



Lifting.
Pulling.
Deploying.



Engineering and Manufacturing Overview

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The total solution provider

We are the leader in the design, manufacture and hire of lifting, pulling and deploying solutions in a wide range of applications including shore approach, topside and jacket installation, pipe pull, riser installations and much more.

Through early engagement, we can provide complete turnkey, bespoke solutions to meet the specific requirements of our clients. Our teams adapt existing technology to bring innovative solutions to life.

We have delivered products and services to over 50 countries across all continents and continue to lead industry standards for quality and reliability.

We offers our clients bespoke tailor made solutions through six divisions

ACE ENGINEERING

ACE HIRE PERSONNEL

ACE MANUFACTURING

ACE SERVICES

ACE HIRE EQUIPMENT

ACE WINCH ACADEMY



Geographical Location

We have recently expanded our global presence by expanding service offering in a number of strategic locations worldwide, including Singapore, Houston, Sharjah and Cairo, as well as providing these services from our bases in Aberdeenshire and Stavanger.



ACE ENGINEERING

We are proud to give our clients a first-class engineering service, driven by the desire to provide a solution to any challenge. By engaging with our clients at the early stages of the project through to delivery, we can provide a full turnkey solution at any location globally.

Our experienced team of specialist engineers has amassed many years of experience, defining the design and manufacturing of lifting, pulling and deploying solutions, ensuring delivery to client time scales, budgets and specifications.

We provide a flexible approach with an array of engineering skills supported by modern world class workshop facilities.

Our in-house hydraulic, electrical, electronic and engineering teams have developed and adapted technology to existing products delivering tailored and industry leading concepts.

We have demonstrated our ability to complete large projects and industry initiatives.

ACE Engineering provide:

- Front End Engineering and Design (FEED)
- Engineering Analysis / FEA
- Project Management
- Subsea Winch and Handling Solutions
- Subsea Installation Procedures
- Platform Modifications
- Structural Engineering
- Mechanical Engineering
- IRM Consultancy
- PLC System Design
- Load Handling Equipment
- Hydraulic and Electronic Control Systems
- Equipment Service, Repair and Troubleshooting



Hydraulic Department



Our hydraulic department have the capability for all hydraulic inspection, installation, commissioning, service and breakdown works on various types of equipment. Our dedicated team of hydraulic experts are available at short notice to undertake all hydraulic works and troubleshooting both on and offshore at short notice.

CLEAN ROOM:

- Up to 2te swing jib clean room crane
- Ultrasonic parts cleaner
- 3 x pump strip down areas
- 2 x motor strip down benches

MAIN WORKSHOP:

- Various forklifts up to 35te
- Various rigging & lifting equipment
- 10te overhead main workshop crane
- Electric distribution board to start, test & power up to 130Kw EHPU's
- In-house capacity to walform hydraulic tubes from 6mm up to 42mm OD
- Various manual & electric pipe benders Inhouse capacity to bend & manipulate tubes from 6mm up to 50mm OD metric tubes and 1/4" up to 2" Imperial
- In-house capacity to fabricate pipes from 3/8" mm up to 6" NB
- In-house capacity to screw cut pipes from 1/4" up to 4" NB

- In-house capacity to cone & thread autoclave pipework
- 24" lapping machine
- 30,000psi pressure testing cabin
- High pressure pipework cleaning up to 3" NB
- Hydraulic mineral oil flushing & monitoring capacity up to 1000L/min
- Hydraulic water glycol based fluid flushing & monitoring capacity up to 50L/min
- 8 x Webtec hydraulic flow meters which have pressure and flow testing capacity up to 800L/min each
- 8 Channel datalogger for pressure, flow & speed logging

HOSE MANUFACTURE ROOM:

- Manufacture of hose assemblies from 1/4" up to 2" R13
- Certified pressure testing cabinet for testing hoses up to 700bar
- Labelling system for hoses
- Pellet flushing system for hose cleanliness

Electrical Department



- Specifically designed panel building and inspection areas
- Test equipment for all LV, ELV, and various communication systems
- Team of fully qualified electricians to BS 7671 18th edition and CompEX standard
- Capability to carry out full electrical installations, inspections and maintenance on various types of equipment.
- Capability to carry out full ATEX installations, inspections and maintenance on multiple types of equipment.
- Available to carry out all works at short notice both on and offshore.



Drives and Control Systems

- All our packages can be provided with a customised control solution

Manual Mechanical / Hydraulic / Electric
Basic tension and speed control
Constant tension
Load / Line out / Speed monitoring
System / Health monitoring
Multi-unit control
Remote control
Synchronisation
Closed loop speed / Tension / Position control
Load damping

- In house software engineering team
- Solutions tested via simulation prior to physical function testing



ACE MANUFACTURING

Our manufacturing division is a solution provider with a proven track record in the design, manufacture, testing and installation of high quality standard and bespoke winch and other lifting, pulling and deploying equipment.

Our dedicated in-house design, engineering and manufacturing capabilities coupled with specialist expertise enable the production of tailored winch solutions within short lead times. All equipment is CE marked as standard and is designed in compliance with industry certification as required by the client.

Our team of qualified engineers, technicians and project managers can provide 24/7 support for our clients.

ACE Manufacturing provides:

- Engineering
- Survey Work
- Machining
- Fabrication Services
- Pipework
- Structural Steelwork
- Post Weld Heat Treatment
- Construction
- Painting and Coatings
- Electrical Installation



Machining Workshop

Our world class facilities at Towie Barclay Works include a heavy metal machining workshop providing clients with a choice of an extensive range of robust machinery to cater for all types of engineering requirements.

TOTAL FLOOR AREA:

- 835sqm

LIFTING CAPACITY:

- 10te overhead crane (under hook height of 4.5m)
- Various forklifts up to 35te

SAW CUTTING:

- 1 x bandsaw up to 600mm diameter

DRILLING:

- 1 x pillar and 1 x radial up to 5 morse taper; 1500mm x 1500mm x 850mm

MILLING:

- 2 x manual and 1 x CNC up to 1200mm x 650mm x 450mm

LATHES:

- 5 x manual and 2 x CNC up to 2500mm diameter and 4700mm long

HORIZONTAL BORERS:

- 3 x manual up to 2400mm x 1500mm x 400mm

VERTICAL LATHES:

- 3 x manual up to 2790mm diameter x 1880mm high

SHAPER / SLOTTER:

- 2 x manual up to 600mm stroke

SURFACE GRINDER:

- 1 x manual up to 500mm long

MACHINING:

- Large team of highly skilled and multi-disciplined machinists



Other ACE Workshop areas:

- Hydraulics and Service
- Electrical
- Paint Shop
- Assembly
- Dedicated Offices/Meeting Rooms

Fabrication and Welding Workshops

Our fabrication and welding workshop covers more than 1300sqm, with 10 fabrication and welding bays. Each bay can be extended to accommodate multiple projects, coupled with experienced and trained personnel.



TOTAL FLOOR AREA:

- 1300sqm

LIFTING CAPACITY:

- 2 x overhead cranes up to 20te single lift and 45te combined lift with an under hook height of 4.5m
- Various forklifts up to 35te

SAW CUTTING:

- 2 x bandsaws up to 1100mm x 600mm x unlimited length

DRILLING:

- 1 x pillar and 1 x radial up to 5 morse taper, 1500mm x 1500mm x 850mm
- Various drilling and tapping magnetic drills

WORK STATIONS:

- 10 x fabrication and welding bays each with protection screens, LEV extraction and 500kg overhead hoists

WELD PROCEDURES:

- All welders are qualified to multiple weld procedures in accordance with ASME IX, AWS D1.1 and BS EN 288-3
- Weld procedures to cover carbon steel, stainless steel, low alloy steel with PWHT, cast steel inlay and overlay with PHW

FABRICATION:

- Fabrication: various machines for rolling, pressing, shearing, punching, drilling, plasma cutting and grinding
- Skilled and experienced fabricators

WELDING:

- 14 x MIG/Mag water cooled welding machines up to 500amps (suitable for solid wire and flux core wire)
- 4 x AC/DC MMA machines up to 600 amps (suitable for MMA welding and Arc Air gouging)
- 3 x AC/DC high frequency pulse TIG machines (suitable for carbon, stainless, aluminium, pipework & sheet metal work)
- 1 x sub-arc machine up to 1000 amps (with column and boom)
- Various sets of pipe rotators and manipulators used with TIG, MIG, MAG, MMA and sub-arc welding
- Team of skilled and experienced multi-coded welders

PWHT:

- In-house post weld heat treatment of low alloy steels and cast steel

WELD PROCESSES:

- MIG, MAG, MMA, TIG and submerged-arc

ACE HIRE EQUIPMENT

We can supply a comprehensive range of winch and deck equipment equipment for rental on floating vessels, fixed offshore installations and land-based projects.

Our hire equipment fleet comprises of thousands of units, allowing mobilisation of unique packages to suit our clients' requirements. Whether short or long term rental, we are committed to the successful delivery of our clients' projects.

We can support our clients' projects with highly experienced project management teams, that manage all aspects of the project with safety as a prime focus, and supply hire personnel to install, operate and decommission the equipment.

All equipment is subject to rigorous testing and conforms to relative EU and International Safety Directives.

ACE Hire supplies full equipment packages required to complete operations in a range of applications, including:

- Mooring Systems
- Riser Installations
- Pipeline Pull-Ins
- SURF
- Heavy Lift Operations
- Well Intervention and IWOCS
- Topside and Jacket Installation
- Shore Approaches
- Offshore Wind Solutions
- Pipeline and Cable
- Wire and Umbilical Spooling



ACE HIRE PERSONNEL

Our highly skilled hire personnel support our clients by operating the equipment onsite. Engineers with a specific skillset to operate the equipment can be deployed, increasing the life span of the equipment.

We have decades of experience in the marine and offshore industry, and our hire team hold, as a minimum, full offshore safety survival certification.

Available to be deployed globally at short notice, our ACE Hire Personnel Division offers:

- Survey Engineers
- Applications Consultants
- Structural Design Engineers
- Hydraulic, Mechanical and Electrical Engineers
- Commissioning Engineers
- Winch Operating Technicians
- Wire Spooling Technicians
- Carousel, Powered Reel and Tensioner Operators
- Hose Reel Operators
- Offshore Riggers
- Rope Access Technicians



ACE SERVICE

We offer maintenance contracts, upgrades and commissioning services for our clients requiring the overhaul of existing winching equipment and deck machinery, whether originally supplied by us or a third-party.

We are an original equipment manufacturer, and global support is available 24/7 through our teams of qualified technicians. Master Service Agreements and Packages are available to our clients owning and operating ACE equipment and/or third-party equipment.

We are committed to supporting our clients to maximise operational efficiency, utilisation and capability whilst reducing equipment stoppage and loss of operation.

All equipment is subject to comprehensive testing prior to delivery. Our services also incorporate a product sourcing facility to supply third party products including wire ropes, hydraulic and electric components, and spare parts.

ACE Service offer the following:

- Offsite Commissioning
- Reverse Engineering
- Feasibility Studies
- FMECA and Engineering Surveys
- Product Support
- Product Upgrades
- Equipment Overhauls
- Survey Technical Support
- Global Service Contracts
- Master Service Agreements
- PLC and Electrical Troubleshooting
- Hydraulic Servicing
- Equipment Repairs



ACE WINCH ACADEMY

ACE Winch Academy provides training for all aspects of winch and spooling operations as well as a variety of associated training programmes and competence management systems, for both our clients and our employees.

Training frameworks are available with specific focus on developing competency to ensure safe-deployment, management and operation of winches and deck machinery. Our Winch Academy offers a series of core courses and bespoke programmes to meet our clients' needs, all of which can be delivered at the ACE Winch Academy or at the clients' operational site.

Our courses include:

- ACE Winch Familiarisation
- ACE Winch Awareness
- ACE Winch Operator
- ACE Winch Operator Advanced
- ACE Linear Winch Operator
- ACE Spooling Operator
- ACE Reel Drive System Operator
- ACE Standard Hydraulic Component Familiarisation
- ACE Overhead Gantry Crane
- ACE Lift Planning & Load Hazard Awareness
- ACE Working at Height
- ACE Manual Handling
- ACE Abrasive Wheels Awareness
- ACE Lifting Equipment Inspection
- ACE Wire Rope Socketing
- ACE Wire Rope Examiner/Inspection



Products

We specialises in lifting, pulling and deploying products for the oil and gas, marine, decommissioning, civil engineering and renewable energy markets.

Drum Winches

We manufacture a range of standard and bespoke drum winches, available in single or double drum configurations. Drum winches are designed to be utilised for hoisting, deploying, mooring and general pulling applications and, depending on the size and power requirement, can be hydraulically, electrically or pneumatically driven.

- 2 Tonne - 600 Tonne*
- Constant Tension
- Active Heave Compensation
- Abandonment and Recovery
- Lifting, Pulling, Deploying and Mooring Applications



Linear Winches

Our linear winches are engineered, designed and manufactured for a wide variety of applications requiring high line pulls. They are suitable for use in land-based shore pulls, offshore wire rope deployment and recovery operations, landfall, pipe-pulls, construction, salvage and other associated direct pulling operations.

- 10 Tonne - 800 Tonne*
- Automatic / Manual Socket Passing
- PLC Controlled
- Chain Linear Winch
- Wire Rope Linear Winch
- Continuous Pull
- Intermittent Pull
- Controlled Lowering



IWOCS Systems

We have a range of standard and bespoke IWOCS products available in configurations to meet clients project requirements.

- Launch and Recovery Systems
- Subsea Deployment Solutions
- PLC Controlled Spooling
- Constant Tension
- Hydraulic / Electric Drive
- Suitable for Hazardous Areas
- A-Frames
- Active Heave Compensation
- Docking Heads
- Adjustable Exit Angle



Products

Our products and services offer flexible options and tailored solutions. An extensive range of winches and marine deck machinery that are capable of operating in the harshest environments and markets.

Reel Drive Systems

Our Reel Drive System (RDS) supports a range of reel sizes to accommodate individual client requirements. The RDS is designed and manufactured for use in controlled, high tension spooling, deployment and recovery of subsea products globally from umbilicals, risers and flow lines, flexible pipelines, power cables, telecoms and tubing to wire ropes and mooring lines.

- 200 Tonne - 750 Tonne*
- Single or Multiple Reel Handling
- Reel Drive System Tracks
- Maximum Reel Dimension 12700mm Diameter
- PLC Controlled

Track Tensioner

Our track tensioners include a caterpillar track system for hauling or veering cable, umbilical, steel pipe or similar round tubular products.

The units have been designed for horizontal and vertical deployment. Enclosed within a lift frame the tensioners operate by gripping the product between two or four track carriages, where the track links are fitted with "V" shaped pads.

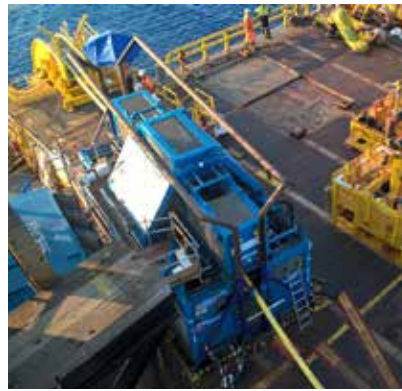
- 2 Track / 4 Track
- Constant Tension
- Multiple Product Types
- Tension Monitoring
- PLC Controlled

Chain Winches

We manufacture a range of chain winches which can be used for hoisting, deployment, mooring and general pulling applications.

Our chain winches are fitted with interchangeable large diameter chain lifters, each built to suit a particular chain size.

- 50 Tonne - 400 Tonne
- Constant Tension
- Double Chain Wheel
- Hang Off Plate
- Mooring Winch
- Abandonment and Recovery
- PLC Controlled



Products

We are the expert partner to manage the total project solution from concept design through to manufacture, testing, installation, commissioning, operation, training and client support.

Umbilical Reelers

Our umbilical reelers are designed to deploy and recover a range of hydraulic or electric/fibre optic subsea umbilical products. Our umbilical reelers are available as electric, hydraulic and air driven units, and can be supplemented with external HPUs were required.

- Hydraulic Driven
- Electric Driven
- Pneumatic Driven
- Hydraulic Umbilical Controls
- Electrical Umbilical Controls
- Hydraulic / Electrical / Fibre Optic Slip Rings



Hydraulic Power Units

Hydraulic Power Units (HPUs) are designed to provide power to a wide range of hydraulically driven equipment such as winches, A-frames, hose reelers, spooling winches and other hydraulically powered equipment.

- 5.5kW - 2MW*
- Electric / Diesel Hydraulic Power Unit
- Open / Closed Loop
- Safe Area / Zone II / Zone I
- DNV Frame Works
- Containerised Systems
- PLC Safety Systems



Fast Winch & A-Frame

Our fast winch and A-frame package consists of a compact high speed winch with high wire capacity and a hydraulically extending A-frame mounted together on a common base frame.

- 5 Tonne - 150 Tonne
- Hydraulic Operated A-Frame
- Line Load Read Out
- Constant Tension
- Fixed Boom
- Hydraulic Telescopic
- Hydraulic Extendable
- Scissors Type A-Frame



Products

With a broad range of capabilities we are the trusted partner with expertise and knowledge in products and services for the Oil and Gas, Marine, Renewable, Decommissioning and Civil Engineering markets.

Spooling Winches & Reels

We manufacture a range of standard and bespoke spooling winches, designed to facilitate the installation or removal of wire, rope or umbilicals from winches to storage reels under constant back tension.

- 10 Tonne - 500 Tonne*
- Wire Storage Winch
- Hydraulic, Electric and Pneumatic Driven
- Drill Line Spoolers
- Capstan Traction Tensioners

Rope Traction Winches

At ACE we manufacture a range of standard and bespoke traction winches, available in various configurations to suit different types of wire, fibre rope or umbilical product.

- 50 Tonne - 150 Tonne*
- Hydraulic Drive
- Double Drum Traction Winch
- Synthetic or Wire

Rollers, Sheaves & Fairleads

We manufacture a range of standard and bespoke rollers, sheaves and fairleads which can be designed, rated and orientated to guide the wire as required by the application.

- Fixed change of direction sheaves
- Swivelling change of direction sheaves
- Fixed over boarding sheaves
- Swivel head fairleads
- Roller box fairleads



Case Study - R&D New Technology and Products

A challenging new design for ACE Winches, our client required a significantly smaller riser pull-in equipment package than the traditional model to be incorporated into their existing framework on the main deck level on the Lucius spar platform.

With limited deck space and extreme operating depths, the linear winch also required to have the capability of delivering 550 Tonnes vertical force. By creating industry-leading innovation through our engineering expertise, we delivered this world leading product on time and within budget.

We provided the client with a solution offering a higher-line pull-to-weight ratio than conventional winches and equipped with a continuous pull feature allowing for a reduction in operational time while maintaining high levels of safety and delivering project success.

We are the first company to develop a product of this kind, providing safe, operational cost savings for the Buckskin deepwater development.

Our chief executive officer, Alfie Cheyne, said: "The limited deck space presented us with a challenge, but we overcame it with an innovative design delivering

a high quality, safe and cost-effective SCR solution, helping our clients reduce cost and improve safety and efficiency; important factors in today's industry climate.

"With over 25 years' experience in engineering and manufacturing lifting, pulling and deploying equipment, we were able to deliver the exact solution to the project. A recent £5 million capital investment programme in linear winches for our fleet offers client solutions for shore approach, beach pulling and SURF riser installation applications."

Committed to innovation our engineers actively challenge the industry norms. With expertise and experience across many sectors, we can deliver high quality projects and innovative designs to suit client needs on a global basis. We are experts in its field and are committed to delivering excellence to our clients.



Case Study - R&D New Technology and Products

Having been awarded two major contracts in the Gulf of Mexico using our innovative linear winch pull-in systems we continue to lead in the design, manufacture and hire of lifting, pulling and deploying solutions.

The first contract was awarded by Subsea 7 for the Shell Vito project, a deep-water discovery in the Gulf of Mexico approximately 241 km south of New Orleans.

We will provide the engineering, project management, manufacture, operational personnel, installation and pull-in of a single 14" export steel catenary riser (SCR) pipeline, a single 10.75" export SCR pipeline, two 10.75" SCR production flowlines, a single 10.75" SCR gas lift flowline and the dynamic umbilical system in a water depth of 1260m(4100ft).

The second contract award by Subsea 7 was for the BP Mad Dog Phase 2 project. This is a deep-water development located in the Southern Green Canyon area of Gulf of Mexico, approximately 320 km south of New Orleans.

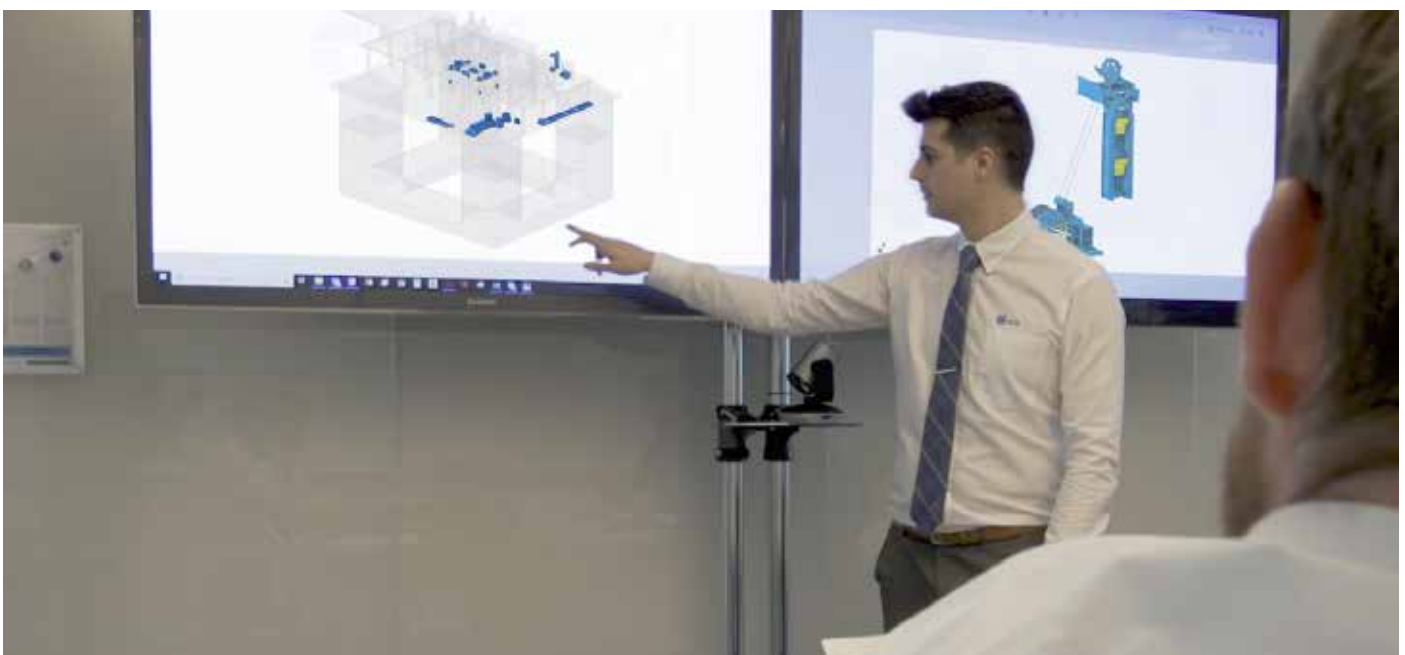
Our scope of supply included engineering, project management, manufacture, operational personnel, installation and pull-in of six catenary and three

flexible risers ranging from 8"-16" and four umbilical risers to the hang-off positions on the FPU in a water depth of 1380m (4500ft).

We worked closely with Subsea 7 to simplify and deliver an innovative and cost-effective riser installation solution from design through to delivery for both projects.

Our engineering and design team presented conceptual ideas to deliver safe and efficient riser installation solutions.

The linear winching system design has significantly reduced the winch deck footprint and deck structure loadings for riser installations. Had traditional approaches been considered, for example using a traditional drum or traction winch, the space requirements would have increased, creating additional on-board vessel production equipment infrastructure integration challenges.



Site Buildings

Our headquarters site area is 134,169m² in which 79,485m² is the Manufacturing Facility and 53,133m² is the Hire Facility.

MANUFACTURING CAPACITY	
AREA	SQ M
Area 1 - Machining Workshop	835m ²
Area 3 - Maintenance Workshop	135m ²
Area 4 - Fabrication Hall	1300m ²
Area 9 - Electrical Workshop	1176m ²
Area 10 - Hydraulic Workshop	620m ²
Area 11 - Assembly Workshop 1	415m ²
Area 12 - Assembly Workshop 2	415m ²
Area 13 - Despatch Area	210m ²
Area 15 - Paint Shops	245m ²
Area 16 Washbed Area	180m ²
TOTAL SITE AREA	5531m²



DESIGN AND OFFICE CAPACITY	
AREA	SQ M
Area 17	140 m ²
Area 20	300m ²
Area 23	200m ²
Area 24 Office Building (GF)	1370m ²
Area 24 Office Building (FF)	1175m ²
TOTAL SITE AREA	3185m²



YARD AND STORAGE CAPACITY	
AREA	SQ M
Area 18	10000m ²
Area 22	16500m ²
TOTAL SITE AREA	26500m²



Testing Facility

Our testing centre delivers function testing, spooling and mobilisation of equipment. Load testing, brake testing and proof loading are all carried out by experienced and trained technicians.

The size and capacity of the test facilities enables us to replicate on site project configurations to fully test packages to clients' specific testing requirements.

Within our test centre, there are indoor fully covered 200te and 400te test beds to deliver spooling operations for all umbilical and wire rope testing. Within the test centre there are additional test bed capabilities of testing up to 800te dynamic load and 1000te brake and pull test, complete with a 150te test tower for simulating operations offsite.

Test beds available on-site:

- 200te static test bed
- 400te static test bed
- 800te dynamic test bed
- 1000te static test bed
- Test Tower - 150te dynamic

TESTING AND SPOOLING CAPACITY	
AREA	SQ M
Area 23 Indoor Testing	1500m2
Area 23 Outdoor Testing	200m2
TOTAL SITE AREA	1700m2



Safety and responsibility

Our number one priority is Health, Safety, Environment and Quality. With robust management systems in place and a deep rooted culture of safety and responsibility, we are accredited to and fully comply with the following safety standards.

QUALITY

BS EN ISO 9001: 2015 Quality Management

A comprehensive, co-ordinated quality management system demonstrates commitment to continual improvement.

ENVIRONMENTAL RESPONSIBILITY

BS EN ISO 14001: 2015 Environmental Management

We are compliant with environmental regulations and recognised industry standards, continually seeking to protect and enhance the natural environment. We promote environmental practices to assist in long term sustainability.

HEALTH AND SAFETY

ISO 45001 2018 Occupational Health and Safety Management

Health and Safety processes are an integral part of our working practices - safeguarding the well-being of our team and clients.



YOUR PARTNER OF CHOICE



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