

Individual, reliable, mission-focused

Shaping the transformation to the circular economy with Fraunhofer

A sustainable economy – a task for society as a whole

Germany is faced with a huge transformation process in order to bring its economy and society to a sustainable, greenhouse gas-neutral and circular state by 2050. In its Sustainable Development Goal (SDG) 12, the United Nations addresses responsible consumption and production. At the European level, the Green Deal and the Circular Economy Action Plan, which was updated in 2020, have set out additional key guiding principles for this transformation over the coming decades. These are not about developing individual regions, but about the principles of how economic activity is carried out and the associated measures of value in a market of 500 million people.

Fraunhofer CIRCONOMY® – circular solutions made by Fraunhofer

The transition from a linear to a circular economy is accelerating worldwide. Fraunhofer is pooling the related R&D capacity and expertise under its brand CIRCONOMY®, bringing Fraunhofer institutes together with partners and experts from industry, science, politics and society from all over Germany and the international sphere. In individual groups, a specific lead market is examined holistically with regard to urgent issues such as circular economy, securing decision-making authority and economic as well as ecological sustainability.



Building an agile, industry-oriented architecture for the circular economy across Germany

1. Mission-focused cooperation
2. Expertise specific to each lead market
3. Solutions tailored to individual customers
4. Reliable data space
5. Neutral, value-based assessment

The networks design strategies and roadmaps and set in motion concrete technological solutions and measures for transfer and education for a value-based transformation to a circular economy. The shared, protected "Corporate Sustainability Platform" serves as a data platform to link all the networks together.

A common mission

Tomorrow's value creation must become more **sustainable**, more **intelligent** and more **circular** than anything we know today. Companies must be able to actively and confidently shape this development.

- 1 Raw material supply
- 2 Production
- 3 Distribution
- 4 Use
- 5 End-of-life



- Social value development
- Economic value development
- Ecological value development
- Life cycle
- Value creation

5 principles

Achieving
sovereignty

Implementing
value cycles

Developing
expertise

Integrating
sustainability

Driving forward
systemic innovations

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Fraunhofer as a key partner for sustainable transformation paths

Sustainable transformation paths require systemic innovations, future-proof technologies for industrial workplaces and powerful infrastructures. They need to be accepted and anchored within society. The Fraunhofer-Gesellschaft has been working on this for decades, developing suitable solutions characterized by excellent research, market-relevant development and successful cooperation between industry, science and society. Tried and tested structures and coordination from a single source ensure a rapid transfer to industrial use.

Fraunhofer CIRCONOMY®: So what's new?

Existing networking initiatives mostly have a regional or technological focus. What is missing in practice is the mission orientation set out by the Commission of Experts for Research and Innovation (EFI) as a requirement¹ in its 2021 report. Fraunhofer CIRCONOMY® is acting on this and creating CIRCONOMY® Hubs. These are a new, agile instrument for cooperation on the basis of a shared mission and a shared, reliable data space in order to create added regional and supra-regional value. This drives crucial innovation policy objectives for Germany and Europe:

- Sustainability
- Climate neutrality
- Circular economy
- Bioeconomy
- Resilient supply chains and value cycles
- Digitalization
- Resilience of value cycles

Expertise and moderation by an accepted neutral research organization like the Fraunhofer-Gesellschaft make it easier to create the necessary culture of cooperation and trust.

Value proposition: a unified proposal, across industries and specific to each industry

The networks are tailored to a lead market in terms of structure and stakeholder participation in order to best account for the specifics of each branch. They make use of the opportunities of efficient, decentralized cooperative structures: fast agreement processes, agile teamwork, creative problem-solving and digital access to findings. For a CIRCONOMY® topic, the networks perform the function of "mission teams" with an international perspective: They bring together project ideas or develop them themselves, they put forward proposals for project consortia and they organize and moderate project developments and innovation processes.

Existing industry-oriented Fraunhofer networks and other networks are brought in as needed. The data and information that comes out of these processes is pooled in a shared, reliable and scalable data space and through binding governance. This makes it faster to evaluate projects and findings and to establish promising areas of focus for innovation.

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¹ www.e-fi.de/en/publications/reports