



GEOSEIS SERVICES

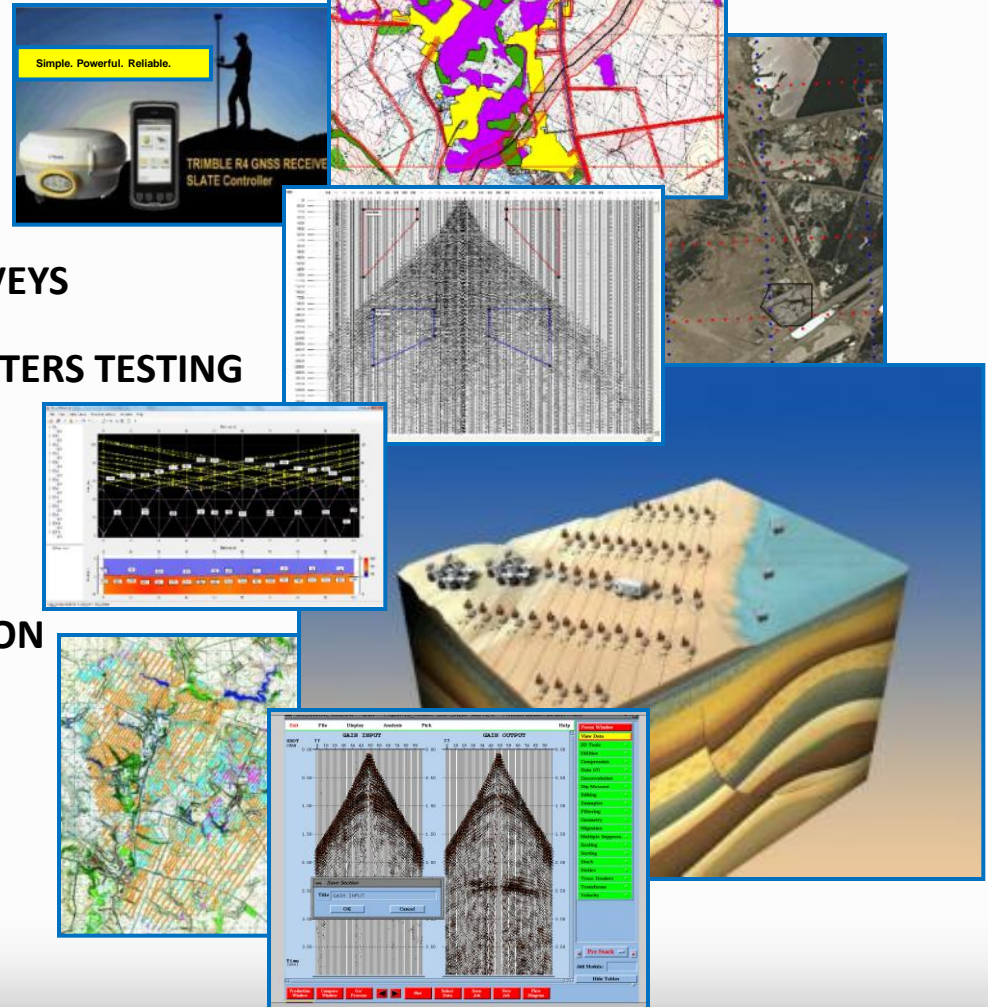
2019

SEISMIC DATA ACQUISITION DEPARTMENT

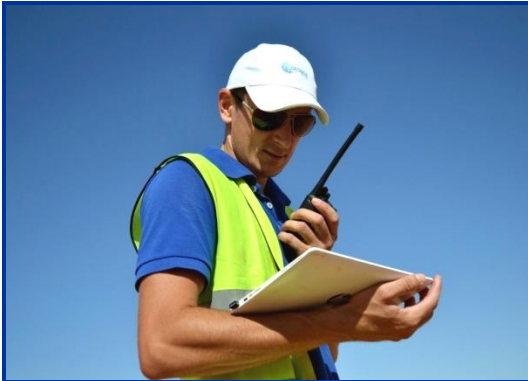


GSS PROVIDES A FULL RANGE OF FIELD WORKS :

- 
PLANNING AND DESIGN
- 
SCOUTING AND PERMITTING
- 
GEODETTIC AND TOPOGRAPHIC SURVEYS
- 
TECHNICAL AUDITING AND PARAMETERS TESTING
- 
FIELD SEISMIC DATA ACQUISITION
- 
LOW VELOCITY LAYER STUDYING
- 
QUALITY CONTROL AND SUPERVISION
- 
DATA PRE-PROCESSING
- 
DATA STORAGE AND DELIVERING

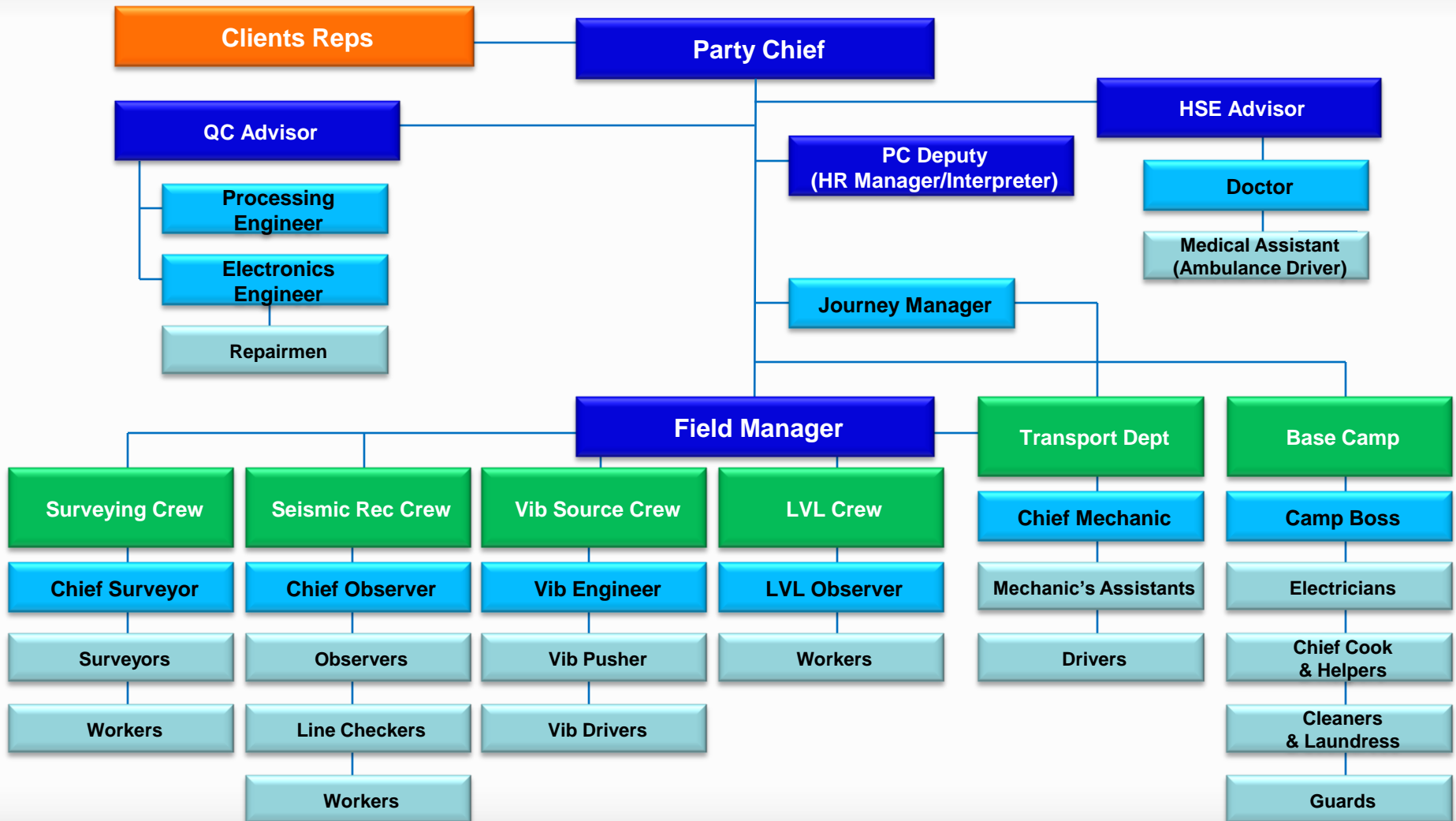


- ▼ **GSS has highly qualified and experienced personnel that operates in strict compliance with the Integrated Management System QHSSE.**





PERSONNEL – FIELD SEISMIC CREW ORGANIZATIONAL CHART





GSS has a fleet of modern vehicles, various equipment, hardware and software allowing it to perform high-quality and high-productivity geophysical services in various conditions.



Toyota Hilux Pickups



Iveco Recorder Truck



Iveco Cargo Truck



Seismic Vibrators NOMAD 65 NEO



Ural Impulse Source Carrier



Shantui Dosers SD22 and SD32



TRANSPORT – HEAVY VEHICLES (URAL)



Recorder Truck



Personnel Trucks



Cargo Trucks



Fuel Truck



Impulse Source Carrier



Cargo/Passenger Truck



OTHER VEHICLES AND EQUIPMENT



Nissan D22 Pickups




Argo 8x8 All Terrain Vehicles



Shantui Swamp Doser SD16



- 
GSS Base Camp infrastructure includes comfortable and safe living facilities for seismic crew personnel, offices, workshops for equipment maintenance, warehouses for the storage of materials and spare parts, etc. All facilities are in compliance with IOGP safety standards.



EGY CAMP



Sleepers



Offices



kitchen



Cooler-freezer



Laundry



Workshops



Bathroom



Mosque



Labs



Generator



Recreation



Mess hall



MCC room



Clinic



Gym



www.egycamp.com



- **RECORDER – WirelessSEISMIC RT System 2 (USA) – 4600 channels.**
- **RECORDER – SCOUT (RUSSIA) – 4100 channels.**
- **SOURCES – vibs Sercel NOMAD 65 NEO (FRANCE) – 11 pcs.**
- **SOURCES – pulsed IDM-108 (UKRAINE/RUSSIA) – 12 pcs.**
- **GEOPHONES – HT-20DX (CHINA) – 57000pcs, HT-5 – 12400pcs.**
- **POSITIONING – Trimble GPS R6 (USA) – 12 sets.**



WirelessSEISMIC RT System 2

- The only available today cableless seismic recording system providing real-time data quality control.
- Combines all advantages of cabled and cableless systems.



MAJOR ADVANTAGES:

- System compactability and reliability
- Operating in areas where cabled systems cannot be used
- Unit location automatic positioning mode
- Real-time layout parameters control and that of each field unit
- Real time data transmission or recording to the built-in memory (4 GB)
- Up to 22 days continuous battery operation
- Any external group of geophones connection
- Roughneckproof and sealed case (IP67)

wirelessSEISMIC

Real Time Matters



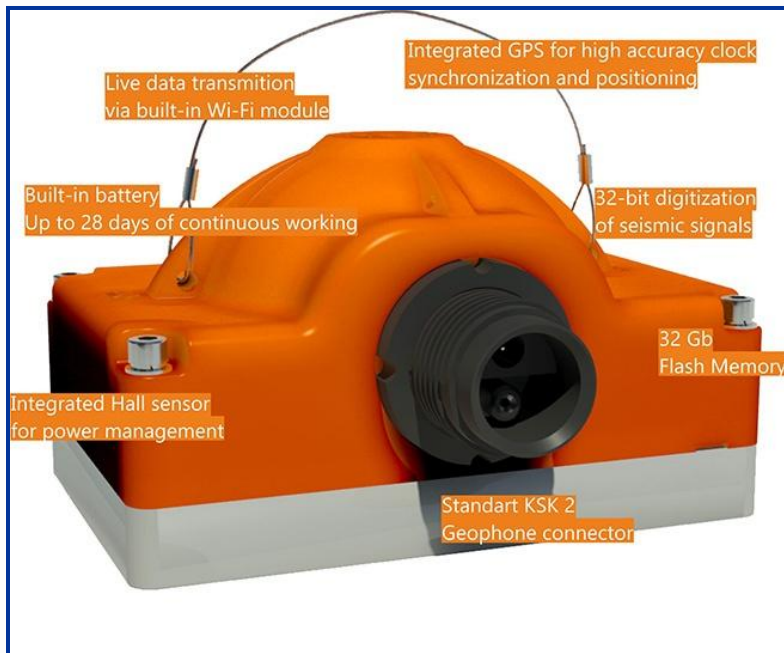
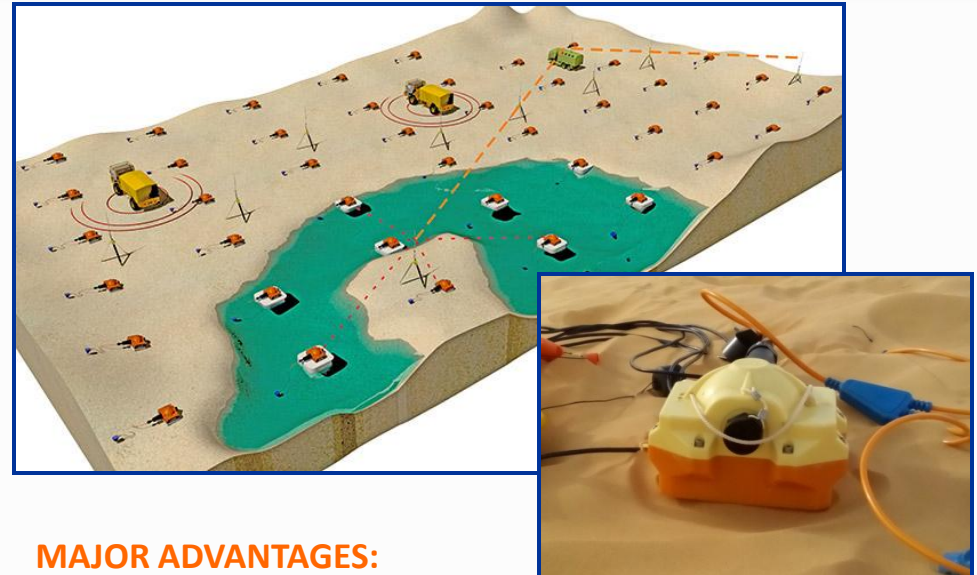
Using cableless recording systems we conduct high quality seismic surveys easier, faster, safer and cheaper.



RT System 2

SCOUT - Cableless (Nodal) Data Acquisition System

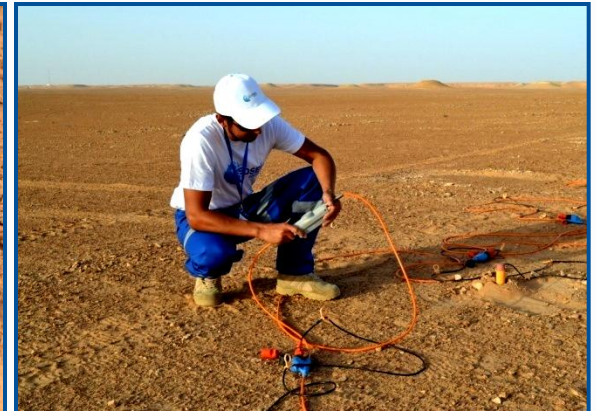
SCOUT – cableless data acquisition system is designed for 2D, 3D, 4D seismic projects and to provide ease of layout when it comes to difficult terrains or in sensitive environments.



MAJOR ADVANTAGES:

- System compactability and reliability ;
- Operating in areas where wire systems cannot be used;
- Unlimited number of channels;
- Wireless data acceptance without retrieval of the field unit from seismic line;
- Up to 28 days of continuous operation due to the built-in battery;
- Connection for external geophone pattern of various configuration;
- Operation with three-component geophones (single- and three-channel version) of field units).

PROGRESS T3 - portable cable telemetry seismic data acquisition system adapted for real-time QC & low-velocity layer (LVL) studying



T3-Portable system designed for rapid 2D/3D operations on the land and in transition zones. The system is based on the central electronics of T3 system, has a built-in rechargeable battery, as well as the possibility of supply from the vehicle electrical system. The system has two types of performance - for a vehicle, where the host computer is a laptop and a marching variant where the laptop is replaced by industrial protected computer.

MAIN FEATURES:

- Supports 2500 channels in real time with 2 ms sample rate (1250 channels without line unit).
- Ability to work with any energy source
- Lightweight and quick deployment
- Support combined work with SCOUT cableless system
- Built-in quality control system

NOMAD 65 NEO - Vibroseis

HIGH POWER

Max Peak Force : 62.000 lbs

LOW FREQUENCY

Frequency Range: 1 ÷ 250 Hz

NEW
POWERFUL
RELIABLE
SAFETY



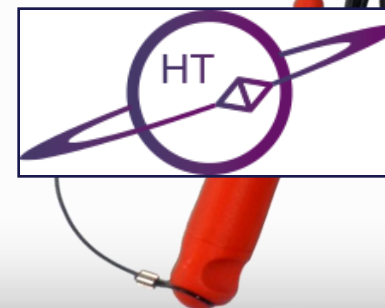
Simultaneous shooting of such vibroseis sources grouped in a fleet of 3-5 units provides sufficient level of energy needed for achieving successful results of seismic surveys within the depths accessible for modern drilling equipment and even more.

SEISMIC SENSORS – HT-20DX & HT-5 GEOPHONES

Sensor parameters	HT-20DX	HT-5
Natural Frequency (Hz)	10±5%	5±10%
Open Circuit Damping	0.3±5%	0.70±5%
Open Circuit Sensitivity (v/m/s)	28.0±5%	98.0±5%
Coil Resistance (Ω)	395±5%	1800±5%
Harmonic Distortion (%)	≤0.2	≤0.2
Typical Spurious Frequency (Hz)	≥250	≥250
Moving Mass (g)	11	15.8
Allowable Tilt (°)	20°	10°
Typical Case To Coil Motion (mm)	1.5	2
Unit Diameter (mm)	25.4	27.3
Unit Height (mm)	33.5	33.5
Unit Mass (g)	87	105
Operating Temperature (°C)	-40°C...+80°C	-40°C...+80°C



HIGH SENSITIVITY
combined with
GOOD NOISE-REDUCTION





GSS provides a full complex of topographical and geodetic works.



TRIMBLE EQUIPMENT AND SOFTWARE

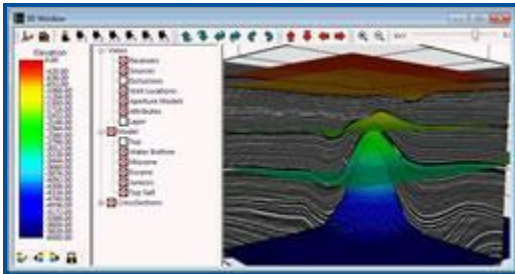
**make it possible
to perform topographical surveys
at the highest level
and in the shortest terms**



GPSeismic®
Seismic Survey Software



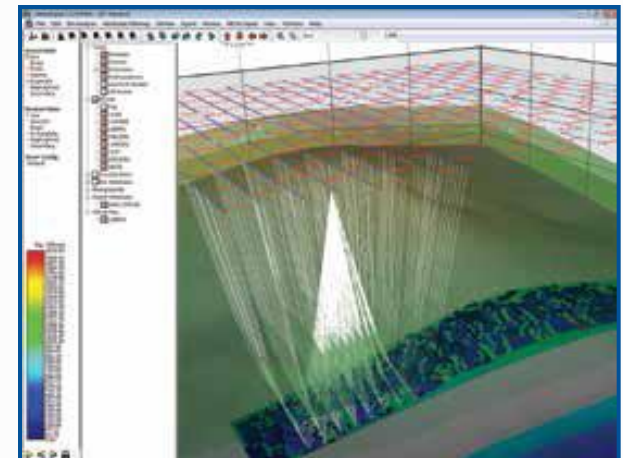
▼ **MESA is the industry standard for designing seismic acquisition surveys.**



Data acquisition is the foundation of the seismic lifecycle. It is critical that accurate decisions are made as part of the acquisition design process. In order to meet these challenges, Mesa software provides flexible and robust survey design tools with accurate analysis to effectively image subsurface targets.

MESA'S MAJOR BENEFITS:

- Provides advanced survey design and subsurface coverage analysis for land and marine survey designs including 3D/3C and VSP surveys
- Optimizes survey results through the analysis of a broad spectrum of geophysical attributes
- Offers fast and simple geologic modeling, raytracing and target illumination via a 3D viewer interface
- Enables cost-effective operations with the ability to track projects, as well as view and report/export crew production statistics



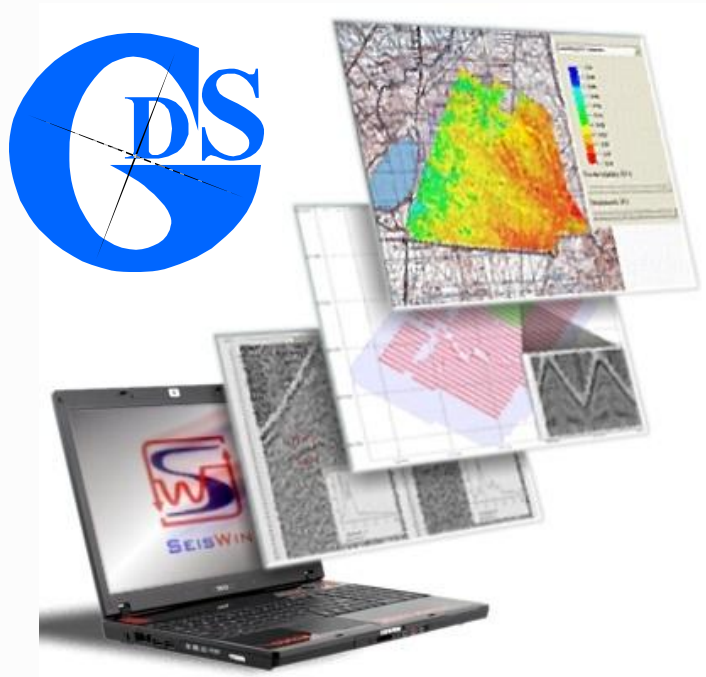
- ▼ **Testif-i Land is an independent, powerful and cost effective software suite that allows independently process instruments, source and receiver tests to confirm that the equipment is performing correctly and within specification.**

Some of the key aspects of the Testif-i Land software are:

- Multi-vibrator hardware similarities
- Automatic calculation of start time errors
- Confirmation of vibrator sweep type
- Receiver step impulse analysis
- Display of results from geophone testers
- Noise and offset
- Distortion
- Impulse response
- Crossfeed
- Gain similarity
- Dynamic range
- Common mode rejection ratio (CMRR)



- ✓ **SeisWin QC is Windows-based software suite supports automated onsite seismic data QC.**
The software is designed to evaluate, visualize and map seismic recording quality attributes.



Geophysical Data Systems Ltd.

MAIN FEATURES:

- **Visual geometry and data quality review.**
 - **Quality attributes evaluation:**
 - Spectral attributes (spectrum width, dominant frequency, etc.)
 - Signal-to-noise ratio
 - Median amplitude, etc.
- All the attributes above are used to calculate the overall quality index.**
- **Data display and export.**

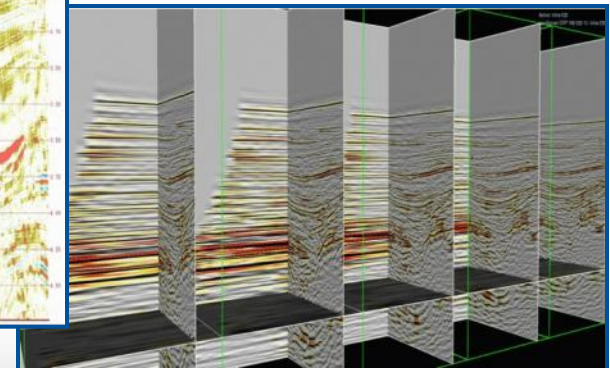
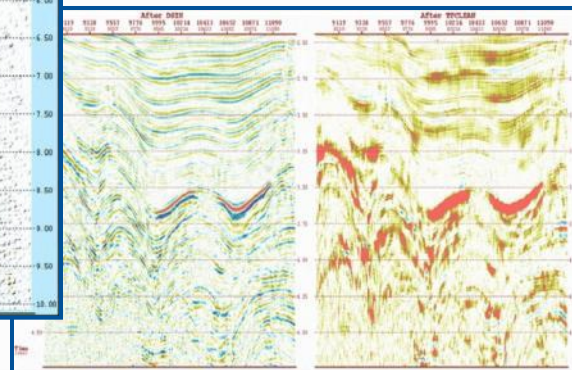
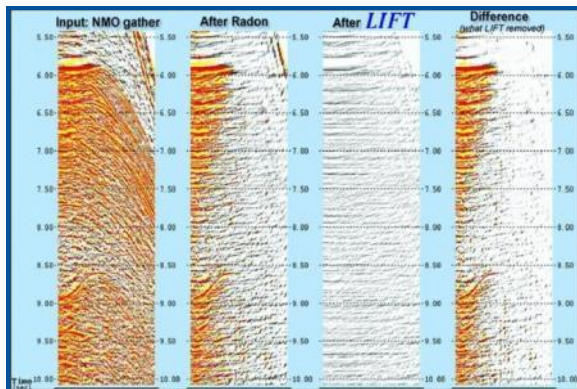


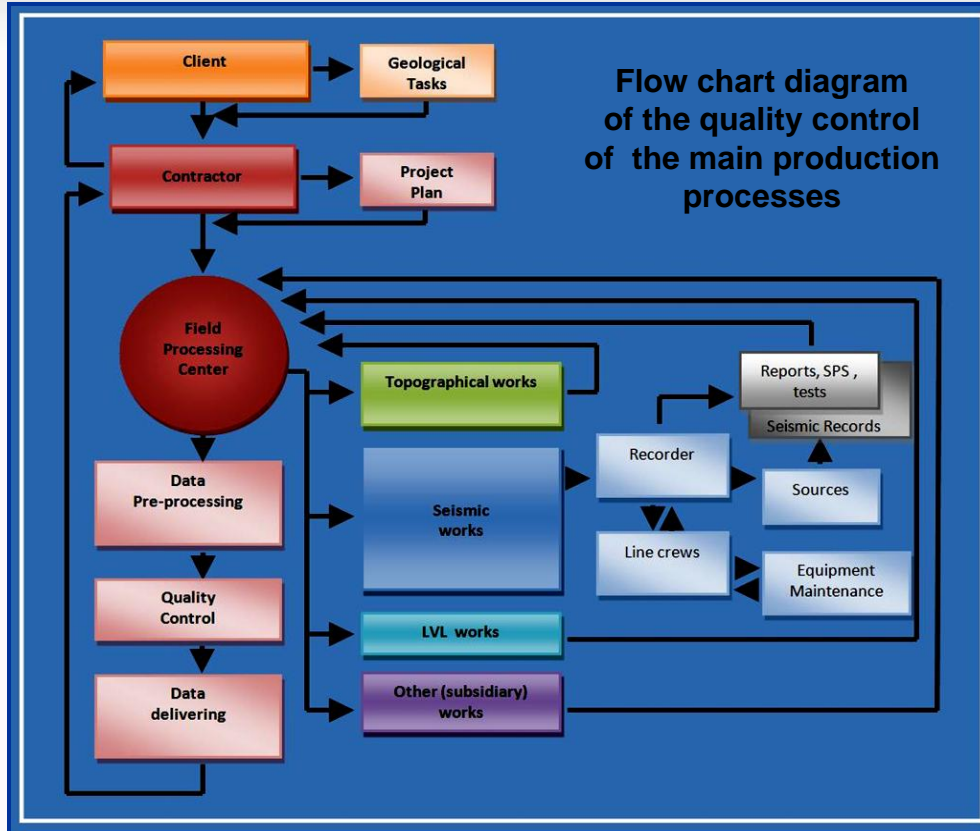
ECHOS - the industry's leading system for seismic processing.

For over 25 years, Paradigm® Echos® has been the oil and gas E&P industry's leading system for seismic processing. Its popularity is based on its breadth of geophysical applications, its unique combination of production and interactive seismic data processing, its maturity and stability, and its versatile programming environment for client-guided customization.

Through its modular design, open architecture, and adherence to standards, Echos is both flexible in configuration and customizable for performance optimization.


Echos provides an innovative link between seismic data and processing parameters and sequences, with interactive data comparison windows that allow users to quickly see the impact of new processes, parameters and workflows on their seismic data. This streamlines the link between parameter analysis and production data processing.






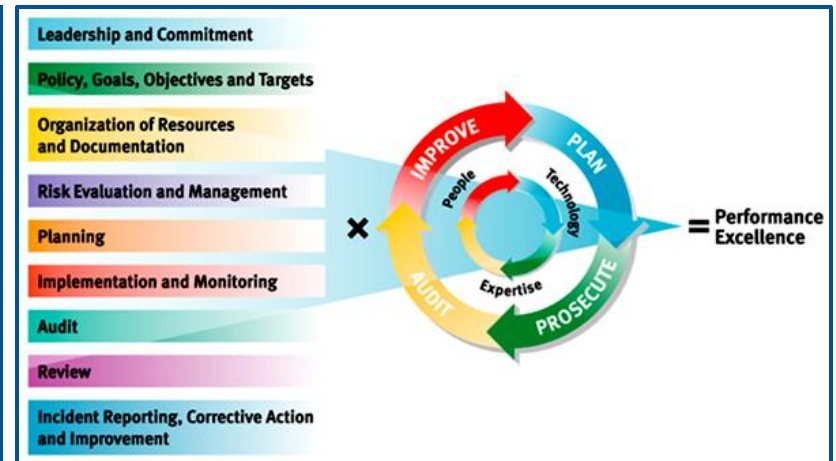
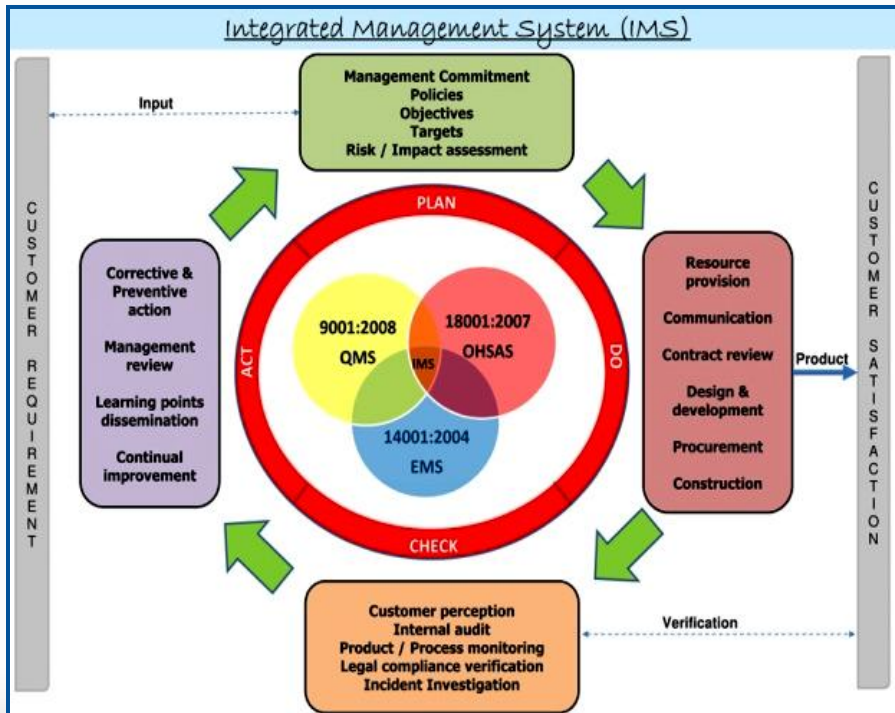
QUALITY
IS OUR
HIGHEST
AND
PERMANENT
PRIORITY



- 
GSS field crews are equipped with up-to-date field processing centers with all necessary hardware and software. This allows to perform the efficient quality control and seismic data pre-processing in field.

INTEGRATED MANAGEMENT SYSTEM


 In accordance to the requirements of IAGC and IOGP and international standards ISO 9001, 14001 and OHSAS 18001 our company has developed and implemented Integrated Management System (IMS) to ensure its seismic operations throughout the world are safe and free of ill-health and fit the Client's requirements. The company owners, directors and managers are committed to maintain IMS and continuously improve its effectiveness.



THE STATEMENT OF QHSSE ACCEPTANCE



Our corporate goals and targets, together with live QHSSE culture are achieving through visible management commitment and the accurate implementation of our QHSSE Management System and corporate QHSSE Policy.

Our key goals in all operations and activities are:

- **No Harm To People**
- **No Damage To The Environment**
- **Zero Losses**
- **Zero Service Quality Incidents**

These objectives are integrated into the overall contact permanent program of activities, referred to as

"GOAL ZERO".

It implies that in a result of our production activities, we will register zero cases of harming people, zero cases of damaging to the environment, zero cases of losses from our operations, and zero cases of low-quality results.



Be proud to approach...

OUR TARGET



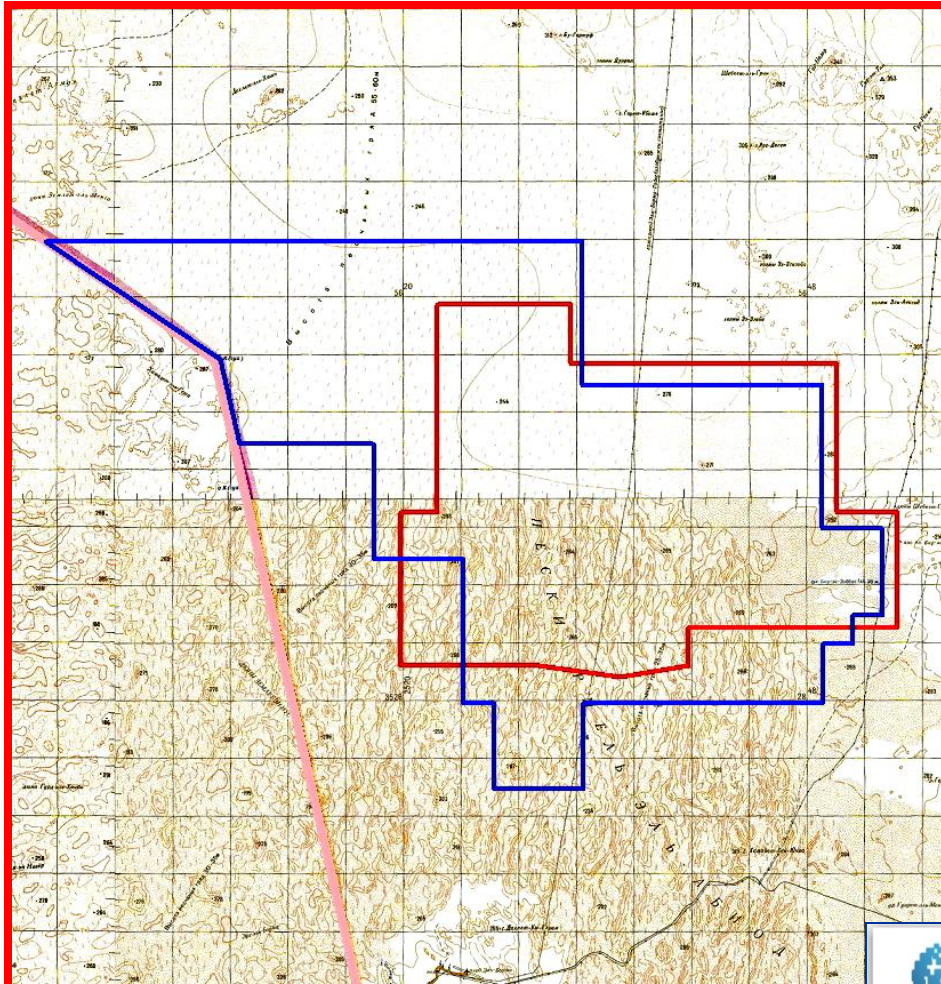
GOAL ZERO!

SEISMIC PROJECTS





SOME EXAMPLES – 3D SEISMIC PROJECT ACCOMPLISHED IN 2017 IN TUNISIA BY GEOSEIS SERVICES



▼ Tunisia

2016 – Araifa 3D – 655 km²



▼ LINE OPENING (Tunisia, 2016)



RECORDING SYSTEM SCOUT IN FIELD (Tunisia, 2016)





VIBS NOMADS 65NEO IN FIELD (Tunisia, 2016)

