AiWo –
HUMAN-CENTRIC AI-ENABLED COLLABORATIVE FIELDWORK OPERATIONS

PONSSE EPEC FORWARD’27 ECOSYSTEM WEBINAR
5.9.2025

FORWARD
PONSSE EPEC 27
AN ECOSYSTEM PROGRAM BY PONSSE GROUP

PONSSE EPEC FORWARD’27 ECOSYSTEM WEBINAR Quidelines

- Kindly keep your microphones muted
- Webinar will be recorded
- Q&A at the end of the webinar

- Welcome to follow the Ponsse Epec FORWARD’27 webinar!

PONSSE EPEC FORWARD'27 ECOSYSTEM WEBINAR
Agenda

13:00 Welcome, Quidelines and Agenda

Co-Innovation –project

13:05 AiWo - Human-centric AI-enabled collaborative fieldwork operations

Presenter: Mrs Yu Xiao, Associate Professor, Department of Information and Communications Engineering, Aalto University

Commentator: Mr Pasi Luoto, Documentation Manager, Service Excellence, Sales Service and Marketing , Ponsse

13:50 Q&A

FORWARD

PONSSE

EPEC

27

A CHALLENGER PROGRAM BY PONSSE GROUP

FORWARD

PONSSE

EPEC

AN ECOSYSTEM PROGRAM BY PONSSE GROUP

AiWo: Human-Centric AI-enabled Collaborative Fieldwork Operations

Presented by Prof. Yu Xiao from Aalto University

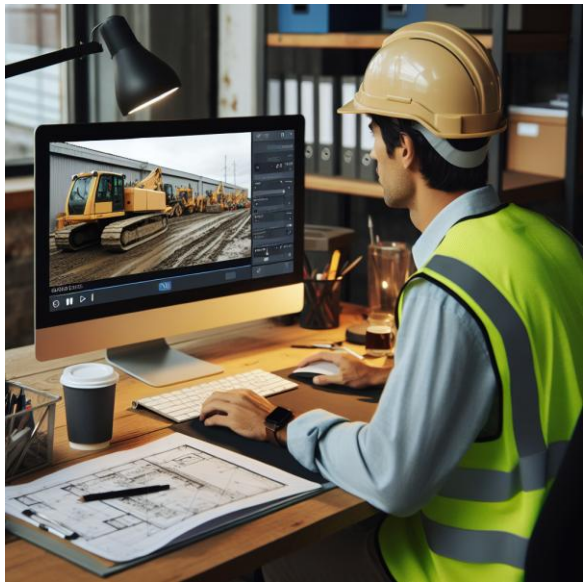
yu.xiao@aalto.fi

AiWo is a two-year co-innovation project (06.2025-05.2027) funded by Business Finland, with the total budget of appr. 4 million euro.

AiWo aims to address two internationally recognized challenges faced in manufacturing, construction and industry design

Two key challenges encoutered in manufacturing, construction and industrial design

1) Lack of tools for comprehensive process documentation and analysis



Two key challenges encoutered in manufacturing, construction and industrial design

2) Inefficient troubleshooting and operative support.

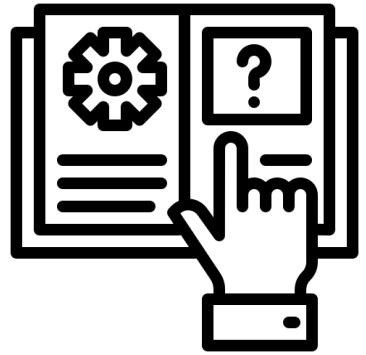
How are we going to address the challenges?

Objectives of AiWo

1) Develop and demonstrate AI solutions, such as machine vision and large language models (LLMs), for retrieving situationally aware instructions in real time, as well as efficiently documenting and analysing fieldwork operations.

Markerless Object Recognition

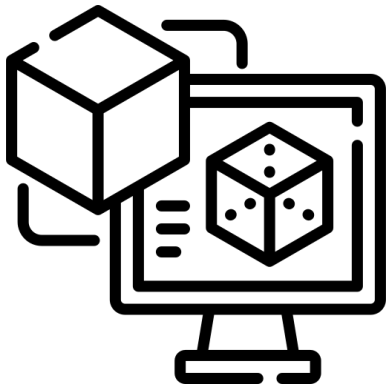
Activity/Task Recognition



Instruction Generation

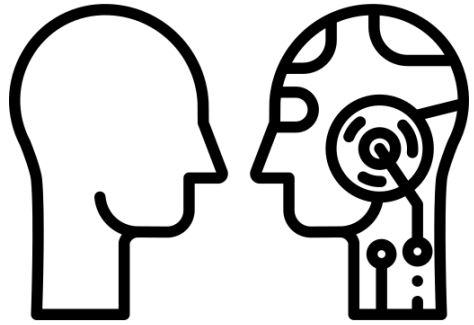
Objectives of AiWo

2) Generate a workflow for human-centric AI-enabled collaborative fieldwork operations, and evaluate its impact on the productivity, safety and sustainability of industrial fieldwork operations



Digital twins

Speech interfaces



Human-AI collaboration

Work Packages (WPs)

- **WP1 Data management and sharing** (Lead: Aalto University)
- **WP2 AI Engine** (Lead: Aalto University)
- **WP3 AI-assisted collaboration and interaction** (Lead: Tampere University and Turku University of Applied Science)

The developed solutions will be evaluated with **8 real-world use cases** provided by industrial partners, e.g., *spare part recognition*, *conversational technical support*, and *remote task analysis*.

Milestones

- **Milestone 1 (November 2025):** Completion of refining use cases and initiating data collection for AI technology development.
- **Milestone 2 (August 2026):** Development of the core components of AI algorithms and assistance applications, ready for integration.
- **Milestone 3 (January 2027):** Entry into the phase where practical evaluation, including fieldworker testing, can commence.

Q & A

FORWARD '27

PONSSE

EPEC

AN ECOSYSTEM PROGRAM BY PONSSE GROUP

THANK YOU!

forward27.ponsse.com

FORWARD 27

PONSSE EPEC

AN ECOSYSTEM PROGRAM BY PONSSE GROUP