Fraunhofer

IML

REVERSE LOGISTICS

LOGISTICS REVERSED TO PRODUCER

In the course of growing environmental consciousness, climate-protection measures and decreasing availability of »cheap« raw materials take-back systems, re-use and recycling strategies are gaining more and more importance. Against this background, both the national and European laws obliged industry step by step to an »extended product responsibility« and established appropriate legal framework – e.g. the WEEE, battery or packaging directives. The obligation to an increased cycling of products means for the producing enterprises first to meet the legal conditions, but also to simultaneously establish efficient and lean logistic structures. Furthermore, within short term these logistic systems have to be matched less expensive to the continuous new regulations and revisions of the existing law. Here Fraunhofer IML provides an expertise of more than 20 years and supports you in designing your reverse logistics according to law as well as efficient, flexible and environmentally sound.

Reverse Logistics

In contrast to distribution the reverse goods flows can only be planned partly in view of kind, quantity, and place of origin. Main tasks of reverse logistics are the recording of these – partly undesired – goods flows and the early directing of them to the optimal disposition route. This means to individually assess each product and supply it to an optimal further or re-use. The spectrum reaches from direct resale over repair or reconditioning, gaining spare parts or secondary raw materials up to an environmentally sound disposal.

Fields of application of reverse logistics

- **Returned goods management** as important component in retail trade, wholesale trade, retail and distance sales
- **Product service systems**, mainly in the b2b sector (e.g. provision of printers or copying machines)
- **Exchangeable product manufacture** in the field of mechanical, semi-mechanical or mechatronic products and components (e.g. automotive and supplying industry)

- **Take-back of end-of-life products** by the manufacturer or an authorized third party

Proceeding

Starting with an analyzing phase the expected quantity structure of reverse logistics will be recorded. For this purpose members of the Fraunhofer IML staff will analyze values as

- sales figures of the past,
- product life cycle and
- return rate.

On the basis of the recorded data product and customer individual scenarios will be developed providing the customer several concept variants. Among others the developed scenarios will answer the following questions:

- At which places is the product to be returned collected? (Collecting points and consolidation points)

- How is the product to be returned collected and by whom? (Commercial collection, private collection, requirements on containers, ...)
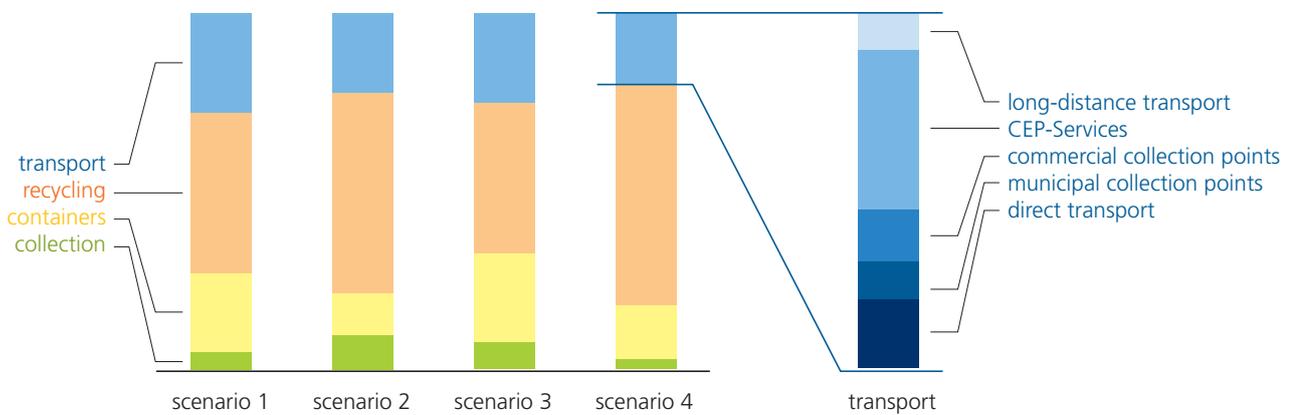- Where and how is the collected material supplied to further use or recycling?

As result the customer receives a clear recommendation with a monetary and qualitative assessment.

Services

- National and international market studies
- Scenario demonstration and assessment
- Cost estimation
- Simulation and prognoses

Benefit

- Concepts individually matched to customer and product
- Cost-optimal selection of best disposition tours possible for returned products
- Reliable fulfilment of legal requirements
- Increase of customer satisfaction by a fast and appropriate response to a return desire
- High availability of used and exchangeable parts

transport
recycling
containers
collection

scenario 1   scenario 2   scenario 3   scenario 4   transport

long-distance transport
CEP-Services
commercial collection points
municipal collection points
direct transport

Exemplary demonstration of the cost portions in various scenarios of optimization