

## Learning solutions for sustainability and energy efficiency

Festo Didactic supports the development of Green Skills

**Climate protection laws along with an explosion in energy prices are forcing industry to become more energy efficient and sustainable. This should be learned. How? For example, with Festo Didactic's learning solutions for teaching green skills. Trainees, students and employees use them to develop their skills and abilities - from vocational training to lifelong learning. Festo Didactic also contributes its expertise in research and industrial cooperation.**

“Green skills are necessary to develop sustainable processes and technologies for the transformation of industry towards a resource-efficient economy with fewer emissions”, explains Dr Oliver Niese, member of the Management Board of Festo Didactic SE and Head of Digital Business at Festo. These green skills and abilities include, for example, engineering and technical skills such as design, construction and development or skills for monitoring and complying with technical criteria and legal standards.

### Learning systems for green skills

At Festo Didactic we offer learning systems for green skills like MPS Energy Kit, Nacelle and learning solutions in the field of water management. The MPS 400 learning factory, along with the MPS Energy Kit contains an energy measurement box that measures the consumption of electrical power and compressed air. Using an app, learners have a clear view of all data on a dashboard. Practical training tasks with pneumatic components, vacuum saving valve and leakage simulator help learners to achieve real action competencies.

The Nacelle learning system and associated training courses enable wind turbine technicians to perform wind simulations. This provides hands-on experience they need to expand their knowledge base and green skills. Nacelle is a miniature version of a fully operational wind turbine that prepares future wind turbine technicians for real-world operating and maintenance situations.

### Learning how to use water efficiently

Worldwide, 80 percent of used water seeps into the environment untreated. This threatens not only biodiversity but also drinking water for the world's population. Therefore, education in water management is one of the most important levers to protect water. With the EDS® Water Management modular learning system and e-learning modules, students are introduced to the core processes of a water and wastewater treatment plant in the form of a water cycle from source to treatment plant and back.

### Train employees of battery producers

The growth of the battery manufacturing sector is steadily rising as the global automotive market prepares to make its giant leap to full-scale electric vehicle production in the next few years. Accordingly, industry needs qualified personnel who are fully proficient in the new technologies. At Festo Didactic training workers for efficient battery production is important. The use of the Festo LX digital learning portal complements the hands-on training at Festo

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Didactic's learning factories. This enables Festo to provide battery producers with a holistic offering: In addition to Festo's powerful automation technology with electrical and pneumatic handling solutions for battery module assembly systems, Festo Didactic brings the know-how to employees on the store floor of the new factories.

### **Artificial intelligence in the context of sustainability**

Machine learning concepts will also be necessary in the future for more efficient energy use. Together with the Technical University of Braunschweig, Festo Didactic has investigated how machine learning can be used to operate production facilities more resource-efficiently. The approach can be used in Festo Didactic's learning factories, among others. AI approaches should help meet the European Union's 2030 climate targets. It will not be enough just to expand renewable energies; the intelligent use of energy also needs to be learned.

### **Monitoring of CO<sub>2</sub> emissions**

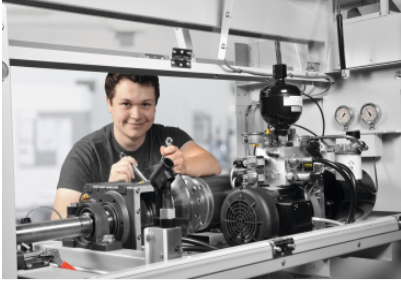
Cooperations with industry to continuously monitor CO<sub>2</sub> emissions are also part of Festo Didactic's sustainability activities. Together with CESMII, a U.S. government initiative, the German Industrie 4.0 platform, Microsoft and Festo, Festo Didactic is working on visualizing the latest developments on smart manufacturing and the management shell. The demonstration targets an important issue: CO<sub>2</sub> efficiency. The cloud is relevant because in CO<sub>2</sub> balancing, emitters come from different sources, including suppliers and customers. The aggregation of data is handled through the cloud. In this process, a learning factory from Festo Didactic acts as a demonstrator. The learning factory represents the production process with typical industrial technology. Festo Didactic is thus driving the topic forward with its international partners.

### **Press Images**



#### **Energy monitoring**

Keeping an eye on consumption and efficiencies to minimize costs and environmental impact: This is possible with the MPS 400 learning system and the additional package for energy monitoring.



### **Learning system for wind turbine technicians**

The Nacelle learning system and associated training courses enable future wind turbine technicians to perform wind simulations.



### **Water management**

People learn the core processes of a water and wastewater treatment plant with EDS® Water Management.



### **Dr. Oliver Niese**

Dr Oliver Niese, Member of the Management Board of Festo Didactic SE and Vice President Digital at Festo SE & Co. KG