Go Cradle to Cradle®
To boost innovation, build a responsible business and significant profit

Stef Kranendijk
Affiliate Partner SYSTEMIQ Ltd.
Former Chairman & CEO Desso
Desso is... leading in carpet tiles and artificial grass pitches
Desso Group

Business Overview

Carpets 90%
- Business Carpets 65%
- Hospitality, Marine & Aviation 10%
- Consumer Carpets 15%

Sports 10%

2014 figures - % of total sales
1. Creativity
DESSO transformed itself into a superior floor design company through better external focus via the “Circles of Architects®” programme.

2. Functionality
DESSO invented carpet tiles that significantly improve health by superior:
- **Indoor air quality**
  - Less fine dust (8 times lower levels than hard floors)
  - No off-gassing
- **Sound absorption** in offices, healthcare and schools

3. Cradle to Cradle®
What is Cradle to Cradle®?

According to the Cradle to Cradle® principles, products are made from pure components that are easy to disassemble, so that new products can be made from them (= up-cycling) in both the biosphere and the technosphere.

Michael Braungart  EPEA
William McDonough
Cradle to Cradle® - Why?

- It is a good, positive quality initiative
- Not only for the environment but also for health (in-door air quality)
- Waste becomes food for other products
- It is not only good for people & planet – it is a business building opportunity
- PE 2011: 8 times their investment (incl. loans) back in 4 years (NPM Capital)
- PE 2015: 2 times their investment (incl. loans) back in 3 years (Bencis)
Eco-efficiency

Desso has been making a difference with eco-efficiency for years. This is an example of what we do in the area of eco-efficiency:

**Energy consumption**

32% reduction in energy consumption per carpet tile produced from 1998-2010 in Waalwijk, the Netherlands.
Eco-effectiveness

1. Positive footprint
2. Improve quality of life and environment
3. Re-utilize all materials used in the product.
   Design criteria: easy disassembly
4. Use post-customer materials as raw material in the product
5. All raw materials should be 100% safe for humans and environment
6. Use renewable energy in all stages of the cycle

It’s all about Eco-Effectiveness
These are some of the steps we have already taken:

- 50% CO₂ reduction between 2007-2011 for the total company.

- The amount of renewable energy used at Desso accounted for 33% in 2011, up from 7.8% in 2008 and from zero in 2007.

- Self-generated energy: 25,000m² roof covered by solar cells

- 100% biological purification of our waste water in Dendermonde. In 2011, 94% thereof was additionally purified with a special ozone treatment.

- The special ozone treatment resulted in a 56 million litre saving on fresh water in 2011.
Analysis of all raw materials

Create ‘Passive Positive List’ for existing products

Use only positively defined materials
Phase out non-acceptable raw materials

No need to be perfect from day one!

Clients and suppliers are regarded as partners to reach quality.

DESSO a Cradle to Cradle® company
The Cradle to Cradle® cycles

Biological cycle

Technical cycle
Cradle to Cradle® Roadmap to 2020

Commercial carpet tiles

- Start to define all ingredients for carpet tiles
- Start to set up take back programmes for the Europe
- Implement C2C supply chain management
- Develop carpet recycling concept
- Started product certification process
- Introduce C2C in every department at DESSO
- Increase biodiversity
- Actively contribute to the Cradle to Cradle® Community in the Netherlands and worldwide.

- Product / material health
- Product / material re-utilisation
- Renewable energy
- Water use at manufacturing facility
- Social fairness & corporate ethics
- Cradle to Cradle® Certification
- General Implementation

Positively defined = is based on current used raw materials and hazard assessment (calculated by mass)

C2C Products certification = based on sales volume in m² (2012 figure is based on actual sales volume)

All Cradle to Cradle® objectives as mentioned in the Roadmap are subject to commercial and technical viability.

© July 2012 DESSO®
Over 90% of Desso's carpet tiles are Cradle to Cradle® certified
Implementation and future steps

- C2C research centre at DESSO
- Work with (young) designers, scientists and students on C2C products
- After carpet tiles work on artificial grass and biodegradable woollen products
- Develop additional products for improved indoor climate and well-being
- Build international community around Cradle to Cradle® quality
- Stronger marketing for Cradle to Cradle® on global market
- Further implement the carpet Take Back system Refinity®
DESSO Take Back™ and Refinity®

Separate the post customer carpet into main components for further use in post-customer market or turned back into carpet again.
DESSO Take Back™ and Refinity®

NOW
- Post-consumer PA 6 yarn up-cycled into new yarn
- Post customer backing used for:
  - Road works / cycle paths
  - Cement industry

FUTURE - Cradle to Cradle®
- Backing is up-cycled into new backing (DESSO EcoBase®)
- Yarn and backing are up-cycled in other industries such as office chairs, vacuum cleaners etc.

All non-recyclable fractions will be used as secondary fuel in the cement industry.
Cradle to Cradle® as an innovation platform

Innovation Platform

- Encourage all stakeholders (suppliers, design community, waste management partners, customers) to consider new products and C2C design paradigms.
- Jointly develop know-how and new technology.
- Provide better content to CSR/Sustainability policies of companies/governments.
- Enable improved wellness/well-being with our products, such as AirMaster® and SoundMaster®.
- Offer outstanding design
Mckinsey report

- Report by the Ellen MacArthur Foundation
- McKinsey & Company worked on the case examples and analytics
- Launched at the World Economic Forum in Davos
- The report claims that businesses can save up to $630 billion per year in the EU by moving to the circular economy
- The report cites Desso as one of the pioneering companies that is leading the charge to the new world

Desso’s Cradle to Cradle® network

Ever expanding....
ACQUIRED BY
SYSTE MI Q
Thank you!

For more information, please contact us or visit our website:

www.desso.com

DESSO a Cradle to Cradle® company
FlareOut

My New Company
(No Website Yet)
. 150 BILLION m³ GAS FLARED EVERY YEAR

.EQUIVALENT TO 2% OF GLOBAL CO2 EMISSIONS PER YEAR

.EQUIVALENT TO YEARLY GAS CONSUMPTION OF ALL US HHOLDS
CURRENTLY

. DIESEL ➔ ELECTRICITY ➔ OIL UP ↑

. OIL UP ↑ ➔ GAS UP ↑ ➔ FLARE
FlareOut

.53% CO2 REDUCTION PER PLATFORM

.30-70% SAVING VERSUS DIESEL GENERATOR
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. INDICATIVE COMMITMENTS FROM OIL COMPANIES

. NEED A BANK TO FACILITATE THE LEASING
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