



Bridges between the bio-based industry and the bioeconomy education system

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The BIObec project

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This project has received funding from the Bio Based Industries Joint Undertaking (JU) under the European Union's Horizon 2020 research and innovation programme under grant agreement No 101023381.

The BIObec Project

„Preparing the creation of Bio-Based Education Centers to meet industry needs and boost the contribution of the bioeconomy to societal challenges”

Start date: 1 September 2021

End date: 29 February 2024

Funded under: BBI – JU; H2020 (H2020-BBI-JTI-2020)

- Aims to **build bridges between the bio-based industry and the education system** by interlinking universities, innovation labs, and R&D centres with industrial actors and regions
- **Development of a comprehensive framework for multilevel bioeconomy education centers (BBECs)** flexible enough to respond to the present and future needs of industry and its surrounding ecosystem at local, regional and / or national level.
- **Creation of 6 centers covering various regions in Europe** with their diversity of the value chain and institutional context
- **It will be ready for implementation and duplication** to increase the contribution of education to the development of the bioeconomy

The Consortium



UNIVERSITY OF
HOHENHEIM



UNIVERSITY OF
EASTERN FINLAND



MTU

Ollscoil Teicneolaíochta na Mumhan
Munster Technological University

CTA



Consiglio Nazionale
delle Ricerche



Food & Bio Cluster
Denmark

AgroParisTech
Talents for a sustainable planet

UAB
Universitat Autònoma
de Barcelona

Pro Civis
Fundacja Edukacji
i Dialogu Społecznego



Sustainable
INNOVATIONS



**IHE
DELFT**

WAGENINGEN
UNIVERSITY & RESEARCH



FVA NEW MEDIA RESEARCH



IBE



INSTYTUT
BADAN
EDUKACYJNYCH



ZVT | Agricultural Research,
Ltd. Troubsko



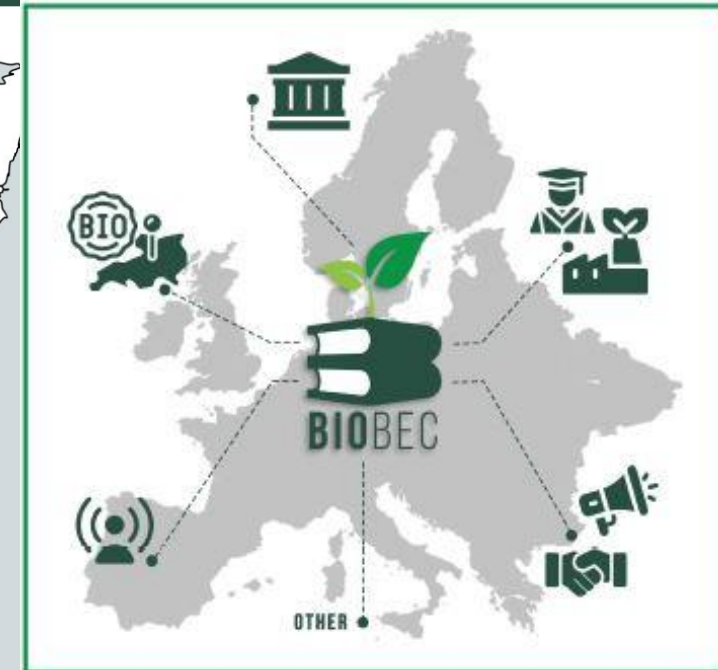
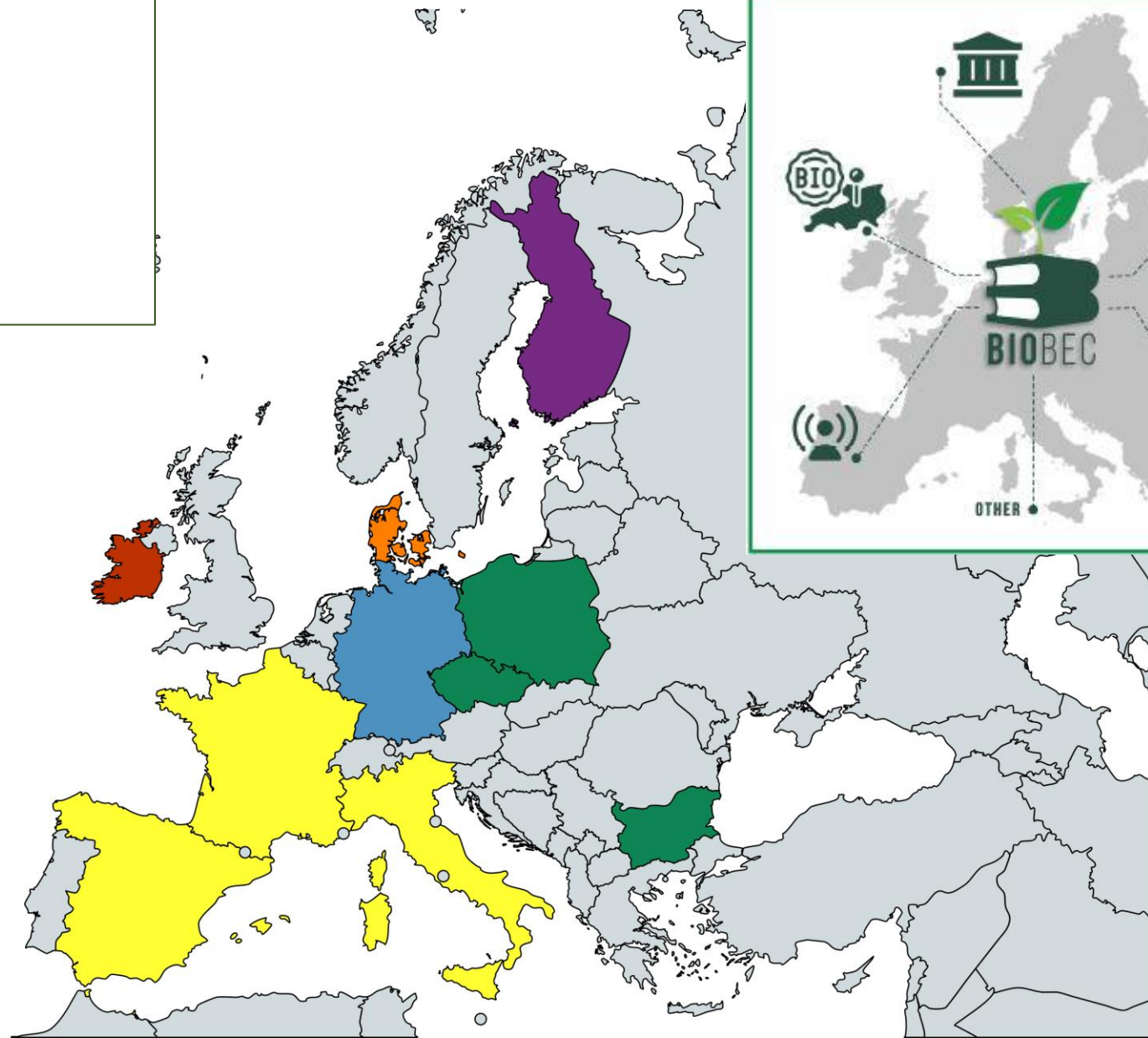
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Bioeconomy Education Centers (BBEC's)



Created with mapchart.net



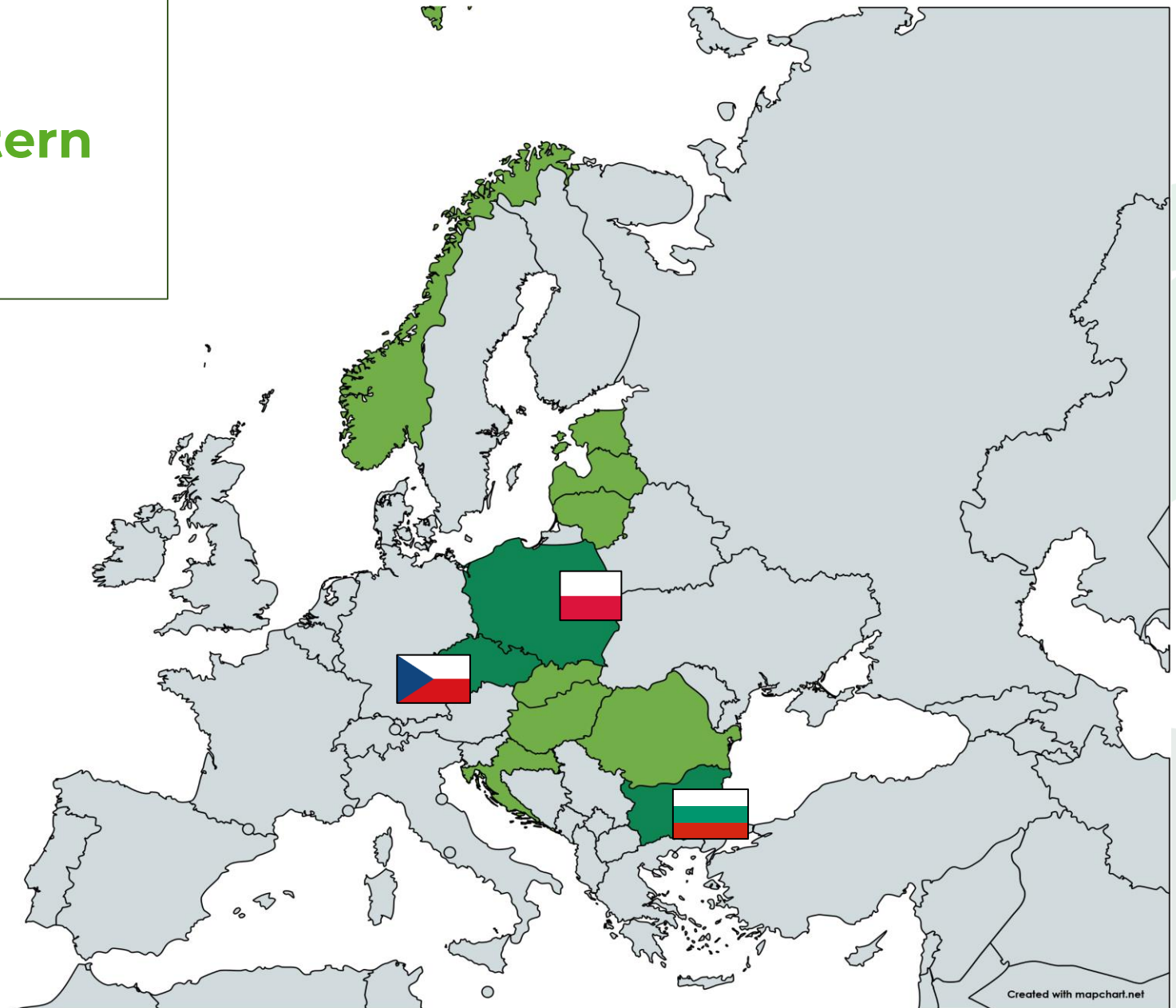
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BBEC Central-Eastern Europe



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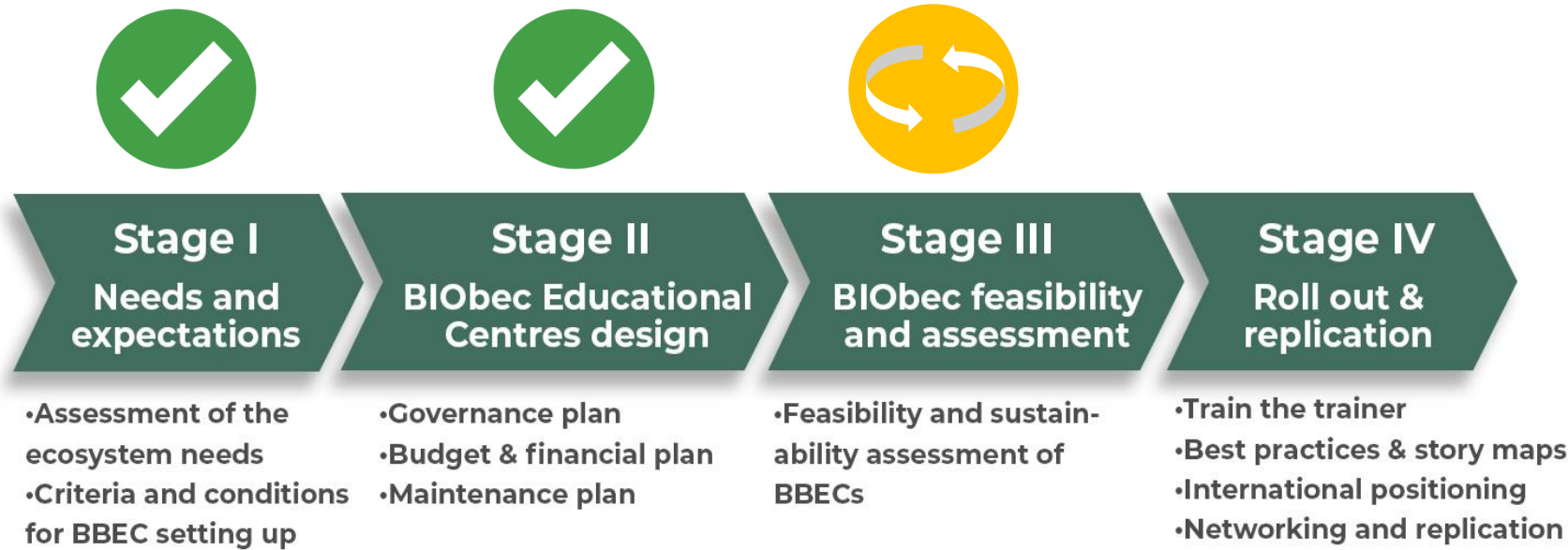


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Methodology



NEEDS AND EXPECTATIONS



CENTRES DESIGN - BEST PRACTICES



D2.1 [M5]

T2.1 Inventory of Best Practice - 29 case studies from education and/or industry. Bioeconomy and non-bioeconomy related. Across all learner profiles.



Case Study Thematic Areas

Pedagogies	21	Research & Development Supports	2
University collaboration with industry	17	Enterprise Development Supports	1
Lifelong Learning & CPD	7	Mentoring Programmes (academic or industry)	3
Funding & Investment networks	3	Digital Technologies AR/VR Integrations	1
Clusters - Networks - Partnerships	7	Engagement with civic society and communities	4

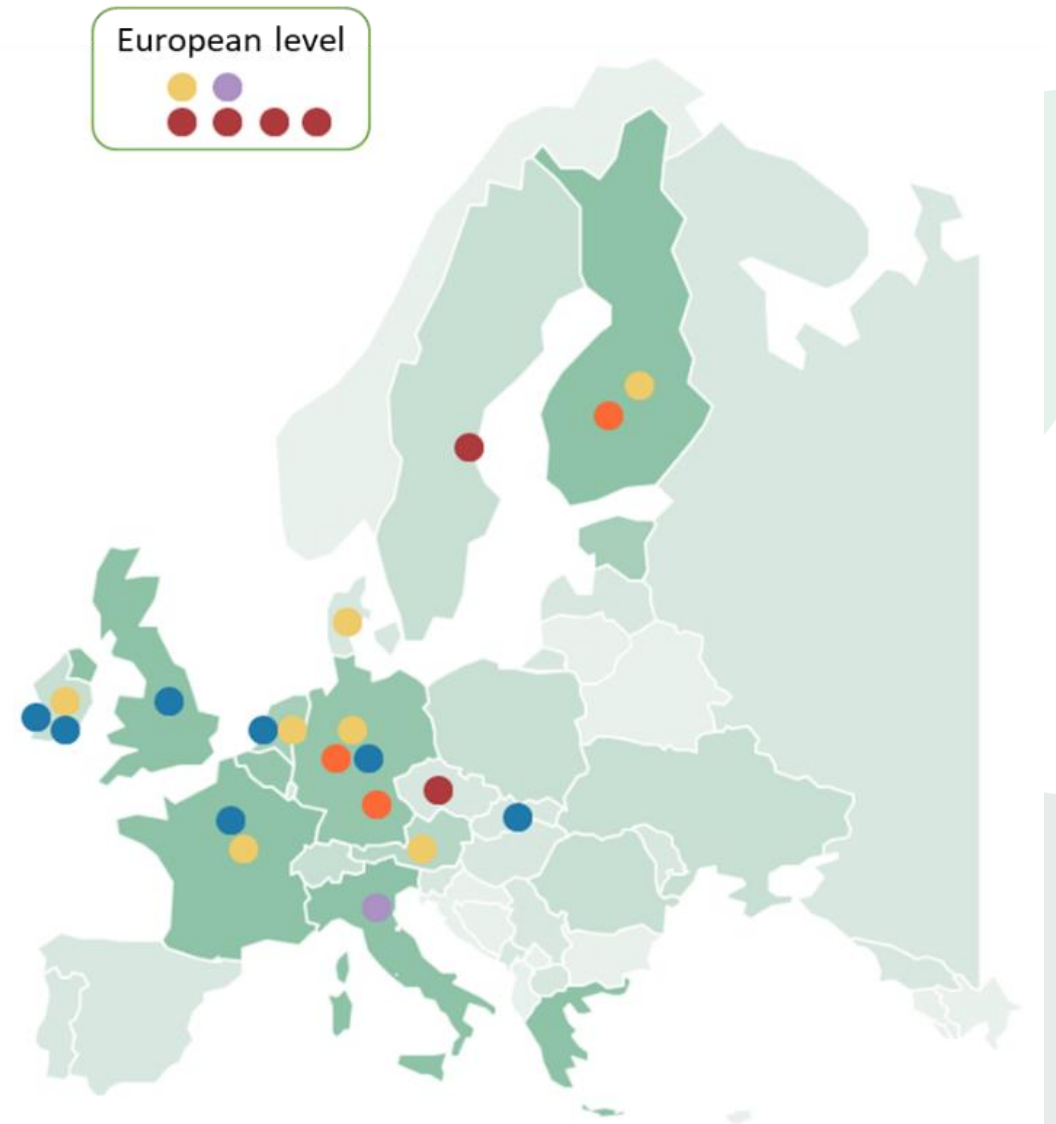


CENTRES DESIGN - BEST PRACTICES



- Student hub
- Talent or skilled workforce hub
- Knowledge/innovation hub

- Network ●
- Centre ●
- Campus ●
- Cooperative study programmes ●
- Cluster ●



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CENTRES DESIGN - READINESS SURVEY



BBEC Poland Expertise & Knowledge Capabilities

Food Processing | Protein Biophysics | Nanotechnology | Biodegradable Polymers | Particle Analysis | Food | Agriculture | Chemistry | Energy | Circular Economy | Bioeconomy | Regional Development | Environmental Engineering | Geomatics & Power Engineering | Geodesy & Cartography | Renewable Energy Sources | Biorefining | Nanomaterials | Biorefining | Pharmacy & Laboratory Diagnostics | Physiology Neurobiology Oncology | Nephrology | Pharmacology | Gerontology | Medical Chemistry & Cell Biology | Education & Outreach



- VR/AR technology integration
- Innovation sprints & Design Thinking
- Networking events
- Enterprise Accelerator Programmes
- Funding & Investment networks
- Research, Development & Innovation supports
- Site visits to bioeconomy industry settings
- Site visits to bioeconomy research centres
- Work based industry placements
- Mentors from industry
- Mentors from academia
- Health & Wellbeing supports
- Diversity & Inclusion supports



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CENTRES DESIGN - BUSINESS MODEL CANVAS



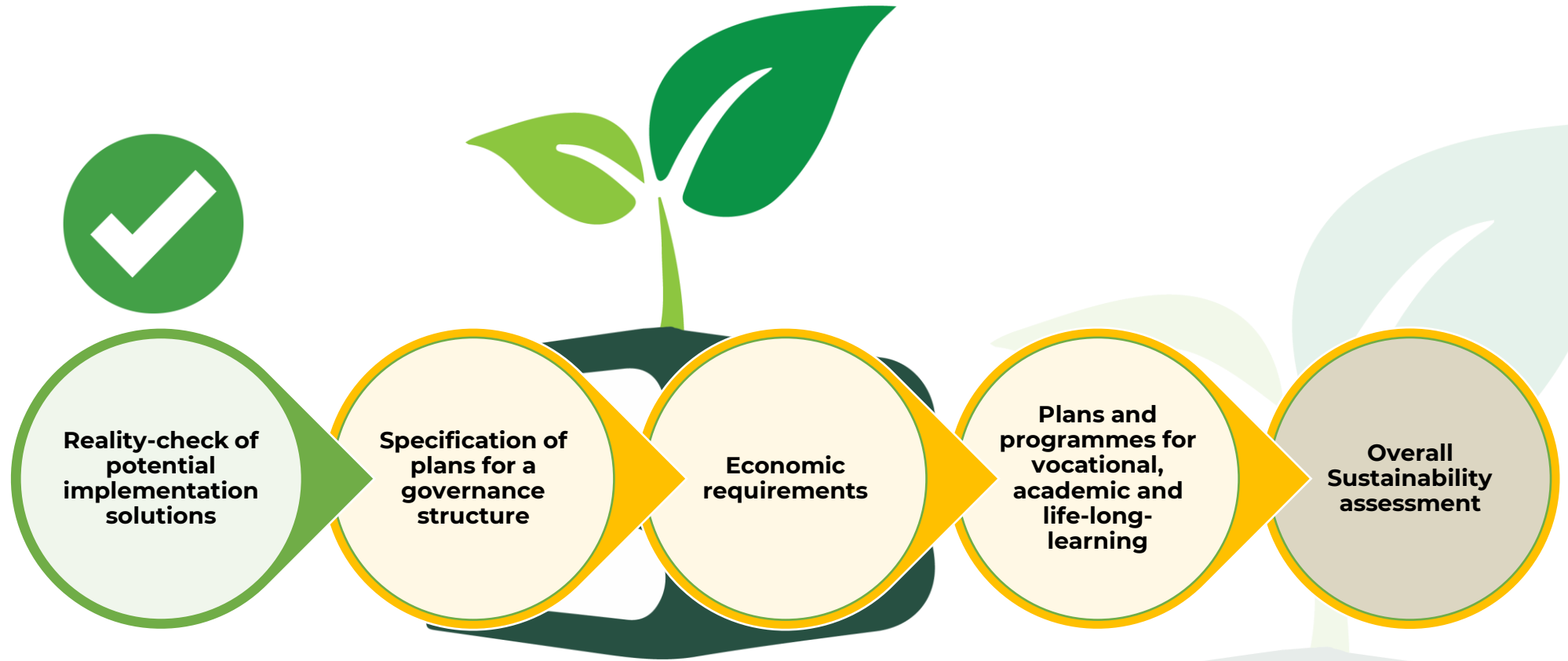
Business Model Canvas: BBEC Central-Eastern Europe-East

<p>Key partners</p> <p>Academia Trakia University, Stara Zagora, BG Institute for sustainable transition and development (TRU, BG) Agricultural University in Cracow Warsaw University of Life Sciences – SGGW University of Pannonia, HU Canakkale University, TR Balikesir University, TR MENDELU University CZ</p> <p>Government Stara Zagora Municipality, BG Ministry of Agriculture CZ Governmental and regional agencies Regional economic development agency - BG</p> <p>NGO PRO CIVIS Bulgarian industrial association - BIA, BG FORTEES, IT Phasegrowth, EE BIOEAST HUB CZ Association of Research Organisation CZ GO-LIP business incubator IDEAMI cluster, Ireland Spatium, BG Foundation Master Lifescience Kraków</p> <p>Research institutes The Educational Research Institute (IBE) Centre for Preclinical Research and Technology Institute of Environmental Protection Macroregional Thematic Working Group Bioeconomy Education of the BIOEAST Initiative</p> <p>SME's / industry Zemědělský výzkum (ART) Agroconsult Engineering, BG Emerald European Ventures, IT EPRD PL</p>	<p>Key activities</p> <ul style="list-style-type: none"> Supports the exchange of knowledge between science / academia, industry, other actors Provides information about education and training providers with valuable offer in the field of Bioeconomy Information about VET and education providers that certifies skills in bioeconomy Provides tools, didactical materials, contents, expertise, etc. Supports international mobility of students and science staff in the field of bioeconomy Consulting: creating project consortiums, applications for funds Events, Workshops 	<p>Value Propositions</p> <ul style="list-style-type: none"> Raising awareness and basic knowledge about bioeconomy Anticipation of industry needs in the field of training, more flexible education offer, experience trainers with practical skills Boosting cooperation between stakeholders and already existing institutions: knowledge, exchange of good practices, networks of partners Expertise in the field of bioeconomy (bioeconomy specializations, which are connected to the region) and external funding Partners matching for joint projects and technology transfer Matching bioeconomy start-ups with investors and science Regional infrastructure development for bioeconomy in transition 	<p>Customer relationships</p> <ul style="list-style-type: none"> Open cooperation platform Project/case-based relationship (not very formal cooperation at the initial stage) Mapping needs and requirements Establishing stakeholder groups (not formal) to commit to regular communication and interaction 	<p>Customer segments</p> <ul style="list-style-type: none"> Bioeconomy companies (SME, large) Research institutes Education institutes Business development organisations Regional public admin. Actors Global political actors Clusters, Networks and Associations Private Investors Start-ups
<p>Cost structure</p> <ul style="list-style-type: none"> Creating materials for rising awareness actions. Costs of management and coordination. Costs of organization of events and workshops Costs of expertise and consulting. Platform maintenance and development. Costs of participation in conferences and events Costs of communications activities (staff creating content, advertising) Costs related to legalization and taxes in the case of BBEC becomes a legal entity 		<p>Revenue streams</p> <ul style="list-style-type: none"> Payments for BBEC for specific services. (including consultation, advisory) External funding (national, European) Membership fee from Members Contract payments An in-kind contribution from Partners and members 		
<p>Governance</p> <ul style="list-style-type: none"> Steering group: representatives of each Partner from BBEC Central Eastern East Europe Advisory Board to communicate with other BBEC's Members - membership based on letter of intent (stakeholders creating content, providing expertise etc.) or joining after paying membership fee Creation of Internal Operating Regulation 				



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FEASIBILITY ASSESSMENT



BIOBEC



Input
conditions

REALITY CHECK

- ✓ **Knowledge about bioeconomy** in the region
- ✓ **Network of already existing** educational institutions, universities, science institutes
- ✓ **Platforms and cooperation** schemes for the stakeholders established during other projects
- ✓ **Experienced staff** willing to take part in training courses as lecturers
- ✓ **R&D Infrastructure**
- ✓ **Funding** resources and priorities areas
- ✓ Macro region is **rich in biomass and other resources**



Demand
conditions

REALITY CHECK

- ✓ Implementation of **EU Bioeconomy Strategy**
- ✓ Growing demand for **skilled workforce in Bioeconomy**
- ✓ Growing demand for **flexible education**
- ✓ **Low awareness** of the meaning of bioeconomy
- ✓ Developing **circular economy**
- ✓ Protection of the **environment and natural resources**



THE GOVERNANCE PLAN

- ✓ **Hub for knowledge exchange**, education, cooperation and providing services related to Bioeconomy
- ✓ **Flexibility and openness** in order to integrate and use the existing potential of a scientific network, business, education partners
- ✓ Create **international consortia** to apply for EC funds and as individual entities applying for national and regional funds
- ✓ **Concrete dynamics and actions**





THE MISSION AND VISION

- **Facilitation of the joint initiatives** in the field of bioeconomy education
- **Improvement of the cooperation** in key areas
- **Mapping of valuable education and training opportunities** that will respond to the needs of the industry and other actors in the field of bioeconomy
- **Rise of awareness to improve the quality of education** and training providers in the field of bioeconomy
- **Rise of awareness about the importance of bioeconomy** in the modern world at all levels of education and the general public and articulating the potential of bioeconomy in the Central and Eastern Europe





THE MISSION AND VISION

- **Support the international exchange** of knowledge, students and staff between different countries with a higher level of awareness and development of bioeconomy which will contribute to development of regions
- **Support to governments and decision-makers** in developing and implementing policy in the field of bioeconomy (i.e. Strategies, Road Maps etc.)
- **Implementation of closer cooperation between industry and universities/scientific** institutes and better use of their personal and technical resources
- **Enhancement the possibilities for private investment in the bioeconomy**, enlarging the market opportunities, aligning with the general European tendencies, supporting companies willing to capitalize on the business potential of the bioeconomy.
- **Development of future skills** for staff working in sectors related to bioeconomy





KEY ACTIVITIES - ACTION PLAN

SUPPORTING THE EXCHANGE OF KNOWLEDGE BETWEEN THE STAKEHOLDERS

SHARING INFORMATION ABOUT VALUABLE EDUCATION AND TRAINING OPPORTUNITIES

PROVIDING EDUCATIONAL MATERIALS AND EXPERTISE TO RISE AWARENESS

SUPPORTING COOPERATION BETWEEN SCIENCE AND INDUSTRY

MANAGEMENT AND COOPERATION BETWEEN THE BBEC'S AND OTHER INITIATIVES



More information about the Project :

<https://biobec.eu/>

https://twitter.com/BIObec_eu

<https://www.linkedin.com/company/biobec/>



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