

MAINTENANCE AND ENGINEERING | COURSE BROCHURE

Engineering Excellence in Electrical Equipment

5 days | Classroom training | English

SMART HORIZON

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Course content

Why attend

This course focuses on enhancing the engineering capabilities of professionals involved in the design, development, and maintenance of electrical equipment. Participants will learn best practices, methodologies, and tools to achieve excellence in engineering processes and product quality.

Electrical equipment engineers frequently encounter challenges related to product reliability, compliance with industry standards, and the integration of new technologies. These issues can lead to costly recalls, project delays, and safety hazards, impacting both the bottom line and customer trust. Addressing these challenges is crucial for maintaining competitive advantage and ensuring customer satisfaction. By mastering engineering excellence, participants can implement effective practices that enhance product performance, streamline processes, and reduce operational risks. This course empowers engineers to make informed decisions that drive innovation and improve overall project outcomes, ensuring their contributions are aligned with organisational goals.
Participants will engage in practical exercises that simulate real-world engineering problems, enabling them to develop solutions that improve design processes and operational efficiency. They will learn to apply quality assurance techniques, performance metrics, and risk management strategies, equipping them with the skills necessary to make informed decisions. This hands-on approach fosters collaboration and critical thinking, allowing participants to tackle complex engineering tasks with confidence. By the end of the course, they will be prepared to lead initiatives that promote engineering excellence, optimise project workflows, and contribute to the overall success of their teams.

Professional Problems This Course Is Designed to Solve

- Equipment decisions without a consistent engineering assessment.
- Recurring reliability issues and ineffective maintenance practices.
- Difficulty linking equipment performance to operational requirements.

Course methodology

The course employs a blend of interactive workshops, case studies, and hands-on simulations to build participants' engineering capabilities. Each day includes practical exercises that require participants to apply learned concepts to solve specific problems related to electrical equipment. For example, participants will engage in group discussions to analyse case studies of engineering failures and brainstorm solutions. Outputs include design specifications, quality assurance plans, performance analysis reports, and prototype evaluations, providing tangible evidence of skill development and practical application of knowledge in real-world scenarios. This approach ensures that participants not only learn theoretical concepts but also gain practical experience that can be directly applied in their roles.



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Course objectives

By the end of this course, participants will be able to:
• Analyse engineering standards relevant to electrical equipment design and maintenance.
• Design a comprehensive quality assurance plan for electrical equipment projects.
• Evaluate the performance metrics of electrical equipment against industry benchmarks.
• Construct a prototype based on specified engineering requirements and constraints.
• Diagnose common failures in electrical equipment and propose corrective actions.
• Prioritise engineering tasks based on risk assessment and project timelines.

Target audience

This course is suitable for:
• Electrical engineers involved in product design and development.
• Quality assurance professionals in the electrical equipment sector.
• Project managers overseeing electrical equipment projects.
• Maintenance engineers responsible for equipment reliability and performance.

Target competencies

Participants will develop competencies in:
• Implementing engineering best practices for electrical equipment.
• Conducting thorough risk assessments in engineering projects.
• Utilising performance metrics to evaluate equipment effectiveness.
• Developing quality assurance processes tailored to electrical equipment.
• Applying problem-solving techniques to engineering challenges.
• Collaborating effectively within engineering teams to achieve project goals.

Course outline

Day 1: Foundations of Electrical Engineering Standards

Applied activity: Participants will review a case study of a failed electrical product due to non-compliance. They will identify the standards that were not met, propose a compliance strategy, and outline necessary documentation improvements, ensuring all aspects of compliance are addressed.
Output: Compliance strategy report highlighting identified standards, proposed actions, and documentation improvements.

09:00–09:54	Overview of electrical engineering standards and regulations relevant to equipment design.
09:54–10:48	Key principles of electrical equipment design and their implications for safety and performance.



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10:48–11:00	Importance of compliance in engineering processes and its impact on product lifecycle.
11:00–11:30	**Coffee break**
11:30–12:12	Importance of compliance in engineering processes and its impact on product lifecycle. (continued)
12:12–13:06	Introduction to risk management in electrical engineering and its application in projects.
13:06–14:00	Best practices for documentation, reporting, and maintaining compliance throughout the project lifecycle.

Day 2: Quality Assurance in Electrical Equipment Design

Applied activity: In small groups, participants will create a quality assurance plan for a new electrical device, incorporating relevant metrics, testing protocols, and compliance checks to ensure product reliability and safety. They will also discuss potential challenges in implementation.
Output: Quality assurance plan document for the proposed electrical device, including metrics and testing protocols.

09:00–09:54	Defining quality assurance in engineering contexts and its significance for product reliability.
09:54–10:48	Tools and techniques for quality control in electrical equipment design and manufacturing processes.
10:48–11:00	Establishing quality metrics for performance evaluation and customer satisfaction.
11:00–11:30	**Coffee break**
11:30–12:12	Establishing quality metrics for performance evaluation and customer satisfaction. (continued)
12:12–13:06	Integrating quality assurance into the design process to prevent defects and ensure compliance.
13:06–14:00	Case studies of successful quality assurance implementations in electrical equipment projects.

Day 3: Performance Evaluation and Benchmarking

Applied activity: Participants will analyse performance data from existing electrical equipment and benchmark it against industry standards, identifying areas for improvement and proposing design modifications to enhance performance. They will present their findings to the group.
Output: Performance analysis report with recommendations for enhancements based on benchmarking results.

09:00–09:54	Understanding performance metrics for electrical equipment and their relevance to engineering excellence.
09:54–10:48	Methods for benchmarking against industry standards and competitor products.
10:48–11:00	Data collection techniques for performance analysis, including testing and user feedback.



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11:00–11:30	**Coffee break**
11:30–12:12	Data collection techniques for performance analysis, including testing and user feedback. (continued)
12:12–13:06	Interpreting performance data to inform design improvements and engineering decisions.
13:06–14:00	Utilising feedback for continuous improvement and innovation in electrical equipment design.

Day 4: Prototyping and Testing Electrical Equipment

Applied activity: Participants will design and create a prototype of a specified electrical device, followed by a testing phase to evaluate its performance against set criteria. They will document the results and necessary adjustments, focusing on iterative improvements.
Output: Prototype and testing report detailing design, results, modifications made, and recommendations for final production.

09:00–09:54	Principles of prototyping in electrical engineering and its role in the design process.
09:54–10:48	Designing prototypes based on engineering specifications and user requirements.
10:48–11:00	Testing methodologies for electrical equipment, including stress testing and usability assessments.
11:00–11:30	**Coffee break**
11:30–12:12	Testing methodologies for electrical equipment, including stress testing and usability assessments. (continued)
12:12–13:06	Documenting test results, iterations, and lessons learned for future projects.
13:06–14:00	Iterative design processes for continuous improvement and refinement of electrical equipment.

Day 5: Integrated Engineering Excellence Project

Applied activity: Participants will work in teams to develop a complete project plan for an electrical equipment innovation, integrating all learned concepts and preparing a presentation for stakeholders that highlights the project's value and expected outcomes. They will also consider potential risks and mitigation strategies.
Output: Comprehensive project plan and presentation for the proposed electrical equipment innovation, including timelines, resources, and expected benefits.

09:00–09:54	Collaborative engineering project management techniques for successful project execution.
09:54–10:48	Integrating quality assurance, performance evaluation, and prototyping into a cohesive project plan.



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10:48–11:00	Developing a comprehensive project plan for electrical equipment innovation, including timelines and resource allocation.
11:00–11:30	**Coffee break**
11:30–12:12	Developing a comprehensive project plan for electrical equipment innovation, including timelines and resource allocation. (continued)
12:12–13:06	Presenting engineering solutions to stakeholders, focusing on clarity and impact.
13:06–14:00	Evaluating project outcomes and lessons learned to inform future engineering practices.

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.

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	9 Nov 2026	13 Nov 2026	**€2,900.-**
Online Confirmed dates	9 Nov 2026	13 Nov 2026	**€1,250.-**
Paris Confirmed dates	23 Nov 2026	27 Nov 2026	**€5,720.-**
Online Confirmed dates	23 Nov 2026	27 Nov 2026	**€1,250.-**
Istanbul Confirmed dates	7 Dec 2026	11 Dec 2026	**€5,300.-**



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Dates, venues and fees (continued)

Venue	Start date	End date	Fee (EUR)
Online Confirmed dates	7 Dec 2026	11 Dec 2026	**€1,250.-**
Amsterdam Confirmed dates	14 Dec 2026	18 Dec 2026	**€5,080.-**
Online Confirmed dates	14 Dec 2026	18 Dec 2026	**€1,250.-**
Cape Town Confirmed dates	4 Jan 2027	8 Jan 2027	**€3,780.-**
Online Confirmed dates	4 Jan 2027	8 Jan 2027	**€1,250.-**
Singapore Confirmed dates	11 Jan 2027	15 Jan 2027	**€5,640.-**
Online Confirmed dates	11 Jan 2027	15 Jan 2027	**€1,250.-**
London Confirmed dates	25 Jan 2027	29 Jan 2027	**€4,900.-**
Online Confirmed dates	25 Jan 2027	29 Jan 2027	**€1,250.-**



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Dates, venues and fees (continued)

Venue	Start date	End date	Fee (EUR)
Dubai Confirmed dates	8 Feb 2027	12 Feb 2027	**€6,300.–**
Online Confirmed dates	8 Feb 2027	12 Feb 2027	**€1,250.–**
Frankfurt Confirmed dates	22 Feb 2027	26 Feb 2027	**€5,300.–**
Online Confirmed dates	22 Feb 2027	26 Feb 2027	**€1,250.–**
Kuala Lumpur Confirmed dates	8 Mar 2027	12 Mar 2027	**€2,900.–**
Online Confirmed dates	8 Mar 2027	12 Mar 2027	**€1,250.–**
Cape Town Confirmed dates	15 Mar 2027	19 Mar 2027	**€3,780.–**
Online Confirmed dates	15 Mar 2027	19 Mar 2027	**€1,250.–**
Paris Confirmed dates	22 Mar 2027	26 Mar 2027	**€5,720.–**



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Dates, venues and fees (continued)

Venue	Start date	End date	Fee (EUR)
Online Confirmed dates	22 Mar 2027	26 Mar 2027	**€1,250.-**
Istanbul Confirmed dates	12 Apr 2027	16 Apr 2027	**€5,300.-**
Online Confirmed dates	12 Apr 2027	16 Apr 2027	**€1,250.-**
Amsterdam Confirmed dates	26 Apr 2027	30 Apr 2027	**€5,080.-**
Online Confirmed dates	26 Apr 2027	30 Apr 2027	**€1,250.-**
Singapore Confirmed dates	10 May 2027	14 May 2027	**€5,640.-**
Online Confirmed dates	10 May 2027	14 May 2027	**€1,250.-**
Rome Confirmed dates	17 May 2027	21 May 2027	**€4,900.-**
Online Confirmed dates	17 May 2027	21 May 2027	**€1,250.-**



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Dates, venues and fees (continued)

Venue	Start date	End date	Fee (EUR)
London Confirmed dates	24 May 2027	28 May 2027	**€4,900.-**
Online Confirmed dates	24 May 2027	28 May 2027	**€1,250.-**
Dubai Confirmed dates	14 Jun 2027	18 Jun 2027	**€6,300.-**
Online Confirmed dates	14 Jun 2027	18 Jun 2027	**€1,250.-**
Frankfurt Confirmed dates	21 Jun 2027	25 Jun 2027	**€5,300.-**
Online Confirmed dates	21 Jun 2027	25 Jun 2027	**€1,250.-**
Rome Confirmed dates	5 Jul 2027	9 Jul 2027	**€4,900.-**
Online Confirmed dates	5 Jul 2027	9 Jul 2027	**€1,250.-**
Kuala Lumpur Confirmed dates	12 Jul 2027	16 Jul 2027	**€2,900.-**



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Dates, venues and fees (continued)

Venue	Start date	End date	Fee (EUR)
Online Confirmed dates	12 Jul 2027	16 Jul 2027	**€1,250.-**
Paris Confirmed dates	26 Jul 2027	30 Jul 2027	**€5,720.-**
Online Confirmed dates	26 Jul 2027	30 Jul 2027	**€1,250.-**
Istanbul Confirmed dates	9 Aug 2027	13 Aug 2027	**€5,300.-**
Online Confirmed dates	9 Aug 2027	13 Aug 2027	**€1,250.-**
Amsterdam Confirmed dates	23 Aug 2027	27 Aug 2027	**€5,080.-**
Online Confirmed dates	23 Aug 2027	27 Aug 2027	**€1,250.-**
Barcelona Confirmed dates	6 Sept 2027	10 Sept 2027	**€5,680.-**
Online Confirmed dates	6 Sept 2027	10 Sept 2027	**€1,250.-**



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Dates, venues and fees (continued)

Venue	Start date	End date	Fee (EUR)
Singapore Confirmed dates	13 Sept 2027	17 Sept 2027	**€5,640.-**
Online Confirmed dates	13 Sept 2027	17 Sept 2027	**€1,250.-**
London Confirmed dates	20 Sept 2027	24 Sept 2027	**€4,900.-**
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.-**
Frankfurt Confirmed dates	25 Oct 2027	29 Oct 2027	**€5,300.-**
Online Confirmed dates	25 Oct 2027	29 Oct 2027	**€1,250.-**
Kuala Lumpur Confirmed dates	8 Nov 2027	12 Nov 2027	**€2,900.-**



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Dates, venues and fees (continued)

Venue	Start date	End date	Fee (EUR)
Online Confirmed dates	8 Nov 2027	12 Nov 2027	**€1,250.-**
Vienna Confirmed dates	15 Nov 2027	19 Nov 2027	**€5,880.-**
Online Confirmed dates	15 Nov 2027	19 Nov 2027	**€1,250.-**
Paris Confirmed dates	22 Nov 2027	26 Nov 2027	**€5,720.-**
Online Confirmed dates	22 Nov 2027	26 Nov 2027	**€1,250.-**
Istanbul Confirmed dates	6 Dec 2027	10 Dec 2027	**€5,300.-**
Online Confirmed dates	6 Dec 2027	10 Dec 2027	**€1,250.-**
Amsterdam Confirmed dates	13 Dec 2027	17 Dec 2027	**€5,080.-**
Online Confirmed dates	13 Dec 2027	17 Dec 2027	**€1,250.-**



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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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