

Solutions for supporting the circular transition of EEE manufacturers

D.1.4.3 - Inventory of Circular Economy Tool



Version 1

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Inventory of Circular Economy Tools Developed and Upgraded within CIRCOTRONIC

INTRODUCTION

The CIRCOTRONIC project followed the methodology agreed at project start and described in the Application Form, whereby the partnership combined:

- existing off-the-shelf tools,
- upgraded tools adapted to the needs of SMEs in the electrical and electronic equipment (EEE) sector and the Central European context, and
- completely new tools developed within the project.

This approach was a methodological choice. The EEE sector is characterised by highly complex products, supply chains and regulatory requirements. Developing robust decision-support tools requires significant expertise, extensive validation and continuous refinement, making the creation of entirely new tools within the lifetime of a single project neither realistic nor necessarily desirable. Instead, CIRCOTRONIC focused on identifying the most suitable tools for different aspects of the circular transition, adapting them where appropriate, and integrating them into coherent support services tailored to the needs of SMEs.

The portfolio included both freely available and commercial tools. Many of the commercial tools represent state-of-the-art solutions that have been developed and continuously improved over many years, while numerous high-quality free tools (developed by research projects) remain largely unknown or underutilised by SMEs. Companies are often uncertain which tools best fit their needs and are reluctant to invest time and financial resources without first understanding their practical benefits. Through facilitated workshops and individual advisory services, CIRCOTRONIC provided SMEs with a trusted environment to explore, test and compare different tools, enabling them to make informed decisions about their future application.

This rationale was particularly relevant for the Materials & Recovery thematic group. Material flows in the EEE sector span complex global supply chains, involve rapidly evolving recycling technologies and depend on dynamic markets for secondary raw materials. No single tool can adequately address these challenges, and many of the most advanced solutions are specialised commercial platforms that have been developed and validated over many years. Rather than attempting to replace these mature solutions with simplified project-specific tools, CIRCOTRONIC focused on evaluating, piloting and integrating the most suitable existing tools into practical advisory services for SMEs. These tools were complemented with project workshops and expert facilitation to ensure their effective application.

The piloting process also generated valuable knowledge for the participating business support organisations. By applying the tools in real company settings, project partners gained first-hand experience of their strengths, limitations and suitability for different company profiles and levels of circular maturity. These insights form an important foundation for the further development of high-quality circular economy support services beyond the lifetime of the project.

Deliverable D1.4.3 - Solutions for Supporting the Circular Transition of EEE Manufacturers presents the complete solution portfolio, including the purpose of each tool, implementation guidance, SME feedback, evaluation results, framework conditions, resource requirements, lessons learned and recommendations for future application.

The purpose of this annex is to provide a transparent inventory of the tools included in the Solution Book and to distinguish between existing tools, upgraded tools and newly developed tools. For each upgraded or



newly developed tool, the corresponding downloadable file or online access is indicated, providing evidence of the tangible project outputs developed within CIRCOTRONIC.

For the purpose of this inventory, the term "tool" is used broadly to refer to digital tools, workshop methodologies, advisory frameworks and practical guidance documents supporting the circular transition of SMEs.

Tool	Type	Thematic Group	Project contribution	Evidence
Ecodesign - Legislative Framework	New	Circular Design	Developed by CCIS within CIRCOTRONIC to simplify navigation through Ecodesign, ESPR, Energy Labelling and WEEE legislation for SMEs. During piloting the tool was further improved by incorporating SME feedback.	Newly created online tool: Sustainable legislative framework GZS
Ecodesign+	Existing	Circular Design	Commercial web tool (ECODESIGN company GmbH) piloted with SMEs to evaluate Product Carbon Footprints and Ecodesign options.	https://ecodesignplus.com/
Circularity Assessment Tool	Adapted / Upgraded	Circular Design	Tool developed by TUW within the EU project RHODaS and further developed and adapted to the electronic sector in the Circotronic project	Step 1: https://forms.office.com/Pages/ResponsePage.aspx?id=1P393_V3WkSdwB9cbSWTlTJIJ8PGt79Klwzn51p49mNUMExHQ1RUWjLWTVU0TUyWtUVNMkNSS1JOMy4u Step 2: https://forms.office.com/Pages/ResponsePage.aspx?id=1P393_V3WkSdwB9cbSWTlTJIJ8PGt79Klwzn51p49mNUN0c1VzgySDdSQU9RR0ZQMVI3WVMxT0tRWS4u
Strategy for Circularity and Sustainability	Existing	Circular Design	CCIS combined several existing methods for preparing company circularity and sustainability strategies. The combination of tools depends also on the size of the company and the complexity of its operations. It is a horizontal tool that is closely related to other tools across all thematic groups.	Assessment of the baseline or starting point / understanding the ecosystem the company operates Double materiality analysis: https://explore.besmarthead.com/ Life Cycle Assessment: https://ecoimpact.trayak.com Strategy preparation https://sustainabilitytoolbox.com Despite being designed for reporting, EFRAG offers a wide range of tools to define short, medium and long-term objectives for sustainability and strategy building SMEs and Sustainability Reporting EFRAG
Future Scenarios	Existing	Circular Design	MD created a workshop based on existing methodologies. The selection and combination of tools were adapted for the EEE sector to build future scenarios based on trends and megatrends, specifically tailored to fit the one-day workshop format.	Methods and tools: Lean Futures Creation Toolkit The Futures Triangle - Sitra The workshop framework was enriched with industry-specific trend research and global megatrend analyses: SITRA



Cyrkl Tool Marketplace	Existing	Materials & Recovery	Commercial marketplace piloted with SMEs in Slovenia and Slovakia. CIRCOTRONIC supported the preparation of material listings, company onboarding and searches for suitable local and regional recycling partners. The application was adjusted to local material volumes, logistics and market conditions.	CIRCULAR ELECTRONIC INITIATIVE https://www.cyrkl.com
	Existing	Materials & Recovery	Commercial LCA tool piloted in Germany and Slovenia. CIRCOTRONIC supported company-specific data collection, definition of system boundaries and comparison of product carbon-footprint scenarios for EEE products. Results were translated into practical improvement recommendations for SMEs.	https://ecochain.com/
	Existing	Materials & Recovery	Service piloted in Slovenia and Slovakia through joint work between Cyrkl and CIRCOTRONIC project experts. Waste mapping, prioritisation of material streams, recycler searches and recommendations were adjusted to company-specific waste volumes, quality, logistics and local market conditions.	https://www.cyrkl.com/en/consulting
	Existing	Materials & Recovery	The existing assessment tool was used for EEE SMEs through sector-specific examples, guided scoring, language and expert support, and the structured action-planning template. The approach was tested in Germany, Slovakia and Slovenia and refined based on company feedback.	https://circuitnord.com/tools/circularity-assessment-tool
	Existing	Materials & Recovery	Workshop developed within CIRCOTRONIC for mapping current and future supply chains, identifying circular opportunities with suppliers, identifying critical-material dependencies from suppliers outside the EU, data gaps and confidentiality risks, and preparing a concrete action roadmap for future circular projects. Existing tools for supply chain mapping like sourcemap.com were used to enhance the workshop.	https://open.sourcemap.com/ https://open.sourcemap.com/maps/61a98acef1ddeb086156a529



Context Map Canvas	Existing	Circular BM & VC	The Context Map Canvas was used within CIRCOTRONIC to help SMEs analyse the external factors influencing their circular transition. Through workshops, companies mapped demographic, regulatory, economic, environmental, technological and market trends, customer needs, competitive developments and key uncertainties affecting their business. The tool supported a broader understanding of the business ecosystem.	DesignABetterBusiness.tools Context Canvas®
Quicksan Circular Business Models	Existing	Circular BM & VC	The Quicksan Circular Business Models was used within CIRCOTRONIC to help SMEs assess their current level of circularity and identify suitable circular business model opportunities. Through a structured two-phase approach, companies first evaluated their sustainability priorities, experience, ambition and current business model, and subsequently explored appropriate circular business model types, R-strategies, organisational forms, supporting processes and revenue models. During SME workshops, the tool served as a practical starting point for discussions on business model innovation and circular transformation pathways.	https://businessmodellab.nl/en/tools/quicksan-circular-businessmodel
Circular Business Model Canvas	Adapted	Circular BM & VC	The Circular Business Model Canvas was adapted to improve its usability for SMEs participating in CIRCOTRONIC. The original canvas was simplified by reducing the complexity of the individual building blocks and focusing on concise headings, making it easier to facilitate collaborative workshops. The adapted canvas was used to support companies in designing, analysing and refining circular business models by exploring value creation, value delivery, value capture and resource loops from a circular economy perspective. Facilitation by project experts enabled companies to translate identified opportunities	Based on Circular Business Model Canvas https://www.circulardesignguide.com/post/circular-business-model-canvas CIRCOTRONIC adaptation was prepared: https://circularnetlab.gzs.si/wp-content/uploads/2026/08/Circular-business-model-canvas-adapted-by-CIRCOTRONIC.pdf https://gzs365-my.sharepoint.com/:b:/g/personal/grit_ackermann_gzs_si/IQDQvJ82rONURaizaegW0SzAWjXVpyWGsNE5MOGRP6fuV0?e=ldbLhB



			into concrete business model concepts and implementation actions.	
Circular Business Model Guide	New	Circular BM & VC	Created by BizUp, this guideline combines the tools and approaches used throughout the project and serves as a practical step-by-step guide for SMEs. It supports organisations throughout the entire transformation process, helping them move from initial assessment and piloting activities towards the successful implementation of a Circular Business Model.	Circular business model guide of CIRCOTRONIC: https://circularnetlab.gzs.si/wp-content/uploads/2026/08/Guide-CBM-and-VC.pdf
Identification and Mapping of Value Streams	Adapted	Circular BM & VC	The Value Mapping Canvas was slightly adapted by BizUp to have a more detailed opportunity to categorise the identified value. In addition to “captured”, “missed or wasted” and “opportunities”, Values at Risk were also used to make visible where there are potential (future) pain points.	Based on the Value Mapping Tool: Value-Mapping-Tool.png (850×736) Presented along with other value mapping tools in this article: (PDF) A value mapping tool for sustainable business modelling CIRCOTRONIC developed an adapted / simplified model: https://circularnetlab.gzs.si/wp-content/uploads/2026/08/Value-mapping-tool-adapted-by-CIRCOTRONIC.pdf