

## Case Study G

<b>Company:</b>	Neopost
<b>Location:</b>	Le Lude, France
<b>Product:</b>	IS- 350 Franking Machine
<b>Type:</b>	Multinational OEM
<b>Maturity:</b>	Experienced
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Neopost offers mail management (mailing solutions, franking machines) services to corporate clients, predominantly SMEs (80%) within the public and private sectors. It designs and manufactures a variety of products to facilitate mail management including the IS-350 seen in Fig 11. In 2011, it undertook a pilot remanufacturing activity, which led to an ambitious remanufacturing strategy which was deployed in 2012.

### *Motivation for Remanufacturing*

Historically Neopost has taken a proactive approach to ecodesign, driven partially by specific legislation (WEEE, RoHS, Ecodesign Directive). The company states that its experience in ecodesign and previous activities in refurbishment, paved the way for its uptake of remanufacturing. Prior to investing in remanufacturing, it actively refurbished some products, though this was a 'less systematic' approach. According to Neopost remanufacturing offered the opportunity to improve its profitability, while also decreasing the environmental impacts of its activities.

### *Product Description*

The IS-350 franking machine (Fig. 9a) is designed to process letters at speeds of 300 letters per minute. It is a certified Energy Star product, with a product life cycle of ten years (to facilitate two commercial life cycles of five years).



*Fig. 9a IS- 350 Franking Machine*



*Fig. 9b IS- 350 Franking Machine*

### *Design for Remanufacturing*

Neopost's remanufacturing activity has centred on redesign. Two examples illustrate the design-engineering challenges it had to address in order to successfully remanufacture the product. Firstly, the IS-350 has a large

number of bearings, which significantly slowed the remanufacturing process. In particular some bearings were difficult to access due to the design of the plastic housings (Fig. 9b) which needed to be prised open. Redesigning these bearings to be more easily accessible and reliable was beneficial for the efficiency of the process. By reducing the disassembly depth, Neopost reduced the cost of remanufacturing. Secondly, Neopost needed to think about the upgradeability of the electronic motherboard on the current range. The functional requirement is 32MB whereas the next generation is likely to be 64MB, so to provide the possibility to rework the Printed Circuit Board Assembly (PCBA) the design team opted for a 64MB at the outset.

### ***Environmental Benefits***

The key environmental impacts of Neopost's range of franking machines are during the raw material extraction stage (75%). Assuming a product life cycle of five years for a new product, depending on the remanufacturing approach, the life cycle impacts could be reduced by up to 37% when comparing a remanufactured product to a new product. At present, Neopost are achieving reductions of up to 30%.

### ***Economic Benefits***

The remanufacturing of products could reduce product costs by up to 20 or 30%, depending on the remanufacturing type. In addition to cost savings, remanufacturing is also a way for Neopost to reduce risks linked to price volatility and the availability of resources.

### ***Social Benefits***

Operators from the remanufacturing facility are motivated and proud to work on a project which retains local jobs and also which is one of the key pillars of Neopost's Strategy.

### ***Business Model***

Neopost state that many of the design issues they face can be resolved, whereas the management of remanufacturing is a more complex challenge, due to the return of different generations of the same product. Neopost state that it is because of the business model it has (leasing to retain ownership of the carcasses which is driven by extended producer responsibility requirements) that it is in a position to do remanufacturing.

### ***Future Challenges***

One of Neopost's key challenges is to be able to effectively anticipate legislation to ensure that its remanufactured goods remain compliant.