

VANGUARD INITIATIVE
New growth through smart specialisation

Bioeconomy Pilot

Interregional cooperation on innovative use of non-food Biomass

Ilaria Re

Consorzio Italbiotec and Lombardy Green Chemistry Association
Technical coordinator of the Bioeconomy Pilot of the Vanguard Initiative

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Consorzio
Italbiotec



 **Regione
Lombardia**
Cluster Tecnologici Lombardi

The Lombardy Green Chemistry Association

Shaping the bio-based bioeconomy as one of the most powerful tools for sustainable development



Consorzio
Italtotec



Founded in 2013 by Consorzio Italtotec, the Italian leading no-profit organization on biotechnology sector together with other public and private R&D institutions



Regione
Lombardia

Cluster Tecnologici Lombardi



Recognised in 2015 by the Lombardy Region as the regional Cluster of Bioeconomy and Green Chemistry



Since 2016 technical coordinator of the Bioeconomy Pilot of the Vanguard Initiative



VANGUARD INITIATIVE
New growth through smart specialisation

New growth through the Smart Specialization

The Vanguard Initiative mission and benefits for EU regions

www.s3vanguardinitiative.eu



SUPPORTING THE SETTING UP OF
INTERREGIONAL NETWORKS



FACILITATING ACCESS TO
COMBINED FUNDING FOR CO-
INVESTMENT PROJECTS



EXPLORING SOLUTIONS TO
LEVERAGE PUBLIC-PRIVATE
INVESTMENTS FOR
DEMONSTRATION AND PILOTING
NEW VALUE CHAINS



IMPLEMENTATION OF SMART
SPECIALIZATION STRATEGIES TO
FOSTER BETTER ALIGNMENT
BETWEEN THE REGIONS



Bioeconomy



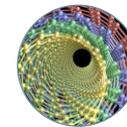
Efficient and Sustainable
Manufacturing (ESM)



High Performance Production
through 3D-Printing



Advanced Manufacturing for
Energy Related Applications in
Harsh Environments (ADMA
Energy)



New Nano-Enabled Products
Pilot



VANGUARD INITIATIVE

The Bioeconomy Pilot

Pilot's objectives and Vanguard Initiative regions engagement



Exploit the potential of the bio-based sector

Creation of new integrated bio-based value chains and connections between chemistry, agro-food, bioenergy, biofuels sectors



Trigger new interregional business opportunities

Promote new business opportunities through interregional cooperation, exchange of ideas and capitalisation the regional projects results



Support high innovation potential demo projects

Encourage projects at the demonstration stage towards their upgrading and business exploitation (beyond TRL 5).



Attract public-private investments

Support the establishment of investment pipelines based on industry-driven business cases coherent with the Smart Specialization strategies of the participating regions.



2 Co-leading regions - Lombardy and Randstad



18 Vanguard regions committed



4 Demo-cases operational at TRL 8



12 Use-cases engaging 50+ public-private entities

Basque Country	Małopolska	Randstad/Zuid Holland	Värmland
Emilia-Romagna	Navarra	Scotland	Wales
Flanders	North Netherlands	Slovenia	Wallonia
Lombardy	North Rhein-Westphalia	South Netherlands	
Lower Austria	Piedmont	Upper Austria	

The Bioeconomy Pilot demo-cases

New bio-based chemicals and biofuels pilot plants



Bioaromatics demo-case	Lignocellulosic biorefinery demo-case	Liquified Bio-methane demo-case	Biopolymers demo-case
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Creating interregional value chains to produce lignin-based aromatic molecules and innovative sustainable materials



Set-up of European value chains from lignocellulose biomass to intermediate and end-products of bulk and fine chemicals.



Enhance wide diffusion of bio liquified natural gas for sustainable transport across Europe, by advancing the state of the art of biogas upgrading



Creating interregional value chains by matching polymer market applications and new biobased technologies

Boosting the bioeconomy together.

Benefits and advantages in joining the Bioeconomy Pilot



Benefits for the Vanguard Regions

- Support regions' bio-based priorities deployment according to the **SMART SPECIALISATION STRATEGIES**
- Promote a **BIOECONOMY ALLIANCE** among other European initiatives aimed at supporting knowledge generation
- Connect **PROGRAMMES AND REGIONAL STRATEGIES** to private funding to enhancing demo projects



Benefits of SMEs, large industries

- Support projects to moving from the demonstration plant phase (TRL 6-7) to the market uptake by providing **BUSINESS MODEL DESIGN**
- Contribute to defining sustainable, circular and innovative value chains from biomass valorization by creation **INTERREGIONAL PARTNERSHIPS**
- Encourage policy actions and/or new or modified public financial instruments able to catalyse (crowd-in) **PRIVATE CAPITAL**

Interregional cooperation for sustainable growth

Highlights of 2020 activities



Validate a sustainable and portable route for bioaromatics molecules production. The LignoValue Pilot plant will cost € 4.3 mln and should be operational in 2021.

The plant will convert wood and lignin into aromatics and subsequent fractionation into monomers, dimers and oligomers. The pilot plant have a 200 kg/day production.



Encourage the industry operating in Vanguard regions on testing bioaromatics. The Diels-Alder chemistry platform and the LignoValue plant offered companies the opportunity to conduct application testing to evaluate the properties of these highly functionalised renewable aromatics.



Support an agrochemical coalition creation focused on design new sustainable value chains based on the connection between the agricultural and chemical industry. **Several concrete products have already been brought to market, including bioasphalt, bioaromatics that are recognised as the best in class in Europe, fibre-based building materials,** street furniture and park benches, and even a biobased viaduct.



Contribute to defining sustainable, circular and innovative value chains from biomass valorization by creation interregional partnership addressing a synergic. The Pilot's demo-cases are validating business models able to generate higher income for producers while keeping consumer prices affordable and improving the delivery of environmental and social benefits. integration of rural growth and use of biological resources.

**Many thanks for your
attention**



Ilaria Re,
Consorzio Italbiotec, Lombardy Green Chemistry
Association **Technical coordinator of the Pilot**

e-mail: ilaria.re@italbiotec.it | Phone: +39.3927451449