



Adaptive quality controls: a new multi-scale approach to inspection systems – ODIN

PROJECT DESCRIPTION – ZE-2025/00010

Increasing quality requirements in industrial processes, together with the need to improve efficiency and reduce costs, make it essential to evolve inspection systems towards smarter, more adaptive and automated solutions. In this context, traditional quality control systems present limitations in terms of flexibility, scalability and their capacity to adapt to complex and variable production environments.

The ODIN project focuses on the development of a new multi-scale approach to inspection systems, based on adaptive quality controls that optimise defect detection and improve real-time decision-making. This approach integrates advanced data analysis, modelling and industrial automation technologies, with the aim of increasing the reliability and efficiency of production processes.

The project falls within the category of industrial research and is aimed at developing new technological capabilities applied to advanced inspection systems, thereby contributing to the digital transformation of the industrial sector.

The project consortium is made up of a group of leading industrial and technology companies collaborating in the development of innovative solutions ranging from data capture to analysis and application in real production environments. Among the participants are companies specialising in advanced manufacturing, engineering, data analysis and industrial components, enabling the project to be addressed from a comprehensive perspective.

The project includes the development of new multi-scale inspection methodologies, combining different levels of analysis, from the material itself to the production system, as well as the implementation of adaptive algorithms capable of dynamically adjusting control parameters according to process conditions. Experimental validation of these solutions in real industrial environments will also be carried out, ensuring their technical viability and practical applicability.

With a multi-year duration (2025–2027), ODIN represents a strategic commitment to innovation in quality control systems, helping to improve industrial competitiveness and drive the digitalisation of production processes.

CONSORTIUM

Lead partner:

- MULTIVERSE COMPUTING, S.L.

Partners:

- ACERÍA DE ÁLAVA, S.A.
- ALDAKIN GIPUZKOA, S.L.
- DANOBAT, S. COOP.
- DIMEC DISEÑO, S.L.U.
- ENGINE POWER COMPONENTS GROUP EUROPE, S.L.
- ESTAMPACIONES RUBÍ, S.A.
- FAGOR ARRASATE, S. COOP.
- LORAMENDI, S. COOP.
- SAVVY DATA SYSTEMS, S.L.
- ULMA FORJA, S. COOP

Basque Network of Science, Technology and Innovation (RVCTI) agents:

- TUBACEX INNOVACIÓN, S.L.
- IDEKO, S.COOP
- TEKNIKER
- MULTIVERSE COMPUTING RESEARCH, S.L
- KONIKER S.COOP

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- **Total ACVA budget:** €957,100.82
- **Duration:** 2025–2027

