Idea Pitch

Innovation e-Platform for Bioeconomy
Example for Bioplastics in Automotive Industry

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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
Company
- technology, product
- business model

Key Trends
- Regulatory trends
- Technology trends
- Societal trends

Industry Forces
- Competitors & new entrants
- Suppliers & value chain actors

Market Forces
- Market segments
- Market needs
- Market issues
- Switching costs
- Revenue attractiveness

Macro-economic Forces
- Market conditions
- Resources
- Infrastructure

Business Model
Business Environment
Company
- technology, product
- business model
e-Platform

Entry Point for Companies

Example: Car Seats Producer
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

POLY4EMI          plastice          REPUBLIC OF SLOVENIA MINISTRY OF EDUCATION, SCIENCE AND SPORT          ACS          PCCL
ChooseBIO
Lean Innovation Lab

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BIOE4M, BioPlastice, ACS, PCCL

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Industry: Automotive

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“The Woodbridge Group®

“Green” Polyurethane Foams
BioFoam™ is the first mass-production, plant-based polyurethane foam solution, to meet all required customer performance criteria.

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…

bioTrends

Systematical presentation of trends:
- **Technology**: new industrial trends in technologies and materials (PUSH)
- **Regulatory**: existing and future legislation; industrial standards (PUSH)
- **Societal**: marketing trends (PULL)
- **Ideas**: research projects and innovations (e.g. H2020 projects)

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

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

Read more…

bioCustomers

Vanilla Beans in Seat Foam

Read more…

BioFoam™ for FIAT and IVECO
BioFoam™ Automotive Seat Cushioning Introduced to Fiat and Iveco Vehicles in Brazil.

Read more…

LOGO

Cool Title
Very engaging unique value proposition of supplier.

Read more…

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**TOYOTA**

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Read more...

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**IVECO**

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**ChooseBIO**

**Lean Innovation Lab**

**Industry:** Automotive  
**Product:** Car seats

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Read more...

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**bioSupport**  
**Materials/Technologies**  
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**business model**

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**environment**

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**TOYOTA**
Let’s Go Places
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**IVECO**

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**Other**

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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
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Lean Innovation Lab

**bioSuppliers**

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  **IVECO**
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- **Lighter Bio-based Car Seats**
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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

Vanilla Beans in Seat Foam

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Read more...

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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**BAYER**

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**USB**

LOGO

**Cool Title**

Very engaging unique value proposition of supplier.

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**Horizon2020**

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

bioCustomers

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**IVECO**

LOGO

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e-Platform

Entry Point for Clusters
Example: Automotive Cluster
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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:**

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Industry: Automotive
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Lean Innovation Lab

Industry: Automotive
Product: CLUSTER

Biomass
- Soy-plantage
- Sugar-cane plantation

Building Blocks
- Soy-based polyol
- Wood-based polyol
- Soy-based polyol
- Lactic acids
- Biopolyethylene

Materials & Chemicals
- BioFoam™ Biopolyurethane foam
- Arcadia™ Foam Biopolyurethane foam
- Ingeo™ PolyLactic Acid
- plantbottle: up to 30% plant-based, 100% recyclable bottle

B2B & B2C Products
- Evolution™ Seat: Bio Seats
- TOYOTA Camry: Bioplastic interiors
- FORD Focus: Bioplastic interiors
- FORD Focus: Bioplastic textiles

Reuse, Recycle
- Bio Seats
- Bioplastic interiors
- Ecological plastics

Closing the Loops
- 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.