ArtWork Project

The Smart and Connected Worker

Welcome to the official website of the ArtWork project – an innovative research initiative focused on developing intelligent tools and algorithms to support industrial workers, enhance sustainability, and improve workplace conditions. Funded under the EUREKA ITEA framework, ArtWork is a collaboration between leading industrial and academic partners from Sweden, Germany, and Portugal.

Project Duration
Start Date: March 1, 2024
End Date: February 28, 2027

The ArtWork project aims to:

- Develop AI-driven tools to assist industrial workers.
- Improve working conditions through smart technology integration.
- Enhance industry sustainability and flexibility in adapting to new materials and products.
- Leverage expertise across European industries to create innovative solutions.

The project is coordinated by Volvo Group Trucks Operations and involves major partners from both academia and industry. The expected outcome is a suite of advanced, intelligent solutions that will improve efficiency and worker satisfaction in manufacturing environments.

Work Packages
Below is an overview of how the different work packages fit together in the

ArtWork project.

Each work package contributes to specific aspects of the project, ensuring a holistic approach to developing intelligent tools for industrial workers.

The ArtWork project is structured into seven work packages, each focusing on specific aspects of research, development, and implementation.

WP1: Industrial Use Cases
Define relevant use cases and requirements.
Establish the framework for the project architecture.

WP2: Digital Twin and Simulation
Develop high-fidelity digital twins of manufacturing environments.
Integrate simulation technologies for real-time process analysis.

WP3: AI-Based Worker Assistance
Create context-aware digital work instructions.
Implement automated planning and scheduling.

WP4: Context-Based Worker Support
Integrate AI and computer vision for ergonomic assessment.
Develop tools for enhanced real-time worker support.

WP5: Demonstrators
Build and test hardware and software solutions in real-world industrial settings.

WP6: Dissemination, Exploitation, and Standardization
Ensure knowledge transfer and industrial adoption of results.
Engage with standardization bodies to promote the adoption of project outcomes.

WP7: Project Management
Coordinate and monitor project progress.
Ensure alignment with funding and research goals.

Project Partners
The ArtWork project is a collaboration between leading organizations.

Swedish Consortium
Volvo Group – Project Coordinator and Industrial Use Case
Atlas Copco Industrial Technique AB – Tool Innovation and Worker Ergonomics
Chalmers University of Technology – AI, Perception, and Automation Research
Luleå University of Technology – Digital Twin and Smart Assembly Line Research
Fraunhofer-Chalmers Research Centre for Industrial Mathematics – Simulation and Optimization
Chalmers Industriteknik – Automation and AI-based Planning Tools
Infotiv – Software Validation and Verification
Xarepo AB – Software Development for Decision Support Systems

German Consortium (affiliated consortium)
Daimler Buses | EvoBus GmbH
Deutsches Forschungszentrum für Künstliche Intelligenz (DFKI)
Hochschule Emden/Leer
FORCAM GmbH
Institut für Automation und Kommunikation (ifak) e.V.
IPI Institut für Produktion und Informatik (TTZ Sonthofen)
ISG Industrielle Steuerungstechnik GmbH
RAUMTÄNZER GmbH
SimPlan AG
TRUMPF Gruppe
TWT GmbH Science & Innovation
VELIT Consulting GmbH & Co. KG

The German consortium is working in the ArtWork project through a close collaboration with the existing TwinMap project.

Portuguese Consortium
Instituto de Soldadura e Qualidade (ISEP)
Petratex Conf. SA
SISTRADE Software Consulting, S.A.
WISEWARE

Contact
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This website provides an overview of the ArtWork project, detailing its goals, work structure, and partners. The platform will serve as a hub for research dissemination, collaboration, and updates throughout the project's duration from 2024 to 2026.

ArtWork – An ITEA4 project