

Press Release

Digi4Circular | January 16, 2025

Digital platform for data-driven and physic-based product development enabling a circular economy

A new Horizon Europe-funded project **Digi4Circular** was kicked off on 4th December 2024 in Paderborn, Germany. This project will aim to deliver a comprehensive digital platform that integrates circular economy principles into product development, enabling the creation of sustainable and efficient automotive components by optimizing resource use, minimizing waste, and promoting the use of secondary aluminium. The consortium of 10 partners is composed of experts from research organisations and industry among 6 European countries. Digi4Circular will run for 3.5 years while exploiting the knowledge of world-class experts and researchers while being led by Paderborn University (DE).



The Digi4Circular project addresses the urgent need to transition from a linear to a circular economy, particularly in the automotive sector, which is responsible for 14% of global greenhouse gas emissions. By leveraging the lightweight and high-strength properties of aluminium, the project aims to optimize resource use, minimize waste, and maximize product value. This initiative will transform digital product development by integrating advanced computational methods, machine learning, and a robust engineering platform to enable circular product design.

A key component of the Digi4Circular project is the development of a Digital Product Passport, which will ensure transparency and traceability throughout the product life cycle. This digital platform will capture and manage data from various stakeholders, facilitating knowledge

extraction and compliance with evolving regulatory frameworks. The project will also focus on environmental impact calculation and circular material design to optimize resource use and minimize waste, promoting sustainable manufacturing practices.

Through extensive training, webinars, and stakeholder engagement, the Digi4Circular project aims to reskill the workforce and drive the adoption of circular economy principles in the automotive sector. By validating the Digi4Circular workflow with automotive components, the project will demonstrate the effectiveness of its methodologies and tools. Ultimately, the Digi4Circular project will significantly reduce CO2 emissions, enhance recycling rates, and foster a more sustainable and circular economy.

DIGI4CIRCULAR

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The project partners of Digi4Circular are Paderborn University (UPB), EDAG Engineering GmbH, LKR Leichtmetallkompetenzzentrum Rasthofen GmbH (LKR), Università Degli Studi di Firenze (UNIFI), DataCoLAB (DataCL), SusDat, EIT Manufacturing South SRL (EITM), Fraunhofer LBF, Celsa Opco, SA (CELSA), Ferimet (FERI), and AMIRES sro (AMI).



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