



## Case Study:

# Liebherr-Ettlingen GmbH

The Liebherr Ettlingen GmbH as part of the Liebherr Group is specialized in remanufacturing of drive components from Liebherr products.

## Company and Business Model

The Liebherr Group is an OEM for among other products, excavators, wheel loaders and cranes for construction and mining industries. The Location in Ettlingen, called Liebherr Ettlingen GmbH, is specialized predominantly in remanufacturing of Liebherr drive components like diesel engines, hydraulic pumps and gear boxes.

Liebherr designed the business model for remanufacturing in the spirit of the circular economy. If one of the above mentioned parts is damaged, the customer contacts his nearby Liebherr contract service center. Here, the customer has four options – to buy a new component, to repair the old one, to exchange to an other remanufactured one or he can release an overhaul order for his own used component. In case of a component exchange, Liebherr offers a credit for the old part.



This business model keeps the market closed for independent remanufacturing companies and additionally, Liebherr has all the newly produced components and cores for the remanufacturing process under control.

## Products

The products in the remanufacturing process have very different sizes, geometries, weights and degrees of contamination. They range from small hydraulic components to large V12 diesel engines.

## Remanufacturing Process

Following the remanufacturing process for a diesel engine exchange component is described:

The process starts with the disassembly and the subsequent stream jet. Afterwards, a pre-cleaning, the chemical paint stripping and rust removal is arranged. The next step is the mechanical cleaning of surfaces which are analyzed to quantify the degree of wear. After that, the components are ready to be analyzed and to identify the worn parts. After quantifying the scope of the remanufacturing work and defining the tasks, the mechanical cleaning of the whole components begins.

The last steps in this process are the final cleaning and the painting with rust preventives. After that, the single parts are stored.

If a customer orders a “new” remanufactured engine, Liebherr starts to reassemble the order from the stored parts. In this way, the stored components are mixed to a new engine because they all have the same parameters and quality.



## Unique Characteristic

The characteristic of the Liebherr remanufacturing process is the high variance of products. The high degree of capacity utilization of all processes guarantees the profit, while additionally they can adjust their remanufacturing processes optimal to each product group. The circular economy with no connecting points for independent remanufacturing companies is an advantageous strategy for Liebherr, making sure they always have enough cores.

### Contact Liebherr-Ettlingen GmbH



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