NEWSLETTER

CIRCULAR CIRCUITS

Edition: April 2026

PUBLICATIONS

How to tailor the micro- and nanoscale features of copper films with a three-dimensional porous network films, using specific electrochemical pathways.
In this publication, we demonstrate the fabrication of copper films with a three-dimensional porous network, featuring internal surfaces covered with “Romanesco-like” dendritic structures. We also show how to tailor the micro- and nanoscale features of these films using specific electrochemical pathways. Porous copper films have potential for various applications, and we are currently exploring their use in electronics packaging, such as low-temperature, organics-free interconnects in power electronics. The publication was written by Circular Circuits’ colleague Fatin Battal together with Nikhil Gupta, Peter Mulder, Jeroen Maasen, René H. Poelma, Elias Vlieg and John J. Schermer.

Historic material losses in European Waste from Electrical and Electronic Equipment.
The publication describes the element of losses at the end of life in the EU-27, between the years 2006 and 2021. It was found that only 28% of the elements contained in WEEE are actually recycled, and identified sixteen products with the highest metal concentrations, which are currently not collected. The publication was written by Circular Circuits’ colleague Nils Pauliks, together with Tomer Fishman, Robert Istrate, Bernhard Steubing, and prof. Arnold Tukker.

PCBA to PCBA, a depopulation comparison.
Six depopulation methods (both mechanical and thermal to separate parts from the PCB-board) were directly compared on both qualitative and quantitative indicators and evaluated using a multi-criteria analysis. The publication was written by Circular Circuits’ colleague Max van Beek together with Chester Rous.

OVERVIEW THESES

An overview of theses on the design of products and services (of electronics):

- Design for Recycling of Electronic Products, Study on Smart TVs (link)
- Design for Recyclability of WEEE, A case study on Signify’s Coreline office luminaire (link)
- Redesign of a waterproof luminaire to improve the ease of installation, recyclability and repairability (link)
- Towards circular electric motors: balancing durability, repairability, and recyclability in product design (link)
- Balancing the Repairability and Recyclability of a Mechanically Durable Agricultural Antenna (link)
- Conflicts and Alignments in Designing a Video Conferencing Device for Refurbishment and Recycling (link)

OTHER

Meihui Jiang is currently visiting Georgia Institute of Technology from March to May 2026 in the US, hosted by the Scheller College of Business and the Brook Byers Institute for Sustainable Systems. As part of WP5, she is collaborating on research on circular supply chains and contract design for end-of-life operations of electronics, and actively participating in seminars and research discussions in sustainable operations management to spread the academic impact of Circular Circuits internationally.

Please check for frequent updates the project website www.circularcircuits.nl and our LinkedIn page.