Introduction

- Petrological Integrated Solution - PEINSO, leading integrated modern technology solutions, mechanical, electronic and software services provider, offers world class quality onshore and offshore solutions and services that enable large, as well as small to medium organizations to keep up-to-date with the fast evolving competitive business environment.
- PEINSO was Founded originally with professional & experienced partners In a field of oil & Gas Offshore survey.
Our Services include but are not limited to:

- Positioning Services
- ROV inspection Services
- Geophysical Analogue & Digital Survey
- Geotechnical Services
- Subsea services
- ROV & Intervention Services
- Education & Training
Positioning

- Land Survey

Introducing the world’s most advanced techniques in land survey, and cooperating with the world’s leaders in providing land survey equipment such as Trimble, Topcon, and Leica, PEINSO offers its valued customers a great deal of land survey capabilities such as:

- **GPS Campaign.**
- **Topographic Survey.**
- **Precise Well Positioning.**
- **Tachometry, Traversing, Leveling and setting out.**
- **Measurements of angles and Distances for Triangulation.**
Positioning

- Offshore Positioning

PEINSO introduces a unique offshore positioning package to support our offshore positioning services which include, but are not limited to:

- General Marine Applications Positioning.
- Jack Up Rig Moves.
- Semi Sub Rig Moves.
- Anchor Handling.
- Veripos differential services, including Ultra, Standard+, Standard, and HF services.
Positioning

- Offshore Positioning

Here is a sample of the equipment we use in our offshore positioning package:

- LD2 Veripos_Subsea-7 latest GPS receiver with a dual frequency GPS, provides a unique performance.
- Verify (By Veripos_Subsea-7) Computation and QC software.
- NaviPac (By Eiva) Navigation Software.
- Meridian Surveyor Gyro Compass. (Made By TSS)
- Veripos differential services, including Ultra, Standard+, standard, and HF services.
**Positioning**

**Anchor Handling**

In addition to the positioning package PEINSO introduces Thales Tracs Telemetry System to be used in Anchor Handling Operations.

**Thales Tracs have multiple usage such as:**

- Anchor Positioning in Semi-Sub Rig Moves.
- Vessels Tracking from a master station.
- Anchor Positioning in Barges Moves.
- Tail buoy tracking in high res. survey.... etc.
Positioning

Anchor Handling

The idea and the simplicity in the Tracs system comes from its combined GPS/UHF receiver/antenna. In real time operation, each tug is accommodated with a Tracs unit (GPS/UHF antenna and a receiver). This system on each tug is capable of exchanging position and GPS correction data with the master unit on the rig/barge or wherever enabling the user at the master station and on each tug to monitor the whole operation during towing, anchor handling, or even monitoring.

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Sea level

Rig / Barge

Anchor chains

Tug

Correction/Positioning Data
Hydrographic & Geophysical Survey

- Bathymetric Survey
  - Single Beam Echo Sounder

  In single beam echo sounders, the E/S measures the water depth only along its track, and output this measurement to the navigation software to be logged. Following the survey, this data is processed to provide a contour for the surveyed area.

  We have our own equipment and personnel who are experts in acquiring and processing bathymetric data and producing final reports and charts.
Hydrographic & Geophysical Survey

- Bathymetric Survey
  - Multi Beam Echo Sounder

The same operation as the single beam, but water depth is measured both along track and across track to a certain distance depends on the equipment specifications. In this way, the multibeam has more coverage the single beam E/S, and provide very accurate contours for the surveyed area. And, the output data is more like a 3D display of the survey area.
Hydrographic & Geophysical Survey

- Bathymetric Survey
  - Multi Beam Echo Sounder

Data Samples
Hydrographic & Geophysical Survey

- **Side Scan Sonar “SSS”**

  We have the capabilities of imaging the seabed to provide a demonstration of the sea bed features and the difference between different types of soil. Normally SSS consists of two transducers fixed on a fish and looking side ways, and in operation the SSS fish is towed behind the survey vessel. SSS can produce an image of the seabed up to 600m across the survey track, meaning 300m each side.
Hydrographic & Geophysical Survey

Sub Bottom Profilers “SBP”

- Sub-bottom profiler is simply a device used to create a profile for the seabed bottom. Normally, this is required by the clients prior to any design operation, like choosing a pipe route; designing the route, designing an anchor pattern etc.

- We introduce different sorts of profilers such as Pinger, Chirp, Boomer, Sparker, and Mini Gun.
Under Water Positioning “USBL”

Ultra Short Base Line, normally used for positioning under water sensors/features such as SSS/SBP fish, wellheads or ROV. A beacon fixed on the fish or the ROV interrogates with a transducer fixed on the survey vessel producing Range and bearing data used to determine the position of the beacon. (Sensor)

In PEINSO, we have our own systems of underwater positioning to provide our clients with the such a service to support offshore operations.
Magnetometers

The Magnetometers system is particularly well suited to the detection and mapping of all sizes of ferrous objects. This includes anchors, chains, cables, pipelines, ballast stone and other scattered shipwreck debris, munitions of all sizes (UXO), aircraft, engines and any other object with magnetic expression. Objects as small as a inch screwdriver are readily detected provided that the sensor is close to the seafloor and within practical detection range.
Geotechnical Survey

Also, in PEINSO, we have the capability of providing different sorts of Geotechnical survey, including grab samplers, gravity cores, CPT, Box core, vibro core...etc.

➢ Grab Sampling

In hard soils or in sites where it is hard to get a sea bed gravity sample or up to the job requirements, here comes the option of using Grab sampler a simple method to get a sample of the seabed.
Geotechnical Survey

Gravity Coring

Seeking for the safest method of providing seabed gravity sampling. PEINSO offers its valued costumers the latest method of having gravity samples without the usual risks accompanied with the traditional methods.

Deep Water Coring is under processing
ROV Services

PEINSO has its own fleet of ROVs which is growing rapidly to cover all areas of survey, also we are a certified and operating member of the International Marine Contractors Association IMCA. Our pilots / technicians are trained to IMCA standards. Services include, but are not limited to:

- **ROV Drilling Support**
- **Construction Support**
- **ROV Cable Lay Support**
- **Rig Move Support with ROV**
- **Seabed bottom walk and survey with ROV**
- **ROV Pipelines, platforms, and wellheads Inspection**
Pipeline/Platform inspection

- Visual Soft

Visual Soft

- Viewing of video direct from your desktop PC.
- Instant access to and viewing of video clips.
- Saved costs – lower downtime/faster reporting/quicker access.
- Simple and easy distribution of video data to other users via CD/DVD or electronic means.
- Enhanced access to information using databases/reports linked to indexed video information.
- Significant reduction in the number and volume of media required to store the video archive.
- Automatic and rapid generation of indexed reports containing video stills and clips.
Education & Training

• Total solutions for offshore & onshore industry PEINSO Consultancy Service:
  With our proficiency, we can help your company accomplish its goals by using our consultation in various fields.

• Education & Training
  We provide education in new and emerging technologies, guiding your company and helping it make use of them to implement them into your system.
Our courses:

- Introduction to offshore survey.
- Hydrographic survey.
- Positioning and Nav. Systems.
- Offshore survey Engineering.
- Underwater inspection.
- Hydrographic survey data processing.
- Commercial ROV introduction and familiarisation.
- Commercial ROV technical course.
- Offshore commercial ROV Practical Training.
- Underwater positioning course.
- Commercial Work class ROV technical.
- Underwater intervention.
Our services also include, but are not limited to:

- Underwater Special tools.
- Positioning services.
- Hydrographic Survey.
- Geophysical Survey.
- Geotechnical Survey.
- Hard & Software Solutions.
- ROV & Intervention Services.
QHSE

• PEINSO Management Believes that minimizing loss is as much important as profit Maximization; thus, they were keen on establishing rigorous and proactive HSE system to implement loss prevention programs and policies, in order to achieve highly protected risk status.
• PEINSO leaders are held accountable for demonstrating correct HSE behaviors, and set proper HSE example, to ensure that our people at all levels are responsible and accountable for achieving HSE objectives.
• PEINSO management set up annual HSE objectives, and develops methods and plans to achieve the goals.
• PEINSO management fosters a working environment that support and encourages open communication about incidents and HSE related issues.
• PEINSO employees at all levels are actively involved in the development and implementation of the HSE systems; they are required to know and follow safe work practices and demonstrate safe behaviors.
Pipeline stability analysis

- Lateral and axial response parameters
- Backfill and upheaval buckling
- Free-span analysis
- Design of secondary stabilization systems
Data Deliverable Samples
Data Deliverable

- Side Survey Charts
Data Deliverable Samples

- Visual Review

It is a video and data viewer that clients can use to review survey results. The layout can be configured as required, with up to four video windows, and with both text and graphical displays of survey data.
Data Deliverable Samples

- Pipeline Inspection Chart
Data Deliverable Samples

- Inspector Client Review

It is a video, 3D model and data viewer that clients can use to View all data linked together.

Provided with frame grabber to make snap shots and video clips for the reporting stage and data exporting tools.
Digital Recording

- Visual Soft

Track Plot

VisualWorks Pipeline Inspection

Video
Digital Recording

- Visual Soft

FMD

VisualWorks Platform Inspection
CERTIFICATE

RoyalCert, certifies that the management system of the organization has been assessed and found to be in accordance with the requirements of the related standard

ISO 9001:2015

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Scope
OFFSHORE SURVEY AND ROV UNDERWATER INSPECTION AND TRAINING SERVICES FOR PETROLEUM SERVICES ACTIVITIES

Certification No : 03820/PET0PD
Initial Certification Date : 14.06.2017
Issue Date : 14.06.2017
Expiration Date : 13.06.2018
Revision Date : 14.06.2017
Revision No : 0

Certification Manager

IAF

Dakks

Deutsche Akkreditierungsstelle
D-2M-18550-03-00

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