Assembly Lines In CIrculAtion – smart digital tools for the sustainable, human-centric and resilient use of production resources

Human-Centric Training Kit - Documentation

How To Use the ALICIA Human-Centric Training Kit

The ALICIA human-centric training kit provides recommendations to support the training of factory teams during the adaptation process of second-hand lines. The Excel-based tool, available on alicia-cme.eu, enables factory owners to determine which training method to use for specific skills required to operate second-hand machines that are not yet available among workers.

The Excel-based tool comprises three sheets: *Data, Summary*, and *Questionnaire*. To use the tool, only the sheet *Questionnaire* is required. Before applying the tool, the user must identify the skills they want to train. The skills included in the training kit are presented in Table 1.

Table 1: Skills identified as essential for the operation of second-hand machinery.

Skill Group	Skill
Material Management	Material Identification
	Material Selection
	Collect
	Separate
Component Manufacturing	Machine Processing
	Aligning Workpiece
	Clamping Workpiece
	Joining Skills (Includes Clamping, Gluing, Pinning, Plugging, Riveting, Screwing, Soldering, Welding)
Machine Maintenance	Maintenance
	Machine Inspection
	Monitoring
	Repairing
	Troubleshooting
	Replacing Wearing Parts
Machine Operation	Safety Rules
	Checking Safety System
	Visual Inspection
	Machine Application
	Machine Commissioning
	Machine Handover
Production Process	Torque Handling
	Component Assembly
	Electrical Skills
	Assembly Monitoring
	Checking Assembly

Technical Communication	Concept of Norms
Testing	Quality Inspection
	Selecting Testing Tool
	Testing Component
	Testing to Specification
Information and Communication Technology (ICT)	Programming of Machines
	Smart Device Use
	Computer Use

Figure 1 shows the user interface of the training kit. As a first step, the user chooses one of the identified skills that they want to train at a time from the dropdown menu "Which skill do you need to learn?". This is the only mandatory field, and the training kit instantly displays suggested methods at the bottom. If the user wants to specify additional boundary conditions, they can choose to add one more of the following three constraints:
- Only suggest methods *with* or *without* an instructor.
- Only suggest methods with a specific learning format: *in person*, *hybrid*, or *digital*.
- Only suggest methods with a defined collaboration degree*: individual* or *teamwork*.

If the configuration contains a contradictory selection, "#CALC" is displayed. The criteria must be changed so that results are displayed.

Figure 1: User interface of the training kit.

To support the choice and implementation of one of the recommended training methods, a fact sheet is displayed, providing additional information on the method and its implementation, the formality level, proximity to the workplace, and the technology required.