

DIGITAL INNOVATION AND TRANSFORMATION | COURSE BROCHURE

AI Use Cases in Oil and Gas Operations

5 days | Classroom training | English

SMART HORIZON

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Course content

Why attend

Artificial intelligence is changing how oil and gas companies explore, produce, maintain and trade. This course reviews proven AI use cases across the value chain, including predictive maintenance, production optimisation, reservoir analytics, safety monitoring with computer vision and energy trading forecasts. Participants learn how to assess data readiness, build a business case and move from pilot to scaled deployment.

Many AI pilots in energy never reach production. You will learn which use cases deliver value, what data and skills they need, and how to lead adoption safely in operational environments.

Professional Problems This Course Is Designed to Solve

• Difficulty translating subject knowledge into practical workplace decisions.
• Inconsistent approaches to the activities covered in the course outline.
• Lack of a structured plan for applying and reviewing new skills.

Course methodology

Industry case studies, use-case prioritisation workshops, live demonstrations of AI tools and group business case development.

Course objectives

By the end of this course, participants will be able to:
• Describe the main AI techniques used in oil and gas
• Identify high-value AI use cases across upstream, midstream and downstream
• Assess data, infrastructure and skills readiness
• Build a business case for an AI initiative
• Plan pilots and scale successful solutions
• Manage safety, cyber and ethical risks of AI in operations

Target audience

This course is suitable for:
• Operations and production managers
• Maintenance and reliability engineers
• Digital transformation leaders in energy
• Data and IT professionals in oil and gas
• HSE managers



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Target competencies

Participants will develop competencies in:

- Use-case prioritisation
- Data readiness assessment
- Business case development
- AI programme leadership
- Operational risk awareness

Course outline

Day 1: AI in the Energy Sector

09:00–10:08	Machine learning, computer vision and generative AI explained
10:08–11:00	Digital oilfield and data landscape
11:00–11:30	**Coffee break**
11:30–11:45	Digital oilfield and data landscape (continued)
11:45–12:53	Industry adoption trends
12:53–14:00	Workshop: mapping your value chain

Day 2: Upstream and Production

09:00–10:08	Reservoir and well performance analytics
10:08–11:00	Production optimisation
11:00–11:30	**Coffee break**
11:30–11:45	Production optimisation (continued)
11:45–12:53	Drilling performance prediction
12:53–14:00	Case study: AI in a producing field

Day 3: Maintenance and Safety

09:00–10:08	Predictive maintenance for rotating equipment
10:08–11:00	Computer vision for safety compliance
11:00–11:30	**Coffee break**



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11:30–11:45	Computer vision for safety compliance (continued)
11:45–12:53	Leak and emissions detection
12:53–14:00	Exercise: failure prediction scenario

Day 4: Downstream and Trading

09:00–10:08	Refinery process optimisation
10:08–11:00	Demand and price forecasting
11:00–11:30	**Coffee break**
11:30–11:45	Demand and price forecasting (continued)
11:45–12:53	Logistics and supply optimisation
12:53–14:00	Workshop: ranking use cases by value

Day 5: From Pilot to Scale

09:00–10:08	Data platforms and governance
10:08–11:00	Building the business case
11:00–11:30	**Coffee break**
11:30–11:45	Building the business case (continued)
11:45–12:53	Change management with field teams
12:53–14:00	Personal AI roadmap

The timings provided are estimates and may vary depending on the number of participants and the discussions taking place during the sessions. They are indicative only and do not constitute a binding commitment.



Course content

Dates, venues and fees

Current published course plans. Fees are per participant in EUR, excluding unconfirmed taxes.

Venue	Start date	End date	Fee (EUR)
Cape Town Confirmed dates	23 Nov 2026	27 Nov 2026	**€1,890.–**
Online Confirmed dates	23 Nov 2026	27 Nov 2026	**€1,250.–**
Rome Confirmed dates	14 Dec 2026	18 Dec 2026	**€2,450.–**
Online Confirmed dates	14 Dec 2026	18 Dec 2026	**€1,250.–**
London Confirmed dates	18 Jan 2027	22 Jan 2027	**€2,450.–**
Online Confirmed dates	18 Jan 2027	22 Jan 2027	**€1,250.–**
Vienna Confirmed dates	8 Feb 2027	12 Feb 2027	**€2,940.–**
Online Confirmed dates	8 Feb 2027	12 Feb 2027	**€1,250.–**
Frankfurt Confirmed dates	22 Feb 2027	26 Feb 2027	**€2,650.–**



Course content

Dates, venues and fees (continued)

Venue	Start date	End date	Fee (EUR)
Online Confirmed dates	22 Feb 2027	26 Feb 2027	**€1,250.–**
Barcelona Confirmed dates	15 Mar 2027	19 Mar 2027	**€2,840.–**
Online Confirmed dates	15 Mar 2027	19 Mar 2027	**€1,250.–**
Dubai Confirmed dates	5 Apr 2027	9 Apr 2027	**€3,150.–**
Online Confirmed dates	5 Apr 2027	9 Apr 2027	**€1,250.–**
Paris Confirmed dates	26 Apr 2027	30 Apr 2027	**€2,860.–**
Online Confirmed dates	26 Apr 2027	30 Apr 2027	**€1,250.–**
Istanbul Confirmed dates	17 May 2027	21 May 2027	**€2,650.–**
Online Confirmed dates	17 May 2027	21 May 2027	**€1,250.–**



Course content

Dates, venues and fees (continued)

Venue	Start date	End date	Fee (EUR)
Cape Town Confirmed dates	31 May 2027	4 Jun 2027	**€1,890.–**
Online Confirmed dates	31 May 2027	4 Jun 2027	**€1,250.–**
Rome Confirmed dates	21 Jun 2027	25 Jun 2027	**€2,450.–**
Online Confirmed dates	21 Jun 2027	25 Jun 2027	**€1,250.–**
Dubai Confirmed dates	12 Jul 2027	16 Jul 2027	**€3,150.–**
Online Confirmed dates	12 Jul 2027	16 Jul 2027	**€1,250.–**
Rome Confirmed dates	2 Aug 2027	6 Aug 2027	**€2,450.–**
Online Confirmed dates	2 Aug 2027	6 Aug 2027	**€1,250.–**
Amsterdam Confirmed dates	23 Aug 2027	27 Aug 2027	**€2,540.–**



Course content

Dates, venues and fees (continued)

Venue	Start date	End date	Fee (EUR)
Online Confirmed dates	23 Aug 2027	27 Aug 2027	**€1,250.-**
Dubai Confirmed dates	6 Sept 2027	10 Sept 2027	**€3,150.-**
Online Confirmed dates	6 Sept 2027	10 Sept 2027	**€1,250.-**
Kuala Lumpur Confirmed dates	27 Sept 2027	1 Oct 2027	**€1,450.-**
Online Confirmed dates	27 Sept 2027	1 Oct 2027	**€1,250.-**
Cape Town Confirmed dates	18 Oct 2027	22 Oct 2027	**€1,890.-**
Online Confirmed dates	18 Oct 2027	22 Oct 2027	**€1,250.-**
Barcelona Confirmed dates	8 Nov 2027	12 Nov 2027	**€2,840.-**
Online Confirmed dates	8 Nov 2027	12 Nov 2027	**€1,250.-**



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Dates, venues and fees (continued)

Venue	Start date	End date	Fee (EUR)
Vienna Confirmed dates	29 Nov 2027	3 Dec 2027	**€2,940.-**
Online Confirmed dates	29 Nov 2027	3 Dec 2027	**€1,250.-**
London Confirmed dates	13 Dec 2027	17 Dec 2027	**€2,450.-**
Online Confirmed dates	13 Dec 2027	17 Dec 2027	**€1,250.-**

Plan your next step

Dates, availability, exact venue, taxes, inclusions and payment terms require written confirmation. This brochure is not a quotation, registration, booking confirmation or visa invitation. Participants receive a Smart Horizon certificate of attendance; programmes are not externally accredited and do not award a professional qualification or designation. Confirm arrangements before booking travel.

For group or in-house training, contact our learning team to discuss your objectives and delivery arrangements.

Contact Smart Horizon

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View the latest course details online