

Design feedback is key for successful remanufacturing!

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To achieve an effective remanufacturing process, product information should preferably be accessible for the remanufacturing personnel, and the products should be adapted for the remanufacturing process.

Communication between design and remanufacturing has the potential to lead to products that are more remanufacturable and a more efficient design process. Therefore, we propose a framework directed at OEMs that include both design and remanufacturing in their operations and specifically supports the integration of information from remanufacturing into the design process to better adapt products for remanufacturing. With products designed for remanufacturing, the long-term goal is to improve the effectiveness and efficiency in the remanufacturing process.



Figure 1: Design improvements of a soil compactor over the years to better fit the circular activities of product as a service, repairs and re-manufacturing.

Figure 1 illustrates how a soil compactor design have been improved over the years to be adapted for its circular use e.g. the activities of Product as a Service (PaaS) combined with product repairs and remanufacturing.

A strategic OEM solution to meet the above issue is to follow the Remanufacturing Information Feedback Framework (RIFF) to outline and practically implement feedback from remanufacturing to design. The RIFF is based on back casting principles and consists of four steps (as illustrated in Figure 2).

Firstly, the current situation is assessed in Step 1, and thereafter the future vision is outlined in Step 2. Step 3 provides actions for the stepwise implementation of feedback from remanufacturing to design. The final step is an evaluation of the effects of the implemented actions and the effect that they have regarding DfRem. Further, Step 4 is also a checkpoint evaluating if the plan created in Step 3 needs revising or not. After that, the method steps are repeated until the vision is fulfilled.

Please read our research papers about the RIFF method (links below) and contact us for information and collaboration.

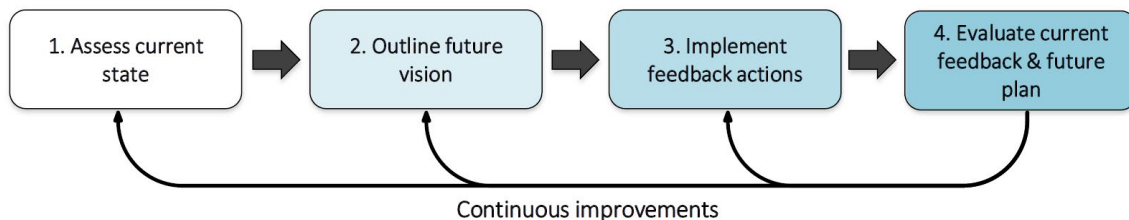


Figure 2: The overall structure of the Remanufacturing Information Feedback Framework that supports the implementation of feedback from remanufacturing to product design by four successive steps that also encourage continuous improvements.