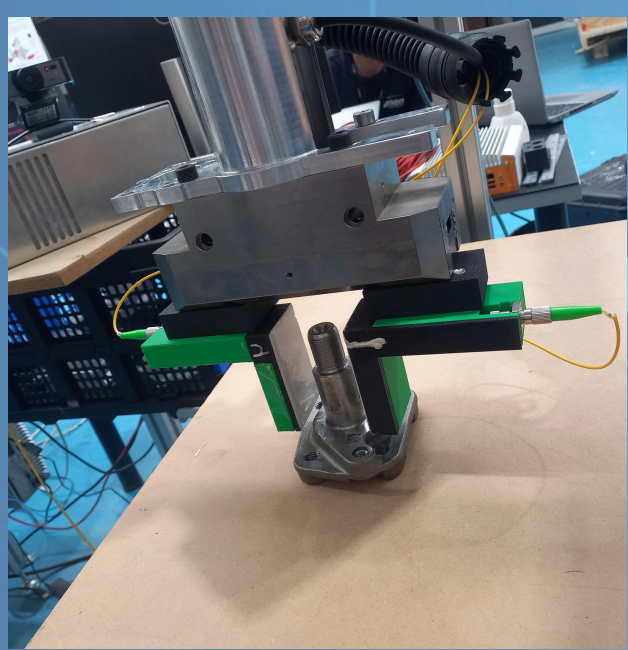


PILOTING THE FUTURE
Exploitable Innovations in Flexible,
AI-Driven Handling Systems

HARTU's KERs

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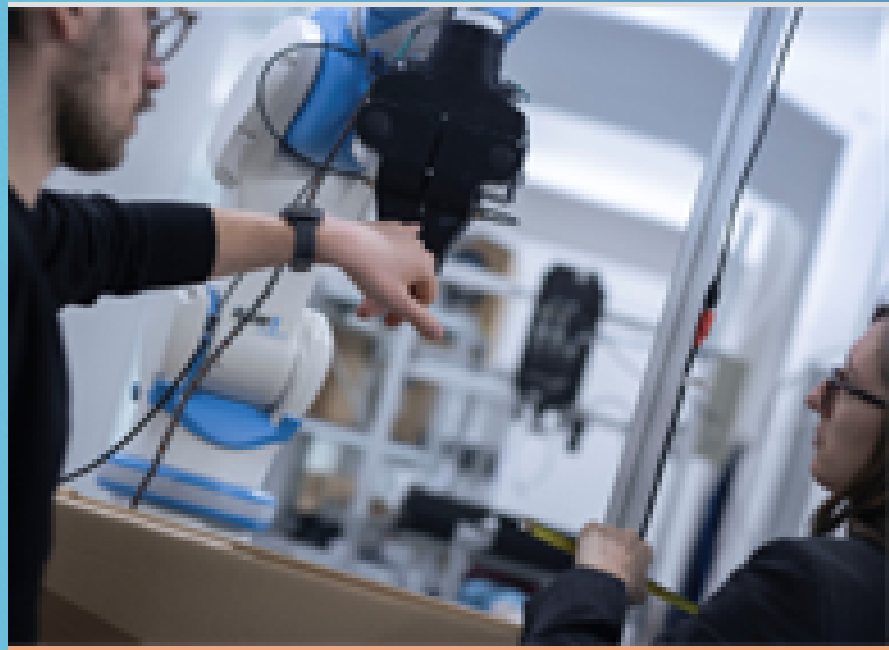
	AI-driven Robotic Vision Solutions	Innovative Gripping Technologies	Human-Centric AI-Robotics Consultancy
Partners:	TEK - AIMEN	TEK - AIMEN	TEK - AIMEN
KERs' description:	Modular Software Solution for grasping point selection with minimal human input, including segmentation, planning, pose estimation, and training. Works with multiple robots and cameras.	<ul style="list-style-type: none">FBG sensors for real-time force feedback and precision in harsh environments.Electroactive Gripper: Shape-adaptive, delicate handling for versatile production needs.	Consultancy & Training Modular package for ethical, sustainable AI/robotics adoption. Includes skills mapping, ethics, human-centric design, and human-AI interaction.
Who can use the KER:	This solution is designed for companies building flexible lines and integrators lacking robust vision tools.	<ul style="list-style-type: none">The FBG tactile sensing precision robotics solution is designed for robot manufacturers, system integrators, medical robotics developers, industrial automation companies, and consumer electronics manufacturers.The electroactive gripper is designed for manufacturers and integrators in the industrial automation, agri-food (harvesting & packaging), and pharmaceutical sectors.	This solution is designed for supporting manufacturing companies and SMEs introducing robotics and AI into their workflows.
What purposes can the KER be used for:	It supports robotic grasping through modular tools for segmentation, pose estimation, grasp planning, and dataset creation for flexible robotic vision. Hardware-agnostic, ideal for demos, deployment, and rapid prototyping.	<ul style="list-style-type: none">FBG Tactile Sensing provides real-time and high-precision force monitoring for safer handling in harsh or sensitive environments. Enhances accuracy across gripper types.Electroactive Gripper enables energy-efficient and adaptable grasping for soft or rigid items in hygiene-sensitive sectors. Plug-and-play ready.	Consultancy toolkit to support ethical, human-centric robotics adoption. Helps address skills gaps, compliance, and workforce alignment through assessments and tailored training.
Value proposition:	It reduces integration effort with modular, hardware-independent tools. Enables faster setup, easier customisation, and accessible automation for SMEs.	<ul style="list-style-type: none">FBG Sensors: Durable, EMI-immune tactile sensing for precision and safety in robotics. Improves manipulation and interaction reliability.Electroactive Gripper: Compact, low-energy, silent solution with swappable fingertips for versatile object handling.	It guides companies through ethical, legal, and workforce challenges. Builds trust and compliance with tailored reskilling and design support.



MASTERLY's KERs

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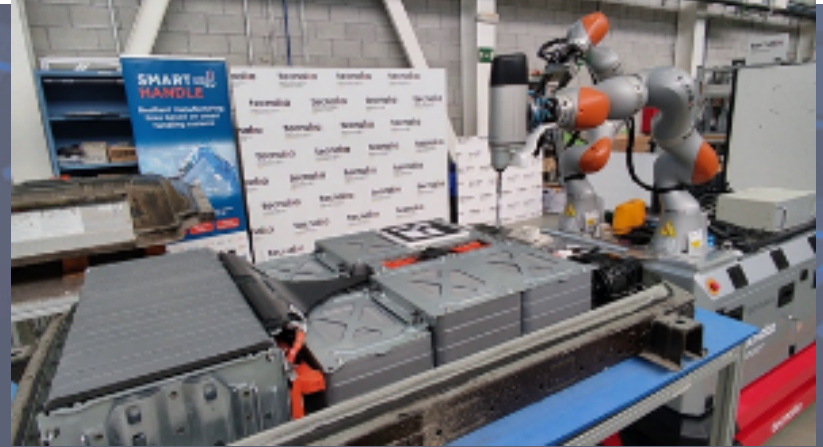
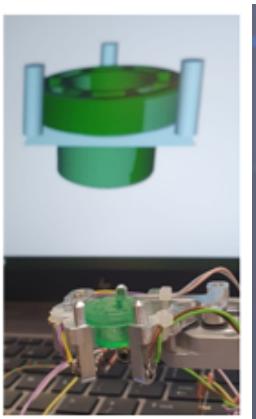
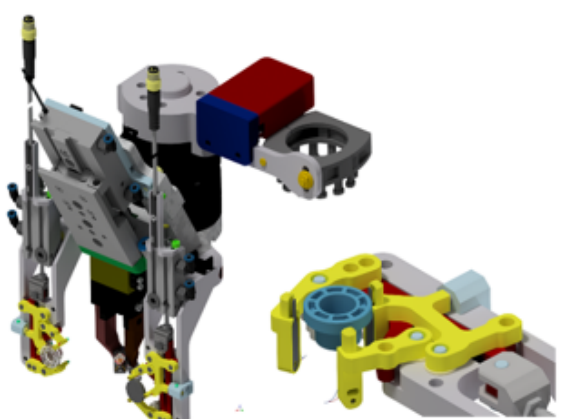
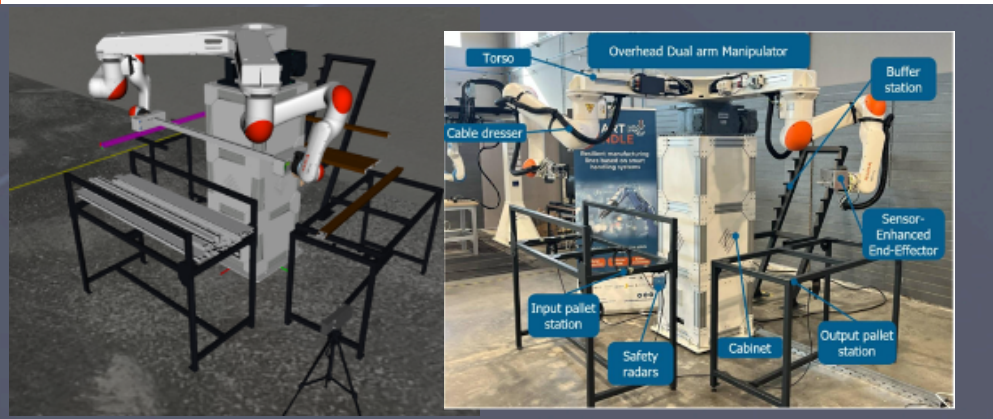
	Robotic cell for flexible material handling	Robotic mobile system for electrical cabinet assembly	Smart crane system for large material handling
Partners:	DEC, STAM, CASP, IIT, COMAU, LMS, UNIKIEV, RWTH	KLEEMANN, LMS, TF-CC, CASP, COMAU, UNIKIEV, RWTH	AER, TEK, CASP, LMS, UNIKIEV
KERs' description:	Robotic cell with flexible grippers and vision system for bin picking across a wide variety of products.	Robotic mobile system for electrical cabinet assembly with adaptive gripper, AR interfaces, and CAD-integrated vision.	Automatic crane system for part handling with swing reduction, 3D perception, and safe human-machine interaction.
Who can use the KER:	Medium to large retail enterprises, focusing on logistics, operations, and automation management.	Large industrial manufacturers in lifting and electronics, with diverse operator profiles and a strong drive for digital transformation.	Aeronautics enterprises, where crane operators work in aging assembly lines still dependent on manual processes.
What purposes can the KER be used for:	It combines advanced vision with a versatile gripper to handle diverse items autonomously, ensuring fast and accurate material handling without frequent reconfiguration.	It automates repetitive tasks, streamlines assembly and intralogistics, and enables flexible handling of diverse parts—boosting overall efficiency.	It combines automatic overhead crane operation with anti-swing and anticollision systems to safely and efficiently handle large parts.
Value proposition:	Its flexible bin picking capability eliminates manual setup, with a modular design that integrates seamlessly into workflows and collaborates safely with humans—boosting productivity without replacing operators.	Its combination of AI-driven handling and modular design for automatic reconfiguration, robust manipulation, and quality control - enhancing conditions, productivity, and product quality while enabling continuous improvement.	Its advanced crane automation reduces swing, prevents collisions, and protects parts—ensuring safer, more efficient, and more reliable operations.



SMARTHANDLE's KERs

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	Pilot robotic cell for variform large part packaging	Pilot cell for robotic-assisted manufacturing of delicate and deformable parts	Pilot cell for Battery Recycling
Partner(s):	TF-CC, LMS, ALUMIL	DEMCON, MENICON, STT	TECNALIA, ABEE
KER's description:	The system uses an overhead dual-arm robot with AI-driven control, perception, and advanced handling. It features object detection, digital-twin simulation, and optimized pallet loading to automate packaging of heavy, large, multi-variant aluminum profiles.	The solution automates handling of small, delicate, deformable parts with advanced perception, precise manipulation, and integrated production control. Real-time digital twins, intelligent scheduling, and process monitoring enhance efficiency and responsiveness.	The solution automates the identification and removal of battery cover and module fixings, enabling safe disassembly, minimizing electrical hazards, and ensuring components are separated for reuse or eco-friendly disposal.
Who can use the KER:	Industrial end-users handling large, variably shaped parts, and sectors requiring automated handling and packaging of heavy components with complex geometries.	Companies working in the assembly/manufacturing industry handling similar sized products	Companies working in the area of disassembly / reuse / recycling of discarded batteries (and similar products, such as electronic / electric products)
What purposes can the KER be used for:	The solution can be applied to automated production lines needing advanced decision-making for tasks like stacking irregular packages, intelligent grasping, and object recognition. It reduces reliance on skilled personnel and manual lifting, enabling automated, error-free handling and packaging of complex objects.	The solution's automated handling of small deformable parts can be applied across assembly and manufacturing, bridging ERP systems with shopfloor automation. It optimizes machine-tending and logistics while ensuring precise quality control.	Since the solution offers automated ways to locate, identify specific fixing items (screws, cables), it can be applied to similar applications in the assembly / disassembly sectors (manufacturing, fixing of discarded products which can be sold in the second hand market, separation of components to obtain raw materials, etc)
Value proposition:	Automated, flexible handling and packaging for large, complex metal parts enhances productivity, ergonomics, and quality while reducing errors and operator workload. It supports multi-variant components, physics-informed packaging of irregular objects, and advanced grasping and perception.	Automated handling concepts for handling small delicate and or deformable parts contributing to a seamless bridge between ERP systems and shop floor automation.	Automated location and identification of fixing elements and battery components, in a hazardous environment involving electrical risks and handling of heavy parts. Additionally, the lack of uniformity of batteries configuration and inner components poses new challenges to the robotization of the entire process.



AGILEHAND's KERs

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	Smart Sensing Suite	Self-Adaptive Handling, Sorting and Packaging Suite	Agile, Flexible and Rapid Reconfigurable Suite
Partner(s):	UNINOVA, FBK	TAU, UPV	FRAUNHOFER, UPV, UNIVPM
KERs' description:	The suite automates product grading through advanced sensing and data analysis, it ensures precise, objective, and consistent classification of delicate food items. This innovation boosts throughput, reduces human error, and helps companies meet the highest standards of quality and compliance.	The suite automates delicate handling tasks, it enhances product quality, reduces human risk, and increases operational speed and consistency. Seamlessly integrating with existing production lines, it delivers a safer, smarter, and more efficient path to scalable manufacturing.	The suite enhances efficiency, flexibility, and adaptability to evolving demands through digitalisation and real-time optimisation of production flows. This integrated solution enables rapid reconfiguration, continuous optimisation, and resilient performance in smart manufacturing.
Who can use the KER:	Food producers, Packaging companies; Lead-User: Product Manufacturers, Machinery Producers.	Producers of Soft and Deformable goods; Lead-User: Manufacturing Industries, Machinery Producers	Fast-Changing Manufacturing Industries (food, textile, etc.); Lead-User: Machinery Producers, Manufacturing Industry
What purposes can the KER be used for:	Complex manual processes, with very isolated solutions (which are not automated and not digitised) will be optimised through an integral smart sensing suite, to increase production, quality, and product traceability.	A comprehensive manufacturing solution, offering integration, automation, interoperability and control throughout the entire process.	A flexible, agile and reconfigurable solution for complex production lines, with the possibility of quick reaction to changes in demand, and resourceefficient
Value proposition:	An integrated smart sensing suite that digitizes and automates complex manual processes, improving production efficiency, quality consistency, and full product traceability across delicate-object handling and inspection.	A comprehensive and intelligent manufacturing solution that brings together adaptive robotics, self-learning transport systems, and cross-connected automation platforms. It enables end-to-end integration, flexibility, and control across the entire production process, particularly for soft, deformable, and delicate goods	Combining digital traceability, real-time synchronization, and intelligent optimization tools. It provides a fully reconfigurable production ecosystem that can rapidly adapt to changes in demand, product mix, or process conditions ensuring maximum efficiency, resilience, and competitiveness.

