



CLASS

Conference 2014

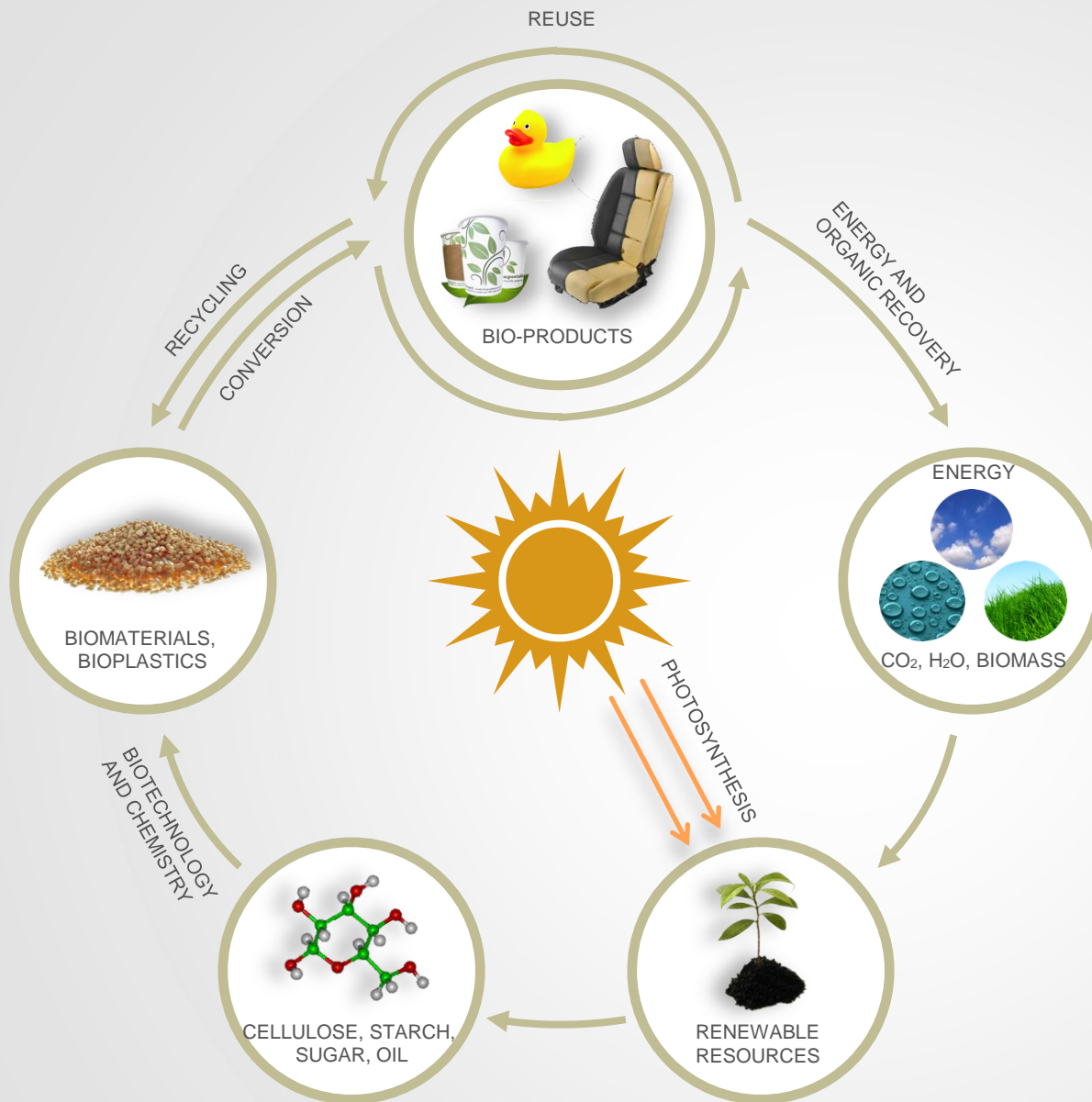
CloudAssisted Services

Idea Pitch

Innovation e-Platform for Bioeconomy

Example for Bioplastics in Automotive Industry

Alexis Zrimec, Maja Berden Zrimec
choosebio@gmail.com



Circular Bioeconomy

Restorative and in which material flows are of two types:

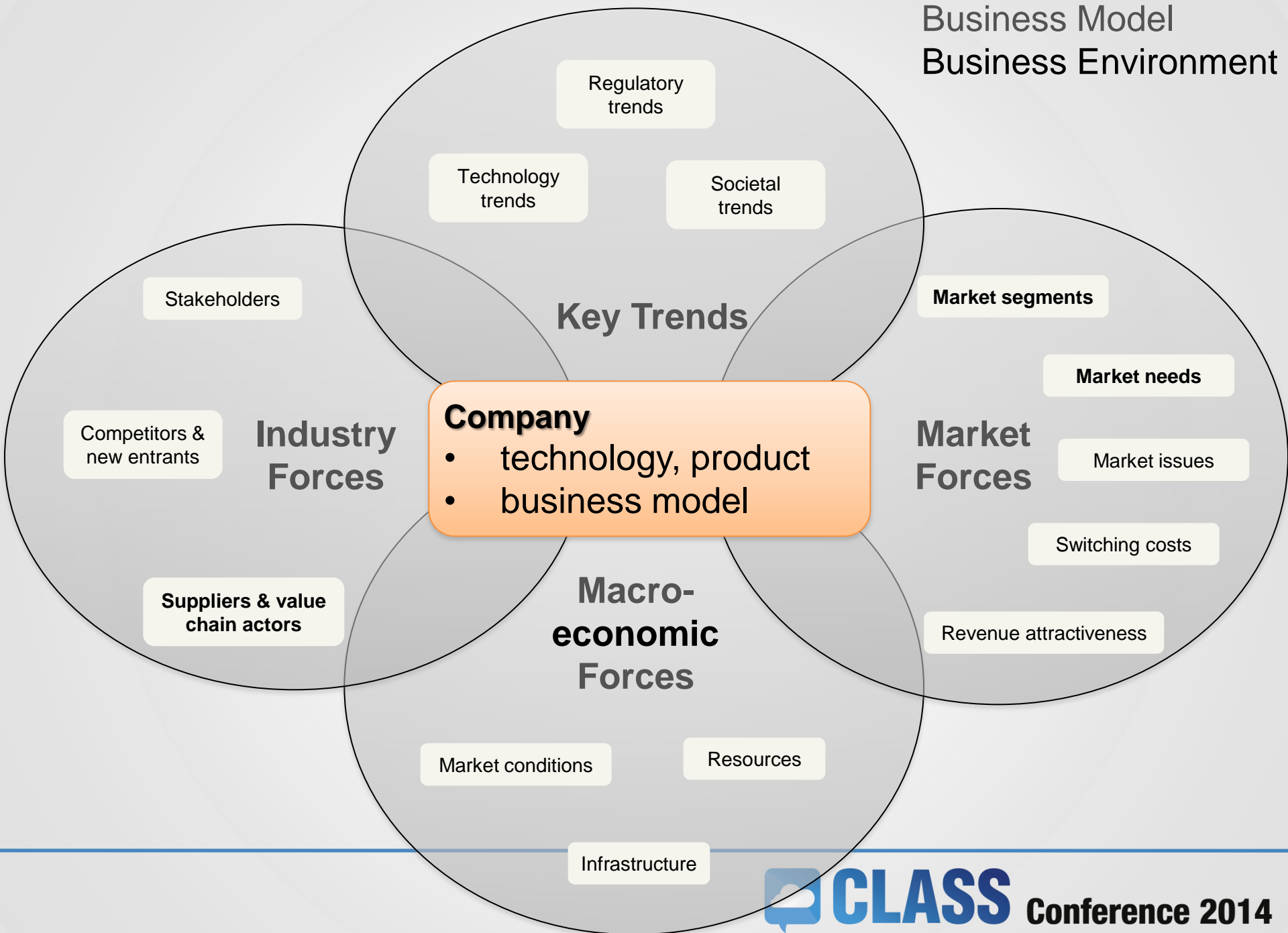
- **biological nutrients**, designed to reenter the biosphere safely, and
- **technical nutrients**, which are designed to circulate at high quality without entering the biosphere.

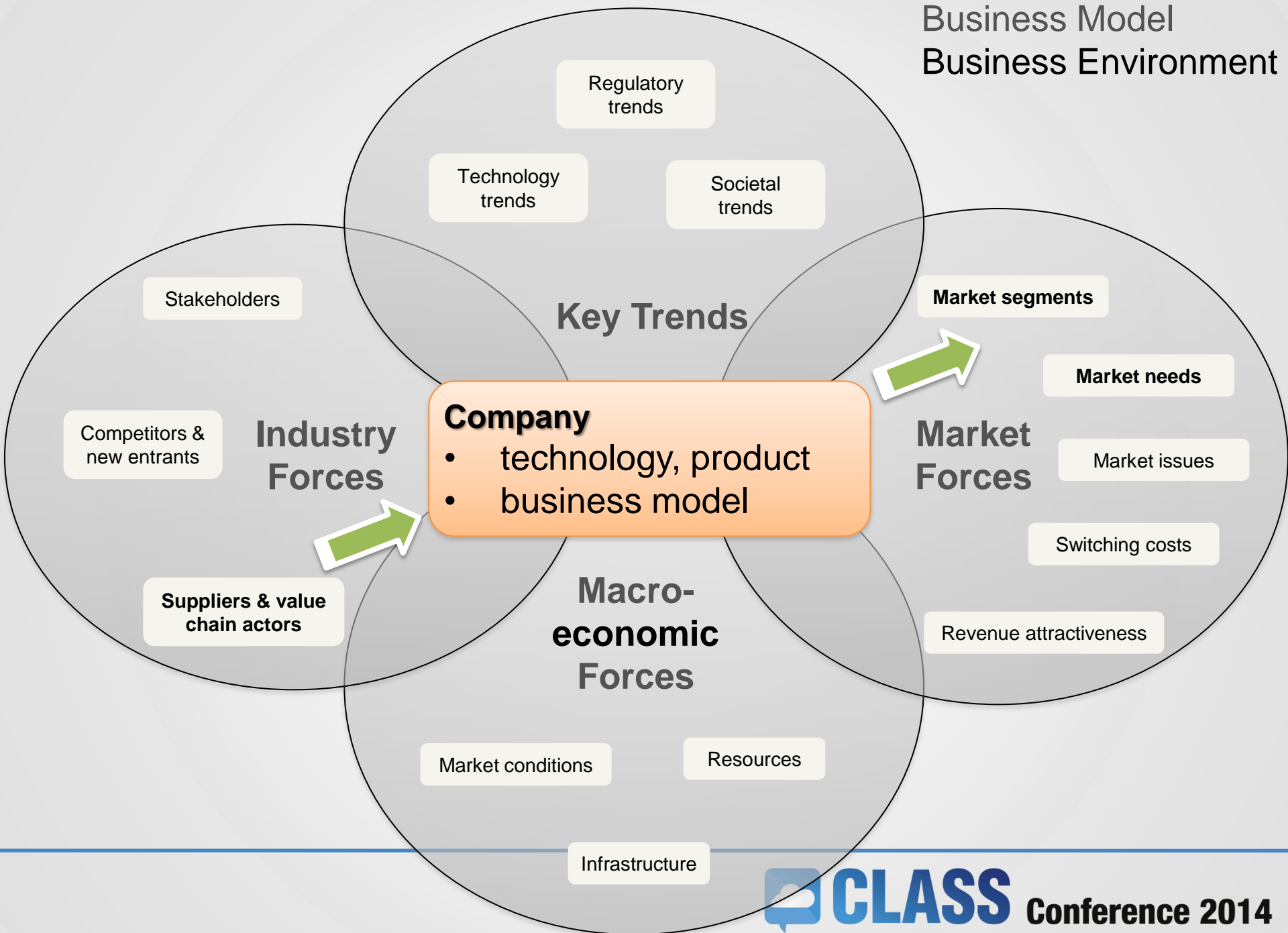
Drivers

- Technologies & Materials
- Regulations & Policies
- Societal Trends & Ideas

To Do

- Identify technical challenges
- Identify the business models
- Develop technical, economic, policy and market conditions





e-Platform

Entry Point for Companies

Example: Car Seats Producer

ChooseBIO

Lean Innovation Lab

Industry:

Product:

bioMaterials



Sugar, starch,
cellulose

Biocomposites,
bioplastics, fibers

bioTechnologies



Fermentation, wood
liquefaction

Polymerization, additives,
biodegradability

bioProducts



Moulding, extrusion

Biofuels, car parts

Biomass

Agriculture

Construction

Packaging

Automotive



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Industry: Automotive

Product: Car seats

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Product: Car seats

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[Read more...](#)



40% Soy-Based Foam
From 5% soy-based polyol of competitive solutions to the staggering 40% without compromising the durability, stiffness or performance of the foam.

[Read more...](#)

LOGO

Cool Title
Very engaging unique value proposition of supplier.

[Read more...](#)

bioTrends

Technology

Regulatory

Societal

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Lighter Bio-based Car Seats



Car Seats from Soy-based Foam

In addition to environmental benefits, main bioplastics advantage for car makers is lighter, more cost-effective vehicle.

[Read more...](#)

bioSupport

Materials/Technologies

Innovation Lab

Market/Strategy

Support environment, promotion of ChooseBIO partners' services:

- **Materials/Technologies:** services offered (e.g. PLASTiCE partnership)
- **Innovation Lab:** Lean Innovation & Poly4EmI Open Collaboration Space
- **Market/Strategy:** Arhea & Horizon2020

bioCustomers



Vanilla Beans in Seat Foam

The 2011 Toyota Camry follows Ford in eco-friendly interior materials.

[Read more...](#)



BioFoam™ for FIAT and IVECO

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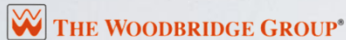
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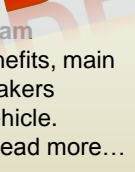
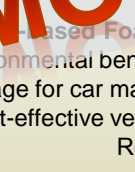
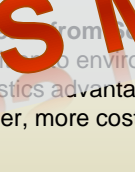
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BUSINESS MODEL

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Materials/Technologies Innovation Lab Market/Strategy

Support environment, promotion of ChooseBIO partners' services:
Materials/Technologies: services offered (e.g. LAS/ICE partnership)
Innovation Lab: Lean Innovation & Poly4EmI Center Collaboration
Market/Strategy: Carhea & Horizon2020

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Industry: Automotive

Product: Car seats

Woodbridge Offers the Broadest Range of BioFoam™ “Green” Polyurethane Automotive Interior Applications

The Woodbridge Group announced the most extensive interior product line offering the industry’s highest levels of “Green” Polyurethane Foams. As a key component of its renewable resource strategy, BioFoam, a patented technology, substitutes petroleum with plant oils, in the manufacturing of polyurethane products. This earth-friendly solution for a full line-up of automotive interior applications includes; seat cushions, seat fabric composites, head restraints, arm rests, occupant protection components, trim cover laminates and overhead systems.

BioFoam is the first mass-production ready, plant-based polyurethane foam solution, to meet all required customer performance criteria. According to Dr. Hamdy Khalil, Global Director of Research and Development, and Product Development at Woodbridge, “ BioFoam is the best choice for environmentally viable automotive interiors. Currently, Woodbridge supplies the broadest Bio-product range for interior applications, at up to 40% Bio-Polyol substitution. You are going to see substantially higher green content levels in the next generation. We have successfully produced foams with 100% Bio-Polyol in laboratory trials. If the industry adopted this level, Bio-Polyols alone could reduce fossil oil dependence by millions of barrels annually. Since Polyol only represents a portion of polyurethane’s chemistry, we are now working on the Isocyanate side of the formulation, to go even more green.”

The success of BioFoam is directly linked to Cargill’s highly engineered plant oil Polyol. Woodbridge has worked jointly with Cargill to validate Bio-Polyols for automotive applications. Cargill has performed a life cycle analysis which reveals this technology reduces; global warming emissions by 36 percent, non-renewable energy use by 61 percent, and reduces total energy demand. Over the next 3 years Woodbridge targets BioFoam’s Green Polyol inclusion to reach; 30% for overhead components, occupant protection foams, seat cushions, and the 50% mark for head restraints. Woodbridge continues to receive interest from numerous OEMs and Tier Ones for multiple future programs. Several vehicles launching in 2008 will feature BioFoam products. In cooperation with Magna, the recently announced 2009 Ford Escape is one of the latest examples.

The Woodbridge Group is a Canadian company with 63 facilities operating in 21 countries, and is a global leader in the development and production of polyurethane products. Automotive applications include components for seating, structural support, occupant protection, headliner systems and acoustical management, as well as a full range of value added services including engineering and design, supply chain management, assembly, sequencing and JIT delivery solutions. For more information, visit www.woodbridgegroup.com

Relational Database

TITLE: Unique Value Proposition

ABSTRACT: Solution

DESCRIPTION: with **LINK** to source

PHOTO: Material/Technology/Product

QUANTIFICATION: Numerical relevance (e.g. 45% global PLA production)

IMPORTANCE: Credibility (e.g. certificates, standards, awards, references...) => ChooseBIO label for the best choices

CATEGORIES (from Circular Economy): “Biomass”, “Building Blocks”, “Materials & Chemicals”, “Products”, “Closing the Loops”, “Reuse”, “Recycle”

TAG1: “Product”, “Technology”, “Service” (e.g. characterization, analysis, certification, marketing, distribution...), “Policy”, “Research”, “Idea”

TAG2: Industry (NACE classification)

TAG3: name of product/technology (e.g. “PLA”, “fermentation”); from a list of key terms in Category)

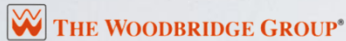
ChooseBIO

Lean Innovation Lab

Industry: Automotive

Product: Car seats

bioSuppliers



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Lighter Bio-based Car Seats



Car Seats from Soy-based Foam

In addition to environmental benefits, main bioplastics advantage for car makers is lighter, more cost-effective vehicle.

[Read more...](#)

bioSupport

Materials/Technologies

Innovation Lab

Market/Strategy

Support environment, promotion of ChooseBIO partners' services:

- **Materials/Technologies:** services offered (e.g. PLASTiCE partnership)
- **Innovation Lab:** Lean Innovation & Poly4EmI Open Collaboration Space
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The 2011 Toyota Camry follows Ford in eco-friendly interior materials.

[Read more...](#)



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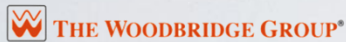
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Market/Strategy

JOINT R&D SCHEME for ENVIRONMENTAL BIODEGRADABLE POLYMERS

- Characterization of biopolymers
- Physical and chemical modifications
- Processing of biopolymers
- Energy efficiency of production
- Characterization of products
- Biodegradability and compostability analyses



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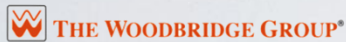
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Materials/Technologies Innovation Lab Market/Strategy

Lean Innovation:

- Create a strategic advantage in launch timing
- Strategic segmentation, market selection, and business-model creation
- Improve return on innovation spend



Poly4EmI Open Collaboration Spaces:

- Open space/brokerage platform
- “Biopolymer open innovation arenas”, “Biopolymer Creativity Awards”, “Joint roadmapping”, “Talent camps”

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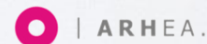
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Innovation Lab

Market/Strategy

Market and Strategic Analyses:

- Initial market sizing and specific market analyses
- Strategic alignment of innovation process within the company



Horizon2020:

- SME Instrument
- Assessment of Funding Readiness Level
- Partnering and brokerage
- Biobased Industries Consortium



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e-Platform

Entry Point for Clusters

Example: Automotive Cluster

ChooseBIO

Lean Innovation Lab

Industry:

Product:

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Biocomposites,
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bioTechnologies



Fermentation, wood
liquefaction

Polymerization, additives,
biodegradability

bioProducts



Moulding, extrusion

Biofuels, car parts

Biomass

Agriculture

Construction

Packaging

Automotive



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Industry: Automotive

Product: CLUSTER

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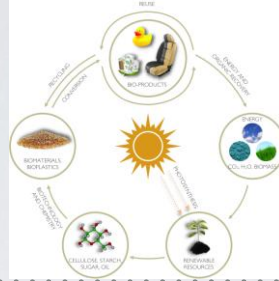


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ChooseBIO

Lean Innovation Lab



Industry: Automotive

Product: CLUSTER

Biomass

Building Blocks

Materials & Chemicals

B2B & B2C Products

Reuse, Recycle

Closing the Loops

Automotive

Packaging



Soy-based polyol



BioFoam™
Biopolyurethane foam



Evolution™ Seat
Bio Seats



Wood-based polyol



Arcadia™ Foam
Biopolyurethane foam



Bio Seats



Soy-based polyol



TOYOTA Camry
Bioplastic interiors

Soy-plantage



Soy-based polyol



FORD Focus
Bioplastic interiors



Lactic acids



Ingeo™ PolyLacticAcid



Ecological plastics



Sugar-cane plantage



Biopolyethylene



up to 30% plant-based
100% recyclable bottle



FORD Focus
Bioplastic textiles



BioPET bottle



BioPET bottle

The main strength of the ePlatform will be its **value-chain-centric architecture**, visually represented as a **business model for a specific product/user**.

Its value will be in the up-to-date **relational database of relevant information**.

Expected impacts

The Innovation ePlatform for Bioeconomy will enable more efficient:

- communication of national and EU policies to SMEs, with continuous impact monitoring and adjustments to maximizing their “SME-friendliness”;
- public- or private-funded innovation development with early business model validation;
- bridging of the public grant market with the investment and customer markets.