

ONE4ALL PROJECT

PERIODIC UPDATE ON OUR ACTIVITIES

From implementation to testing: ONE4ALL technologies at Madama Oliva

On 24 September, ONE4ALL partners **CRIT** and **IBT – Innobotics** visited the facilities of **Madama Oliva**, one of the project's main demonstrators. During the visit, the team observed the **AI-enabled olive sorting system** in action, where an optical inspection machine works together with expert operators to guarantee product quality.

This demonstrator will showcase how ONE4ALL technologies can help **manufacturing SMEs move toward Industry 5.0**, combining automation with human expertise while keeping resilience and sustainability at the core of operations. The process of technology implementation in Madama Oliva is expected to end in 2025.

Alongside the live demonstration, partners carried out a dedicated session on the project's **Key Performance Indicators (KPIs)**. The discussion focused on reviewing the chosen KPIs and aligning on measurement methods for the upcoming testing phase. This work is essential to **objectively track the impact** of ONE4ALL solutions once they are fully deployed on the shop floor.



Figure 1: Technical inspection in Madama Oliva – September 2025

ONE4ALL research at the International Conference on Automation and Computing

An important scientific milestone for the project was reached last August, when **ONE4ALL partner-University of Southern Denmark** presented the paper “*System Variations and Their Impact on the Validation of Digital Twin Models in Dynamic Manufacturing Environments*” at the **30th International Conference on Automation and Computing (ICAC 2025)**, held in Loughborough, UK, from 27–29 August 2025.

The conference paper examines how **Digital Twins**—near real-time virtual replicas of physical manufacturing systems—can remain accurate and reliable in the context of today’s highly dynamic factories. Frequent **technological upgrades, workforce shifts, and operational changes** can gradually erode the alignment between a Digital Twin and its real-world counterpart, making **continuous model validation** a critical component rather than a one-off step.

The authors offer a comprehensive overview of the different types of **system variations**, categorising manufacturing environments into **machine-intensive, labour-intensive and hybrid systems**, and analyse how each category affects Digital Twin validation and model fidelity over time. They also highlight key challenges in keeping Digital Twins trustworthy as systems evolve and outline **future research directions** for more robust, adaptive validation methodologies that can detect and incorporate these ongoing variations.



Figure 2: Participants of ICAC Conference in Loughborough – August 2025

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Heading into the Final Year

In January 2026, ONE4ALL will turn **three years old**, officially entering its final project year. To mark this key milestone, a **General Assembly** is foreseen at the **beginning of 2026**, bringing all partners together to review progress, consolidate results and align on the roadmap for the final stretch. Soon, the consortium will also meet with the Project Officer for the next review meeting, showcasing achievements to date and discussing the next steps towards successful project completion.

Want to know more about the project?

More details on the project activities, results, consortium are available on the official website: <https://one4allproject.eu/>

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