



# **INDTECH2018**

## **Innovative industries for smart growth**

29-31 October, 2018  
Vienna, Austria

[www.indtech2018.eu](http://www.indtech2018.eu)  
[@IndTech2018](https://twitter.com/IndTech2018)  
[#IndTech2018](https://twitter.com/IndTech2018)

**PILLAR 1**

**Session 1.1**

**High value products from zero-value waste textiles and fibres via design driven technologies**

**Ivo Lamers**

**VanBerlo**

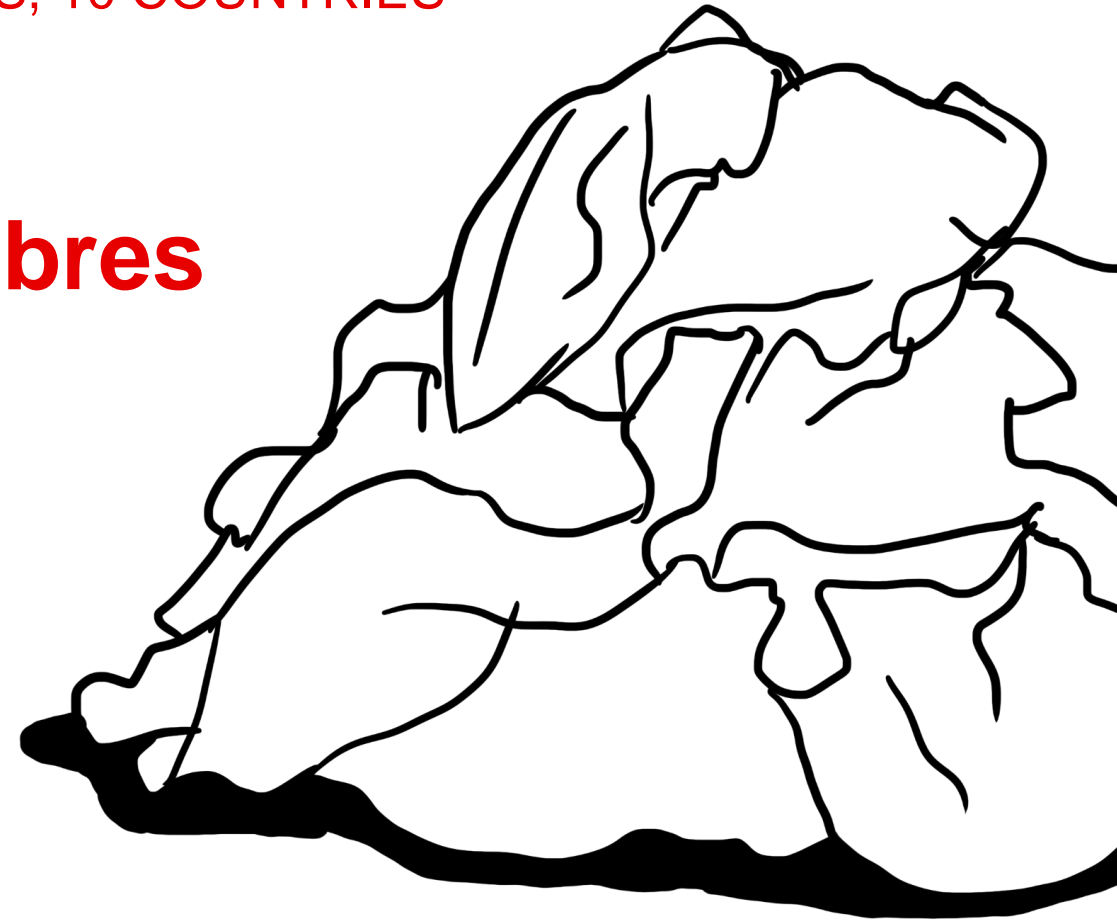
**30 October 2018**



**TRASH-2-CASH | 18 PARTNERS, 10 COUNTRIES**

# Taking waste & making new fibres

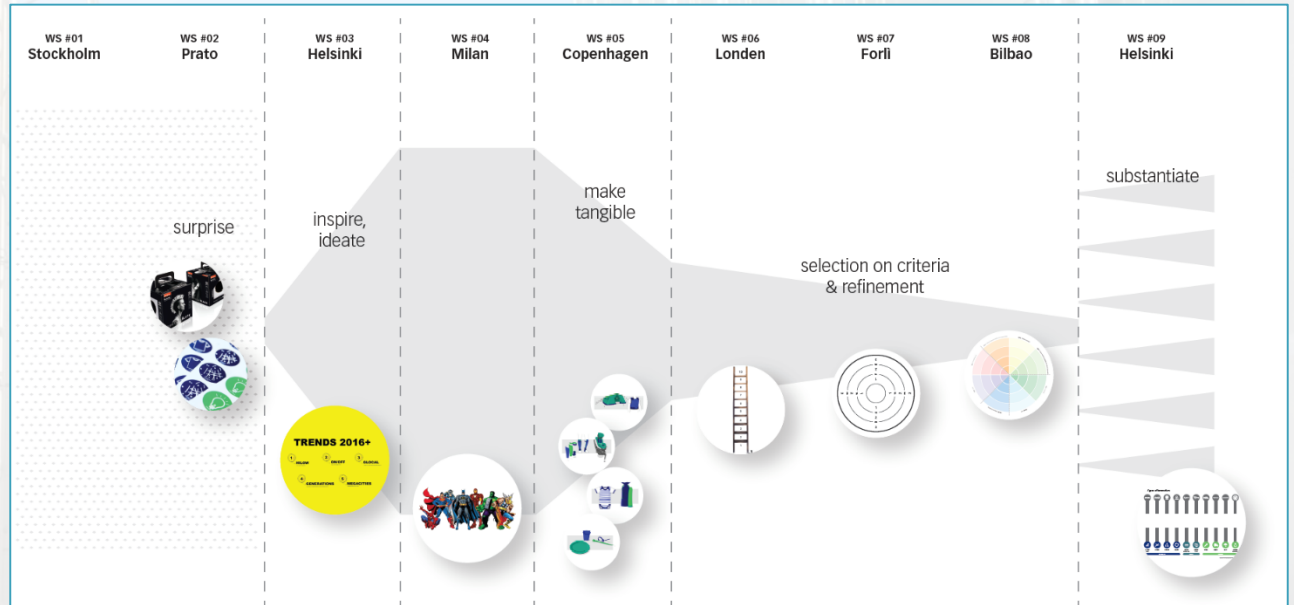
New fibres from pre-consumer and post-consumer waste



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 767162.



## TRASH-2-CASH | PROCESS





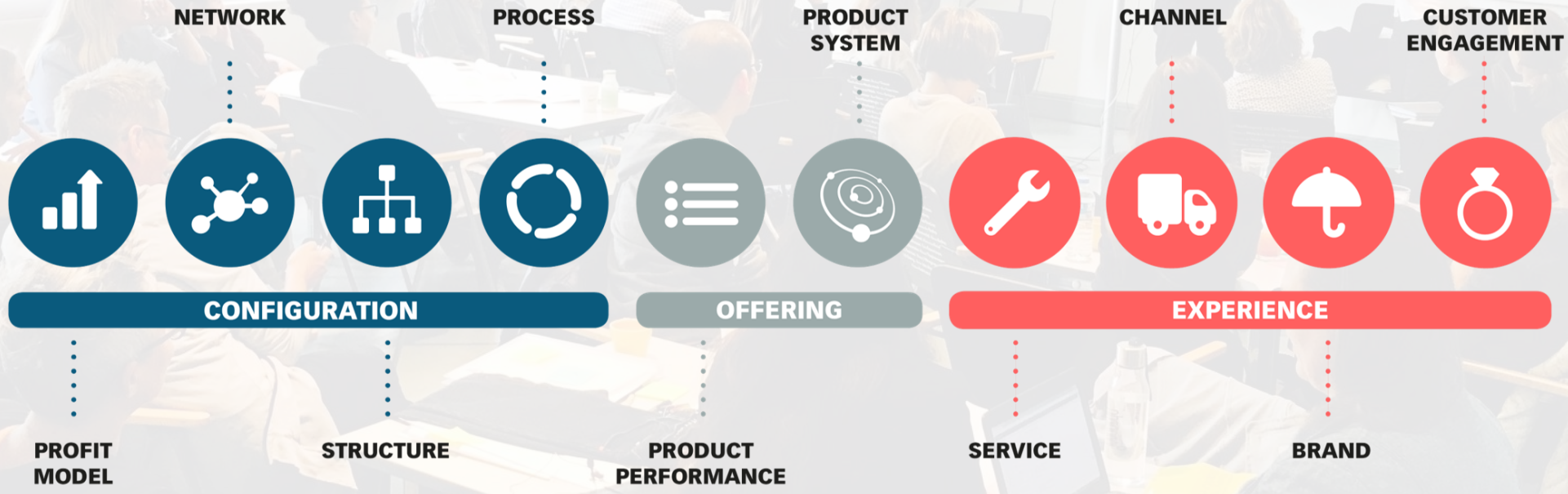
The most certain way to fail  
is to only focus on ~~products.~~

SUSTAINABILITY

**Successful innovation is  
all about broad relevance.**



## TEN TYPES OF INNOVATION | RELEVANT INNOVATION





# INDustrial TECHNOLOGIES 2018

## Innovative Industries for Smart Growth



Our goal was to design a shirt that had as close to a 0° impact on the environment as possible. The result is a shirt made from Ioncell-F fibres, a material produced from waste cotton textiles. Its pale blue colour comes from the blue cotton feedstock, meaning no bleaching was needed, further reducing the material's impact.



### 0° Shirt

The R<sup>3</sup> coat is made from recycled materials, is recyclable and breathable. To make sure the materials get back to where they need to be for recycling at end of life, an innovative business model has been developed based on renting, not owning these raincoats.



### R<sup>3</sup> Coat

Performance layers are soft and functional, wicking moisture away from the wearer's skin. But unfortunately the materials currently used for mid-layer garments have large environmental impacts. This alternative mid-layer material made from recycled cotton has hydrophobic properties added to the fibre, ensuring sustainability does not compromise performance.



### ReAct Mid-layer

By law, cars of the future will be increasingly required to use recycled and recyclable materials in their production. The Trash-2-Cash recycling technologies allow the proposal of new modes for manufacturing visually appealing, high-quality automotive interior plastics using recycled plastic pellets, recycled textiles and recyclable resin.



### Fashion Fascia

Polyester fleece was revolutionary in the 80's but is now known to be hugely harmful to the environment due to the shedding of microplastic particles. This natural fleece is made of soft and warm micro-fibres, produced from recycled cotton textiles, that will not accumulate in the environment.



### Reborn - Reworn Jacket

Polyester-Cotton blends are the most common materials used in clothing. Elastane, added for the manufacture of stretchy jeans, seriously disrupts textile waste sorting and recycling. DeNAture Jeans are made from yarn that is both recycled and recyclable. Trash-2-Cash researchers have replaced the troublesome elastane with stretchy, recycled polyester, and used an innovative elastic weave structure, ensuring that the comfort and performance of the garment is maintained.



### DeNAture Jeans