Innovative Teaching and Learning in Industry 4.0 Context

This module will introduce the changes going on based on industry 4.0 and will create a deeper understanding of the impact on skilled work, thus creating awareness of the workforce required for industry 4.0. It will also introduce the use of different data, the different safety systems, the use of IT safety systems to make work safer and the function of smart factories.

- **Content, elements, format and duration can be customised to the respective needs**

This topic includes the following courses:
Sample Course 1: TVET Management Changes / Consequences for Trainees due to Industry 4.0
Sample Course 2: Innovative Teaching and Learning in TVET Centres due to Industry 4.0
Sample Course 3: Professional Development Training for TVET Teachers in Industry 4.0
Sample Course 4: The Work-Process Based Curriculum Design for Industry 4.0

Learning outcomes
On completion of the training, participants
- explain the knowledge of the economic goal behind industry 4.0
- analyse and interpret the paradigm change going on in industry because of the implementation of industry 4.0
- explain the terms digitalization, industry 4.0 …
- are able to describe and explain the new level of technical and software based communication – based on different data formats – between the cyber physical systems and the internet or internet of things
- are able to support the function of a smart factory,
- are capable to use IT instruments in the work with automated systems
- are able to use, understand and work with the different types of data formats and data safety systems

Contents
- Terms, introduction to industrial change, change of work, impact of new technology and knowledge
- Wider usage of Internet in the work processes of mechatronics systems and other relevant areas
- Data availability of sensors, actuators and process data in production systems: production planning system (PPS), manufacturing execution system (MES),

- supervisory control and data acquisition (SCADA), enterprise resource planning (ERP), System Applications,
- Operation and control of automatized and robotized work processes of assembly
- Data handling: saving data, cloud computing, data security, data mining
- Process management (visualization/ monitoring/ coordination/ organization),
- Development of innovative lesson plans related to industry 4.0 (e.g. work with projects)

Formats
- Face-to-face
- Virtual formats
- Blended learning

Language
- English
- German
- Upon request: other languages with interpreters

Target groups
- TVET teachers
- TVET experts
- In-company trainers
- Private sector stakeholders
from all technological fields

Duration
- 240 hrs in 12-14 weeks (recommended)

Certificate
The participants will receive a certificate of participation after successful completion of the course.

Your contact
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