

MAINTENANCE AND ENGINEERING | COURSE BROCHURE

Transformers and Switchgear Maintenance

5 days | Classroom training | English

SMART HORIZON

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Amsterdam
The Netherlands

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Course content

Why attend

Transformers and switchgear are critical and expensive assets in power systems. This course covers transformer construction and operation, insulating oil, testing and diagnostics, switchgear types, protection basics, inspection and maintenance, condition assessment and safety.

Failures of transformers and switchgear can cause long outages. This course helps you maintain and assess these assets effectively.

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

The course uses technical presentations, test result interpretation exercises, case studies and maintenance planning. It does not qualify participants for electrical work.

Course objectives

By the end of this course, participants will be able to:
• Explain transformer construction and operation
• Interpret insulating oil and dissolved gas analysis
• Apply transformer testing and diagnostics
• Understand switchgear types and protection
• Plan inspection and maintenance
• Assess asset condition and plan replacement

Target audience

This course is suitable for:
• Electrical engineers
• Substation technicians
• Maintenance managers
• Utility engineers
• Asset managers



Course content

Target competencies

Participants will develop competencies in:

- Transformer fundamentals
- Oil analysis
- Electrical testing
- Switchgear maintenance
- Protection awareness
- Condition assessment

Course outline

Day 1: Transformers

09:00–09:54	Construction
09:54–10:48	Operation
10:48–11:00	Cooling
11:00–11:30	**Coffee break**
11:30–12:12	Cooling (continued)
12:12–13:06	Accessories
13:06–14:00	Exercise: Transformer review

Day 2: Diagnostics

09:00–09:54	Oil testing
09:54–10:48	Dissolved gas analysis
10:48–11:00	Electrical tests
11:00–11:30	**Coffee break**
11:30–12:12	Electrical tests (continued)
12:12–13:06	Thermography
13:06–14:00	Lab: Test interpretation



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Day 3: Switchgear

09:00–09:54	Switchgear types
09:54–10:48	Circuit breakers
10:48–11:00	Protection relays
11:00–11:30	**Coffee break**
11:30–12:12	Protection relays (continued)
12:12–13:06	Safety interlocks
13:06–14:00	Demonstration: Switchgear

Day 4: Maintenance

09:00–09:54	Maintenance strategies
09:54–10:48	Inspection
10:48–11:00	Testing
11:00–11:30	**Coffee break**
11:30–12:12	Testing (continued)
12:12–13:06	Safety
13:06–14:00	Case study: Transformer failure

Day 5: Asset Management

09:00–09:54	Condition assessment
09:54–10:48	Health indices
10:48–11:00	Replacement planning
11:00–11:30	**Coffee break**
11:30–12:12	Replacement planning (continued)
12:12–13:06	Spares
13:06–14:00	Capstone: Maintenance plan

The timings provided are estimates and may vary depending on the number of participants and the discussions taking place during the



Course content

sessions. They are indicative only and do not constitute a binding commitment.

Dates, venues and fees

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

Venue	Start date	End date	Fee (EUR)
Kuala Lumpur Confirmed dates	16 Nov 2026	20 Nov 2026	**€2,900.–**
Online Confirmed dates	16 Nov 2026	20 Nov 2026	**€1,250.–**
Cape Town Confirmed dates	23 Nov 2026	27 Nov 2026	**€3,780.–**
Online Confirmed dates	23 Nov 2026	27 Nov 2026	**€1,250.–**
Paris Confirmed dates	7 Dec 2026	11 Dec 2026	**€5,720.–**
Online Confirmed dates	7 Dec 2026	11 Dec 2026	**€1,250.–**
Istanbul Confirmed dates	14 Dec 2026	18 Dec 2026	**€5,300.–**
Online Confirmed dates	14 Dec 2026	18 Dec 2026	**€1,250.–**



Course content

Dates, venues and fees (continued)

Venue	Start date	End date	Fee (EUR)
Amsterdam Confirmed dates	4 Jan 2027	8 Jan 2027	**€5,080.-**
Online Confirmed dates	4 Jan 2027	8 Jan 2027	**€1,250.-**
Singapore Confirmed dates	18 Jan 2027	22 Jan 2027	**€5,640.-**
Online Confirmed dates	18 Jan 2027	22 Jan 2027	**€1,250.-**
London Confirmed dates	1 Feb 2027	5 Feb 2027	**€4,900.-**
Online Confirmed dates	1 Feb 2027	5 Feb 2027	**€1,250.-**
Rome Confirmed dates	8 Feb 2027	12 Feb 2027	**€4,900.-**
Online Confirmed dates	8 Feb 2027	12 Feb 2027	**€1,250.-**
Dubai Confirmed dates	15 Feb 2027	19 Feb 2027	**€6,300.-**



Course content

Dates, venues and fees (continued)

Venue	Start date	End date	Fee (EUR)
Online Confirmed dates	15 Feb 2027	19 Feb 2027	**€1,250.–**
Frankfurt Confirmed dates	1 Mar 2027	5 Mar 2027	**€5,300.–**
Online Confirmed dates	1 Mar 2027	5 Mar 2027	**€1,250.–**
Kuala Lumpur Confirmed dates	15 Mar 2027	19 Mar 2027	**€2,900.–**
Online Confirmed dates	15 Mar 2027	19 Mar 2027	**€1,250.–**
Paris Confirmed dates	5 Apr 2027	9 Apr 2027	**€5,720.–**
Online Confirmed dates	5 Apr 2027	9 Apr 2027	**€1,250.–**
Vienna Confirmed dates	12 Apr 2027	16 Apr 2027	**€5,880.–**
Online Confirmed dates	12 Apr 2027	16 Apr 2027	**€1,250.–**



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Dates, venues and fees (continued)

Venue	Start date	End date	Fee (EUR)
Istanbul Confirmed dates	19 Apr 2027	23 Apr 2027	**€5,300.-**
Online Confirmed dates	19 Apr 2027	23 Apr 2027	**€1,250.-**
Amsterdam Confirmed dates	3 May 2027	7 May 2027	**€5,080.-**
Online Confirmed dates	3 May 2027	7 May 2027	**€1,250.-**
Singapore Confirmed dates	17 May 2027	21 May 2027	**€5,640.-**
Online Confirmed dates	17 May 2027	21 May 2027	**€1,250.-**
London Confirmed dates	7 Jun 2027	11 Jun 2027	**€4,900.-**
Online Confirmed dates	7 Jun 2027	11 Jun 2027	**€1,250.-**
Barcelona Confirmed dates	14 Jun 2027	18 Jun 2027	**€5,680.-**



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Dates, venues and fees (continued)

Venue	Start date	End date	Fee (EUR)
Online Confirmed dates	14 Jun 2027	18 Jun 2027	**€1,250.-**
Dubai Confirmed dates	21 Jun 2027	25 Jun 2027	**€6,300.-**
Online Confirmed dates	21 Jun 2027	25 Jun 2027	**€1,250.-**
Frankfurt Confirmed dates	5 Jul 2027	9 Jul 2027	**€5,300.-**
Online Confirmed dates	5 Jul 2027	9 Jul 2027	**€1,250.-**
Kuala Lumpur Confirmed dates	19 Jul 2027	23 Jul 2027	**€2,900.-**
Online Confirmed dates	19 Jul 2027	23 Jul 2027	**€1,250.-**
Paris Confirmed dates	2 Aug 2027	6 Aug 2027	**€5,720.-**
Online Confirmed dates	2 Aug 2027	6 Aug 2027	**€1,250.-**



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Dates, venues and fees (continued)

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Istanbul Confirmed dates	16 Aug 2027	20 Aug 2027	**€5,300.-**
Online Confirmed dates	16 Aug 2027	20 Aug 2027	**€1,250.-**
Cape Town Confirmed dates	23 Aug 2027	27 Aug 2027	**€3,780.-**
Online Confirmed dates	23 Aug 2027	27 Aug 2027	**€1,250.-**
Amsterdam Confirmed dates	6 Sept 2027	10 Sept 2027	**€5,080.-**
Online Confirmed dates	6 Sept 2027	10 Sept 2027	**€1,250.-**
Singapore Confirmed dates	20 Sept 2027	24 Sept 2027	**€5,640.-**
Online Confirmed dates	20 Sept 2027	24 Sept 2027	**€1,250.-**
London Confirmed dates	4 Oct 2027	8 Oct 2027	**€4,900.-**



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Dates, venues and fees (continued)

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Online Confirmed dates	4 Oct 2027	8 Oct 2027	**€1,250.–**
Dubai Confirmed dates	18 Oct 2027	22 Oct 2027	**€6,300.–**
Online Confirmed dates	18 Oct 2027	22 Oct 2027	**€1,250.–**
Rome Confirmed dates	25 Oct 2027	29 Oct 2027	**€4,900.–**
Online Confirmed dates	25 Oct 2027	29 Oct 2027	**€1,250.–**
Frankfurt Confirmed dates	1 Nov 2027	5 Nov 2027	**€5,300.–**
Online Confirmed dates	1 Nov 2027	5 Nov 2027	**€1,250.–**
Kuala Lumpur Confirmed dates	15 Nov 2027	19 Nov 2027	**€2,900.–**
Online Confirmed dates	15 Nov 2027	19 Nov 2027	**€1,250.–**



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Dates, venues and fees (continued)

Venue	Start date	End date	Fee (EUR)
Paris Confirmed dates	6 Dec 2027	10 Dec 2027	**€5,720.-**
Online Confirmed dates	6 Dec 2027	10 Dec 2027	**€1,250.-**
Istanbul Confirmed dates	13 Dec 2027	17 Dec 2027	**€5,300.-**
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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