leXsolar-**EMobility Lab**

new!

A combined **training platform**



leXsolar-**EMobility Lab** brings the world of electric mobility directly to the laboratory table. Developed for practical teaching of key technologies, it combines two powerful experimental kits into a perfectly coordinated overall system. Users discover how various battery technologies and electric motors differ in terms of behaviour, performance and safety aspects – presented in an understandable way, experimental and close to real-life practice.
Designed for technical and vocational training centres, academic institutions, and industry professionals, it provides an interactive and effective platform for gaining a deeper understanding of the technologies that power today's world.
The EMobility Lab includes all required components and is supplied in durable aluminium cases. When not in use, the kits can be conveniently stored on shelves, helping to optimize classroom space. Detailed, high-quality manuals with predefined experiments enable users to begin working with the system quickly and efficiently.

leXsolar-EMobility Professional Item-No. 1801



Numerous battery technologies are available on the market for storing electrical energy. But which type of battery is suitable for which application, how should it be dimensioned, and which charging method should be used to achieve maximum service life? In view of the storage problems associated with renewable energies, these are topical issues that need to be addressed in vocational training.

With leXsolar-EMobility Professional, the characteristics of different battery types can be analysed, enabling users to learn about their possible applications.

- Storage technology trainer for technical education
- Battery types: NiMH, NiZn, Pb, LiFePO$_4$, LiPo, supercapacitor and PEM fuel cell
- Analysis of components using 4-point measurement
- Zahlreiche Versuche zum Lade- und Entladeverhalten

leXsolar-EMobility Expert Item-No. 1807 - 1808 - 1809

available in June



The compact, well-designed experimental system enables practical analysis of moder electrical machines – efficiently, safely and using state-of-the-art technology. Due to the modular setup, low 24 V AC or DC power and integrated safety features it is particularly suitable for technical, vocational and educational training.

This kit includes the motor controller box with integrated power supply, dynamometer and 7 different DC and AC motors which can be securely mounted on the provided base unit. Operation is as flexible as the system itself: directly from the controller's display or via connection to the PC or by using platform-independent web app.

- Key motor characteristics, including DC, AC, three phase, brushless, stepper machines and more
- Auto ID
- Electrical Machines and MATLAB
- Safe operation: all moving parts are enclosed
- Simulation of battery packs with different topologies and battery types
- Driving electrical machines with batterie

leXsolar-Projects

We prepare trainees for careers in the green economy.

Renewable Energy Skills Development (RESD) in Indonesia



SEDAYUSolar

The renewable energy skills development project aims to support the expansion of renewable energy in Indonesia by increasing the availability of qualified personnel in the renewable energy labour market. 'Train the Trainer' is an activity designed to train lecturers and laboratory staff at polytechnic education institutions.
The training on the use of solar and laboratory equipment at Manado State Polytechnic is based on the annual framework of the RESD 2022 project to prepare for the implementation of the renewable energy specialisation (D4 programme, semesters 7 and 8) in the solar, water and hybrid sectors. leXsolar is proud to lead the basic training for future PV professionals. Together with SEDAYU Solar, the leading solar energy company in Indonesia, we are driving the transformation to a green economy in Indonesia and worldwide.

EU-funded educational support project in Malawi



A teacher training project in the field of renewable energies was carried out as part of an educational support programme run by the European Union. Our trainer visited the city of Malawi in South Africa with the aim of imparting knowledge to teachers in the region on how to teach renewable technologies. This 'train the trainer' course enabled teachers to use leXsolar products to teach their pupils about the use of renewable energy technologies. Over the course of a week, the 14 teachers had the opportunity to learn about wind, photovoltaic, solar thermal and smart grid technologies in both theory and practice. At the end, there was a summary of the content and a concrete presentation on the advantages and disadvantages of renewable and fossil fuels.

EnviaM: Educational project



enviaM

EnviaM, in cooperation with leXsolar, supports the training of students and teachers in central Germany in the field of renewable energies with leXsolar products. In 2015, a partnership began in the form of a comprehensive project for teacher training and student education in new energies. EnviaM provides educational institutions with the material purchased from leXsolar free of charge for a certain period of time. In this collaboration between enviaM and leXsolar, the didactic content was conveyed to teachers through regular training sessions. At the same time, events such as Blackout Day are organised to simulate a day without electricity with the pupils and to examine its causes and consequences. The event includes training on large-scale power outages and their impact on social and health care services..

Contact:
leXsolar GmbH
Strehlener Str. 12-14
01069 Dresden
Germany

Phone: +49 351 47 96 56 0
E-mail: info@lexsolar.de
Web: www.leXsolar.de



leXsolar

Technical vocational educational training

leXsolar understanding new energies

understanding new energies · neue energien verstehen · capire le nuove energie
comprendre les ènergies renouvelables · entendiendo las energías renovables
Изучаем альтернативную энергию · 领会新能源 · فهم الطاقات المتجددة

leXsolar-**TVET** products

The leXsolar areas of expertise reflect the wide spectrum of renewable energy technologies.

We offer specialised training products for almost all technologies of practical relevance.

leXsolar also offers suitable products for related technologies that play a decisive role in our future energy supply, such as energy storage, fuel cell technology and energy efficiency.



leXsolar-Wind
Wind power currently has the largest share of the renewable energy production.

leXsolar-PV
Photovoltaic (PV) is the direct conversion of light into electricity through solar cells.

leXsolar-Hydropower
Hydropower was the first renewable energy source that has been used by humans to produce electricity and it is subject to slight fluctuation.

leXsolar-H_2
Fuel cells can convert hydrogen (H_2) into electricity – one possible solution to the storage problem of renewable energies.

leXsolar-BioFuel
Bio fuels can easily be stored and replace fossil fuels in transportation.

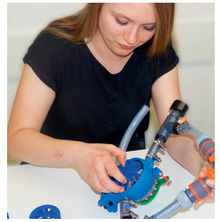
leXsolar-ThermalEnergy
Solar thermal technologies can not only be used to heat energy. Concentrated solar thermal energy can also generate electricity!

leXsolar-EMobility
The use of storage technologies is a requirement for a sustainable energy transition.

leXsolar-SmartGrid
The term SmartGrid stands for connection and control of energy producers, stores and consumers into an „intelligent power grid".

leXsolar-BioEnergy
Discover how biomass can be grown and the energetic use of different degradation processes. Experience the whole biomass cycle!





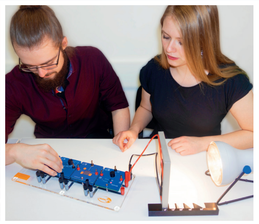


leXsolar-Hydropower Item-No. 1906
leXsolar-BioFuel Item-No. 1703
leXsolar-BioEnergy Item-No. 1710

Ready-to-go Line

The Ready-to-go Line complemet the Professional Line for Technical and Vocational Education and Training in the field of renewable energies.



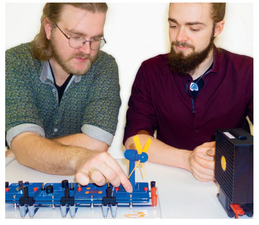




leXsolar-PV Professional Item-No. 1118

- Photovoltaic trainer for technical training
- Basic experiments on photovoltaics
- Experiments with PV system components
- Construction of complete PV systems on a laboratory scale



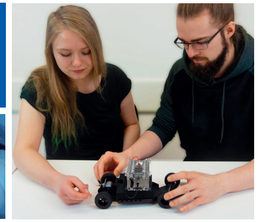




leXsolar-Wind Professional Item-No. 1406

- Wind energy trainer for technical education
- Wind power technologies from basics to application
- Measurement and optimisation of rotor configurations



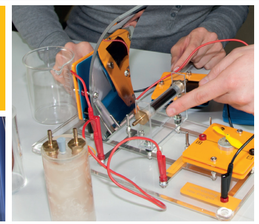




leXsolar-H_2 Professional Item-No. 1222

- H_2 Professional focuses on PEM fuel cell technology.
- The electrolyser can be powered by a solar module to produce green hydrogen, or by mains electricity.
- The fuel cell stack consists of five individual cells and can be completely dismantled into its individual parts by the students.

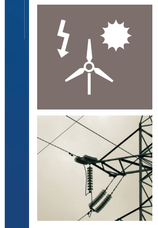


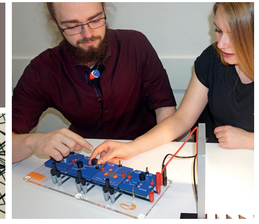




leXsolar-ThermalEnergy Professional Item-No. 1306

- Experimental system for solar thermal energy conversion
- Quantitative experiments with different collector systems
- Flexible and location-independent use possible







leXsolar-SmartGrid Professional Item-No. 1607

- Construction of a complete smart grid on a laboratory scale
- Investigation of the influence of renewable energy on grid stability
- Additional fundamental experiments on photovoltaics, wind, fuel cells and energy storage systems