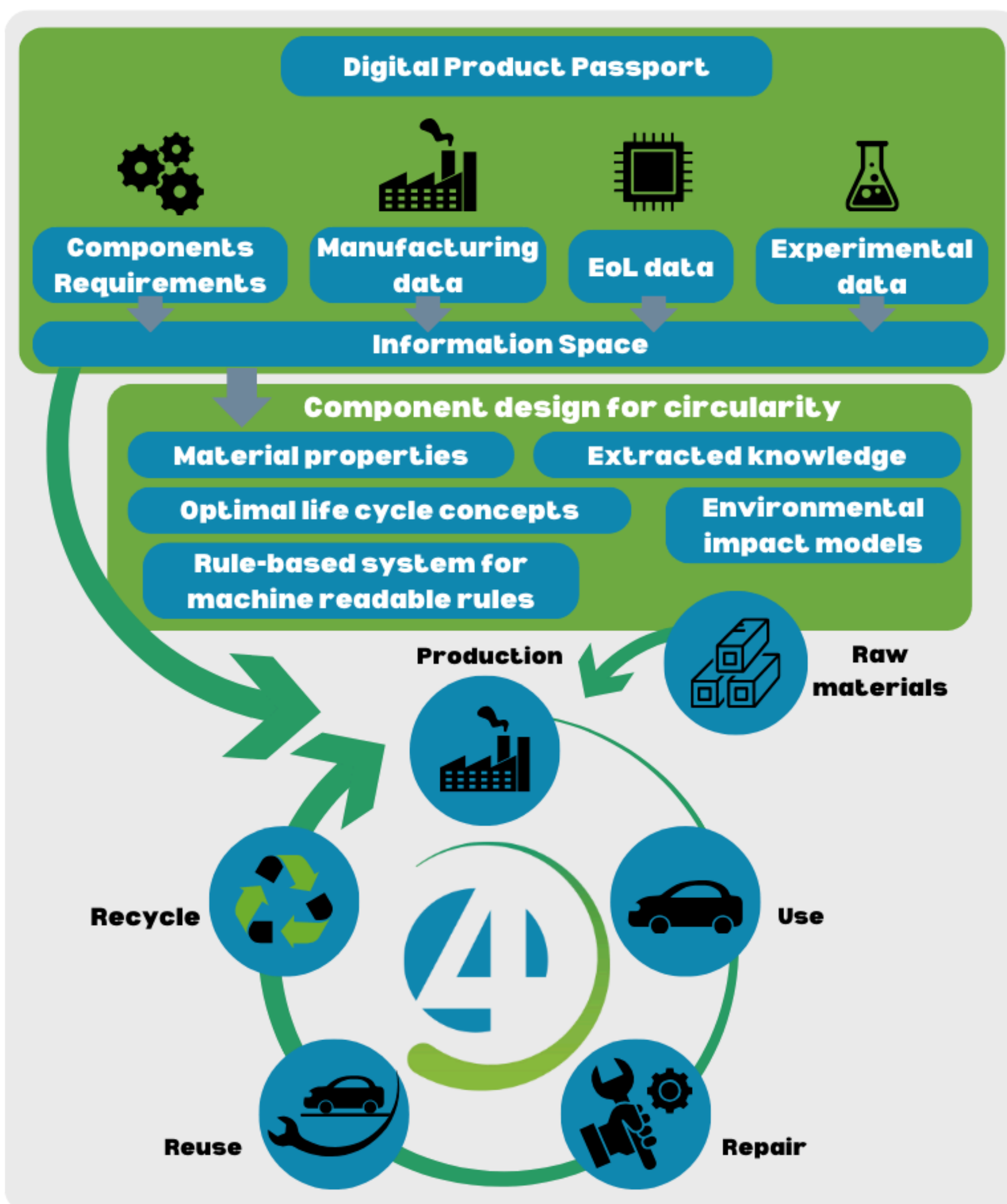


DIGI@CIRCULAR

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

Project Ambition

The environmental impact of the current linear economy is significant, particularly in the automotive sector, which accounts for 14% of global greenhouse gas emissions. Transitioning to a circular economy is crucial to optimize resource use, minimize waste, and maximize product value. The EU automotive industry, which uses 2 million tonnes of aluminium annually, faces challenges due to the energy-intensive primary extraction process and the need for better recycling methods.



PROJECT FACTS

Start date 1/11/2024

End date: 30/4/2028

Duration: 42 months

Project budget: €5.75M

HORIZON Research and
Innovation Actions (RIA)

Grant agreement: 101177586

Call: HORIZON-CL4-2024-
TWIN-TRANSITION-01

Topic: HORIZON-CL4-2024-
TWIN-TRANSITION-01-05

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funding from the
European Union's Horizon
2024 research and
innovation programme
under grant agreement
No 101177586*



Co-funded by the
European Union

Objectives:

- **Develop an Interoperable Information Space:** Create a software infrastructure compliant with ISO standards to gather and manage data from various stakeholders across the value chain.
- **Increase Usage of Secondary Aluminium:** Develop computational tools to increase the use of secondary aluminium to 70% in components while maintaining casting processibility.
- **Achieve Circularity by Design:** Develop methodologies to design products with circularity in mind and calculate their environmental impact.
- **Integrate Methodologies on the Synera Platform:** Transfer data and methodologies into a digital engineering platform to enable circular product development.
- **Validate Workflow in the Automotive Industry:** Design and validate a component for the automotive industry, demonstrating reduced development time and CO2 emissions.
- **Develop a Digital Product Passport:** Create a digital platform to ensure end-to-end transparency and data accessibility for automotive components.
- **Increase End-User Acceptance:** Provide training and engage stakeholders to ensure the platform's usability and acceptance.

Expected Impact

The project aims to significantly reduce the environmental impact of the automotive industry by promoting the use of secondary aluminium, enhancing product design for circularity, and ensuring transparency and data accessibility through a Digital Product Passport. The integration of advanced computational tools and methodologies will lead to more sustainable manufacturing practices and a reduction in CO2 emissions.

CONSORTIUM

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