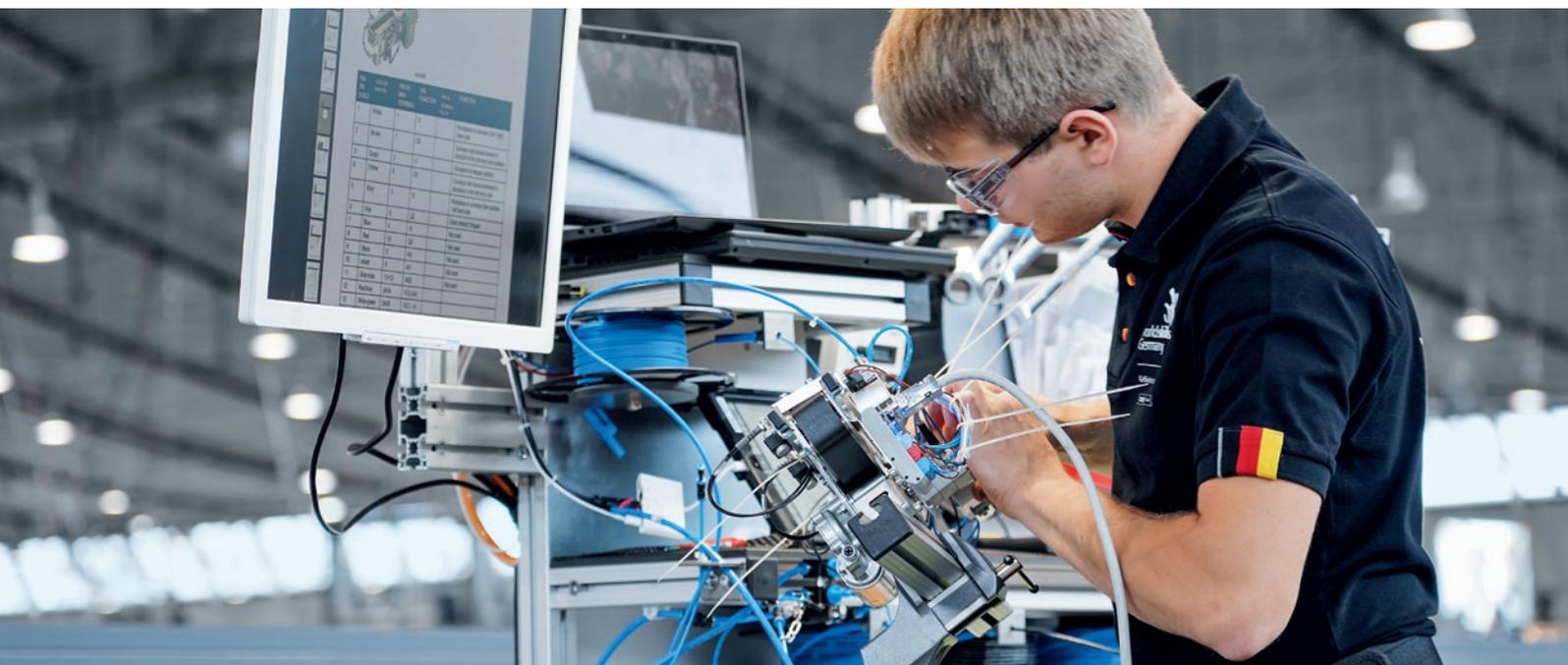


## Mechatronics at WorldSkills Lyon 2024

Train like the champions on the Modular Production System MPS

**FESTO**



Mechatronics engineering facilitates the comprehensive interaction of mechanics, electronics, and information technology. Together, these innovative technologies help to improve the product quality, customization of goods, and efficiency on the shop floor.

Skill #04 Mechatronics is a classic skill at WorldSkills competitions. Since 1991, Festo Didactic has been the exclusive provider of the official WorldSkills mechatronics equipment. The MPS series is the ideal solution to train young talents.

Festo is a leading supplier of automation and process technology and technical education. We design our products and services to meet the challenges of smart production. Festo Didactic develops industry-approved learning systems for technical vocational education and training (TVET).

  
worldskills  
Lyon2024

# Festo and Worldskills are strong Partners since three Decades

## Trendsetting learning solutions of Festo have become a standard

### Made in Germany ●●●

Research and development of Festo automation technology and technical education solutions has its origin in Germany. Being a 100% family-owned company with its headquarters near Stuttgart, Germany, Festo maintains 61 subsidiaries and is represented in 178 countries around the world. This global market know-how enables Festo to react on trends and be the first one to present high-quality, state-of-the-art learning solutions for TVET. WorldSkills relies on the proven Festo quality and selected Festo as Global Industry Partner for good reasons 30 years ago.

„Festo has been cooperating with WorldSkills for already more than 30 years to develop the skills of young people. The WorldSkills competitions underline the importance of technical vocational education and training in times of skilled workers shortage.“

**Automation  
Components  
Systems  
Solutions**

The power of  
innovation for  
productivity and  
employability

**Education  
Learning solutions**  
Courseware  
Learning Systems  
Digital Learning  
Lifelong Learning

### A player in industry and government

Festo proudly looks back on almost 100 years of successful business and has become a prestigious leader in automation technology and technical education. Due to its genius, Festo is active member of the Industry 4.0 Research Advisory Board of the Federal Government's Plattform Industry 4.0. In this strategic body, Festo contributes to researching ways to improve industrial manufacturing. Festo Didactic, the education division, pays particular attention to qualification solutions for networked and ecologically sustainable production.

### SUSTAINABLE DEVELOPMENT GOALS



Dr. Oliver Niese,  
Member of the Management Board,  
Festo Didactic SE



Learn more  
about the  
commitment  
of Festo



### WorldSkills Kazan 2019

With almost 1400 participants from 66 countries competing for the title in 56 professional disciplines, the WorldSkills Kazan was the largest world championship of vocational skills to date. As a Global Industry Partner of WorldSkills International, Festo has been supporting the organization since 1991 in its efforts to continually improve the quality of technical education.



### WorldSkills Competition 2022 Special Edition

In 2022, 25 teams faced a new challenge: with the use of the mobile robot Robotino, the tasks became more complex. WorldSkills is a great opportunity to simulate real production environments in the competitions.



Presented by

### WorldSkills Lyon 2024

In 2024, WorldSkills has placed a stronger focus on sustainability and has introduced a Sustainability Award. Real results from the competitions lead to an outcome that rewards conscious resource management. As the winner of the German Sustainability Award, Festo welcomes this focus.



Experience the exciting  
atmosphere of the  
WorldSkills Competition  
2022 Special Edition

## Technological Changes need new Competencies

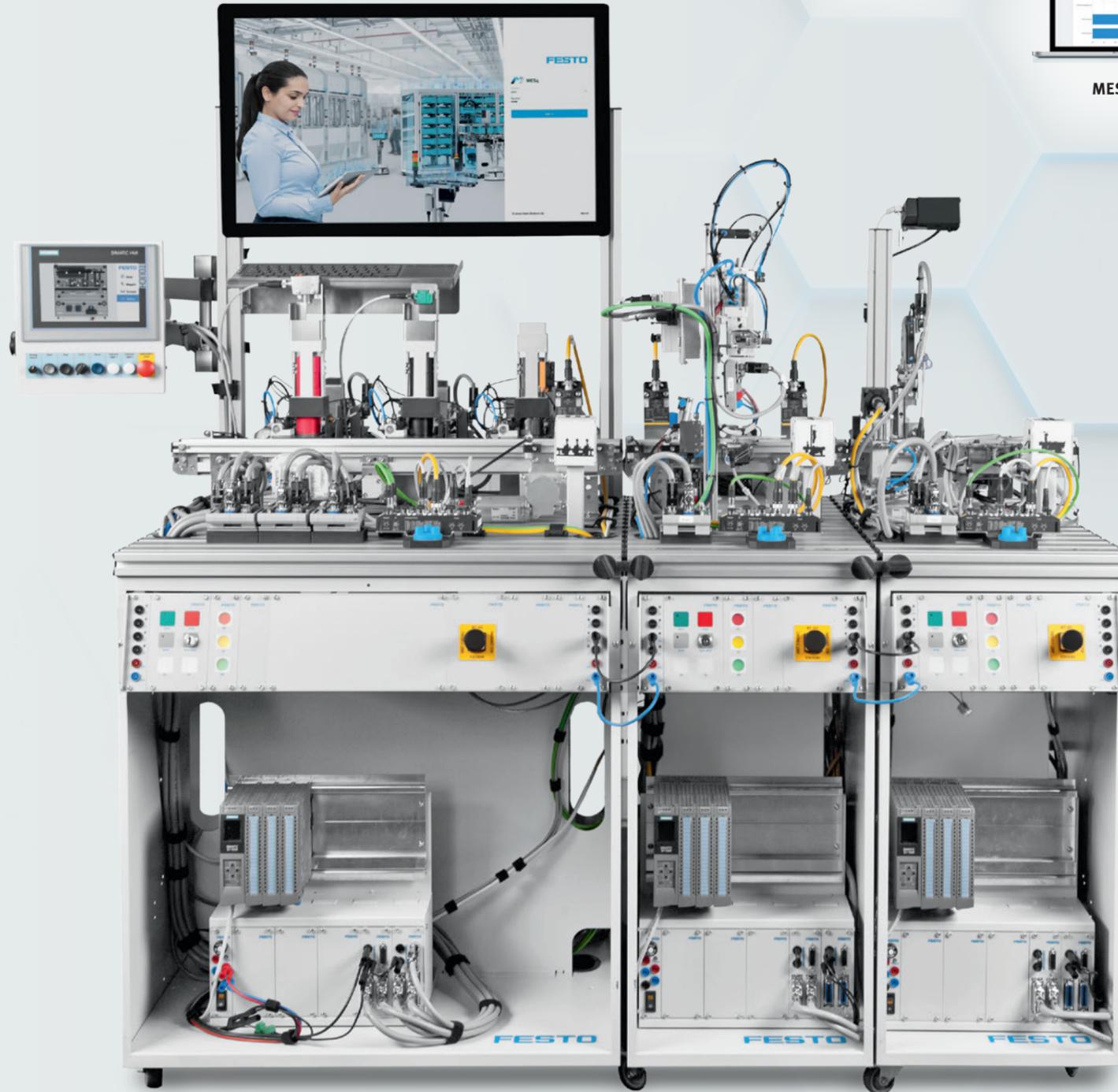
Train young people for various job profiles on the Modular Production System MPS

### Innovations based on Fundamental Skills

Today, technologies are subject to ever faster changes. This technological progress in advanced manufacturing needs to go hand in hand with the qualifications and skill set of the workforce.

As a result of progress made during the fourth industrial revolution, the communication and interaction of machines along the production process has become ever more complex and IT-driven. It's probably safe to assume that we have only scratched the surface of what's possible and what's to come. Therefore, young people need more exposure to future required skill sets and how to master them.

First, they need to acquire the fundamental skills to build a system: from the component via modules to a full production line. The curriculum of a mechatronics engineer starts with the fundamentals. It offers specializations according to various job profiles such as data scientist/- analyst or maintenance technician. At a later stage, Industry 4.0 is then built up on these fundamentals. Mechatronics can therefore be seen as an ideal professional foundation for pro-actively driving technical innovations in factory automation.



FactoryViews



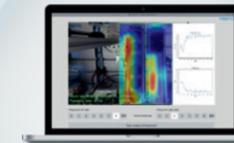
MES4 V3



Webshop



Smart sensors with IO-Link



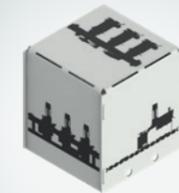
Artificial Intelligence and Machine Learning



HMI



IIOT-Retrofitting



Augmented Reality



Industrial networking with PROFINET



PLC programming and industrial communication



RFID



Learn more about Competency-Oriented Qualification in Vocational Training and Higher Education in our video

## Competition Equipment aligned with WorldSkills Standards

Prepare candidates on established and industry-approved Modular Production Systems

### Prepare for the Unknown

The WorldSkills competition regulations stipulate that the Mechatronics competition equipment is not revealed until 6 months prior to the event. And even then, one or two stations will remain unknown as a special challenge. So, the event is already exciting today. What is then the best way to prepare the young competitors?

The MPS systems of Festo Didactic have been used in WorldSkills competitions for 30 years. Always equipped with the latest technologies, they have kept their clear design and structure. The best preparation for the competitors is to build up a broad and holistic knowledge of standard mechatronic systems, stations, and modules.

### Skill #04: mastering Mechatronics Fundamentals

The challenge here is to build up a mechatronics system from the component via modules to a production line: wiring and tubing, use sensors and I/O-connections, connect pneumatic and electro-pneumatic components, program and configure the control system and finally check the functionality and communication network. Maintenance and optimization are also part of the tasks. The system is successfully set up when workpieces have been distributed, transported, detected, processed, and sorted for a customer order.

### Evolving from Competition to Competition

With skill #04, there is one thing that changes from competition to competition: mechatronic systems are built differently. Sensors, actuators, and modules differ in their interaction depending on the respective application. The conveyor belt always represents an essential part of the system. However, regardless of the application, young competitors must be able to put them into operation professionally.

An efficient way to be prepared is to learn from each event to the next. WorldSkills Kazan 2019 serves as a template for WorldSkills Shanghai 2022, and WorldSkills Lyon 2024 will develop from the competitions in China. See here the four stations featuring the competition equipment of WorldSkills Kazan 2019.

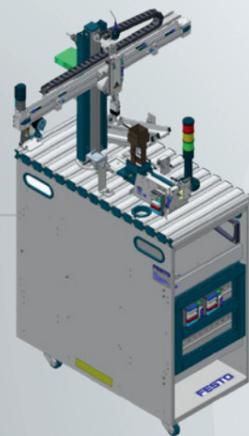
### Digital Learning

Build up fundamental and advanced mechatronics skills with our online portal Festo Learning Experience

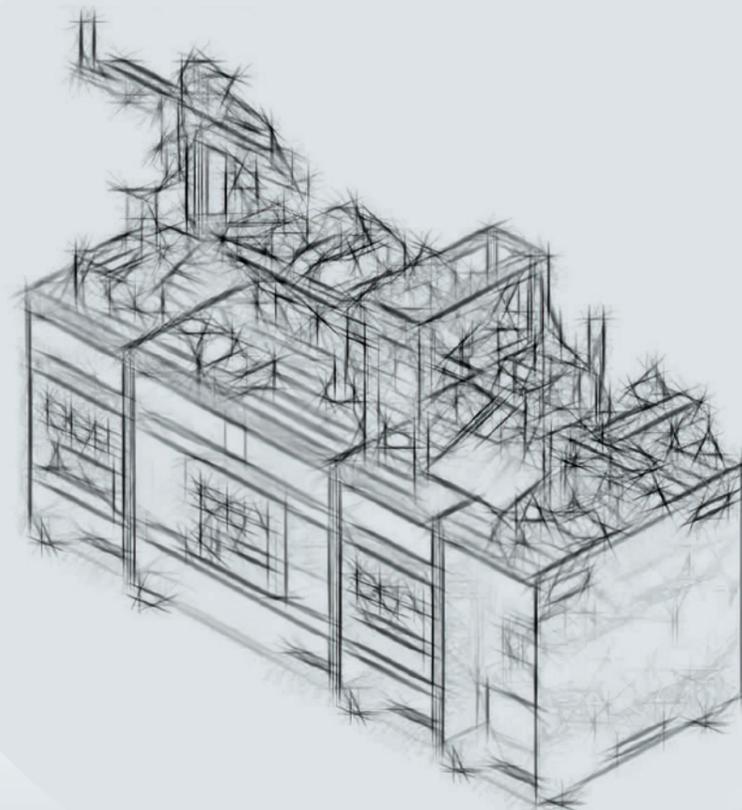


### WorldSkills Kazan 2019 Competition Equipment

Handling Station



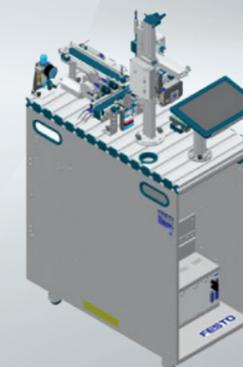
Distribution Pro Station



Vision Quality Gate Station



Joining Station



# Technical qualification for future jobs

Young talents demonstrate outstanding performance and sustainability



Image source: Festo

## New: Energy measurement box

Nothing is more constant than change. This time, the learning system MPS introduces a new component, the energy measurement box. It measures the compressed air consumption during the setup and operation of the systems in the competition.

„Especially young people care about our green planet. By measuring the energy, they learn to be more conscious about using resources.“



Michael Linn,  
Skill Competition Manager  
Mechatronics at WorldSkills and  
Senior Expert at Festo Didactic



For more information on the WorldSkills Lyon 2024 Mechatronics learning solution, please contact your local Festo sales office or our HQ.

## Festo Didactic SE

Rechbergstrasse 3  
73770 Denkendorf  
Germany  
Phone: +49(711)3467-1420  
Michael.Linn@festo.com  
www.festo-didactic.com