

Resource-efficient Circular Economy – Innovative Product Cycles

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ReziProK – Towards a Resource-efficient Circular Economy and Innovative Product Cycles

The funding measure „Resource-efficient Circular Economy – Innovative Product Cycles“ (ReziProK) of the Federal Ministry of Education and Research (BMBF) has been initiated to support the closure of product cycles and the extension of product life times. To reach this goal, 25 collaborative projects are developing appropriate **business models, design concepts and digital technologies** and thereby contribute to the implementation of a resource-efficient circular economy.

The research results will be transferred into practice and marketable products will be developed as quickly as possible in order to strengthen companies in Germany as competitive suppliers of circular economy solutions.

The ReziProK projects address a wide range of topics and industries. They focus on promoting the **use of recycled materials, extending product lifetimes or intensifying product use**. In addition, some projects focus on improving the recyclability of electric vehicles, optimizing and expanding **remanufacturing**, or on further developing the application of **block chain**.

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Networking and transfer project

The RessWInn project focusses on networking and on the transfer of knowledge between the ReziProK projects and beyond. RessWInn will provide technical assistance for the participating projects during their whole funding period, with the main goal to support the networking activities and to support the implementation of their research into industrial practice. This will be done through the organization of events and workshops as well as compiling the research results from the individual projects for dissemination and communication with relevant target groups.

DECHEMA coordinates the networking and research transfer project RessWInn, supported by N³ Nachhaltigkeitsberatung Dr. Friege & Partner as project partner.

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From a linear to a circular economy

Due to a growing world population and the rising standard of living in some areas of the world, the global consumption of raw materials is currently increasing. In Germany alone, 16.1 tonnes of raw materials were consumed per capita in 2017 (Federal Environment Agency, 2018).

Due to the environmental consequences of the high consumption and the limited availability of raw materials it is essential to fundamentally transform the up-to-now mostly linear supply chains (which typically start with raw material extraction, followed by production, (product)use, and disposal) into circular supply chains.

Besides the social and environmental motivation, from an economic point of view, the aim of creating such a resource-efficient circular economy is to maintain the value of products, components and raw materials within the economy as long as possible.

Within the five main case study themes in ReziProK, opportunities for implementing circular economy solutions in various industry sectors will be investigated.



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Main topics of ReziProK



Extended and more intensive product use

Electronic products, reusable packaging, pumps, clothing sector, construction materials for interior design, furniture and exhibition stands, smartphones, refrigerators

Increasing the use of recycled materials

Building materials, secondary plastics, fabric fibres, used tyres, foundry and steel industry

Remanufacturing

Capital goods such as machines, technical plant components, industrial knives

Blockchain

Aircraft industry

Recyclable electric vehicles

Electric cars, e-cargobikes