CREATING BUSINESS THROUGH CIRCULAR DESIGN

Discovering Circular Opportunities

Warsaw – 20200310 & 11
## Agenda Tuesday 10/3

1. **Introduction to Circular Economy**  
   10-10.30

2. **Public sector: policy**  
   - The Circular Economy (business) concept  
   - Circular Business models  
   - The Circo Methodology

3. **Interactive pressure cooker workshop**  
   10.30-12.30

4. **CE Learnings**  
   13.30-13.45

5. **Circular Economy Hub & Rollout in Poland**  
   13.45-14.00

6. **Open discussion**  
   14.00 - ...
Apollo 8, December 24, 1968

“We came all this way to explore the Moon, and the most important thing is that we discovered the Earth.”

Astronaut Bill Anders
EXPONENTIAL GROWTH

- Population
- CO2 Concentration
- Ozone depletion
- Water use
- Species extinction
- Northern Hemisphere average surface temperature
- Foreign investment
- Loss of tropical rainforest & woodland
- Fisheries exploited
- GDP
- Paper Use
- Motor vehicles

Source: Adapted from: The New Scientist. WRI, WHO, World Bank, OECD Factbook 2013
BORN IN 2010: HOW MUCH IS LEFT FOR ME?

Energy
- Oil
- Coal
- Gas
- Uranium

Metals used in renewable energy solutions
- Antimony
- Lead
- Indium
- Rare earths

Other industrial metals
- Zinc
- Silver
- Gold
- Copper

Years remaining if production continues to grow at current rates
Years remaining if production remains static

Calculations based on known reserves:
- Reserves
- Resources ( undiscovered)
- Resource base ( too energy intensive to extract)
LINEAR BUSINESS

ADD VALUE

DESTROY VALUE

user

#valuehill

PRE-USE

USE

POST-USE

extraction

manufacturing

assembly

retail
CIRCO IS A CIRCULAR ECONOMY DESIGN PROGRAM THAT;

- **Companies**: Activates and equips companies to get started with creating circular "business"
- **Designers**: Enables designers to integrate circular design into their daily activities
- **Policy makers**: Supports policy makers to drive the circular transition by facilitating private parties to take an active role in the realization of policy and company objectives simultaneously
**INTRODUCTION**

- **Circular Economy** is an intriguing concept offering opportunity to;
  - Increase the innovativeness and independence of a country while,
  - Contributing to solving sustainability challenges

- **Circular Design** is a powerful tool to let companies and designers start becoming circular

- The CIRCO circular **design method** has proven to be successful in various countries and has been made available to apply in other countries

- Several **Polish organizations** have showed interest in the CIRCO methodology and to adopt it for Poland

- **Today** we are going to explore if and how a circular design hub can be established for Poland
Circo Experience

Public sector provides policy and targets and engages private sector to contribute and innovate

There are circular opportunities in every value chain given value destructions in the current linear system

Circular business models allow companies to create (customer) value reaping these opportunities

Circo Method: helping companies get started with “Creating business through circular design”
Circo Experience

Public sector provides policy and targets and engages private sector to contribute and innovate

A Circular Economy in the Netherlands by 2050

A CIRCULAR ECONOMY IN THE NETHERLANDS BY 2050

- Smart design: fewer resources
- Conscious use: extending product life
- More and better reuse: waste as a raw material

Billions of people

2016 2050

World population growth Consumption growth
SECTOR SPECIFIC

Consumer goods
- Furniture
- Electronics
- Mobility
- Tourism
- Fashion

Agriculture
- Food waste
- Chain Tracks
- Bio-inputs

Plastics
- Packaging
- Food

Capital goods
- Machinery
- Heavy equipment
- Business electronics

Built environment / construction
- Housing
- Utility
- Industrial buildings
- Infrastructure
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Circo Method: helping companies get started with “Creating business through circular design”.
VALUE DESTRUCTION, LINEAR
Circular Opportunities: Jeans example
Circular Opportunities: Jeans example

Value loss points

SOURCING & PRODUCTION
- Cotton crop requires a lot of water
- Painting process heavily polluting & a lot of water
- Great textile loss through cutting
- 30% production not sold, 30% in sale
- Transport mainly by plane
- Working conditions

USE
- Fashion product, technical service life not utilized
- Bad bargain is not used
- Repair is a rarity
- E-commerce logistic and packaging

AFTER FIRST USE
- Non-used product stays in the closet
- Great share in trash
- Collection in bulk
- Only low quality collection or for charity purposes

Sourcing  Production  Use  End of life
VALUE PRESERVATION, CIRCULAR

PRE-USE

USE

POST-USE

repair/maintain

ADD VALUE

RETAIL VALUE

reuse/redistribute

refurbish

remanufacture

recycle
CIRCULAR OPPORTUNITIES

- Opportunity to save material (sustainability), not necessarily business
- Circular opportunity with business potential and resource efficiency
- No opportunity
- Business opportunity, not necessarily circular

Ecological value

Economic value
Circo Experience

Public sector provides policy and targets and engages private sector to contribute and innovate.

There are **circular opportunities in every value chain** given value destructions in the current linear system.

Circo Method: helping companies get started with “Creating business through circular design”.

Circular business models allow companies to create (customer) value reaping these opportunities.
ACADEMIC FRAMEWORK: PRODUCTS THAT LAST

- 3 year Study by Technical University Delft (Conny Bakker, Marcel Den Hollander, e.a.)
- Gives meaning to the concept of circular design
- Starting point: ‘longer than average’- use
- 5 circular business models
- 6 circular design strategies
ACADEMIC FRAMEWORK: PRODUCTS THAT FLOW

• New book (Siem Haffmans, Marjolein van Gelder, Ed van Hinte, Yvo Zijlstra)

• Gives meaning to the concept of circular design for Fast-moving Consumer Goods

• 4 business opportunities

• 5 circular design strategies
VALUE CREATION versus - DESTRUCTION

Material selection / efficiency

ADD VALUE

RETAI N VALUE

repair/maintain

reuse/redistribute

refurbish

remanufacture

recycle

PRE-USE

USE

POST-USE
Linear model: *Sell more, sell faster*

1. **Classic Long Life Model**
2. **Hybrid Model**
3. **Gap Exploiter Model**
4. **Access Model**
5. **Performance Model**
Circo Experience

Public sector provides policy and targets and engages private sector to contribute and innovate.

There are circular opportunities in every value chain given value destructions in the current linear system.

Circular business models allow companies to create (customer) value reaping these opportunities.

Circo Method: helping companies get started with “Creating business through circular design”
Circular Economy

is the accumulated result of

Circular Entrepreneurship

starts with the development and market introduction of

Circular Propositions

are being developed, using

Circular Design

of products, services and business models

by closely cooperating in a

“Closing the Loop” Context

“CREATING BUSINESS THROUGH CIRCULAR DESIGN”
CIRCO started in The Netherlands in 2015
CIRCO TRACK; Aiming at business community > 600 companies
- Developing circular proposition
- Business model
- Product redesign
- Complementary services
CIRCO CLASS; Educating creative professionals > 450 designers and architects
- Engaging companies to start circularity
ENGAGEMENT

- Method
- Circular knowledge
- Sector modules and trainers

Intermediaries

- Branch organisation
- Regional (innovation) office

Companies

- Circular interest
- Limited urgency and resources
- Innovation drive

- Business network
- Sector knowledge (what themes)
- Added value for members
**TRACK THEMES**

**Consumer goods**
- Consumer goods (generic)
- Consumer good recycling value preservation
- Consumer good manufacturers
- Carpets and interior textiles
- B2B textiles
- Tourism and recreation
- Biking industry
- Fashion sport wear

**Plastics and FMCG**
- Plastics in consumer products
- WEEE plastics re-use
- Natural fibers
- Single Use Packaging
- Matrasses
- Soft pvc

**Capital goods**
- Mobility and (e-) infrastructure
- High tech industry
- Windmill (decommissioning)
- Oil and Gas platform decom
- Maritime sector
- Circular water management
- Medical disposable

**Built environment / construction**
- Smart buildings
- Smart energy concepts
- Flexible walls
- Facades
- Building (generic and / or regional)
- Build en re-build project specific
- Wood second use
- Circular refitting
- Renewable energy

**Agriculture**
- Regional primary agro
- Horticulture
- Food waste in hotel
- Cheese industry chain
"Two-thirds of respondents have already made follow-up steps, after participating in CIRCO. Plus more than 20% intend to do that."

"CIRCO has the potential to make a major contribution to CO2 reduction."

Report downloadable via [WWW.CIRCONL.NL](http://WWW.CIRCONL.NL)
**CIRCO IMPACT, PARTICIPANT APPRECIATION**

"Circular thinking becomes very simple in this way! Clear insights and clear actions formulated, thanks for that". - Marjolein van Gelder, Forbo Flooring

"It is about how you can move towards a circular economy in a very practical way by placing a dot on the horizon and working towards it from tomorrow.” - Evert Bluemink, Hollander Techniek

"This CIRCO track has helped our company to develop a new circular product line in a targeted way" - Lars Kloem, Imagebuilders

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<thead>
<tr>
<th>Highlights tracks 2019:</th>
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<tr>
<td>1. collaboration / networking</td>
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<tr>
<td>2. new knowledge / insights</td>
</tr>
<tr>
<td>3. systematic approach</td>
</tr>
<tr>
<td>4. concrete plans</td>
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<td>5. pitch</td>
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**Evaluation 2019:**
- Tracks: avg. 8,0
- Classes: avg. 8,3

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<thead>
<tr>
<th>Introduction</th>
<th>Method</th>
<th>Interaction</th>
<th>Trainers</th>
<th>Catering</th>
<th>Location</th>
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<th>Overall</th>
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<tr>
<td><strong>Tracks 2019</strong></td>
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Circo Experience

Public sector provides policy and targets and engages private sector to contribute and innovate.

There are circular opportunities in every value chain given value destructions in the current linear system.

Circular business models allow companies to create (customer) value reaping these opportunities.

Circo Method: helping companies get started with “Creating business through circular design”
LINEAR BUSINESS

CIRCO

ADD VALUE

USER

DESTROY VALUE

#valuehill

PRE-USE

USE

POST-USE

retail

assembly

manufacturing

extraction
Figure 6. Creation and preservation of value along the product chain (Benton & Hazell, 2013)
CIRCO

CIRCULAR BUSINESS

ADD VALUE
- repair/maintain

RETAI N VALUE
- reuse/redistribute
- refurbish
- remanufacture
- recycle

PRE-USE USE POST-USE
CIRCO VISION

IN EACH MOMENT OF VALUE LOSS
THERE IS AN OPPORTUNITY FOR NEW BUSINESS
MAIN CIRCO SERVICES

- Two services: track & class
- Goal: to help companies and designers get started with “Circular entrepreneurship”
- 3 workshop days
- 12 companies per workshop
- End result:
  - Circular proposition: product, service & Business model
  - implementation Road Map
LET’S GET YOU TO WORK
Experience a circular angle in your design process

- Get acquainted with a circular way of working
  - Practice circular design process
  - Apply circular business models
  - Apply circular design strategies

- Start the circular journey, risking discomfort and confusion

- Get you curious and inspired
Circular Design Process
1. Identify value destruction
2. Formulate opportunity
3. Apply business models
4. Apply design strategies
5. Prepare for implementation
IDENTIFY VALUE DESTRUCTION

- Ecological value
- Economic value

- Consider the entire process
  - (Sourcing)
  - (Production)
  - Use
  - End-of-life

**Sourcing & Production**
- Much water needed and polluted for growing and dyeing cotton
- 30% of production not sold but destroyed

**Use**
- Lifespan shorter than technical lifespan, due to fashion trends
- Seldom repaired

**End-of-life**
- Product unutilized in cupboard after use phase
- Often in trash: all ecological and economic value
Circular Design Process

1. Identify value destruction

2. Formulate opportunity

3. Apply business models

4. Apply design strategies

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CIRCO VISION

IN EACH MOMENT OF VALUE LOSS THERE IS AN OPPORTUNITY FOR NEW BUSINESS
EXAMPLES
FORMULATE OPPORTUNITY

Avoiding value destruction = A circular opportunity

Jeans
Focus on longer use
  - Customize jeans for attachment and longer use

Focus on end-of-life
  - Collect jeans for re-use of jeans or textiles

Design a product and business model that allows for efficient re-use
Circular Design Process
1. Identify value destruction
2. Formulate opportunity
3. Apply business models
4. Apply design strategies
5. Prepare for implementation
CIRCULAR BUSINESS MODELS

Linear model: Sell more, sell faster

1. Classic Long Life Model
2. Hybrid Model
3. Gap Exploiter Model
4. Access Model
5. Performance Model
1. Classic Long Life

**When relevant?**
- Product with a long technical lifetime

**Revenue model?**
- Transaction moment with a higher profit margin

**Sustainable/circular?**
- Long-term use of material and energy

**Note:**
- Premature disposal by user
3. Gap Exploiter

Multiple variants:

- Repair service
- 2nd Hand trader
- Recovery
3. **Gap Exploiter: Repair service**

**When relevant?**
- Product no longer used due to component failure

**Revenue model?**
- Income from repair and parts and contact moment

**Sustainable/circular?**
- Prolonged product lifetime

**Note:**
- High costs labour and logistics
3. **Gap Exploiter: 2nd Hand trader**

When relevant?
- Technical life span continues after first use

Revenue model?
- Income from repair in 2nd hand market, contact in primary market

Sustainable/circular?
- Prolonged product lifetime

Note:
- Demands high IT investments, powerful when salesperson/owner does much work him/herself
3. **Gap Exploiter: 2nd Hand trader**

### When relevant?
- Technical life span continues after first use

### Revenue model?
- Income from repair in 2nd hand market, contact in primary market

### Sustainable/circular?
- Prolonged product lifetime

### Note:
- Take back and sales in volatile 2nd market demands new skills and capital

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*LELY Taurus* refurbished milking robots
CIRCULAR BUSINESS MODELS

3. Gap Exploiter: *Recovery*

*When relevant?*
- Valuable parts or materials in ‘end of use’ product

*Revenue model?*
- Income from sales of materials

*Sustainable/circular?*
- Materials back in value chain with high reuse percentage

*Note:*
- Product reuse generates more value than component or material reuse

Closing the Loop: take back of cell phones from Africa
5. Performance model

When relevant?
• Sub-optimal product-use during life cycle

Revenue model?
• Income from service and long-term relationship

Sustainable/circular?
• More efficient product-use as enabler or no need for product

Note:
• Changes entire business and far-reaching design consequences

Rolls-Royce leasing aircraft engines by force/hour
FRAMEWORK: PRODUCTS THAT FLOW

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- Gives meaning to the concept of circular design for Fast-moving Consumer Goods
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VALUE CREATION versus - DESTRUCTION

Material selection / efficiency

ADD VALUE
repair/maintain

REtain VALUE
reuse/redistribute
refurbish
remanufacture
recycle

PRE-USE
USE
POST-USE
APPLY BUSINESS MODELS

Apply a business model

Business models
1. Classic long-life model
2. Hybrid model
3. Gap-exploiter model
4. Access model
5. Performance model

Jeans
Classic long-life
- Premium price for quality and personalisation
- Offer accessories and services

Gap-exploiter
- Buy back jeans after use
- Clean and repair jeans
- Sell jeans in secondary market
Circular Design Process

1. Identify value destruction
2. Formulate opportunity
3. Apply business models
4. Apply design strategies
5. Prepare for implementation
CIRCULAR DESIGN STRATEGIES

1. Attachment and Trust
2. Durability
3. Standardization and Compatibility
4. Ease of Maintenance and Repair
5. Upgradability and Adaptability
6. Dis- and Reassembly
1. Attachment and Trust

When relevant?
- Technical life span exceeds period of use due to early discarding

Design challenge?
- Design-elements that encourages personal attachment to product

Goal?
- Extending product lifetime through careful use and postponed replacement

Combination with business model?
- Classic Long Life
2. Durability

When relevant?
- Economic lifespan not achieved due to technical cause

Design challenge?
- Design to prevent defects

Goal?
- Longer use of product through technical adjustments

Combination with business model?
- Classic Long Life, Hybrid, also basis for other business models
4. Ease of Maintenance and Repair

**When relevant?**
- Product-use stops due to failure of component

**Design challenge?**
- Design aimed at easy repair

**Goal?**
- Longer use of product by taking out weakest link

**Combination with business model?**
- Basis for Gap Exploiter Repair service, supports Classic Long Life of Hybrid model

**Fair Phone** – modular design / designed to repair
6. Dis- and Reassembly

**When relevant?**
- Design to optimize reuse of materials

**Design challenge?**
- Design aimed at easy separation of components and/or materials

**Goal?**
- Higher value of residual material

**Combination with business model?**
- Relevant for every end-of-use situation, not necessarily business

Herman Miller - Mira chair
SUCCES = COMBINATION

Product

Service

Design Strategy

Business Model

Component
CIRCULAR BUSINESS MODEL + DESIGN STRATEGY

Classic Long Life + Durability

Product

Design Strategy

Component

Business Model

Service
CIRCULAR BUSINESS MODEL + DESIGN STRATEGY

Access model + Ease of Maintenance and Repair

A smart Miele washing machine
- pay for use - from 70 cents per cycle
- saving energy and detergent with online laundry help
- na 1 jaar optie tot kopen
- free placement, installation and repair

Check out our bundles
APPLY DESIGN STRATEGIES

Apply a design strategy

Design strategies
1. Attachment & Trust
2. Product Durability
3. Standardization & Compatibility
4. Ease of maintenance & Repair
5. Upgradability & Adaptability
6. Dis & Reassembly

Jeans - focus on re-use
Entire jeans
- Attachment & Trust: customizing by user
- Upgradability & Adaptability: variable trouser leg length

Material
- Ease of maintenance & Repair: replaceable button
Circular Design Process
1. Identify value destruction
2. Formulate opportunity
3. Apply business models
4. Apply design strategies
5. Prepare for implementation
PREPARE FOR IMPLEMENTATION

A. Determine the changes to come from;
   • Current linear to
   • Desired circular

B. Plot activities to establish changes in roadmap;
   • What activity?
   • When?
   • Circular addition; with whom?
PREPARE FOR IMPLEMENTATION

C. Complete Circular Business Canvas
   - To memorize
   - for extensive hand-over

D. Pitch for most important stakeholder
CIRCO
creating business through circular design

Cases & examples
**SECTOR SPECIFIC**

**TRACK THEMES**

**Consumer goods**
- Consumer goods (generic)
- Consumer good recycling value preservation
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- Carpets and interior textiles
- B2B textiles
- Tourism and recreation
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- Fashion sport wear

**Plastics and FMCG**
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- Mobility and (e-) infrastructure
- High tech industry
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- Maritime sector
- Circular water management
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**Agriculture**
- Regional primary agro
- Horticulture
- Food waste in hotel
- Cheese industry chain

**Built environment / construction**
- Smart buildings
- Smart energy concepts
- Flexible walls
- Facades
- Building (generic and / or regional)
- Build en re-build project specific
- Wood second use
- Circular refitting
- Renewable energy
De diepgaande integratie van ketensamenwerking kan eng zijn, omdat je daar ook zit met je concurrenten. Maar het is ook erg leerzaam.

Challenge
Annually, 15 million kilos of headphones are thrown away. Gerrard Street developed a modular and repairable headphone, which is offered with a lease model.

Circular Design Strategy
The headphones are designed modular. This allows the customer to easily replace a broken module. In addition, upgrades, such as a cable with a microphone, are easy to implement.

Circular Business Model
Customers lease headphones for € 7.50 to € 10 per month. No distinction is made between new or refurbished headphones. When a customer stops the subscription, the headphone is sent back to Gerrard Street. The returned products are refurbished and put on the market again. All modules are checked and cleaned. Parts with a lot of damage are being replaced, but light user tracks are not a problem for customers.

Result & Continuation
The biggest challenge is to convince customers about the benefits of leasing a product instead of owning a product. For the new generation of headphones, a partnership is entered with the Dutch audio brand Fresh’n Rebel.

Modular headphones – Gerrard Street

“Due to the modular design, the headphones are not only easy to repair, they also fit through the letterbox when disassembled. In this way we save a lot on transport costs.”

- Dorus Galama, founder Gerrard Street
"Marketing is key for new circular concepts. We collaborate with several parties to help each other, for example our collaboration with sustainable laundry detergents brand ‘Seepje’”

- Gabriëlle Werner, Founder Rabbit Hole Kids

**Challenge**

In their first year, baby’s grow through at least six sizes of clothing. That requires a big pile of clothing, that is only used for a short period of time. What a waste! The sustainable baby clothing brand Rabbit Hole is going to change that.

**Circular Design Strategy**

The jumpsuits are made of organic cotton, and are available in combination-sizes, so the baby clothing can be used longer. The size and washing label are not sewn but printed in the clothing. That makes the clothing fit for re-use.

**Circulair Businessmodel**

The sustainable Rabbit Hole jumpsuits are online available as brand new and second hand. When a baby has grown out of the suit, the jumpsuit can be send back to Rabbit hole. In exchange the customer receives a coupon worth 5 euro’s. Rabbit Hole checks and washes the returned jumpsuits and repairs them if needed. They are then offered on the website as a second-hand product.

**Result & Continuation**

The sustainable baby suits are sold since the end of 2018. In the future, Rabbit Hole Kids will expand with other pieces of clothing, composed packages and new clothing subscription models.
Challenge
In their first year, baby’s grow through at least six sizes of clothing. That requires a big pile of clothing, that is only used for a short period of time. What a waste! The sustainable baby clothing brand VIGGA is going to change that.

Circular Design Strategy
The kids clothes are made of organic cotton, and are designed to be easy to clean and to last multiple users.

Circulair Businessmodel
The sustainable VIGGA garment can be acquired via a subscription. You get a new set of clothing and send back the clothing that the child has outgrown.

Result & Continuation
Circular baby clothing – VIGGA (Denmark)
“babies grow and clothes do not grow”
De diepgaande integratie van ketensamenwerking kan eng zijn, omdat je daar ook zit met je concurrenten. Maar het is ook erg leerzaam.

**Challenge**

REMADE in HOLLAND revises used products, such as (electro) engines and compressors, into new condition. The refurbished parts are reused by customers in new products.

**Circular design Strategy**

Products are revised in series and run through a remanufacturing process. Used products are cleaned and worn out components are replaced. The product is carefully finished, so it looks new and functions again. In principle, the design is not altered, but sometimes small modifications are made to improve the product.

**Circular business model**

The products remain the property of the customer. REMADE in HOLLAND only grants the remanufacturing service to companies. Customers pay a fixed price per revised product.

**Result & Continuation**

In the coming period REMADE in HOLLAND wants to further scale up and further professionalize the remanufacturing process. They depend on the circular mindset of customers. They make the decision to use a remanufactured product instead of buying a new product.

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Remanufacturing of engines – REMADE in HOLLAND

"Companies need to see that there are many opportunities in remanufacturing, they simply make money."

- Eduard Lebbink, REMADE in HOLLAND

Participant CIRCO track
Challenge
Schelde Exotech supplies large industrial equipment such as chemical reactors, storage tanks, heat exchangers, and pressure vessels. The high quality makes this Dutch specialized equipment more expensive than foreign competitors. More often, the company is asked for reparations on old equipment.

Circular Design Strategy
Schelde Exotech is focused on preventive maintenance and extensive revision of heat exchangers and pressure vessels. With this, the lifespan of the products can be extended and products can be restored in their original state or can be improved.

Circular Business Model
The refurbished products are much lower in cost for the customer than new equipment and the maintenance gives Schelde Exotech a better margin. Extending the lifespan also yields environmental benefits, so it is a win-win-win scenario.

Result & Continuation
Our participation in the CIRCO track helped us to better reach our customers with our circular services. Remanufacturing and refurbishment services are now for 5 to 10% part of the company's turnover.

Remanufacturing & Refurbishment – Schelde Exotech
"CIRCO helped us with a circular proposition for our own company and I can now sell it more commercially for the customer."

- Jos Mols, Managing Director Schelde Exotech

Participant CIRCO track
Next steps in Poland
Discovering Circular Opportunities
CIRCO IS A CIRCULAR DESIGN PROGRAM THAT;

- **Companies**: Activates and equips companies to get started with creating circular "business"

- **Designers**: Enables designers to integrate circular design into their daily activities

- **Policy makers**: Supports policy makers to drive the circular transition by facilitating private parties to take an active role in the realization of policy and company objectives simultaneously
Netherlands is encouraging circular economy
  - To reach global and national climate agreement targets
  - Connect international value chains
  - To provide opportunities for Dutch companies
CIRCO is a tool to give substance to this objective
  - The methodology has been successfully tested in 8 countries
  - Convinced a local infrastructure is required to activate companies and run the program
  - Train the trainer program initiated and roll-out in three countries
HUBS IN OPERATION

- Started because of local drive;
  - Post pushing / facilitating
  - Partner willing and capable
- 24 trainers educated
- 8 Tracks and 4 Classes in 2019, 30 Tracks and 10 Classes projected for 2020
- 10 Tracks and several classes in first 18 month for each partner

Brazil, Rio region
- FIRJAN employers organisation
- Design branch, Casa Firjan
- Consulate as driver

Turkey
- SKD, local WBCSD branch representing 1/3 of GDP
- Internal and external trainers
- Consulate as driver

Sri Lanka
- AOD design academy
- Related to business conglomerate
- Embassy involved and supporting

Train the trainer process available and tested; design material, training tools, shared infrastructure, feedback loop
HIGH IMPACT EXAMPLES

SUP Indonesia
- Packaging value chain
- Big fast movers in lead
- Packaging manufactures and recycling industry engaged
- Start EPR / ESR
- Rethink projects on collective packaging innovation

RE-CET Europe
- Consumer electronics chain
- Brand owners in lead
- Recyclers and take back schemes involved
- 6 collaboration projects
- Follow-up 2020 on vacuum cleaner and DFR

Textile Turkey
- Textile chain
- Production companies connecting with brand owners
- Analyses on gap between demand requirements and supply capabilities

Infrastructure enabling high impact value chain interventions / collaborations
NEXT STEPS..
THANK YOU

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