Becoming more circular and profitable
– 5 Steps to initiate remanufacturing

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Why remanufacturing?

Remanufacturing is a process that reintroduces used, disposed, or broken products back into an industrial production flow with the aim of restoring them to their original condition. Through this approach, the embedded material and energy value is preserved for the next product life cycle.

This has a range of economic and environmental benefits compared to both new manufacturing and recycling, as fewer resources and less energy input are required to produce products that meet customers' high demands for performance and quality. Additionally, remanufacturing opens further opportunities to close the resource loop for manufacturing companies by contributing both economic and environmental initiatives to take back products.

How can we support companies in initiating remanufacturing?

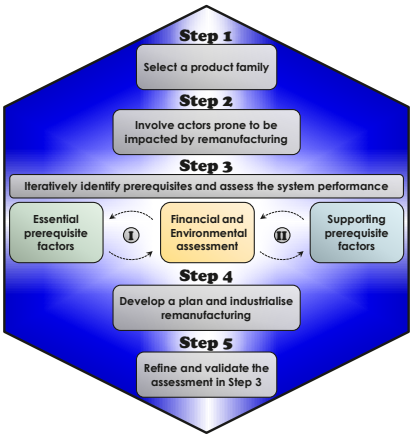
For manufacturing companies, it is often difficult to shift focus from producing only new products to also producing remanufactured ones, as there are many steps that are not usually handled. In our research, we have looked at the challenges associated with this and based on that, created a framework that guides how manufacturing companies can explore their opportunities to initiate remanufacturing.

The framework provides a direction for how initiations can be done in a systematic way by gradually building up an understanding of how a remanufacturing system can be designed and how its economic and environmental performance can be assessed.

5-step Approach for Initiating Remanufacturing – 5AFIR

The framework developed through collaborations with companies is based on five initiation steps:

1. Select a product family
2. Involve actors prone to be impacted by remanufacturing
3. Iteratively identify prerequisites and assess the system performance
4. Develop a plan and industrialise remanufacturing
5. Refine and validate the assessment in Step 3.



What we can offer

Research on remanufacturing and a circular economy is highly relevant today, and at Linköping University, we have extensive knowledge in this area. Through collaborations with us, we can contribute the expertise needed to scientifically initiate new industrial processes that are both good for the environment and finances.

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