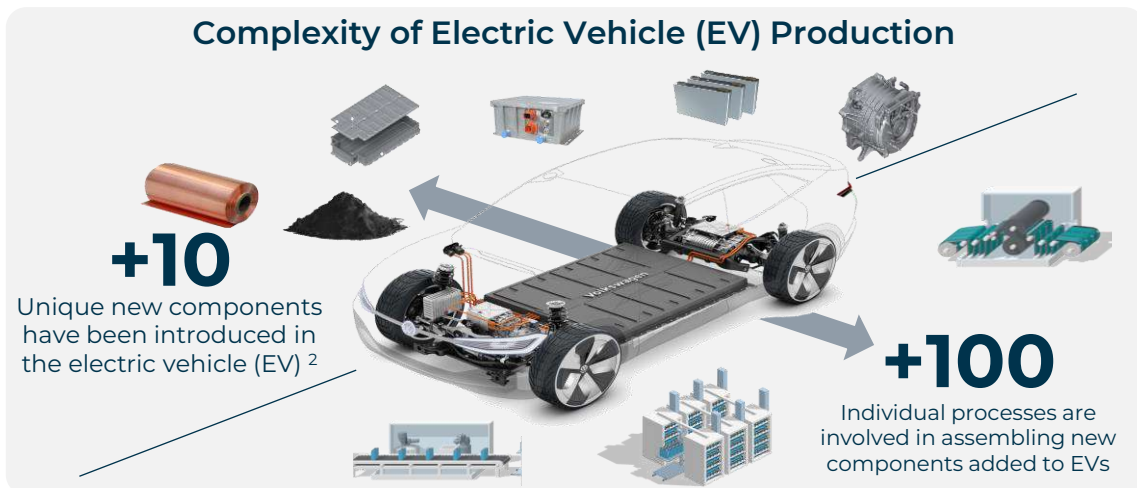
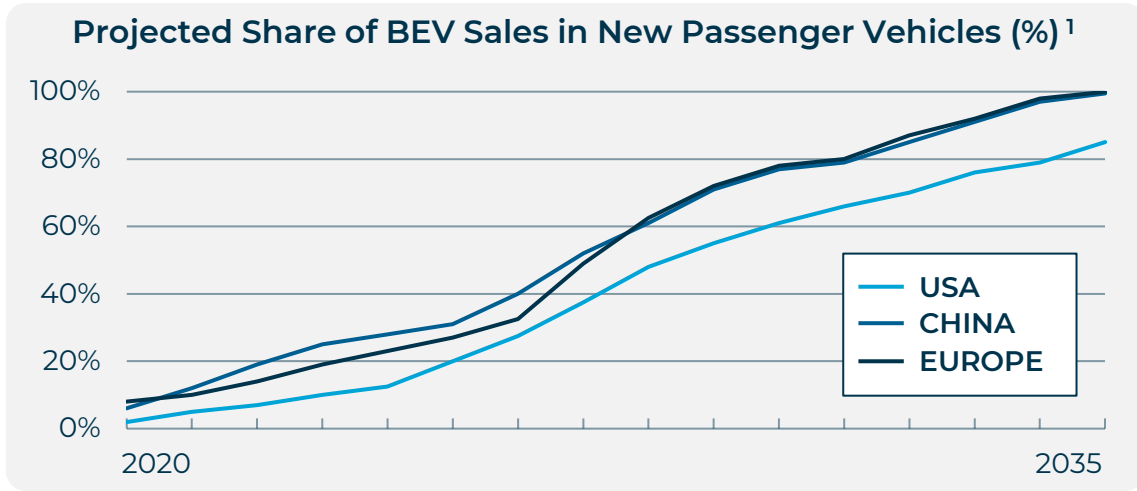


# Training Programs at PEM Motion

We **transform and qualify** your workforce for the future of mobility by integrating **practical expertise** from our projects and top **theoretical knowledge** from RWTH Aachen University. Our Electric Mobility training, tailored across five dimensions, ensures success through **optimal methods and global references**.

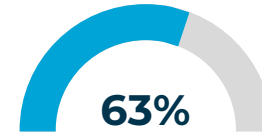


# Future Mobility Demands Extensive Requalification Through Innovative Training Methods and Detailed Content

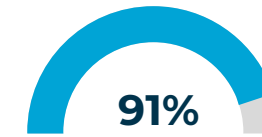


Sources: McKinsey (2022)<sup>1</sup>, YoCharge (2024)<sup>2</sup>, Driving the Electric Revolution Center (2023)<sup>3</sup>

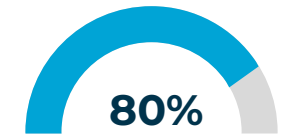
The rapid growth of E-Mobility demands a concentrated effort on retraining and qualification:



of automotive jobs will change<sup>3</sup>



of power electronics specialists' required knowledge will change<sup>3</sup>



of future workforce already employed<sup>3</sup>

To navigate the complexities of the EV industry, adult learning must adopt a tailored approach, aligning with specific goals and scalability:



**Critical topics demand technical expertise**



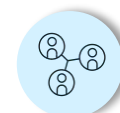
**Interdisciplinary knowledge is essential**



**Diverse learner demographics**



**Scalable training for the industry's large workforce**

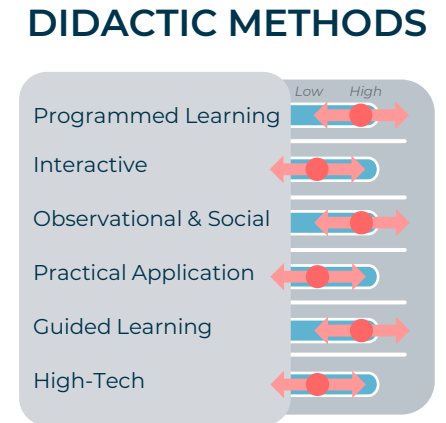
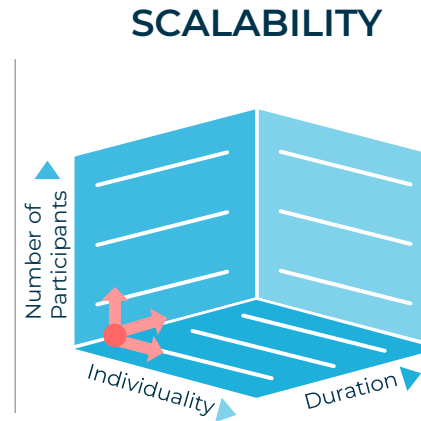
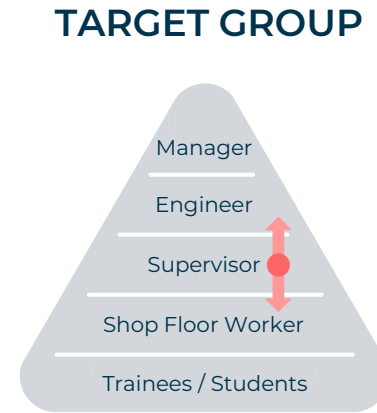
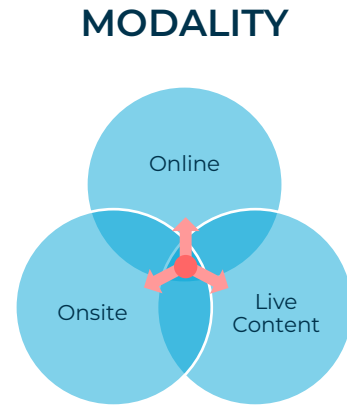
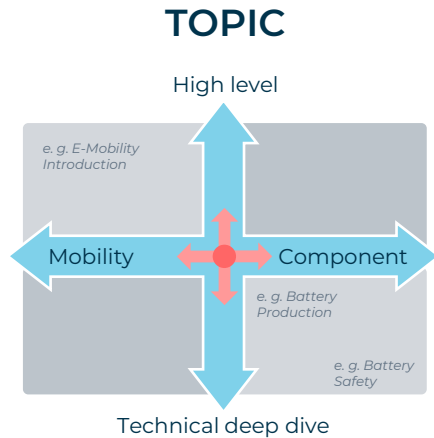


**Specialized methods for adult learners are required**

**Transform Your Skills: Reimagine Training Today!**



# PEM Motion's 5 Training Dimensions Address Training Needs



Your  
advantage  
working with  
PEM Motion



Integrating firsthand **practical expertise** gained from our projects with leading **theoretical knowledge** acquired from university partners



Premium partner - **RWTH Aachen University**: State-of-the-art education along with innovation and lectures for an enriched learning experience



**Tailoring training** approaches across 5 dimensions to precisely meet the requirements of dedicated training projects for **Electric Mobility**



Employing optimal **didactic methods** alongside regularly updated, high-quality content to facilitate swift implementation and scalability



Demonstrating exceptional **references worldwide** to underscore our global recognition and success



# PEM Motion's Training Approach to Create an Ideal Solution



## Needs Analysis

Free collaborative workshop covering the Audience Transformation Matrix, target audience definition (Persona), curriculum selection, vision, mission, strategy, and our unique 5 Training Dimensions

**Duration: 1-2-hour workshop**

**Outcome: Tailored offer for your dedicated training project**

## Training Implementation

Implementation phase covering the development of the curriculum program, definition of learning objectives, design of instructional methods, integration of didactic elements, creation of assessment instruments and tools, determination of application strategies, and establishment of clear metrics and criteria for evaluating program success

**Duration: Timeline defined based on needs analysis**

**Outcome: State-of-the-art and unique training project**

## Training Revision

Retrospective workshop covering successes identification, review of goals and objectives, feedback, challenges analysis, continuous improvement recommendations, and future planning

**Duration: 1-2-hour workshop**

**Outcome: Final deliverables and lessons learned**



Schedule a free workshop to analyze your training needs comprehensively

[Book now](#)



# Exploring Future Mobility: Key Knowledge Areas



## Electric Mobility

- + Fundamentals
- + Market Status and Trends
- + Social & Environmental Impacts
- + Business Models
- + Fit for E-Mobility
- + xEV Technology
- + E-Buses & E-Trucks
- + Electric Two- & Three-Wheelers

## EV Production

- + Battery Cell Production
- + Battery Module & Pack Production
- + Battery Raw Material Production
- + Fuel Cell Production
- + Electric Motor Production
- + Hairpin Stator Production
- + Other Components Production

## EV Engineering and Application

- + Systems Engineering
- + Battery Circular Economy
- + Battery Recycling
- + Digitalization in Production
- + Battery Testing & Homologation
- + Battery Safety and Simulation

## Additional Topics

- + Charging Infrastructure
- + Diagnosis, Maintenance, and Repairment
- + Policy and Regulations
- + Energy Storage Technologies
- + Technology Outlook and Trends
- + Ramp-up Management



# Global Training Project References



## THE FLOOR WALKER PROGRAM

A tailored program recruits top university students to seamlessly launch intralogistics operations for the new BMW plant in Mexico.



LEARN MORE



## E-LEARNING COURSES ON SUSTAINABLE MOBILITY

Creation of three free MOOCs on E-Mobility, E-Buses, and 2&3-Wheelers to empower global decision-makers, students, and professionals.



LEARN MORE



## ELECTRIC VEHICLE PRODUCTION DAYS (EPT)

Event with PEM RWTH Aachen University to showcase with 8 seminars advancements in EV production and engineering, (battery, fuel cell, motor, etc.)



LEARN MORE



## XU SCHOOL OF E-MOBILITY

Digital learning platform, addressing challenges and preparing employees for electromobility innovations, fostering a prepared workforce.



LEARN MORE



## HANDS-ON WORKSHOPS

Battery Production hands-on workshop in PEM battery production line – experience the process steps first-hand and producing a dummy battery.

DAIMLER TRUCK

LEARN MORE



# Training Reference 1



## THE FLOOR WALKER PROGRAM



### CHALLENGE & APPROACH:

Facilitate the smooth launch of intralogistics operations for a new German automotive OEM in Mexico by implementing a **tailored qualification program**.

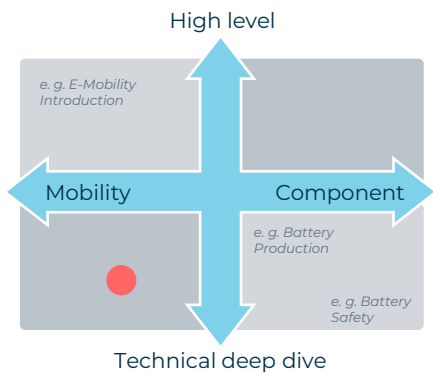
This initiative involves recruiting top university students to seamlessly **blend theoretical learning with practical applications**, ensuring an adept workforce for the OEM's needs.

### RESULT:

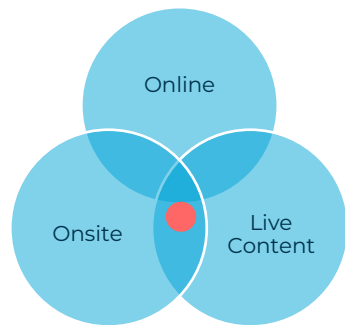
- + More than **130 high qualified students** from 3 universities
- + **55% hiring rate** over the last years with less than 4% fluctuation
- + Detection of deviations on the shop floor, continuous improvement projects and digitalization

[PROJECT VIDEO](#)

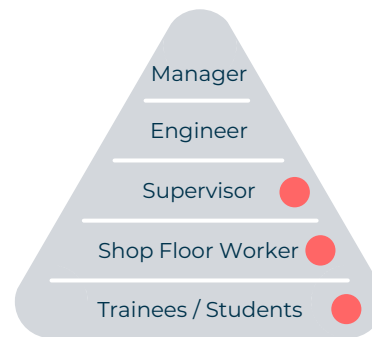
### TOPIC



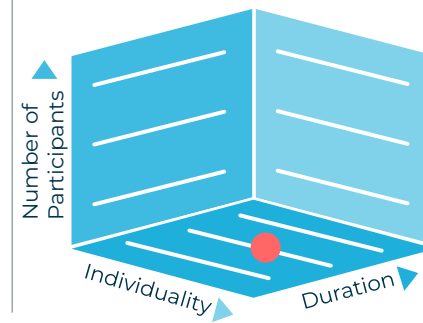
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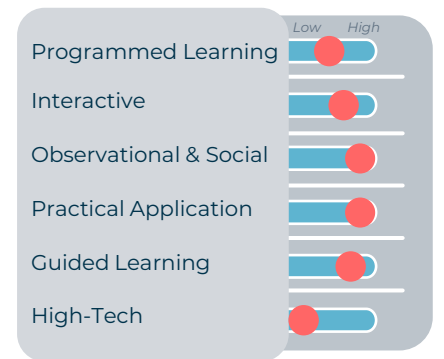
### TARGET GROUP



### SCALABILITY



### DIDACTIC METHODS



# Training Reference 2



## E-LEARNING COURSES ON SUSTAINABLE MOBILITY

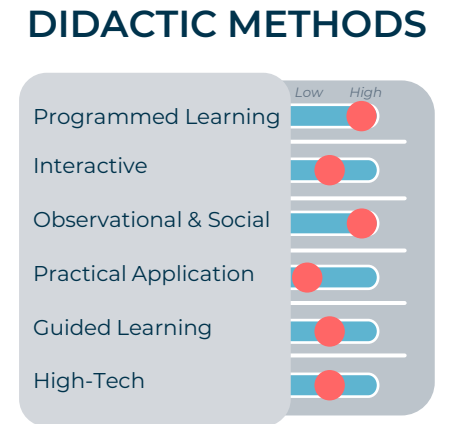
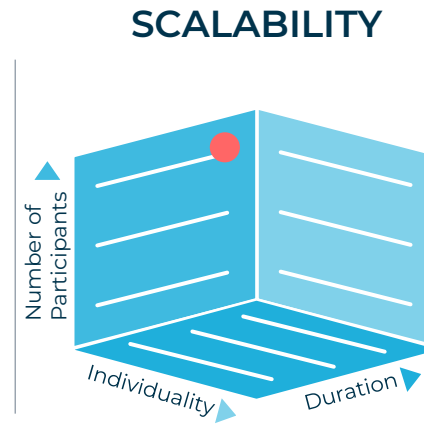
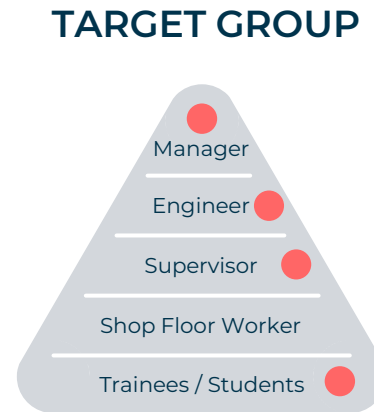
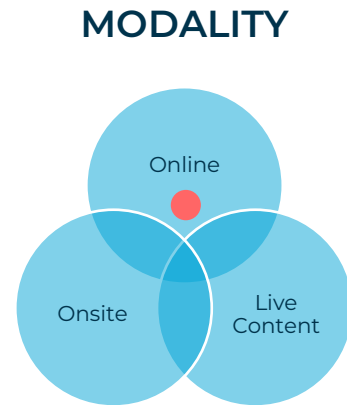
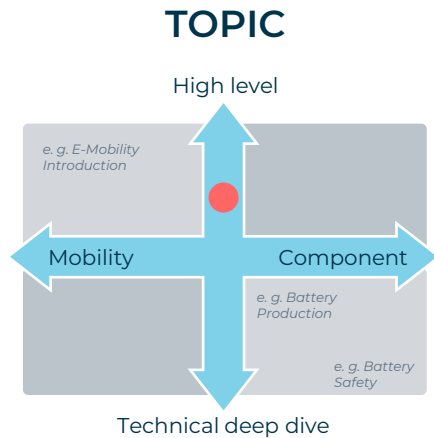


### CHALLENGE & APPROACH:

GIZ and TUMI are tackling the scarcity of high-quality free **e-learning resources on sustainable mobility**. They have partnered with PEM Motion to conceptualize and develop **three Massive Open Online Courses (MOOCs)** that delve into the fundamentals of E-Mobility, E-Buses, and 2&3-Wheelers. These courses are designed to empower decision-makers, students, and professionals worldwide.

### RESULT:

- + Each course spans 6 weeks, with a weekly commitment of 3 to 4 hours.
- + The curriculum includes **expert interviews, case studies, and guest lectures**.
- + The format is **100% online**, with asynchronous (on-demand) classes for flexibility.





# Training Reference 3



## ELECTRIC VEHICLE PRODUCTION DAYS (EPT)



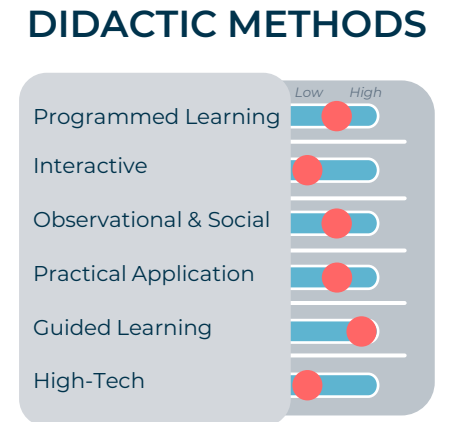
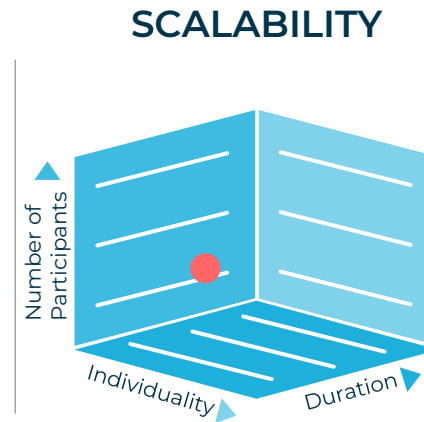
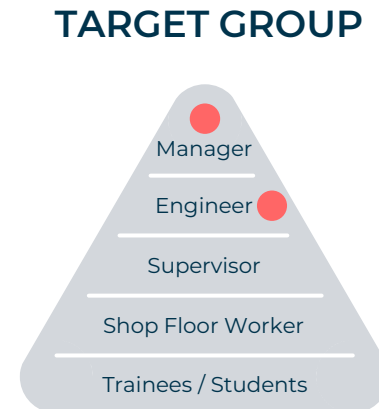
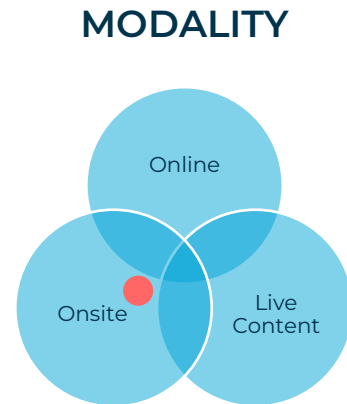
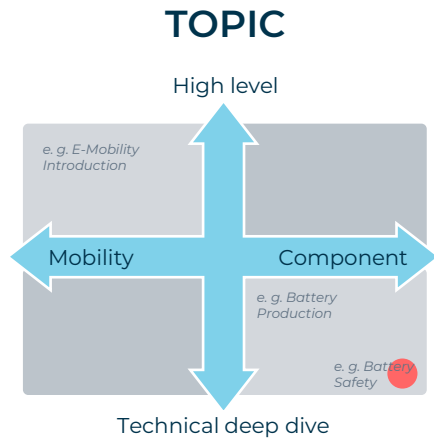
### CHALLENGE & APPROACH:

To provide insights into industry challenges and latest advancements in the field of **Electric Vehicle Production**, annually in October, **PEM RWTH Aachen University and PEM Motion** host the prestigious "Electric Vehicle Production Days" (EPT), attracting hundreds of participants from research and industry. The event explores developments in **battery, fuel cell, electric motor, vehicle integration, and recycling**.

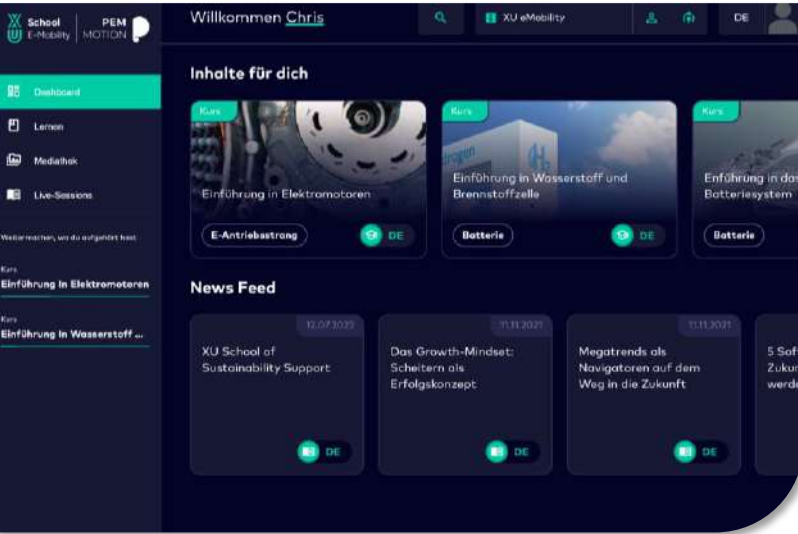
### RESULT:

- + **8 face-to-face seminars** covering Electric Vehicle Production topics
- + **Extensive content:** 1,500 minutes on the battery sector, 400 minutes on fuel cells, and over 60 hours of specialist presentations

[EVENT DETAILS](#)



# Training Reference 4



## XU SCHOOL OF E-MOBILITY

### CHALLENGE & APPROACH:

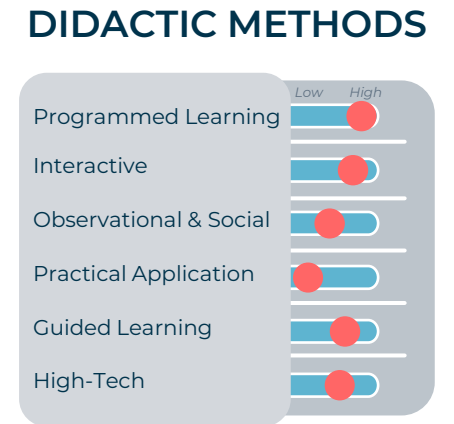
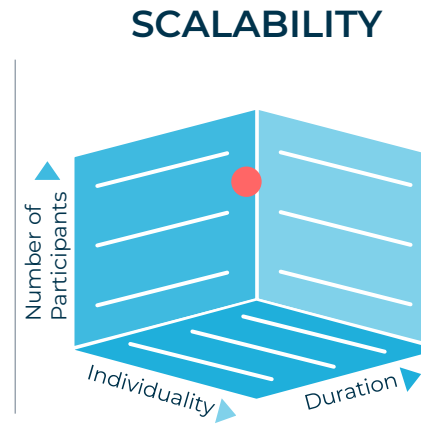
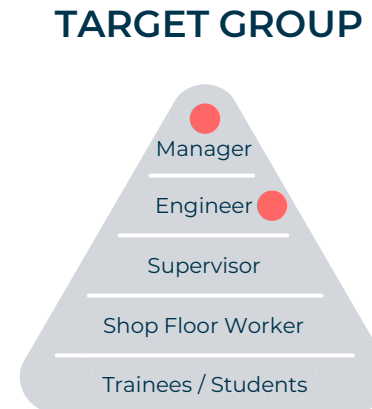
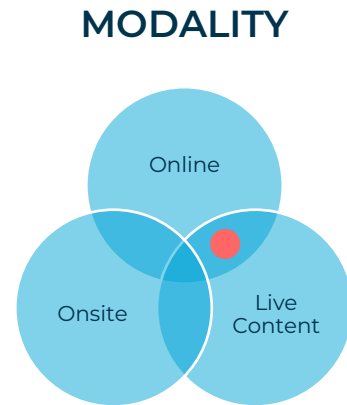
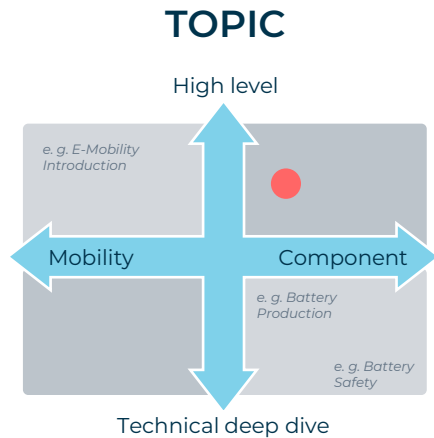
XU, a leading digital education service provider, seeks to establish the "**School of E-Mobility**" in collaboration with PEM. This initiative aims to address challenges posed by innovations in electromobility and prepare employees for these advancements. The joint School of E-Mobility will operate on XU's digital learning platform, with XU providing technical support and **PEM contributing content expertise.**



### RESULT:

- + **45 hours of interactive learning content in English and German** in the focus areas: battery, sustainability, fuel cell, electric motor and xEV, 1 Nano modality (around 25 hours)
- + Live sessions, best practices, impulse & exchange formats with experts and decision makers
- + **Professional and enterprise licenses**

[MORE DETAILS](#)



# Training Reference 5



## HANDS-ON WORKSHOPS

### CHALLENGE & APPROACH:

PEM Motion and PEM RWTH Aachen supported Daimler Truck with **hands-on training in battery production** to enhance theoretical knowledge through practical exercises and firsthand experiences. Multiple groups underwent training at the Aachen facility, covering each process step while **producing battery dummy cells**. The training was complemented by lectures, videos, and gamification elements.

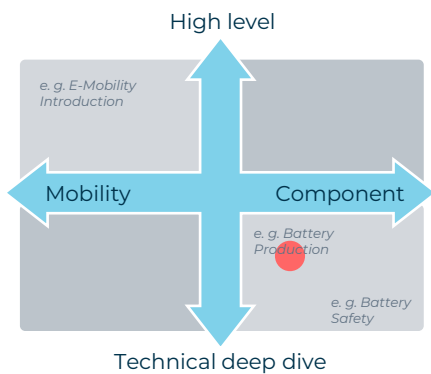
DAIMLER TRUCK

### RESULT:

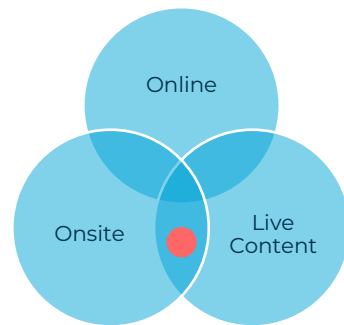
- + **Individual training for several groups of 8-12 participants**
- + Live sessions, best practices and direct process experiences at the battery production equipment in Aachen together with experts from PEM

[MORE DETAILS](#)

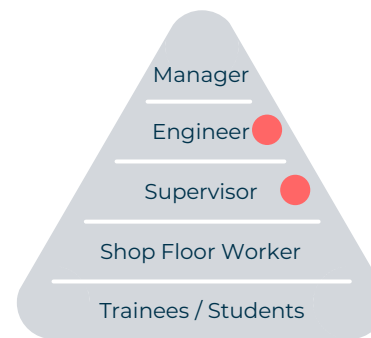
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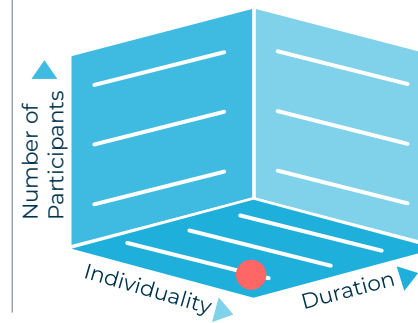
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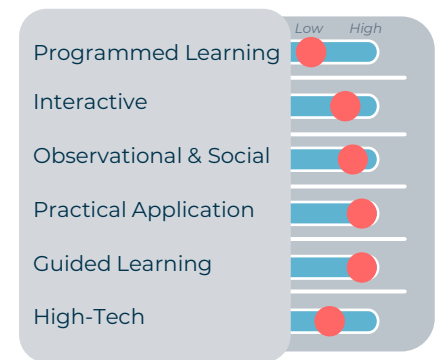
### TARGET GROUP



### SCALABILITY



### DIDACTIC METHODS



# Your Contacts at PEM Motion



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