Sustainable Product Development

@ neopost



René van den Berg

Neopost at a glance

Our solutions



Mailing Systems



Document Systems



Addressing



Letter Opening

Our market position

- Worldwide sales in 90 countries
- Sales around 1 Billion €
- Installed base: 800.000 units
- European market leader, worldwide nr. 2 in mailroom equipment
- Worldwide staff: 5500 (350 R&D)

Headquarters

Paris, France

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Drachten: Center of Competence Document Systems & Parcel Hardware Solutions

- Product Development
- Marketing
- Manufacturing
- Distribution
- Service



- Headcount
  - Research & Development ~ 80 FTE
  - Manufacturing & Assembly ~ 150 FTE

- Neopost Technologies B.V. is certified
  - ISO-9001
  - ISO 14001
  - OHSAS 18001

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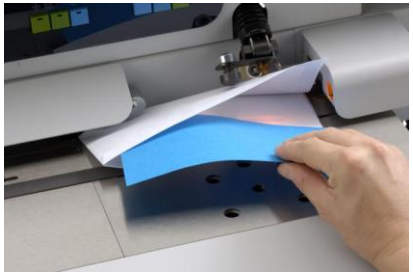
Our portfolio

Folding & Inserting







Letter opening



Sorting



Parcel Hardware Solutions

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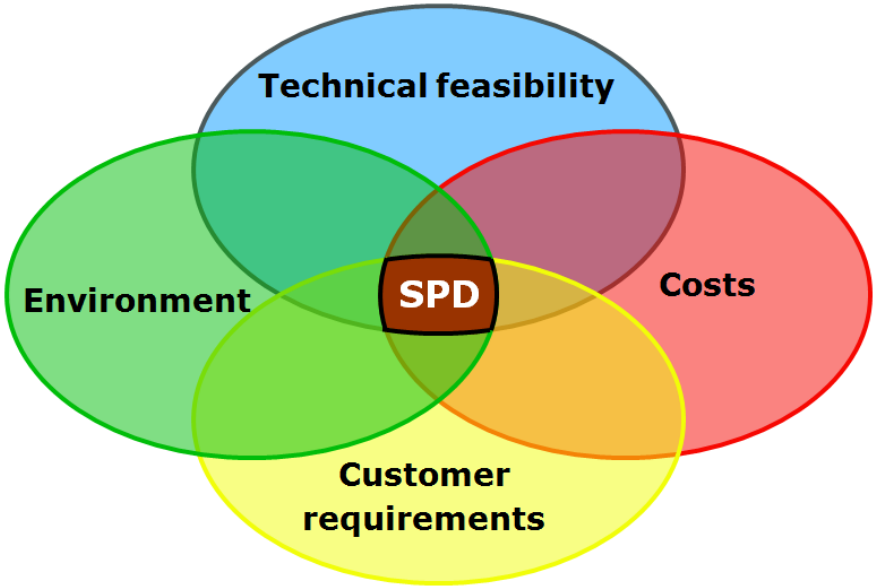
What is Sustainable Product Development?

Sustainable Product Development

- aims for a **balance** between product **requirements**



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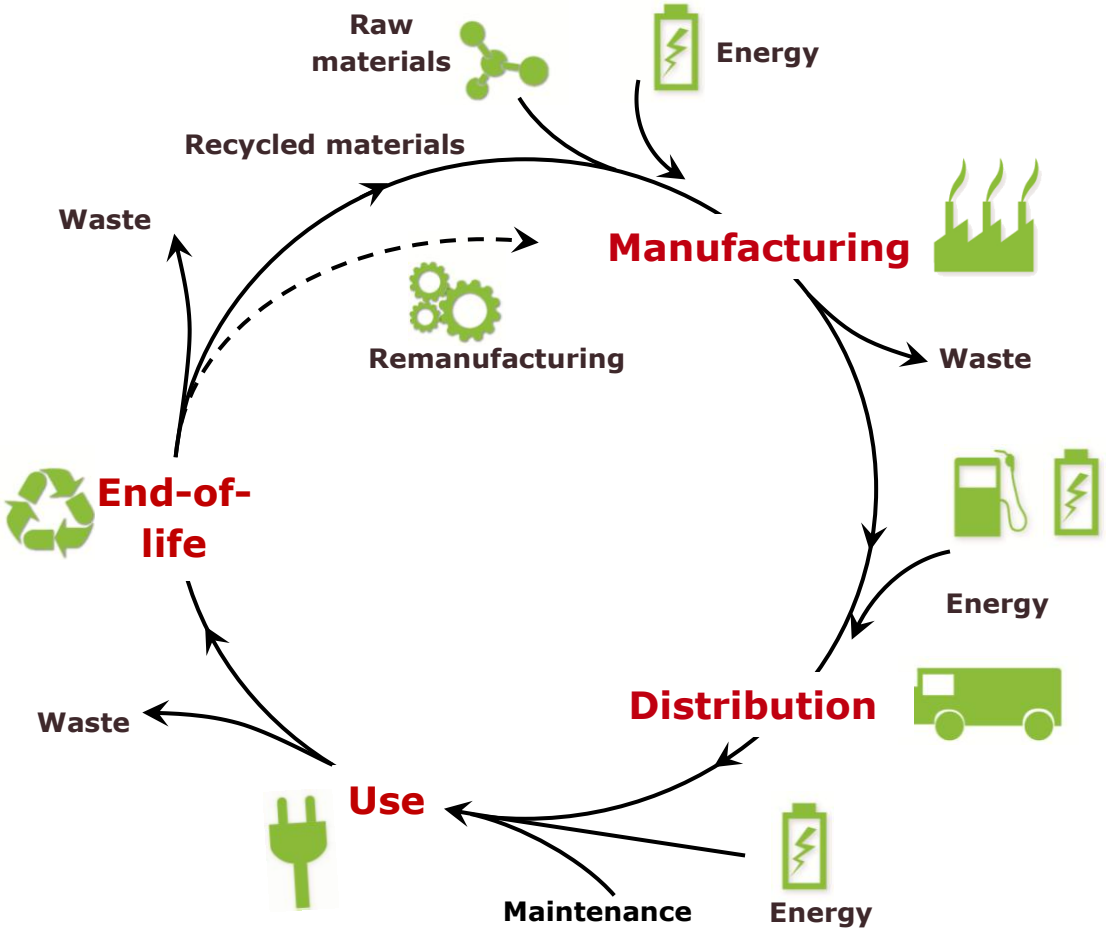
Sustainable Product Development

- considers **complete lifecycle** of the product



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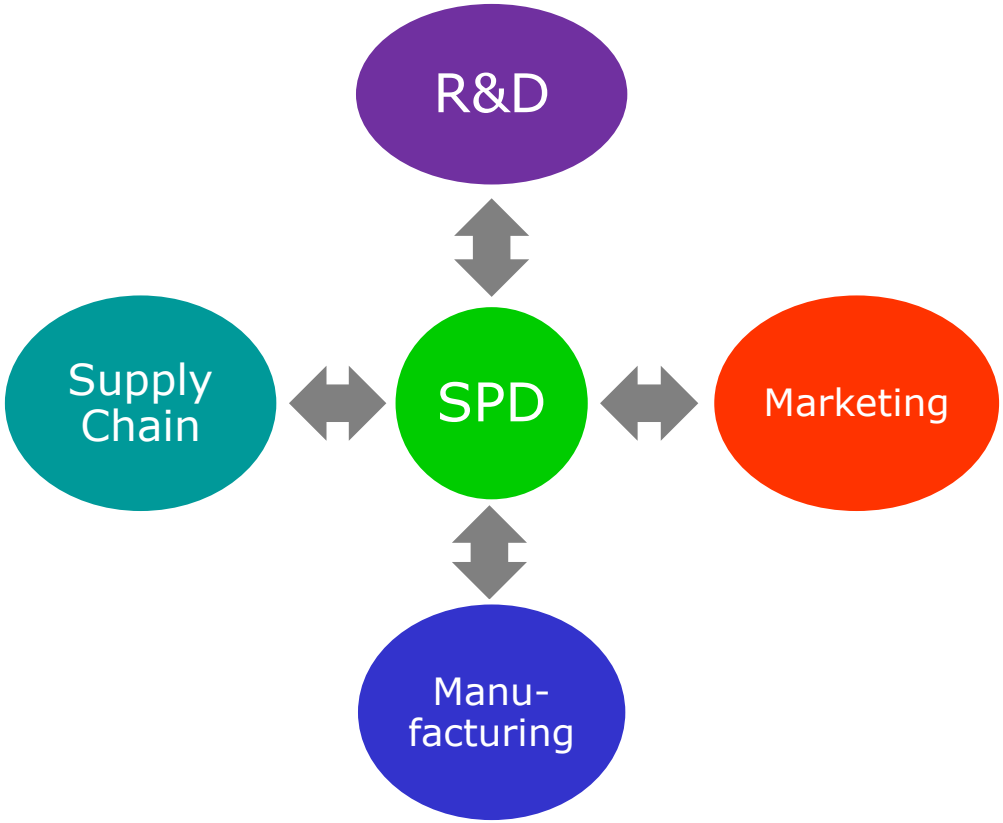
Sustainable Product Development

- considers environmental effects during development
- concerns **all disciplines** involved in a project



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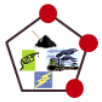
How did Neopost implement Sustainable Product Development?

Engineering Guidelines (2007)

MECHANICS

Material Assembly mode Process	To avoid or to do preferably	Reason(s)	Concerned life cycle phase(s) and Indicator(s)	Possible alternative design	Environmental impact reduction or Recycling improvement
Materials					
All					
Number of materials 	Minimize the number of different types of materials	-It helps to increase the recycling rate of the product -Some materials cannot be treated together. -Recyclability is easier and cheaper in the disposal centers if less different materials are used.	 **Recycling rate**		
Amount of materials 	Minimise the amount (weight) of each part Avoid oversizing	The reduction of the weight will help to reduce the impact on different indicators When using less (of the same material): less scarce materials are used, less energy is needed to produce the source material, less energy and pollution due to less weight in transport throughout the logistic chain and less material to take care of during disposal.	 **Raw Material Depletion** **Energy depletion** **Air pollution** *linked to transport*	**Alternative without risk** Use of less quantity of metals / plastics in order to lighten the machine **Alternative with risk** Use of a lighter material is not always better for the environment; Life Cycle assessment may be needed to determine the best option.	
Origin of materials 	Use materials which are : - **Renewable:** A natural resource that can renew itself over time - **Recyclable:** material that can be used again with a minimum loss *and/or* - **Recycled:** material obtained from the recycling chain (e.g. metals such as copper, aluminium, steel, plastics)	It decreases the amount of non-renewable materials to be extracted from the earth	 **Raw Material Depletion**		Example : the use of 20% recycled aluminium will reduce 20% of raw material depletion
Design 	Make design modular	To ease the upgrade / reparation / reuse / remanufacturing process			
	Make wearing parts and service parts easily accessible and replaceable	Reduce the upgrade time / reduce cost of replacement			
	Use Neopost standards parts as far as possible	Neopost standards parts could be more easely replaced during repair or remanufacture			
	Think of safety of treatment operators: beware of mechanical components that store mechanical energy (i.e. springs, gas spring)	Some parts (springs) can be dangerous for work safety when treatment operators do dismantle them.			

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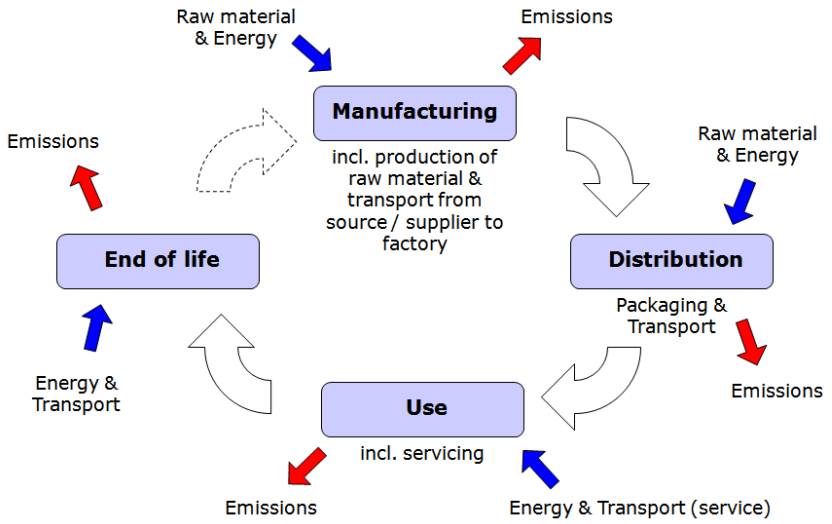
Life Cycle Assessment (2008)





1. LCD screens and PCB's are large contributors
2. Energy consumption during use can be reduced
3. Reduce total weight of machine
4. Minimize Air Transport
5. Minimize volume & weight of packaging

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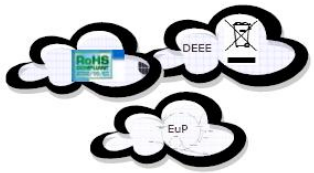
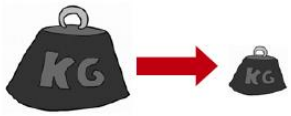
Strategy / targets (2009)

- Regulation



Compliant RoHS, WEEE, REACH, EuP

- Weight



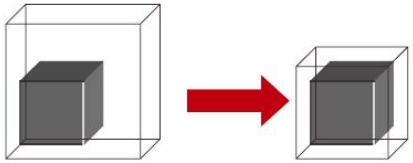
W_{New} **< 95%** W_{old}

- Energy



Standby mode **< 0.5W**

- Packaging



$V_{packaging}/V_{product}$ **< 2.5**

- End-of-life



Recovery rate **> 75%**

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Internal promotion (2010)



Nice to know:

SPD Introduction for Projects

Competion Newsletter on EcoDesign

SPD team Drachten

Overview of regulations

Life Cycle Assessment DS-70

EcoDesign Leaflet

News:

New technology: erasable printing

New product: Bamboo paper

New product: Cradle to cradle paper

Must know & must do:

Neopost Strategy

SPD Project Dashboard

Design Guidelines (interactive version)

Design Guidelines (print version)

Regulations

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Project reporting (2011)

1. Regulations
   - Compliant to RoHS, WEEE, ErP, REACH

2. End of life: Recovery Rate
   - Calculation based on used materials in the BOM

3. Packaging Ratio
   - Minimize Packaging volume vs. Product volume

4. Energy consumption
   - Auto stand-by
   - kWh per 10000 cycles

5. Product Weight
   - Weight reduction for new designs



Provide calculation methods

Show status of each project to the management!

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External promotion (2012)

How to show your customers your products are sustainable?

Neopost's Eco label

- Raw material
- Recyclability
- Weight
- Energy
- Packaging
- Remanufacturing

We monitor our projects on these aspects.

Significant achievements are rewarded with the label (explained in brochure)





ENVIRONMENTAL COMMITMENT

The DS-85 carries Neopost's Eco Label, a reflection of Neopost's environmental commitment. Neopost launched the eco signature in 2011 to identify the most efficient and environmentally friendly solutions. The signature reflects Neopost's aim to inform customers of the environmental progress that has been made in the last few years.

With the DS-85, Neopost has reached a new level of efficiency mostly due to the automatic standby mode. The DS-85 is also compliant with environmental regulations (ErP, REACH, RoHS and WEEE).

ENERGY: The DS-85 consumes in average 1.6 times* less energy due to automatic standby mode - Standby Mode consumption is approximately 0,4 Watt.

RECYCLABILITY: The recovery rate is at least 85%.

* Compared with our previous model DS-80

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What did we achieve so far?

Logistics: reduction of transport impacts

Many of our products are sold in USA

Market requires short delevery time

Air transport is polluting and expensive



What did we do?

Set up of customization centre in USA

Allows overseas transport by boat

- Major reduction of carbon footprint of transport

Great savings both in costs and for the environment!

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Auto power down

- Most of our machines are used only a few hours a day / a week
- Users could forget to switch it off:

  energy consumption up to 20 times more than necessary

What did we do?

Implement automatic power down

(consuming <0,5W)



Cost reduction for customer & reduction of carbon footprint (up to 40%)

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Weight & packaging reduction

- Weight reduction of ~25%

  More use of plastics

- Reduction of packaging ratio of ~40%

  Smart arrangement of separate modules & options



Reduction of 10% on each dimension of the box = 27% volume reduction

Weight & volume reduction greatly reduced carbon footprint and costs of transport!

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Remanufacturing







- Close the technical cycle:

  Taking back used machines and use them

  for the manufacturing of new machines

- Many materials are reused after strict quality evaluation
- Major reduction on carbon footprint o total lifecycle

Benefits both profit and environment!

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Recommendations
& Future challenges

Recommendations

Sustainable product development:

not a matter for R&D alone!



- Management commitment is essential
- Integrate it in the development process
- Set clear targets
- Your marketing must be on board: *define requirements upfront*
- Consider long term strategy when communicating externally

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Future challenges

- More Remanufacturing
- Cover full supply chain
- Sustainable plastics
- Sustainable electronics
- Sustainable energy
- Sustainable packaging



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Questions?



