

The OPTIMAI Project Aim

OPTIMAI aims to create a new European industry ecosystem focused on innovative solutions to optimise production, reduce defects and improve quality to safeguard European industry for generations to come.

The OPTIMAI Results

Optimai will result in a toolkit of smart technologies designed to optimise production processed in industry.

These technologies included:

- Decision support Framework for zero-defect manufacturing, optimal production planning and rapid efficient reconfiguration of industrial equipment.
- Adaptive multi-sensorial network and fog computing framework.
- Blockchain-enabled ecosystem.
- AI methodologies for defect detection and prediction.
- Digital Twins, Augmented reality interface and visual analytics.
- Intelligent Marketplace for profiling, indexing and repurposing of defective parts.



The OPTIMAI Pilots

The Optimai Pilot studies play a key role in demonstrating how European Manufacturing processes can be optimised through the use of AI and digital twinning technology. The pilots form the corner stone of the empirical work of the project.

To maximise the impact of OPTIMAI on European industry, the project team is developing solutions that can be applied to a wide range of industrial settings. These solutions will be tested and validated in three selected pilots that cover a number of industrial domains:

- **Kleemann:** Manufacturing of lifts (Greece)
- **Televés:** Manufacturing of antennas (Spain)
- **Microchip Technology Caldicot Ltd:** Assembly of microelectronics (UK)

Each pilot includes three different use cases:

1. Zero defect quality inspection:
Focuses on detecting defects, analysing their causes and predicting emerging deficiencies.
2. Production line setup-calibration:
Focuses on an automated quality control loop between inspection and machine setup and a context aware interaction environment for operator and production equipment.
3. Production planning:
Focuses on virtualising the production line to enable cheap, fast and efficient production planning.

OPTIMAI PROJECT PARTNERS



OPTIMAI

Optimizing Manufacturing Processes through Artificial Intelligence and Virtualization

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OPTIMAI Project



OPTIMAI H2020

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This project has received funding from Horizon 2020, the European Union's Programme for Research and Innovation under grant agreement n° 958264.

