

Company: Hitachi Construction Machinery Europe (HCME)
Location: Amsterdam, The Netherlands
Type: OEM/OER
In reman: Since 2009
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Product

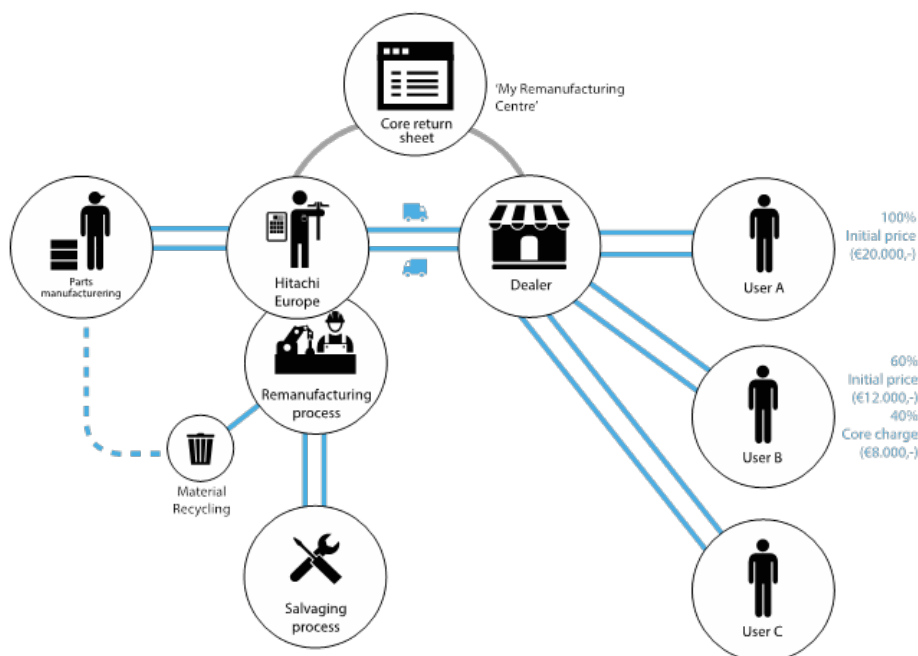
Hydraulic main pumps of construction machines

Core Sourcing

Cores are sourced via the dealers who sell Hitachi machinery to customers in Europe. HCME uses a core charge at the time of sale of a remanufactured component, to make sure the core is returned.

Business Model

HCME’s remanufacturing business model is based on the knowledge and craftsmanship of its employees, the economic and environmental advantage of remanufacturing cores, and the availability of used cores. This case focuses on hydraulic main pumps of construction machinery. The performance of a hydraulic main pump decreases after a certain amount of severe usages, while also failures may occur. HCME has decided to offer their customer the option of replacing their pump with a remanufactured one and take back the used core. To facilitate core returns, the return transportation from a dealer location anywhere in Europe to the Netherlands comes at no additional charge. HCME has developed



dedicated online systems that keep track of the sold machines and components via dealers. The ‘My Remanufacturing Centre’ system is used to keep control over the inflow and outflow of cores, while also the return transportation can be booked here. Hitachi dealers collect cores and send them to the Netherlands, where employees are trained to assess the conditions of (used) main pump. The remanufacturing process of a main pump starts with the disassembly of the core. A main pump consists for 15% of critical components, like bearings that are exposed to wear. To guarantee an ‘as good as new’ main pump these components are replaced at all time. The remaining 85% components are cleaned and assessed on specifications, determined by the engineering department at the head office in Japan. This assessment is a critical step in the remanufacturing process, since inner parts in remanufactured components should have the same specifications as inner parts in new components. Inner parts that meet these standards can be reused; inner parts that do not meet the specifications will run through a salvaging process or are replaced with a new one. After reassembly, the main pump is tested. The remanufactured main pump should perform on ‘as good as new’ standards during the test. The cores that are remanufactured are stored to be available at the time there is a demand from the market. For high-pressure components this process can be repeated multiple times, before the material will be recycled. Hitachi actively shares and improves knowledge and expertise about the remanufacturing process through a network of remanufacturing centres all over the world. As a result of HCME’s remanufacturing process, they have stock of remanufactured components to quickly react on the demand of the customer. This reaction is critical, to avoid machine down time which is expensive for the customer.

Challenges for HCME: The HCME's main challenge is the customer awareness of the quality of remanufactured components. Customers may easily assume that the price of the product reflects its quality. Even though remanufactured products have a lower price than new, HCME ensures an 'as good as new' product with a warranty that is the same as the new component.

Economic Benefits

A remanufactured component has a better price than a new one because inner parts can be reused or salvaged. Consequently, the remanufactured product can be sold for 60% of the initial price.

Environmental Benefits

Due to the remanufacturing process a component can have several service lives, rather than only one. Therefore the requirement for new components is reduced significantly. Besides this the inner parts are salvaged wherever possible, reducing the requirement for new inner parts. Together this extends the usage of already manufactured material and consumed energy, resulting in an overall reduction of the company's requirement for raw materials and energy consumption.

Social Benefits

Currently 600 people are employed by Hitachi Construction Machinery Europe.

Advanced Materials Recovery

It is unknown whether Hitachi recovers advanced materials through its operations.