

Comprehensive Service Portfolio for Onshore & Offshore Engineering and Management of Subsea Cables and Pipelines

ENGINEERING PRE-CONSTRUCTION PHASE

Risk Based Analysis & Studies for Installation, Burial & Protection

PRE-CONSTRUCTION PHASE

Expertise including

- Survey Management & Engineering
- Tender Management – Commercial & Technical
- Project Management – Burial & Installation Specialists

Primo Marine provides a comprehensive offering of analysis, optimisation and protection designed to focus completely on reducing (1) **installation risk** (2) **installation cost** (3) **cost of seabed preparation** (4) **claims** (by differing parties/stakeholders).

Risk Based Route Analysis, Optimisation & Protection

- Route Engineering, design and preparation – focused on reducing installation risk and cost.
- Risk Based Burial Depth (Cable Burial Risk Assessments) – determining “how deep to bury” to safeguard cables from external threats over their lifetime.
- Seabed Mobility & Morphological Studies - overcoming challenges to ensure safe installation and protection.

Risk Based Studies, Design and Analysis

- Risk - Soils & Seabed Conditions:
 - Burial Assessments – determining “how to bury”.
 - Trencher Assessments – determining capability including Evaluation, Selection and Negotiations.
- Risk – Weather & Environmental:
 - Including workability analysis and metocean studies.
- Risk – Operations:
 - HDD Feasibility, Beach, Landfall & Shore Approaches.
 - Third Party Damage, Crossings, Cable & Pipeline Stability.

Verification Studies, Design & Analysis

- Peer Reviews, Methodologies and Subject Matter Expertise.
- Installation Equipment Specifications, Technical Solutions, Problem Solving.
- Specialist Engineering – 3D profiling to Dynamic Analysis for Floating Wind.
- Interface Management – covering permitting, authorities and stakeholders.

ENGINEERING INSTALLATION PHASE

- Primo Marine provides a comprehensive offering of installation engineering designed to focus completely on risk to cable installation and achieved burial depth of time, in order to reduce cost of maintenance over the lifetime of cables.
- Analysis and review of all documentation including method statements, procedures covering risk mitigation, contingencies, cable integrity, pull-in analysis, cable rerouting and pull in forces.
 - Recommending cable protection and seabed intervention methodologies, including immediate risk mitigation solutions.
 - Recommendation in regard to installation in mobile seabeds.
 - The provision of subject matter including peer review, pro-active solving of events, challenges and issues (including the arranging and management of third parties).
 - UXO Desk Top Studies.
 - Practical offshore installation experience in regard to complete onshore and offshore support for product lay, installation and burial. Including the management of packages with provisional sum operations.
 - Route Preparation: PLGR, Route Clearance and Seabed Intervention.

INSTALLATION PHASE

- Expertise including
- Helpdesk for Offshore Challenges
 - Tender Management – Commercial & Technical
 - Project Management – Burial & Installation Specialists
 - QHSE
 - Offshore Management Representation

- Primo Marine provides considerable practical experience and expertise related to being a Helpdesk for Offshore Protection, Installation & Maintenance Challenges, such as:
- Installation Engineering.
 - Product Lay & Burial.
 - The licence management and supporting of licences.
 - Survey Management & Engineering.
 - The provision of Survey Management with Hydrographic, Geophysical and geotechnical disciplines.
 - Trenching solutions to reduce risk of not achieving burial requirements.
 - Seabed Preparation solutions to seabed preparation in order to reduce risk to cable installation and achieved burial depth of time.
 - MFE/Dredging including designs and calculation of volumes.
 - Rock Placement including stability, volume determination & impact analysis.

CLEVER CABLE CARE

Primo Marine provides solutions focused on delivering: **Clever Cable Care** throughout its lifetime, aiming at minimising cost and risk thus leading to a more realistic CAPEX/OPEX balance. Throughout all stages of licensing design and installation to the aftercare requirements of operations and maintenance.

PROJECT MANAGEMENT INCLUDING BURIAL & INSTALLATION SPECIALIST

- Primo Marine provides Project Management solutions tailored to the requirements of offshore Dredging, Oil and Gas, Renewable Energy and Power Sectors. Including the provision of offshore Installation & Burial Specialists, to provide expertise on submarine cable burial and protection during the preparation and execution of the cable installation tender as well as during the cable installation phase.
- Independent Interface Management either as individual work scopes or the full project lifecycle including the responsibilities of cost and budgetary control.
 - Management of multiple engineering scopes during the pre-construction and/or installation phases.
 - Management of the complete tender phase from pre-qualification and evaluation to concluding contract negotiations.
 - Management of multiple offshore packages related to operations and maintenance, construction support, business continuity and emergency response (cable damage/fault finding).
 - Installation & Burial Specialist providing expertise on submarine cable burial and protection during the preparation and execution of the cable installation tender as well as during the cable installation.
 - Performance Management.
 - Claim & Contractual Management.

QHSE MANAGEMENT CORPORATE & PROJECTS

Expertise including

- Offshore Safety Advisors
- QHSE & QC Engineers & Managers

Primo Marine provides QHSE solutions covering both Corporate & Project requirements including the provision of offshore and onshore Quality Control and Safety Engineers and Managers. Primo Marine also provides independent expertise relating to Vessel Assurance, Assessment & Auditing, ISO accreditation, Investigations, Risk and Incident Management.

- Corporate QHSE – management for the development, maintaining and supporting of corporate management systems to achieve or maintain accreditations and standards.
- Project QHSE – management related to the full onshore and offshore lifecycle of projects.
- Vessel Assurance from compliance to monitoring.
- Risk Management and assessments, covering the full spectrum from development to implementation and management.
- Auditing independent expertise related to the development and implementation of tools, systems and programmes, covering areas from vessel to site audits.
- Incident Management expertise either as an independent package or as part of the Emergency Response offering.
- The provision of Offshore Safety Advisors, Onshore QHSE Engineers & QC.

OPERATIONS & MAINTENANCE

Expertise including

- Emergency Response – Business Continuity & Cable Repair Solutions
- 24/7 Emergency & Accessibility

Primo Marine provides solutions tailored for the requirements of the offshore Dredging, Oil and Gas, Renewable Energy and Power sectors. Solutions designed to ensure limiting risk of cable damage or failure during their lifetime and additionally improving response strategies in order to reduce the time and cost of repairs.

- Support scopes which have encountered unfortunate challenges during the offshore phase.
- The conducting of complete peer reviews, including establishing and management of project risk registers. Reviews designed to incorporate all practical lessons learned from an extensive track record, as well as offshore cable industry.
- The management of multiple subsea activities including provision sum operations.
- The provision of subject matter expertise including pro-active problem solving of events, challenges and issues (including the arranging and management of third parties).
- The interfacing with all significant parties to provide technical solutions.
- The advising with project documents and the management of.
- The providing of licence management and supporting of licences, agreements and approvals.
- The translation of technical issues into contractual and permit requirements.
- The provision of onshore and offshore expertise (Engineers, Project Management and Client Representatives).

Emergency Response

Primo Marine provides solutions regarding the prevention of or recovery from cable damage or faults for both predictable and unpredictable events. Solutions for minimizing costs and mitigating risks. Thorough planning of all necessary steps to be taken by all stakeholders, vessel and manpower identification and planning, storage & rental, permitting and authorities, responding, repairing and claim management.

24/7

Primo Marine provides a 24/7 Emergency and Accessibility specialist response, in order to support with challenges occurring throughout the lifetime of a project (solutions covering Pre-construction to the Operations & Maintenance Phase).

OFFSHORE MANAGEMENT REPRESENTATION

Expertise including

- Construction Support
- Client Representation Services
- Survey Management & Engineering
- Operations & Maintenance
- Emergency Response
 - Cable Repair Solutions
 - Fault Finding
 - 24/7 Emergency Accessibility
- Offshore Safety Advisors & QC Engineers

Primo Marine provides extensive offshore expertise and experience to ensure the effective planning, scheduling and thorough execution of all offshore scopes. Expertise enabling the multi-tasking and prioritisation of crucial offshore operations in order to ensure projects are safely executed to a high quality.

- The provision of Trenching expertise – relating to all trenchers from jetting (including sleds), mechanical cutters and ploughs.
- The provision of Installation expertise – relating to cable lay operations from mobilisation to installation including pull-ins, landfall, beach, shore approach and deep/shallow water operations.
- The provision of Rock placement expertise - relating to all rock placement scopes including protection (due to insufficient trencher burial), construction of “sleepers”, scour design, crossings.
- The provision of QHSE Project Support, including HIRA, Hazop, Toolbox Talks, adherence compliance from operational performance to statutory and regulatory i.e. environmental performance.
- The provision of Emergency Response scenarios, covering the full field support and management of all repairs from fault finding to deburial, recovery, repair, jointing and reburial.
- The provision of expertise relating to Specialist remedial burial campaigns including MFE or Mechanical Protection.

The respective “Representatives”, will each have the necessary skillsets and core-disciplines relating to the management of the offshore “Work Management Packages”, such as (but not limited to):

- The multi-tasking and prioritisation of crucial offshore operations in order to ensure projects are safely executed to the highest quality.
- The management of crucial offshore operations related to installation, protection and construction support.
- The management of crucial operations which are in proximity to marine/subsea assets and infrastructures.
- The liaising and interfacing with all key stakeholders and authorities, covering the permitting and approval process.
- Ensuring thorough oversight of works and safe operations (zero harm to people, equipment, product and assets).
- The management of activities including provision sum operations.
- The interfacing with Marine Warranty Surveyors.

TENDER MANAGEMENT, & PROCUREMENT INCLUDING FINANCIAL SUPPORT

Expertise including

- Survey Management & Engineering
- Pre-Construction Engineering
- Installation Engineering
- Offshore Management Representation

Primo Marine provides a comprehensive service including technical support, EU procurement regulations, documentation i.e. pre-qualification, from preparation and evaluation, to verification, selection and negotiation, including full procurement and contractual management.

Tendering - Technical Support, summary services including:

- Providing input to the Invitation to Tender (ITT) documents with regards to the protection of cable as well as providing a basis for assessment of the received tenders with regards to the offered cable protection methods.
- A multitude of studies and subject matter expertise to ensure sufficient assessment of soils to avoid increased risk on burial performance and high tender and installation costs.
- Conducting all technical capability reviews relating to selected parties.
- Translation of technical issues into contract and permit requirements.

Tendering – Commercial Support including Evaluation, summary services including:

- Assisting with the complete preparation of all pre-qualification, requests for quotation and expression of interest documents.
- Assisting with the complete preparation of tender documentation.
- The pre-identification and qualification of all respective parties in accordance to predetermined specifications.
- Completing verification, evaluation and selection of selected parties on defined criteria.
- The conducting of contractual negotiations (see contractual management).

Tendering – Contractual Management, summary services including:

- The conducting of contractual negotiations.
- Assisting with the contract award phase including complete contractual management and meeting attendance. Assisting with all clarification meetings.

Procurement Management:

- The provision of independent expertise in support of all meetings in regard to subject matter expertise.
- The management of complete procurement processes to ensure adherence to the established specifications, competency and availability – utilising established supplier/partnership network.
- The identification of resources ranging from installation equipment (vessels and trenchers) to manpower, services and spares (including storage with certification & inspection management).