







Boost your sustainability thanks to bio-based products

SustainableSolutionsMatch

Welcome!





Session Agenda

- Welcome & Introduction
- Sustainability in agro-agrifood, buildings, cosmetics, textile and interior design
- Pitch Presentations:
 - Pitch 1: Wax solutions Denis Kleine-Tebbe Business Development Manager (Germany)
 - Pitch 2: Nature compounds Sebastian Meyer Chief Technology Officer (Germany)
 - Pitch 3: Paneco Ambiente Daniel Bernardi Export Manager (Italy)
 - Pitch 4: Vitality Hemp Nathaniel Loxley –Founding Director (United Kingdom)
 - Pitch 5: Plinius Labs Yves Boonen CEO (Belgium)
 - Pitch 6: Lignopure Wienke Reynolds CTO (Germany)
 - Pitch 7: La Tannerie végétale Marc CESTARI COO (France)
 - Pitch 8: SQIM Federico Agostini EEN Project Manager (Italy)
 last minute change, replacement of Annalisa Moro EU Project ManagerableSolutionsMatch



Welcome & Introduction

Who's moderating?

Isabelle Gouriou
Grand Est Développement
SG Energy Intensive Industries
Co-Chair



Catherine Le Bloa
CCI de Limoges et de la Haute Vienne
SG Energy Intensive Industries
Co-Chair

Who's organizing?













Welcome & Introduction

Let's play by the rules: smooth sailing for our session!

- Mute Policy: Please remain muted unless speaking to avoid background noise.
- **Q&A Time:** After each pitch, there will be 1–2 minutes for questions (1-2 questions/pitch). Please use the chat to ask questions.
- Session Recording: This session will <u>not</u> be recorded for privacy consent.
- Time management: Pitchers, please keep track of your time. We will inform you if 5 minutes have passed.
- Technical Issues: If you encounter issues, use the chat to notify the host.





What is biotechnology?

As defined by the OECD, biotechnology applies science and technology to living organisms, as well as parts, products and models of them, to alter living or non-living materials to produce knowledge, goods and services.

Biotechnology can be used to manufacture bio-based products (biomanufacturing).

It can also be part of the solution to address many societal and environmental challenges, such as climate mitigation and adaptation, access to and sustainably using natural resources, restoring vital nature systems, food supply and security, and human health.

Biotechnology acknowledged as a Key Enabling
Technology (KET) for the implementation of the bioeconomy



Sustainability in the sector

- On the 20th of March 2024, the EC published a document entitled "Building the future with nature: Boosting Biotechnology and Biomanufacturing in the EU".
- Biotechnologies, biomanufacturing and bio-based products are source of competitiveness and sustainability. They help to reduce and/or avoid the use of fossil-based products/technologies while protecting the environment and people.
- Bio-based products are everywhere with numerous application fields (*Paper, packaging, materials, polymers, plastics, agro/agrifood, feed nutrition, chemicals, pharmaceuticals, cosmetics, buildings and construction, biofuels, energy, ...)*SustainableSolutionsMatch



Building the future with nature: Boosting Biotechnology and Biomanufacturing in the EU <u>EC Publication</u>, 20.3.2024

Biomanufacturing: can be part of the solution to address many societal and environmental challenges, such as climate mitigation and adaptation, access to and sustainable use of natural resources, restoration of vital nature systems, food supply and security, and human health.

Key for the competitiveness and EU modernisation

Strongly enhance the EU's open strategic autonomy and resilience by reducing industry's dependency on fossil-based input.







Sustainability in the sector

Main challenges and bottleneck:

- Regulatory obstacles
- R&D transfer
- Access to finance (long ROI, ...)
- **Skills** (high level requested)
- Value chain obstables (insufficient sustainable feedstocks)
- IP
- Public acceptance
- Economic security





Pitch Presentations

Time to meet the innovators!

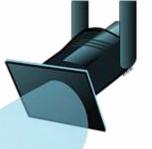
Discover how European SMEs tackled the challenge by replacing fossil-based product/technologies by bio-based solutions to boost their sustainability and competitiveness.







Pitch Presentations



Time to meet the innovators!



Innovative and natural biobased barrier coatings for paper and packaging industry replacing plastics replacing fossil-based solutions.

Pitch 1
Wax solutions (Germany)
Dennis Kleine-Tebbe









Natural Revolution: Bio-Based Barrier Coatings for Paper Packaging



Wax Solutions GmbH

Dennis Kleine-Tebbe Business Development Manager









SustainableSolutionsMatch





Our Solution and Mission: We Replace Plastics.

Bio-Based Coatings for Paper Packaging



Natural Materials, biobased content up to 100 %



Barriers Against
Water, Water
Vapour and Grease



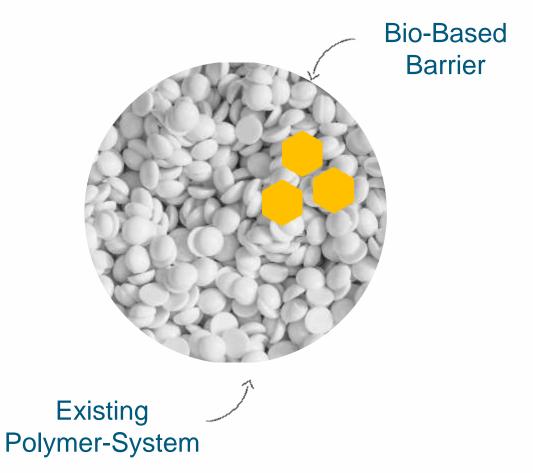
Focus on Recyclability of the Coated Papers



Scalable on Industrial Volumes



How it started



How it's going Bio-Based Barrier

Ready-to-Use Bio-Based Barrier Solution

Natural binding system





We are open for

Customers /
Application
testing

Natural Raw Materials Providers for Circular Services



#EENCanHelp

Book a meeting with: Wax Solutions GmbH

Dennis Kleine-Tebbe Business Development Manager Wax Solutions GmbH E-Mail: dennis@wax.solutions











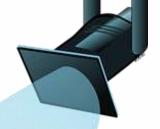








Pitch Presentations



Time to meet the innovators!



Beyond plastic.

Bio-based and biologically degradable material (compostable, heat-resistant and free from BPA and PFAS) suitable for thermoformed films (food-contact approved).

Pitch 2 **Nature compounds Sebastian Meyer**









LESS PLASTIC, MORE FUTURE...

YOU ARE WELCOME.

Sebastian Meyer Chief Technology Officer







ABOUT US

WHY?

We believe in a sustainable world through customized solutions for a plastic-free industry.

HOW?

We create individual and creative solutions for compounding, support the marketing of the resulting products and provide holistic assistance throughout the new value chain.

WHAT?

Nature Compound offers biodegradable plastic made from renewable raw materials that can be processed on existing equipment.





YOUR PRODUCT IN GREEN



The market and circumstances require the substitution of conventional plastic.



Our products bring progress to your company without adapting existing tools.



Bringing innovation to the market - We attend your company on this







OUR SERVICES







COMPOUNDS



- Customer-oriented and customized material
- Up to 100% bio-based and made from natural raw materials
- Biodegradable or recyclable on request





PRODUCT FAMILY









NatureForm Biocompound for flexible application



NatureForm Highly fibrous material for foils



formula



^{*}Formulations can be used in conventional injection molding machines



CASE STUDY















MARKET/TARGET AUDIENCE

Our target audience consists of various sectors within the plastics industry, such as injection molders. We also welcome small businesses with innovative ideas, as they can find a supportive environment with us.





Sustainable and circular innovation needs good networks along the whole value chain. What kind of cooperation partners would you like to connect to

beyond finding new customers?

In addition to acquiring new customers, we are always on the lookout for potential partners to expand our network.

Collaborating with like-minded businesses and experts allows us to strengthen our offerings and create mutually beneficial opportunities.



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Book a meeting with: Nature Compound

Sebastian Meyer Chief Technology Officer Nature Compound GmbH s.meyer@nature-compound.com









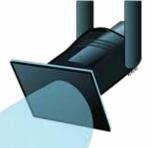








Pitch Presentations



Time to meet the innovators!



Specific Bio-based solutions, additives and nutrients, alternatives to chemicals (e.g. fertilisers) to reduce pollutants based on functional and fully sustainable approach

Pitch 3
PANECO AMBIENTE
Daniel Bernardi









Paneco Ambiente Environmental biotechnology company

Daniel Bernardi Export Manager









OUR BIOTECHNOLOGICAL SOLUTIONS FOR

abatement of odors, pollutants, emissions and organics



Range of patented biological neutralizing additives based on plant extracts

EFFECT

ODORS

DIFFUSE EMISSIONS DUCTED EMISSIONS

> Action on the CAUSE

POLLUTANTS

ADDITIVES

Microbiological-based additives for degradation and bioremediation

SYSTEMS

Programmed dispensing automated dispensers







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SYSTEMS

- Modular long-range nebulizer systems
- · Mobile nebulizers





Main benefits and application fields of our solutions

Industrial manufacturing companies

Wastewater treatment plants

Renewable energy production

Livestock management

Water environment

DEGRADATION of OILS, FATS and POLLUTANTS

SLUDGE REDUCTION and ACCELERATION of the BIOLOGICAL DEPURATION PROCESS

INCREASING BIOGAS and BIOMETHANE PRODUCTION

CONTRASTING ALGAL BLOOMS

NEUTRALIZATION of ODOUR EMISSIONS

Improving EFFICIENCY of PROCESSES and SUPPLY of NUTRIENTS

AMMONIA AND BIOAEROSOL REDUCTION in LIVESTOCK MANAGEMENT

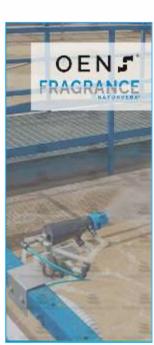






Some of our solutions

















A functional and fully sustainable approach

We offer almost 40 years of research and development and expertise in the biotechnology field.

Our biotechnological solutions, alternatives to chemicals, specifically developed for the improvement of production processes and the abatement of emissions and pollutants on both cause and effect.

Specific bio-based solutions, additives and nutrients for reducing pollutants and organic matter in wastewater treatment process.

Pollutant reduction through microbiological solutions to reduce pollutants using biological processes and promoting bio-activation and maintenance of odor abatement facilities such as scrubbers, biofilters, and biotrickling.

Counteracting algae growth and organic matter deposits: specific solutions are proposed to counteract the growth and accumulation of algae and unwanted organic matter.



Who can apply our solutions?

Manufacturing industries

Wastewater treatment plants

Livestock industries

Biogas production plants

Fishfarms

Environmental management companies





We are looking for sales and distribution partners in Europe and beyond with appropriate skills and expertise in the environmental field.

We are already present in Italy, Spain, Portugal, Poland, Belgium, Brasil, Slovakia and Hungary.

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Book a meeting with: PANECO AMBIENTE

Daniel Bernardi Export Manager

Paneco Ambiente S.r.I.

E-mail: export@bioecologicalsystem.com

Mobile: +39 3357277862











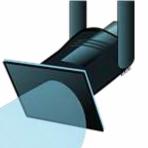








Pitch Presentations



Time to meet the innovators!



Carbon neutral, natural, nontoxic and effective hemp based products with cosmetics, home, furniture and garden uses.

Pitch 4
Vitality Hemp Limited
Nathaniel Loxley









Vital Acoustics
The regenerative future for acoustic products.

Vitality Hemp Limited

Nathaniel Loxley Founding Director







At Vital Acoustics, we create hemp-based acoustic products that are sustainable and provide net carbon storage for the duration of the full life cycle.

Poor acoustic design has an impact on health, causing sensory pollution.

2022 Building Regulations Part L. enforcing "net zero" targets via energy efficiency standards for construction

Existing acoustic solutions have high embodied carbon, contain harmful chemicals and end up as waste in landfill.











Vital Acoustics 23mm

Our slimmest acoustic infill panel that punches above it's weight.

Class C absorption panel that provides competitive acoustic performance with minimal profile.

- Regenerative designed and produced to low-impact specifications using sustainable materials
 that create a net positive impact across the full Life Cycle of the product
- Natural Fire Retardant (FR) treated.
- Vapour permeable;
- Anti-mould and anti-fungal.
- Formaldehyde-free.
- Improves indoor air quality.
- Free from harmful volatile organic chemicals (VOCs).
- Locally sourced healthy materials.







Reusable fitting system: Extending the life span of architectural acoustic products

within commercial fit outs. (8 - 30+ years)

Circularity: 100% Biobased materials ensure the product can be composted at the end of life, thus mitigating the huge impact of waste going to landfill



Market/Target audience - Who can apply your solution?

Targeting architects, specifiers and acoustic consultants.

€1bn European market for architectural acoustic products. CAGR 6%

As a truly regenerative solution, there is an overall positive impact on human and ecological health. The product helps reduce client's scope 3 emissions.

The acoustic infill panel is fitted within Category B and C fit outs across commercial: hospitality & offices and Schools.

Compliance with NetZero targets and acoustic building regulations.

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What kind of cooperation partners would you like to connect to beyond finding new customers?

Supply chain: Materials, Distribution and Logistics Manufacturing: Production Partners in Europe Market: Public procurement / Commercial Developers Investment Partners



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Book a meeting with: Vital Acoustics

Nathaniel Loxley
Managing Director
Vital Acoustics (Vitality Hemp Limited)

info@vitalityhemp.com +44 7825 160141









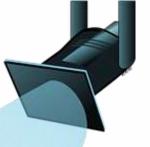








Pitch Presentations



Time to meet the innovators!



Valorisation of biomass as a material or ingredient to challenge petroleum-based counterparts. At the interface of plant materials and chemistry, they can upgrade side streams in various segments to high premium ingredients and materials for pharmaceuticals, cosmetics, food and technology

Pitch 5
Plinius Lab
Yves Boonen









AMPLE – natural ingredients platform



Yves Boonen CEO





Plinius Labs

Revolutionizing Vanillin Production through Sustainability and Circularity

Plinius Labs is pioneering the production of 100% natural vanillin from crop waste using proprietary technology.

Mission: Circular and sustainable chemistry, connecting agricultural residues with food and cosmetic applications to meet consumer and regulatory demands.

Focus: Health, sustainability, and profitability through co-development partnerships.





The Observations



Green legislation evolves quickly and will have an impact on all companies, producers and distributors



Viewing geopolitical constraints, companies adopt circularity as a resilience strategy



Consumers are looking for lasting alternatives if they are beneficial for their health and well-being.



Making the circular profitable and scalable is a challenge. Many companies find it difficult to take the first steps and innovate in the value chain



Opportunity - Natural Vanilla Flavour

Capitalizing on Green Chemistry

Market demand for natural vanillin growing at 8,4% CAGR, outperforming synthetic alternatives.

Flax shives identified as ideal feedstock, with secure and abundant local supply chains.

AMPLE process: Innovative, patented, and compatible with EU regulations for natural flavorings.



GTM

Playing Field

introducing
HUMBLED

The 100% natural and sustainable vanillin



Vanillin brands & producers



Confidential Information. All rights reserved

As drop-in flavour of high purity or as less pure flavour but branded with a unique sensorial fingerprint <100 €/kg CoGs 180-220€/kg price to food maker

Royalties and/or knowhow capitalisation based on plugin industrialisation or greenfield investment

Approached industrial partners



Givaudan

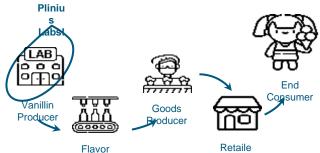
End consumers



The sustainability focused are opinion leaders. They are passionate about incorporating their values into every aspect of their lives, such as living a sustainable life, advocating for social and environmental causes. personal growth and development, and making a positive impact on the world. It is important to them to buy from brands who are on the same mindset as them.



The healthy eaters are people who prioritize the nutritional value of foods and are aware of everything they put into their bodies. They educate themselves to not fall for false marketing stunts. Focused on maintaining a healthy body and mind, preventing diseases, balancing professional life with healthy eating habits, and supporting local and sustainable food systems.



House



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Flax Shives - Local & Sustainable

Local crop with heritage

- local (NW European) culture
- Annual crop
- Quality products ()

Using a side stream

- Large amount of flax straw or shives (50%) after harvest
- Poorly biodegraded
- Fibres wrap around plug disks, wheels and shovels.
- Low value applications

Abundantly availble

- 350,000 MT flax shives as waste product in Europe.
- currently only used as bedding for livestock
- 5 to 10% use of BeNeFra stock for AMPLE vanilline









High ROI

- Competitive to fermentation process
- Unique Selling Points:
- Proprietary process minimizes water and energy use while maximizing yield.
- By-products like pale and uniform lignin offer additional market potential in cosmetics.
- Scalable Model:
 - ■200MT/year capacity projected with <€20M CAPEX and <3.0 years payback period.
 - Potential annual turnover of €30-36M with operational profit exceeding €11M.





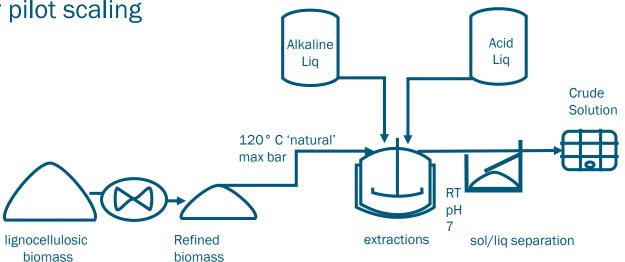
Technology & Process

- Patented AMPLE Technology
- •Process:
 - Physical pretreatment releasing lignin.
 - Mild alkaline cooking for vanillin isolation.

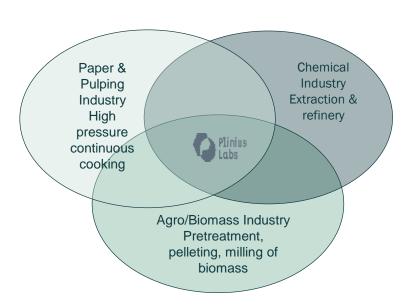
•Outputs:

- High-purity vanillin for food and cosmetics.
- Lignin derivatives for UV protection and other cosmetic applications.
- Valorised fibre residue (5-10€/kg active C)

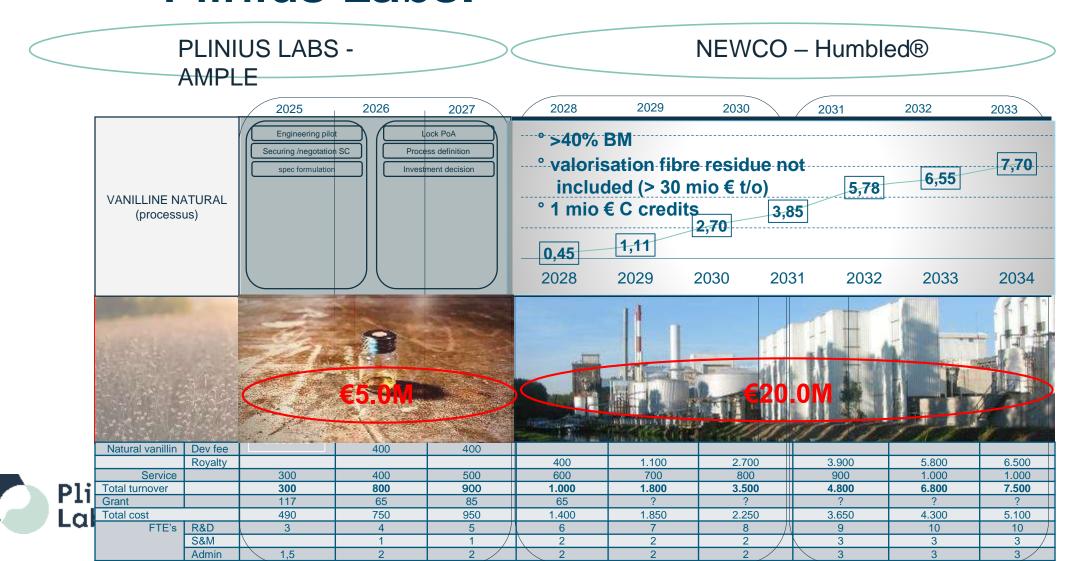
•TRL: 4-6, ready for pilot scaling







The Natural Vanilline path of Plinius Labs!



Investment Proposal



Investment
Opportunities for
Impact-Driven
Partners



€2.5M pilot pressure reactor and equipment.

capital

€0.7M staff recruitment (process, lab, support, business dev)

€0.8M R&D (on fibre residue, process optimization, platform development)

€1.0M for business development, scaling organization.



Expected outcomes

Operational readiness by mid-2026.

Pre-order agreements and supply partnerships established.



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Book a meeting with: Plinius Lab

Yves Boonen CEO Plinius Lab yves.boonen@pliniuslabs.com









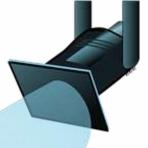








Pitch Presentations



Time to meet the innovators!



Lignin's natural mechanical properties can enhance novel materials as well as increasing their sustainability factor such as cosmetics ingredients, food and nutraceuticals.

Pitch 6 Lignopure

Wienke Reynolds









The lignin revolution: Lignopure's approach to unlock the natural power of lignin

Lignopure GmbH

Wienke Reynolds CTO









Our Mission & Solution

The world's 2nd most abundant plant-based biopolymer

Lignin

Natural, sustainable, multifunctional!

A major component of woody plants and a **massive industrial side stream**

We replace widely-used **environmental** and **health-harmful chemicals** with a **natural**, **multifunctional** and **high-performance** alternative based on **lignin**

A true transfer of lignin's natural protective functionality to products









High Performance



Sustainable Innovation



Product Safety

What we do

Transfer of the **natural protective functions** of lignin into **end products**



Lignin source



Extraction



Particle design: Patented technology & know-how



Ready to use powder ingredients





We upcycle LIGNIN and turn it into multifunctional ingredients that meet market needs.



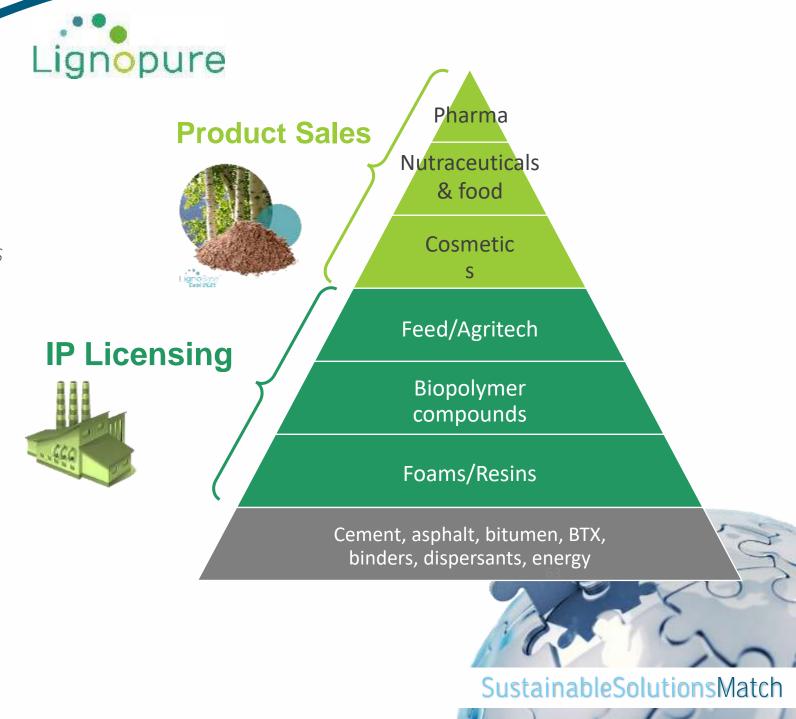


Business Model

Our Technology for a diversity of markets

Our revenue streams

- We upcycle and sell lignin for high value markets (Care & Nutraceuticals)
- We offer services and licensing options to our IP for volume applications (i.e. biobased plastics, insulating materials)













Our Flagship Product - LignoBase

Multifunctional natural ingredient



INCI: Lignin/Cellulose

Distributed on a global







Cosmetic Ingredient

- Lignin microparticles
- Ready to incorporate in complex formulations
- Reduction of undesired chemical ingredients

Proven functionality

- SPF booster
- Antioxidant
- Natural color

Applications

- Sun protection
- Care products
- Decorative cosmetics









Partner with us

Maximize lignin impact

Life Sciences

Pulp & Paper Industry

2G Biorefining

New materials

Investors

Technology

Providers

Lignin producers

- Lignin downstream processing
- Lignin drying & microparticle design
- Scale-up and toll manufacturing
- Lignin analytics
- Quality benchmarking
- Application developm.

Lignin innovators

- Support for material and application development
- Lignin scouting and sourcing
- Lignin-specific material analytics
- Prototyping & scaleup support

R&D and industry

- Lignin for Life Sciences
- Sulfur-free lignin material & data base
- Support in lignin scouting
- R&D to ton-scale
- Various lignin types and grades

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Book a meeting with: Company name

Wienke Reynolds CTO Lignopure GmbH wienke.reynolds@lignopure.de



















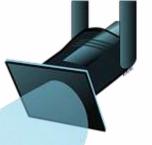








Pitch Presentations



Time to meet the innovators!



Development of innovative, eco-friendly, and sustainable materials with position as a leader of change by providing alternatives to environmentally harmful flexible materials as leather and artificial leather.

Pitch 7
La Tannerie Végetale
Marc Cestari









Phyli, the vegetal alternative to leather and soft plastics



Marc Cestari COO







Category	Biosourced fossil free	Biodeg./ Recyclable	Without solvant	Noble touch	Industria- lizable	Carbon Impact (kg CO2 /m2)
Animal leather				~	~	25-48
Plastic (fossil)					~	5 - 20
Vegan "leather"					✓	7 - 15
Bioplastics	~				~	NC
Biotech Leathers	~	~		<		3-15
Natural	~	~		~	Some	1-8
phyli	~	~	~	~	~	4









Phyli is a vegetal alternative to leather and soft plastics, with no compromise on quality and sustainability







MADE IN FRANCE



RECYCLABLE COMPOSTABLE



NO ANIMAL CRUELTY



NO PLASTIC NO SOLVANT



TANINS and **PROTEINS**

A 100% natural formula

No chemical modifications

No Solvent

An Industrialisable process

One step, Fast, Large Capacity

STRIPS or GRANULES









Market/Target audience

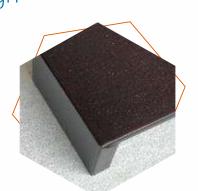
Product available in 15 cm wide, ~1mm thick stripes "Natural" tones
Embossable

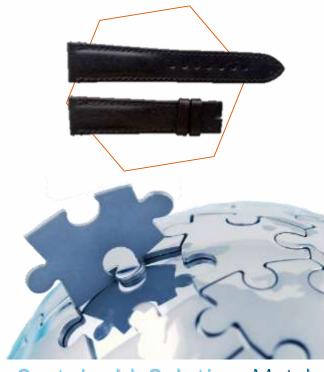
Today's main market addressed: Luxury packaging, small leather goods, interior design

Granules and coated fabric under development

Available in 60 cm wide in 2026







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Sustainable and circular innovation needs good networks along the whole value chain.

Manufacturing sub-contractors: extrusion, coating, pressing,...

Renewable product suppliers: proteins, tanin, etc

Design craftsmen



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Book a meeting with: La Tannerie Végétale

Marc CESTARI COO La Tannerie Végétale m.cestari@la-tannerie-vegetale.

















Pitch Presentations



Time to meet the innovators!

 $M \bigcirc M$

An innovation-driven biotech and biomaterials company: they create sustainable mycelium-based materials for fashion and interior design. They transform organic residues into high-performance products, helping industries embrace circular and eco-friendly solutions.

Pitch 8
SQIM
Annalisa Moro









SQIM - the innovation-driven biotech and biomaterials company

SQIM

Annalisa Moro EU Project Manager





MYCELIUM the most advanced biofacturing agent

- Fast growth
- Converting multiple residues & feedstocks
- Creating custom structures/textures
- Intelligent & adaptable
- Proteins Synthesis
- Process flexibility
- Multiple fermentation techniques
- Fundamentally rooted in Circular Economy Approach
- Perfect match between Innovation & Sustainability



"The advances in life sciences, supported by digitalisation and artificial intelligence (AI), and the potential of solutions based on biology to solve societal issues, make biotechnology and biomanufacturing one of the most promising technological areas of this century. They can help the EU to modernise its agriculture, forestry, energy, food and feed sectors and industry".

- Building the future with nature: Boosting Biotechnology and Biomanufacturing in the EU, EU Commission, 2024

Biomaterials - biofabricated/bioassembled

BIO-BASED

"... wholly or partly derived from biomass, such as plants, trees or animals" *

BIO-FABRICATED

"... produced by living cells (e.g. mammalian) and microorganisms such as bacteria, yeast and mycelium"

BIO-ASSEMBLED

"... a macroscale structure that has been grown directly by living microorganisms such as mycelium or bacteria"





CPHCA

mogu

SustainableSolutionsMatch

Θ







>> from feedstock selection





mycelium growth





growing in moulds at solid or liquid state

semi-finished products





SustainableSolutionsMatch





	Impact	
CO2		•
Land use	***	•
Water consumption		•
Waste from production		•
Waste-water from process		•

sqim.bio / @ephea_mycelium







Mogu







>> from feedstock selection





mycelium growth

growing in shape and postprocess







SustainableSolutionsMatch

Mogu Acoustic

acoustic panels





Mogu Floor

resilient flooring tiles and floor coverings











Many more opportunities to leverage mycelium tech in further scalable industries



























ATRIUM



MYLIGHT - MYco LIGHTening

SustainableSolutionsMatch

#EENCanHelp

Book a meeting with: SQIM

Annalisa Moro EU Project Manager SQIM - Mogu - Ephea

am@sqim.bio



















Closing Remarks

A big thank you to all pitchers and attendees! We appreciate your participation today.

If you'd like to connect with any of the pitching companies, please use the matchmaking tool to **book a meeting**!

Need support? Enterprise Europe Network is here to help!

Reach out to your local Network partner:

https://een.ec.europa.eu/local-contact-points



#EENCanHelp

Thank you!

Isabelle GOURIOU Innovation Advisor Grand Est **Développement**

i.gouriou@grandestdev.fr

Catherine LE BLOA
Business advisor
CCI de Limoges et de la Haute-Vienne

<u>catherine.lebloa@limoges.cci.fr</u>













