

Our vision

Product-as-a-service (PaaS) business models for consumer **electrical and electronic equipment (EEE)** designed by Europe, increasing resource and cost efficiency and retaining **critical raw materials (CRMs)** in Europe.

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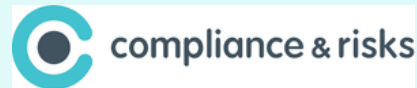


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Project partners



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We are a consortium for a European project SCANDERE (Scaling up a circular economy business model by new design, leaner remanufacturing, and automated material recycling technologies).

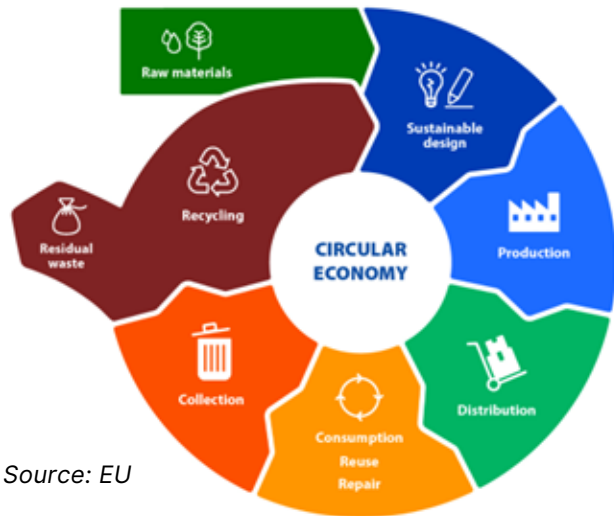


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Motivation

The transition to a circular economy (CE) with enhanced resilience can be notably accelerated by the adoption of product-as-a-service (PaaS) business models. Today, PaaS is still a niche in the EU market for consumer electrical and electronic equipment (EEE). More importantly, not every PaaS offering increases critical raw material (CRM) efficiency. A new CRM-efficient PaaS business model must be developed and upscaled. However, to do so, product design, remanufacturing, and end-of-life treatment processes must be innovated and adapted to the new CRM efficient PaaS business models using a full lifecycle perspective.



Source: EU

” Scandere means “ascending” in Latin.

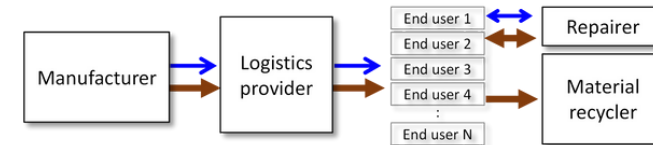
Objectives

We aim to:

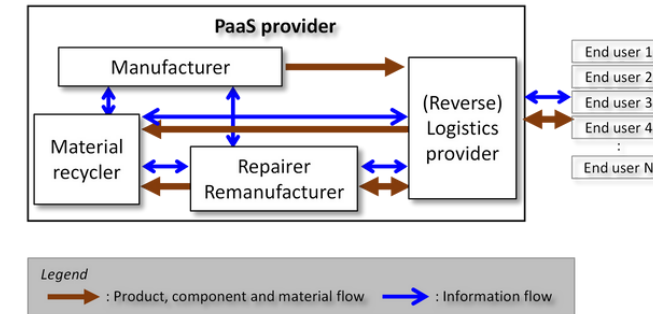
- Create demonstrators with improved product designs, leaner remanufacturing, optimized recycling and adapted regulations in the context of a CRM-efficient PaaS business model; and
- Improve the knowledge for product design, remanufacturing, and recycling including their interplays among them with a lifecycle perspective.



(a) Current practice for EEE ending with less controlled repair and material recycle



(b) PaaS value network for EEE with more controlled reverse logistics, repair, remanufacture and material recycle



Legend
 — : Product, component and material flow — : Information flow

Source: Scandere project plan

In the typical business practice for EEE at present, OEMs have little control of the products after the point of sales as depicted by (a) of the figure above. On the other hand, a PaaS provider gains control of resource flows (in products, components, and materials), while committing to the availability of the product functions. PaaS provides OEMs with a reverse incentive for using a product with its fuller technical lifetime.

Underlying mechanism

PaaS is a model where OEMs keep the ownership of the products in providing end users with access to the product functions in subscription contracts. PaaS is a special type of product/service system (PSS), which was heralded as among the most efficient means towards a resource efficient and circular economy leaving the “take-make-sell-dispose” paradigm.