



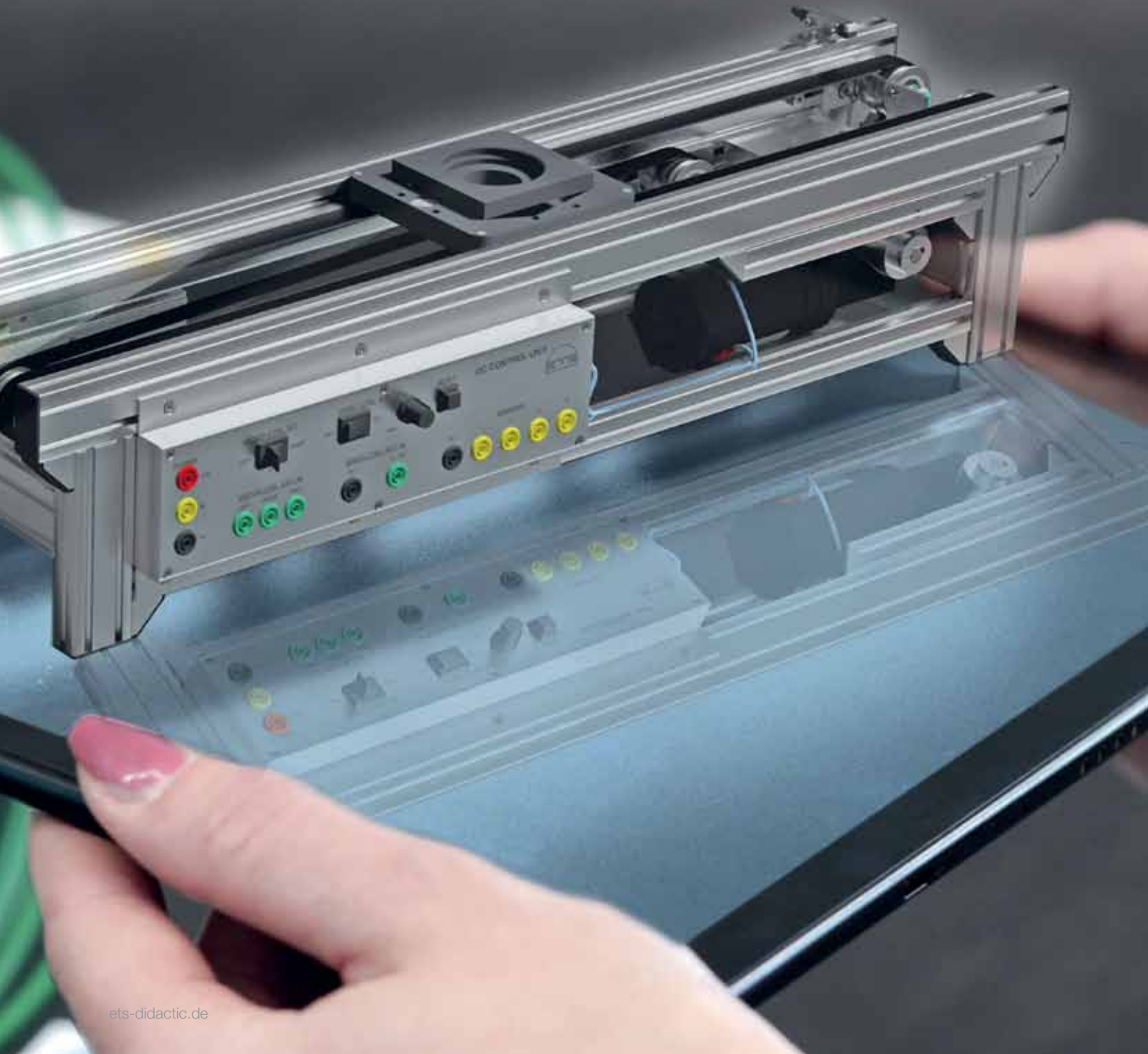
tec2SKILL® CONNECT

Virtuality meets reality



VIRTUALITY MEETS REALITY

tec2SKILL® connect



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Didactic solutions

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tec2SKILL®connect

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PEOPLE AND TECHNOLOGY – A PERFECT MATCH

Technology to inspire you: understanding – comprehending – applying

ETS DIDACTIC is your partner for in-house and institutional education and training in the professional fields of electrical engineering and metal technology.

Topics such as Industry 4.0, electrical engineering, power electronics, pneumatics, drive technology, automation technology, sensor technology, bus systems, mechatronics, transmission technology and the complete scope of building systems engineering including renewable energies are presented as a training system. With the help of well thought-out learning-oriented hardware and accompanying courseware, the specialist skills are quickly learned, grasped by hands and lead to didactic learning success in a goal-oriented manner.

The service spectrum of ETS DIDACTIC ranges from the provision of didactic hardware, courseware and software to the planning and equipping of the complete training rooms. ETS meets all requirements with practice-oriented workshops on the complete spectrum of technical professions for lecturers, trainers and instructors in a specially built modern training center or online.

Vocational schools, training centres of the ICC, Chamber of Crafts or the industry, polytechnics and universities are among the long-standing customers of ETS DIDACTIC.



Welcome to ETS DIDACTIC

ETS DIDACTIC is the pioneer and market leader in the development, manufacture and sales of electrical, automation and mechatronic workstations for training and instruction.

ETS DIDACTIC counts among the leading international manufacturers in the market environment. Located in Kinding, in the beautiful natural reserve of Altmühltal – high-quality products and solutions are developed and manufactured for you.

In the training centre in Kinding, the focus is on the practical application of the systems and fast learning of new technologies by the customers.

The knowledge, experience and the above-average personal involvement of the motivated employees of ETS DIDACTIC are vital factors for the company's efficiency.



Sven Urban
Managing Director



Udo Urban
Managing Director
(Founder)



MADE IN GERMANY

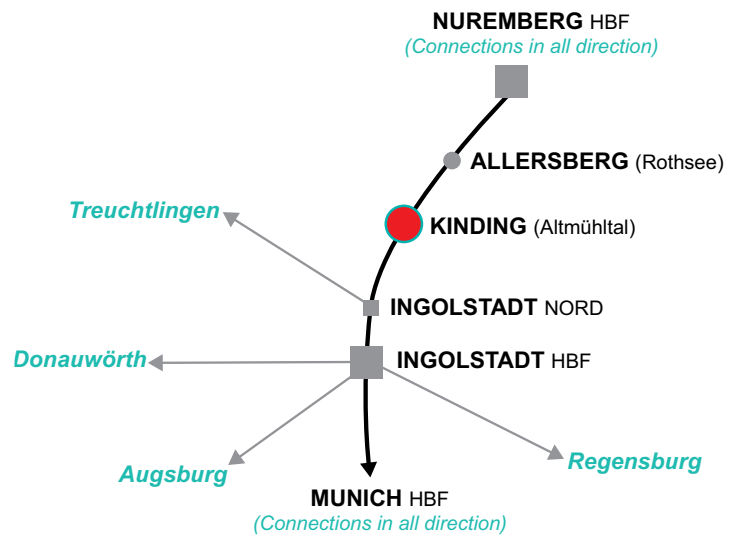
Visit ETS in the Valley of River Altmühl

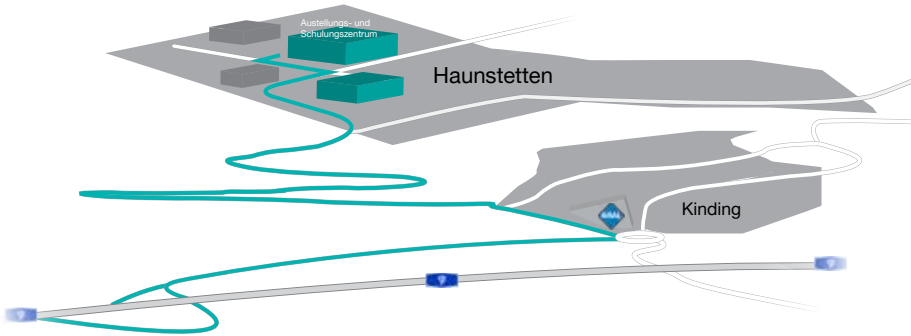
Welcome to Germany - Bavaria

The Altmühltal Nature Park is one of the largest in Germany and offers a thousand ideas for families, history fans, cultural discoverers and nature lovers.

You can travel to our workshop in Kinding-Haunstetten by train. The regional train station Kinding/Altmühltal is located directly on the ICE route between Nuremberg and Munich. The regional express trains of Deutsche Bahn stop every two hours. The journey from Kinding to Ingolstadt takes 17 minutes, to Munich 1 hour 15 minutes and to Nuremberg only 27 minutes.

Local cab companies are available to take you from Kinding to Haunstetten. We will be happy to assist you with the organization.

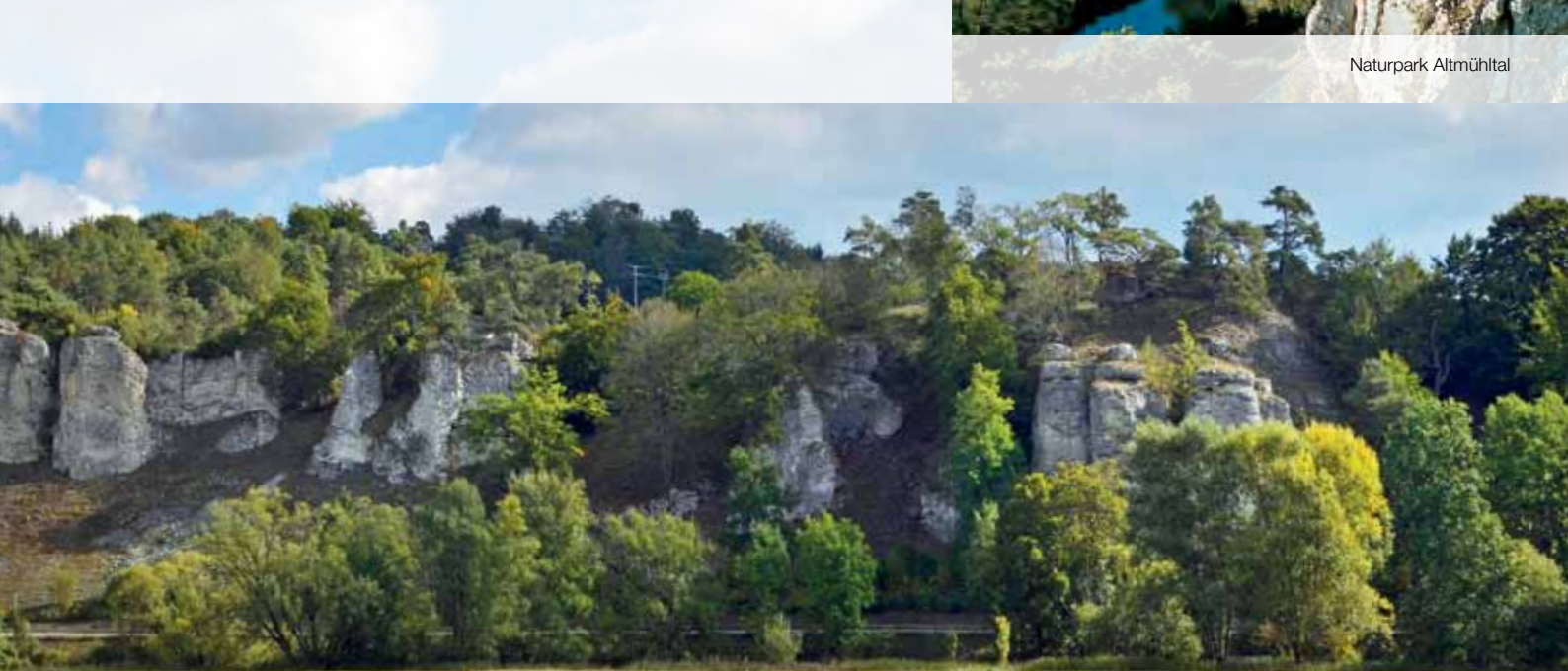




Kloster Weltenburg



Naturpark Altmühltal



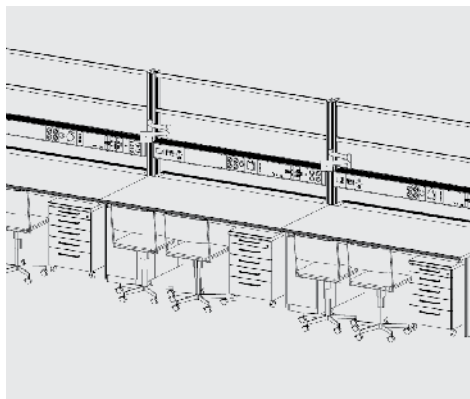
APPROACH AND ROOM CONCEPT

To plan a custom-made room concept with you, we proceed in the following steps:

- › A good room concept is based on professional advice. The technical consultants of ETS DIDACTIC are pleased to support you in the local planning phase. Benefit from their technical expertise and experience.
- › Planning a room concept is more than selecting the furniture. Each room concept is adapted to and developed for the local requirements of the customer.
- › Taking into account the learning contents an equipment list can be set up. As soon as the extent is defined, the storage equipment is optimised and designed.



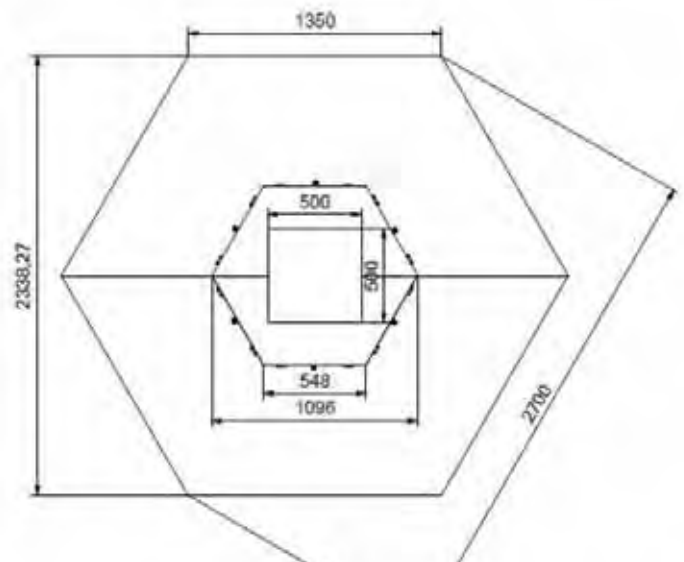
Analysis

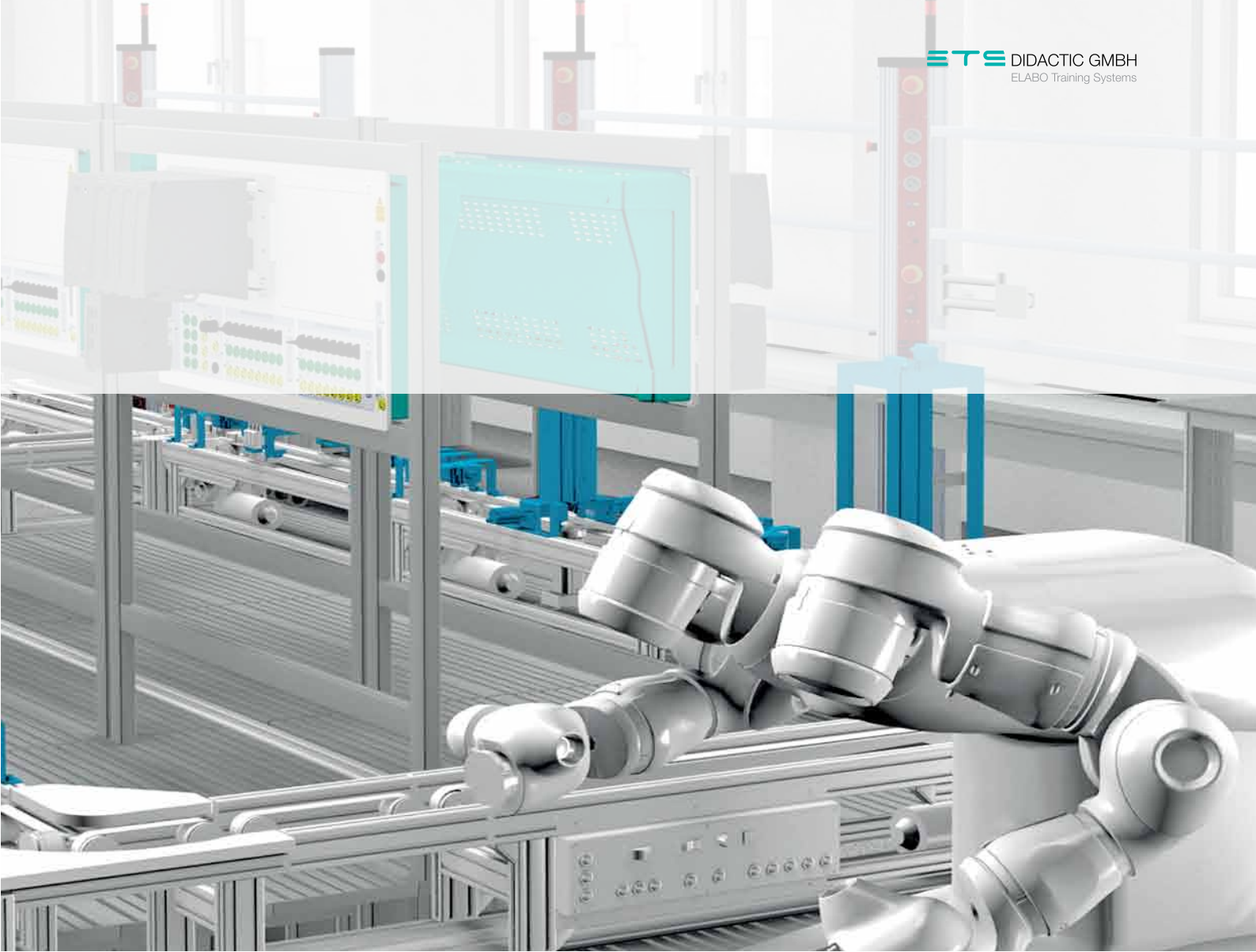


Conception



Consulation / Planning





Design / Construction

Workshops

Application



PEOPLE AND TECHNOLOGY – A PERFECT MATCH

Didactic and Technology Result in the ETS-Concept



Compact Boards

- › Their didactical concept makes our training systems in A4 format outstanding.
- › The photorealistic design of their front panels with graphics, pictures, connection details or warning messages assist and guide the experiments - cognitive didactics. Due to the graphics, users comprehend and remember the technologies more easily.
- › The systems can be mounted in an A4 frame or placed directly on a table.

Experimental Boxes

- › Construct your own experiments. Beside the wiring, the arrangement of the components is focused. With the experimental boxes it's possible to practice basic circuits as well as complex installations
- › Always close to practice, fast and safe!
- › Wide range of industrial components.



BST®-BuildingSystemsTrainer

- › The BuildingSystemsTrainer® is a mobile training system that can be taken from one classroom to another and then is ready for use within some minutes.
- › Beside our laboratory equipment with the experimental boards, these flexible training systems represent an independent product line covering many topics as e.g. the VDE protective measures according to VDE 0100 or the KNX building communication sector, communications technology and renewable energies, SmartBuilding and internet-of-things.
- › Boards can also be integrated in the BuildingSystemsTrainer®



WORKSHOPS WITH ETS

Always up to Date – Training at the Highest Level



) Train the Trainer – workshops for teachers, trainers and lecturers in the field of electrical engineering, mechatronics and metal technology.

) Learn more about the management and the application of various technologies with the support of the ETS trainers. Find out more about the didactic concept and learn to teach the material quickly and safe.

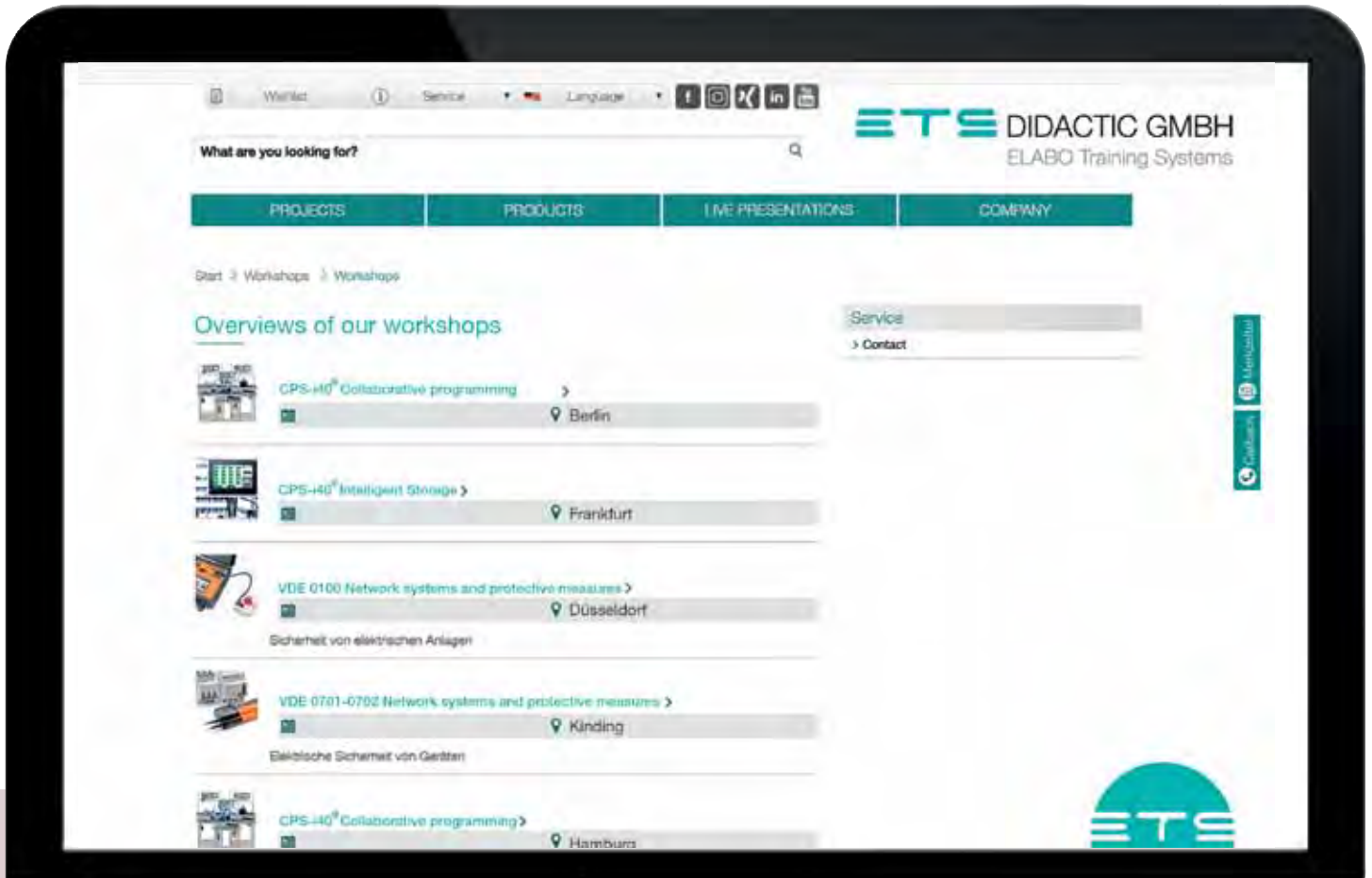
) ETS offers a perfect seminar for all groups of products and topics of technical education. Scan the QR code to subscribe in a workshop:



ets-didactic.de/hp584/Workshops.htm



Fast and Safe into New Technologies



LEARNING FACTORY 4.0 CPS-i40® – CYBER PHYSICAL SY

Quality for the future – today



STEMS



CPS-i40[®] LERNING FACTORY 4.0
FLEXIBLE, SCALABLE AND EXPANDABLE



YOUR CHOICE OF CONTROL

Flexible learning with tec2SKILL® connect



SPS S7-1500 and TP on Automation Board

1



PLC Board with LOGO!

4



SPS S7-1200 and TP on Automation Board

2



„easy“ on PLC Board 24 V

3

No.	Designation	Order No.
1	Automation Board with S7-1516 with TP700	70280-49231
2	Automation Board with S7-1215C and KTP	71200-Z06
3	PLC Board with LOGO!	40094
4	PLC Board 24 V with easy	40090-easy



tec2SKILL® connect BOARD

Virtuality meets reality



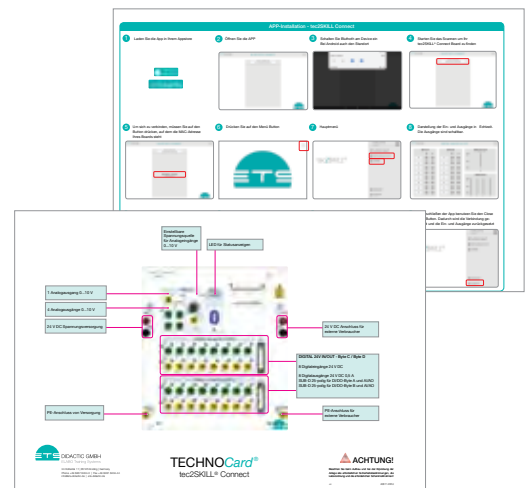
1

Learning objectives

- › Setup and project planning of a PLC in the TIA-Portal
- › Commissioning of an automation system
- › Programming according to international standard IEC 1131-3
- › Connecting and commissioning fieldbus systems

Technical data

- › 2 System interfaces SUB-D, 25-pin
- › 16 Digital inputs 24V DC
- › 16 Digital outputs 24V DC
- › 4 Analog inputs 0-10V DC
- › 1 Analog output 0-10V DC through Potentiometer adjustable
- › 16 LED indicators for the digital inputs
- › 1 Simulation field for analog processing
- › 1 Bluetooth interface with LED display



2

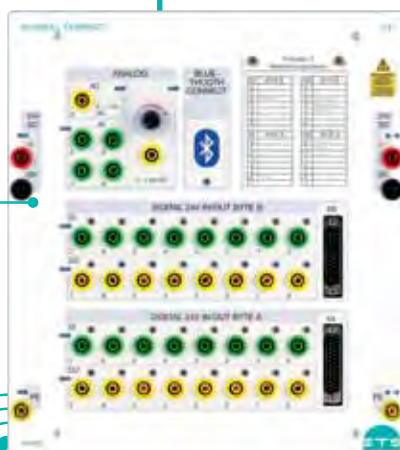
No.	Designation	Order No.
1	tec2SKILL® connect Board	40800
2	TECHNOCard® – tec2SKILL® connect	40811-ENG

Technical concept – tec2SKILL® connect with S7-1500

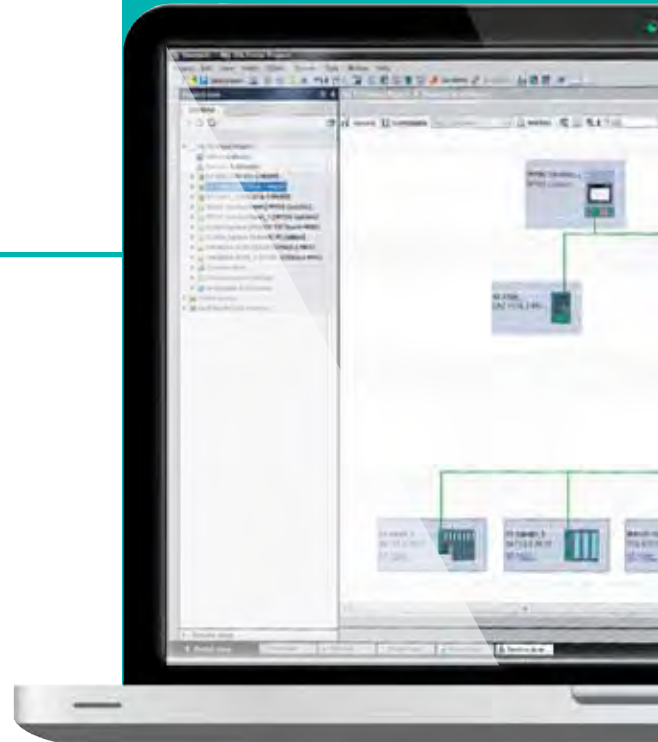


Programmed
Control e.g. S7-1500

Bluetooth interface
tec2SKILL®connect Board



Bluetooth interface
tec2SKILL®connect Board



Real commissioning of virtual processes!

Tec2SKILL connect Board
Via the hybrid interface tec2SKILL® connect you can control virtual processes with real PLCs or small controllers. The whole thing also works bidirectionally. The control is up to your choice. S7-1500, S7-1200, LOGO!, EASY or any other controller, just connect and start.

Through the Connect app, learners experience on the tablet or smartphone using augmented reality to capture the process in 3D reality - in 360 degrees - from all perspectives - as in reality to understand the behavior!

Technology that inspires



HYBRID LEARNING SITUATION

Switch between virtuality and reality





BASIC PROGRAMMING WITH THE TIA-PORTAL and the S7-1500



Technical data

- › CPU 1516-3PN/DP
- › 2 + 1 PROFINET interfaces
- › PROFIBUS interface
- › 32 Digital inputs
- › 32 Digital outputs
- › 8 Analog inputs
- › 4 Analog outputs
- › 24 MB Memory Card
- › Touch Panel TP700 Comfort
- › 7" color graphic with touch function
- › PROFINET interface
- › PROFIBUS interface
- › 5-port Profinet switch for construction of a Profinet network

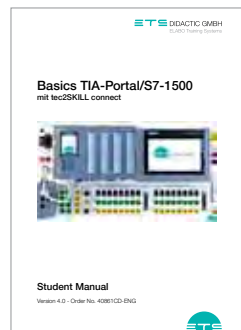
Courseware



1



2

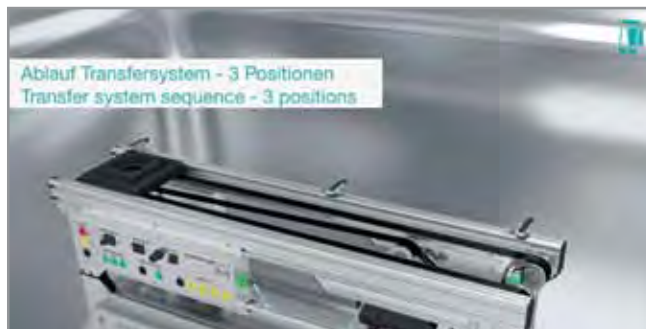


3

Manual content

- › S7- 1500 Family
- › Basis hardware configuration
- › Basis commissioning
- › Programming basis
- › Sequence transfer system – 2 positions
- › Sequence transfer system – 3 positions
- › PROFIBUS connections
- › PROFINET connections
- › HMI connections
- › Processing station project
- › Project display processing station

Printed and digital



Learning objectives

- › Setup and project planning of a PLC in the TIA-Portal
- › Commissioning of an automation system
- › Programming according to international standard IEC1131-3
- › Connecting and commissioning fieldbus system

5



No.	Designation	Order No.
1	Set of ETS ring binders	91903
2	Basics S7-1500 TIA Portal with tec2SKILL® connect, Instructor's Manual, incl. CD-ROM	40860CD-ENG
3	Basics S7-1500 TIA Portal with tec2SKILL® connect, Student Manual, incl. CD-ROM	40861CD-ENG
4	Set of application masks tec2SKILL® connect	40865
n. ill.	tec2SKILL® connect Application software	40870-ENG

BASIC PROGRAMMING WITH THE TIA-PORTAL and the S7-1200



Technical data

- › CPU 1516-3PN/DP
- › 2 + 1 PROFINET interfaces
- › PROFIBUS interfaces
- › 32 Digital inputs
- › 32 Digital outputs
- › 8 Analog inputs
- › 4 Analog outputs
- › 24 MB Memory Card
- › Touch Panel TP700 Comfort
- › 7" color graphic with touch function
- › PROFINET interface
- › PROFIBUS interface
- › 5-port Profinet switch for construction of a Profinet network

Courseware



2

Printed and digital



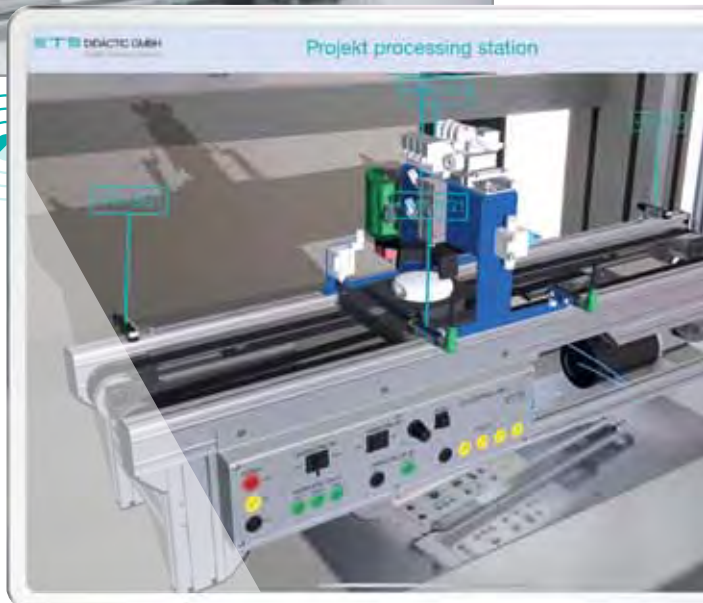
3



4

Manual content

- › S7- 1200 Family
- › Basis hardware configuration
- › Basis commissioning
- › Programming basis
- › Sequence transfer system – 2 positions
- › Sequence transfer system – 3 positions
- › PROFIBUS connections
- › PROFINET connections
- › HMI connections
- › Processing station project
- › Project display processing station



Learning objectives

- › Setup and project planning of a PLC in the TIA-Portal
- › Commissioning of an automation system
- › Programming according to international standard IEC1131-3
- › Connecting and commissioning fieldbus system

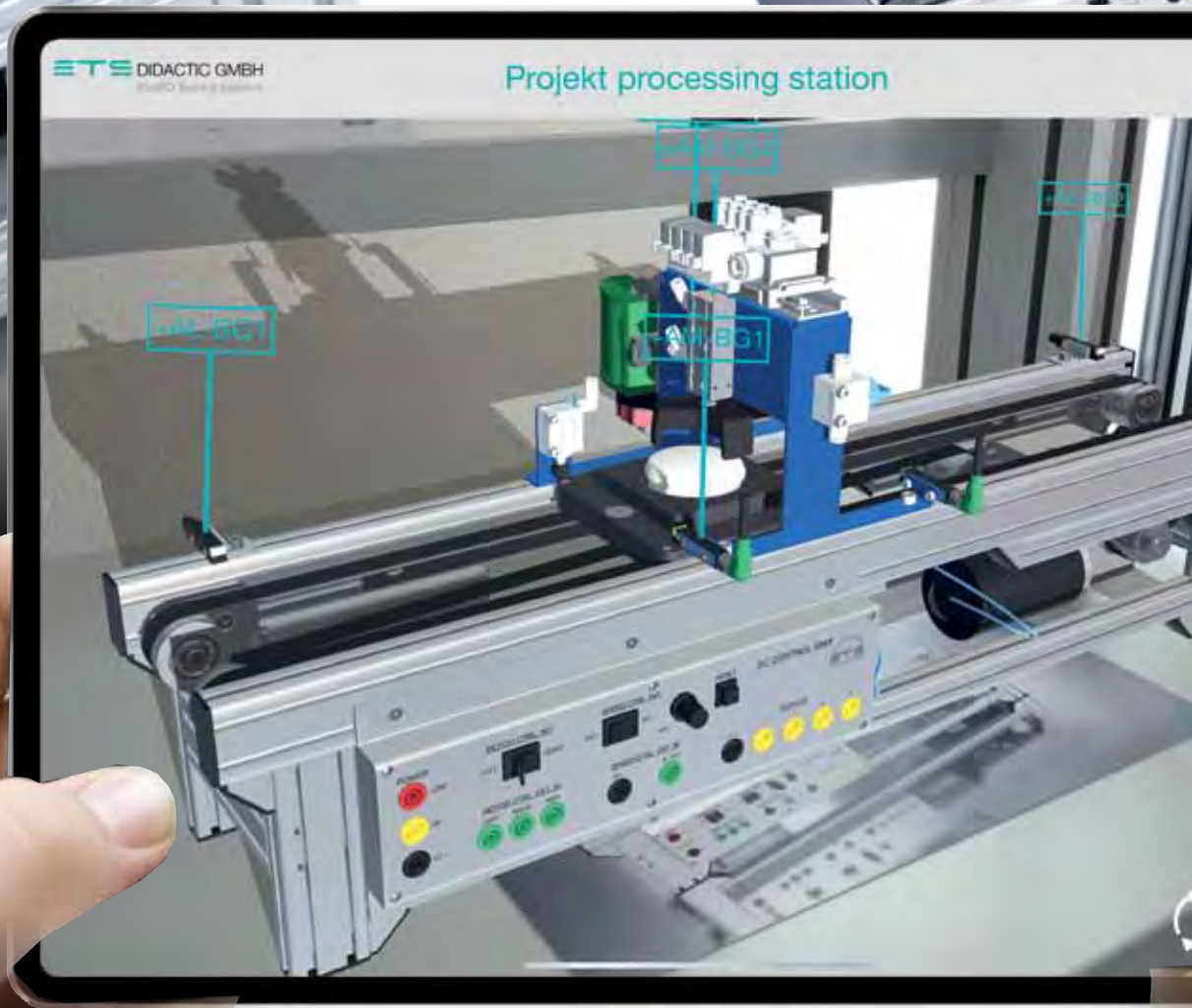
5



No.	Designation	Order No.
2	Set of ETS ring binders	91903
3	Basics S7-1200 TIA Portal with tec2SKILL® connect, Instructor's Manual, incl. CD-ROM	40872CD-ENG
4	Basics S7-1200 TIA Portal with tec2SKILL® connect, Student Manual, incl. CD-ROM	40873CD-ENG
5	Set of application masks tec2SKILL® connect	40865
n. ill.	tec2SKILL® connect Application software	40874-ENG

The tec2SKILL® connect App

the perfect digital learning assistant for your training



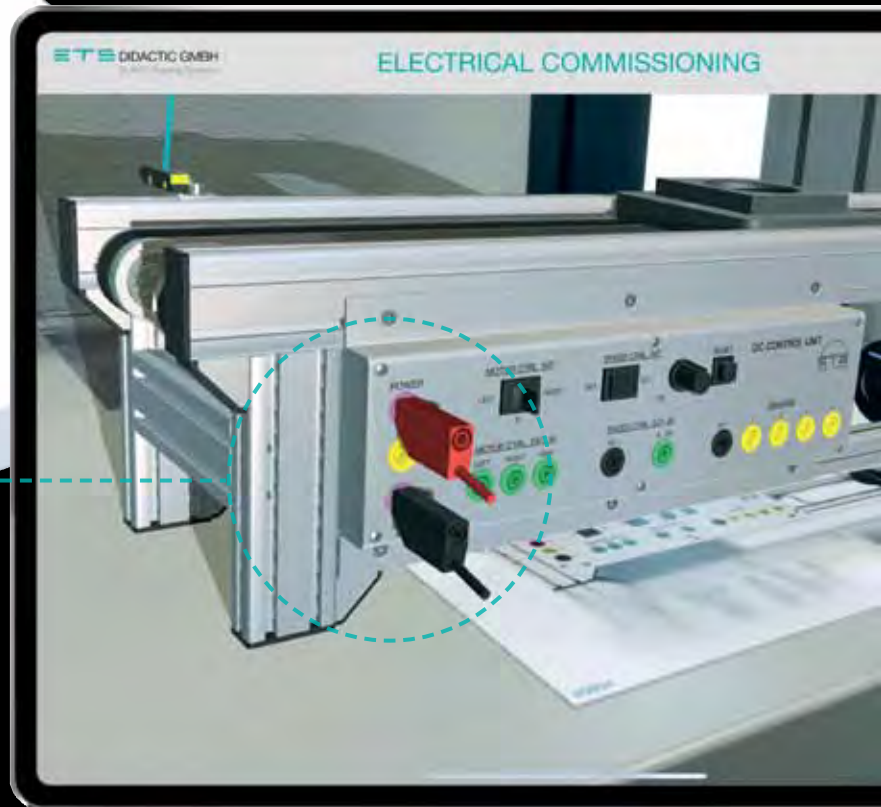
Electrical commissioning

The participant learns to operate the virtual transfer system with the Connect App.

For this purpose, the supply voltage is to be applied virtually, and the functions of the control elements are worked out and assigned. An exercise consists of tracking the signal course; Assign input and output signals between control and process. The course between virtuality and reality is

fluid. In a lively and motivating way, the learners use smart-phones, tables or smart glasses to capture the 3D learning experience around the functional behaviour of the transfer system.

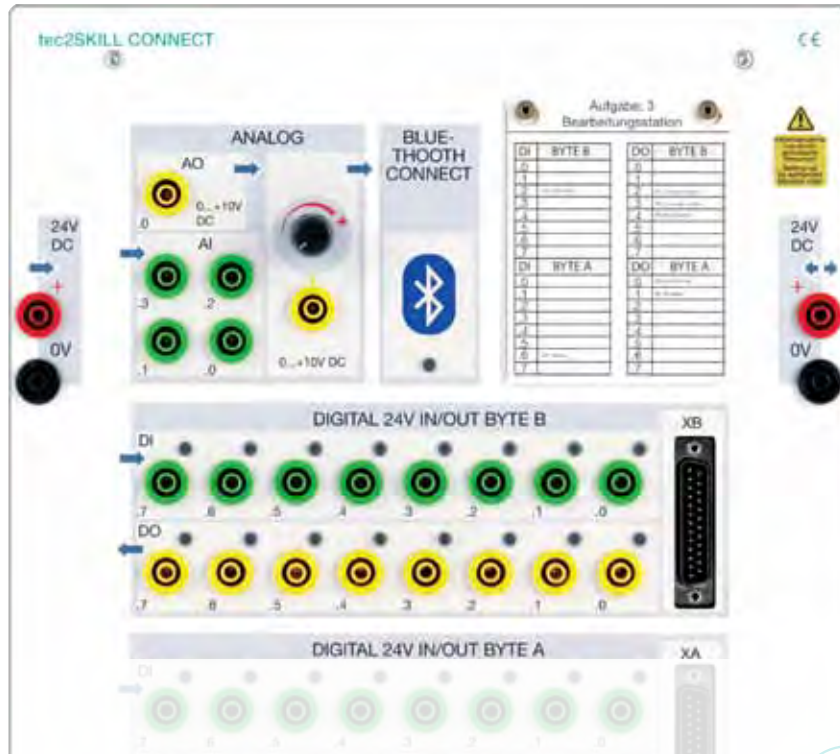
Specially supported here are the cognitive perception and action skills of your trainees and students in the classroom and training.



AR experience

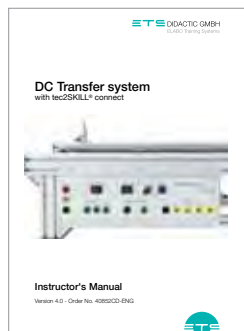
APPLICATION MASKS tec2SKILL® connect

DC Transfer system



Printed and digital

1



2



3

Manual content

- › Electrical commissioning
- › Operating equipment
- › Notes on programming
- › Task 1: Jog mode
- › Task 2: Extension inching operation
- › Task 3: Speed control
- › Task 4: Workpiece transport



Learning objectives

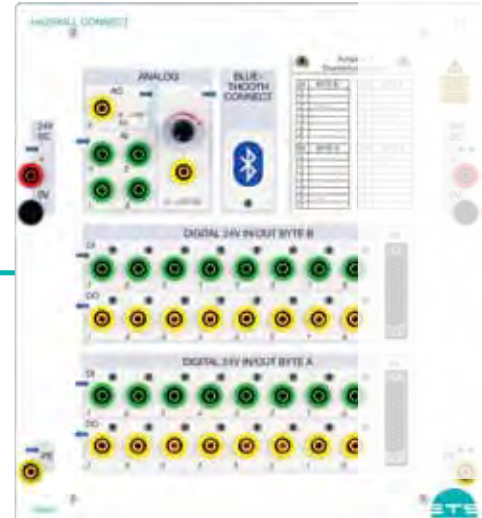
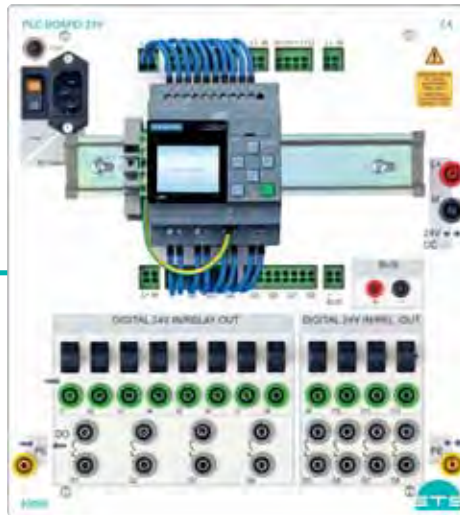
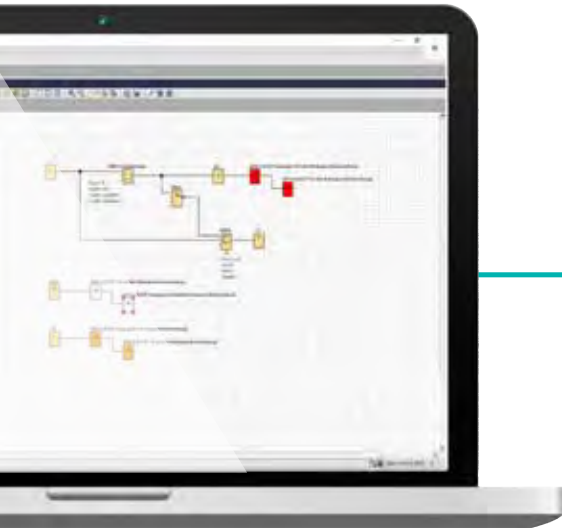
- › Set up the experiments given in the manual or design your own experiments:
- › Workpiece transport
- › Speed control
- › Jog mode
- › Extension jog mode
- › Electrical commissioning

4



No.	Designation	Order No.
1	Set of ETS ring binders	91903
2	Transfer system with direct current drive with tec2SKILL®, Instructor's Manual incl. CD-ROM	40852CD-ENG
3	Transfer system with direct current drive with tec2SKILL®, Student Manual incl. CD-ROM	40853CD-ENG
4	Set of application masks tec2SKILL® connect	40859-ENG
n. ill.	tec2SKILL® connect Application software	40849-ENG

PLC BOARD 24V – WITH LOGO!



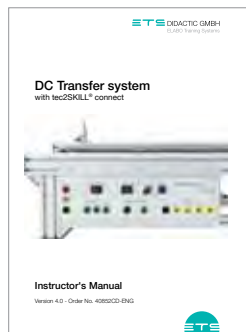
Technical data

- › 2 System interfaces SUB-D, 25-pin
- › 16 Digital inputs 24V DC
- › 16 Digital outputs 24V DC
- › 4 Analog inputs 0-10V DC
- › 1 Analog output 0-10V DC
- › 1 Analog output 0-10V DC adjustable through Potentiometer
- › 16 LED indicators for the digital inputs
- › 1 Simulation field for analog processing
- › 1 Bluetooth interface, with LED display

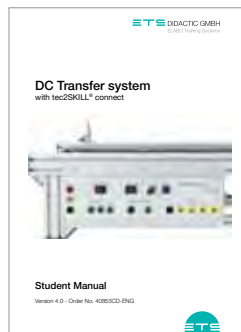


Printed and digital

2



3



4

Manual content

- › Electrical commissioning
- › Consumables
- › Notes on programming
- › Task 1: Jog mode
- › Task 2: Extension inching operation
- › Task 3: Speed control
- › Task 4: Workpiece transport



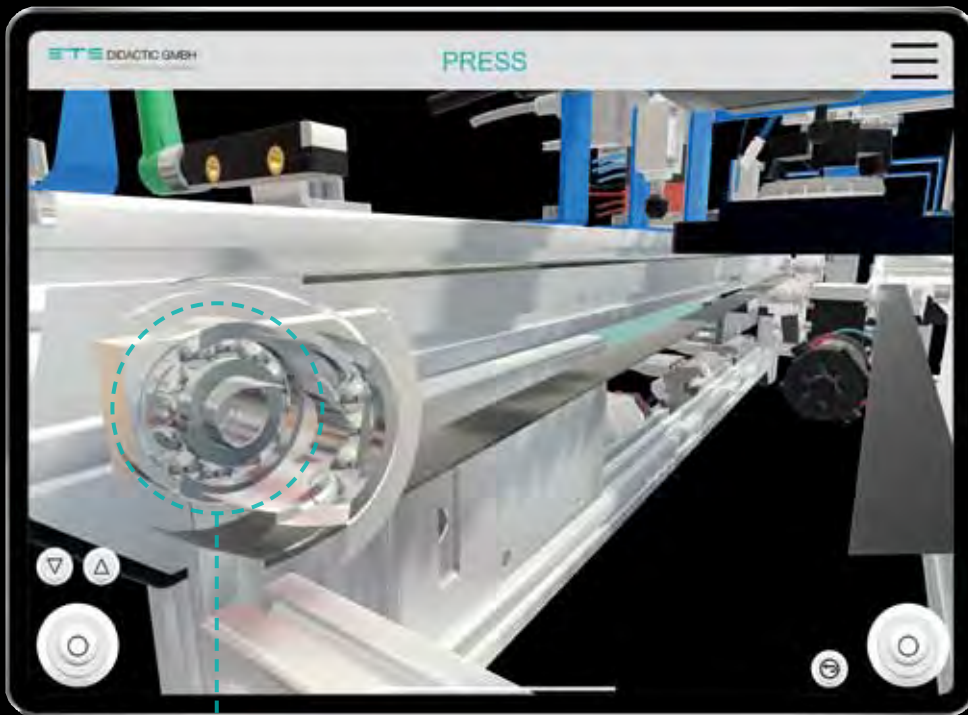
Learning objectives

- › Set up the experiments given in the manual or design your own experiments:
- › Workpiece transport
- › Speed control
- › Jog mode
- › Extension jog mode
- › Electrical commissioning

4

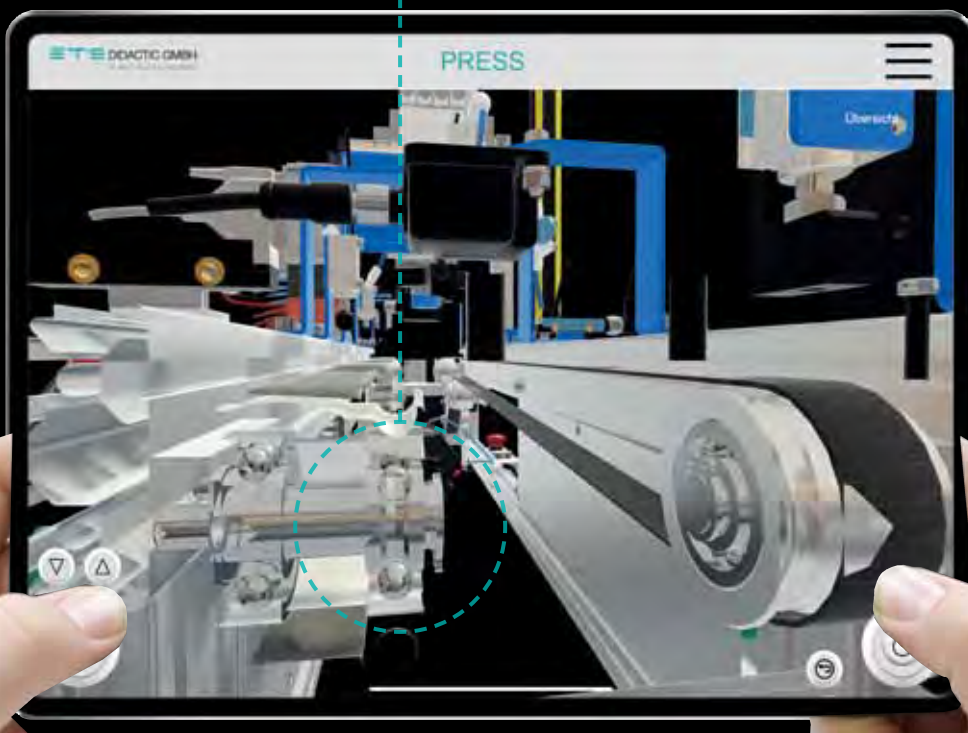


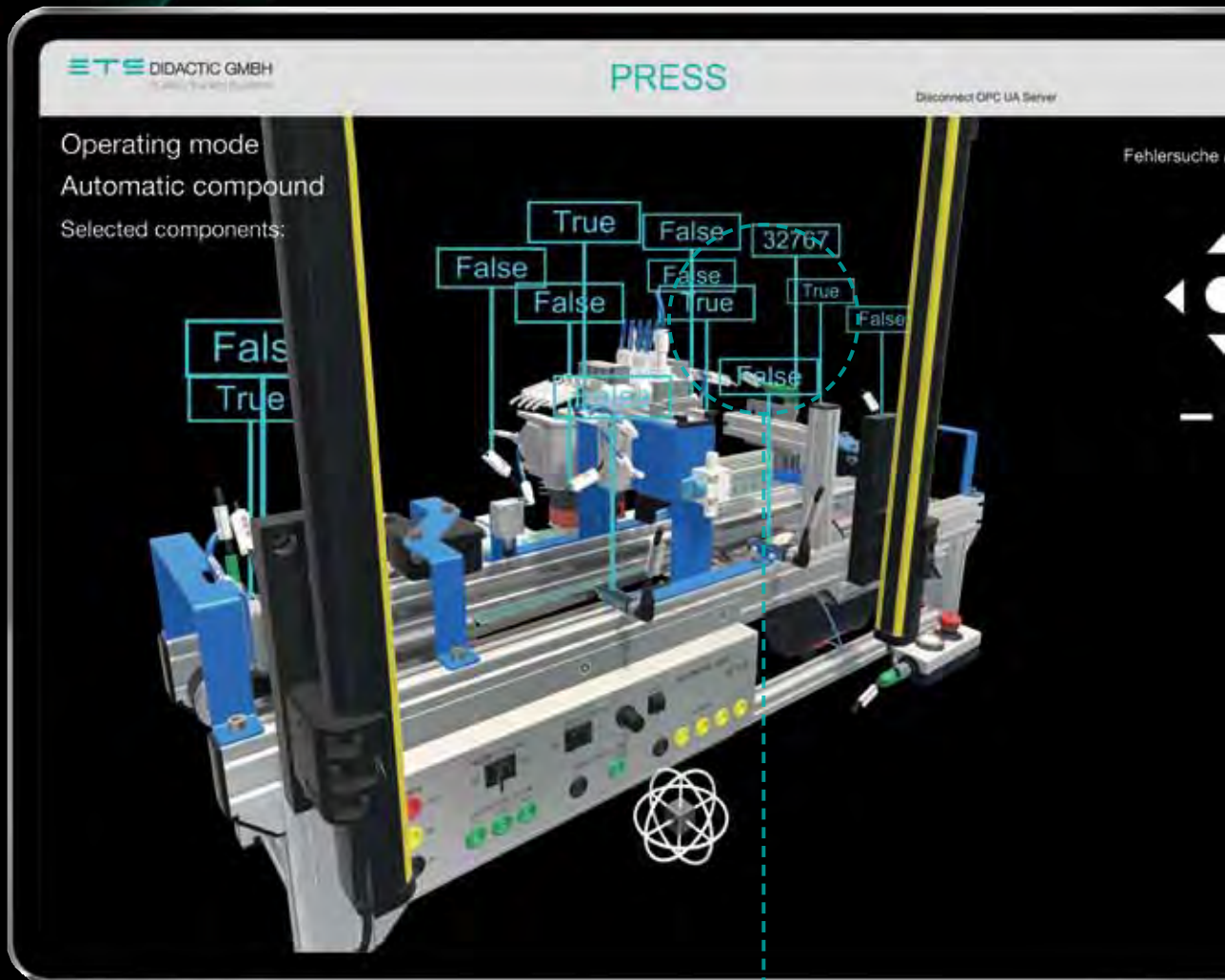
No.	Designation	Order No.
2	Set of ETS ring binders	91903
3	Transfer system with direct current drive with tec2SKILL®, Instructor's Manual, incl. CD-ROM	40852CD-ENG
4	Transfer system with direct current drive with tec2SKILL®, Student Manual, incl. CD-ROM	40853CD-ENG
5	Set Application masks tec2SKILL® connect	40859-ENG
n. ill.	tec2SKILL® connect Application software	40849-ENG



Better in detail ...

Go into detail with the smartMAINTENANCE app. Discover the CPS station, your apprentices understand the contexts of components and technologies. Work out the equipment identification in a virtual flight through the system.





With OPC UA – Status of data in AR

Using XR, you can display data states via OPC UA or use AR to virtually display the station next to your programming device.

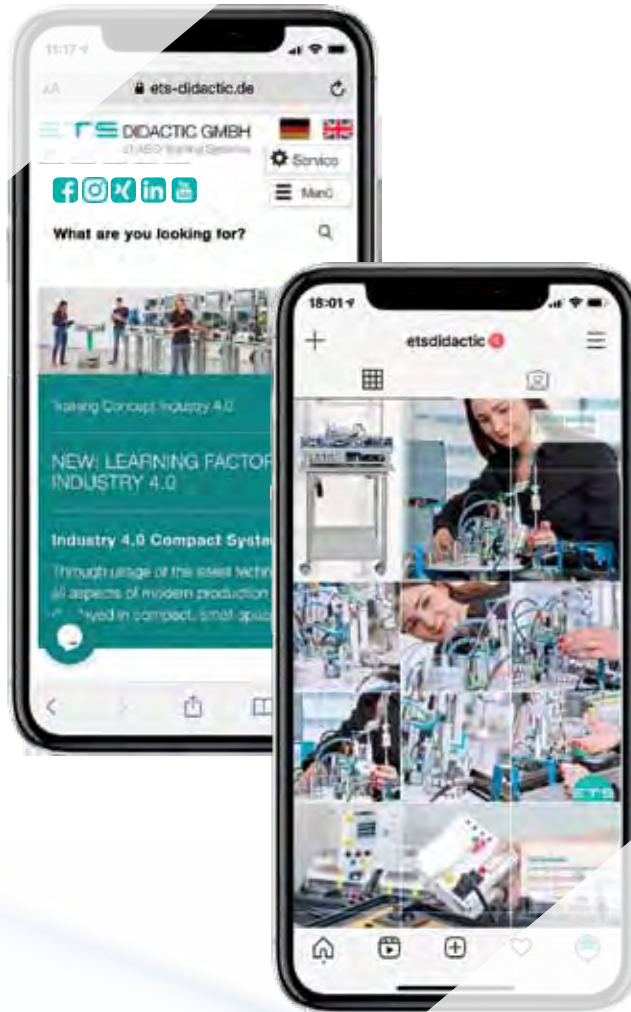
The smartMAINTENANCE App

the perfect digital learning assistant for connectedFACTORY

XR experience

STAY CONNECTED

with us on Social Media



DIDACTIC SOLUTIONS FROM ETS

Catalog: "Basics of Sensor Technology"



DIDACTIC SOLUTIONS FROM ETS

Catalog "Industry 4.0 – connectedFACTORY CPS-i40®"



ETS DIDACTIC GMBH
ELABO Training Systems

INDUSTRY 4.0

Qualification for Future Manufacturing Processes
connectedFACTORY CPS-i40®



Catalog "Cyber Security – IT Security of Production Networks"

ETS DIDACTIC GMBH
ELABO Training Systems



CYBER SECURITY

IT Security of Production Networks



QUALITY IS THE MEASURE OF ALL SUCCESS

Inspiring Technologies

ETS DIDACTIC GMBH is a symbol of high quality and outstanding flexibility. This means that ETS DIDACTIC products are convertible, they can – thanks to the modular conception and the versatile range of accessories – be quickly and efficiently matched to changed requirements and extended nearly without limits.

Our high quality standards refer not only to the products from ETS DIDACTIC, but especially also to the quality of the training that customers achieve thanks to the use of ETS DIDACTIC products. And in this, we also include the process quality: ETS DIDACTIC supports procedures during the training that are as problem-free as possible.

The solutions offered by ETS DIDACTIC can be matched to individual customer requirements to a great extent. Customers of ETS DIDACTIC are supported and accompanied in the successful implementation of their training objectives by a comprehensive range of services.



QUALITY



PLEASE CONTACT US

We are always ready to assist you



Eva Pickl
Export Assistant



Monday to Friday from 7.45h to 16.30h

Phone: +49 8467 / 8404-0

email: sales@ets-didactic.de

We accompany you and are at your side with active advice. Whether you need information, or some advice in advance of making an investment, or have questions regarding the daily use of the products:

Contact us –
we are ready to assist:

ETS DIDACTIC GMBH
Service-Center
Im Hüttental 11
85125 Kinding / Germany

Phone +49 8467 8404-0
Fax +49 8467 8404-44

sales@ets-didactic.de
www.ets-didactic.de



Customer-oriented solutions

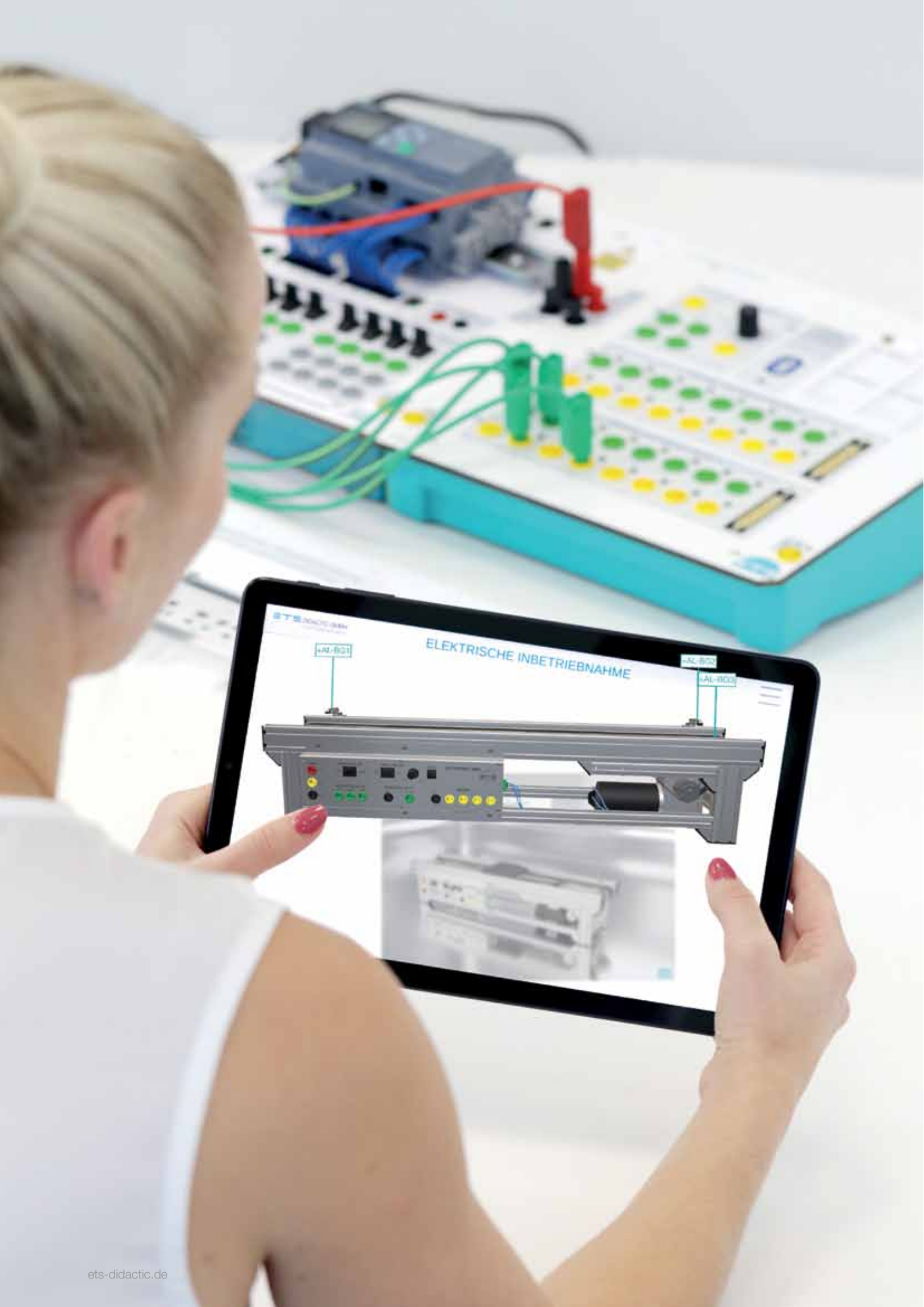
- › Presentation, product demonstrations and on-site consultancy
- › Support in the selection of educational systems according to the syllabus requirements
- › Matching of the training systems to customer requirements
- › Working out room concepts
- › Designing ergonomic workstations

Experience

- › Comprehensive range of innovative products
- › Systems and solutions from our own (in-house) production
- › Development and design, technical training systems
- › Quality right from the consultancy up to delivery and onward
- › Trainer workshops / In-house training / Webinars
- › References world-wide
 - Industrial educational institutions
 - Vocational schools / technical schools
 - Chambers of crafts
 - Technical colleges / Universities

We support you

- › Installation and commissioning of the systems on-site
- › Technical support
- › Warranty and repairs
- › Instruction and training
- › Further education, training, seminars
- › Comprehensive product documentation
- › Courseware for instructors and trainees



YOUR INQUIRY

ETS DIDACTIC GMBH

Im Hüttental 11
85125 Kinding | Germany
Phone +49 8467 8404-0
Fax +49 8467 8404-44

 Name, Function

 Company / Institution / Government agency

 Street, Post box

 Zip code, city

 Telephone

 Telefax

 E-Mail
We would like:

to be contacted by telephone
 information on seminar dates
 to have an on-site consulting
 to receive an offer about

Qty.	Designation	Order No.
	tec2SKILL® connect Board:	
	tec2SKILL® connect Board	40800
	TECHNOCard® – tec2SKILL® connect	40811-ENG
	tec2SKILL® connect with S7-1500:	
	Set of application masks tec2SKILL® connect	40865
	tec2SKILL® connect Application software für S7-1500	40870-ENG
	Courseware for tec2SKILL® connect S7-1500:	
	Set of ETS ring binders	91903
	Basics S7-1500 TIA Portal with tec2SKILL® connect, Instructor's Manual incl. CD-ROM	40860CD-ENG
	Basics S7-1500 TIA Portal with tec2SKILL® connect, Student Manual, incl. CD-ROM	40861CD-ENG
	tec2SKILL® connect with S7-1200:	
	Set of application masks tec2SKILL® connect	40865
	tec2SKILL® connect application software for S7-1200	40874-ENG
	Courseware for tec2SKILL® connect S7-1200:	
	Set of ETS ring binders	91903
	Basics S7-1200 TIA Portal with tec2SKILL® connect, Instructor's Manual, incl. CD-ROM	40872CD-ENG
	Basics S7-1200 TIA Portal with tec2SKILL® connect, Student Manual, incl. CD-ROM	40873CD-ENG
	tec2SKILL® connect with DC Transfer system and LOGO! - control system	
	Set of application masks tec2SKILL® connect	40859-ENG
	tec2SKILL® connect application software for DC Transfer system	40849-ENG
	Courseware for tec2SKILL® connect with DC Transfer system:	
	Set of ETS ring binders	91903
	Transfer system with direct current drive with tec2SKILL®, Instructor's Manual incl. CD-ROM	40852CD-ENG
	Transfer system with direct current drive with tec2SKILL®, Student Manual, incl. CD-ROM	40853CD-ENG

EXCELLENCE IN TRAINING AND INNOVATION



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