POWER4BIO webinar series: biomaterials, 19th of January, 2021

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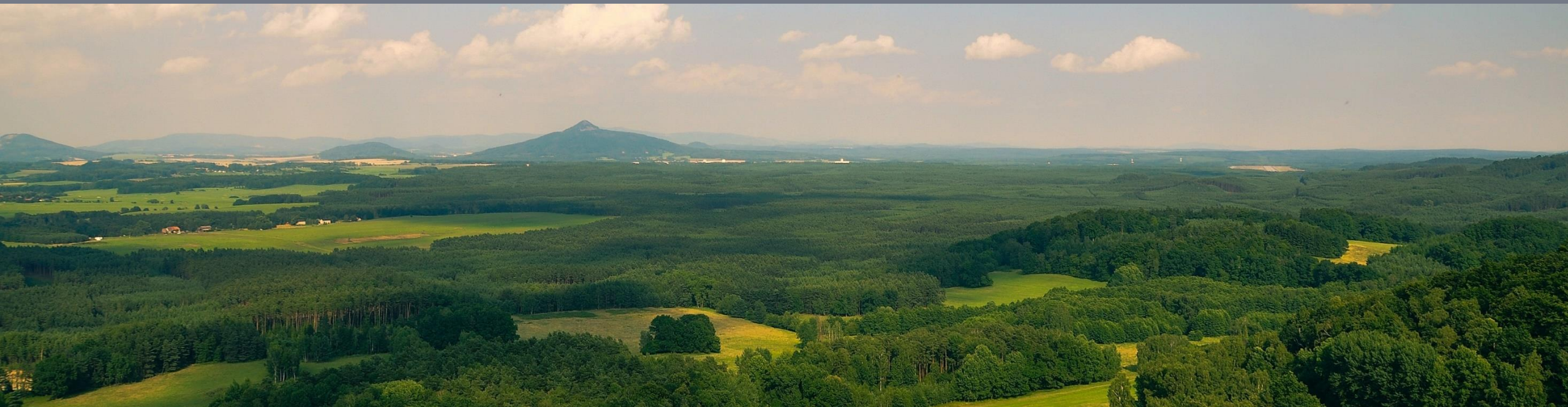
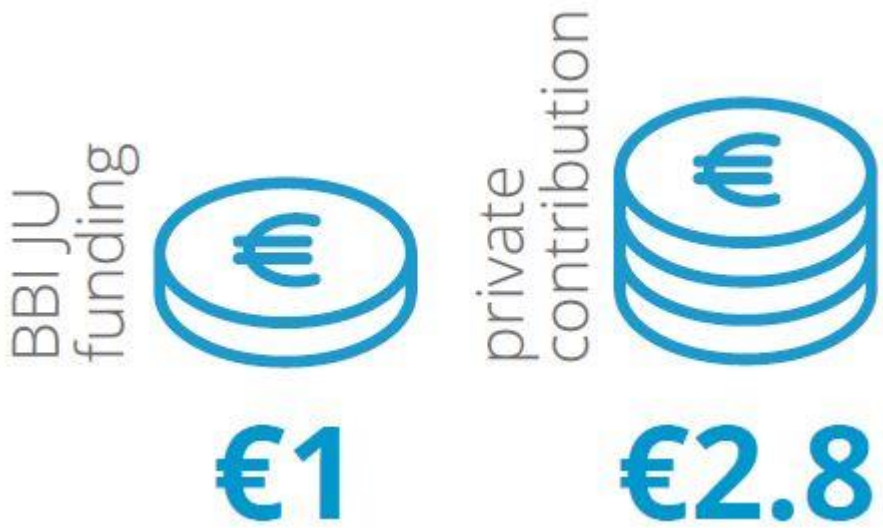
Introduction to biomass valorisation for biomaterials



BBI JU

- PPP between EU and BIC
- €3.7 billion
- 123 funded projects



BBI JU

- Three main focus areas:
  - Foster a sustainable biomass supply
  - Optimise efficient processing
  - Develop markets for bio-based products

Projects

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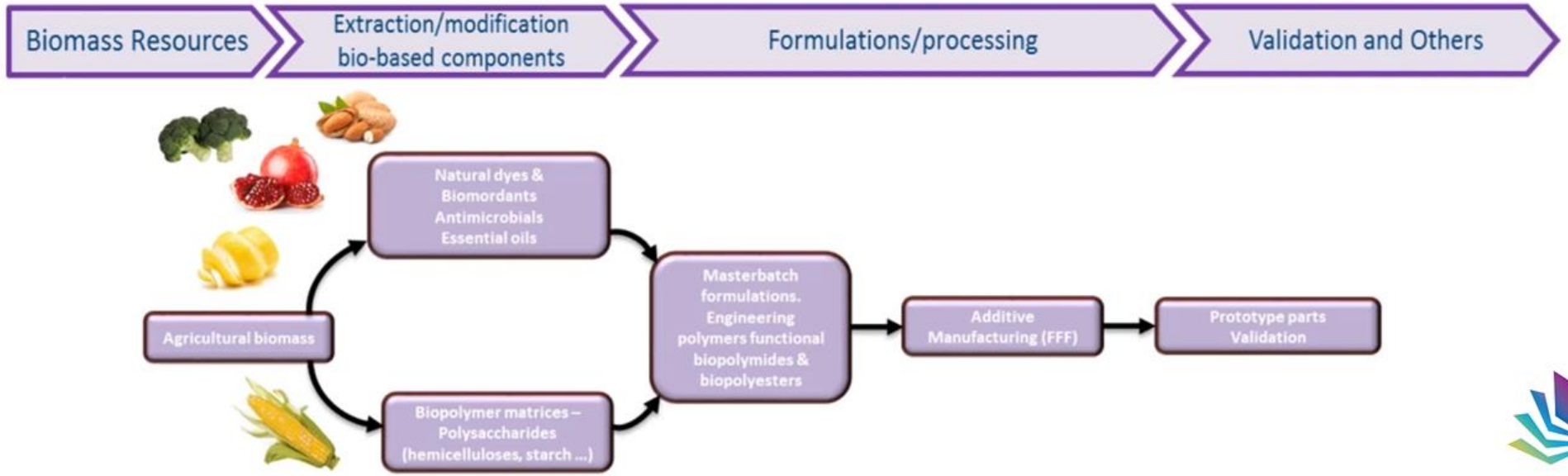
- Automotive and construction sectors:

- Packaging sector:

- Other sectors:

BARBARA project

- Aim: develop new bio-based materials with innovative functionalities through fused filament fabrication (3D-printing)
- Feedstock: food waste and agricultural by-products: corn, pomegranate, broccoli, lemon, almond



BARBARA project

- Door handles and dashboard fascia for cars
- Moulds for Resin Transfer Moulding and truss joint prototypes
- More information: https://www.barbaraproject.eu/

Automotive prototypes

Construction prototypes

Ecoxy project

- Aim: develop bio-based recyclable, reshapable and repairable (3R) fibre-reinforced EpOXY composites for automotive and construction sectors

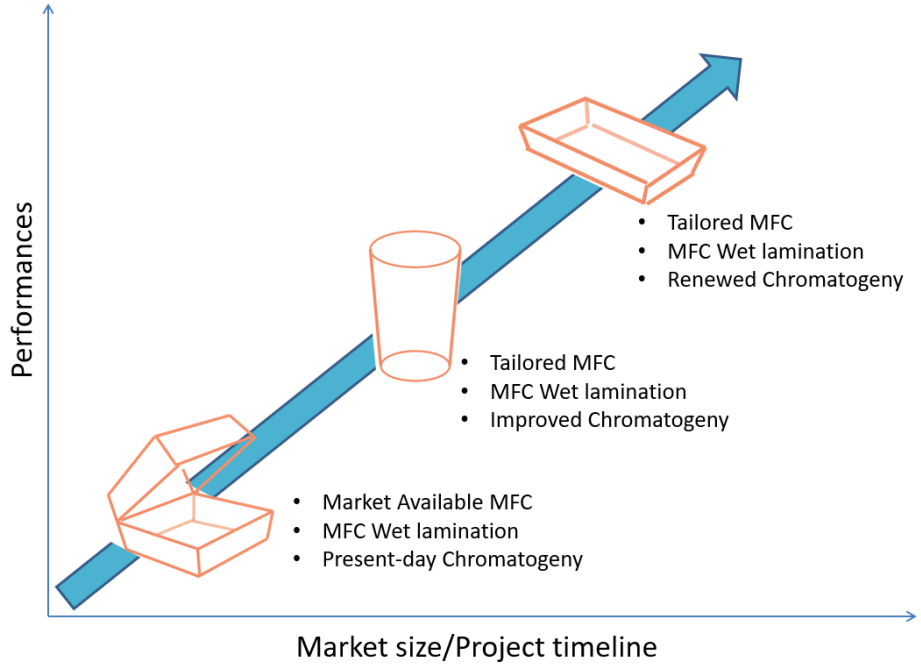
- Two techniques:
  - pultrusion technique
  - wet compression molding

Ecoxy project

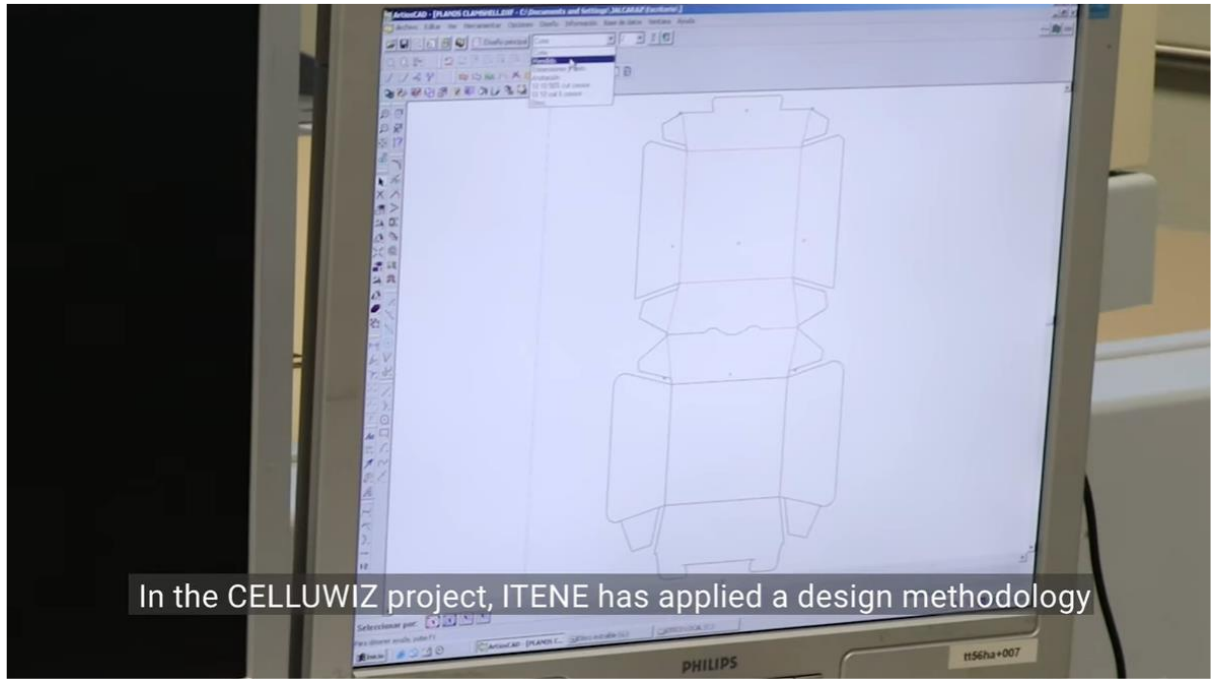
- More information: http://www.ecoxy.eu/

CelluWiz project

- Aim: develop two processes able to produce an **all-cellulose packaging material.**
- **1.The MFC wet lamination** process
- **2.The chromatogeny** coating and grafting process



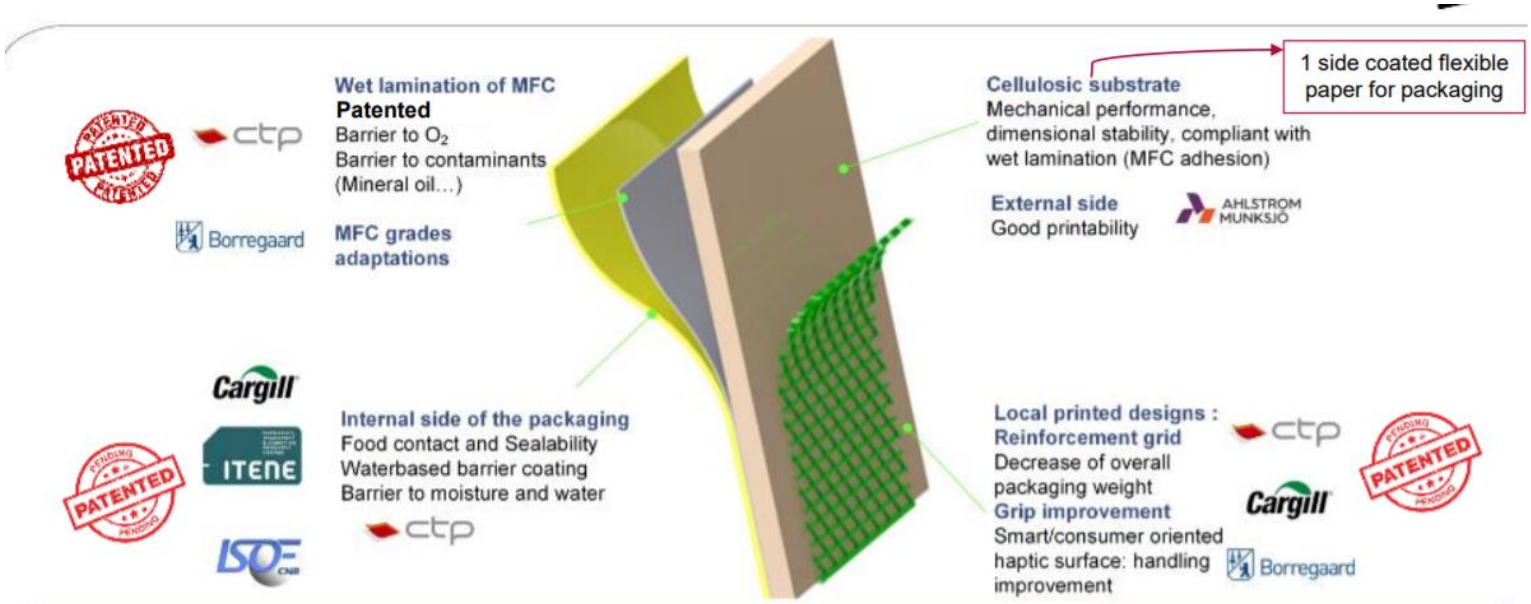
CelluWiz project



- More information: http://www.celluwiz.eu/index.cfm

Sherpack project

- Aim: develop a renewable, biodegradable and recyclable flexible paper-based packaging material that can be converted by heat-sealing and folding, with improved stiffness and grip



Biosmart project

- Aim: develop smart bio-based biodegradable and/or compostable packages to meet the needs of both fresh and pretreated food applications
- Polylactic acid (PLA) trays reinforced with modified clay
- More information: https://biosmart-project.eu/

Pulpacktion project

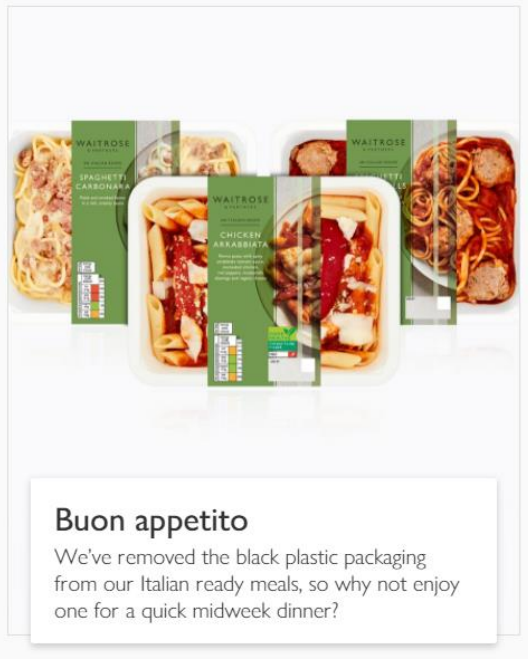
- Aim: develop cellulose-based packaging solutions for the specific demands of the food and electronic packaging industries, reducing dependence on non-renewable fossil fuel-based plastics

Fresh project

- Aim: develop an innovative, cellulose-based alternative to existing fossil-based plastic trays, which is a fully bio-based and biodegradable composite material

Fresh project

- In 2019 30 new local jobs has been created in Armagh City, Northern Ireland
- Waitrose Italian ready-made meals - nine million plastic packaging products has been replaced by a bio-based material derived from wood raw material
- Bio-based material of the Year 2020



NeoCel project

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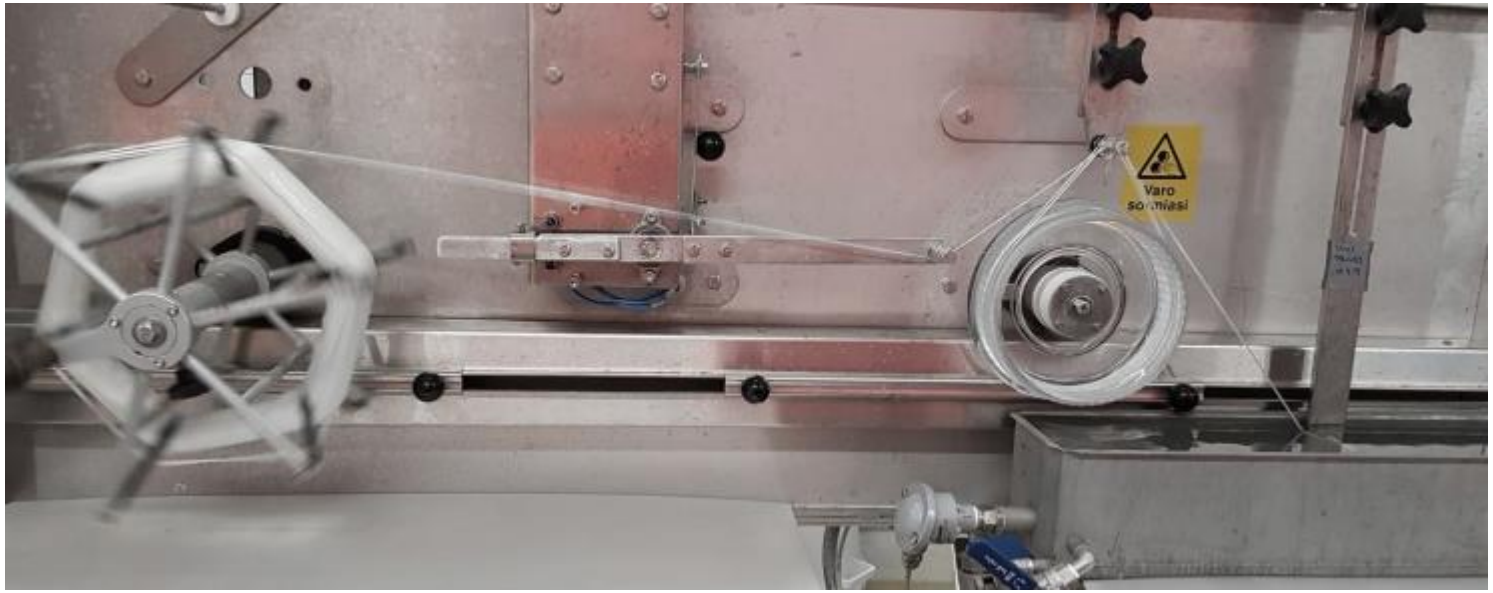
- Aim: develop innovative and techno-economically feasible processes for producing high quality textile fibres from reactive high cellulose pulps



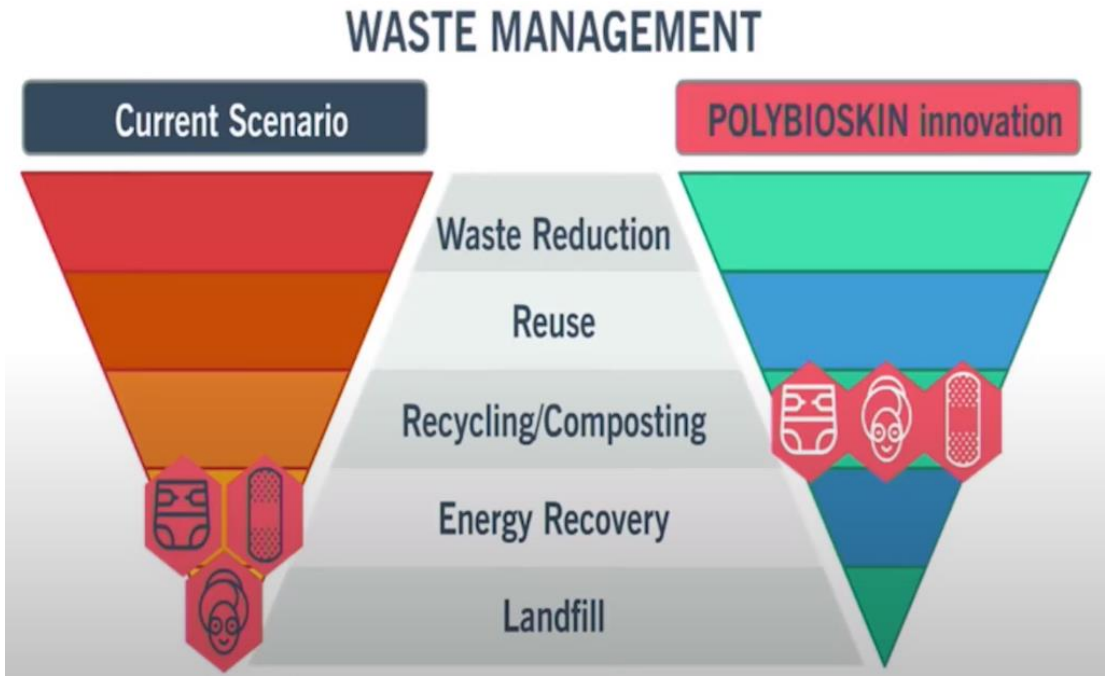
NeoCel

NeoCel project

- High quality fibres, 15-50% lower environmental impact
- More information: http://neocel.eu/

Polybioskin project

- Aim: develop skin-contact bio-polymer based product parts in biomedical, cosmetic and sanitary industry



Polybioskin project

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- Fully biodegradable nappy

- Fully biodegradable and bioactive facial beauty masks

- A nanostructured biocompatible non-woven tissue for use in wound dressings

- More information: http://polybioskin.eu/

POLYBIOSKIN

Other projects in progress

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- Packaging sector:

- Other sectors:

Thank you for your attention!

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