# ITEA Press release

AIToC awarded for using AI to make manufacturing more efficient and effective

*10 September, Antwerp – Manufacturing engineers face significant challenges in creating digital models for production systems due to the complexity of product variants, the need for customised tools, and the manual efforts required to overcome deficiencies in current product and production definitions. Using advanced AI, the ITEA project AIToC\* has created a set of tools that overcome these challenges. These tools help with planning processes, the creation of models of factories, and the design of better layouts for assembly stations, all of which make manufacturing more efficient and effective.* The *AIToC project received the 2024 ITEA Award of Excellence in the category ‘Business impact’ for this great achievement.*

Using AI to streamline manufacturing processes
The ITEA project AIToC gathered 29 industrial partners from Finland, Germany, Sweden and Türkiye and aimed to transform manufacturing engineering by integrating digital and AI technologies to streamline all phases of production. AIToC uses AI to create detailed plans for manufacturing and smart tools to guide workers. It builds digital models that show how people and machines interact, using real data for accuracy. AIToC also enhances factory layouts and logistics with cameras and sensors, making robot movements more efficient. Key innovations include AI-assisted planning, realistic simulations, and better logistics with digital updates all aimed at increasing manufacturing efficiency and effectiveness.

"AI-driven sensors will revolutionise logistics automation, making it smarter and more efficient — a true game changer for us."

* Kristofer Bengtsson, Senior Researcher Digital Operations at Volvo Group and project leader of AIToC.

### The future of AI-driven manufacturing

The project has produced over 50 results, including the open-source BRICK format and new AI tools, enabling companies of all sizes to enhance their manufacturing efficiency. Innovations from the project have already been implemented and are supporting operations at Volvo Group production facilities, making them an important part of the handling of future production challenges. Furthermore, the heterogenous environment in which both human operators and forklifts work is now much more effectively supported by the tools developed in the project. Also, the instruction editor by Raumtänzer GmbH that fuses annotations and tasks/operations into a 3D process representation of the specific product assembly and automatically outputs instructions to workers makes the process steps more easy to understand and boosts individual productivity.

AIToC also lays the groundwork for future projects, such as the ITEA project ARTWORK, which will advance digital twins and smart instruction systems, ensuring AIToC’s ongoing impact on manufacturing.

This project has received funding from:



## *Note for editors, not for publication*

\* The acronym AIToC stands for Artificial Intelligence supported Tool Chain in Manufacturing Engineering.

## For interview requests, questions and additional information about AIToC and ITEA, please contact:

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#### AIToC project partnershttps://itea4.org/project/AIToC.html

#### About ITEA

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