

Building Tomorrow's Workforce

Innovative Technical Education Solutions

FESTO



Technology for Education and Science



Festo Didactic Quick Facts

- Founded in 1965
- 750 employees
- Sector: technical training
- Headquarters in Denkdorf (Germany)
- Two other core locations:
Eatontown, New Jersey (USA)
Québec City, Québec (Canada)
- Acquisition of Lab-Volt Systems in June 2014
- Part of the Festo Group, with over 60 companies and 250 branch offices worldwide
- Solutions provided in 40 languages to over 42,000 clients worldwide



LabVolt Series products are identified with a * next to their name. Information about these specific solutions can be found at: www.labvolt.com.

All other solutions are detailed at www.festo-didactic.com.

Welcome to Festo Didactic!

For several decades Festo Didactic has been recognized worldwide for the development of high-quality, intuitive learning systems for technical education. We invite you to peruse these pages to learn about our most popular learning tools. You'll find even more systems on our websites.

A wide range of training systems

Festo Didactic brings over 40 years of experience into developing solutions for fast learning and successful retention over a broad spectrum of technologies. Festo Didactic further strengthened its leadership position as a supplier of technical education solutions through the acquisition of Lab-Volt Systems. This merger created the ability to be the singular source worldwide for the study of technologies and curriculum that cover an extensive range of products and services, including:

- Mechatronics
- Factory and Process Automation
- Electrical Engineering
- Renewable Energies
- Energy Efficiency and Mobility
- Electronics
- Fluid Power
- Refrigeration and HVAC
- Industrial Maintenance
- Instrumentation and Process Control
- Telecommunications

From fundamentals to complete training

From basic training and technology-specific courses to planning, control, and handling of complex systems, to fully-furnished learning centers – we have created a world of learning tailored to your needs for efficient study and guaranteed learning success.

Modular and future-proof

What characterizes our learning systems is their high practical relevance achieved through the use of real industrial components combined with the intuitive teaching of the educational content. The systems are modular, allowing for expansion and flexibility, making your investment future-proof with no dead-ends.

Training and Consulting

One mission of Festo Didactic is to provide automation technology training for manufacturing employees and our industrial customers worldwide. Our Training and Consulting specialists provide this training on-site, at customer facilities, and at various Festo facilities throughout the world.

A Multimedia Approach for Blended Learning

Many paths to successful learning

Festo Didactic is committed to developing innovative, engaging, and effective learning tools and content to meet the changing and challenging needs of students and educators.

Our comprehensive, competency-based curriculum integrates several types of media to accommodate different types of learners and to bring flexibility to the learning process.

Textbooks, workbooks, guides, work sheets, simulation programs, web-based training packages, and more, contribute to building knowledge, skills, and troubleshooting abilities in a diverse spectrum of subject areas.



Interactive software that connects with equipment

Festo Didactic offers a wide range of simulation and control software packages that can work independently or in combination with hardware, including:

- Easy Veep – 2D virtual models of real-world applications
- FluidSIM® – Pneumatic/Hydraulic/Electric design, simulation, and control
- CIROS® – 3D Mechatronics, Robotics, and Manufacturing simulation and control
- LVSIM – Simulation programs for different training systems (electro-mechanical, telecommunications, etc.)

Mind-Sight* – a system for technical E-Learning

Mind-Sight is a learning content management system (LCMS) specifically designed for technical education. Available as a web-hosted application or as a network appliance, it is adaptable to part- or full-time high school, vocational, college, or university students.

Mind-Sight offers:

- Carefully selected tools that optimize the learning environment.
- An extensive science and technology E-Learning course library called eSeries.
- SCORM 1.2 compliance to allow import of other educational Sharable Content Objects (SCO).
- Customizable content and scalable system to suit evolving needs.
- Complementary lab equipment and programs for hands-on learning.



Mechatronics – Factory Automation – Fluid Power



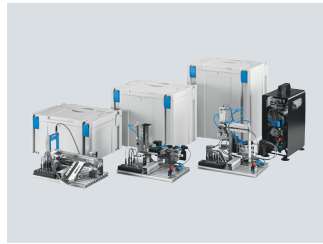
The **Modular Production System MPS®** has demonstrated that its concept, stations and control systems, and functionality provide exactly those features that characterize automated production throughout the world: integration of mechanics, electrical engineering and information technology to create mechatronics.

Numerous companies, schools, and universities all over the world rely on the MPS®.

The system constitutes a platform for problem-based practical training and offers maximum industrial relevance in automation and handling technology.

Stations represent the most common sub-processes in any automated production system. By effectively combining stations, you can assemble your own production system.

Since 1991, the MPS® has been the WorldSkills competition platform for the mechatronics world championships.



MecLab® is a new learning system for schools that allows students to gain insights into one of the most significant fields of application for automation technology – production technology. The three MecLab® stations represent simplified models of the typical processes found in any automated production plant.



Robotino® – with its omnidirectional drive, sensors, interfaces, and application-specific extensions – is equipped for universal use and forms the basis for research and training in mobile and service robots. More convenient, faster, more diverse: new, state-of-the-art functions ensure the greatest possible system expandability.



The **MPS® Transfer System** reflects our decades of experience in the construction of modular learning factories. All cells and functional modules are equipped with the very latest industrial technology. The concept and equipment demonstrate our innovative approach. The result: every MPS® Transfer Factory can be reconfigured in minutes – depending on the learning situation – and turned into a convertible factory.

The basic features of the MPS® Transfer System characterize the appearance of the system:

- Wide transfer belt for pallet transportation
- Functional modules above the belt
- Variable system layout, providing freedom for designing individual, partner, and group workstations

The key features of the MPS® Transfer System are its innovative technology and the consistent use of industrial components.



Festo Didactic offers an extensive line of **Pneumatics and Hydraulics** training packages. Highly modular to enable instructors to tailor the systems to specific and evolving needs, the systems cover several areas of study:

- Basic and Advanced Pneumatics/Electro-Pneumatics
- Closed Loop Pneumatics
- Vacuum Technology
- Basic and Advanced Hydraulics/Electro-Hydraulics
- Proportional Hydraulics
- Mobile Hydraulics

The workbooks accompanying the training packages contain project-oriented exercises of increasing complexity.

Practical basic and advanced training using industrial components provides the confidence to apply the acquired knowledge in the workplace.

Process Control and Automation



The **Instrumentation and Process Control Training System*** introduces students to a wide range of industrial processes (temperature, pressure, flow, level, pH, and conductivity) as well as with their instruments and control. The use of modern hands-on lab equipment coupled with a complete training program helps students to get the theoretical and practical knowledge that is mandatory to work in the process control industry.

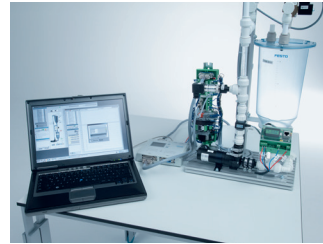
The modularity of this energy efficient process control trainer allows the instructor to select specific equipment as a function of the training objectives without going over budget. Several configurations are available for a single workstation. Workstations can be combined to form complex process loops and can also be used to replicate real-world industrial process loops.



EDS® Water Management is a modular training system which represents the core processes of a water and wastewater treatment plant in the form of a water cycle, from source to wastewater treatment plant and back again.

Thanks to its industry-oriented design, EDS® Water Management makes it possible to explain the principles behind the collection, extraction, transport, and treatment of water and wastewater. It offers a compact introduction to measurement, open-loop control, and closed-loop control technology.

In practical exercises and experiments, the individual process steps are analyzed in detail to illustrate how changes in one area can affect the whole system.



EduKit PA Basic provides a step-by-step introduction to manual measurement and open- and closed-loop control, using the example of a simple system with level, flow and pressure control.

An advanced kit adds the automation technology, with pressure, flow, and ultrasound sensors and an I/O connecting board for a controller.

The learning concept of the EduKit PA supports experimental learning as well as teaching, supported by the teachware. Fluid-Lab® PA process guides students through the world of measuring and control engineering. What students observe on the screen occurs in real-time in the actual system or simulation, giving them the feeling of being in the control station, thus contributing to a high level of motivation.



The **Process Control Training System*** familiarizes students with the fundamentals of instrumentation and process control (control of pressure, flow, level, temperature, and pH). It can also demonstrate advanced techniques, such as feed-forward control, second-order control, and cascade control, when used with a controller featuring these functions.

This cost-effective workstation can be configured to accommodate a wide variety of space and teaching needs, with different benches, work surfaces, and optional equipment. Several switches enable instructors to insert faults in the system for real-world troubleshooting.

All components are safe and moveable. Comprehensive curriculum and software simulations through LVPROSIM are available. An optional kit is also available for introducing students to industrial components.

Electrical Engineering – Renewable Energies – Industrial Maintenance



The **Electric Power Technology*** training platform was developed to answer the increasingly diversified needs of technical institutes, colleges, and universities for training in the wide field of electrical energy.

Each of the associated systems provides a turn-key solution dealing with specific aspects of electrical energy. Most systems use unrivaled computer-based data acquisition and control to provide unparalleled training in electrical energy. The learning packages include:

- Electromechanics
- Power Electronics
- Smart Grid Technologies
- Renewable Energies
- Electricity Fundamentals
- And several more

The program is highly modular and in constant evolution, allowing instructors to select courses that match specific needs.



Electrical Engineering training packages from Festo – modular, customized, or comprehensive – can be equipped for any application and budget, whether for industry or trades, teaching basic principles, building systems, or control or drive technology.

To support learning, systems contain only industrial components, and derive from a typical work environment. Our professional laboratory equipment for electrical engineering covers:

- Fundamentals of Electricity and Electronics
- Fundamentals of Circuits and Contacts
- Sensors and PLCs
- Motor Controls
- Servo and Stepper Motor Technology

Training packages for electrical engineering and electronics are modular, making them easily expandable.



The **Wind Turbine Nacelle Training System*** is a complete scaled-down version of commercial wind turbine nacelles. Space-efficient and affordable, its large-scale, proportional components are perfect for learning operation and maintenance of real-world systems. A pitch hub can be connected to the nacelle and a grid-tie connection is also available to expand learning.



Through hands-on training on the **Solar/Wind Training System*** – a complete hybrid energy system – students learn how wind turbines and solar cells are used in the consumer and industrial markets to supplement the world's power needs. The modular program covers the history, fundamentals, installation, operation, maintenance, and servicing of solar and wind energy systems.



The **Mechanical Training System*** safely familiarizes students with the selection, installation, use, maintenance, and troubleshooting of mechanical drive components. The curriculum is based on practical tasks. The system is divided into five levels dealing with the components encountered in industry; it can also be configured to meet specific training needs.



The **Industrial Controls Training Systems*** are designed to teach the theory, techniques, and troubleshooting of electric motor controllers.

Four basic systems are available, each covering a particular topic that deals with various aspects of industrial controls equipment operation: Basic Controls, Programmable Logic Controller, Motor Drives, and Sensors.

HVAC-R – Electronics – Telecommunications



Rely on hands-on **HVAC-R*** training systems to help students learn principles and control of HVAC-R systems, as well as develop practical knowledge for installing, maintaining, and troubleshooting such systems.

All systems use actual residential, industrial, and commercial devices for real-world practice.

Comprehensive curriculum with practical exercises accompanies each system. Electric components are specific to the HVAC-R field, and mandatory electricity concepts are explained in the curriculum.

Available systems focus on:

- Electricity Fundamentals
- Electric Heating
- Building Energy Management
- Multi-Zone Wireless Control



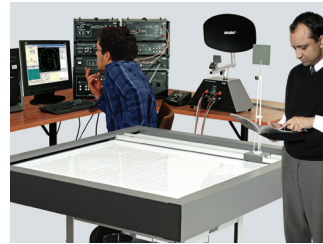
The **FACET Electronics Training System*** is based on a program consisting of courses carefully designed to foster recognition, understanding, experimentation, troubleshooting, application, design, and evaluation of analog and digital electronics circuitry.

Students perform experiments on a wide range of modules that combine theory and application with practical skills training techniques.

The complete learning solution encompasses four areas of study:

- Basic Principles of Electricity and Electronics
- Digital and Microprocessor Electronics
- Industrial Electronics
- Communications Systems

When combined with the LCMS Mind-Sight® and eSeries courses, FACET becomes a totally integrated learning system for electronics, with all the computer-based learning advantages.



The innovative **Radar Training System*** combines real-world radar with the power of modern surveillance technology.

The system uses patented technology to detect and track passive targets at very short range in the presence of noise and clutter.

The radar system is fully-operational and highly realistic, reflecting the standards and technologies used in modern radar systems, which makes it a valuable tool for training students or industry workers.

This modular radar system consists of seven subsystems, allowing instructors to configure a system tailored to their training needs and budgets.

The computer-based control of the radar's processing and display functions ensures it will maintain its status as a leading-edge pedagogical product for many years to come.



Fully-operational **Telecommunications*** training systems provide students with real, hands-on experience in telecommunications right in the classroom.

These systems are a valuable tool for educating students interested in today's dynamic communications industry.

Completely modular in design, the curriculum incorporates hands-on experience with the basic principles and operations of electric and electronic communications systems.

State-of-the-art training systems include:

- Satellite
- Antennas
- Microwave
- Telephony
- Digital/Analog Communications

Your Ideal Partner for Technical Education



Maximize learning success

Festo Didactic and Lab-Volt joined forces to offer you a wide range of systems and solutions for technical education.

Our expanded team helps you design and implement learning laboratories, educational equipment, and programs that train people to perform in highly dynamic and complex environments.

Whether you are involved in public or private educational institutions, government institutions, public administration, or industrial companies, contact us to discuss your needs and challenges.



We support and assist you

Festo Didactic offers a variety of training options. You can take part in teacher training and info events or visit us at numerous trade shows. You can also book instructor training sessions, as they represent a cost-effective way to increase the return on your investment.

The Training and Consulting team offers a wide scope of training services covering three skills areas – Technology, Organization, and People – and the three factors in productivity – Quality, Time, and Cost.

Festo Didactic also owns and/or operates Learning Centers on behalf of companies and governments in many countries.



Your partner, worldwide

We speak your language! And we are just around the corner – in more than 100 countries around the world. We will gladly visit you at your school, office, or home – whether you need information, are looking for advice before making an investment, or have questions about everyday use of the products. We are always only a phone call or an email away!

To view the entire range of Festo Didactic solutions, visit:
→ www.festo-didactic.com

For more information about LabVolt Series products, go to:
→ www.labvolt.com

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