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From modular design to manufacturing





Modularity, what's in it for me?



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Modular product consists of independent, standardized modules that can be flexibly combined, swapped, and upgraded without replacing the whole product.

Key benefits:

- More variety at lower cost
- Faster delivery times
- Lower design risk & costs
- Easier inventory & scaling
- Simple maintenance & upgrades
- Circular & sustainable

Creating
Value



Preserving
Value

Modularity is more than engineering,
It's about:

Types of modularity



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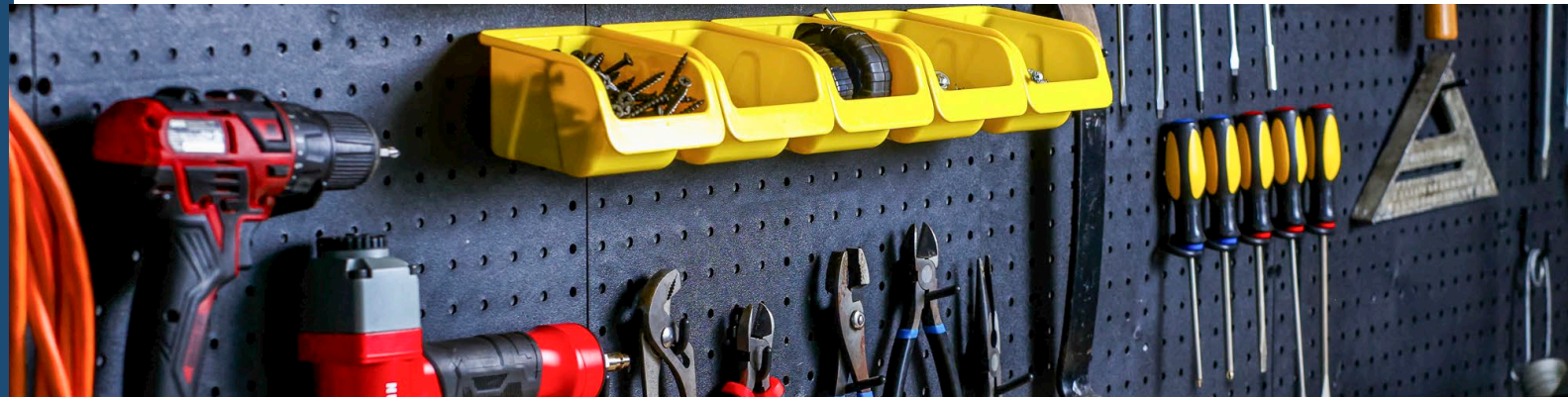


1. **Free Modularity** (*Like Lego*)

Modules connect directly to each other without a central frame. Unlimited combinations.

2. **Platform-based Modularity** (*Like Pegboard*)

Modules attach to a shared backbone. Can be either our own platform or a 3rd-party platform.





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Examples



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What if I need to
take this down?



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Betonipalikka®

Free modularity



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What if the engine breaks?



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Vancubic

Platform based
modularity



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How to do overnight trips?



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Desing for ~~assembly~~ disassembly



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To preserve value

Favor mechanical joints:

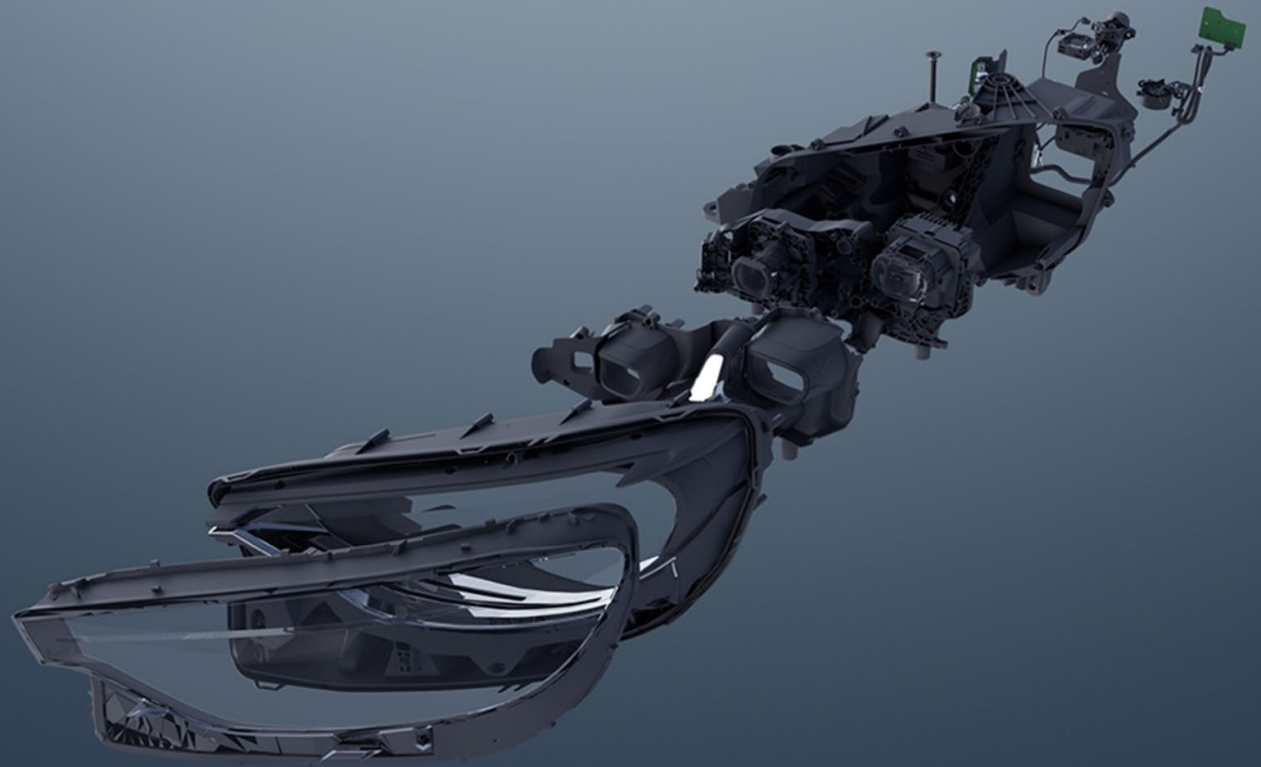
- Standard screws & inserts
- Snap-fit or threaded connections
- Quick-release latches
- Pins, pegs & cotters

Avoid:

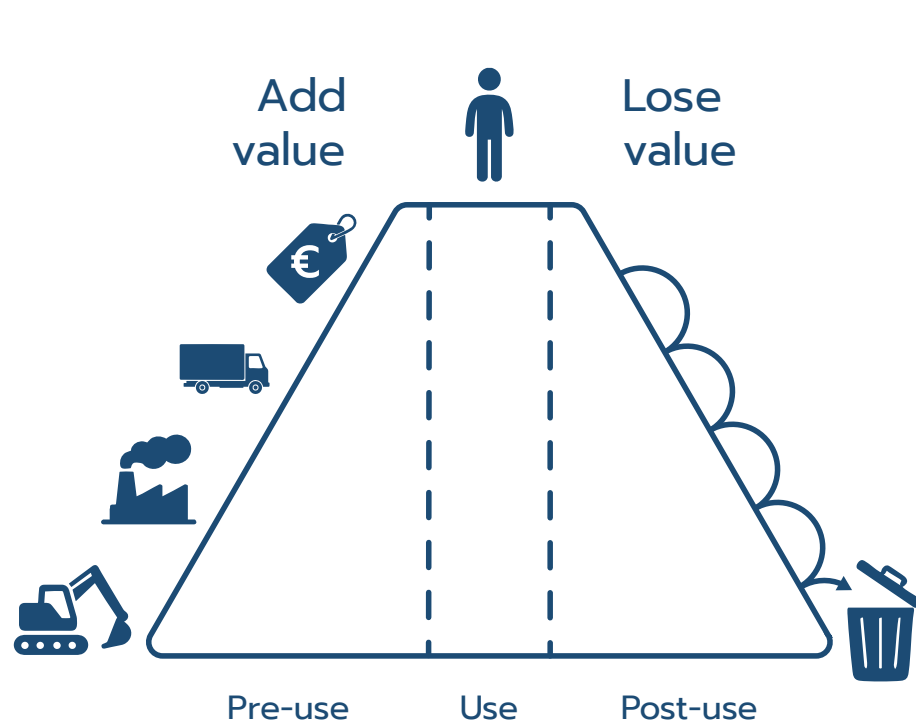
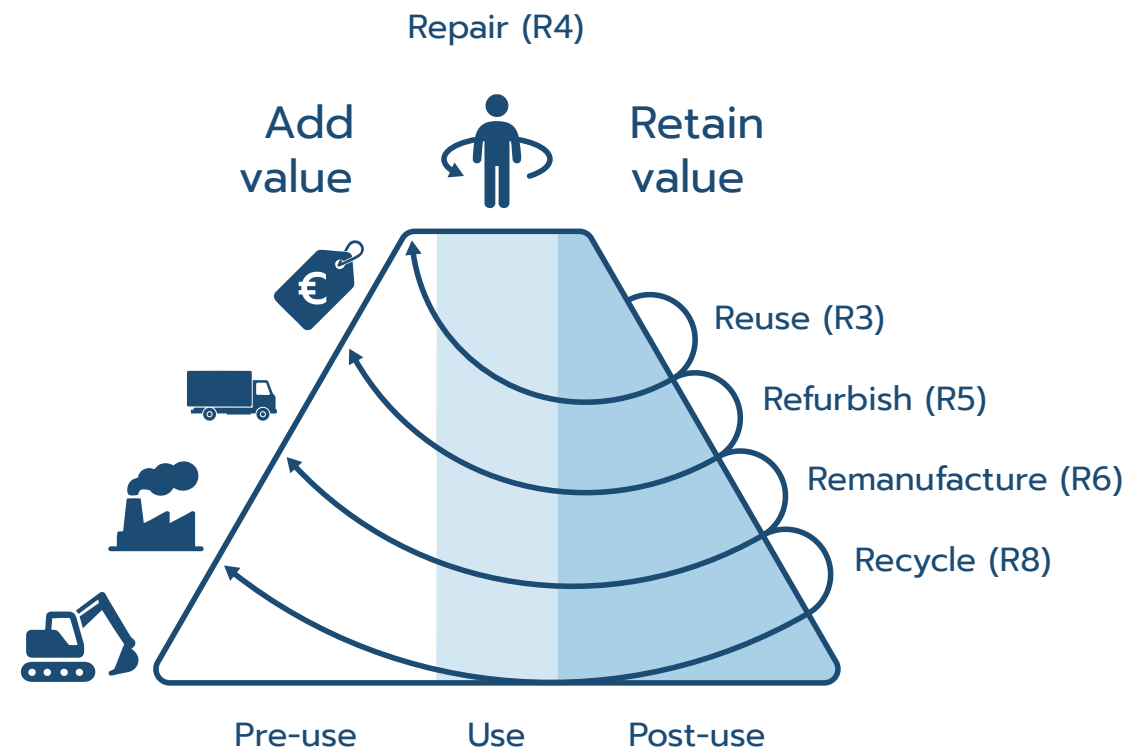
Adhesives, welding, rivets, and mixed/hidden screw heads



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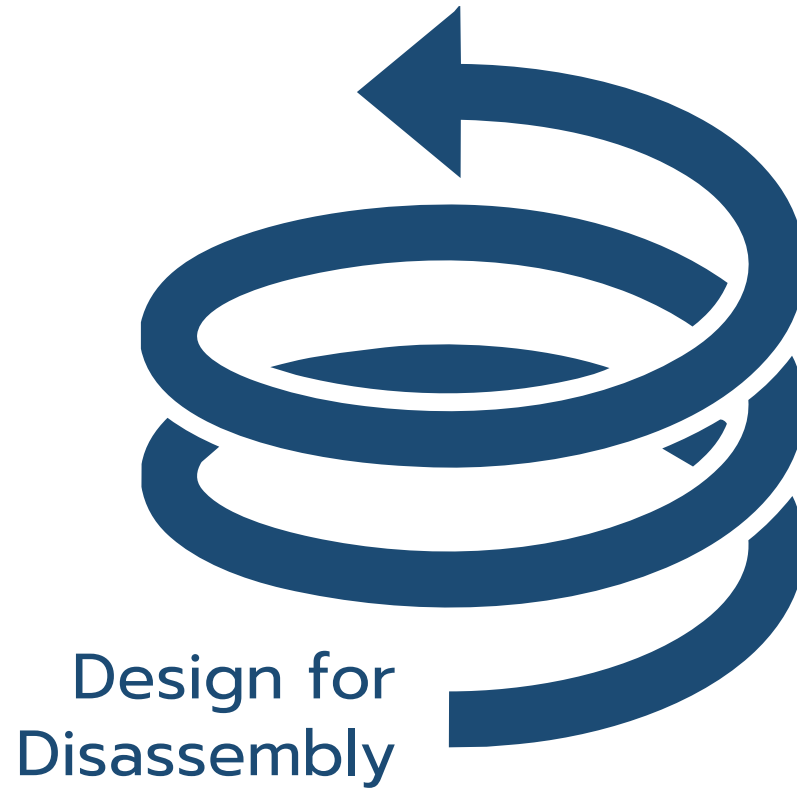


Designing products that close the loop



With modular products:

Creating
Value



Preserving
Value



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Sustainable modular production
environment



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Project duration:	1.4.2025 - 31.6.2027
Main executor:	VAMK
Project partners:	Centria, Novia
Target group:	Micro- mini- and medium size enterprises
Project goal:	Improving competitiveness through circular economy
Total budget:	473 277 €
Funding:	Co-funded by the European Union (EAKR) Regional Council of Ostrobothnia



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Kiitos!

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centria

YRKESHÖGSKOLAN
NOVIA