



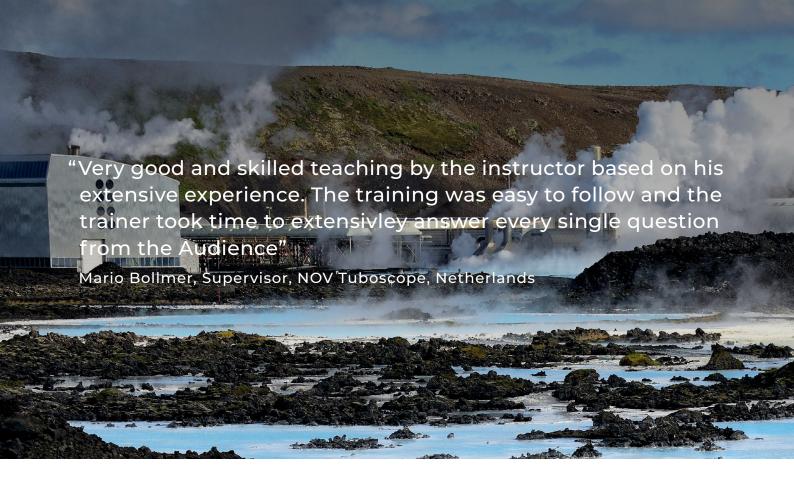


"I was looking to participate in a training where we could compare oil and gas versus geothermal. Geothermal Drilling course provided exactly this; now I have a better understanding of the geothermal world and how important is the experience from the oil and gas industry for this type of projects. Kevin did a great job sharing his knowledge!"

Anna Ortin, Geological Operations Advisor, Repsol, Canada

Course Overview

The course provides insight into the technological, legislative, economic, and social aspects of geothermal energy in the European Union. The course outline covers a range of topics related to geothermal drilling regulations in Europe, including drilling techniques and technologies, environmental and social considerations, permitting and licensing, health and safety regulations, and financial and economic considerations. It also includes case studies and a roundtable discussion for participants to exchange ideas and best practices. The attendees of the course will have a unique opportunity to study different aspects of geothermal energy development in their interrelation and entirety on practical examples and case studies.



Key benefits

By the end of the course the participants will be able to understand:

- Current regulatory and legislative framework for geothermal drilling in Europe
- Key geothermal drilling techniques and technologies required to design and execute successful geothermal projects
- Environmental and social considerations in geothermal drilling; review of recent geothermal wells permitting refusals, managing Environmental Impact Assessments (EIAs) and Social Impact Assessments (SIAs)
- Permitting and licensing requirements for geothermal drilling in EU
- Health and Safety regulations in geothermal drilling safety
- Financial and economic considerations in geothermal drilling - funding mechanisms, costbenefit analysis and economic feasibility studies
- Case studies of geothermal drilling projects in Europe

Who should attend

- Drilling contractors interested in geothermal energy development in the EU
- Operators seeking to enhance and systemize their knowledge of the legislative and regulations framework
- · Drilling departments
- · Contracting and procurement departments
- · Licensing and permitting departments
- · Governmental relationship departments
- Other professionals and departments interested and involved in geothermal drilling activities





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Training Manager

Daria Ivakhnenko, Black Reiver Consulting France

Daria is a multilingual manager in the petroleum industry with 19 years of experience in technical translation, interpreting and enabling cross-cultural and cross-departmental communication.

During her career, Daria has worked in various oil and gas project environments, including operator-controlled projects and joint activities at various development phases. She has built and managed the best practice translation and interpreting projects from the ground up, developing vast experience and knowledge of the energy sector, its technologies, regulations, contracting, HSE and other aspects.

Daria has delivered significant time-saving cost optimisation in high-risk, high-value projects through rendering translation, interpreting and communication services for her employers and customers. She is responsible for negotiation, organisation, and administration of the training courses, writing and editing training content, and linguistic support. She also manages the company's communication and involvement in professional and industry associations, study, research and development of training modules and courses.





"I found the training very well prepared and well understandable. This is a complex topic, but with the presenter and the content of the training, I have learned a lot, actually more than I thought I could. Kevin was very professional and still casual. Great presenter with deep knowledge of the topic, yet still open

Michal Masek, Project Manager, PW Energy, Slovakia

for discussion."

Your Expert Trainer Kevin Gray, Black Reiver Consulting UK

Kevin can offer the experience of over 5000 days of operational experience gained at rig sites and operations support positions from an oilfield career of over 31 years as well as working as lead trainer for a multi award winning ERD engineering team based in Perth Scotland.

Kevin has been consistently the highest rated drilling training instructor in a major multinational training company over the last four years and throughout his offshore career was repeatedly graded in top 5% within both offshore and onshore positions for the largest oilfield service company.

Kevin has designed and overseen the delivery of multi week training programs for offshore drilling, well intervention and fluid supervisors for a number of clients. This has included competency assessment and skills gap analysis throughout the programs.

Kevin is also able to draw on his well documented teaching skills to deliver courses or programs in directional drilling and surveying, stuck pipe, extended reach drilling and various other drilling related subject areas. He wrote the first Operation support centre SOP for directional drilling which was later adopted globally. In addition, he has designed and delivered various 'Real Time Centre' training courses including human dynamics training. In his former role as directional drilling coordinator, based in Aberdeen he still holds a number of world records for drilling achievements with motor and RSS tools.

In his earlier career he led an offshore team that developed the first multi axis drill vibration measurement tool to report measurements in real time, and subsequently wrote the core documentation on vibration control for D&M.

Later he was responsible for the introduction and field testing of Powerdrive RSS tools and had considerable input into their re-design as the X5 variant. Kevin has led many teams into both new fields and mature field redevelopment. Outside the industry he enjoys skiing and exploring, taking these two activities to the extreme in 2015 when he skied to the South Pole dragging a sledge behind him.





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Geothermal Drilling Consultant

Tony Pink, Black Reiver Consulting UK

Tony graduated with a BSC in Geology from University College of Wales Aberystwyth in 1990 and has a postgraduate diploma (GMP) from Harvard Business School. He spent 5 years in the field as an MWD/LWD Engineer followed by 5 years as a Directional driller. He moved into management with Schlumberger in 2000 and worked in several posts including Drilling Training Manager and the Engineering Manager for US Land.

In June of 2011 Tony became the VP of Automated Drilling Applications with the objective of delivering an automated drilling solution for NOV and our industry. In 2014 He became the VP of services for a new division of NOV called Dynamic Drilling Solutions and is responsible for delivering Automated Drilling Solutions to NOV's customers. He has also been an active member of the Society of Petroleum Engineers (SPE) Drilling Systems Automation Technical Section (DSATS) including the role of program chairman.

In October 2018 of he became the CTO for NOV, Wellbore Technologies. Responsible for the digital strategy and technology portfolio for the segment including geothermal drilling technology. In March 2022 Tony moved into his current role responsible for Subsurface Technology particularly focussed on Geothermal and Carbon Storage. He has published and presented 13 SPE/IADC papers and has 5 US and EU Patents on Closed Loop Drilling Automation, Automated Directional Drilling, Early Kick Detection Particle Drilling and Insulated Drill Pipe.



09:00: Welcoming note and opening remarks

09:15: SESSION 1: Introduction to Geothermal Drilling Regulations in Europe

- · Introduction to geothermal drilling
- · Geothermal project stages
- Introducing regulators, regulations, standards, guidelines, best practices, company policies
- Key stakeholders and their roles in geothermal drilling regulation
- · Overview of the geothermal drilling regulation
- Current Regulatory framework for geothermal drilling in Europe
- · Planned regulatory framework
- · Current key country legislations

10:45: SESSION 2: Geothermal Drilling Techniques and Technologies

- Overview of geothermal drilling techniques and technologies
- · Drilling equipment and technology
- · Drilling methods and procedures
- Ensuring operational compliance for geothermal drilling
- · Risk assessment and management in geothermal drilling

13:15: Session 3: Environmental and Social Considerations

- Review of recent geothermal well permitting refusals
- · Shallow aquifer protection
- · Geothermal brine treatment and discharge
- Environment and social considerations in geothermal drilling
- Managing key aspects of Environmental Impact Assessments (EIAs)
- · Managing Social Impact Assessments (SIAs)
- Discussion on managing the external 'managed protest' resistance to development
- Community engagement and stakeholder consultation

14:45: Session 4: Case Studies

- Case studies of geothermal drilling projects in Europe
- · Lessons learned and best practices

13:00: End of day one



08.45: Online meeting room opens 09:00: SESSION 5: Drilling Permitting and Licensing

- Permitting and licensing requirements for geothermal drilling in Europe
- The role of regulatory agencies in permitting and licensing
- · Compliance monitoring and enforcement

10:45: SESSION 6: Health and Safety Regulations

- Principles of well integrity and barrier policy, key differences between Geothermal wells and oil and gas wells
- Health and safety regulations in geothermal drilling safety at the drill site
- · Occupational health and safety standards
- · Emergency response planning and procedures

10:45: SESSION 6: Health and Safety Regulations

- Financial and economic considerations in geothermal drilling
- funding mechanisms for geothermal drilling projects
- cost-benefit analysis and economic feasibility studies

13:15: SESSION 8: Roundtable Discussion

- Open Discussion on key issues and challenges in geothermal drilling regulations in Europe
- Recommendations for future research and policy development

17:30 End of the Training Course