

# Forming a Consortium for Eureka - Call for Circular Value Creation

 [Call Information: Eureka Network Website](#)

**Federal and International-Funding**

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Machine Vision and Robotics | Automation Technology Division  
June, 2025

# About Us

## Team:

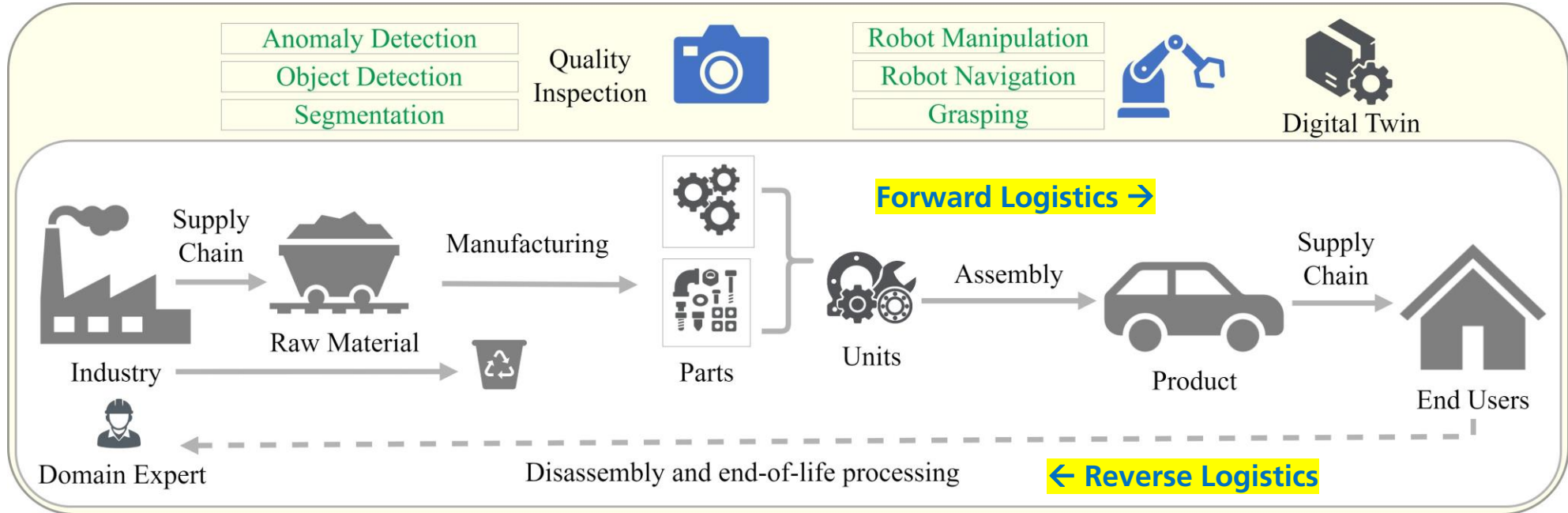
- Our team at Fraunhofer IPK consists of **interdisciplinary researchers** in AI, robotics, and industrial automation.
- We bring experience from over **20+ applied R&D projects**, combining academic rigor with real-world implementation.

## Focus:

- **AI:** Computer Vision, Multi-modal and Multi-view solutions, Continual Learning, Data-efficiency, Data collection, Management, application-centric R&D.
- **Robotics:** AI-based solutions for Production, Agriculture, Medical applications and Reverse Logistics.
- **Industrial Scenarios:** Automotive sector, Forward and Reverse Logistics, Quality Inspection, Manufacturing & Production.



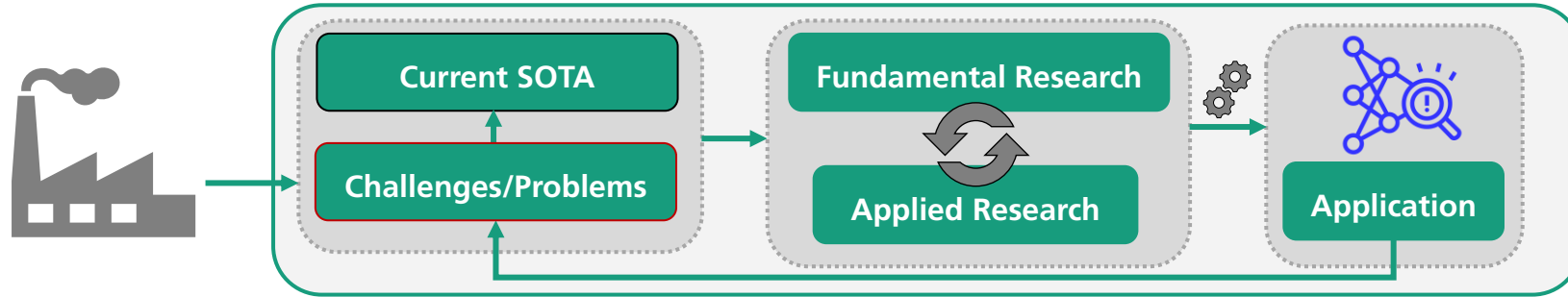
# Concept



## Problem Statement:

- Reverse logistics is labour-intensive and **poorly digitized**. Manual sorting of returned is slow and error-prone, especially in cross-border circular value chains.
- There's a lack of **intelligent systems** capable of understanding the **physical condition, functionality, and remanufacturability** of used parts and components.

# Project Idea



## Concept:

- Build a **modular, AI-driven framework** that uses Computer Vision, Robotics, and Digital Twins to **automate the identification, sorting, assessment and handling** of returned and end-of-life (EOL) industrial products.

## Expected Impact:

- Reduction **sorting/assessment labour. Increased accuracy and efficiency** in reverse logistics.
- **Efficient** and scalable approaches for **robotics-assisted** inspection, sorting, **disassembly**.
- **Vision** and **Robotics-as-a-Service** model for SMEs and OEMs.
- **Workforce upskilled** for AI-assisted remanufacturing decisions.



# Expertise and Contribution by Fraunhofer IPK

## Technical: Computer Vision, Robotics and AI

- We specialise in AI-driven solutions for circular economy challenges, building intelligent systems to analyse, refurbish, and recycle end-of-life appliances.
- Our work integrates computer vision, data-driven lifecycle management, and robotic process automation to promote sustainability and industrial innovation.
- Previous Circular Economy Projects: [EIBA](#), [KIKERP](#), [MRO-2.0](#), [EIBA-TS](#).

## Infrastructure & Hardware

- Industrial **Robots** and Cobots.
- **AI** training and deployment **infrastructure**.
- **Demonstrator** Assemblies, Testing and **experimentation setup**.



# We are looking for

## Industry Partner/s

- To apply the solutions to **real-world workflows** and validate their **scalability and impact**.
- Industries and domains that will benefit most from this research.
- **Implement** AI-driven technologies to drive effective management of products throughout their lifecycle.

## Research Partner/s

- To drive the fundamental and applied research and contribute to **open-science**.



# Contact

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Fraunhofer Institute for Production  
Systems and Design Technology IPK

## AI and Robotics-Driven Lifecycle Management for Industrial Automation



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