

# Key messages from Kick off Conference (8 September 2021)

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## Opening Speeches

### *Perspectives from International Organizations (UNESCO-UNEVOC / ILO) and Development Banks (ADB)*

Relevant common understanding regarding demand / perspective main emphasis for interventions in terms of

### **Capacity Development**

- **UNESCO-UNEVOC** - support TVET Personnel towards change demands resulting from Digitalization by
  - Collection of precise data on the needs of TVET Teachers
  - Platform to share their needs, experiences as well as resources
  - Care for their professional development and support
  
- **ILO** - develop capabilities - to be addressed into pre- and in-service for all (new) roles of teaching staff, as
  - More specialization in education structures and ecosystems
  - Clarification of work processes involved
  - Instructional design / media production / Content curation / online facilitation / learning architecture design
  
- **ADB** – Re-thinking Capacity Development with focus on
  - Knowledge solutions and Partnerships
  - Digital learning framework / roadmap
  - Strengthen in-company training
  - Ecosystem approach and multisectoral approach

## KeyNote Speeches

### *Perspectives from Industry*

#### **Siemens** (Thomas Leubner)

- Platforms and ecosystems – leading paradigms for future business
- #Next work – Methodology to determine future skills and competencies (clusters) for future job profiles
- Core knowledge & processes, data-driven insights, enabling tools & technologies, service delivery & trends
- Data Literacy, failure mode & effects analysis, process design / integration / simulation skills, programming skills, specific system knowledge, sensor & actuator expertise
- Continuously updating of curriculum for education, re- and upskilling
- New way of teaching: Competence and Project Oriented Education (COPED)
- „My Learning World“: Global learner Community – providing personalized learning experience / flexible access anytime / anywhere

## KeyNote Speeches

### *Perspectives from Industry*

#### **Bosch** (Guru Mallikarjuna)

- Employees need a different mix of skills than in the past
- Technologies have the potential to lower the cost and improve the quality of education
- Jobs will become more non-routine and require deeper analytical and interpersonal skills
- VUCA: Vision-Understanding-Clarity-Agility (Agile is the vehicle for the VUCA journey)
- Bosch Learning Company – Enabling for Digital Transformation;  
Elements: Self-check Tool, DT information for all, Basic/Advanced/Expert Qualification, One Day Training for Managers, Shop Floor Enabling, Experience Learning, Agile Learning Methods
- Integration Industry 4.0 in Education – Companies cooperation with TVET:
  - Incorporate i4.0 studies in vocational program (better understanding and application of i4.0)
  - Equip with real i4.0 machines/application in the classroom
  - Apprentice program with multinational companies
  - Using digitalization to optimize further training

## KeyNote Speeches

### *Perspectives from Science*

#### **Swiss Federal University for Vocational Education and Training** (Francesca Amenduni & Chiara Antoniettie)

- Changes in VET programs – driven by
  - Disruptive digitalization of workplace and Industry 4.0
  - Learners' digital competence
  - Evidence-based models
  
- For a successful implementation of educational digital technologies in VET contexts
  - Technology accessibility and availability is a necessary but not sufficient condition
  - Teachers' digital competence explains technology integration well.
  
- The „Erfahrraum“ : a technology-enhanced pedagogical model for supporting students' learning at the borders between VET school and workplaces  
(using digital tools in VET, as utility tools, interactive and collaborative tools, simulation/AR/VR/robots)
  
- “Erfahrraum” model as pedagogical guidance to design training for developing VET teachers' digital competence
  
- Technology integration focuses on students' learning needs.

## Panel Discussion

### *„Multi-Experts“ Perspectives on TVET Teacher Training regarding Digitalization*

- Teachers play an essential role in order to both align training to the rapidly changing technological requirements of the industry and utilize digital resources in training appropriately.
  - Aligning the digital literacy training of teachers which corresponds to the chosen method of teaching is fundamental to ensure effective learning outcomes / New teaching methods, new or different didactics
  - Limited resource / lack digital content – access / limited digital skills of teachers
  - Platforms – for distributing knowledge
  - Training should prepare teachers to use digital technologies (incl. remote and blended learning) and understand labour market skills needs
  - Digital resource is secondary resource – work reality first / Simulation allow preparation
  - Infrastructure (low-medium-high tech) adapted support strategies
  - Strengthen PPP's / policy initiatives
  - Digital technology allow better connect school with company ( remote sharing of equipment )
  - The present capacity (industrial attachment / apprenticeship) is low but the demand is high
  - New content is coming into existence through digitalization and automation, new skills as well – are students equipped with digital learning skills when entering TVET?
  - Combining perspectives of Micro-Meso-Macro Level ( Companies – Colleges) / Structured systematic approaches
- Short term: only “repair deficits” - Better: holistic approaches on systematic teacher training (incl. equipment/ content..) reform TVET teacher training systems / modernization of pre- and in-service training for TVET Teachers*

## TVET

- ❖ is crucial for fostering an economically productive labour force – but also for employment and social cohesion
- ❖ has the potential to support progress and transform societies
- ❖ is the engine of economic development and international competitiveness (EU)

## TVET Teachers & In-Company Trainers

- ❖ have a multi-faced role requiring combined (vocational) pedagogical, technical and practical skills and competences
- ❖ are central elements for performance, effectiveness and quality of TVET for generating qualified and skilled workers

## CHALLENGES

- ❖ is worldwide facing rapid changes – in particular because of
  - increasing complexity of work processes
  - rapid technological changes
- both closely linked with and resulting from Digitalization

- ❖ Education, training & development of TVET Teachers and Trainers has frequently received too little attention (UNESCO)
- ❖ often, there are no career paths for becoming a TVET teacher or trainer, either through pre- or in-service programs (ILO)
- ❖ internationally mandated guidelines specifically created for TVET teaching personnel do not exist

**General priority areas in adapting competences of TVET teaching personnel towards Digitalization**

I Analysis and design of skilled work and competences in the chosen domain / vocational discipline

II Analysis and design of objects of skilled work and technology fields as subject of working and learning processes

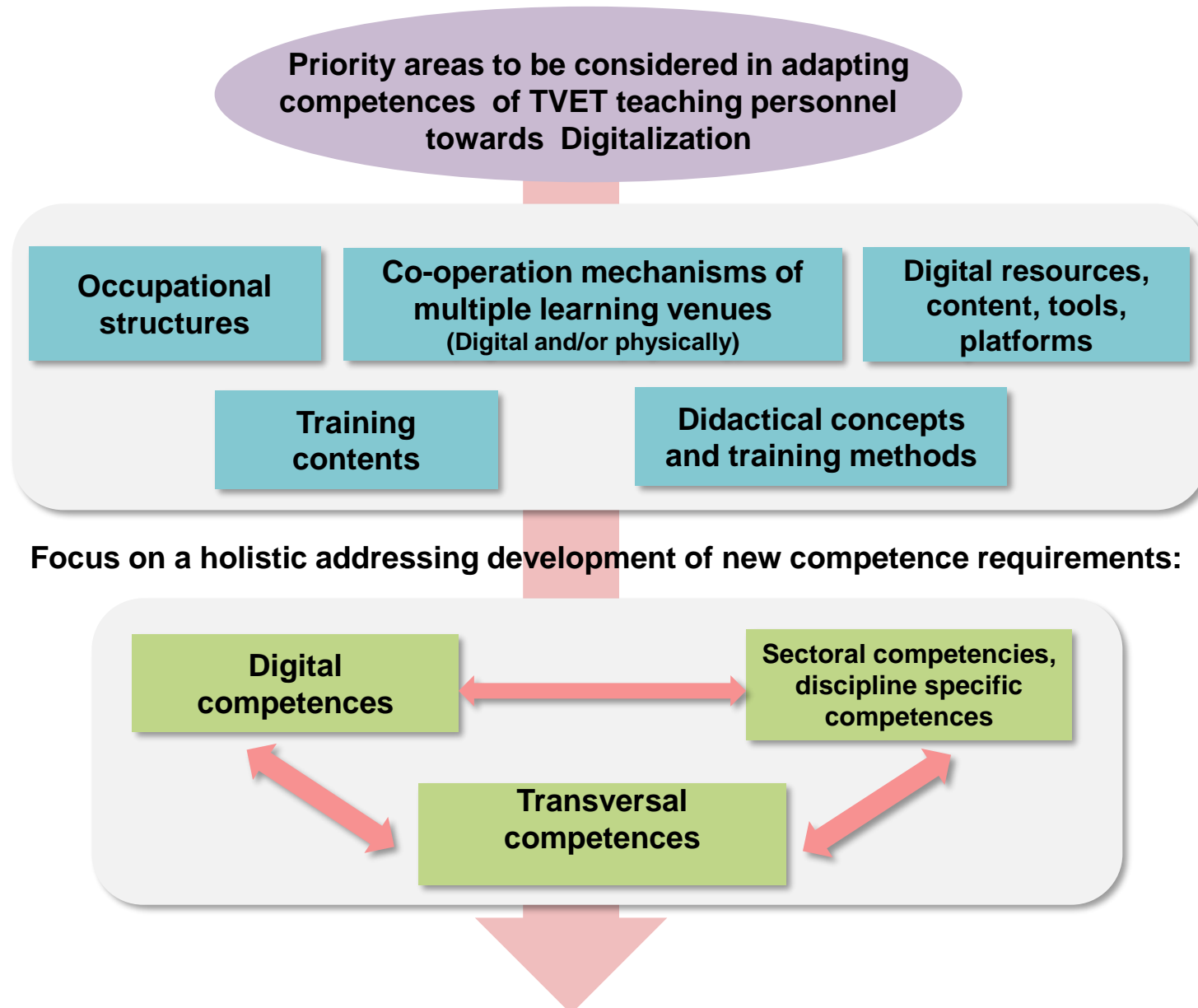
III Analysis, design and evaluation of occupations, TVET and work processes

IV The genesis of the vocational discipline, structures and organisations

V Analysis and design of learning processes in TVET institutions based on learning and TVET theories

Transfer into pre- and in-service programmes of TVET teacher education and training oriented on international recognized standards





**Thank you !**

