



D2.4 Human Centric production systems Methods for design, acceptance and
usability validation



D2.4 Human Centric production systems

Project Title	Resilient manufacturing lines based on smart handling systems
Project Acronym	SMARTHANDLE
Grant Agreement No	101091792
Instrument	Research & Innovation Action
Topic	HORIZON-CL4-2022-TWIN-TRANSITION-01-04
Start Date of Project	JANUARY 1, 2023
Duration of Project	36 months

Name of the Deliverable	Design of human-centric and usable intelligent systems for workpiece handling – Second Period
Number of the Deliverable	D2.4
Related WP Number and Name	WP2. Requirements and Specifications Analysis
Related Task Number and Name	Task 2.4: Human Centric production systems - Methods for design, acceptance and usability validation
Deliverable Dissemination Level	SEN
Deliverable Due Date	M24
Deliverable Submission Date	20/12/2024
Task Leader/Main Author	TU/e
Contributing Partners	All partners
Reviewer(s)	WP2 partners

Keywords

human-centric design guidelines, guidelines validation, user-system interaction



Executive summary

This document provides a structured closed-loop evaluation approach for validating the SMARTHANDLE human-centric design guidelines. The human-centric design framework will serve as a foundation for monitoring and providing feedback towards the development of technical solutions for the three use cases to accomplish user needs and human-centric design principles. First, we describe the steps we have taken to develop the guidelines. Next, we employ a Delphi study design for the validation of the guidelines, which includes three rounds of feedback from SMARTHANDLE experts on system design. The final step of the validation process provides feedback on the human-centricity of the prototypes development per use case. The activities of this task result in validated design guidelines through a closed-loop process and guarantee that technical WPs receive feedback after each prototype release.