

HV TESTING IS EASY



FOR QUALIFIED EMPLOYEES

WHY WILL MY EMPLOYEES BENEFIT FROM FURTHER TRAINING?

HI|CADEMY



**QUALIFIED
EMPLOYEES**

- Comply with standards

- Learn to detect problems, analyze them and find solutions on their own

- Understand testing processes better

- Reduce fault rates
- Stable processes and workflows

- Reduce time lost due to downtime
- Increase throughput for testing

- Operate systems safely
- Adhere to regulations and guidelines



HIQUALITY

High level
of product quality



HI EFFICIENCY

Savings in time
and costs



HI SAFETY

Employee safety

YOUR COMPANY'S SUCCESS DEPENDS ON YOUR EMPLOYEES AND THEIR QUALIFICATIONS.

The Quality Management System (ISO 9001) includes employee training as a fixed component. The level of qualifications held by your employees and their regular participation in further training courses contribute to the **quality assurance** of their performance at work and for products that your company offers.

In order for testing to proceed properly as well as for the results to be evaluated accurately, it is absolutely necessary that compliance with valid standards (IEC, IEEE, for example) is ensured. For this reason, HICADEMY conducts its training courses bearing in mind the relevant standards.

You will increase reliability and ensure that **testing procedures run smoothly** when a system is operated by qualified employees. To this end, HICADEMY provides instruction on the principles of physics and their application in terms of test systems and when testing in the field. It means your employees, once qualified, will also be capable of **analyzing problematic situations** on their own and if possible resolve them themselves, **saving your company both time and money.**

WHAT IS HICADEMY?

High-voltage testing processes are very complex. For this reason, HIGHVOLT has conducted user training courses on a variety of high-voltage test systems over the years. In addition, the company organizes seminars on the fundamentals of high-voltage technology around the world. Furthermore, customers can also receive assistance when conducting complex tests (application support).

In view of an increased demand for training courses, HIGHVOLT decided to further expand this offering and established the HICADEMY. Instructors at the HICADEMY train participants by passing along the experiences they have gained over the years, as well as sharing their knowledge and know-how.

What makes HICADEMY courses so special is their combination of theory and practice.

**HICADEMY MAKES COMPLEX
HV TESTING EASIER.**

HOW CAN HICADEMY GUARANTEE PROPER QUALIFICATIONS?

MODULE | 1

Fundamentals of high-voltage test technology

All areas of high-voltage test and measurement technology for factory and on-site testing



TARGET GROUP

- Managers and engineers of test bay facilities
- Service center employees and utilities companies
- Developers of high-voltage systems
- Employees of R&D centers

CONTENTS

- Fundamentals of high-voltage technology
- Test technology (e. g. high-voltage sources)
- Voltage and current measurements
- Calibration of high-voltage measurement systems
- Partial discharge measurements
- Test setup, grounding, shielding
- Atmospheric/environmental conditions
- Content, interpretation and application of IEC standards
 - IEC 60060-1 (Requirements for high-voltage laboratory testing)
 - IEC 60060-2 (high-voltage measurement)
 - IEC 60060-3 (Requirements for high-voltage testing on site)
 - IEC 60270 (Partial discharge measurement)
 - IEC 61083 (Digital recorders for high-voltage testing)

The seminar is referring to test systems of all manufacturers.

RECOMMENDED BACKGROUND KNOWLEDGE

- Participants should possess the fundamentals of electrical engineering.

FURTHER DETAILS (ALL MODULES)

MODULE | 2

High-voltage test systems

Operation, maintenance and service

MODULE | 3

Testing electric high-voltage equipment

Such as transformers, cables, GIS/GIL

TARGET GROUP

- Managers and engineers of test bay facilities, and operators

CONTENTS

- Basic principles of physics, modes of operations
- Main parameters, load range
- System components and setup
- Configuration and operation, use and helpful hints
- Grounding the system and test object
- Testing of high-voltage equipment (test object)
- Maintenance and service

TYPES OF SYSTEMS

- AC (transformers, SF₆-systems, resonant systems, systems with variable frequencies)
- High-current systems (high-current heating system)
- DC (Villard/Greinacher cascade, modular Delon systems)
- Impulse voltage generator (all applications)
- Impulse current generator (arresters)
- Measurement technology (voltage/current, PD, fault detection, transients, resistance, etc.)
- Safety system (safety level 3)

The seminar is referring to HIGHVOLT test systems only.

RECOMMENDED BACKGROUND KNOWLEDGE

- Participants should possess the fundamentals of electrical engineering.

TARGET GROUP

- Managers and engineers of test bay facilities
- Service center employees and utilities companies
- Developers of high-voltage systems
- Employees of R&D centers

CONTENTS

- Transferring and distributing energy
- Types and models
- Design and manufacturing
- Insulation coordination
- Factory testing
- On-site testing
- Additional conditions for operation
- Maintenance
- Troubleshooting and fault analysis
- Environmental aspects

The seminar is referring to test systems of all manufacturers.

RECOMMENDED BACKGROUND KNOWLEDGE

- Successful participation in Module 1 or 2 is recommended.

Length	1–3 days, depending on content and customer requirements
Location	On-premise (customer), in a conference room, or at HIGHVOLT's office
Language	English (interpreter can be provided, if necessary)
Training documentation	Participants will receive detailed documents used in the training course
Participant certificate	Participants will receive a certificate confirming completion of the course

HOW CAN HICADEMY HELP MY EMPLOYEES TO LEARN EASILY AND QUICKLY?

- Skilled and experienced training team
- Content is geared to the specific user group
- Several modules to ensure that participants receive effective training to meet their scope of duties
- Complicated information is served in an understandable manner with examples from the field
- Number of participants can be easily adapted to optimize learning progression
- HIGHVOLT remains available for questions once the training course has been completed
- We are flexible and can bring HICADEMY to your choice of venue
- All participants receive documentation for the training and certificate upon completion



THE EXPERTISE OF HICADEMY: KNOWLEDGE, KNOW-HOW AND EXPERIENCE

WHY IS HICADEMY YOUR PARTNER FOR TRAINING YOUR EMPLOYEES?

HIGHVOLT has manufactured high-voltage test systems and test bay facilities for more than 110 years. As the global market leader, the company also develops, manufactures, installs and services test systems for medium voltage, high voltage and ultra-high voltage equipment such as transformers, cables and GIS. Further, we are capable of implementing entire test bays including optimization of workflows, safety and end-to-end control and measurement technology.

HIGHVOLT is an active member of the leading boards, such as Cigre, IEC, IEEE and VDE, enabling the company to leverage its vast knowledge in terms of standards and test guidelines.

The training team members have access to our experiences gained from more than 100 years in the business and the latest information and knowledge bases and can convey it to participants at HICADEMY in an accessible and practical manner.

HI|CADEMY

HOW CAN I REGISTER FOR A SEMINAR?

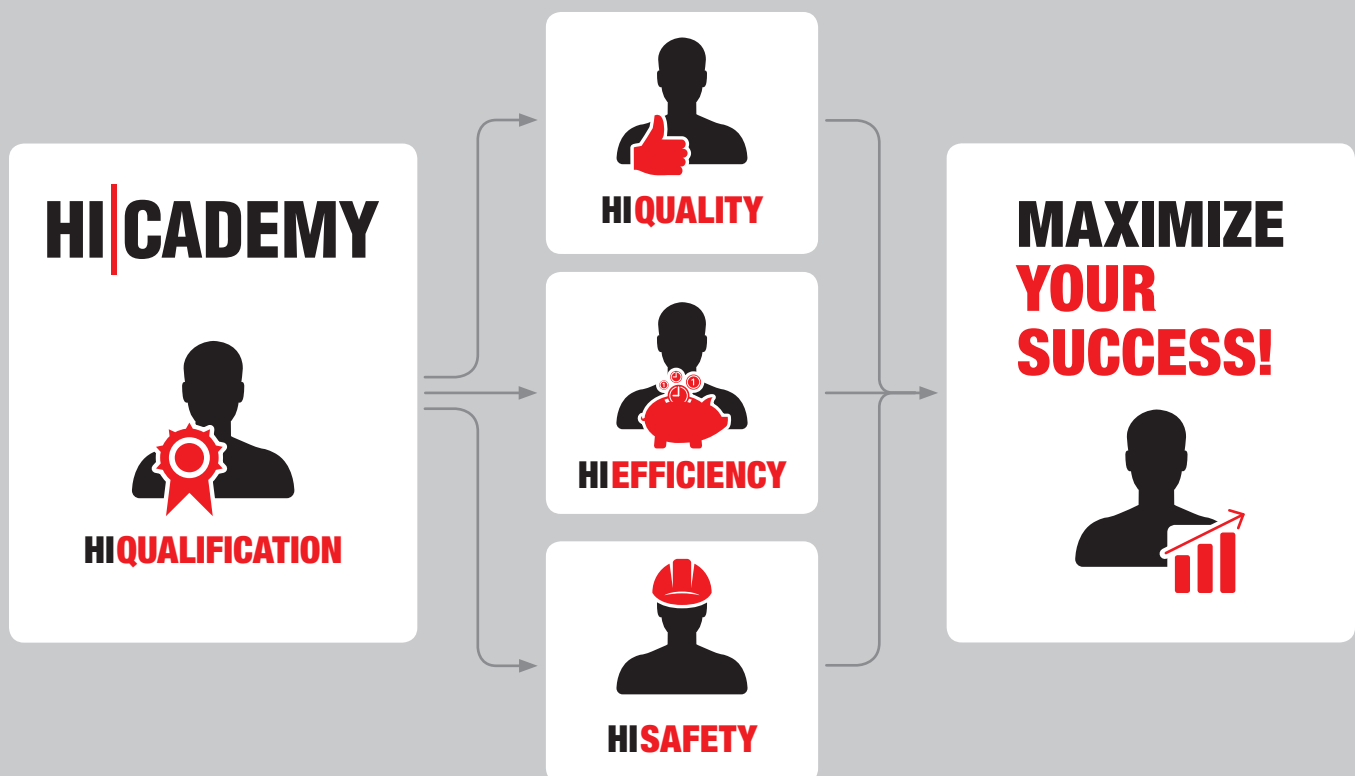
Dates and online registration for the upcoming seminars are available on hcademy.highvolt.com

WE WOULD BE PLEASED TO PROVIDE YOU WITH A NON-BINDING QUOTE.

Feel free to contact us:

Phone +49 351 8425-880

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For further information please contact:

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