

What REMake offers

The REMake project enables manufacturing SMEs to tap into the potential that recycling and resource efficiency offer in an easy, tailor-made way. With the support of the REMake experts, companies can assess their savings potential and can discover in a simple, hands-on manner how material efficiency measures and life-cycle approaches increase their profitability.

REMake offers the following innovation and technical expertise to manufacturing SMEs:

- 1) Analysis of the potential for resource efficiency measures and savings in individual manufacturing companies;
- 2) Access to resource efficiency expertise of technical centres and innovation experts financed by national and regional programmes in Germany, France, Italy, Spain and the UK. The financial support is offered in the form of 300 innovation vouchers.

The project partners develop, test and implement the REMake innovation voucher system specifically designed to cater for the needs of small and medium-sized companies in the manufacturing industry.

The vouchers can be obtained through a simple application system and should be available in less than 20 days. The calls for applications will be launched separately in each country and will be open on a continual basis for the duration of the REMake project.

- 3) Organisation of special consulting and training modules for SMEs including eco-design, life-cycle analysis and environmental standards.

If you are a manufacturing SME located in Germany, France, Italy, Spain or the UK, please consult the REMake website to find your country contact and open calls for recycling and resource efficiency vouchers.

www.europe-innova.eu/remake

REMake:
Be more profitable
by simply using
less resources!

Recycling and resource efficiency driving innovation in European Manufacturing SMEs - REMake

The European innovation project REMake aims to design, implement and test a novel scheme to support eco-innovation in the manufacturing industry including fabricated metal products, plastic products, surfaces finishing, mechanical engineering, electrical and electronic equipments. The REMake consortium has been organised as a public-private partnership comprising:

1) National and regional innovation agencies

- German Material Efficiency Agency, DEMA (Germany)
- French Innovation Agency, OSEO (France)
- Waste and Resource Action Programme, WRAP (UK)
- Innovhub Milano (Italy)
- Generalidad de Valencia (Spain)
- Government of Navarra (Spain)

2) Industrial associations

- German Association for the Surface Industry, ZVO (Germany)
- French Federation for the Mechanical Industry, FIM (France)
- Scientific Society for Mechanical Engineering (UK)

3) Technical centres

- Technical Centre for the Mechanical Industry, CETIM (France)
- C-Tech Innovation (UK)
- Instituto Tecnológico Metalmeccanico, AIMME (Spain)

4) Innovation experts

- i.con innovation (Germany)
- Technofi (France)
- Zabala Innovation Consulting (Spain)
- Advanced Innovation Management (France, Italy)
- Greenovate! Europe (Belgium).

The project is jointly-funded by DG Enterprise & Industry of the European Commission, the innovation agencies and the REMake partners.

Recycling and resource efficiency in manufacturing

Be more profitable by simply using less resources



Photos: Courtesy of CETIM and ZVO



This project is cofinanced under the Competitiveness and Innovation Framework Programme (CIP) which aims to encourage the competitiveness of European enterprises.



Enterprise and Industry

Recycling and resource efficiency in manufacturing

In the manufacturing industry, recycling and resource efficiency can unlock large potential for innovation, growth and higher profitability. Today, on average, material consumption accounts for over 40% of operating costs in a medium-sized manufacturing company. When adding electricity, waste and wastewater treatment to the bill, material costs account for nearly 50% of all costs compared to an average of 20% for personnel costs.

Major gains can be achieved tackling recycling and resource efficiency at three key levels of innovation: process efficiency, product design and value chain optimisation.

1. Process efficiency

Manufacturing processes transform raw materials and other inputs into finished products. Although multiple processes often run concurrently in complex systems, efficiency gains can easily be made in a number of areas including:

- Minimisation of tool wear by improving geometry or materials used;
- Optimisation of operating fluids and supplies (water and lubricants);
- Reducing rejects and cutting waste with process optimisation;
- Improvement of cleaning and conditioning processes;
- Advanced manufacturing and recycling processes.

2. Product design

The design of a product determines its life cycle starting with the choice of materials and finishing with the recyclability at end-of-life. Design decisions such as dimensions, weight, number of components or packaging can have a huge impact on resource consumption and in turn on profits. More complex solutions can also be thought-out to engineer products with improved eco-efficient design specifications increasing product life-time or recyclability.

3. Value chain optimisation

The largest savings can be made when the entire supply or value chain of a product is optimised from a resource efficiency point of view. Today, few companies manage the entire production line. Finished goods are made from the inputs of multiple businesses as subcontracting and inputs of semi-finished goods are widespread in manufacturing operations. This means the output of one firm is the input of another's processes. As a result if input needs do not meet exact output specifications, large quantities of resources are wasted. Thus, cooperation between the different layers of the supply chain is essential in achieving important efficiency gains.

Value chain optimisation can be addressed through an integrated approach to resource consumption dealing with inputs of raw materials and other semi-finished goods, output of finished products, by-products and waste, transport and storage, packaging resources and recyclability of packaging wastes.



"We are now considering how further savings can be made by using recycled content within other components and parts, throughout our manufacturing operation."

Robert Shaw, Design Manager at Indesit Company

Case studies

Germany: Getting the packaging process right

In North-Rhine Westphalia, a manufacturer of packaging for paints and varnishes has faced considerable inventory loss due to damages occurring in the storing and transportation phases. An in-depth assessment revealed that inappropriate protection, handling and transport as well as error-prone packaging schemes were at the source of these losses. In order to reduce damages, the handling and logistics processes have been optimised. Major improvements were achieved with two key measures: safer and optimised loading of the pallets and improved staff training. The implementation of these simple measures allowed the packaging manufacturer to considerably reduce damaged products, resulting in savings of €100/t and a 15% increase in revenue.

Case study by the German Material Efficiency Agency, DEMEA

France: Complete redesign of electric ovens

The medium-sized French manufacturer of electric ovens, Bourgeois, has ventured into a complete re-design of their product following key economic and environmental parameters. During the design phase, the functional parameters of the product have been systematically analysed against a newly defined set of environmental indicators. This systematic design process has resulted in impressive reductions of the number of components (-36%), weight (-10%), external volume (-25%), effluents (-44%), water (-18%) and energy (-35%) use. Moreover, the ovens are now also three times less noisy.

Case study by French Technical Centre for the Mechanical Industry, CETIM

UK: Closed-loop recycling

The household appliance manufacturer Indesit has successfully incorporated recycled plastic from the UK waste stream within two premium washing machines. The company has worked with its subcontract plastic moulding company to produce a new access panel. The panel is manufactured using 100% recycled plastic recovered from domestic fridges offering similar characteristics to the previously manufactured part that was made from virgin material. Indesit Company has achieved the same production cost for the recycled plates by maintaining the same cycle time in the moulding process. This, combined with 5% saving in raw material costs delivers a significant saving in CO₂ emissions, cumulative cost and raw materials over the 500,000 parts produced each year.

Case study by the UK Waste & Resources Action Programme, WRAP