

STRATEGY AND NETWORKS

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“Waste is merely raw material in the wrong place.” Following this philosophy, the division Strategy and Networks of Fraunhofer Project Group IWKS develops innovative, national, global and process-specific material flow, waste, and resource management concepts.

Our common goals

Core of our activities is the systematic evaluation of material flows, processes and technologies in order to create sustainable resource management concepts that improve the resource efficiency in your business.

Target groups and sectors

We pursue a cross-sectoral strategy and work both for large-scale enterprises and SMEs as well as for key businesses and policy makers in different sectors:

- Municipalities, rural and city administrations
- Automotive manufacturing companies and automotive suppliers
- Electronics industry and suppliers
- Landfill operators and waste-disposal companies
- Chemical industry
- Food industry
- Mechanical and plant engineering
- Environmental and recycling industry
- Packaging industry
- Energy providers
- Aerospace
- Waste incinerator plant operators

Services

- Criticality studies
- Materials flow analysis and Life Cycle Assessment
- Resource efficiency concepts in accordance with materials flow and waste management
- Consulting and development of new concepts to optimize your production processes
- Market and feasibility studies
- Sustainability assessment and resource management

Criticality studies

Past, current and future resource mobilization from the biosphere into the technosphere requires new evaluation methods. Our comprehensive criticality assessments of raw materials, both at global and individual level, include not only numeric indicators but also expert assessments from internationally renowned specialists.

Criticality analyses ensure a better comparability and more transparency among such complex and dynamic systems and, therefore, provide a strategic basis for decision-making on upcoming raw materials policies.

Life Cycle Assessment

Life Cycle Assessment (LCA), whose principles and requirements are specified by DIN EN ISO 14040/44 standards, studies the environmental aspects and potential impacts along a product’s life from raw material extraction through production, use, waste management, recycling and disposal.

Our goal is to create closed-loop systems whilst taking into account all related economic and social factors.

We rely on the following software/database:

- Umberto
- openLCA
- ecoinvent
- GaBi

Materials flow analysis

Static materials flow modeling considers input and output variables within a fixed system. It uncovers dependencies and highlights accumulations of potentially usable materials.

This leads to increased transparency and, thus, to potential process optimization and overall efficiency enhancement.

This working area is supported by the following software:

- mee!Sankey

Sustainability assessment and resource management

Sustainability and Corporate Social Responsibility (CSR) are initiatives to evaluate and take responsibility for a company’s effects on environmental and social well-being. Some areas of corporate culture have already begun to adopt a balanced

view regarding the pursuit of profit and a commitment to ethical conduct. Based on GRI G4 and ISO 26000 standards, we support and guide you throughout the implementation of sustainability, environmental and resource management assessments.

Recycling concepts

The division Strategy and Networks provides practical solutions and advice for various questions on resource management, recycling and waste treatment.

This includes the development of individual and comprehensive waste and recycling concepts as well as the establishment of conceptual tracking systems for the quality assurance of these recycling strategies.

This helps to tap the potential material and energy value of “buried” recyclates and more efficient exploitation possibilities.

Strategic networks

The installation and management of scientific networks is an essential strategic building block of IWKS’ work. We are connected to regional, national and international networks dedicated to a sustainable exploitation of precious resources and energy. In order to achieve a geopolitically independent supply of critical raw materials it is necessary to gather competencies on many levels. We are collaborating with universities, research institutions, industry, professional unions and politics to find innovative and sustainable solutions.