

# NEWSLETTER



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## **Publication on the redesign of the circular business model for a circular innovation ecosystem**

This [publication](#) is about Circular Business Models (CBM) from an innovation ecosystem perspective, with an embedded case study of the Dutch microelectronics industry. The publication was written by Meihui Jiang, Koen Dittrich and Stef Lemmens

## **Publication on the design for recycling of electronics: the urgent need for better methods**

The findings presented in this [publication](#) show an urgent need for a substantiated and validated Design for Recycling method, which helps lower the environmental impact of electronics, is tailored to design practitioners, and aligns with common recycling practices. The publication was written by Dorien van Dolderen, Soroush Aghaeian, Conny Bakker and Ruud Balkenende.

## **Publication on the mechanically sorting electronic components from discarded printed circuit boards.**

This mechanically sorting enables the recycling of critical raw materials. The study described in the publication shows that by combining these three different sorting technologies it is possible to sort the ECs in a way that the majority of CRM containing components are concentrated. The [publication](#) was written by Max van Beek, Yongli Wu, and Peter Rem.

## **Publication on the magnetic density separation process for sorting granular solid wastes**

Peter Rem and Max van Beek worked together in this [publication](#) with their colleagues Lin Wang, Francesco di Maio, and Goncalo Tomas on applying the magnetic density separation process for concentrating valuable metals in shredded PCBAs and reducing metallic contaminants in plastic fractions of shredded wires.

## **Insight in the work on the mechanically sorting electronic components at the TU Delft**

The [Delft Matters](#) magazine gives an insight in the work of max van Beek, Peter Rem and dr. Lin Wang

## **Why is it so difficult to recycle electronic devices?: John Schermer and Fatin Battal in Radboud recharge**

Battal: "We are focusing on finding new structured materials to connect semiconductors to the metal lead-frame that can withstand harsh conditions and thus last longer." More in the [Radboud Recharge](#).

## **Nils Pauliks on NOS news (Dutch)**

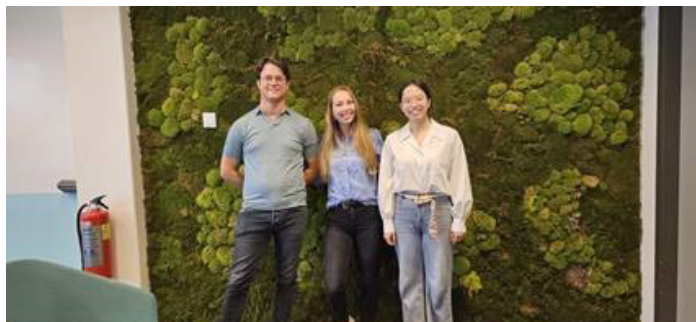
[Headphones](#) on airplanes "considerable waste of valuable materials".

## Master's thesis internship project at In2Waste Solutions

In2Waste Solutions and the academics of Work Package 5 of the Circular Circuits project, collaborated on a master's thesis internship project. From January to June this year, student Amy van Baalen worked with In2Waste to investigate the circular business model for reusing legacy PCB components in the WEEE recycling industry. She identified key enablers and challenges, such as technological advancements and legislative pressures, and created a business canvas and RASCI operational flow for implementing the model. Interviews with experts from CC consortium highlighted strong connections within the CC community, and Amy's work has laid the groundwork for further exploration of the circular business model.

"It was really helpful to have Amy investigate the circular business model for reuse. We learned a lot, and she assisted us with scientific implementation methods we might not have used otherwise."

*Barend Ubbink from In2Waste Solutions*



## Master's thesis internship project at Nedap

Nedap and the academics of Work Package 5 of the Circular Circuits project, cooperated on a master thesis internship project. Student Catelijan van der Meer went to Nedap from February to June this year to explore the possibility of the leasing model with a specific case of Nedap's product ID POS 2, identifying internal and external factors critical to success, such as stakeholder collaboration, lifecycle management, reverse logistics, centralized support, and predictable costs. Furthermore, business partners' contributions and refurbishing can be the future development direction. The exploration of a new circular business model will be continued after Catelijan's initiatives.

## Master's thesis internship project at NXP

In the master's thesis internship project cooperated by NXP and the academics of Work Package 5 of the Circular Circuits project, from January to June this year, student Erik-Jan Damhof worked with NXP to investigate the drivers and barriers for implementing reverse logistics in the semiconductor industry to support a circular economy. His research into creating a closed-loop supply chain provided valuable insights and inspiration for future circular initiatives.