

Case Study A

Company Overview

Company:	Ace Re-use Technology BV
Location:	Horst, Holland
Product:	Oce Electric Motor (Main Engine) 7201546
Type:	Independent Remanufacturer
Maturity:	Experienced (c.25 years)
Contact:	Eduard Lebbink
Phone:	+31 (0) 77 398 0520 61
E-mail:	eduard.lebbink@acewikkeltechniek.nl
Web:	www.acewikkeltechniek.nl

Ace Re-use Technology specialise in electromechanical engine drives, ranging from small DC motors to larger, complex AC drives. It focuses on re-engineering, modifications, and remanufacturing, resulting in a drive that is equivalent or even better than comparable new products. The remanufactured devices are market competitive thanks to the new functionality and a reduced price. Ace Re-use Technology has a strong track record of collaborating with original equipment manufacturers (OEMs) based on their specific needs. Through remanufacturing it can serial overhaul electromechanical engine drives to achieve major cost savings when compared to new.

Motivation for Remanufacturing

Ace Re-use Technology aspires to the vision of a circular economy and believes that through remanufacturing additional value along product life cycles can be optimised. Ace Reuse is motivated by the likelihood of future materials shortages. As well as other valuable materials, copper is of concern as critical shortages are predicted within 10-13 years.

Product Description

Ace Re-use Technology remanufactures electromechanical engine drives whose function is to provide motion on imaging equipment machines. Each engine operates at two speeds. At high speed an engine has a lifetime of 2000hrs and at low speed it is 14000 hrs. Each engine is typically remanufactured 2-3 times.

Design for Remanufacturing

Ace Re-use Technology sees improving the disassembly of products as key to reduce costs and increase efficiency of the process of remanufacturing. Wear resistance of materials, hardness and durability of materials need to be considered at the material selection stage of product development, or during the redesign of components.

Ace Re-use Technology has redesigned some elements of the drive. Two examples illustrate the design-engineering challenges it had to address in order to successfully remanufacture the product. Through its experience of typical product failures, when products are returned after the first life, it identified that the bearings used in the motor are the key failure point. Replacing these bearings with higher quality, more durable ones increases the reliability of the parts and therefore the lifetime of the engine. Ace Re-use Technology also redesigned part a shield on the engine shaft to make it stronger, which in combination with the new bearings, mean the machine can be remanufactured several times. This design was created in partnership with the original equipment manufacturer.



Fig 2. Oce Electric Motor (Main Engine) 7201546

Environmental Benefits

Through remanufacturing, Ace Re-use Technology prevent worn or defective engine drives from being discarded, while also extending the life of the engines by adding value through quality improvements and testing.

Economic Benefits

Overhauling and repairing existing engines is significantly cheaper than producing new engines and the savings generated from engine remanufacturing are estimated at around 50% of typical production costs for the OEM.

Social Benefits

Remanufacturing of electric motors requires a highly skilled workforce. Ace Reuse technology provides an enabling environment with training opportunities for skills development, to support the retention of high value jobs in Holland.

Business Model

The business model is critical to ensure that cores can be accessed through the right partnership, to ensure continuous supply of products. It's partnership with an OEM has been the basis of its remanufacturing activity for many years, yet it seeks to diversify its business building new remanufacturing activities in new sectors and products.

Future Challenges

Ace Re-use Technology believe that national and supra-national standards (such as quality approval certifications), to validate the high quality of remanufactured goods are needed. Moreover, Ace Re-use Technology sees the need to foster collaborations (logistics, sales partners) as a means to scaling up its remanufacturing services.