Our multidisciplinary engineering and marine teams are recognised in the industry for their competence and experience. We work closely with clients to understand their requirements, identify solutions and execute their projects and marine operations in a timely, cost-effective and safe manner.

Aqualis Offshore specialises in the following marine and engineering services:

- Deep and shallow water installation engineering and related marine operations
- Marine operations and surveying, including rig moving and tow master services together with engineering support services
- Vessel construction supervision and owner representation
- Engineering and project management support to the renewables industry
- Third-party approvals on behalf of owners and underwriters such as marine warranty and audits of dynamic positioning systems
- Concept, FEED and basic design for new-build and vessel upgrades

Aqualis Offshore provides clients with global support via an extensive office network. We aim to be your reliable long-term partner.

Aqualis Offshore is a specialised marine and engineering consultancy, focusing on the shallow and deep-water segments of the offshore oil & gas industry and the offshore renewables markets worldwide.

Our team comprises

- Naval Architects
- Mooring Analysts
- Hydrodynamicists
- Structural Engineers
- Geotechnical Engineers
- Installation Engineers
- Project Managers / Site Superintendents
- Marine Engineers
- Marine Advisors
- Marine Warranty Surveyors
- Marine Surveyors
- Master Mariners
- Tow Masters, Rig Movers, Mooring Masters, Consultants, Marine Advisors
- DP Vessel Auditors
- Marine Engineers / Electrical Engineers
- Risk Managers / Engineers
Aqualis Offshore provides a unique solutions-based approach to engineering. Our engineers aim to work with our clients as a one-stop-shop to find efficient solutions to their engineering projects.

Due to our independent status, focus is on cost-effective solutions, fit for purpose and tailoring to suit the specific needs and constraints of our client. Our offshore engineering expertise covers the life-cycle of an offshore facility from concept and basic design through installation, on to ageing platform integrity management and finally, decommissioning. We are involved in both the shallow and deep water ends of the offshore oil & gas industry and operate from the major centers of the offshore industry.

Our experienced team can provide unique solutions for many platform types including Mobile Offshore Drilling Units (MODU), Wind Turbine Installation Vessels and Liftboats, Mobile Offshore Production Units (MOPU) including FPSO, FSO, FLNG, as well as other offshore installations and floating structures. Our capability covers the marine systems, structural, geotechnical and naval architectural disciplines.

Solutions range from:
- Concept design
- FEED and pre-FEED
- Basic design
- Upgrade and modification engineering
- Advanced engineering

Our combined teams include:
- Naval Architects
- Structural Engineers
- Piping and Mechanical Engineers
- Electrical and Instrumentation Engineers

Transportation & Installation
Our multi-disciplined teams of Engineers, Surveyors and Master Mariners have many years of experience in the offshore industry.

We specialise in complex marine operations and can provide valuable early planning and advice to optimise the solutions with regard to vessel and equipment selection, structural design and offshore procedures. Subsequent engineering comprises analysis and design associated with all temporary phases of a marine operation, from loadout and transportation to installation or discharge of high value offshore assets.

Such engineering includes:
- Vessel ballasting
- Global and local vessel strength
- Vessel motions and stability
- Vessel/cargo interaction
- Grillage and seafastening design
- Design of fendering and installation aids
- Dynamic lifting and rigging
- Hydrodynamic analysis
- Jacket launch and upending
- Dynamic analysis for floatover installations
- Towing analysis and design
- Geotechnical analysis etc.
- Production of appropriate documentation

Our service then extends to offshore operation supervision and support from our qualified and experienced Marine Superintendents and Project Engineers. We draw on the services of external companies where supplementary skills or input are required, for example metocean data for transportation assessment and planning. These services are tailored to suit our clients’ requirements and can be supplied as conceptual/feasibility studies, detailed engineering and operation, or verification.

We have formed strategic alliances with vessel partners, enabling us to provide package solutions for T&I projects such as:
- Platform installations, including topside floatovers
- Tow, positioning and hook-up of floating structures

We then provide associated engineering, preparation of procedures and offshore operations management.
Marine Consultancy

We offer a wide range of marine capability to the oil & gas and maritime industries. Our mariners have many years of experience associated with drilling rigs, offshore vessels and trading vessels. We aim to assist our clients in finding practical solutions to their marine operations and projects, and/or protect their interests when subcontracting or making asset investments.

We can offer:

- Provision of Towmasters
- Provision of Marine Advisors
- Dry transportation consultancy and operations
- Vessel inspections
- Rules & regulations compliance
- Inclining experiments
- Pilotage operations
- Rig move procedures
- Suitability surveys and audits
- Pre-charter audits/surveys
- Pre-purchase surveys
- Bollard pull certifications
- Drafting and review of offshore project related procedures
- Mooring plans
- Anchor handling procedures
- Witnessing equipment trials and tests
- Towing plans and procedures
- Common Marine Inspection Document (CMID) and Offshore Vessel Inspection Database (OVID) Surveys
- Transportation approvals and consultancy
- Towage approvals
- Towmaster services
- Rig movers
- Turnkey marine operations
- General rig moving consultancy
- Marine Advisor

Rig Moving

We offer a full range of rig moving support services for Mobile Offshore Drilling Units. We offer full engineering assessments for site-specific location approvals and provide both Marine Warranty Surveyors and Rig Movers/Towmasters for offshore attendance during jack-up and floating unit rig moves.

The following services are provided:

- Jack-up engineering studies including site-specific assessments, fatigue analysis, collision studies, earthquake assessments, and heavy lift dry transportation
- Pre-contract rig suitability engineering analyses
- Leg penetration analyses
- Site-specific location approvals
- Mooring analyses
- Transportation approvals and consultancy
- Towage approvals
- Towmaster services
- Rig movers
- Turnkey marine operations
- General rig moving consultancy
- Marine Advisor
Dynamic Positioning & Critical Systems

We provide an experienced multidisciplinary team of engineering and operational resources to support the Dynamic Positioning (DP) industry.

Our aim is to assist our clients to operate and validate according to their units’ specific industrial mission, including drilling units, project and construction vessels, DSV’s, accommodation units, shuttle tankers and OSV’s. Whether identifying the critical activity mode or verifying the worst case failure mode through FME(C)A, Aqualis Offshore aims to provide clients with independent technical reviews to enhance safe operations.

DP Services Include:
- FME(C)A
- DP FMECA proving and annual trials
- DP design review/redundancy analysis
- DP suitability/condition surveys
- DP gap analysis
- Development of ASOG, WSOG & CAMO
- DP incident investigation
- DP manuals and procedures
- DP operator competence assessment and verification
- DP project management & sea trials management
- Planning for DP conversions

Dive Auditing and FMEA work
- Dive system FMEA
- Dive system FMEA proving trials
- Dive system auditing
- ROV auditing
- Critical systems FMEAs
- LNG code FMEAs
- Cargo control systems
- HAZID/HAZOP
- LNG bunker barges
- Analyses of cranes, bilge and ballast systems, pipelay systems and more

Aqualis Offshore combines world-class Dynamic Positioning with world-class Rig Inspection services. We are the only Rig Inspection service provider with a dedicated DP team. Our established DP inspection teams bring years of experience with both offshore drilling rigs and offshore vessels. We are recommended by oil majors globally.
Marine Warranty

Our teams of Marine Warranty Engineers, Surveyors and Master Mariners act to protect Underwriters’ interests or self-insured clients.

We provide independent third-party review and approval of offshore projects. The teams have extensive experience in a wide range of offshore activities from simple marine operations to complex and challenging offshore projects.

Typical activities may include:
- Document reviews
- Suitability surveys of offshore marine spreads
- Approval of towages, heavy lifts and installations
- Subsea operations
- Decommissioning and removal of offshore structures
- Acting as Marine Advisors to oil companies and their contractors

Marine Casualty Surveys

We offer a range of marine damage investigation services to the shipping and offshore energy insurance markets. Sectors include cargo, construction, liability and hull & machinery surveys. Our surveyors have many years of experience carrying out insurance damage surveys on marine and offshore vessels.

Our services cover:
- Vessel hull and machinery damage surveys
- Damage to fixed and floating objects including collision assessment
- Casualty
- Litigation
- Expert witness
- Port risks
- Voyage risks
- Loss prevention services
- Loss of hire
- Personal injury
- Damage surveys of high value equipment and cargo
- Project cargo risk management
- Risk assessments
- Feasibility studies
- Shipbuilding & repair facilities procedures
- Salvage and wreck removal
- Moorings, structural design and failure analysis, intact and damage stability
- Additional services include vessel vetting and entry condition surveys
**Construction Supervision**

Aqualis Offshore provides teams to work with the client throughout the construction or conversion of an offshore asset. The project team monitors the project to ensure that it is carried out in accordance with the contract, the specifications, clients’ expectations, flag and class requirements.

The project team consists of key personnel with the necessary skills to ensure that the construction meets the build schedule. Aqualis Offshore provides a group of engineers and inspectors of various disciplines to be utilised at different stages of the project. In addition, dedicated planning and document control functions are provided throughout the duration of the construction phase.

**Key project control activities include, inter alia:**
- Development and implementation of project procedures
- Review of machinery and equipment purchase orders and specifications
- Development and implementation of project execution plans
- Monitoring of work progress and testing activity
- Monitoring of quality control of each activity throughout the construction
- Attendance at formal safety meetings
- Attendance at Factory Acceptance Testing (FAT)
- Audits of subcontractors’ facilities
- Attendance during sea trials and inclining experiments
- Reporting to the client on a weekly and monthly basis
- Tracking of site queries, observing safety policy, monitoring quality control measures
- Maintaining electrical & mechanical completion and commissioning records and database
- Monitoring and reporting on extras and credits

**Rig Inspection**

We offer a wide range of rig inspection services to the offshore oil & gas industry. Our engineers offer years of practical experience in rig inspection, providing regulatory compliance and equipment operability assurance to our clients. Our rig inspection teams develop and execute bespoke rig inspection acceptance programs specifically tailored to our clients’ needs.

**We specialise in the following services:**
- Rig inspection and assurance
- Rig selection
- Rig reactivation assurance
- New build delivery assurance
- Rig preservation inspection
- Focused rig inspections of the following equipment:
  - Well control equipment inspections
  - API standard 53 compliance audits & gap analysis
  - Cyber-based drilling equipment inspections
  - Integrated Control Management System (ICMS) inspections and testing
  - ROV inspection & assurance
- Drilling rig equipment Factory Acceptance Testing (FAT) witnessing

**Our inspection teams are comprised of:**
- Marine Engineers
- Electrical Engineers
- Electro Technical Engineers
- Subsea Engineers
- Mechanical Engineers

Our aim is to provide independent technical reviews of drilling rigs’ regulatory compliance and equipment operability to ensure incident-free drilling campaigns with maximum productive time.
Stacking of Offshore Units

Stacking of offshore units has increasingly been an area of service for Aqualis Offshore. With a combination of engineers and mariners we have inspected, verified and been advisors to the stakeholders of units. This is to ensure their interests and values are properly protected during the stacking period, and to ensure each unit is preserved to reduce the reactivation cost.

Stacking considerations:
- Hot stacking
- Warm stacking
- Cold stacking
- Long-term cold stacking
- Insurance/class
- Running costs
- Lay-up plan
- Assessment of risk factors and mitigating measures
- Reactivation surveys

Mitigation of risks associated with:
- Environmental pollution
- Transportation
- Mooring
- Fire
- Insurance/class
- Corrosion/degradation
- Equipment loss/theft
- Water intrusion
- Operational costs

The Stacking Cycle
TECHNICAL DUE DILIGENCE

With our assistance, owners and financial institutions can obtain an objective expert view on the actual project performance or asset value, as an important input to the decision-making process related to loans, consolidation or acquisitions.

Aqualis Offshore is well placed to perform solid, independent technical due diligence services with its combination of engineers and master mariners. The engineers will have been involved from the first concepts to sail away, including yard contract negotiations, the operational phase, yard stays for repairs, upgrades, modifications and special periodic surveys. The mariners will have been in charge of vessels, rig moves, and major marine operations including vessel inspection/survey.

- Assessment of vessel requirement vs. capabilities
- Design review, professional peer review
- Assessment of owner, project management team and project plans/schedule
- CAPEX/OPEX budget evaluation
- Identify delay risks and other project risks
- Pre- and post- contract reviews
- Yard evaluation and inspection
- Verification of project progress/payment milestone audits
- Suitability survey, condition survey, assessment of vessel function
- Lifetime assessments
- Assessment of equipment preservation and re-activation

The above services are performed for the following vessels:

- Drilling units: Semi-submersibles, jack-ups, drillships and tender barges
- Production units: Ship-shaped, semi-submersibles and jack-ups
- Accommodation units: Semi-submersibles, jack-ups and tender barges
- Offshore service vessels: Anchor handlers, supply vessels, cable layers, crane vessels, liftboats, tugs, etc.
- Other vessels: Shuttle tankers, oil tankers, floating storage units, wind turbine installation vessels, barges, cargo vessels

Risk consulting

The Risk Consulting team strengthens Aqualis Offshore’s marine and engineering services with a methodological and systematic approach to risk management.

Our engineering risk management experience includes drilling and productions facilities. Within marine operations we have performed numerous risk management activities within loadout, transport, anchor handling, rig move, heavy lifting, subsea and SURF installation, dynamic position (DP), hook-up, diving and ROV operations, personnel transport, vessel layup and decommissioning.

We provide the best practices for identifying and managing risks and hazards to personal safety, assets, environment and reputation both in engineering and operations. We can lead, facilitate or contribute to risk management activities such as:

- Hazard Identification Analysis (HAZID)
- Hazard and Operability Analysis (HAZOP)
- Quantitative Risk Analysis (QRA)
- Safety case studies
- Risk assessments
- Failure Mode, Effect and Criticality Analysis (FMECA)
- Carry out inspections
- Provide people who can work within a client’s team to manage risk within a project
Renewables

Through our London, Hamburg and Taiwan offices we are a globally focused consultancy providing independent services to the offshore renewables industry. We specialise in providing consultancy services to offshore wind farm developers and investors into offshore renewables projects.

We have an unrivalled reputation for providing a quality service and delivering innovative and reliable solutions, as we are able to draw upon extensive technical knowledge and practical experience dating back to the late 1990s.

Key activities include, inter alia:

- **Consultancy Services** - providing advice through the project life-cycle including developing strategies for projects and site selection, procurement strategies, design and construction methodologies, installation and commissioning, development of financial models and risk mitigation

- **Engineering Services** include site evaluations, geotechnical and geophysical site investigations and evaluations, foundation structures, health and safety management, marine operations, offshore installation, special assessments and subsea cable installation and protection

- **Due Diligence Services** to potential offshore renewables investors planning to undertake equity risk in projects, or on behalf of banks and lenders who are providing debt facility to projects

- **Expert Witness** - leveraging our knowledge of the offshore wind farm industry to act as an expert witness

- **Project Management Support Services** through all stages of an offshore wind farm project, from early stages planning through design and engineering to construction and installation