States of America
+1 (346) 217 3161
post.us@axessgroup.com

Canada

Axess Baffin Inc.
PO Box 8307, St. John's,
Newfoundland, A1B 3N7, Canada
+1 (709) 330 1390
post.stjohns@axessgroup.com

Guyana

Axess Guyana Inc.
Lot 31 Bel Air Gardens,
Georgetown, Guyana
+592 504 0474
post.guyana@axessgroup.com

Mexico

Axess Operations de Mexico S. de
R.L. de C.V.
Calle Bosque de Ciruelos 180 PP
101, Colonia Bosque De Las Lomas,
CP 11700 Ciudad de México, Mexico
+52 93 8112 6979
post.mexico@axessgroup.com

Africa

Angola

Axess Offshore Angola (SU) LDA
Rua Guilherme Pereira Inglês,
nº 43, Edifício Ingombota, 5ºB,
Luanda, Angola
+244 939 983 472
post.africa@axessgroup.com

Côte d'Ivoire

Axess Offshore Cote d'Ivoire
Boulevard Clozel, Immeuble
Acacias, 11ème étage, Plateau, 01
BP 6144, Abidjan, Côte d'Ivoire
+225 07 0719 5555
post.africa@axessgroup.com

Republic of the Congo

Axess Offshore Congo
Allée de Makimba, Immeuble
ARPCE, 3ème étage, Centre-ville,
BP 1306, Pointe-Noire, Republic of
the Congo
+31 6 294 39685
post.africa@axessgroup.com

Senegal

Axess Senegal S.A.S.U.
3rd Floor A, 85 CE, SC 71, Sacré
Coeur 3 Pyrotechnie, Mermoz Sacré
Coeur, Dakar, Senegal
+221 78 756 14 28
post.africa@axessgroup.com

Ghana

Axess Petrorig Ghana Ltd.
3rd floor, The Pelican, 8 Blohum
Street, Dzorwulu, Accra, Ghana
+233 55 256 6761
post.ghana@axessgroup.com

South Africa

Axess Offshore Africa Pty. Ltd.
Office 113, 1st Floor, Block 2,
Northgate Park, Brooklyn, Cape
Town, South Africa
+27 21 001 9540
post.africa@axessgroup.com

Namibia

Axess Offshore Namibia Pty (Ltd)
Warehouse Number C, Diekmann
Building, 33 Circumferential Road,
Walvis Bay, Namibia
+27 82 879 9660
post.africa@axessgroup.com

Asia Pacific & Middle East

Australia

Axess Offshore Australia Pty. Ltd.
11/15 Carbon Court, Osborne Park,
WA 6017, Australia
+61 4 3373 0739
post.australia@axessgroup.com

India

Axess AIM India Pvt. Ltd.
Unit No. 901, 9th Floor, D Wing,
Empire Tower, Thane - Belapur
Road, Airoli, Navi Mumbai,
Maharashtra 400708, India
+91 22 4604 3533
post.india@axessgroup.com

Qatar

Axess Oil and Gas Inspection &
Maintenance
Building 76, Office No. 3,
Street Zone 18, Area 60,
Old Salata, PO Box No. 212185
+974 3085 2869
post.me@axessgroup.com

Singapore

Axess Offshore Pte. Ltd.
Nordic European Centre, #05-
31 South Wing, 3 International
Business Park, Singapore 609927
+65 6908 4174
post.singapore@axessgroup.com

KSA

Axess for Oil Services
2220 Abu Zakriya Al Fara, Ash
Shulah Dist., 34263 Dammam,
Saudi Arabia
+966 59 850 6869
post.me@axessgroup.com

South Korea

Axess Offshore Korea LLC
22nd Floor KNN Tower,
Centum-ro 30 2203-ho,
Haeundae-gu, Busan,
South Korea
+65 6908 4174
post.singapore@axessgroup.com

Malaysia

Axess Malaysia Sdn. Bhd.
Unit 3176, Level 31, Menara
Ambank, No. 8, Jalan Yap Kwan
Seng, 50450 Kuala Lumpur,
Malaysia
+65 9011 9732
post.malaysia@axessgroup.com

Taiwan

Axess Offshore Pte. Ltd. Taiwan
Branch
17F., No. 270, Sec. 4, Zhongxiao E.
Rd., Da'an Dist. Taipei City 106652,
Taiwan (R.O.C.)
+886 2 7707 0686
post.taiwan@axessgroup.com

UAE

Axess Middle East DMCC
807 X2 Tower, X Cluster,
Jumeriah Lake Towers,
Dubai, United Arab Emirates
+971 4565 7913
post.me@axessgroup.com

Axess AS

Grandfjæra 22C,
6415 Molde
+47 982 43 600
post@axessgroup.com

www.axessgroup.com