

Ecosystem for optimising production and external collaboration in manufacturing

The newly launched COMPOSITION project is developing a digital ecosystem which helps factories optimise internal production processes and external collaboration with suppliers by putting existing data, knowledge and tools into play. The technologies will be trialled in two different factory infrastructures.

To increase productivity and quickly adapt to changing markets, manufacturers today must connect and utilise their data to the full, both within the factory's value chain as well as in the supply chain;

- COMPOSITION will develop an integrated information management system which connects and integrates the heterogeneous data across the value chain, providing analysis, forecasting and decision support. Additionally, COMPOSITION will connect factories and suppliers in a virtual market, making it possible to fulfil actual production needs and open up for new collaborations, with security, privacy and data protection by design, explains Project Coordinator, Dr. Markus Eisenhauer from Fraunhofer Institute for Applied Information Technology.

Pilot sites in Ireland and Greece

The technologies will be trialled in two different factory infrastructures to demonstrate the different scenarios and the broad applicability of the system: In a medical device production plant in Clonmel, Ireland owned by Boston Scientific Limited and in a lift production plant in Kilkis, Greece owned by Kleemann Lifts.

The first pilot focuses on the COMPOSITION system and the processes inside the production plant, looking at the production of pacemakers. Here, the objectives are to optimise the manufacturing processes by exploiting existing data, knowledge and tools;

- The challenge is to overcome the difficulty of integrating machines and complexity of data across the value chain. COMPOSITION will be used to connect these data, measure different parameters from the machines and improve the production processes, says Graham Lonergan, Principal R&D Engineer from Boston Scientific.

The second pilot will also use COMPOSITION to optimise internal manufacturing processes in the production of lifts but in addition to this, it will focus on the interaction between different companies in the production. The objective is to design and implement a technical operating system, connecting data between the factory and its suppliers to look at the possibilities of new services and practises;

- The COMPOSITION system will be used to optimise the logistics processes of waste management in the manufacturing of lifts with our current supplier ELDIA. It will also enable a market place open to new third party entities which can interact in the supply chain and provide new service e.g. to improve cycle time, cost, flexibility or resource usage, says Aggelos Papadopoulos, Technical Services Manager from Kleemann.

About the project

The COMPOSITION project is co-funded by the European Union's Horizon 2020 research and innovation programme under grant agreement No 723145. It constitutes 12 organisations from seven countries, mixing industrial, technology, research and business expertise.

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