

MAINTENANCE AND ENGINEERING | COURSE BROCHURE

Gearbox Maintenance and Failure Analysis

5 days | Classroom training | English

SMART HORIZON

info@smart-horizon.eu
Amsterdam
The Netherlands

Explore current programmes

https://smart-horizon.eu



Course content

Why attend

Gearboxes transmit power in conveyors, mills, cranes and countless machines. This course covers gearbox types, gear and bearing failure modes, lubrication, condition monitoring by vibration and oil analysis, inspection techniques, overhaul practices and root cause analysis of gearbox failures.

Gearbox failures cause long and expensive downtime. You will learn to maintain gearboxes and diagnose problems early.

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

Failure mode identification exercises, oil and vibration data interpretation, case studies and maintenance planning.

Course objectives

By the end of this course, participants will be able to:
- Explain gearbox types and components
- Identify gear and bearing failure modes
- Apply correct lubrication practices
- Monitor gearboxes using vibration and oil analysis
- Inspect and overhaul gearboxes
- Analyse root causes of gearbox failures

Target audience

This course is suitable for:
- Maintenance technicians and engineers
- Reliability engineers
- Condition monitoring staff
- Mining and heavy industry engineers
- Maintenance supervisors



Course content

Target competencies

Participants will develop competencies in:
- Failure mode recognition
- Lubrication
- Condition monitoring
- Overhaul practice
- Root cause analysis

Course outline

Day 1: Gearbox Basics

09:00–10:08	Gear types
10:08–11:00	Bearings
11:00–11:30	**Coffee break**
11:30–11:45	Bearings (continued)
11:45–12:53	Applications
12:53–14:00	Exercise

Day 2: Failure Modes

09:00–10:08	Pitting and wear
10:08–11:00	Tooth breakage
11:00–11:30	**Coffee break**
11:30–11:45	Tooth breakage (continued)
11:45–12:53	Bearing failures
12:53–14:00	Case study

Day 3: Lubrication

09:00–10:08	Lubricant selection
10:08–11:00	Oil levels and temperatures
11:00–11:30	**Coffee break**



Course content

11:30–11:45	Oil levels and temperatures (continued)
11:45–12:53	Contamination
12:53–14:00	Workshop

Day 4: Condition Monitoring

09:00–10:08	Vibration signatures
10:08–11:00	Oil and wear debris analysis
11:00–11:30	**Coffee break**
11:30–11:45	Oil and wear debris analysis (continued)
11:45–12:53	Inspection
12:53–14:00	Exercise

Day 5: Overhaul and RCA

09:00–10:08	Overhaul practices
10:08–11:00	Alignment
11:00–11:30	**Coffee break**
11:30–11:45	Alignment (continued)
11:45–12:53	Root cause analysis
12:53–14:00	Action plan

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)
Amsterdam Confirmed dates	16 Nov 2026	20 Nov 2026	**€5,080.–**
Online Confirmed dates	16 Nov 2026	20 Nov 2026	**€1,250.–**
Dubai Confirmed dates	7 Dec 2026	11 Dec 2026	**€6,300.–**
Online Confirmed dates	7 Dec 2026	11 Dec 2026	**€1,250.–**
Vienna Confirmed dates	11 Jan 2027	15 Jan 2027	**€5,880.–**
Online Confirmed dates	11 Jan 2027	15 Jan 2027	**€1,250.–**
Paris Confirmed dates	1 Feb 2027	5 Feb 2027	**€5,720.–**
Online Confirmed dates	1 Feb 2027	5 Feb 2027	**€1,250.–**
Frankfurt Confirmed dates	22 Feb 2027	26 Feb 2027	**€5,300.–**



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.–**
Cape Town Confirmed dates	8 Mar 2027	12 Mar 2027	**€3,780.–**
Online Confirmed dates	8 Mar 2027	12 Mar 2027	**€1,250.–**
London Confirmed dates	29 Mar 2027	2 Apr 2027	**€4,900.–**
Online Confirmed dates	29 Mar 2027	2 Apr 2027	**€1,250.–**
Rome Confirmed dates	19 Apr 2027	23 Apr 2027	**€4,900.–**
Online Confirmed dates	19 Apr 2027	23 Apr 2027	**€1,250.–**
Barcelona Confirmed dates	10 May 2027	14 May 2027	**€5,680.–**
Online Confirmed dates	10 May 2027	14 May 2027	**€1,250.–**



Course content

Dates, venues and fees (continued)

Venue	Start date	End date	Fee (EUR)
London Confirmed dates	31 May 2027	4 Jun 2027	**€4,900.–**
Online Confirmed dates	31 May 2027	4 Jun 2027	**€1,250.–**
Vienna Confirmed dates	14 Jun 2027	18 Jun 2027	**€5,880.–**
Online Confirmed dates	14 Jun 2027	18 Jun 2027	**€1,250.–**
Barcelona Confirmed dates	5 Jul 2027	9 Jul 2027	**€5,680.–**
Online Confirmed dates	5 Jul 2027	9 Jul 2027	**€1,250.–**
Cape Town Confirmed dates	26 Jul 2027	30 Jul 2027	**€3,780.–**
Online Confirmed dates	26 Jul 2027	30 Jul 2027	**€1,250.–**
Kuala Lumpur Confirmed dates	16 Aug 2027	20 Aug 2027	**€2,900.–**



Course content

Dates, venues and fees (continued)

Venue	Start date	End date	Fee (EUR)
Online Confirmed dates	16 Aug 2027	20 Aug 2027	**€1,250.-**
Rome Confirmed dates	6 Sept 2027	10 Sept 2027	**€4,900.-**
Online Confirmed dates	6 Sept 2027	10 Sept 2027	**€1,250.-**
Istanbul Confirmed dates	20 Sept 2027	24 Sept 2027	**€5,300.-**
Online Confirmed dates	20 Sept 2027	24 Sept 2027	**€1,250.-**
Dubai Confirmed dates	11 Oct 2027	15 Oct 2027	**€6,300.-**
Online Confirmed dates	11 Oct 2027	15 Oct 2027	**€1,250.-**
Rome Confirmed dates	1 Nov 2027	5 Nov 2027	**€4,900.-**
Online Confirmed dates	1 Nov 2027	5 Nov 2027	**€1,250.-**



Course content

Dates, venues and fees (continued)

Venue	Start date	End date	Fee (EUR)
Dubai Confirmed dates	22 Nov 2027	26 Nov 2027	**€6,300.-**
Online Confirmed dates	22 Nov 2027	26 Nov 2027	**€1,250.-**
Cape Town Confirmed dates	13 Dec 2027	17 Dec 2027	**€3,780.-**
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

info@smart-horizon.eu
Amsterdam
The Netherlands

View the latest course details online