Perry Slingsby Systems

Perry Slingsby Systems is the leading supplier of deepwater work-class ROV and tooling solutions to the oil and gas and telecommunications industries, providing the most advanced, robust and dependable ROVs in the world, with facilities in the U.S., UK and Asia, and sales offices and agents around the world.
Solutions

Our dynamic research and development team is always in the field or at the drawing board, listening, observing and responding to the market with the most advanced control system technologies and solutions in the world.

• ROVs and Trenchers
• Standard Tooling Systems and Custom Intervention Solutions
• Defence Systems
• Deepwater Controls and Process Products
• Geotechnical and Seabed Systems
• Simulation
• Deepwater Education
• Support Services
ROVs

The development of much of the offshore oil and gas and telecommunications industries over the past four decades has been successful in large part due to deepwater technology from Perry Slingsby Systems. From the Triton® MRV, TXL, TXLS to the TXLX and TXLR, we continue to lead the industry with the most robust and dependable ROVs and tooling systems in the world.

Perry Slingsby Systems’ range of experience has produced the following, well-known work-class ROV products, including:

- Triton® XLP
- Triton® XL
- Triton® ST
- Triton® SP
- Triton® ZX
- Triton® MRV
- Scorpion™
- Viper™
- Trojan
- Spartan
- Olympian
- Voyager®

Control Systems

Perry Slingsby Systems has developed its next-generation control system, termed “ICE™” for Integrated Controls Engine™. The new control system design takes advantage of our known “best-of-breed” designs for highly reliable control systems, blended with modern technologies to form a highly advanced, multipurpose control system. ICE is a blend of proprietary hardware and software designs, which together, form a general purpose control system engine that can easily accommodate varying control applications. Specifically, these designs can be adapted to, but are not limited to, subsea control applications such as Remotely Operated Vehicles (ROVs), subsea trenching, cable burial, plowing systems and tooling systems.

A combination of touch screens and hard controls are used to form the most ergonomic user interface required by each customer. The displays on the touch screens can be customized in the field and saved for each user login.

Tether Management System

The Tether Management System® (TMS) stores and deploys the ROV tether cable so that the ROV is decoupled from motion of the surface vessel and is able to operate at a larger radius. Perry Slingsby Systems offers both top-hat and garage-type systems, including types fitted with thruster systems for even greater operating radius.

The latest generation Perry Slingsby Systems TMS has more capacity and faster speed with gentler tether handling for extended service life.

Robotics

Complementing the engineering and production of ROVs and trenchers is our wide variety of manipulator systems. This technology is constantly advancing as operator requirements move beyond the capability to grab or hold onto items, to more delicate and complex tasks.

Our most popular robotic solutions have included:

- TA09
- TA36
- TA60
- Hydrus
- TA16
- TA40
- TA80
Standard Tooling Systems and Custom Intervention Solutions

Whether the requirement is for ISO/API standard intervention tools or for a custom project, we deliver products that perform consistently in hostile, deepwater environments. These include:

- Torque tools from the largest class 7+ at 35,000 ft. lbs. to class 1 at 50 ft. lbs.
- Running tools for control pods and chokes, including:
  - Diver operations
  - Direct hydraulic
  - Fly-to-place
  - Lift line with interfaces
- Electronics-in-oil system for applications such as real-time proportional torque tool control and sophisticated intervention controls in which safety is paramount
- Custom Intervention Solutions
  - Pipeline Heating
  - HW Skid
  - Pipe Recovery System
  - Pipe Removal
  - Offshore Platform Foundation; Ballasting and Installation Control System

Applications:
- Cutting Tools
- Fluid Injection Skids
- Flying Lead Work Skid
- Nuclear Cutting Tools
- Tool Deployment Units

Trenchers and Submarine Cable Plows

Utilizing powerful water-jet technology, Perry Slingsby Systems has produced a full line of Triton® trenching and cable maintenance vehicles, ranging from the robust Triton® T200 to the powerful Triton® T1000. These outstanding vehicles have buried much of the existing subsea cable and pipeline that exists around the world today.

For extended offshore burial, Perry Slingsby Systems has designed a versatile line of submarine cable plows. These robust machines have buried thousands of miles of cable in the seafloor.

Perry Slingsby Systems’ range of experience has produced the following seabed burial products, including:

- Triton® T1000
- Triton® T800
- Triton® T750
- Triton® T500
- Triton® XL250
- Triton® T200
- Triton® ST200
- Submarine Cable Plows
- Flexjet®
- Gator™
- Cirus
- Scarab
- Olympian T
Defence/SRVs

Perry Slingsby Systems has been involved in the design, manufacture, testing/commissioning and operation of manned submersible rescue vehicles (SRVs) since the production of the first "LR"-class submersible in 1974. Today's SRVs free fly under battery power, are capable of diving to depths of 600 meters to rescue up to 18 submariners per dive, and are piloted by a three-man crew. They also have many new and innovative design features to aid and assist in the rapid and safe rescue of a distressed submarine crew, such as:

- Onboard hyperbaric facility
- High-strength structural steel hull
- A large view port that gives the pilot and two crew members 360° visibility from the conning tower
- Propulsion and control systems powered by the latest traction battery technology for the efficient use of energy
- Increased depth capability to 600 meters
- Air transportable for rapid deployment

SRV system includes:

- Intervention Class ROV (IROV) for locating and surveying distressed submarines (DISSUB) and delivering the emergency life-support stores (ELSS)
- Emergency underwater telephone used to establish first contact with the distressed submarine
- Deck located control rooms
- Launch and recovery systems
- Power generator and emergency lifesaving system pods

Defence Products

Much of the technology developed by Perry Slingsby Systems for the oil and gas industry has been further developed for applications in military markets.

- ROVs
- Manipulator arms for torpedo recovery
- Remotely controlled land vehicles for bomb disposal

Perry Slingsby Systems is proud to be recognized as the manufacturer of choice by so many of the world's navies.
Controls and Process Products

As intervention and process control equipment become more sophisticated, advanced control systems are needed to collect and distribute the data to the end user. Perry Slingsby Systems’ Control System Technology offers field-proven solutions to new product developments requiring these control systems. With a suite of highly reliable hardware components and flexible software modules, a custom control system can be quickly assembled to meet the functional needs with minimal risk.

Perry Slingsby Systems’ Control System Technology provides remote control capability to subsea and harsh environments, including:

- High-reliability control systems for the permanent subsea service
- Intervention controls with multiple layers of redundancy and contingency
- Fluid power and data and electrical systems for subsea, nuclear and other difficult zones

Harsh operating zones require controls solutions that are robust and resilient. They must include robust mechanical details that can survive high stock loads and extreme ambient pressures and temperatures. They must have resilient controls protocols that can tolerate data interruptions and provide advanced power segregation and multiple control paths. They also must always include comprehensive diagnostics.

Perry Slingsby Systems has used its Control System Technology expertise to develop and deliver control systems for various high-reliability applications, including:

- Subsea Production Wellhead Control
- Well Intervention Equipment
- Nuclear Intervention Equipment

Potential future applications of our Control System Technology include:

- Subsea Boost Pumps
- Subsea Separator Units

Whether it is an electro controls package or a full electrohydraulic control system, Perry Slingsby Systems has field-proven technology to offer.
Geotechnical and Seabed Systems

Geotechnical engineering drives the design of systems for jet trenching, cable burial, seabed trenching and suction piling equipment. It is also the inspiration for many of the innovations and advances that Perry Slingsby Systems has introduced into this field. Geotechnical investigation products are highly specialized tools and systems that can be used for a variety of in situ testing, measuring, drilling and coring tasks at the seabed.

Mineral Exploration Campaign with Perry Slingsby Systems

Perry Slingsby Systems developed two ROV-mounted and integrated drilling and coring rigs that were instrumental in a significant mineral exploration campaign offshore during 2007. The rigs were deployed in 1,700m of water and successfully recovered a total of over 100m of core samples from a massive sulphide deposit field.
Simulation Systems

The journey to new and unforgiving depths has demanded greater and greater skills from mission planners, ROV pilots and other key professionals in the industry. Simulation Systems enable critical subsea mission planning and training with minimal impact to limited resources and assets.

• Integrated Mission Rehearsal Simulators: XL, XLS, XLX, XLR
• Stand-alone, Full-up Training Simulators: XL, XLS, XLX, XLR
• Desktop Project Simulators

VMAX Software Suite

The VMAX® project simulator is a comprehensive and powerful tool used by engineers to help in the design process of procedures, equipment and methodologies. The software can be installed on most modern workstations and introduces the user to the world of physics-based simulation for the offshore environment.

Simulation Systems can:

• Create a wide range of physics-based operational scenarios
• Provide detail and focus in one area or broaden the scope to allow a fly-through of an entire subsea field
• Help ensure safety for the project, job and equipment
• Decrease risk; work is virtually tested and planned out
• Increase cost-effectiveness by increasing efficiency and reducing risk in the field
• Create interactive marketing media
• Help project teams communicate effectively using an interactive 3-D environment
Deepwater Education Center

This world-class training center is dedicated to preparing ROV pilots and technicians for the most demanding offshore missions. Taught by industry experts, the courses combine lecture and hands-on training in the very latest deepwater technology. Students of all skill levels, from beginners to skilled operators, gain realistic and valuable experience that can be applied right away in the real world.

ROV Induction Training

This comprehensive training spans four weeks and includes hands-on experience with:

- **Electronics:**
  - AC and DC circuit principles
  - Serial communications
  - Computer hardware

- **Fiber Optics:**
  - Introduction to fiber optics technology
  - Understanding different types of fiber cables
  - Evaluating loss with power meter and light source

- **Hydraulics:**
  - Principles of fluid power
  - Hydraulic symbols and circuit diagrams
  - Construction and operation of pumps and more

- **Advanced Perry Slingsby Systems Training:**
  - Perry Slingsby Systems’ ROVs
  - Tether Management System (TMS)
  - Electrical, hydraulic and control systems
### Additional Training

- Engineering for ROVs
- High Voltage Safety
- Subsea Tooling & Instrumentation
- Rigging & Lifting
- Health, Safety & Environmental Awareness
- Introduction to ROVs

Custom training packages can also be arranged on a global basis.

### Support Services

Your Perry Slingsby Systems experience does not end when we deliver a completed system. Clients have ongoing needs and Perry Slingsby Systems is there to meet those needs. This service philosophy is one more quality that distinguishes us from our competitors. Our value-added services include:

- Presales and post-sales engineering services
- Project support that eases the learning curve of customers
- Various training services working to industry guidelines (IMCA)
- A wide range of testing services, either on an integrated or individual basis (hydrostatic testing, wet testing, load testing, and the design and build of test rigs)
- Fast and highly accessible through-life technical support for all our systems
- Access to engineering and documentation related to the product
- 24-hour hotline
- Access to a feedback database and single point of contact
Experience, Dedication, Vision

Perry Slingsby Systems has the experience, dedication and vision to provide clients with working solutions to their remote intervention needs. For nearly half a century, we have solved customers’ challenges with design and engineering innovations that have become the industry benchmark of reliability and cost efficiency.

From offices and agents around the globe, Perry Slingsby Systems offers a worldwide support network that is available to customers 24 hours a day, 365 days a year. Production is carried out at two facilities: one in Kirkbymoorside, near York, England, in a 48,000 sq. ft. plant, and the other in Jupiter, near Palm Beach, Fla., USA, in a 45,000 sq. ft. plant. Sales functions are conducted at both facilities and from sales and service offices in Houston, Texas, Aberdeen and Singapore.

Contact Perry Slingsby Systems today for your most challenging deepwater missions.