



EXALO

GRUPA PGNiG

DRILLING & SERVICES

CATALOGUE

Exalo Drilling S.A.

**70 YEARS OF
INTERNATIONAL
EXPERIENCE
IN OIL & GAS
INDUSTRY**



MISSION

Deliver high quality drilling and oilfield services in the domestic and international market of onshore drilling, through innovative solutions, professionalism and modern fleet of equipment.

KEY VALUES

- **Delivering comprehensive services in line with customer expectations**
- **Knowledge and experience that guarantee success**
- **Professional Staff and fully operable fleet of drilling rigs and well service equipment**
- **Respect for people and the environment**
- **High standards of project management**
- **Effective use of available technology**
- **The achievement of the ambitious goals**
- **Expand activities into a sphere of CSR with particular emphasis on local content**
- **Provide the safest workplace and its environment**
- **Flexibility for clients need**

VISION

Become a technological leader among the onshore drilling companies, thanks to comprehensive customer service, unique solutions and care for the safety of the people and the environment. In parallel, thanks to the international experience and extensive competence of our laboratory seek and implement innovative technological solutions.

EXALO POTENTIAL

We come from areas of high pressure and a high content of hydrogen sulfide, that occur during well drilling. This allowed us to build essential well drilling experience in the harshest and the most complex geological conditions.

To meet the clients' requirements we implement innovative technologies and we select the best practices from our extensive experience. Our engineers work on improving materials, drilling fluids and applied recipes. To provide the highest quality our laboratory is equipped with the state-of-the-art equipment. Thus, EXALO ensures optimal adaptation of technologies and services to individual customers' needs and geological conditions while providing a balance between quality and efficiency of the work and regime time.

The activities we conduct ranging from Spain to Sakhalin in Russia and from Denmark to Mozambique, at high and low temperatures, wherever our customers are looking for professional drilling contractor and drilling services at the highest level.

To ensure the highest quality of all undertaken activities and high efficiency of investment projects EXALO operates in accordance with the ISO standards and the prevention of occupational risks OHSAS 18001. Annual audits by the company TÜV SÜD confirm the high standard of processes that are essential for conducting business at the highest level. In addition EXALO belongs to the International Association of Drilling Contractors (IADC). All these factors create a stable market position for EXALO and make us a trustworthy, reliable and recommended business partner.

EXALO HISTORICAL BACKGROUND

The history of Polish oil industry commenced in the half of XIX c. when our predecessors were also founders of the world oil industry. It is worth remembering this little-known fact that the history of the world's oil industry began on Polish lands. From this point of view EXALO is the successor as well as continuator of long and rich tradition.

For 70 years Company has been developing through creative utilization of its domestic and abroad experiences, assimilation and adaptation of new technologies and technical realizations as well as through dynamic organizational transformations. This period has not only allowed us to greatly enrich our tradition, but also to create a reliable and stable international reputation and consolidate the Company's high organizational culture.



EXALO REFERENCES

Tullow Oil affirms good working partnership with EXALO Drilling SA at all levels, with distinct improvements in HSE performance throughout the campaign and minimal NPT or downtime over that period. Tullow Oil hereby confirms that drilling, workover, plug and abandon services were performed and provided in accordance with the requirements set out in the contract.

Richard Knox
Tullow Oil Well Delivery Manager
Uganda

The drilling service, coring service, drilling fluid service, cementing service, DST and make-up service were finished in a full accordance with the contract, in a professional manner and within the predetermined time. The solutions and equipment used by the Contractor fully met the expectations of our company. Basing on the existing co-operation, we can recommend EXALO Drilling SA to potential customers and investors as a reliable, confident and competent business partner.

Natalja Haselton
TAN Oil Director
Lithuania

EXALO has been operating with OGDCL for almost last 10 years. EXALO drilled successfully several vertical, slant and horizontal wells with more than 89° angles for OGDCL. Performance of the EXALO rig remained excellent during entire contract period with minimum downtime and many of the wells were completed before the planned schedule and the rig crew is skilled and efficient.

Aitzaz Ahmad
Manager
Oil&Gas Development Company Ltd.
Pakistan

SAMPLES OF EXALO CLIENTS:



COMPANY PROFILE



EXALO Drilling SA is a one of the leading European onshore drilling contractors. Properly maintained fleet of 45 rigs, allows for well drilling up to 8000m of depth. EXALO portfolio is also a full range of professional drilling services, which results in the full complexity of the offer. One of the key advantages of EXALO company are people. International experience, extensive knowledge and high level of competence of EXALO employees is a guarantee of success for investment projects.

EXALO Drilling SA has an experience, which was built in over 20 countries in Europe, Asia and Africa. EXALO tradition comes from a fusion of such companies as PNiG Krakow SA, PNiG Jaslo SA, PNiG Nafta SA, PN "Diament" Sp. z o.o. and ZRG Krosno Sp. z o.o. Thanks to carried out consolidation of EXALO founders, now EXALO can meet expectations of most demanding customers, flexibly adapt its services for the projects and effectively respond to the dynamic circumstances while well drilling.

EXALO Drilling SA is a global brand having its branches in Pakistan, Kazakhstan, Czech Republic and Ukraine. This translates into a very large area of operations. EXALO also makes a positive contribution to the local communities by offering educational and training opportunities for local staff. Cooperating with diverse cultures EXALO takes into consideration local custom and habits and tries to satisfy the needs in this sphere.

KEY COMPETITIVE ADVANTAGES

- Wide range of onshore drilling fleet and well services
- Efficient drilling rigs and well services equipment
- Effective project management
- Modern laboratory
- Local support by the foreign subsidiaries
- Highly qualified personnel with international experience

SAMPLES OF EXALO CLIENTS:



WORLDWIDE BUSINESS

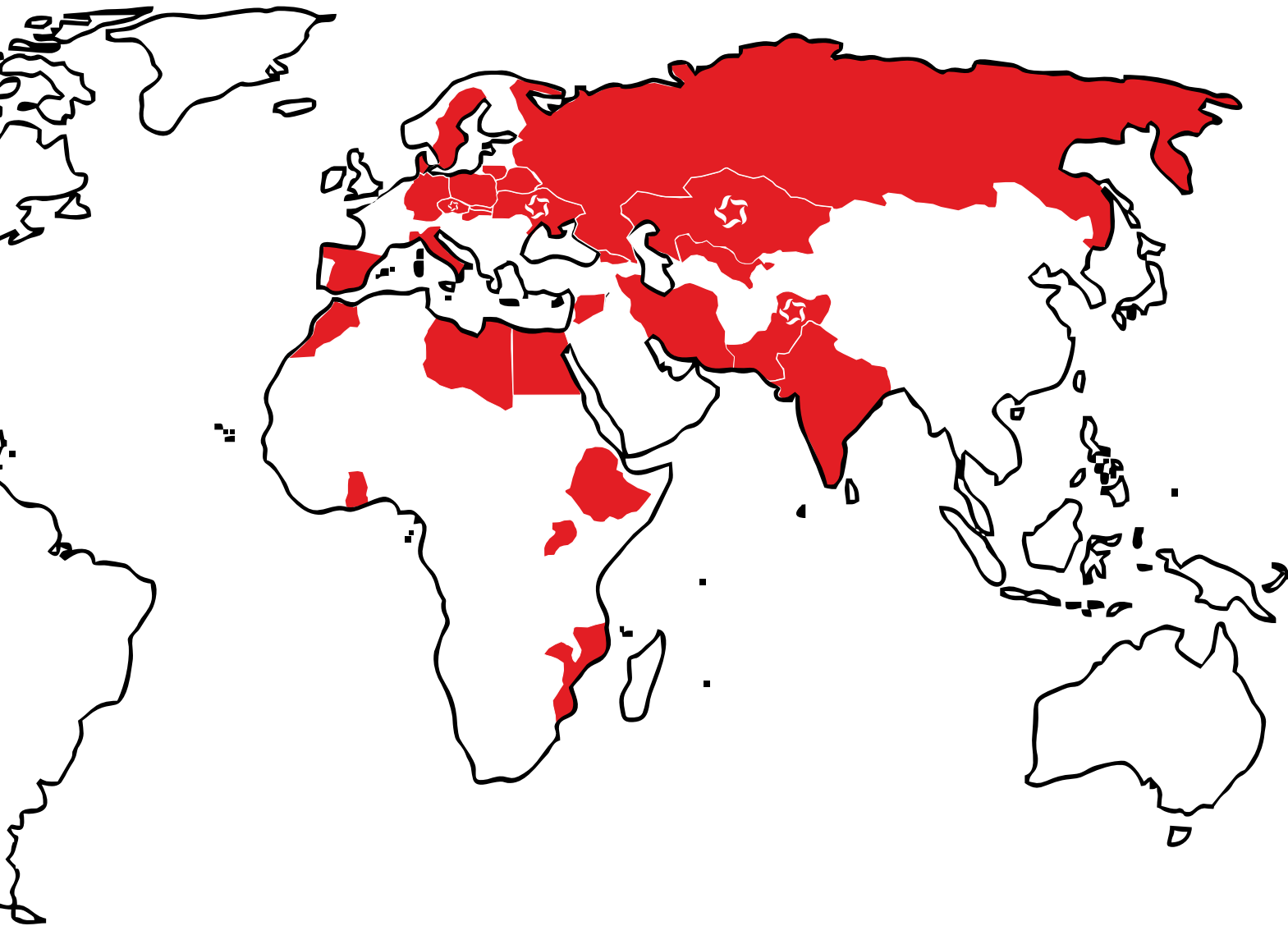
Example of wells drilled on foreign markets

COUNTRY		DEPTH OF THE WELL [m]
	Libya	2065 m
	Uganda	2105 m
	Mozambique	2250 m
	Ethiopia	2468 m
	Lithuania	2859 m
	Germany	3857 m
	India	4287 m
	Ukraine	4631 m
	Egypt	4873 m
	Pakistan	5680 m
	Kazakhstan	7050 m
	Poland	7541 m



OPERATING ACTIVITIES

in more than 20 countries in Europe, Asia and Africa

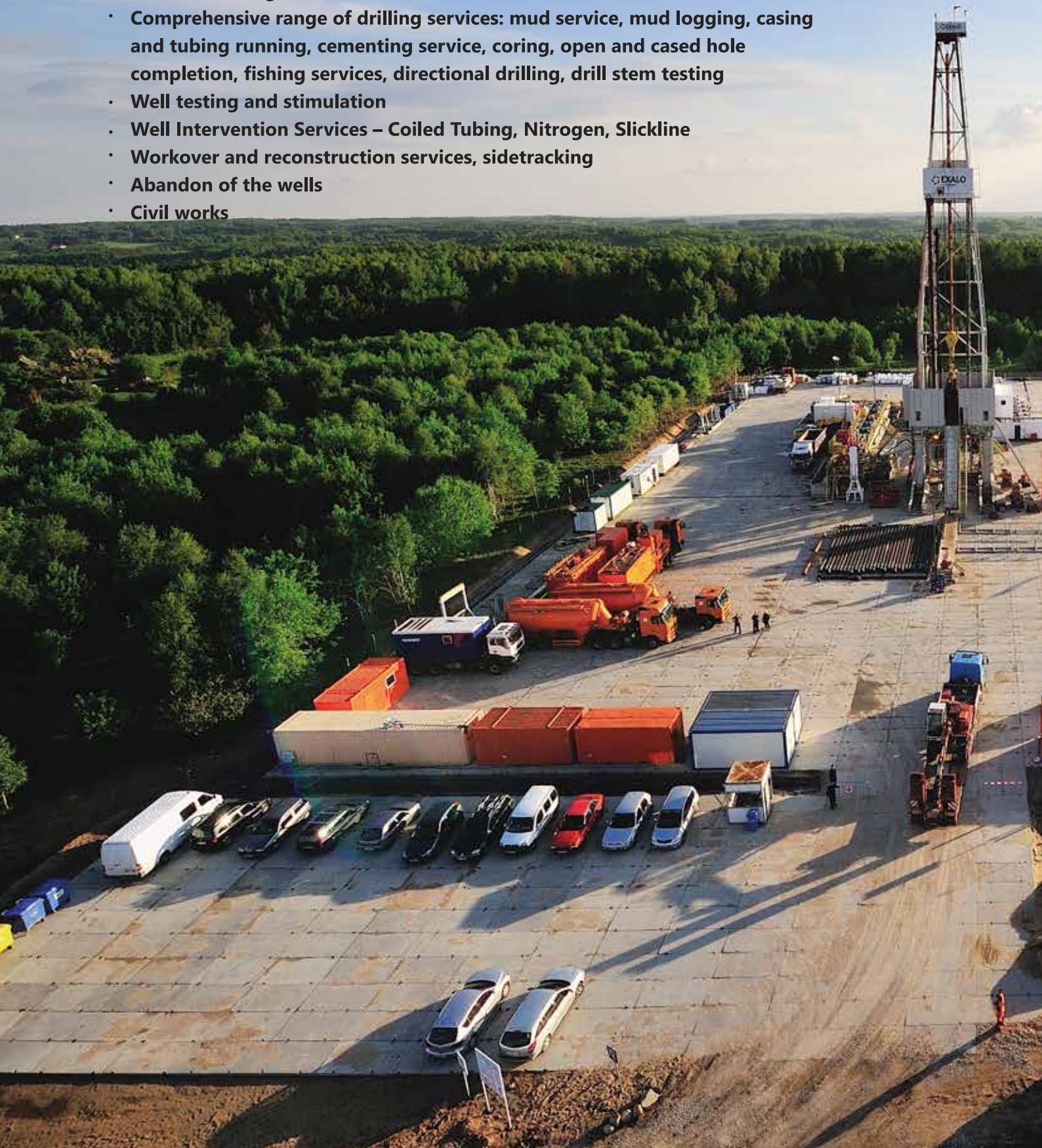


4 FOREIGN
SUBSIDIARIES

-  **Kazakhstan**
-  **Pakistan**
-  **Czech Republic**
-  **Ukraine**

OUR CORE BUSINESS

- Well engineering
- Onshore drilling
- Comprehensive range of drilling services: mud service, mud logging, casing and tubing running, cementing service, coring, open and cased hole completion, fishing services, directional drilling, drill stem testing
- Well testing and stimulation
- Well Intervention Services – Coiled Tubing, Nitrogen, Slickline
- Workover and reconstruction services, sidetracking
- Abandon of the wells
- Civil works



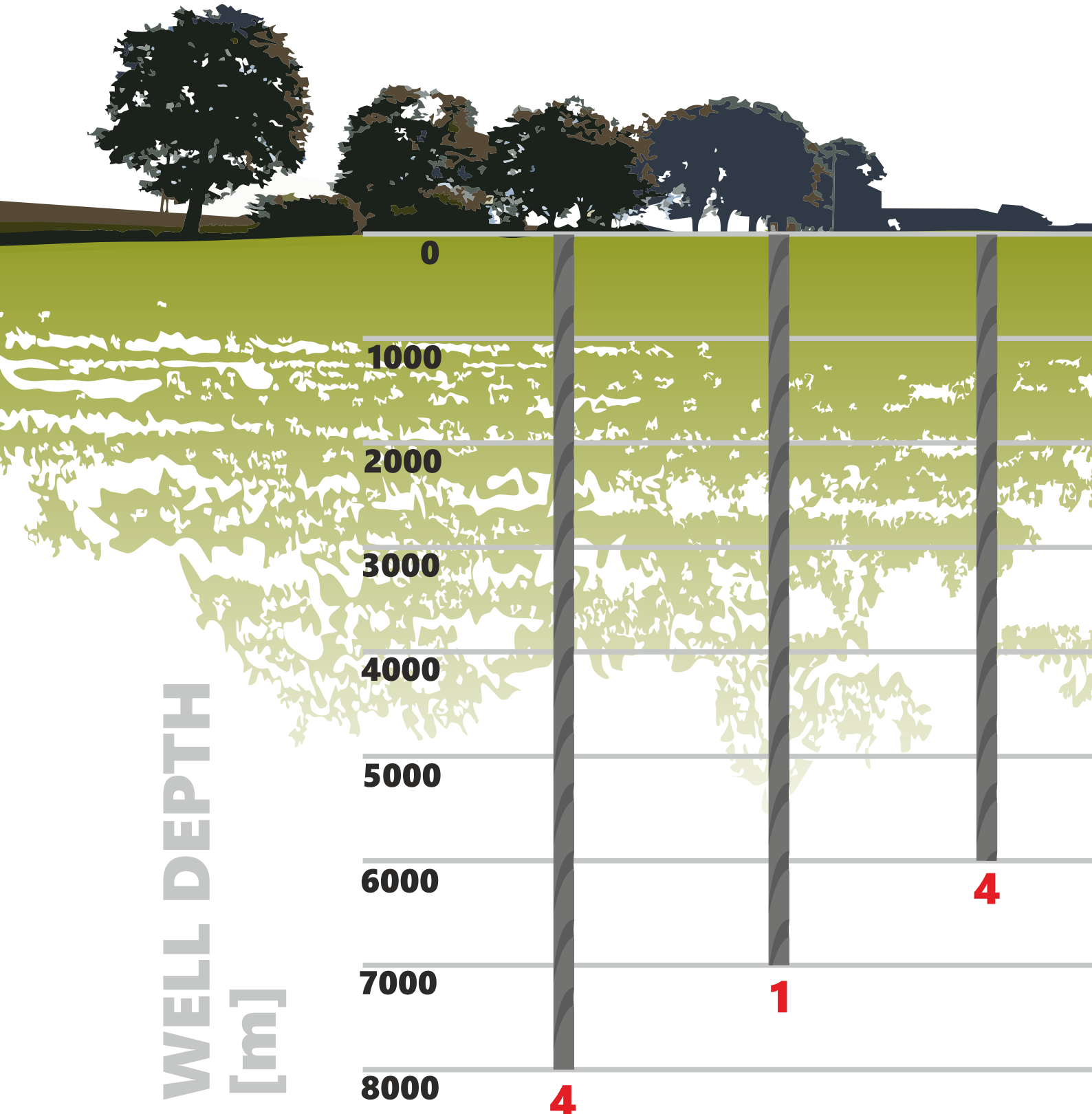
MAIN SECTORS OF ACTIVITY

- Drilling exploration and production wells of hydrocarbon deposits
- Exploration drilling for shale gas and tight gas
- Geothermal wells
- Coalbed methane (CBM) drilling
- Exploration drilling for metal ores
- Drilling of special-purpose wells
- Full range of well services
- Workover and Well abandonment

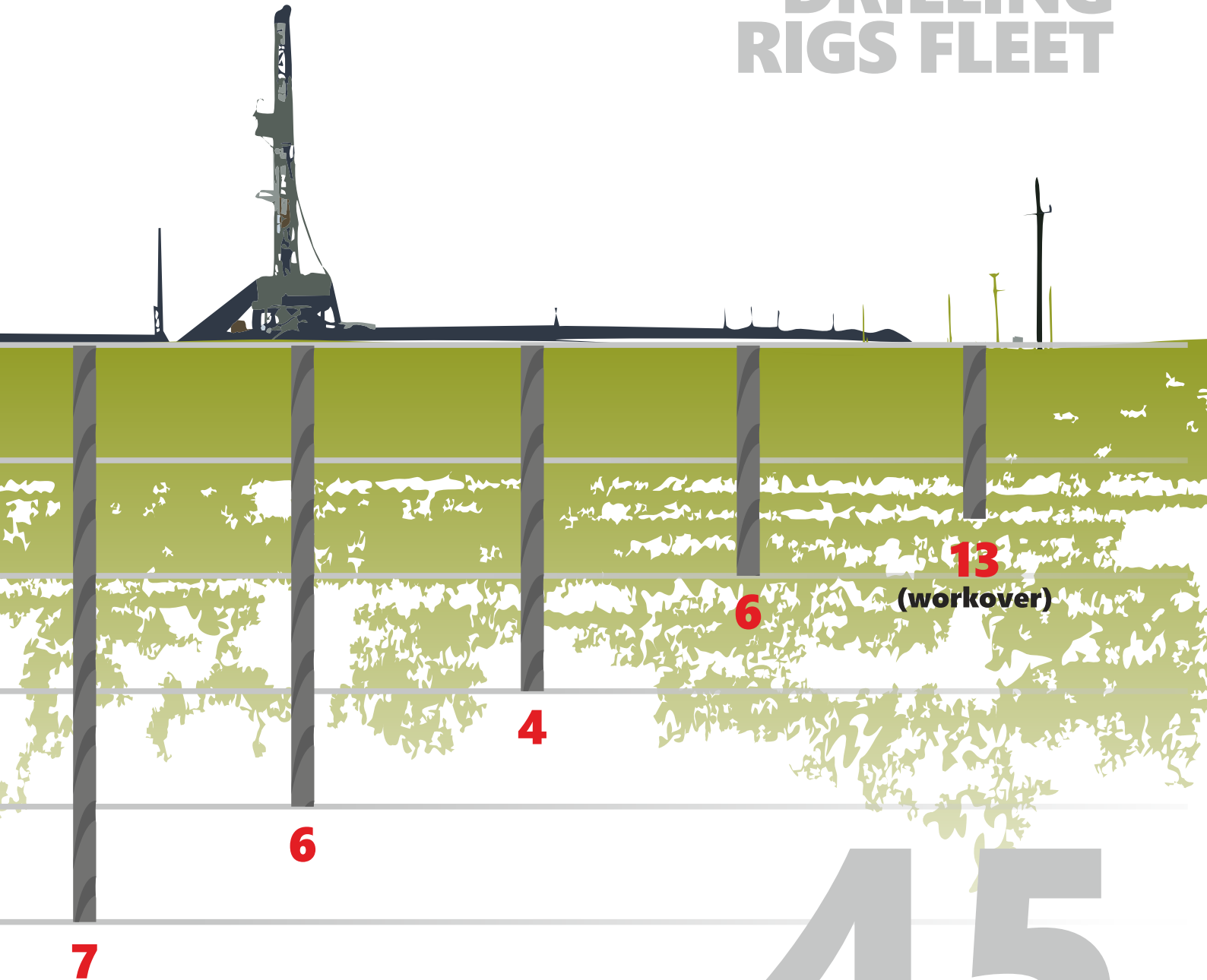


Our fleet includes 45 drilling rigs and workover rigs of varying rating, hook load capacity and depth range. This allows us to execute even the most complex projects. One of the most important pillars of our strategy is the excellent technical condition equipment, which is why we constantly invest in the modernization of our fleet, to continuously improve the EXALO competitiveness.

Our rigs are designed and equipped for use in remote areas and include all necessary facilities to support living and working crew in any environmental conditions (in harsh environments, all climatic and weather conditions). All jobs are performed according to a Preventive Maintenance Program.



DRILLING RIGS FLEET



45

DRILLING & WORKOVER

RIGS

DRILLING RIGS

	Name	Rating [HP]	Hook Load Capacity [t]	Top Drive
over 1500 HP	National 1625	3000	706	Varco TDS-4S
	Mid Continent U – 1220EB	2500	725	Varco TDS-11SA electrical
	Drillmec 2000-HP	2000	590	Varco TDS-11SA electrical
	IDM 2000	2000	494	Maritime Hydraulics PTD 500AC
	Bentec Eurorig 450	2000	450	BENTEC TD-500-HT electrical
	Massarenti MAS 6000E	1700	454	BENTEC TD-500-HT electrical
	IRI-1700	1700	349	Varco TDS-11SA electrical
	National 110 UE	1500	454	Maritime Hydraulics PTD 500
	Massarenti MAS 5000E	1500	335	Maritime Hydraulics PTD 500
1000-1499 HP	IRI-1200	1200	305	Maritime Hydraulics PTD 500
	Skytop Brewster N75	1000	294	optional
	Drillmec MR-8000	1000	200	Drillmec HTD-250HT
below 1000 HP	Skytop TR-800 mobile	950	186	Drillmec HTD-250 /optional
	Kremco K900 self-propelled	900	168	Drillmec HTD-250
	IRI-750 self-propelled	720	136	none
	IRI/Cabot-750 self-propelled	700	136	none
	Skytop RR-650/600 self-propelled	575	124	none
	Cooper LTO-550 self-propelled	500	113	none

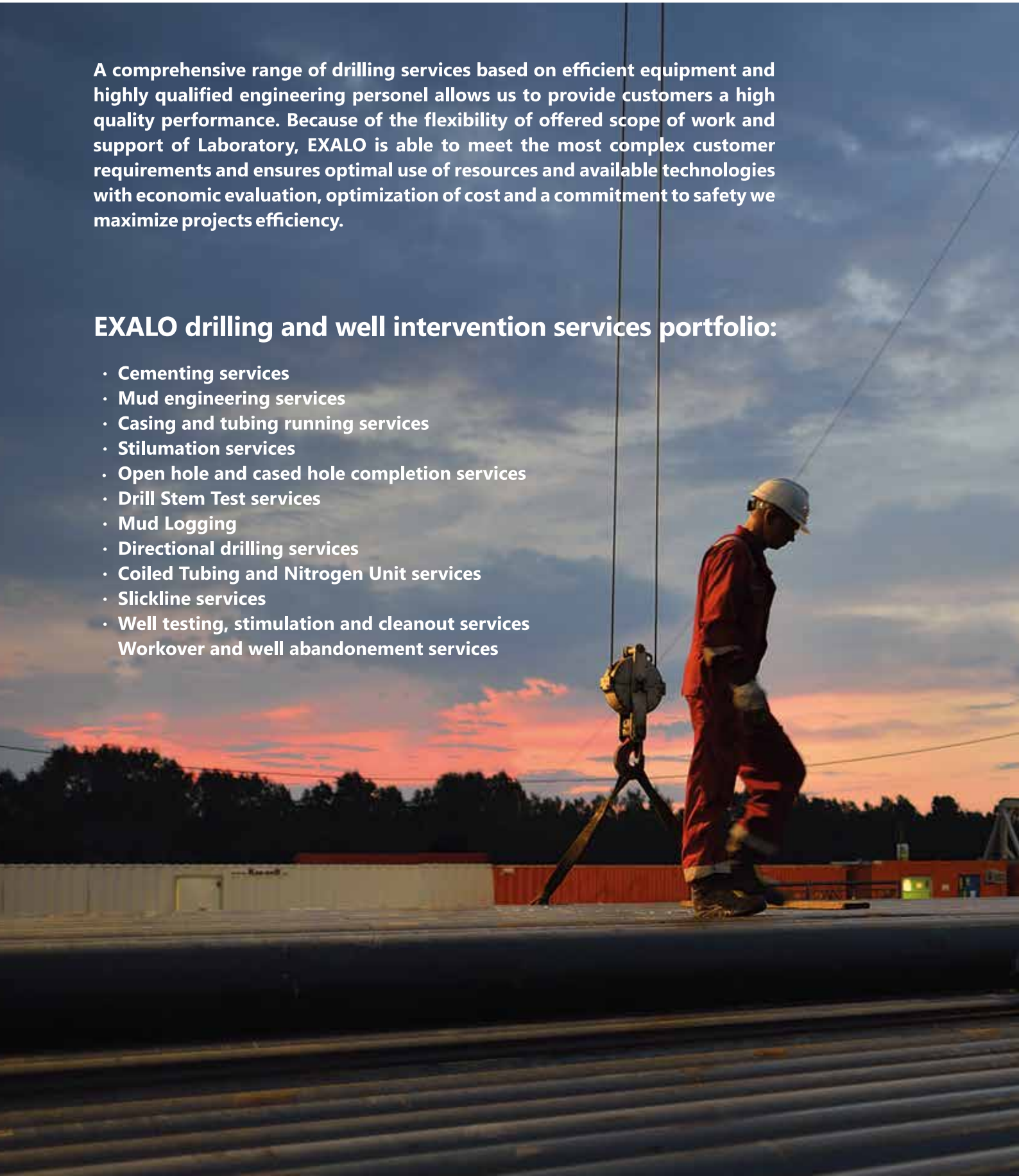
Type of drive	Drilling range [m]	Pumps	Quantity
SCR	7600	2 x National 12P-160 + 1 x Drillmec 12T-1600	1
SCR	7800	3 x Gardner Denver PZ-11	1
VFD	7400	3 x Drillmec 12T-1600	2
VFD	6600	1 x PDT 500-AC-1M-1150HP + 2 x Drillmec 12T-1600	1
VFD	6000	1 x Bentec T1600 1600HP + 2 x Drillmec 12T-1600HP	1
SCR	5000	2 x 3 x Bomco F-1600	2
SCR	6000	3 x Ideco T-1300	1
SCR	6000	3 x National 10P-130 or 2 x Wirth TPK – 1600 + 1 x National 10P-130	2
SCR	4000	2 x Bomco F-1600	1
SCR	5000	2 x Ideco T-1300 + National 10P-130 3 x Ideco T-1300 3 x Ideco T-1300	3
Mechanical	5000	3 x FJ-1000 or 2 x Skytop Brewster B-1000	2
Mechanical	3000	3 x Drillmec 9P-100	1
Mechanical	3100	2 x Gardner Denver PZ-8 + 1 x Emsco F1000 or 3 x Emsco F1000 or 2 x Gardner Denver PZ-8	3
Mechanical	3200	2 x National Oilwell A-850 PT + 1 x National 10P-130 or 2 x National Oilwell A-850 PT	2
Mechanical	2000	2 x Ideco T-500 or 2 x Gardner Denver PZ-8 or 2 x National 9P-100 or 2 x Ideco T-500	5
Mechanical	2400	2 x Gardner Denver PZ-8 or 2 x Gardner Denver PZ-8	1
Mechanical	2200	2 x Gardner Denver PZ-8 or 2 x OPHI HDL 700 or 2 x Emsco F-800	2
Mechanical	1800	2 x OPHI HDL 700	1

WIDE RANGE OF SERVICES

A comprehensive range of drilling services based on efficient equipment and highly qualified engineering personnel allows us to provide customers a high quality performance. Because of the flexibility of offered scope of work and support of Laboratory, EXALO is able to meet the most complex customer requirements and ensures optimal use of resources and available technologies with economic evaluation, optimization of cost and a commitment to safety we maximize projects efficiency.

EXALO drilling and well intervention services portfolio:

- Cementing services
- Mud engineering services
- Casing and tubing running services
- Stimulation services
- Open hole and cased hole completion services
- Drill Stem Test services
- Mud Logging
- Directional drilling services
- Coiled Tubing and Nitrogen Unit services
- Slickline services
- Well testing, stimulation and cleanout services
- Workover and well abandonment services



OTHER SERVICES

- Drilling waste management
- Repairs of drilling rigs
- Inspection and repairs of drilling equipment
- Maintenance and regeneration of drill strings
- Civil works: wellsite, access road, etc.
- Land reclamation after completed drilling process
- Blow Out Prevention
- Rescue Team
- Mining Law Supervision

MAIN BENEFITS OF EXALO DRILLING SERVICES

- Modern technologies
- Innovative solutions
- Comprehensive service
- High mobility
- Qualified staff
- Modern laboratory equipment

SERVICES RANGE OF ACTIVITY

WORKOVER SERVICE

- Well rehabilitation
- Casing milling and cutting
- Recompletion and underreaming jobs in open hole intervals
- Replacement of surface and downhole completion equipment
- Fishing jobs

To perform workover operations we have the self-propelled units equipped with special arrangements and furnished with workover equipment.

DIRECTIONAL DRILLING SERVICE

- Computer-aided designing of directional & horizontal wells
- Drilling of directional & horizontal wells including: complex service support together with delivery of all needed equipment and continuous supervision from highly qualified and experienced personnel
- Side-track and re-entry jobs in both – open and cased wells
- Single/multishot tool service
- MWD type system with vibration measurement and gamma extension

	Name	Rating [HP]	Hook Load Capacity [t]	Type of drive	Pumps	Quantity
WORKOVER RIGS	SK – 575	500	100	mechanical	1x Ideco T-500	1
	Cardwell KB 210A	455	84	mechanical	1x9T	1
	SK – 175	430	68	mechanical	1x OPI HDL 700	2
	Cardwell KM 200	402	81,6	mechanical	1x Gardner Denver PZ-7	1
	Cardwell KB 200	400	116	mechanical	2x Gardner Denver PZ-7	1
	R800/500	325	80/50	mechanical	1x PAH 200	2
	Cardwell KM 200	325	65	mechanical	1x PAH 200	1
	Cardwell KM 150	300	57	mechanical	1x PAH 200	3



CEMENTING SERVICE

- Designing cementing works with Landmark Opticem and Schlumberger CamCade simulator software
- Preparation of cement works and projects
- Elaborating, developing and testing of cement slurries compositions
- Casing cementing service and remedia cementing service
- Pumping services: pressure tests, DFIT, FIT, formation test, well-killing pumping etc.
- Monitoring and recording of cementing and pumping jobs
- Setting of cement plugs, liner hangers and mechanical plugs
- Pipeline pressure integration test
- Pumping jobs

MUD ENGINEERING SERVICE

- Developing and supplying drilling fluids systems both for drilling and workover activities
- Capable of delivering water&oil based fluids according to requirements also for HPHT and sour gases environments
- Well trained and experienced staff with great skills to run Solids Control Equipment (e.g. barite recovery, flocculation, etc.)
- Performing tests on new mud additives together with elaborating of mud systems (OPAL, KORAL, etc.)
Continous checking of mud chemicals quality
- 24 by 7 mobility and availability for laboratory consulting and advising
- Flexibility to fit Client's requirements
- Mobile Evaporators System as an enviromental solution for high salinity wastes
- Supervision of the solid control system on the rig site
- Supervision of the drilling fluid cleaning system

STIMULATION SERVICE

- Acidizing and fracturing design (FracproPT and StimPT software)
- Hydraulic fracturing and acid treatments
- Acid treatment and fracturing process data acquisition
- Micro-fracturing
- Hydro-slotting perforation
- Matrix acidizing
- Well clean out
- Leak off test
- Pumping jobs

MUD LOGGING

- Registering and processing the technological parameters of the drilling operation
- Registering and processing the geological parameters

Mud logging equipment allow us to measure and to interpret:

- Characteristics of the formation gases
- Mechanical parameters
- Mud parameters
- Geological data
- Formation pressures

WELL TESTING SERVICE

- Well Testing and clean out
- Fluid recovery after hydraulic fracturing
- Hydrodynamic testing of reservoir sections containing H₂S (isochronic, multi-cycle tests, etc.)
- Collection of formation fluid samples under live well conditions
- Separation of formation fluids during drill stem tests (DST)
- Temporary production of oil and gas from wells
(limited by device throughput)
- Measurements production capacity of wells



SLICKLINE SERVICE

- Tubing drift testing
- Downhole memory gauges (pressure, temperature) running and setting
- Circulation sleeves opening and closing
- Blanking plugs running and setting in landing nipples
- Landing nipple profiles cleaning with special brushes
- Chokes setting in production wells
- Slickline fishing jobs
- Mechanical perforating

COMPLETION AND TUBULAR RUNNING SERVICE

We are performing our jobs in vertical and horizontal wells:

- Open hole completion design
- Supplying downhole equipment according to customer requirements and specifications
- Setting the liner hangers and liner packers
- Inflatable External Casing Packers setting
- Setting of production packers
- Installation and maintenance of downhole safety valves
- Running of injection and control lines
- Setting of cement retainers and bridge plugs
- Testing, control and preparation of downhole equipment supplies components

COILED TUBING & NITROGEN UNIT SERVICE

- Well cleanouts from sand, paraffin deposits, sediments, hydrates and other debris
- Nitrogen gas lifting
- Production stimulation (formation acidizing or fracturing)
- Milling and drilling with downhole motors: frac plugs and ports, cement, general debris removal – including bridge plugs and scale
- Underreaming
- High pressure jetting
- Plug or bridge plug setting for plugging back depleted zones or isolating leaks

DRILL STEM TEST SERVICE

- Perforating jobs
- Running geophysical logging tools into boreholes (e.g. to obtain production logs)
- Wireline sampling
- Acidizing treatments
- Coiled tubing operations
- Production testing
- Treatment of cased holes with RTTS packers
- Testing combined with short-time productivity measurements
- Testing of pay sections containing formation fluid with H₂S
(packers and samplers may be placed in open holes with diameters ranging from 95 mm to 311 mm, and in 4 1/2", 5", 6 5/8", 7" and 9 5/8" casing pipes)
- Open and cased hole testing using Halliburton 3 7/8" and 5" standard testers
- Packer sizes:
 - N.R. Expanding Shoe Wall Packer 5-1/2", 7-3/4", 11-1/4"
 - RTTS Packer 5", 6-5/8", 7", 9-5/8"

CORING SERVICE

- Designing of coring programs in vertical and directional wells
- Coring Equipment & tools selection and application with selected parameters
- Coring Service (standard & wireline core barrels)
- Supervision of coring operations
- Preparing and protect core samples for transport & further analysis



LABORATORY

All tests and lab fluid composition are performed according to API recommendation requirements at downhole condition including HTHP. Main activity of EXALO Laboratory are tests and works for Cementing Service and Mud Engineering Service.

- Designing the drilling fluids composition and selection of mud materials for operations in all geological conditions
 - Designing the drilling fluids for workover and well rehabilitation jobs
 - Completion fluids composition design
 - Drilling fluids analysis
 - Designing and elaboration of acid treatment fluids
 - Mud materials quality control
 - New materials testing
-
- Cement slurry composition design
 - Spacer composition design
 - Cement slurry additives testing
 - Examination of cement slurry properties (thickening time, fluid loss, compression strength with UCA and automatic compressive tester, rheology parameters)
 - Acid treatment fluids examining and design
 - Testing cement slurry additives
 - Gel strength analysis
 - Slurry and cement bond permeability



EXALO PERSONNEL

EXALO's specialists cover all professional backgrounds and skill grades. Our employees possess professional qualifications and all necessary certificates required by law and regulations, as well as good oilfield practice and operator's needs. The EXALO specialists are able not only to perform and supervise currently conducted operations, but also assist the client in potential issues that have been overlooked.

- 67% of EXALO employees are engineers from around the world
- EXALO employees have min. several years of experience in oil&gas industry
- EXALO personnel have permanent professional courses and trainings (operation on drilling rigs, HSE, IWCF etc.)
- In EXALO is high quality of work culture
- EXALO employees take care of safety

A photograph of a white sign mounted on a structure, likely part of an oil rig. The sign features the EXALO logo, a red stylized flame or star shape, and the text "EXALO" in large, bold, black letters. Below "EXALO" is the text "GRUPA I'GNiG" in smaller, black, sans-serif capital letters. The sign is set against a clear blue sky. In the foreground, there are blue metal railings and a yellow structure with a perforated metal mesh, suggesting an industrial setting.

EXALO
GRUPA I'GNiG



HSEQ MANAGEMENT SYSTEM



The Board of EXALO attaches great importance to the management of HSEQ. HSEQ System is seen as an absolute priority in all operations.

Components of HSEQ at EXALO regarding safety, health and the environment and quality management system are based on an international standards and the best practices. Annually the system is inspected by the authorized European certification bodies. We believe that we can conduct our company without accidents and environmental damage, and it is the goal to which we aspire.

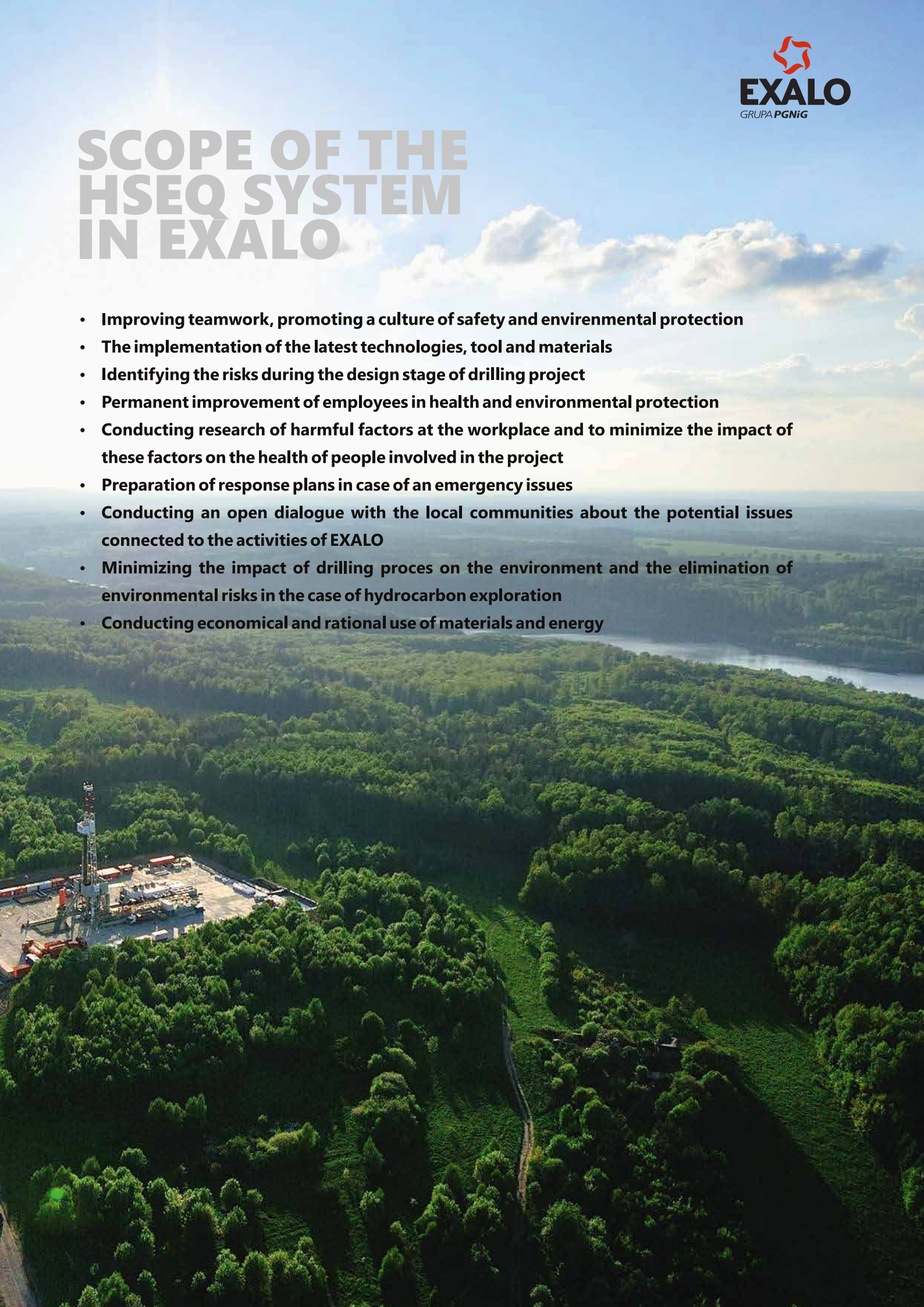
Exalo HSE/Q MS is externally audited by TÜV SÜD (Germany) & holds certificates of compliance with:

- ISO 9001:2008 (Quality Management System)
- ISO 14001:2014 (Environmental Management System)
- BS OHSAS 18001 (Occupational Health & Safety Management System)



SCOPE OF THE HSEQ SYSTEM IN EXALO

- Improving teamwork, promoting a culture of safety and environmental protection
- The implementation of the latest technologies, tool and materials
- Identifying the risks during the design stage of drilling project
- Permanent improvement of employees in health and environmental protection
- Conducting research of harmful factors at the workplace and to minimize the impact of these factors on the health of people involved in the project
- Preparation of response plans in case of an emergency issues
- Conducting an open dialogue with the local communities about the potential issues connected to the activities of EXALO
- Minimizing the impact of drilling proces on the environment and the elimination of environmental risks in the case of hydrocarbon exploration
- Conducting economical and rational use of materials and energy





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