FORUM ENERGY TECHNOLOGIES

everything remotely possible™

Perry® Submarine Rescue System
OkseaTech (End User: Turkish Navy or Indonesian Navy)
QTE210230 rev.0
27th May 2021

Company Overview

Energy Technologies is a global oilfield products company, serving the subsea, drilling, completion, production and infrastructure sectors of the oil and natural gas industry. The Company's products include highly engineered capital equipment as well as products that are consumed in the drilling, well construction, production and transportation of oil and natural gas. Forum is headquartered in Houston, Texas, with manufacturing and distribution facilities strategically located around the globe in areas that are strategic to energy exploration and production. For more information, please visit www.f-e-t.com.

Forum has assembled some of the most well-known brands in the industry. The company's products, designed to solve customer challenges from the sea floor to refinery, include drilling equipment and spare parts, valves and flow control equipment, subsea remote operating vehicles (ROVs), surface production process equipment such as separators and pressure vessels, and pipeline equipment and applications.

With over 2,000 personnel around the globe, Forum's experienced employees are dedicated to helping customers improve safety and performance while optimising their operating costs.

Forum Subsea Technologies is a leading provider of subsea related products and services. Forum's extensive product line focusses on remote intervention technology with the capability to provide everything from a complete trencher to tooling and individual components.

The Perry and Sub-Atlantic® range of Remotely Operated Vehicles (ROVs), tether management systems, tooling and components is one of most comprehensive in the industry.

Other subsea products include Dynacon winches, launch and recovery systems (LARS); VMax™ simulation software and Visualsoft data acquisition software.

Forum's subsea engineering expertise is enhanced by its renowned range of Moffat products including subsea pipeline inspection gauge (PIG) launch and recovery systems and subsea connectors.

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Introduction

FAO : OkseaTech (End User: Turkish Navy or Indonesian Navy)

Subject: Request for Quotation – Submarine Rescue System & ROV System

Dear Sir,

In response to your request Forum Energy Technologies (UK) Limited is pleased to offer OkseaTech (End User: Turkish Navy or Indonesian Navy) this budgetary proposal for the supply of:
- Perry® LR Submarine Rescue Vehicle
- Submarine Handling System (A-frame)
- Remotely Operated Vehicle (ROV) System

Forum Energy Technologies (FET) has recently completed its most sophisticated Submarine Rescue Vehicle (SRV) to date. Characterised by a robust design, and incorporating all the latest technologies available, the SRV has been developed to become the world's most advanced rescue submersible and with an operational life of up to 25 years.

Named LR11 and built for a foreign navy in the Asia-Pacific region, this is the latest SRV built by Forum following the success of previously delivered systems including the NATO Submarine Rescue System (NSRS) which entered service in 2008 and "remains the benchmark", according to industry.

The Perry® LR Submarine we propose here is designated LRX and includes all the features of LR11.

For the ROV, we have proposed two options, based on our latest highly successful & proven models: Work Class: Perry® XLX-C ROV System & Observation Class: Sub-Atlantic® Comanche ROV System.

Regarding the Transfer Under Pressure System (TUP), we assume that this will be OkseaTech's scope of supply.

We offer guidance and technical support for the integration and acceptance by the client and certifying authority. Once completed and in operation, Forum can then provide a service package which includes assistance for maintenance, repairs and spares.

We can also provide both 'in house' and 'field service' training programmes to enable the operation and maintenance personnel to effectively, efficiently and safely support the submersible systems and underwater operations. The through life support of your vehicle(s) is an important consideration, and we look forward to the opportunity to discuss how the support package offered can be further best tailored to meet your operational and maintenance needs.

We sincerely hope that FET's budgetary offer meets with your approval. We would welcome the opportunity to discuss this project in more detail with the aim of agreeing a defined scope of work with specifications.

Please do not hesitate to contact the undersigned with any queries you may have and we look forward to your further instructions.

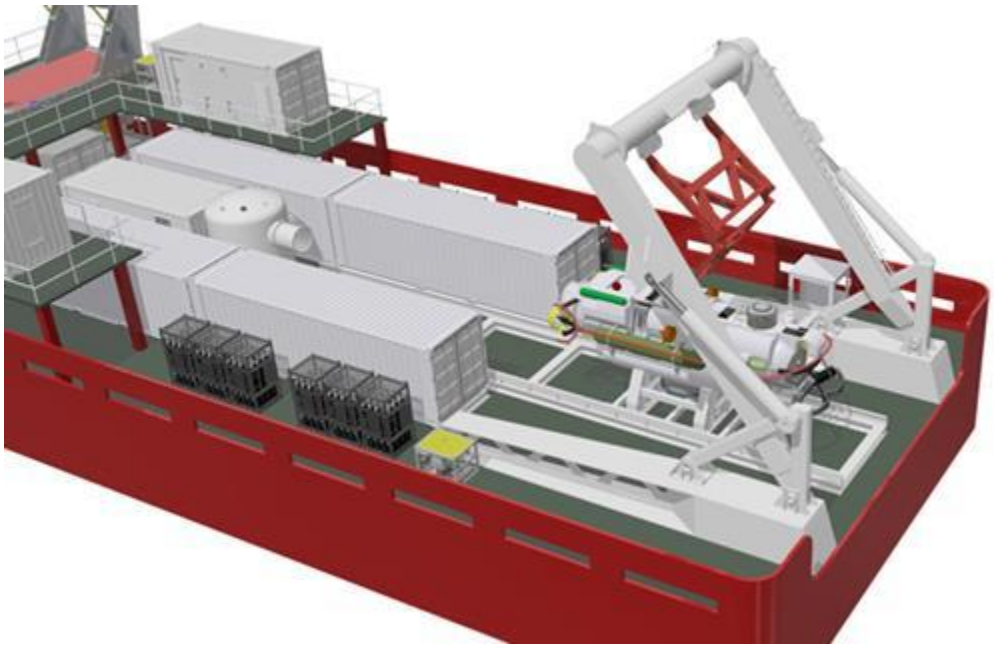
Yours faithfully,
Simone Pizzolato
Commercial Manager— Forum Energy Technologies – Subsea Vehicles

Contents

1. General Information

1.1. INTRODUCTION TO SUBMARINE RESCUE

With over 500 military submarines in operation worldwide and 24 major incidents reported in the last decade alone, the requirement for a rescue system has never been higher.
The rescue system in this proposal utilises the latest technology to ensure submariners have the maximum chance of survival.
A high-level order of operation (assuming submariners have been subject to hyperbaric conditions) is as follows:
Stage 1 – DISSUB (disabled submerged submarine) located and Vessel arrives at Location.
Stage 2 - IROV Launched and investigates site & clears debris as required.
Stage 3 - SRV launched and connects to DISSUB (IROV Monitors operation).
Stage 4 - Submariners transfer to SRV and recover to surface.
Stage 5 - LARS recovers SRV onto Deck Cradle.
Stage 6 - Deck cradle moves SRV and mates Rear Hatch with DTL (Deck Transfer Lock).
Stage 7 - Submariners transfer from SRV to DTL.
Stage 8 - Assessment & Decontamination before transfer to DDC (Decompression) Chambers
Stage 9 - SRV is redeployed, and rescue process from Stage 3 repeats.
Stage 10 - All Submariners have gone through DTL to DDC and completed decompression.



Typical deck layout

1.2. LRX SUBMARINE RESCUE VEHICLE

Forum's latest model of LR-class rescue submersible includes many innovative features incorporating the latest design and analysis techniques to produce an innovative, lightweight, code compliant solution to satisfy the most demanding of requirements.
LRX is a single piece hull constructed predominantly from Q1N submarine steel, the entire submersible is designed, built and tested to Lloyd's Register Rules & Regulation for Submersibles.
The system is designed, built and tested in Forum's state of the art facilities in Kirkbymoorside, North Yorkshire (UK) which includes a 600 cubic meter test pool and a hyperbaric chamber which facilitates testing of the SRV up to her 750m test pressure (or up to 2400m where required). The in-house capabilities twinned with an experienced aftersales support team provide Forum with a distinct advantage over its competitors.
The system is free-swimming (i.e. no umbilical) and relies on state-of-the-art batteries to sustain continuous dive cycles with minimal charges between missions. Operation relies on a three-man crew – Pilot, Co-Pilot and Rescue Chamber Operator. With this configuration LRX can rescue up to 17 rescues per dive.

Housed in cylindrical pods each side of the SRV are the Rechargeable Energy Storage Systems (RESS), which are based on the most suited lithium chemistry available to provide maximum performance, lifespan, and safety. The RESS is made up of six batteries to provide energy for the propulsion and life support systems and has the ability to provide redundancy for each of these critical systems. The submersible uses the latest automotive technologies incorporating CANBUS networking as well as the High Voltage Interlock Loop (HVIL) safety feature. These supply power to pair of 20kW electric propulsors which provide forward thrust, as well as a pair of 46kW hydraulic power units providing fluid power for auxiliary thrusters and a multitude of control and tooling systems. Power conservation and redundancy were primary considerations during the engineering phase –and incorporate of many advanced technologies to conserve power and provide back-up in the event of a failure.

SRV's provided by Forum are typically designed to operate throughout the world at 500m to 650m water depth, this is not a limitation of the technologies but constrained by the operating/crush depths of the distressed submarines; – Forum can supply a craft to operate at any depth required, with vast experience of supplying ROV's where typical depths are 4,000m and above

Key Features:

➢ Can transfer rescued crew directly to decompression facilities onboard the rescue mothership at pressures up to 5 bar

➢ Powered by Lithium Ion batteries, recharged between dives, with sufficient energy to recover the entire crew from the largest military submarines

➢ Propelled by direct-drive electric thrusters, with hydraulic propulsion for close manoeuvring and emergency backup

➢ Able to operate independently of the mothership once launched, the mothership does not have to hold station during the rescue mission

➢ Rescue is effected via a transfer "skirt" between the Distressed Submarine and SRV, that is pumped dry after the rescue vehicle docks with the submarine

➢ Can carry out rescues from submarines resting at angles of up to 60°, in both pitch and roll

➢ Launch & Recovery Systems (LARS) that permit continuous operations in severe weather conditions

➢ LARS incorporates a vehicle transport and alignment system for simple connection to the mothership's decompression facilities

➢ Designed to the latest design codes and classification (Lloyds Rules and Regulations, PD5500, ASME

An outline specification of the SRV is attached – note that this list is not exhaustive, and all specification is subject to confirmation.

2. Technical Specification

2.1. PERRY LR SUBMARINE SYSTEM

LRX General technical specification:

SPECIFICATION:	
Environmental Parameters*	In air operating -5 to +45°C In water operating up to 32°C Operating humidity range up to 90% Storage -10 to 60°C
Operational sea state	*Latest code (or equivalent) used at contract award. Governed by suitability of the handling and recovery system, and by the ability to deploy divers. Design is based on Sea State 5-6 Significant Wave Height 3.9m as per Lloyd's Rules Lifting Appliance Marine Environment 2017 (Table 4.4.1)
Design Guides & Classification*	Classification of Submersible and Underwater Systems Lloyd's Register: Code for Lifting Appliances In A Marine Environment PD5500 Specification for Unfired Fusion Welded Pressure Vessels The ASME Code for Pressure Vessels for Human Occupancy (used for design of acrylic view ports) *Latest code used at time of contract award
Length overall	9.7m +/- 0.5m
Width	3.2m +/- 0.25m
Height	3.4m +/- 0.25m – including mating skirt
Total maximum weight in air	28,000kg +/- 5% (S.G. 1.000 - 1.03)
Rescue chamber capacity	18 total (17 rescues plus 1 attendant), dependant on life support requirements
Command module capacity	2 total (pilot and co-pilot)
Total capacity	20 persons
Max operating depth The submersible will be designed, tested and certified by Lloyds to a maximum dive depth of 500m. All functions and systems will operate as per specification	600m (60 bar)
Pressure hull test depth	840m (84 bar) – Witnessed by Lloyds Register

Crush depth	1000m (100 bar)
Sea water ballast tank	Internal (RC and CM)
Air buoyancy tanks	External tanks (forward, mid & aft)
Air storage tanks	2 external bottles (port & starboard)
Oxygen storage tanks	4 external bottles (port & starboard)
Trim weight (Pitch)	Adjustable pitch control via internal water tanks
Trim weight (Roll)	Adjustable roll via hydraulic port/starboard movement Can be jettisoned in an emergency
Pitch trim capacity Roll trim capacity	+/-40° +/-30° Note: To achieve greater angles, please consult
Speed (with mating skirt fitted)	Forward 3.0 +/- 0.2 knots Reverse 2.0 +/- 0.2 knots **Cruise 1.5 +/- 0.2 knots @ 8 hours duration **Depending upon sea conditions
Main propulsion	2 off electric powered propulsors inc. vertical swivel axis (forward/reverse thrust) Propulsors can be swivelled by +/- 20 degrees
Auxiliary thrusters	2 off hydraulically powered side thrusters inc. swivel from 0° to 90° (vertical & horizontal direction thrust) 2 hydraulically powered thrusters, fixed, mounted forward and aft (lateral direction thrust)
Control modes	Manual and autopilot
Navigation and communication	North seeking gyro compass, flasher/strobe, Pinger locator. DVL, altimeter, obstacle avoidance sonar CM and RC intercom system Deck Comms, VHF radio Under water telephone consisting of SRV transducer(s) and top side unit. Note – ship transducer supplied by shipyard (TBC)
Battery-powertrain, instrumentation and control	Battery modules housed in port & starboard battery pods. Includes traction modules and instrumentation module. Can be jettisoned in an emergency
Battery - Emergency	Lead acid batteries
Life Support consisting of:	
Life support - oxygen normal	*Approx. 12 hours for 20 persons
Life support - oxygen emergency	*Approx. 96 hours for 20 persons
CO2 absorbent - Normal	*Approx. 12 hours for 20 persons*

Life Support Kits	Individual kits, containing CO2 absorbent, rations, life Jacket, space blanket, light stick and goggles
Lift point (normal)	Main single point lift (for LARS) Double lift point (crane lift) Main lift – manual or hydraulic detachment during deployment. Manual assisted during recovery to interface with LARS / crane
Lift Point (emergency)	Soft strops for emergency recovery from sea bed to surface only
Towing Assembly	Forward & aft tow point. Aft with hydraulic detachment during deployment. Fwd manual
Conning tower	360° view acrylic hemispherical window Attached to reinforced ring in pressure hull Self-weight hinged and locking mechanism
Command Module	The control functions are contained in and operated from panels sited on the port and starboard walls of the compartment. Air and oxygen controls system are contained The control equipment includes steering, ballast controls, environmental controls, sonar, auto-pilot, gyro, underwater telephone, VHF radio, echo sounder, intercom, video system.
Pilot and Co-pilot	2 persons During transfer under pressure between the rescue chamber and the DISSUB, hatch#3 between the two chambers is closed so that the two crew in the command module are not subjected to the higher pressure.
Rescue Chamber	18 persons. Quantity of accommodated people in one mission: (1 RC operator plus 17 rescues).
Rescue Capacity	Quantity of rescues: 17
Transfer under pressure	Mating to TUP from rear of RC (aft hatches)
Rear Annulus (TUP interface)	To provide access for the attendant and rescues to and from the RC and to provide the interface with the deck reception chamber on the mother ship enabling the rescues access to the de-compression chamber.
Rescue Chamber Hatches	Quantity of hatches: 4
Command Module Hatches	Quantity of hatches: 2 Hatch#3 (bulkhead hatch) is shared between both chambers therefore total hatches is 5
Transfer Skirt	The dry mating (DMS) skirt provides a structural link between the pressure hull of LR11 and the disabled submarine.

Fairings	Fairings are fitted to provide the submersible with an external surface that is clean in order to perform the following: To protect externally-mounted equipment against impact and sagging. To provide a flat and level upper surface to aid diver access during launch and recovery and to aid maintenance access. To provide an externally smooth surface to aid the vehicles hydrodynamic profile and minimise drag.
Buoyancy	There are multiple separate buoyancy modules on the vehicle assembly
Battery Pod Assemblies	Battery pod contain the traction battery modules and instrumentation module. Each of the battery pods can be jettisoned individually should one of them become flooded or entangled
Main Propulsion	The main propulsion consists of two aft mounted, electrically-driven thrusters and port and starboard bow planes. The port and starboard bow planes are actuated together using the main hydraulic circuit. Speed control of the two electric thruster motors is provided by variable speed drives. The propulsors are mounted on vertical pivots allowing them to be swivelled approximately 20° port and starboard.
Auxiliary Propulsion	The auxiliary propulsion system consists of four hydraulic thruster units Each midships thruster is mounted onto a shaft which pivots on bearings. The transverse thrusters are fixed to the vehicle frames and do not tilt. The two hydraulic power packs (port & starboard) are mounted externally to the main pressure hull.
Trim Weight System (Pitch)	The pitch trim weight system consists of internal ballast tanks located inside the RC and CM. Water ballast is used to adjust trim.
Trim Buoyancy System (Roll)	The roll trim weight system consists of a fixed mass which can be moved laterally. This is achieved by moving the mass port/starboard using a hydraulic actuator.
Air System	The air system is divided into two - the main and reserve systems.

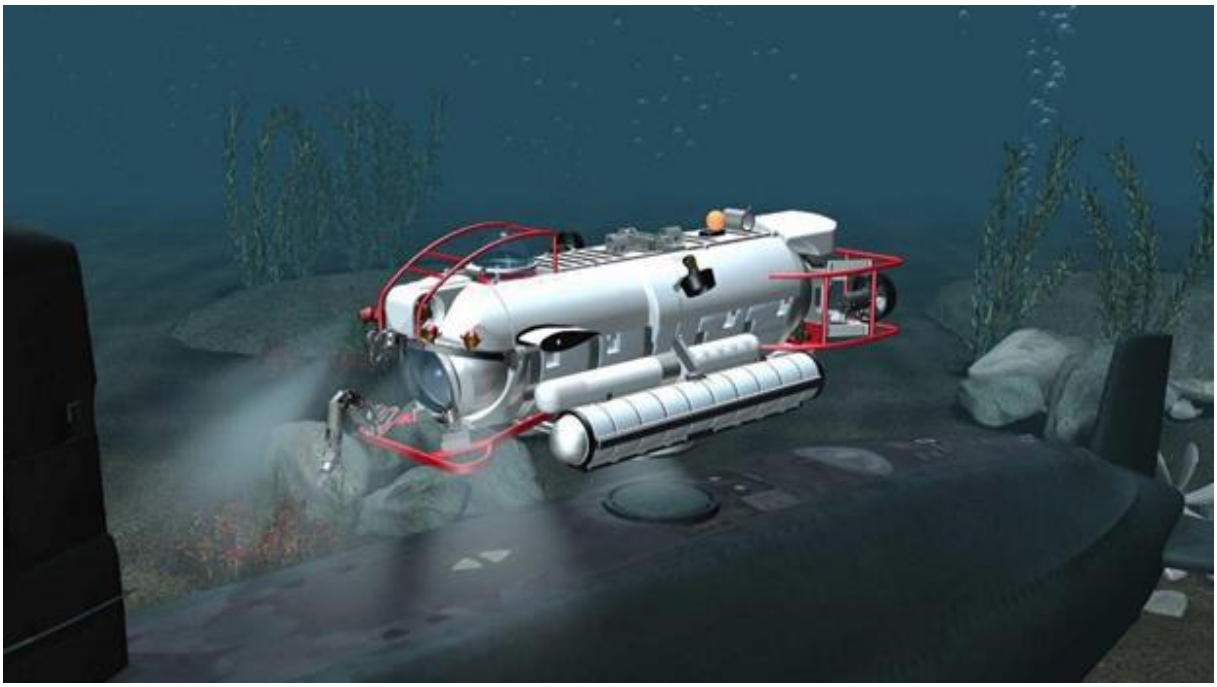
Main Hydraulic System	The functions driven from the main hydraulic system are as follows: Main propulsion swivel controls Auxiliary propulsion Bow planes control Side auxiliary thruster tilt Skirt water ejector motive pump Skirt flood valve Jetting pump Lift line release Tow line release Manipulators Cable cutter Camera pan and tilt Trim weight
Main Hydraulic System Power Packs	The power packs convert electrical energy from the batteries into hydraulic power for the main hydraulic system. Two identical power packs are provided. Each power pack is divided into two parts, the electric motor and the hydraulic pump and reservoir enclosure.
General Function Valve Packs	The general functions valve packs provide control of all functions except the thrusters, which are controlled from the thruster valve pack, and the manipulators which has its own separate valve pack.
Thruster Valve Pack	The thruster valve pack provides control for the auxiliary thrusters and isolation of the manipulator valve pack.
Emergency Hydraulic System	The system consists of a hand pump, fitted with an inbuilt pressure relief valve, this is used to pressurise a simple control system. Control is by operation of ball valves to select function. The system controls: Ejection of the battery pods Release of the emergency buoy Ejection of the drop weight Emergency control of the main propulsion swivels Emergency control of dive planes Emergency control of dry transfer flood valve

Battery System	Electrical energy is provided by two sets of batteries, one set in each of the port and starboard battery pods. Each pod set comprising a set of batteries for traction power and one for control, instrumentation and life support power. The battery system provides electrical power for all on board systems. The battery system is provided with a battery management interface to monitor status (current, voltage, capacity etc.) and performance at all times. A full graphical display of battery condition is provided inside the command module. In addition to the primary batteries, an additional pair of sealed lead acid batteries is connected in series to provide a 24V emergency supply. This is incorporated into the 24V distribution system. Additional power can be provided as an option. Please contact us for details.
Insulation Resistance Monitoring	This monitors the integrity of the main and emergency systems and displays values of insulation resistance between these supplies and earth.
Electrical Penetration System	An extensive series of penetrators and cables is provided to interconnect the internal control and power distribution system with the external equipment sensors etc. Penetrators are also provided to transfer power and signals across the command module/rescue chamber bulkhead.
Alarm system	The alarms system detects alarm conditions from a number of sensors The following alarms are provided: a) Water Detectors • Command Module • Rescue Chamber • Port and Starboard Battery Pods • HPU's • Propulsion Control Pods b) Temperature Switches • HPU's • Propulsion Motors & Pods c) Pressure Switches • Maximum Depth • Hydraulic Reservoir
Temperature Monitoring	The following temperatures are monitored and displayed a) HPU's oil temperature b) Seawater temperature

Sonar	A Sonar System will be provided comprising of a sonar processor in the command module and a Sonar Head externally mounted above the bow thruster at the forward end of the submersible.
Autopilot and Steering Control	Steering of the submersible may be performed in either manual, or automatic (autopilot) modes.
Gyro System	The Gyro System consists of a North Seeking fibre optic gyro unit with integral pitch and roll measurement. The output from this gyro is used to provide the autopilot heading reference.
Typical Video Cameras and Monitors	Low light cameras Colour zoom cameras Monochrome cameras Colour video monitors Digital Video Recorder
External Lights	A series of external lights are provided, arranged to provide good all round illumination. Each are strategically sized and positioned to assist in docking manoeuvres and personnel transfer.
Underwater Telephone	An underwater telephone system will be provided complete with frequency transducers, one for upward communications the second for communications below the submersible. The up-transducer is mounted near the conning tower of the submersible the down-transducer on the underside of the pressure hull between the battery pods.
VHF Radio	The VHF radio provides communications between the submersible and the support vessel (on deck) during launch and recovery operations
Oxygen System	The oxygen system provides breathing oxygen for the vehicle occupants. The system is divided into the main and reserve sections. Each has its own storage cylinders, charge point and entry into the hull.
Carbon Dioxide Removal	The vehicle's CM and RC are provided with electrically driven scrubbers to remove the carbon dioxide via an absorbent. Each rescue is also equipped with a kit in the event of failure of the powered scrubber units or in an emergency.

Air Built In Breathing System (BIBS)	The BIBS system allows for three users in the command module and eighteen users in the rescue chamber. Thus providing for one man in addition in the command module Each station is provided with a shut-off ball-valve in case of failure of the regulator. Each BIBS unit consists of a regulator feeding a face mask via a flexible hose.
Tooling	7 function rate-controlled manipulator provides a dextrous arm capable of performing external manipulative tasks. The Manipulator system comprises a hand controller, a valve pack and a robot arm. Low Pressure Water Jet Pump Cutter and Pressure Intensifier Cut wire rope up to 38mm diameter.
Emergency Lifting	Provision is made for lifting LR11 off the seabed and near to the surface of the sea in the event of major submersible malfunctions. The emergency lifting capability is provided by two soft lift strops.
Fire Detection and Extinguishers	Fire extinguishers are provided both in the rescue chamber and the command module

DOCUMENTATION	
Operation manuals	Yes
Maintenance manuals	Yes
Equipment certification manuals (originals)	Yes



2.2. LRX LARS FOR SUBMARINE RESCUE SYSTEM

General technical specification:

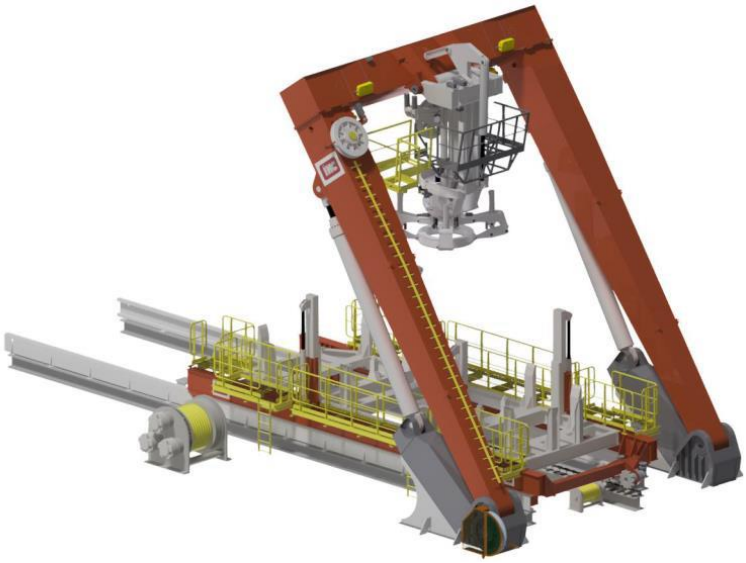
SPECIFICATION OF LARS	
SWL	30,000kg (+/-2,000kg)
Length	13m (+/-2m)
Width	10 m (+/-2m)
Weight	Maximum 100,000kg
Power consumption	270 kVA (Estimated)
Material	Structural carbon steel painted
Electro/Hydraulic Operated System	Yes
Surface Finish	Paint - Standard marine grade specification

The LARS will consist of the following main systems:

- A-Frame
- SRV Stabilising Unit
- SRV/LARS Attachment Lift Point
- Main Lift Winch
- Guide/Tow Line System
- Deck Reception Cradle (to traverse the SRV from touch down to mate with the TUP chamber)
- Hydraulic Power Unit
- Hydraulic System
- Control System
- Deck Interface

This offering builds upon a LARS supplied previously for SRV recovery, it is a proven system with enhanced features to enhance operation.

The illustration below shows the FET LARS solution:



2.3. EMERGENCY LIFE SUPPORT (ELSS) PODS

General technical specification:

Maximum Overall Diameter:	350 mm
Overall Length-Including lifting handle:	1043 mm
Internal diameter of Main Stores Volume:	301 mm
Length of Main Stores Volume:	705 mm
Typical buoyancy of empty container:	26.2 kg (in seawater)
Typical weight of container assembly:	55 kg
Working Depth:	650 m
Test pressure (external / internal)	96 bar / 5 bar

The Forum Perry ® Emergency Life Support Stores (ELSS) containers are pressure tight pods used by Navies as part of a distressed submarine rescue system. In the event that a submarine becomes stranded on the seabed, ELSS containers are posted into the submarine's hatches to deliver life preserving stores to the crew until a full rescue can be mounted.

The ELSS pod is designed to be nominally 10 kg negatively buoyant in seawater, which enables it to be delivered to the Submarine by a swimmer, an Atmospheric Diving Suit (ADS), a Remotely Operated Vehicle (ROV) or the Rescue Submersible itself.

Each ELSS container comprises a cylindrical pressure vessel with a removable end cap fitted with a lifting handle. The payload of the container can be varied using a combination of ballast weights, which keep the weight in water of the container constant.

The ELSS pod is fully compliant with NATO STANAG 1391 "Requirements of a distressed submarine for the receipt of Emergency Life Support Stores (ELSS) by pod posting".

2.4. EMERGENCY LIFE SUPPORT (ELSS) POD CATCHING NET

General technical specification:

Forum can also provide pod catching nets. These enable the safe delivery and recovery of the ELSS pods to and from a DISSUB's escape tower, without the risk of damaging or flooding the tower.

The ELSS Pod Capture System allows the ELSS Pods to be transferred into the Escape Tower of a Distressed Submarine (DISSUB) underwater by diver or remotely operated vehicle (ROV).

The ELSS Pod Capture Assembly has been designed in accordance with STANAG 1391, Edition2, Requirements of a Distressed Submarine for the Receipt of Emergency Life Support Stores (ELSS) by Pod Delivery.

Forum's Pod Catching Nets can be adjusted to fit any hatch type on different classes of submarine.

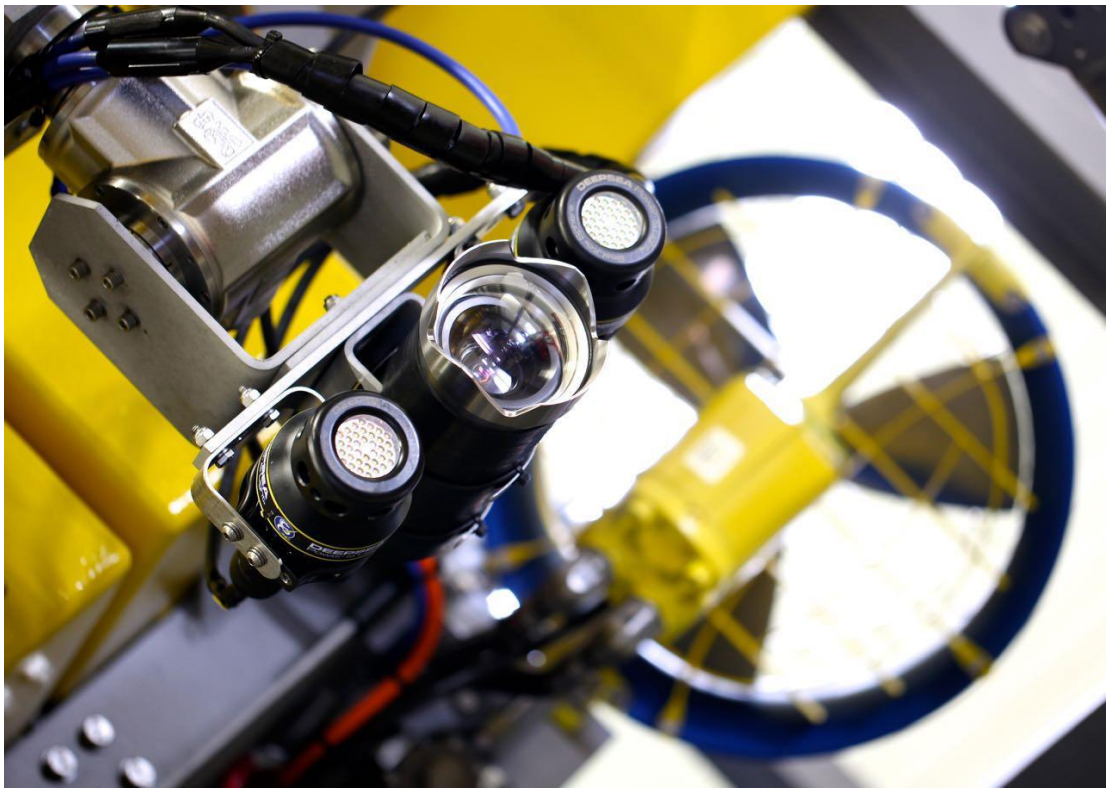
3. Our HSE Vision and Objective

Forum Energy Technologies is committed to protecting the health and safety of our employees, our customers, and preserving the environment in the communities where we do business. One of our core values is Making Health, Safety, and the Environment Personal – We take personal responsibility for our safety and personal ownership of our impact on the environment. Forum strives to continually improve our HSE process to achieve an incident-free workplace.

At Forum we believe that all injuries and accidents are preventable. Every employee is responsible not just for their own safety but for the safety of their co-workers. Our goal is to develop a culture where making safe and environmentally conscious decisions is an everyday behaviour for all employees.

Our HSE Principles:

- Value human life above all else and mitigate risks accordingly
- Comply with all HSE laws and set higher standards for ourselves when unacceptable risks are identified
- Maximize transparency reporting by accurately measuring and analysing our performance
- Do not compromise HSE for the sake of profit or production
- Become actively engaged in the communities where we do business
- Promote sustainable development by incorporating social responsibility, environmental renewal, and economic growth in our decision-making process
- Hold all employees accountable for implementation of our HSE Vision, Objective, and Principles



4. Supply Chain

FET are in an enviable position with regard to reliance on major subcontractors. Due to previous acquisitions, we now have internal supply of major component parts of the system such as thrusters, buoyancy and WROV LARS. This not only gives us better control of deliveries and pricing but means we can work closer during the equipment design phase to ensure highest possible system integration.

In addition to the above, we have built up close working relationships with a number of third-party equipment and service providers and are often directly involved in their technology development programs. This allows us to accurately reflect our Clients feedback and future requirements and help us to provide the most cost effective and suitable equipment available.

All third-party equipment and services are selected using the Forum Energy Technologies Supplier Evaluation Procedure.

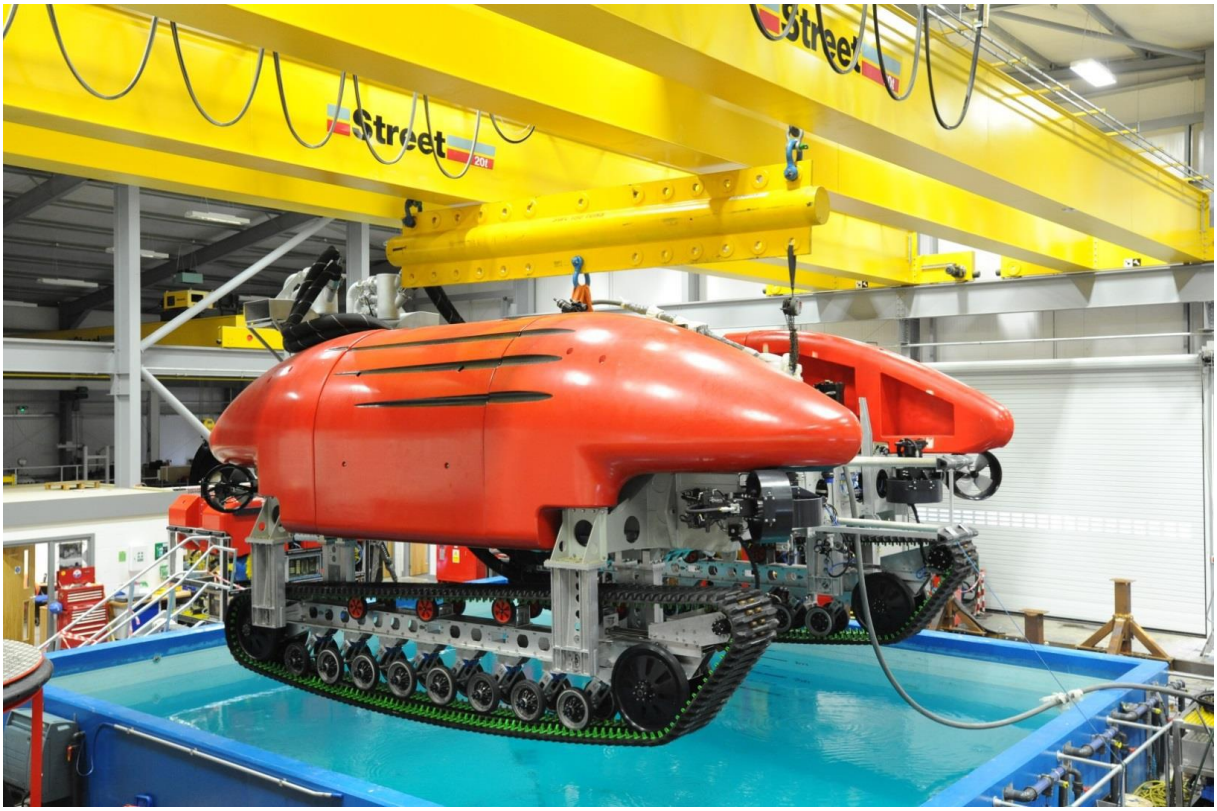
5. Training & Operational Support

5.1. FACTORY ACCEPTANCE TEST (FAT)

This proposal includes provision of FAT at supplier's facilities in Kirkbymoorside, North Yorkshire. This will be carried out in accordance with agreed FAT procedure and IMCA guidelines as well as DNV lifting appliances and other applicable standards, laws and regulations.

Our acceptance tests are extremely extensive and include full submersion and operation in our dedicated test tank facility.

Our philosophy is based around our OROV, WROV and Trencher systems working "straight out of the box". This has been demonstrated with Clients taking delivery of new designed vehicles such as a new design 1200HP trencher that was operational for over 28 hours on its first offshore assignment.



5.2. FACTORY TRAINING

FET can provide training which consists of various durations of formal classroom and hands-on training for up to 6 students.

Training sessions can be carried out at a worksite(s) to be agreed.

Each course is planned with classroom-based training. Access to Client's System would be desirable and will enhance delegate learning.
Previous experience of training such as this indicates optimum learning with a maximum of eight delegates on each course.

A Pre and Post training evaluation question paper will be completed by each delegate to provide a measurable benchmark for knowledge gained. Questions are practically focused. Worked examples & questions on maintenance, fault-finding & system expansion will also be covered during the course

Where required, Customer will be responsible for providing translation services for delegates unable to work/learn in an English Language training environment.

5.3. MOBILISATION OF SYSTEM ON-BOARD VESSEL

FET would also like to offer optional support during the 1st mobilisation of SRV/ROV system on-board vessel:

Usual personnel supply from FET is detailed in the Scope of Supply.

Description of support:

- Support the installation of equipment on-board vessel;
- Demonstrate termination method of umbilical fibre optics and copper conductors (if applicable);
- Power up and testing of complete Control System, including testing the safety monitoring equipment;
- Assist with pre-dive and post-dive checks;
- Support the 1st dive.

The above assumes that the following actions have been completed by the client:

- All mechanical installation (including any installation load tests) of SRV, ROV, LARS, control, power, workshop & spare vans to be carried out by the Client (lifting from quayside onto vessel and positioning).
- Main system hook up to vessel is the vessel electrician's responsibility.

FET will expect that the system will be in a state of readiness for when our personnel arrive to ensure their time is maximised.

In the event that the personnel are needed for more than the above budgeted days, FET can supply extra days at a daily rate for any additional time spent due to insufficient access, services, manpower, equipment or tools available at the time.

6. Service Life

The Equipment supplied will have a Service Life of 10 years from the date of completion of Factory Acceptance Testing. Within the 10-year Service Life, the following benefits will apply:

- The original purchaser of the System will be protected from obsolescence of components, parts and subassemblies. Within the Service Life, Seller will conduct the engineering and market research necessary to provide owners/operators with alternatives to parts and components used within the relevant System.

- The original Buyer of the System will receive Technical and Operational Bulletins which will be distributed to inform the Buyer of significant safety, operational and/or technical matters relating to relevant System.

- The original Buyer of the System will enjoy direct Technical Support via telephone, free of charge and on a 24 x 7 basis, 365 days a year.

- As the System nears the end of the 10-year Service Life, the current owner of the System will be given the opportunity to elect for a 'Life Extension (LEXT)' of the System. In relation to Service Life, a system which undergoes a LEXT will continue to enjoy the benefits of Obsolescence Protection, Technical and Operations Bulletins and Technical Support via telephone, free of charge and on a 24 x 7 basis, 365 days a year.

Where extensive or extraordinary technical support is requested by the customer, technical support would then be provided on a day-rate basis applicable at the time.

The FET – Perry Customer Service Hotline is manned 24 hours a day, 365 days a year, to provide comprehensive and uninterrupted technical support and emergency parts sales.