

Smart Disassembly for a Sustainable Future: Insights from APRA's Working Group "Automation in Disassembly"





Why Automation? – Key Drivers and Challenges

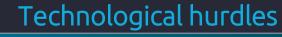
Regulatory pressure

Global challenge

The need for a circular economy and sustainable production is growing rapidly - at the same time, manual disassembly is expensive and involves risks (e.g. pollutant discharge)

Current key challenges

Stricter environmental regulations and manufacturer responsibility (e.g. EU Green Deal, Right to Repair) call for better solutions



Existing automation systems are often not flexible enough for disassembly of complex and varying products



The industry urgently needs <u>scalable</u>, <u>intelligent</u> and <u>cost-efficient</u> automation solutions for disassembly – and this is precisely where <u>our Working Group</u> comes in!



Goals & Approach of the Working Group

Our Goals:

- Promote interdisciplinary collaboration between industry and research
- Drive the development of next-generation automation for disassembly
- Enable efficient, safe, and economically viable disassembly processes





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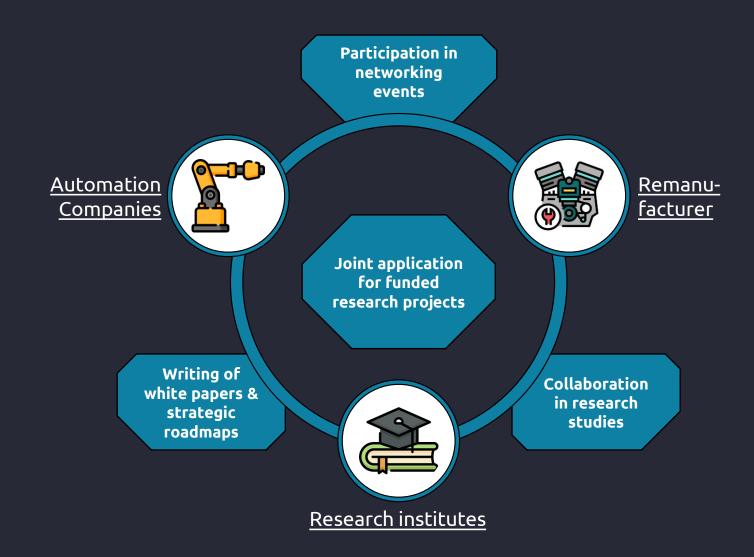
Our Approach:

- Al & computer vision: Intelligent recognition and classification of components
- Innovative disassembly concepts:
 Using robotic and semi-automated systems
- Modular & flexible solutions:: Adaptive gripping and robotic technologies to handle various product types
- Cross-industry cooperation: with industry leaders, researchers, and technology providers





Structure & Acitvities of the Working Group







Partners & Participants of the Working Group

Organization





Remanufacturing



Research



Automation







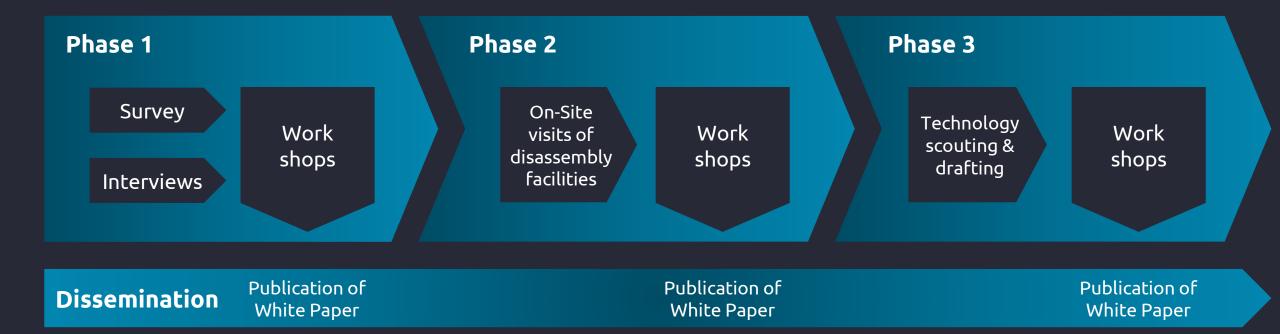
Strategic Approach of the Working Group







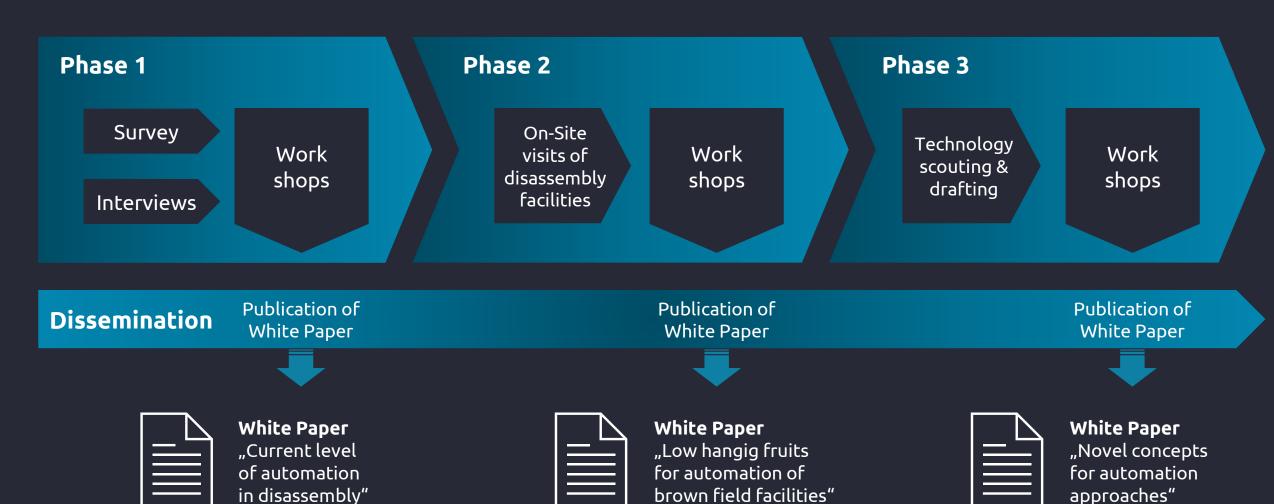
Strategic Approach of the Working Group







Strategic Approach of the Working Group



"Low hangig fruits

for automation of

brown field facilities"

"Current level

of automation

in disassembly"

"Novel concepts

for automation

approaches"



Join us! – Together we can make a Change

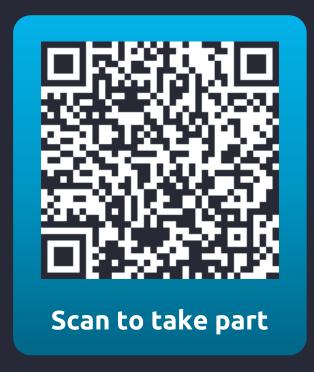






Join us! – Together we can make a Change

"If you are dealing with the challenges of disassembly or have innovative technologies for this area - let's work together!"



- Join our Working Group and connect with like-minded experts
- Take our survey contribute your perspective and help optimize remanufacturing
- Support our initiative by participating in expert interviews





Thank you for your Attention!



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