



How recyclable are your products?

Design for Recycling

What is Design for Recycling about?

Recycling is not just a mainstream movement, but an essential element of any successful circular economy, and more and more defined by legal framework parameters too. In the wake of the European Commission's Green Deal, the Ecodesign Directive is not only expanded in scope to many industrial products, but also revised in content. It has already been announced that dedicated specifications will also be set for product recyclability. This means that products can no longer be marketed without proving specific recycling quotas in future.



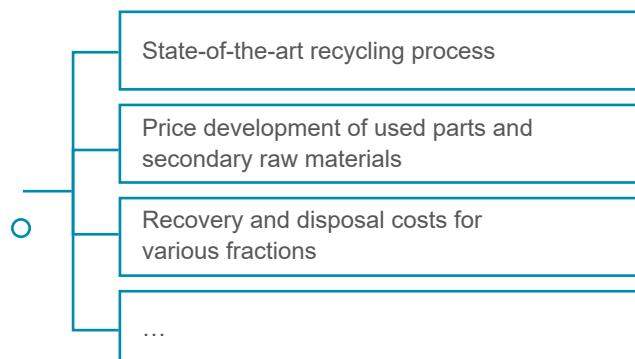
The lawmakers have furthermore learned from the implementation of the new Waste Framework Directive that the need to file reports in central, publicly accessible registers can exert significant pressure on companies to implement the corresponding regulations too (see SCIP report to ECHA). A similar requirement is full disclosure of the quota calculation. With this, the Commission wants to prevent possible greenwashing by competing companies.

What are the resulting tasks?

The recyclability of products is defined by way of various tasks:

- ▶ Creation of a general dismantling strategy
- ▶ Definition of an approach for freeing products from hazardous materials
- ▶ Assessment of the recyclability considering the options of:
 - Reuse (used part/part for reprocessing)
 - Recovery (substance-/material-/energy-related)
 - Waste disposal

This in reliance on databases containing the following information, inter alia:



The recycling and design work hand-in-hand to improve the Design for Recycling. Recycling officers and designers are tasked with assessing the recyclability and / or suitability of their products for recycling, and deriving improvement potentials from this.

- ▶ Recyclability calculation software
- ▶ Trainings in Design for Recycling
- ▶ Process workshops
- ▶ Data service for supplier communications
- ▶ Dismantling analyses

If the products are complex, this can be a very time-intensive job that calls for extensive expert know-how to boot. Even before the elaborations can start, the needed data must be available first. This also requires information to be requested from suppliers, collected, evaluated, and brought into the product context.

How can tec4U Solutions help you with this?

tec4U Solutions offers you software and services in the area of sustainable product design and circular economy.

The DataCross software (www.data-cross.de) is used by companies to request declarations and documents relating to legal substance-related and environmentally relevant requirements from suppliers, and to analyze and manage them. DataCross 2.0 will bring further functionalities and modules in a Design for Recycling context, inter alia including a recycling module and dismantling module for calculating the recyclability. Both requirements are part of the legally defined Product Passport.

Functional scope of the Design for Recycling (DesignfR) module in DataCross 2.0

- ▶ The app offers you various scenarios for calculating the recycling status, including a dismantling module for identifying and mapping disassembly information
- ▶ The app provides you with improvement suggestions
- ▶ You can accept every improvement suggestion and have the recycling status recalculated
- ▶ Create a report for every scenario
- ▶ You can request missing data for the recycling calculation from suppliers

- ▶ You can use the dismantling module to determine missing or validate existing data. The module will supplement dismantling times, connecting elements and materials in OEM-approved parts lists for this, all determined in trials.
- ▶ ...

To make these functions available to the user, tec4U has brought 30 years of experience and expertise to bear on the app development. In addition to which extensive external and internal libraries of recycling processes, dismantling times and costs, secondary material markets and disposal costs are also on file. These are continuously kept up to date by tec4U Solutions.

Benefit from the tec4U support services below:

- ▶ Trainings in Design for Recycling
- ▶ Process workshops for integrating recycling-friendly designs in operational workflows
- ▶ Data service for supplier communications – procurement of supplementary data for calculations
- ▶ Dismantling analyses to validate calculations (Dismantling for Recycling – DismantfR)

Your contact partner **Stefan Nieser** will be pleased to help you with any questions on the subject of recycling-friendly design.

Telephone +49 681 92564-120
Fax +49 681 92564-200
E-mail s.nieser@tec4U-solutions.com

tec4U-Solutions GmbH
Saar-Lor-Lux-Straße 13
D-66115 Saarbrücken