



OIL AND GAS | OG-060

Artificial Intelligence and Data Analytics in Oil and Gas

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Course content

Why Attend

Oil and gas companies generate enormous volumes of seismic, well, production, maintenance and commercial data. Artificial intelligence and analytics can turn this data into faster decisions, higher recovery and lower costs.

This Aractech course explains machine learning, generative AI and analytics applications across exploration, drilling, production, maintenance, HSE and trading. Participants learn how to identify high-value use cases, prepare data, evaluate models, manage risks and scale AI solutions.

Course Methodology

- Concept explanations
- Demonstrations and guided exercises
- Industry case studies
- Use-case workshops
- Group presentations

Course Objectives

- Explain AI, machine learning and analytics concepts
- Identify AI use cases across the oil and gas value chain
- Prepare and assess data for analytics
- Evaluate model performance and limitations
- Manage AI risks and governance
- Plan and scale AI initiatives

Target Audience

- Engineers and geoscientists

Course content

- Data analysts and data scientists in energy
- Operations and maintenance managers
- Digital transformation teams

Course outline

Detailed course outline

Day-by-day outline for Artificial Intelligence and Data Analytics in Oil and Gas.

Day 1 - AI and Analytics Fundamentals

- 09:00-09:39 | Data in oil and gas
- 09:39-10:18 | Analytics types
- 10:18-10:57 | Machine learning basics
- 10:57-11:00 | Generative AI
- 11:00-11:30 | Coffee break
- 11:30-12:05 | Generative AI (continued)
- 12:05-12:43 | Limitations
- 12:43-14:00 | Exercise: Identifying data assets

Day 2 - Subsurface and Drilling Applications

- 09:00-09:34 | Seismic interpretation
- 09:34-10:08 | Reservoir characterisation
- 10:08-10:42 | Drilling optimisation
- 10:42-11:00 | Well planning
- 11:00-11:30 | Coffee break
- 11:30-11:46 | Well planning (continued)
- 11:46-12:53 | Case study: ML in drilling
- 12:53-14:00 | Exercise: Use-case scoring

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Day 3 - Production and Maintenance Applications

- 09:00-09:39 | Production forecasting
- 09:39-10:18 | Anomaly detection
- 10:18-10:57 | Predictive maintenance
- 10:57-11:00 | Energy optimisation
- 11:00-11:30 | Coffee break
- 11:30-12:05 | Energy optimisation (continued)
- 12:05-12:43 | HSE analytics
- 12:43-14:00 | Lab: Analysing production data

Day 4 - Data and Model Management

- 09:00-09:39 | Data preparation
- 09:39-10:18 | Feature engineering basics
- 10:18-10:57 | Model evaluation
- 10:57-11:00 | Explainability
- 11:00-11:30 | Coffee break
- 11:30-12:05 | Explainability (continued)
- 12:05-12:43 | MLOps overview
- 12:43-14:00 | Workshop: Model evaluation

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Day 5 - Scaling AI

- 09:00-09:45 | Governance and ethics
- 09:45-10:30 | Skills and organisation
- 10:30-11:00 | Vendor selection
- 11:00-11:30 | Coffee break
- 11:30-11:45 | Vendor selection (continued)
- 11:45-12:30 | Value measurement
- 12:30-13:15 | Roadmap
- 13:15-14:00 | Capstone: AI use-case proposal

Seminar dates

Available seminar dates

Live dates and pricing for Artificial Intelligence and Data Analytics in Oil and Gas generated from the course details page.

Date	Location	Format	Fee
9 - 13 November 2026	Rome	Classroom	€3,460
16 - 20 November 2026	Kuala lumpur	Classroom	€1,925
7 - 11 December 2026	Barcelona	Classroom	€2,815
14 - 18 December 2026	Istanbul	Classroom	€1,978
18 - 22 January 2027	Barcelona	Classroom	€2,815
15 - 19 February 2027	London	Classroom	€2,315
15 - 19 March 2027	Munich	Classroom	€3,225
19 - 23 April 2027	Amsterdam	Classroom	€2,830
17 - 21 May 2027	Istanbul	Classroom	€1,978
21 - 25 June 2027	Rome	Classroom	€3,460

Seminar dates

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Date	Location	Format	Fee
19 - 23 July 2027	Istanbul	Classroom	€1,978
16 - 20 August 2027	Paris	Classroom	€3,825
20 - 24 September 2027	Frankfurt	Classroom	€1,875
18 - 22 October 2027	Barcelona	Classroom	€2,815
15 - 19 November 2027	Frankfurt	Classroom	€1,875
20 - 24 December 2027	Rome	Classroom	€3,460
9 - 13 November 2026	Online / Live	Online / Live	€1,815
16 - 20 November 2026	Online / Live	Online / Live	€1,815
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14 - 18 December 2026	Online / Live	Online / Live	€1,815

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