

Wie KI Sortierprozesse für die Verwertung vorbereitet

11. Juni 2026, 13. Internationale Alttextiltag

Mario Osterwalder



PRE-OWNED + RECYCLED
UPCYCLED + REPAIRED

vision

Provide tech solutions for sorting that enable the majority of garments sold to be made from pre-owned textiles

Opportunities



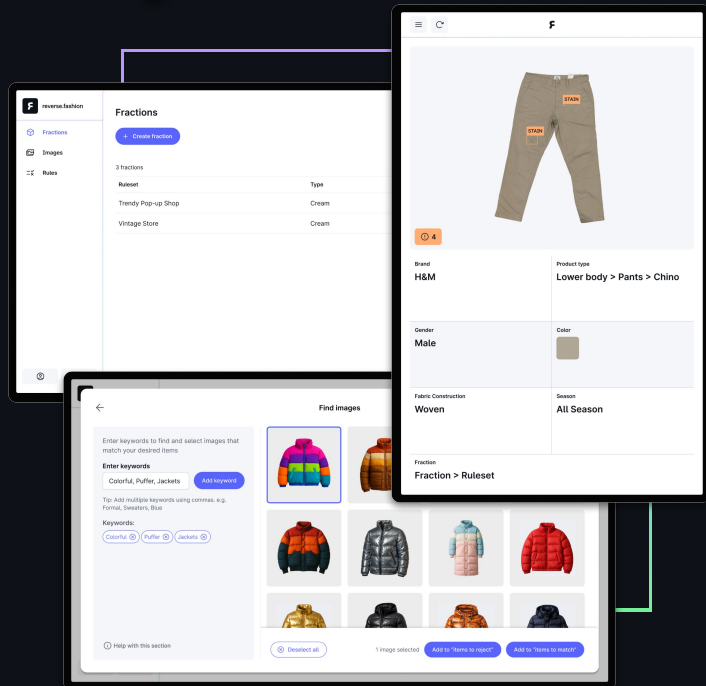
**Extended Producer
Responsibility**

**Technical support to
improve sorting quality**

**Reduce costs by
automization**

Recommerce

Software + AI layer for automated, demand-driven sorting



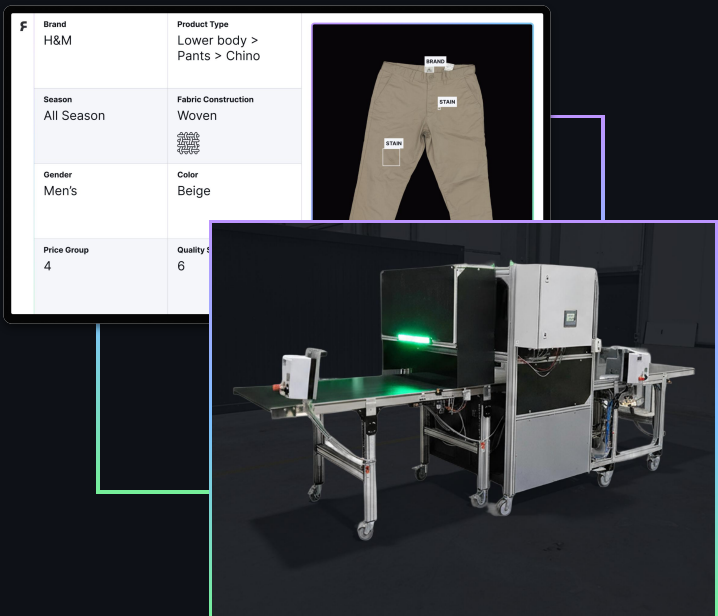
AI and Software

- **AI analysis** of product images based on condition, style, product type, gender category, brand, size categories, season, colour, fabric construction
- **Modifiable sorting:** Configurable customized sorting rules
- **Demand-driven output:** Buyer interface to communicate curated feedstock specs with rules and moodboards
- **DPP connectivity:** Reads Digital Product Passports and connects the given product data with it
- **Auditable process:** Documented decisions to prove feedstock quality (e.g. export compliance)

product line.sort



Enables demand-driven, consistent, high-throughput sortings



Features

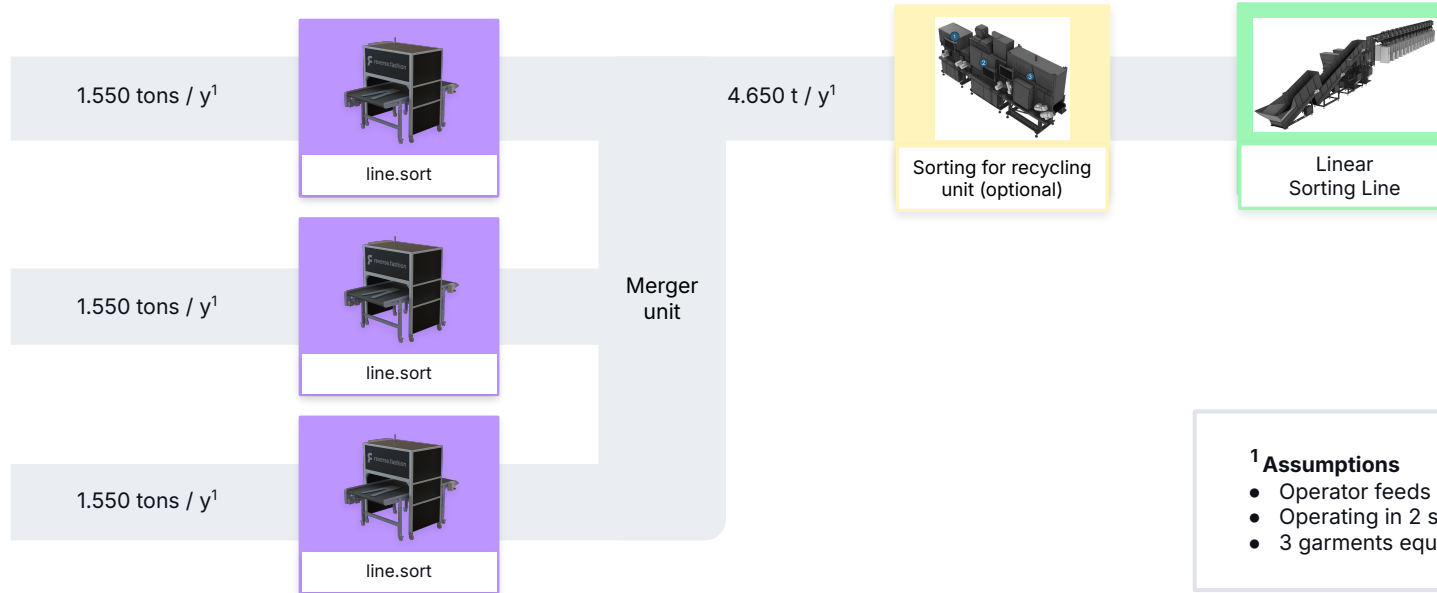
- **Automated flow:** Captures, and classifies garments in real time (up to 2m/s)
- **Powered by reverse.engine**
- **Near-360° ultra-high-resolution capture**
- **Modular add-ons:** Compatible with sorting for recycling and automatic separator

Benefits

- **40% higher productivity** compared to manual multi-step sorting
- **20% revenue uplift:** Unlocked by new sales channels
- **Specific sorting at scale:** Makes buyer-specific category economically feasible
- **Objective & repeatable:** Delivers consistent, auditable decisions

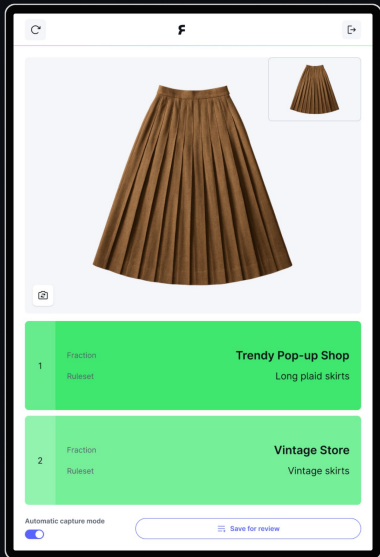
line.sort

Configuration example



¹ Assumptions

- Operator feeds a garment every 3 seconds
- Operating in 2 shifts for 242 days a year
- 3 garments equals 1 kg



Turns manual textile sorting into consistent, data-driven decisions

Features

- **Real-time** fraction suggestions to support **educated sorting decisions**
- **Powered by reverse.engine**, enabling
 - a. **AI analysis** of style, product type, brand and gender category
 - b. **Easy setup of sorting rules** using text prompts and sample images
 - c. **Feedback functions** for continuous improvement and staff training

Benefits

- Unlocks supply of **curated collections** for specific target groups
- **Aimed at 20% revenue uplift**
- Makes highly specific sorting **economically scalable**
- **Faster onboarding** and more flexible production
- Helps operators to **stay up-to-date with the latest fashion trends**



How to define style



- Sorting Managers can define styles using text and image prompts
- Styles can then be combined with other product characteristics to create fine-tuned and buyer-specific fractions
- While sorting, the reverse.engine AI system matches garments with similar styles. Garments are sorted according to rules defined by the sorting manager.

1. Create Style

2. Give it a name

3. Add images

4. Review

Puffer jackets

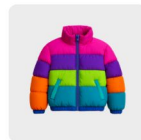
Your similarity query

Needs work



Your query needs additional matched images to yield good results.

Match these items



+ Add images

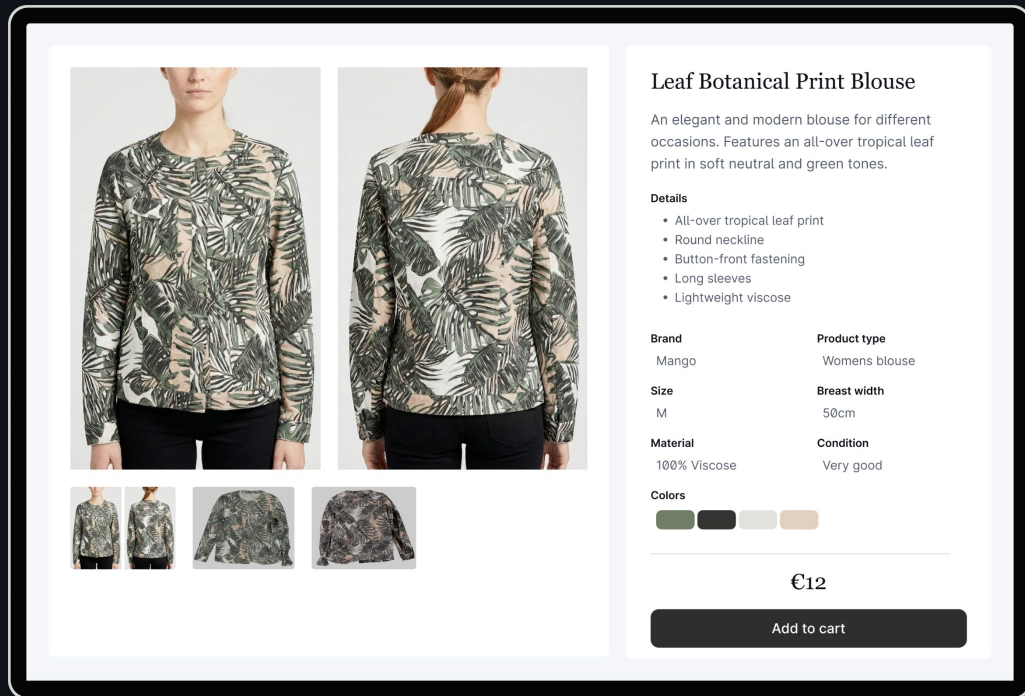
← Back

Save and define style

Digitizes garments for recommerce



Replaces 5 minutes of manual work per item: photos, measurements, and data entry



Raw Sorting Images

AI-generated

minimist

Snap & sell - turn photos into listings across multiple marketplaces

DONE IN
15 SECONDS
JUST

TITLE & DESCRIPTION

Hugo Boss Fleece 1/4 Zip Brown Pullover

This 1/4 zip pullover combines a smooth, suede outer shell in a rich chocolate brown with a cosy sherpa lining and collar

SUGGESTED PRICE

£28 - £42



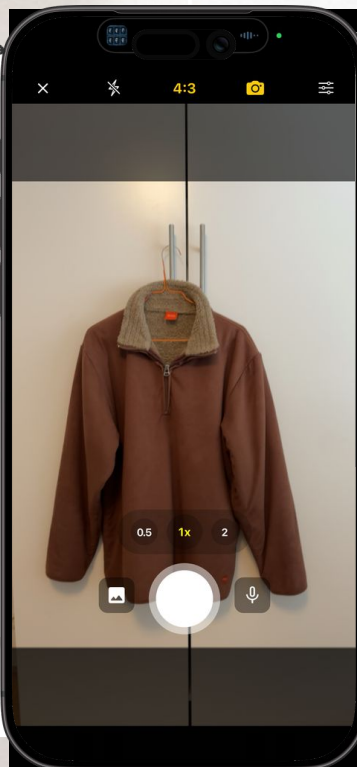
Price based on 147 similar item sales

ITEM ATTRIBUTES

Brand	Hugo Boss
Material	Suede, Wool, Shearling
Colour	Brown, Beige
Origin	Made in Vietnam
Condition	Very good

CROSSLIST TO

ebay depop Vinted



CUSTOM VIRTUAL MODEL ✨

AUTOMATED SIZING



Pit to pit
47cm

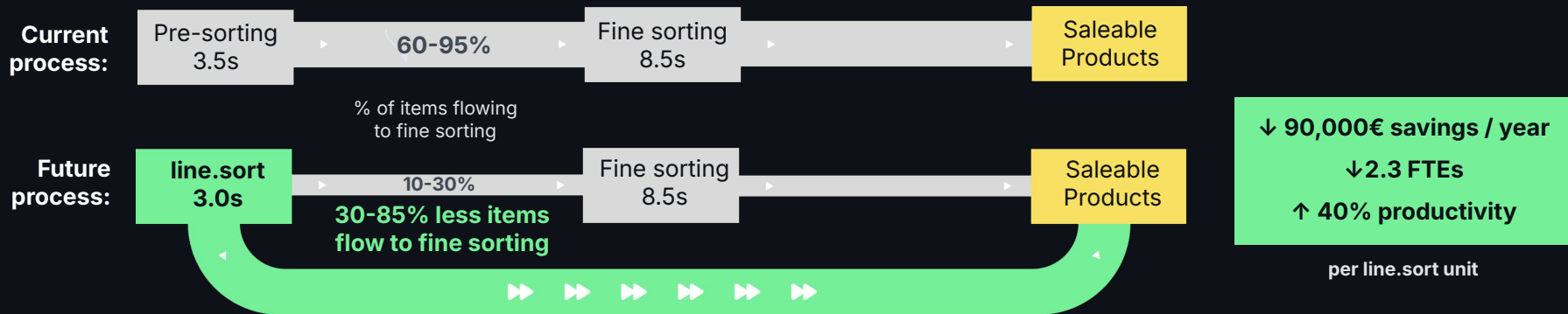
Length
95cm

Sleeves
62cm

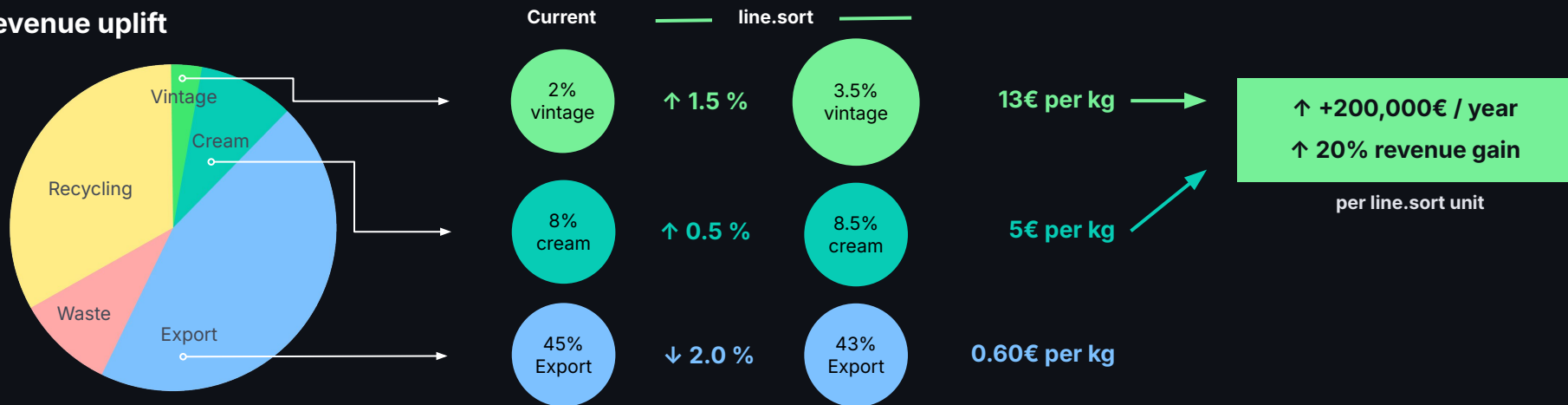
economics more value from every kilo



Cost savings



Revenue uplift



economics for mid-sized sorters



Mid-sized sorter

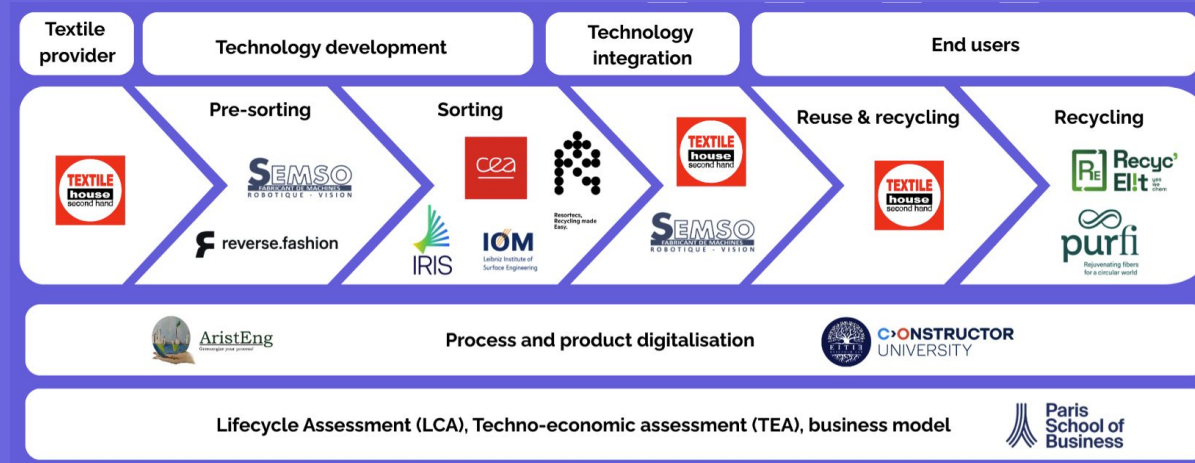
	Metrics Manual sorting	Metrics 25 line.sort units	
Capacity:	30,000 t / y	30,000 t / y	
Revenue:	€ 20M	€ 25M	+ € 5M additional revenue
Personnel costs:	€ 14M	€ 12.5M	€ 1.5M net savings
Profit:	€ 0	€ 6.5M	+ € 6.5M more profit



AI-powered sorting for post-consumer textiles

An automated scanner system captures individual garments. An AI analyzes features such as condition, product type, brand, or style and assigns the items to defined sorting categories.

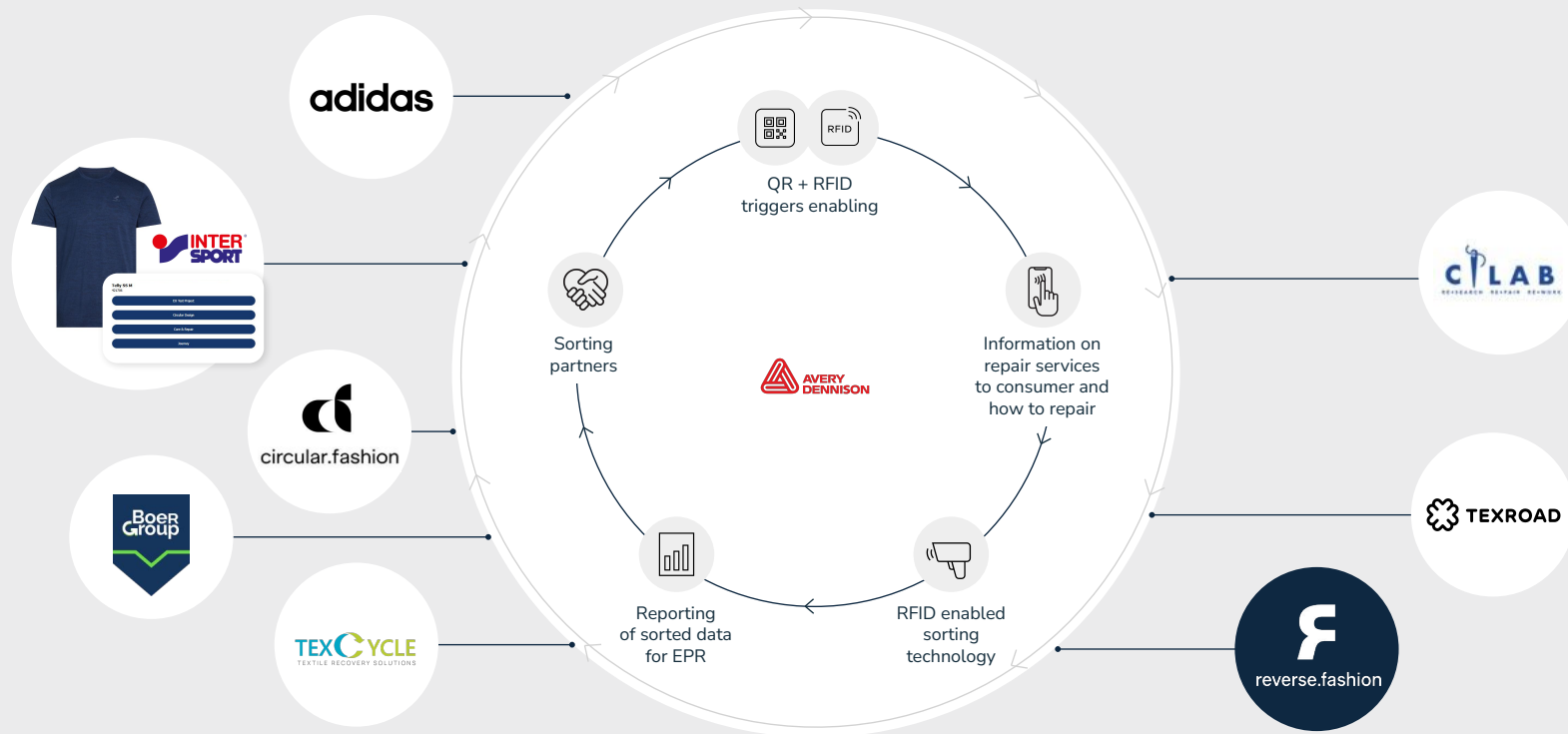
This makes the sorting process reproducible, efficient, and viable for industrial processes.
Project partners:



SORT4CIRC aims to deliver findings directly applicable for sorters and recyclers who face the dual challenge of rising textile waste and declining feedstock quality

Textile Loop Pilot

Pilot Digital Product Passport for textile sorting





Product and Management



Mario Osterwalder

general manager (co-founder)

*former co-founder of circular.fashion,
10y entrepreneurial experience*



Dr. Karsten Pufahl

CTO (co-founder)

*8y in AI & optical engineering, PhD in
physics, 5y as lead researcher*



Paul Doertenbach

sales & strategy (co-founder)

*former managing director of I:CO,
15y experience in the sorting industry*



Sophie Schmuckermeier

product owner / agile coach



Malte Althaus

business development manager

Artificial intelligence



Jan Weimer

data scientist, ML engineer, customer
integrations



Dr. Jian Han

ML engineer



Julian Schlimme

MLOps

Mechanical engineering



Dr. Marco Jagodzinski

mechanical and optical engineer

Software development



Ania Ślimak

software engineer



Luis Saturno

software engineer

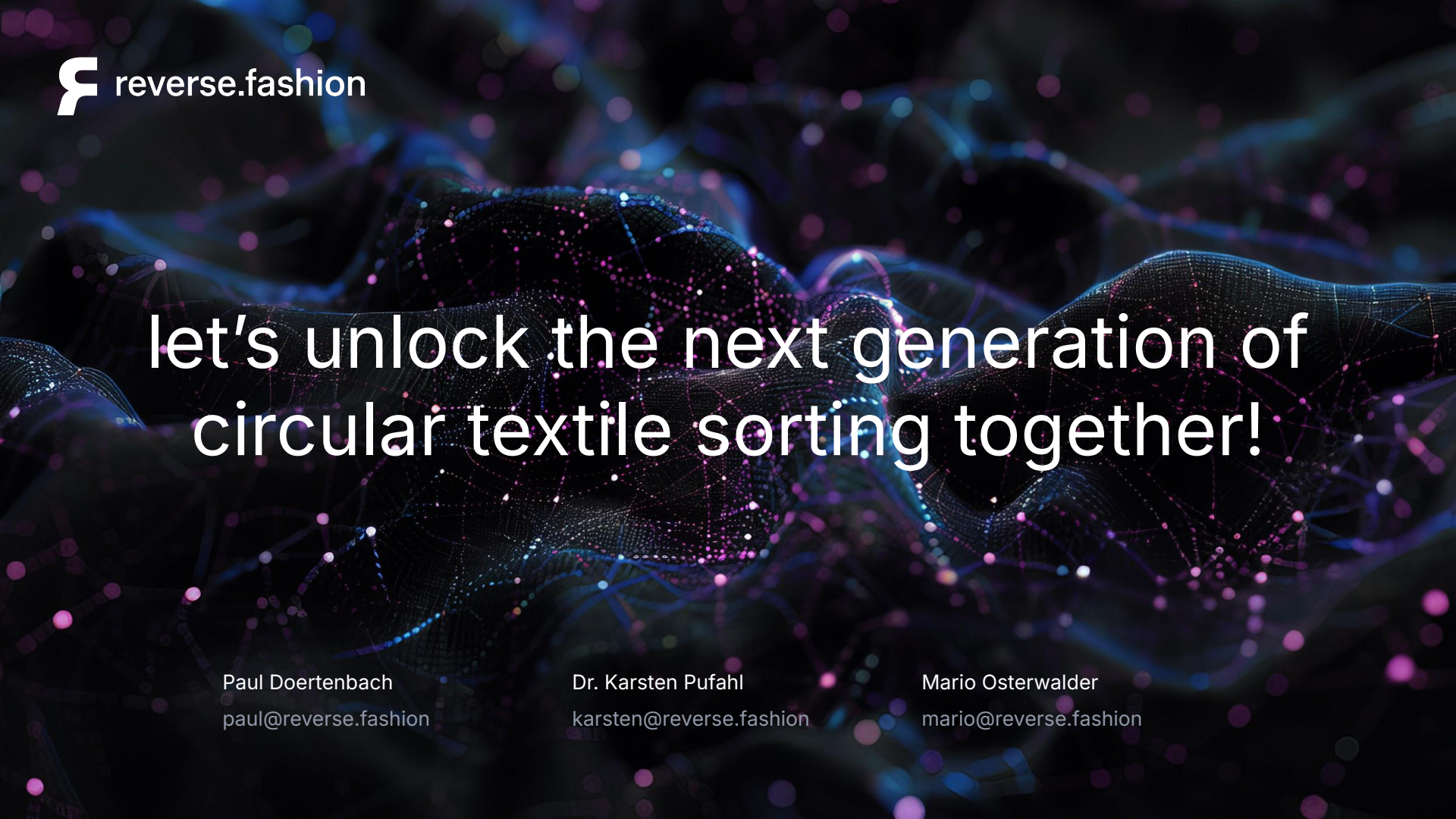


Tim Lassaie

digital product designer / UX

Why this team

- Core team aligned for 2 years with deep case understanding
- 25+ years of experience in the sorting industry
- Deep expertise in ML and engineering
- 20+ years of company-building and management experience

The background of the slide is a dark, abstract composition of glowing blue and purple particle trails and network-like structures, creating a sense of digital connectivity and movement.

let's unlock the next generation of
circular textile sorting together!

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