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REMANUFACTURING IMPLEMENTATION WITHIN NEOPOST

G.MOENNE-LOCCOZ – Neopost Industrie

Grenoble - 15th of June 2015

Context

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PRODUCT DESIGN

Mechanical product
with inking roller

Today, inkjet technology

Technical life time : 10
years

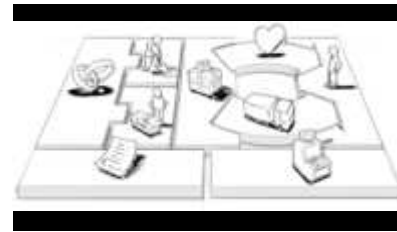


POSTAL REGULATION

To avoid any fraud :

.The take back of the
products is mandatory

.Rental BM is mandatory



BUSINESS MODEL

Rental in France

Leasing* in Europe, NA

→ Service based BM

→ Neopost property

Commercial contracts:
5 years

**without purchase option*



INDUSTRIAL STRATEGY

Return flow of functional
products with residual
value

→ Refurbishment activities

Local manufacturing
center – Le Lude – France

Key competencies on
refurbishment

...Combinated with the launch of a new product range and our ecodesign mindset ...

...conducts to implement a large-scale remanufacturing initiative in 2011

What is a remanufactured product?

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- Same quality
- Same aesthetic
- Same functionalities
- Same certification

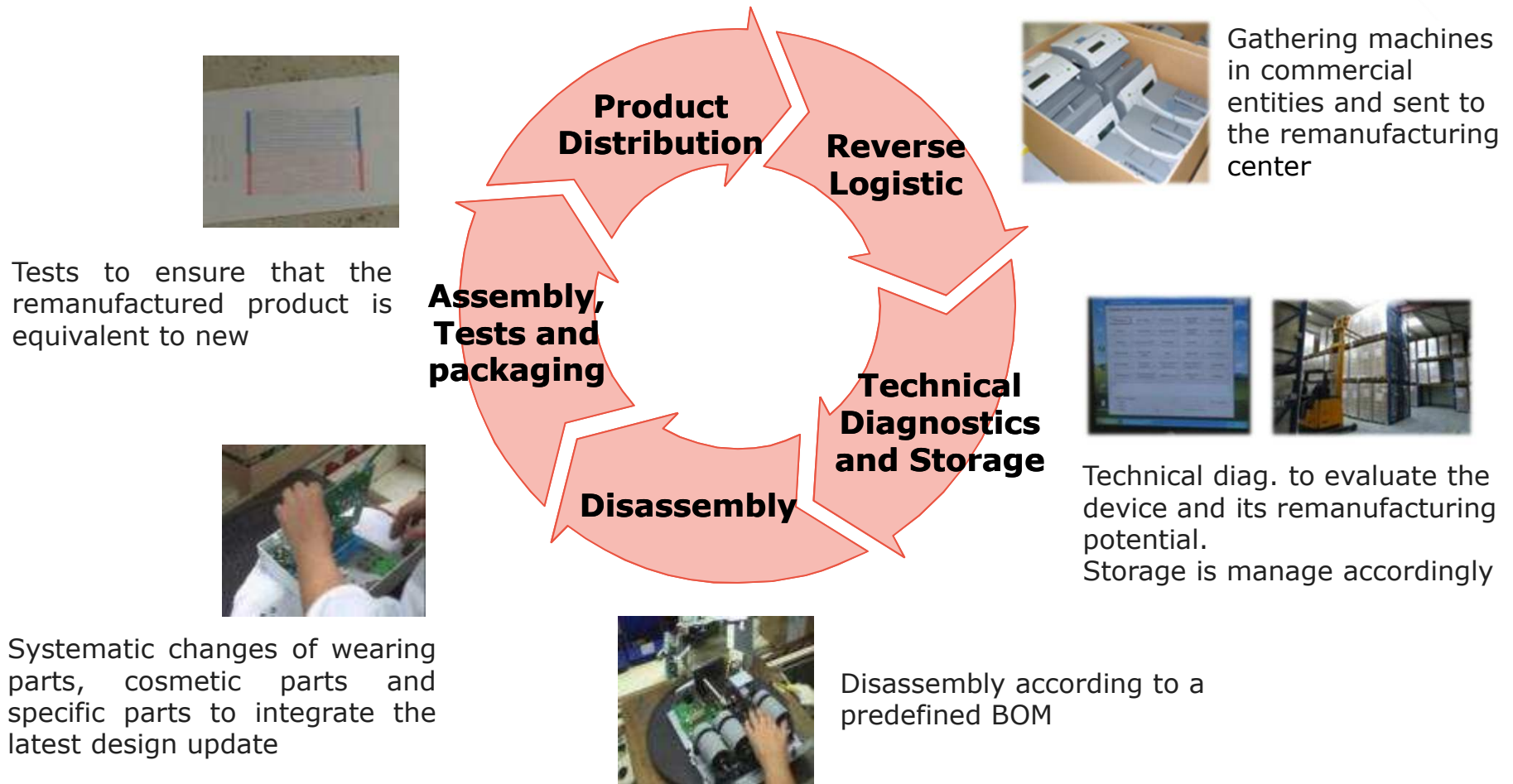


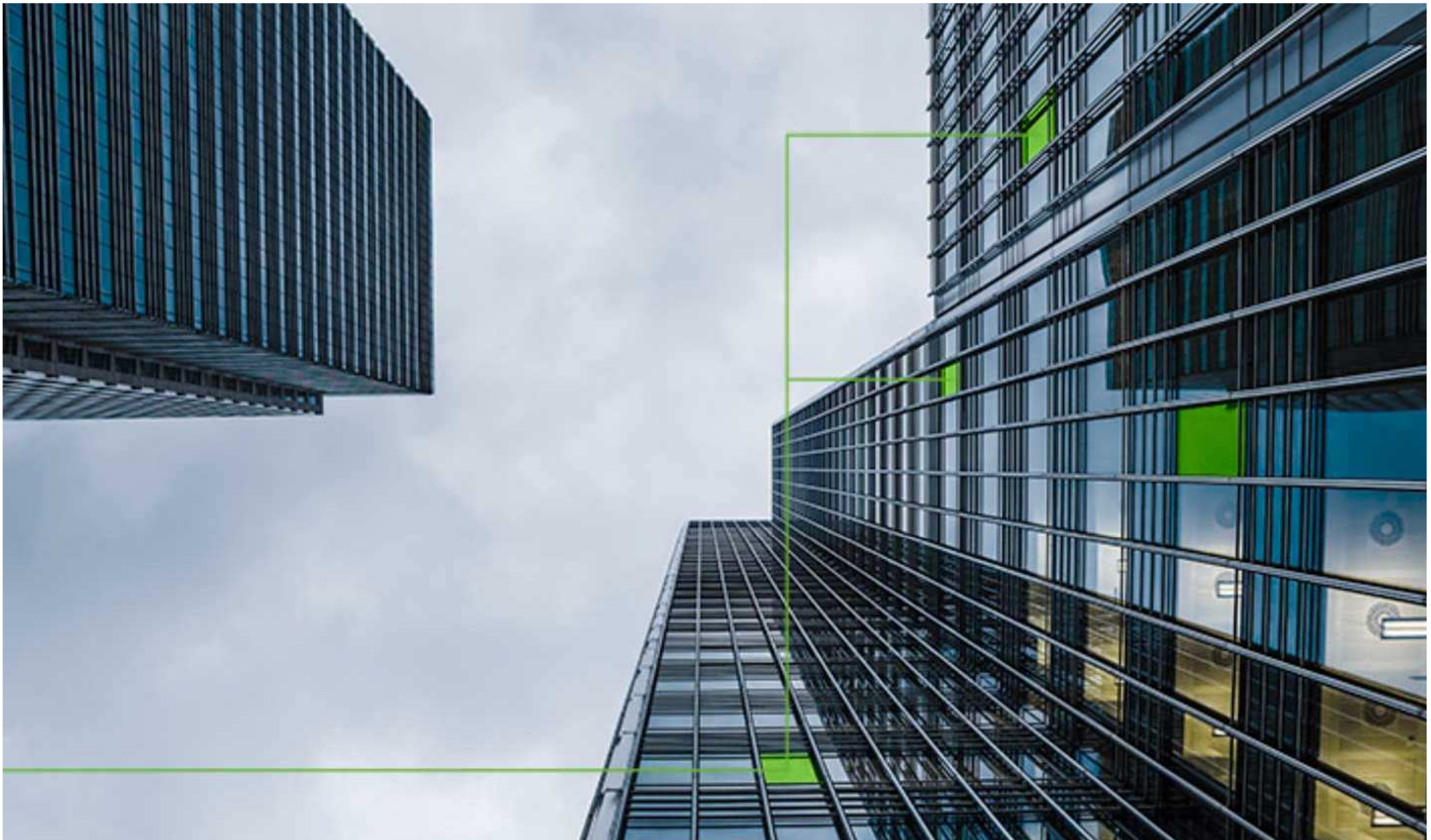
100% of the
product is
new

Between 50% and 75% by
weight of a product comes
from used parts

The remanufacturing process

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How to implement it?

5 key pillars

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Legal assessment



Marketing Strategy



Commercial
implementation



Design and
technical evolution



Take back forecast

Legal Assessment



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Business Model

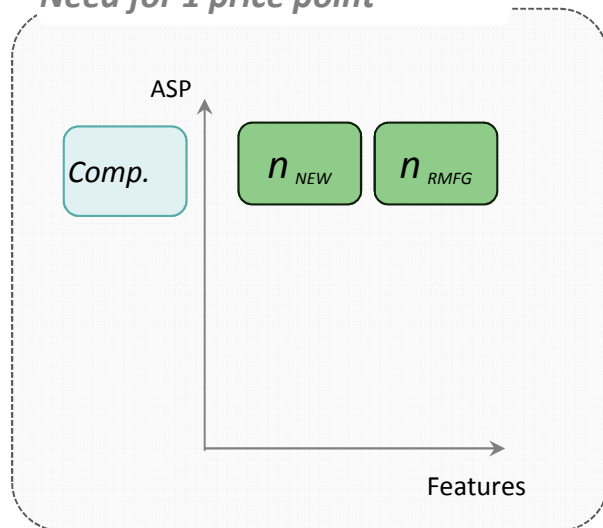
- Sale = communication on the status of remanufactured product is compulsory (for the price paid, customer may reasonably expect the product to be new)
- Leasing without purchasing option is equivalent to the rental
 - > *The contractual purpose is the use of an equipment*
 - > *The contractual object is the provision of a fully functional franking/inserting system, whatever its manufacturing status is (new or remanufactured)*
 - > Communication on the remanufactured status of the product is not necessary

European Regulation

- The remanufactured product has to comply with the latest regulations

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Need for 1 price point



The figure consists of two side-by-side graphs. Both graphs have 'ASP' (Average Selling Price) on the vertical y-axis and 'Features' on the horizontal x-axis. The left graph shows three product positions: 'Comp.' (Competitor) in a light blue box at low ASP and low Features; 'n_NEW' (New Product) in a green box at high ASP and high Features; and 'n_RMFG' (RMFG Product) in a green box at medium ASP and medium Features. The right graph shows two product positions: 'n' (Current Product) in a green box at low ASP and medium Features; and 'n+1' (Next Product) in a red box at high ASP and high Features.

- Country, local market, number of price points needed, customer expectation, business model and competition

Commercial implementation



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Reverse Logistic :

- Previously, end of lease products locally scrapped or dismantled (Postal and WEEE regulation)
- To keep the product value, motivate and maximize the return flow, the buy back process was implemented in each entity
 - > *Product Property moved from commercial entities to supply chain*
 - > *Supply chain manages its own stock, moving one product from one country to another one.*

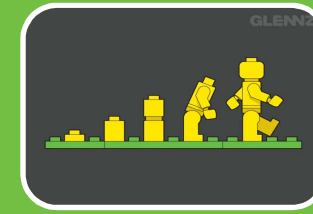


Communication

- A key success factor, to inform commercial entities and final customer
- Leasing and rental contracts update, saying that the product may contain remanufactured parts.



Design and Technical Evolution



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To manage the evolution of product over the time

- Introduction in 2008
- Changes have been made between first introduction and now
- We will receive product with different technical state
 - ➔ how to manage technical changes ?

Introduce this factor in the BOM : different BOM linked to the different level of technical state

Adapt remanufactured product to the latest features to align new and remanufactured product

Take back forecast



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The take back process is the flow of raw materials for the remanufacturing process

It influences the global strategy :

- Factories workload
- Mix between new and remanufactured products
- Product roadmap
- Savings



Measurement and Key results

Remanufacturing confirmed to be a profitable model for Neopost

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Impact of remanufacturing on production cost

Between

- 10 %

and

- 20 %

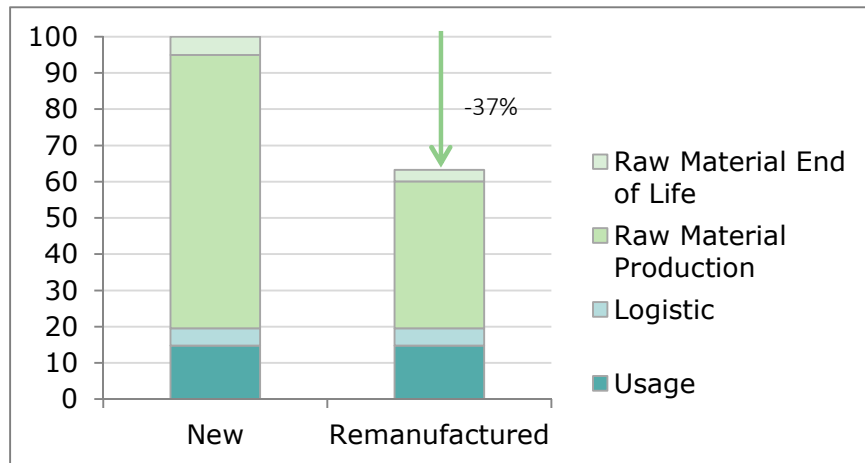
Per product compared to a 100 % new product scenario

Applied methodology

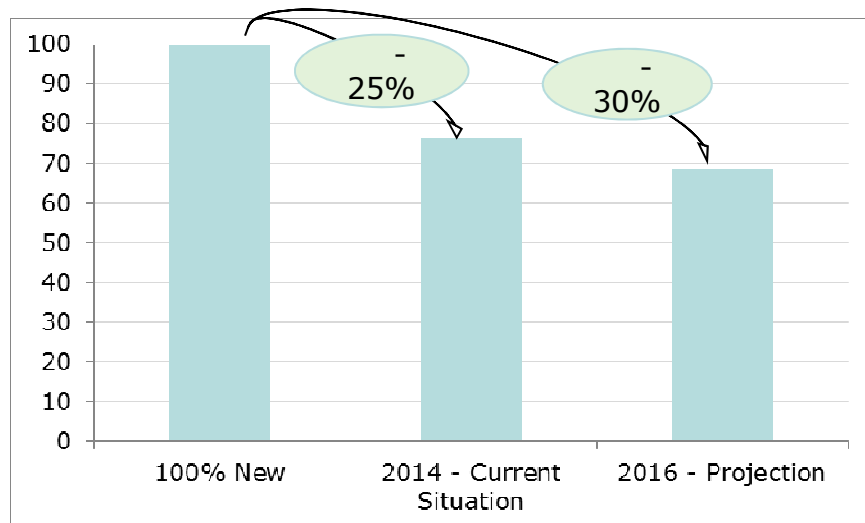
- Calculation of production costs of an IS 420 product on a cost price method
 - Limited to Neopost European Market
 - Are included direct workforce, materials, reverse logistic and distribution costs
-
- The cost reduction is highly sensitive to the number of parts that have to be changed during remanufacturing.
 - In addition to cost reduction, Neopost is also less sensitive to material costs volatility.

Deployment of remanufacturing lead to massive improvement of Neopost environmental footprint

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GHG emissions per product



Neopost carbon footprint

Applied methodology

- Simplified LCA done on an IS 420 product
- Limited to Neopost European Market
- Use of paper and ink excluded of the study
- EcolInvent 2.0 database
- For product comparison, 2 period of 5 years usage are considered, the first being with a new product
- For the second, an extrapolation of the IS 420 is done to the full Neopost business

- Similar benefits are observed on other classical LCA environmental indicators

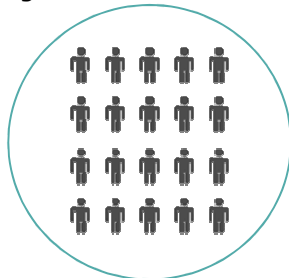
Remanufacturing model was a way for Neopost to maintain activity and employment in its French industrial site

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Estimated impact of remanufacturing over employment

20 direct jobs

Maintained at Le Lude



6 indirect jobs

Sustained in France near Le Lude



A reduced activity at Asian suppliers (not estimated)

While the impact of remanufacturing was just estimated for Neopost business case, methods exists to provide a more complete picture of social impacts, such as the Input-Output Analysis and Social LCA.

Insight into the Input-Output Analysis

IO matrix	Agriculture	Retail	Textile
Agriculture	0	C	A
Retail	B	0	0
Textile	D	0	0

--- Indirect rank 1
- - - Indirect rank 2
... Indirect rank 3



Conclusion

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A new business model which requires adaptation

- In sales
- Production
- Procurement

Socio-economic and environmental benefits help for gaining support from employees form various department

Improvement of the corporate brand thanks to internal and external communication

Make the circular economy an industrial reality



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