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ORCHESTRATING THE BIOBASED TRANSITION

**REPORT #2:
AN ANALYSIS OF HOW
ORCHESTRATORS ARE
TAKING UP THEIR ROLE
IN BIOBASED VALUE CHAINS
ACROSS THE BBOBB REGIONS**

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TABLE OF CONTENTS

INTRODUCTION	2
A BBOBB-ORCHESTRATOR DEFINITION	4
FLANDERS, BELGIUM	5
LOLLAND-FALSTER, DENMARK	6
FRYSLÂN, THE NETHERLANDS	8
HAUTS-DE-FRANCE, FRANCE	9
LOWER SAXONY, GERMANY	10
CONCLUSIONS & NEXT STEPS	11

INTRODUCTION

The BBoBB project focuses on strengthening regional biobased value chains. The transition to a circular and biobased economy requires collaboration across sectors, disciplines, and interests. Within this complexity, the role of the orchestrator is crucial.

BBoBB orchestrators are impact-driven catalysts for system change: individuals or organizations with a comprehensive view of the value chain, who bring stakeholders together and guide collective action. Not through formal authority, but through urgency, vision, and trust. In our

definition, the orchestrator is not just the conductor, but also the composer, the stage builder, and the one ensuring all instruments are in tune.

The definition of the orchestrator was previously established and published in a separate report. A brief definition of the orchestrator is included in this document, while the full version can be found [here]. This report builds on that foundation and shifts the focus to practice: how far have the regions come in fulfilling this role so far? This report analyses the current state of affairs in five BBoBB



regions: Fryslân (The Netherlands), Lolland-Falster (Denmark), Hauts-de-France (France), Lower Saxony (Germany), and Flanders (Belgium). We examine to what extent there already is a clearly defined orchestrator, a person or party who feels responsible for the whole? Are the links in the chain well connected? Is there active collaboration, learning, and alignment around long-term impact?

The analysis shows that much is already in motion, but also highlights differences between regions. In every region, several parties are actively working on building value chains. In some regions, such as Fryslân, there is a clearly

identified orchestrator, like Vereniging Circulair Friesland. In other regions, the responsibility is more distributed across the chain, with several actors sharing coordination and leadership. What is visible is that the need for a strong orchestrator structure is widely recognized, and there is a strong willingness to learn from each other.

With this report, we aim to provide insight into where we stand, what is needed, and how we can continue building a robust, impactful biobased ecosystem: grounded in the regions but connected across borders.

A BBOBB-ORCHESTRATOR DEFINITION

Within the BBoBB project, developing and strengthening biobased value chains is the central subject.

Orchestrators are essential actors within biobased value chains, but there are many ways to interpret this role. Due to the complexity of the role, a simple definition would not do the role justice. Therefore, the following description is used as a 'definition'.

How to describe an orchestrator?

Besides directing different groups musicians in a musical piece keeping all in tune, the title is also linked to the connector of stakeholders within an ecosystem. In general, the role is not that different. Linking the strings, to brass and percussion to form a whole in harmony. This orchestrator does not play each instrument, but ensures that everyone is on the same sheet of music and keep the same rhythm.

A biobased ecosystem orchestrator needs the same soft skills to be able to link all stakeholders, each with a different culture, background and language. A biobased ecosystem orchestrator is a central, proactive entity that connects, aligns, and drives collaboration among diverse stakeholders across the biobased value chain, from raw material producers (like farmers or forestry) to researchers, industry players, policymakers, and end-users.

Their role isn't to own the ecosystem, but to facilitate its functioning and growth by ensuring that all the parts of the system, economic, environmental, social, and regulatory, move in sync toward shared goals like circularity, biodiversity, sustainability, and innovation.

Much has been written about the role of an ecosystem orchestrator and what qualities are required to achieve alignment and enhance a shared value proposition. Orchestrators must possess the knowledge, expertise, and legitimacy to guide a complex web of actors toward collective, long-term goals. One of their key responsibilities is to coordinate and manage diverse interests, ensuring consistent alignment across a fragmented ecosystem. In the context of BBoBB, the role of the orchestrator goes further. It adds something essential and urgent. At the heart of the BBoBB approach lies a response to pressing social and planetary challenges like climate change, resource depletion, human exploitation, and biodiversity loss. The orchestrator in BBoBB is not driven by self-interest, but by the imperative to act. The urgency of change is what fuels their commitment.

Defined by impact-driven action

The BBoBB orchestrators are not just facilitators, they are catalysts for systemic change. Building economically sustainable biobased value chains in regions requires a

paradigm shift: actors must step out of habitual ways of thinking and working. The orchestrator plays a critical role in enabling that shift. They understand the entire biobased value chain, from biomass production to end-use applications, and they are fluent in the different "languages" of the chain's links, whether scientific, industrial, political, or social. They are sensitive to the unspoken assumptions that shape decisions and behaviors, and they possess the agility to zoom in and out, shifting focus from granular detail to the broader system landscape.

The BBoBB orchestrator is:

- An inventive thinker, able to see connections others might miss.
- A connector, bridging worlds from policy to practice: from the mayor's office to the farmer's fields.
- A hands-on, proactive, and not afraid to venture down unexplored paths.
- An inclusive leader, with the wisdom to know when others are better positioned to lead and the humility to support them.

Because their actions are purpose- and impact-driven, they gain trust and engagement from others. People are willing to follow them, not because they command authority, but because they embody authentic commitment to change.

More than a conductor

While the term "orchestrator" often evokes the image of a conductor, the BBoBB orchestrator is also the composer, roadie, and stagehand. They don't just harmonize what exists, they imagine and assemble entirely new arrangements, rooted in circular, inclusive, and regenerative values.

So: the BBoBB orchestrator isn't just helping the ecosystem work, they're helping it work differently, and for the better.



FLANDERS, BELGIUM

Current status

In Flanders, Earth Plant & Fiber (EPF) plays a central role as an orchestrator in the biobased economy.

As a “nature-based chain coalition,” EPF connects a wide range of actors, including suppliers of natural residual streams, manufacturers, product developers, researchers, consultants, and end-users. The organization focuses on local valorization of natural resources from residual biomass streams from roadsides and similar areas. They promote sustainable solutions, particularly in sectors such as construction, textiles, and horticulture.

EPF is recognized as an orchestrator because it actively initiates collaborations, facilitates matchmaking within the biobased economy, supports members with practical questions, and provides policy advice to address legal barriers. The idea for EPF emerged in late 2023 from the need to make better use of natural waste streams such as roadside clippings and wood trimmings. In early 2024, forty pioneers from across the value chain were brought together to further shape the organization.

EPF works on creating structural collaborations across the chain, supports innovation and cooperation projects, and contributes to collective agreements on quality standards and certification protocols.

Key insights and next steps

Earth Plant & Fiber’s role aligns well with the multi-faceted demands of a BBoBB ecosystem orchestrator. Its combination of stakeholder networking, practical support, policy engagement, and focus on local resource valorization fits the profile of an effective orchestrator facilitating systemic change in the biobased economy.

Areas for continued growth could include more explicit articulation of visionary leadership qualities and enhanced system-level coordination tools. Such tools enable integrated management of the value chain through data sharing and progress tracking. In addition, EPF can continue to invest in further expanding and strengthening its network of members. In this way, it can play an increasingly important role as an orchestrator in making an impact in the biobased chain. Overall, EPF can be seen as an inspiring orchestrator example within the BBoBB regions.

LOLLAND FALST

Current status

In the BBoBB region of Denmark, several actors contribute to the early development of biobased construction value chains, particularly around hemp. There is not yet a fully operational value chain from field to building product, but multiple parties are taking steps toward this goal, most of them within their own field of expertise, but all necessary in a full value chain. Important organizations and individuals play a key role in setting up biobased value chains, such as:

- We Build Denmark, led by Trine Panton, initiates meetings and seminars to bring together stakeholders from farming, construction, and finance. Trine successfully secured Realdania funding to support the development of two potentially linked value chains: hemp and recycled building materials.
- Birkelink, driven by Kristian Birkegaard, contributes time and effort to connect stakeholders across sectors. He is currently focused on bridging industry organizations to build a strong voice capable of addressing major regulatory barriers. Kristian has arranged meetings for the BBoBB Hemp House stakeholders with the Dansk Erhverv (the Danish Chamber of Commerce), who shows growing interest in biobased and sustainable building materials. More meetings will follow in order to support the value chain perspectives and discuss common actions.
- Smith Innovation, commissioned by Realdania, played a key role in 2024 by initiating mapping the potential of biobased construction value chains. They identified opportunities for grass and straw in Jutland and for hemp in the BBoBB region. While they previously positioned themselves as orchestrators, their current role is more focused on funding individual projects to help them mature, such as supporting documentation or fire tests. They are not presently active in the local hemp chain.
- Guldborgsund Municipality has a long-standing strategic focus on the green transition. Initially, efforts aimed at building networks and inviting frontrunners to meet at a yearly national bioeconomy conference in the region

failed to deliver full value chains. The municipality then added the development of concrete initiatives like the BBoBB Hemp House and Agricultural RAS, which directly involve local education and stimulate practical learning. Even before construction, the Hemp House has attracted more interest and commitment than national bioeconomy conferences, serving as a tangible example that aligns interests across farming, processing, construction, and housing.

- The Danish Agriculture and Food Council (L&F), through Thomas Holst, is beginning to engage seriously in biobased construction. With mainstream industry players seen as conservative, L&F invited biobased SMEs to roundtables to identify ways to support new agricultural-based materials and address structural barriers in the transition.
- Jesper Juul Andersen, an independent consultant, shares his in-depth knowledge of European hemp chains and is helping open doors to actors like Ekolution. Agrovi is now collaborating with Ekolution to grow the same hemp varieties as Swedish producers, with expectations for further development.

Together, these actors show that Denmark's value chain development is being co-orchestrated by a mix of individuals and organizations, with significant energy and experimentation underway with emerging consolidated structures.

Key insights and next steps

The Danish region benefits from strong individual commitment and active involvement of various organizations that connect key parts of the value chain. The region shows that highly visible and practical projects, such as the Hemp House in Guldborgsund, can act as anchoring points around which coalitions can grow. The involvement of municipalities, branch organizations, frontrunner SMEs and consultancies shows a broad interest and a positive foundation for further growth.

ER, DENMARK

However, the current coordination is mostly informal and driven by individual efforts rather than a clearly defined orchestrator. While these individuals and groups play crucial roles, the region is working on having a party committed to bringing together all stakeholders under a more centralized coordination structure. This involves establishing a shared vision, ensuring long-term support,

and providing tools such as funding, policies, and effective communication channels to work together. The existing strong network and motivation provide a solid foundation. Bringing these efforts together could transform individual initiatives into coordinated collective action, helping to achieve greater impact across the region.



FRYSLÂN, THE NETHERLANDS

Current status

In Fryslân the role of the orchestrator is clearly defined and strongly developed. Vereniging Circulair Friesland (VCF) acts as a central and trusted orchestrator by connecting businesses, governments, and knowledge institutions in the transition to a circular and biobased economy. VCF plays a pivotal role as an orchestrator within the circular economy by connecting companies and facilitating the co-creation of sustainable value.

Through its broad network and deep understanding of industry dynamics, VCF ensures that valuable insights, innovations, and best practices are shared rapidly and effectively across the ecosystem. To maintain coherence and a strong shared vision, VCF applies a careful selection process for new members. Only organizations whose values align with VCF's mission are invited to join, fostering a community with a unified identity and a commitment to circular principles. This is achieved by actively supporting idea development by equipping stakeholders with the knowledge, tools, and connections needed to succeed. It frequently communicates about funding opportunities, regulatory updates, and relevant trends.

This knowledge-sharing role is essential in helping members stay ahead in a complex and evolving policy and market landscape. In ecosystems where stakeholders may have different goals or incentives, VCF acts as a neutral broker, helping align interests through information clarity and shared understanding. By doing so, it strengthens collaboration and enables co-creation linked to the seven pillars of the circular economy. Though VCF may initiate ideas or collaborations, it deliberately steps back to let project partners take ownership and responsibility. Even with limited direct involvement, VCF adds strategic value as a respected opinion leader, bringing credibility to initiatives. It promotes transparency, fairness, and a deep understanding of the needs of various stakeholders, positioning itself as a trusted knowledge-sharing facilitator that helps accelerate the transition to a circular economy.

This is reflected in the growing number of biobased activities in the region. Under the program "Fryslân builds circular," over 50 construction projects have adopted biobased materials as the standard. Hundreds of hectares of land are used for biobased cultivation, with regional processing and dozens of construction companies now applying biobased materials in their work. Educational and research institutions are also integrating biobased thinking into their programs through the project "the Biobase". These initiatives together form a strong and growing ecosystem, with VCF acting as the connector and the driving force behind the ecosystem.

Key insights and next steps

In Fryslân, VCF plays a central role in accelerating biobased value chains by actively connecting actors and ensuring that knowledge and opportunities are broadly shared. The region benefits from a well-functioning ecosystem where companies, governments, and knowledge institutions take shared responsibility and collaborate in a practical way.

Now that this role is well established, the next step is to strengthen VCF's strategic capacity. Investigate how this model can be used in other regions or sectors, and ensuring a stable, long-term foundation. By making the orchestrator's work more visible and easier to understand, VCF can also serve as an example for others across Europe. Regionally, VCF must continue to focus on inclusive leadership in the value chain. It helps to be visible and thereby build authority as an orchestrator. But at the same time, it is important to maintain balance among the parties with which to collaborate, and to strike a good balance between positioning and leading from behind the scenes.

HAUTS-DE-FRANCE, FRANCE

Current status

The success of bio-based value chains in Hauts-de-France relies on the commitment and coordination of several key orchestrators. Bioeconomy For Change (B4C) acts as the central hub, bringing together over 450 members and supporting projects from research to industrialization. It leads the regional network, facilitates access to funding, and helps structure bio-based value chains. The recently launched Ambition Bioéconomie Hauts-de-France network, led by B4C, gathers key players such as Adrianor, Agro-Transfert, FRD-Codem, Extractis, iTerra, Fibois Hauts-de-France, CRITT Polymères, and Eura Industry Innov. The latter unites stakeholders across the value chain in pilot regions to accelerate bioeconomy-related projects, fosters cooperation between agricultural, industrial, and research sectors, and raises awareness among citizens and young people about the opportunities of a circular bioeconomy. Together, these actors support businesses, foster innovation, and share services to accelerate the bio-based transition. Together, they support businesses, foster innovation, and share services to accelerate the bio-based transition.

Chambers of Agriculture play a vital role by raising awareness, training, and supporting farmers in crop diversification and adopting bio-based practices. The association Bio en Hauts-de-France connects producers with institutions and economic operators to promote organic and sustainable agriculture. CD2E and Fibois Hauts-de-France encourage the use of bio-based materials in construction through bio-based ambassadors and the Pacte Bois-Biosourcés. The CPER BiHauts Eco de France consortium unites research labs, universities, technology platforms, and companies to innovate, valorize agro-resources, and promote circular economy principles.

While Hauts-de-France benefits from strong coordination across multiple sectors of the bio-based economy, there is no single actor that fully matches the BBoBB definition of an orchestrator. Bioeconomy For Change (B4C) comes

closest by connecting a broad network. However, its primary focus lies in supporting projects, building networks, and advancing specific sectors, rather than directly coordinating the entire chain from primary production to end use. Other key actors play vital roles within their domains, but operate mainly within sectoral or thematic boundaries. As a result, the region's orchestration is distributed among several organizations, each contributing important pieces, but without one central driver that connects and steers all parts of the value chain.

Key insights and next steps

There is no single organization currently acting as a fully integrated orchestrator connecting the entire value chain from raw materials to end products. The regional approach is therefore more fragmented, relying on collaboration and coordination between multiple actors with sector-specific mandates. This creates potential gaps in a long-term strategy, and cross-sector collaboration is needed for scaling up and integrating the bio-based economy. To strengthen orchestration, Hauts-de-France could explore creating a more centralized or formally recognized role that brings together all stakeholders across sectors. This could involve developing shared strategic goals, enhancing communication and information sharing to foster cross-sector collaboration, establishing funding mechanisms to support integrated projects spanning the full value chain.

By advancing toward more formalized and system-level orchestration, the region can better coordinate efforts, unlock synergies, and accelerate the transition to a circular and bio-based economy.

LOWER SAXONY, GERMANY

Current status

Two key parties stand out in Lower Saxony's bio-based value chains: Nutzhanf-Netzwerk e.V. and the Paludiculture Competence Center at the 3N Competence Center. The Nutzhanf-Netzwerk e.V. connects stakeholders across the entire industrial hemp value chain, from cultivation and processing to marketing. It promotes knowledge exchange, creates synergies, and supports innovative projects. With around 100 members, it acts as a central contact point for anyone interested in industrial hemp as a sustainable and fast-renewable raw material.

The association was initiated in 2021 by individuals who emerged from previous projects, including a bachelor's thesis focused on developing a regional hemp value chain. Since then, Nutzhanf-Netzwerk has supported several initiatives, some successful, some ongoing, and some less successful, reflecting the dynamic nature of value chain development.

The Paludiculture Competence Center was established in 2017 within a regional project aimed at developing product chains from lowland peatland biomass. It serves as the main information hub for paludiculture in Lower Saxony. Its goal is to promote peatland- and climate-friendly alternatives to conventional peatland agriculture and forestry by removing legal and technical barriers and encouraging marketing of paludiculture products.

The center works closely with businesses, academia, and NGOs to initiate practical projects, develop new product concepts, expand networks, and share knowledge. It has helped create discussion forums where stakeholders exchange ideas and experiences, helping to build a broad and diverse network advancing paludiculture in the region.

Networking events play a crucial role in recognizing and supporting emerging orchestrators in Lower Saxony. Specialized niche associations provide important visibility

and support for new initiatives. Linking biomass producers with commercial companies is essential for advancing new bio-based value chains, particularly in the field of paludiculture.

Key insights and next steps

Lower Saxony has strong niche orchestrators like Nutzhanf-Netzwerk e.V. and the Paludiculture Competence Center, which effectively connect stakeholders, foster knowledge sharing, and support the development of bio-based value chains in their specific areas. These organizations provide essential services such as networking, innovation support, and overcoming technical and legal barriers. However, orchestration remains fragmented across different sectors and there is no single entity coordinating the entire bio-based ecosystem at a regional level. This limits the potential for systemic collaboration and scaling up of value chains.

To strengthen bio-based value chain development, Lower Saxony could benefit from creating a more formalized and system-wide orchestrator role. This could involve creating regional supporting policies, developing tools to enable information sharing across the entire ecosystem, seeking long-term support that align the interest of diverse stakeholders and scale successful pilot initiatives into broader regional impact. Lower Saxony can benefit from a more regionally rooted orchestrator that is close to actors in the regional value chain.

By moving towards a coordinated regional approach, Lower Saxony can accelerate the transition towards a more integrated and effective bio-based economy.



CONCLUSIONS & NEXT STEPS

Across the BBoBB regions, orchestrators play a key role in developing the circular and bio-based economy. In regions where a strong orchestrator is already established, such as Fryslân with VCF or Flanders with Earth Plant & Fiber, the ecosystem is well connected, visible, and able to drive change. These orchestrators not only connect stakeholders but also provide direction and create stability for long-term collaboration. However, these regions can also benefit by looking critically at the status quo and developing new strategies to enhance inclusive leadership.

In Lolland Falster, Hauts-de-France, and Lower Saxony, important foundations for orchestration are present. Motivated actors, successful projects, and niche orchestrators play important roles. The next step for these regions is to move from strong sectoral or project-based coordination toward more integrated, system-wide orchestration. This means building further on shared visions, strengthening cross-sector collaboration, and developing long-term structures that connect the entire value chain.

These insights learn us that effective orchestration requires a combination of practical project support, visionary leadership, and tools for system-level coordination such as data sharing, funding, and policy alignment.

Moving forward, regions where orchestration is still developing can build on their existing strengths and learn from those where the orchestrator role is more mature. By formalizing structures, enhancing communication, and positioning orchestrators as visible and trusted leaders, all regions can strengthen their capacity to drive the transition toward an integrated circular and bio-based economy.

To strengthen orchestration in the BBoBB regions, the next step is to support the development of one or two key orchestrators per region. These orchestrators could serve as central points for connecting stakeholders and coordinating efforts. We aim to create opportunities for them to exchange experiences, for example in workshops or training sessions, and to be supported and trained by external experts. This approach will help build stronger, more integrated networks, encourage cross-regional learning, and accelerate the transition to a circular and bio-based economy.

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