

CliCE-DiPP

CliCE-DiPP is developing a digital CO₂ product passport that considers the circular economy along the entire value-added chain.

Project description

Creating transparency on energy consumption and CO₂ emissions – this is the goal of the CliCE-DiPP project. To this end, a digital product passport is to be developed to map product carbon footprint (PCF) while taking the entire value chain into account and offering companies an anchor point for holistic process optimisation. The data recording required for this occurs e.g. via United Architecture (UA) interfaces as specified under the Open Platform Communication (OPC) standard. The data is then saved to the asset administration shell (AAS), which offers a standardised framework for the exchange and provision of information. Along with increased transparency in the product manufacturing context, the lifecycle data collected can be further used, especially in terms of end-of-life (EOL) considerations. Information about product type, variant, and the like are essential prerequisites to making an adequate selection of suitable processing strategies. The product passport thus serves as a key control lever in empowering the circular economy.

Expected results and use

The project comprises a pilot phase and a use phase: Assistance systems will initially be tested and validated using demonstrators in learning factories at research institutions. The purpose of these assistance systems is to support employees in controlling energy-efficient whole-facility effectiveness and to enable energy-efficient and resource-efficient shop floor management. As a next step, the user companies involved in the project will transfer the results of the pilot phase into real use cases.

Partners from the metalworking and measuring instrument sectors are researching within the project. The solution is however intended to be transferable to other parts of industry as well. The digital product passport, which is populated with real data based on market-ready technologies, offers companies from a wide array of sectors a basis that they can utilise to make more targeted investments in sustainability and provide evidence of their efforts in these areas to customers and stay in line with regulatory requirements more easily. The new technology sees itself as an opportunity for industry to collaborate in business ecosystems to reach the implementation of a circular economy.

CO₂

CO₂

FIELD

Circular economy via digital product passport

PROJECT PARTICIPANTS

1. Karlsruhe Institute of Technology (KIT)
2. Technical University of Darmstadt
3. Lorenz GmbH & Co. KG
4. Protektorwerk Florenz Maisch GmbH & Co. KG
5. Software AG
6. Festo SE & Co. KG
7. ABM-Mess Service GmbH
8. Hof University of Applied Sciences

COORDINATOR

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TERM

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HOMEPAGE

www.clice-dipp.de

MORE INFO



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