Building a collaborative network of distributed labs for product data transparency

Great Data Ambitions

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Leiden University, Institute of Environmental Science CML

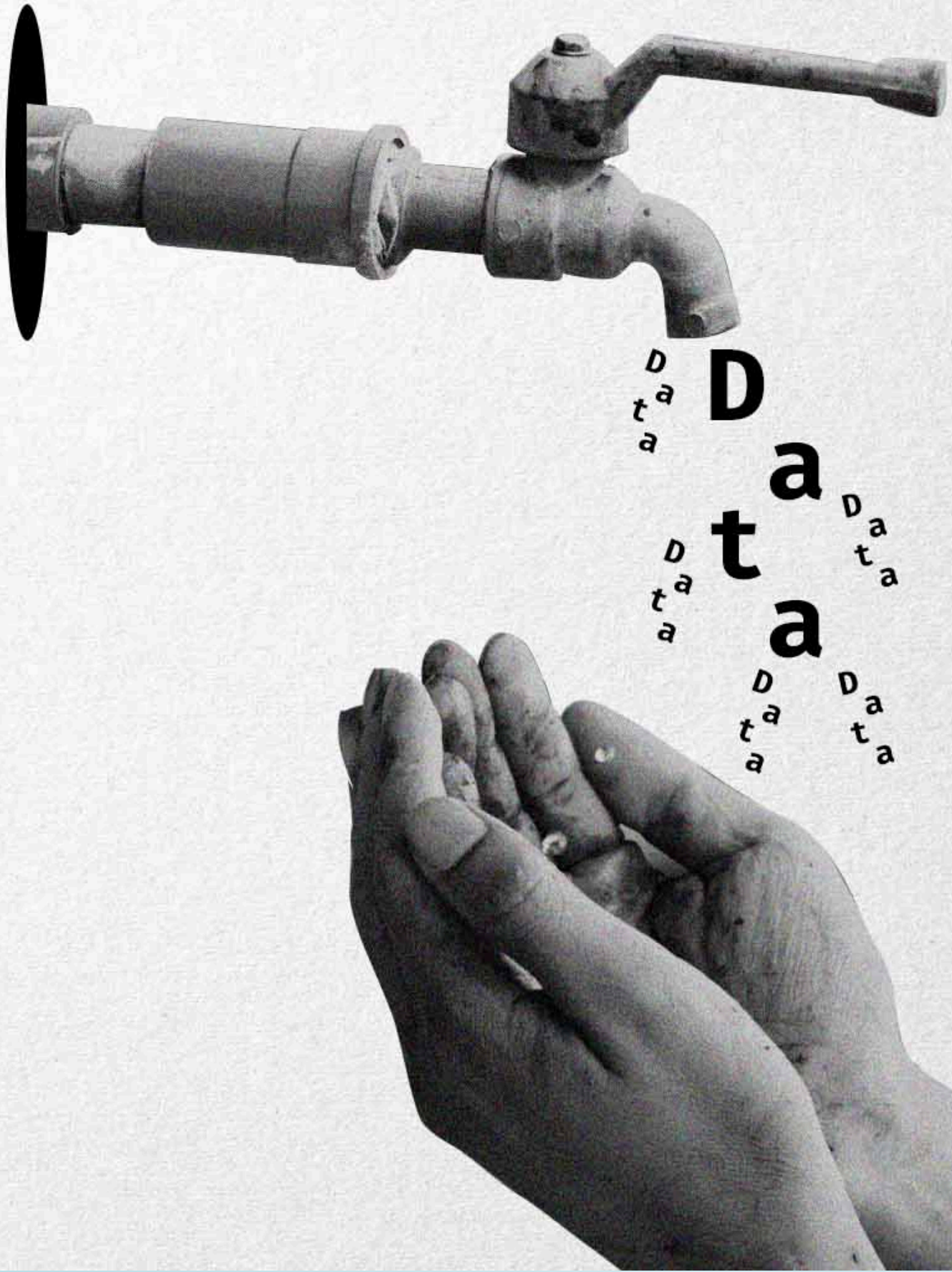
Brightcon 2026, Aalborg University

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How many are environmentally and circularly assessed?



THE PROBLEMS

- Insufficient data on material requirements and environmental performance of products
- Limits to assessment, implementation and monitoring of policies
- Product data is scarce, scattered and not easily accessible

ENVIRONMENTAL IMPACTS DUE TO PRODUCTION

CIRCULARITY PERFORMANCE

TRACING OF CRITICAL RAW MATERIALS



Providing scientific tools to increase data availability
to facilitate circularity and sustainability assessment

The Team



Franco Donati

Asst. Professor
Lead



Heath Logan

Asst. Professor
Lab expansion



Marco Visser

Asst. Professor
Spectrometry & Computer Vision



Simon van Lierde

PhD Student
Digital lab Solutions



Oskar Imiolek

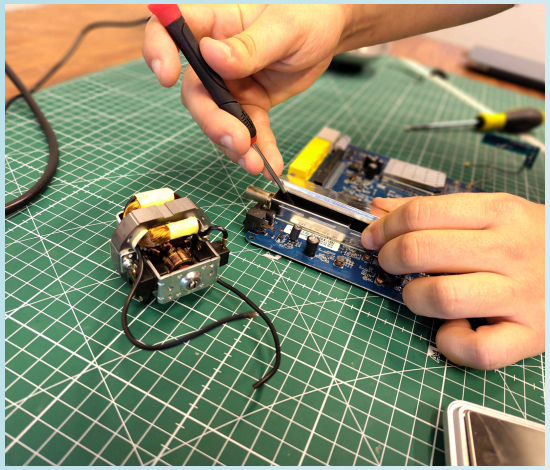
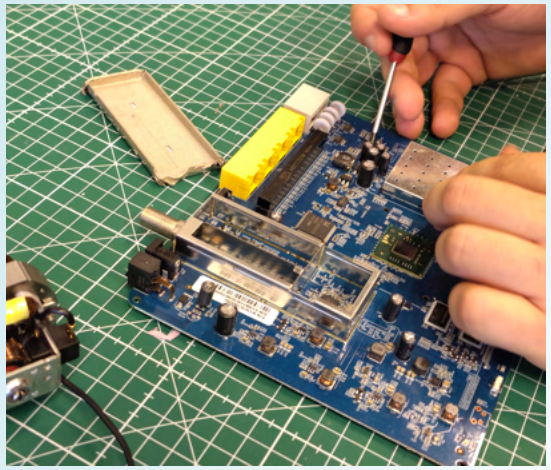
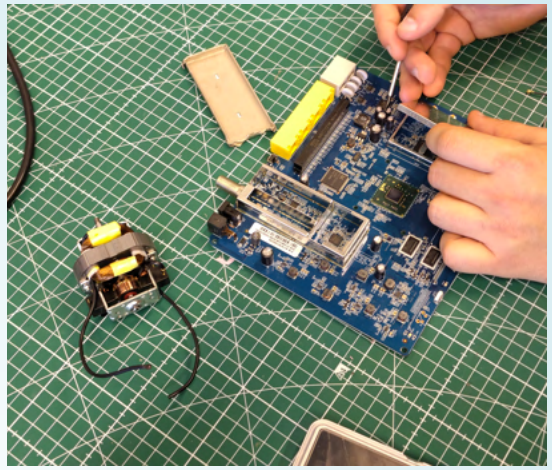
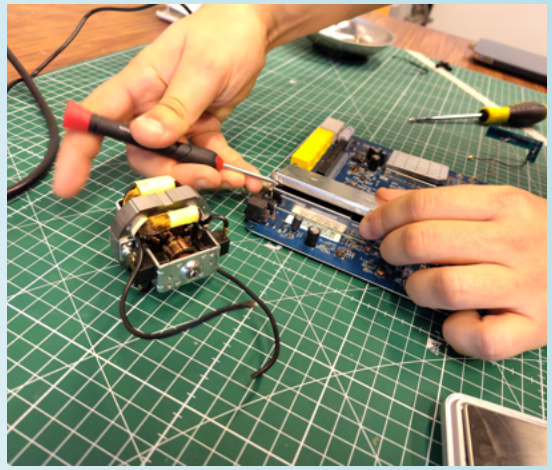
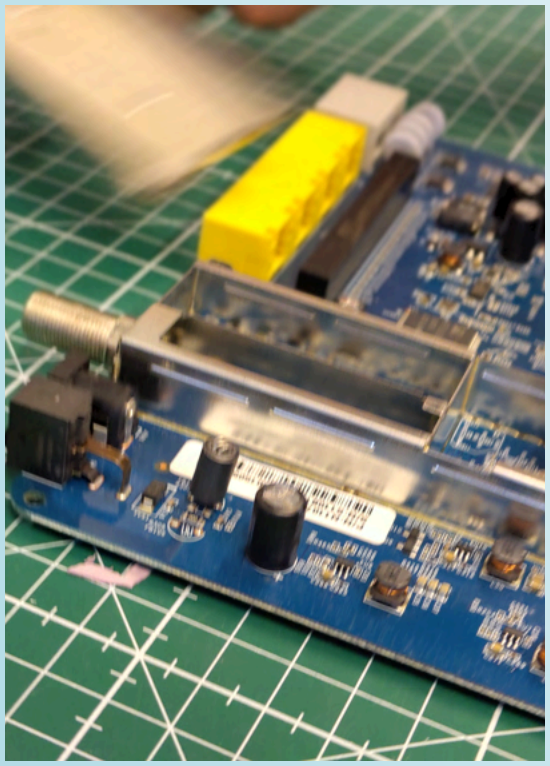
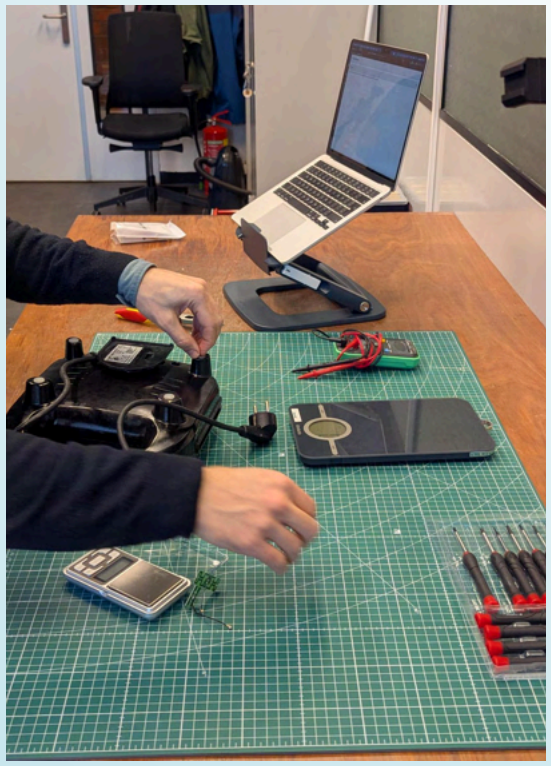
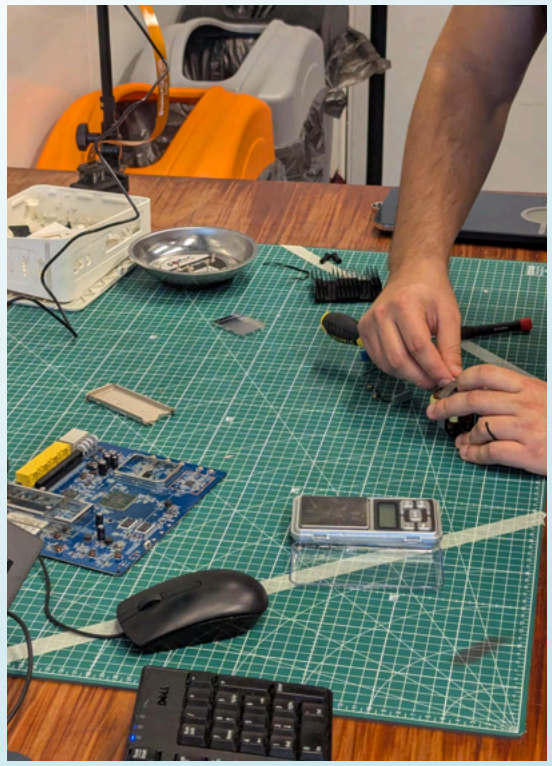
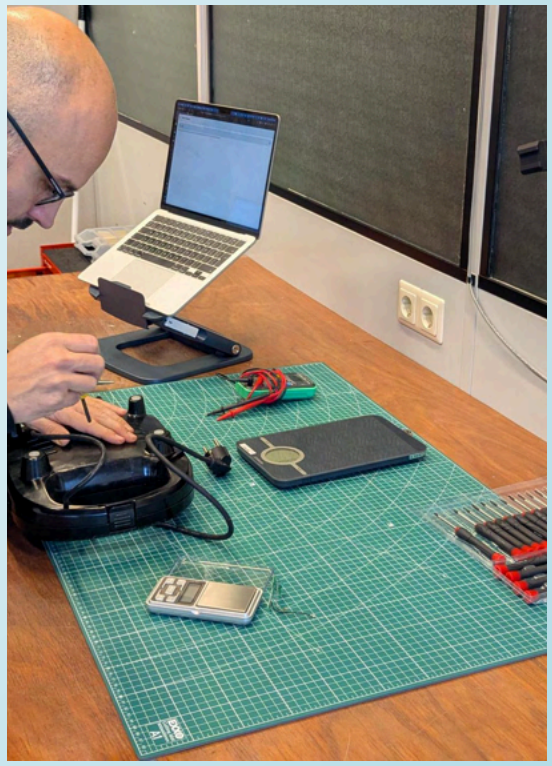
Lab Technician
Physical Lab solutions

THE AMBITIONS

- An international network of labs and citizens collecting and sharing data on products
- A collaborative infrastructure for contributing, tracking, analysing data on durable goods
- Providing open and interoperable data for industrial ecology research
- Developing circular triage and diagnostics tools for stakeholders

THE PHYSICAL LAB

The physical lab is a space for disassembly, repair, and analysis of products. It is equipped with tools and instruments for measuring and characterizing materials, components, and assemblies.

R9 lab

Open product data for circular-economy research

Relab documents how durable goods come apart: every component named, weighed and photographed. The records are open to browse as they are collected.

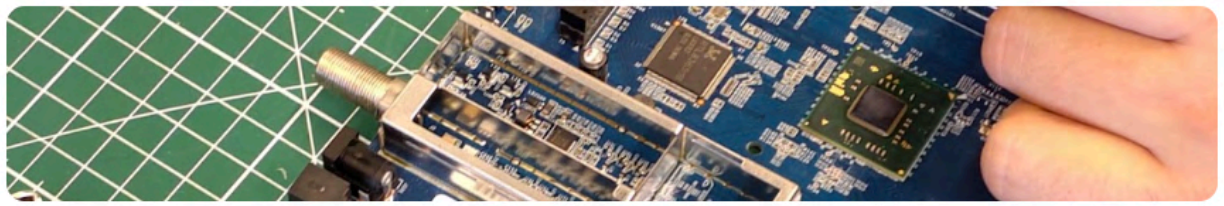
Browse the records
No account needed

Contribute a teardown
Free account, takes a minute

1,779 parts documented

A research platform of the Institute of Environmental Sciences (CML), Leiden University





R9Lab - CML

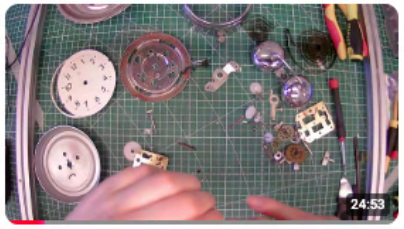
@open_product_data • 16 subscribers • 60 videos

Welcome to the channel of R9Lab - Disassembly laboratory of Institute of Environmental ...more

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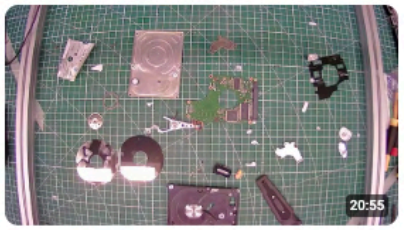
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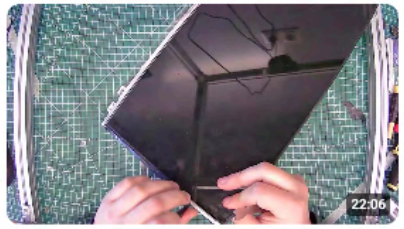
Mechanical Alarm clock - Disassembly

20 views • Streamed 6 months ago



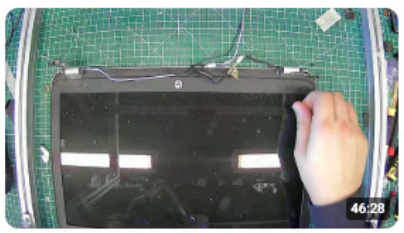
1TB Samsung HDD Hard Drive - ST1000LM024 - Disassembly

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HP ENVY 15 Notebook PC - Disassembly - Part 2

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HP ENVY 15 Notebook PC - Disassembly - Part 1

7 views • Streamed 6 months ago



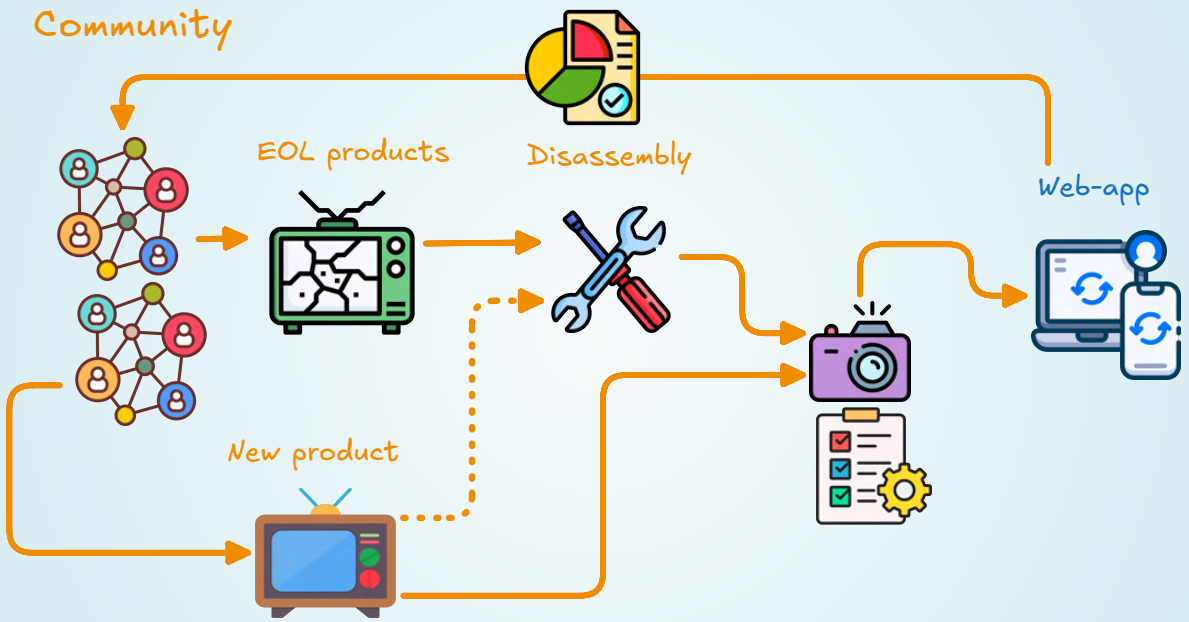
Tefal No 1418/L Serie Clothing Iron - Disassembly

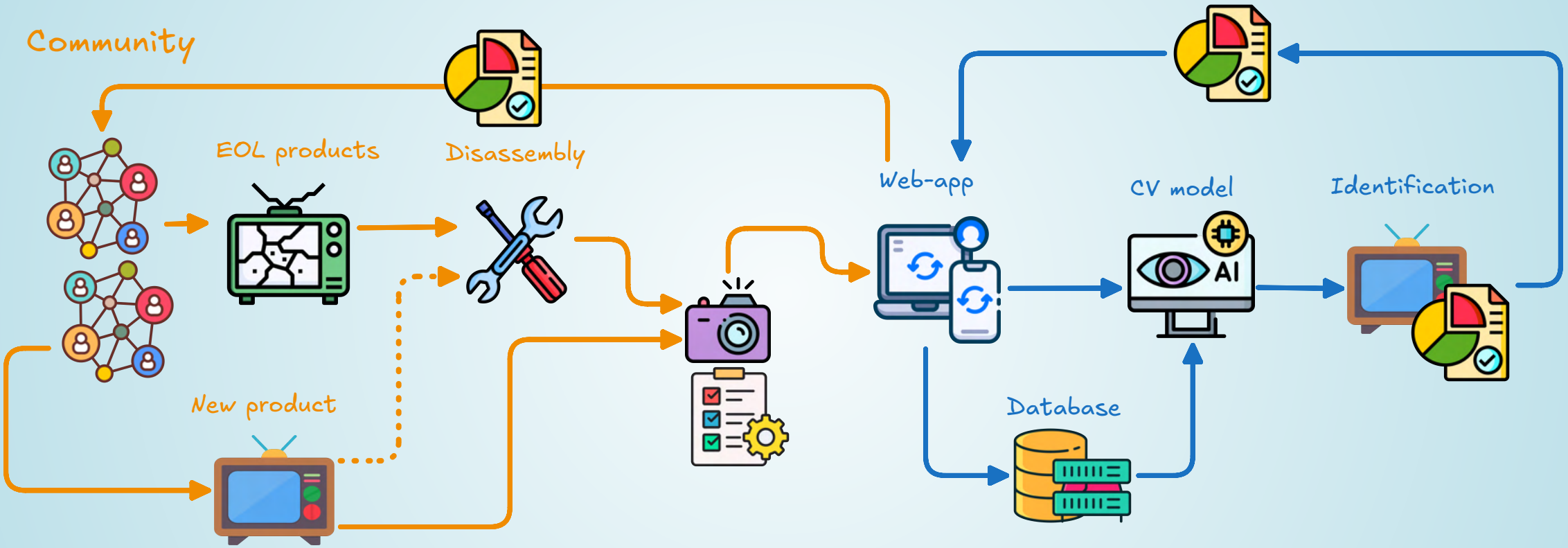
6 views • Streamed 7 months ago



HOT - Bluetooth portable cube speaker - Disassembly

5 views • Streamed 7 months ago


Community
EOL products
Disassembly
Web-app
New product


Community
EOL products
Disassembly
Web-app
CV model
Identification
AI
New product
Database

Users' stories

Citizens

- I disassemble/repair products and I'd like to provide data and track my contributions
- I would like to know the environmental and circularity performance of a product
- I want to know how to take something apart so I can fix it

Labs

- We do product/waste characterization and we need structured data storage and sharing
- We are looking for primary data to perform analyses and benchmarking
- We are looking for data to build models and tools

Let's get to work!

- Create groups of 4/5 people
- Scan the QR code and add your group name
- Let's brainstorm on how to build a network for primary data sharing

SCAN ME



Universiteit Leiden
The Netherlands

R9 lab

Let's stay in touch!

Send us an email to have a chat

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Heath Logan: h.m.logan@cml.leidenuniv.nl

SCAN ME

Visit the R9Lab platform

SCAN ME