

# Robotic EV Battery Disassembly



FIND OUT MORE



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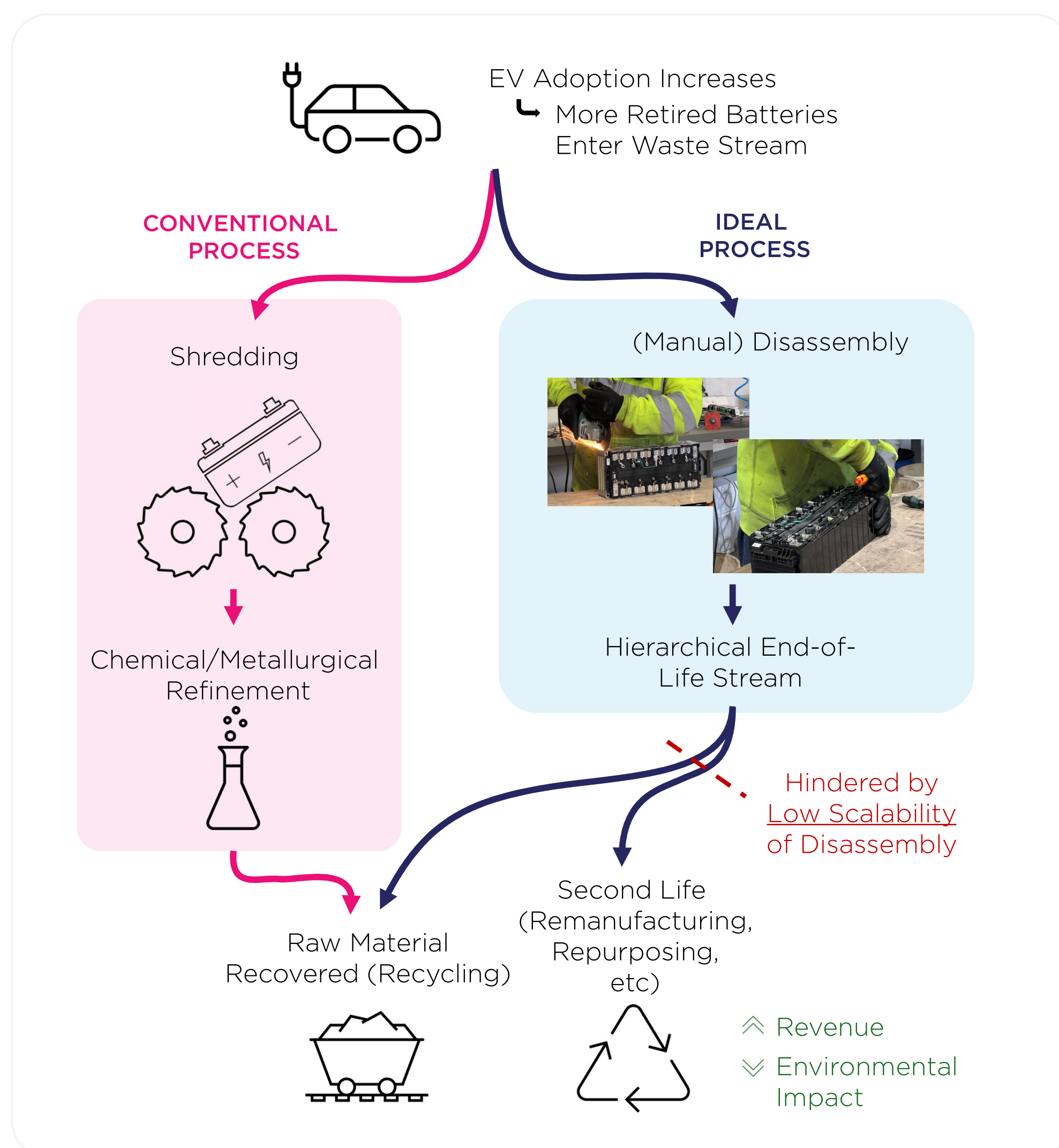
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## » THE CHALLENGE

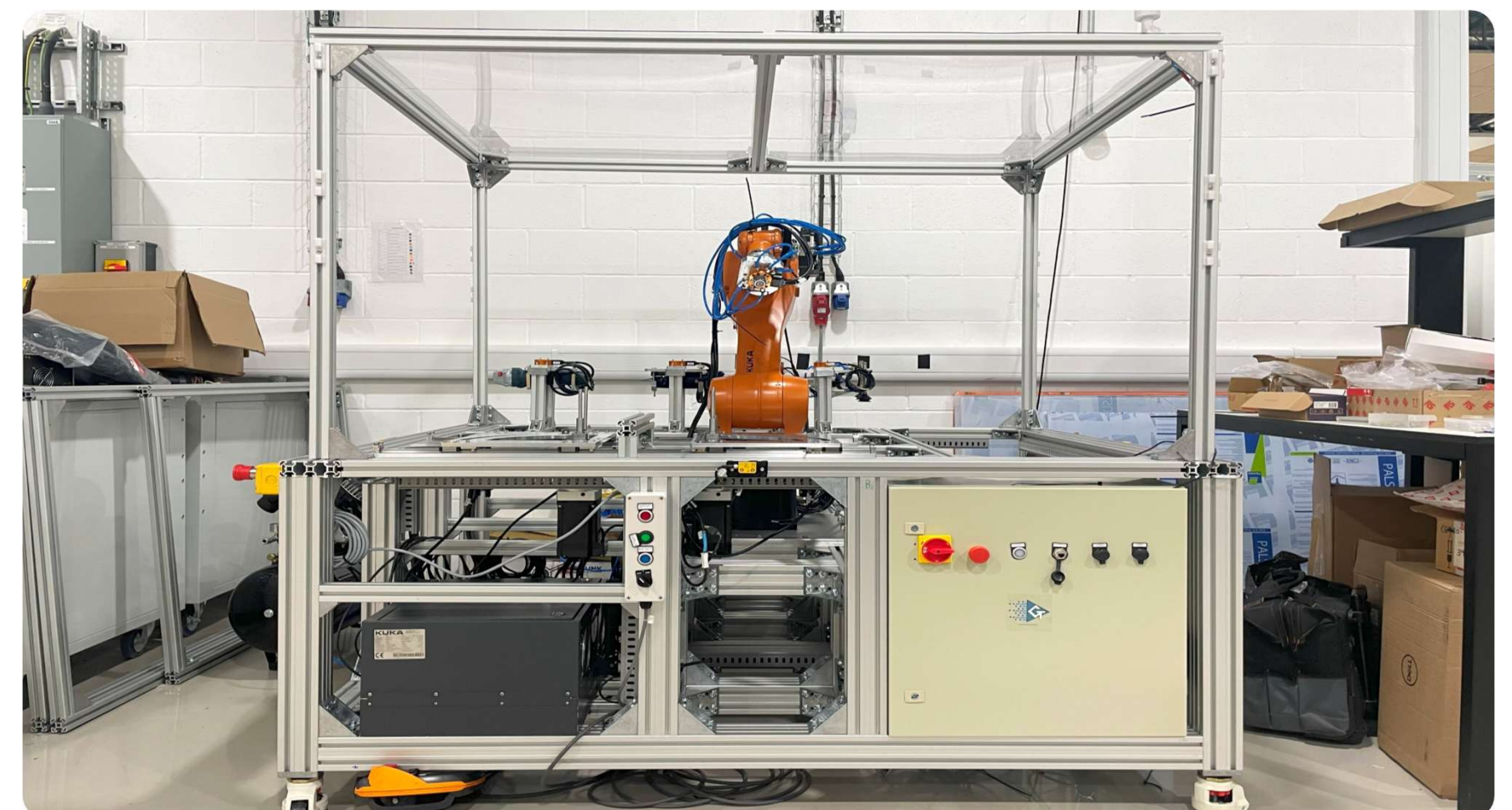
The rapid growth of EVs is creating a surge in end-of-life batteries, presenting both environmental challenges and growing stockpiles requiring safe processing. Current battery recycling methods rely primarily on shredding and chemical/metallurgical treatment, which are cost-effective and scalable. However, these processes destroy functional cells and modules that could be reused, remanufactured, or repurposed, while requiring significant energy input to recover materials. Although remanufacturing and second-life applications offer opportunities to generate additional value and reduce environmental impact, they depend on manual battery disassembly, which is hazardous, labour-intensive, costly, and difficult to scale. As a result, many circular and economically beneficial pathways remain inaccessible, creating a need for automated robotic disassembly solutions.

## » OUR SOLUTION

We develop a robotic hardware platform for end-of-life EV battery disassembly, equipped with a library of versatile manipulation skills for tasks such as unfastening, cutting, lifting, and module extraction. The system enables safe, adaptive, and selective disassembly across diverse battery designs and conditions, supporting the recovery of reusable cells and modules for remanufacture and repurposing. By replacing manual disassembly with scalable robotic operations, it improves safety, reduces cost, and increases throughput, unlocking economically viable circular economy pathways in battery recycling.



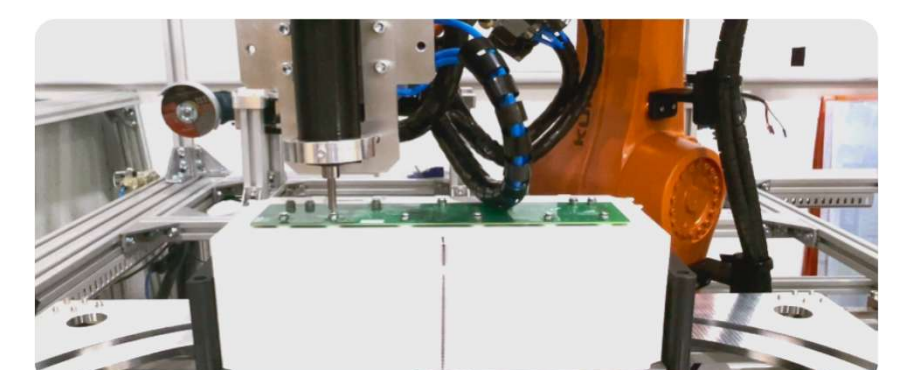
Robotic Disassembly Platform + Versatile Robotic Skills



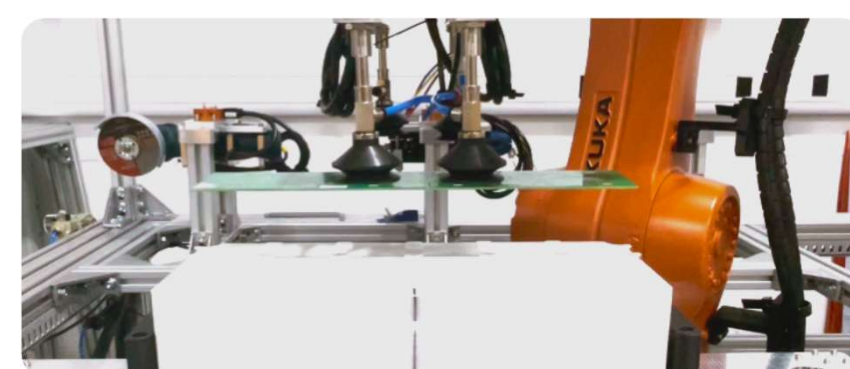
Cutting Skill



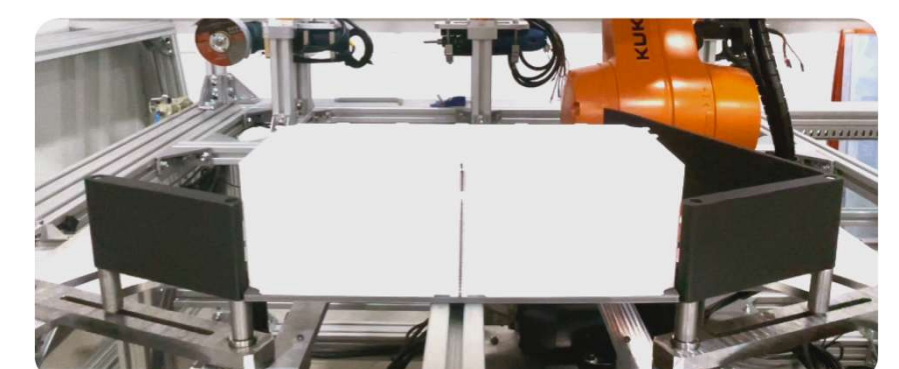
Unscrewing Skill



Pick and Place Skill



Case Opening



## KEY PRODUCT INFORMATION

- **Robotic Platform:** Purpose-built system for safe handling and manipulation of end-of-life EV batteries under variable conditions.
- **Skill library:** Reusable modular disassembly skills (e.g., unfastening, cutting, extraction) transferable across different battery designs and other product types, enabling adaptable and scalable teardown.

## ECONOMIC & SOCIAL IMPACT

- **Economic:** Throughput improved 5.5X compared to manual disassembly process, over £15,000 expected monthly operational cost savings, 1.33-year payback period, enabling scalability.
- **Social:** Improves operator safety by removing humans from hazardous manual battery disassembly while reducing waste and energy-intensive refinement processing.