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Bio-based Industries  
Consortium



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.



## BIObec: project info

- Title: Preparing the creation of Bio-Based Education Centres to meet industry needs and boost the contribution of the bioeconomy to societal challenges
- Start: 1/9/2021; End: 29/2/2024
- BBI contribution: 1,5 Meuro
- Coordination and Support Action
- Partners: 19





ABOUT

STAKEHOLDERS

DOCUMENTS

NEWS

CONTACT



## NEWS



### The BIObec consortium visits Seville

BIObec | News

The BIObec project recently held a plenary meeting in Seville, which was organised in

<https://biobec.eu/sustainable-innovations-simo-fair/> accommodate all



### Sustainable Innovations at SIMO fair

BIObec | News

Jeisel Goyanes and Pablo Ariño, from Sustainable Innovations, are attending SIMO Education Fair in Madrid (Spain).



### BIObec disseminated at several events by CNR

BIObec | News

CNR, one of our partners, has been very active in the last weeks by disseminating



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# Objective

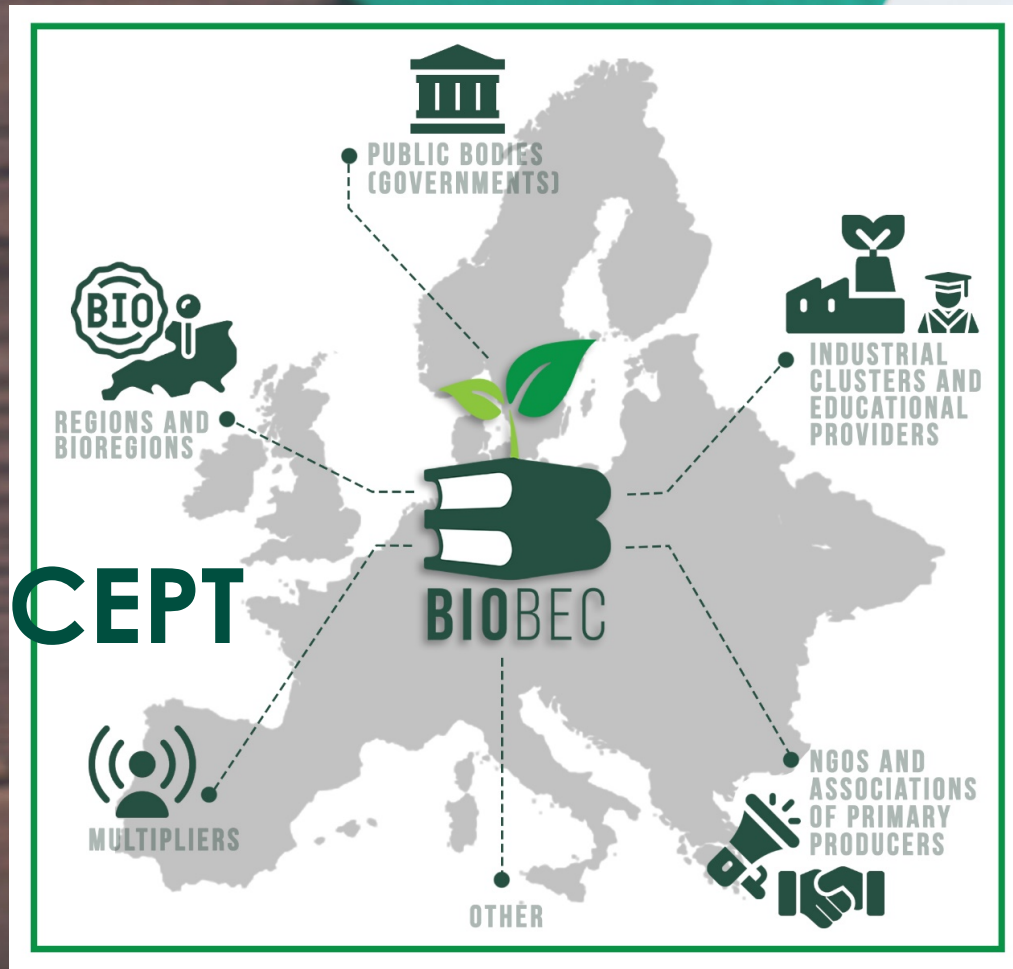
General:

To create a holistic framework for developing and establishing multi-level Bio-Based Education Centres (BBECs) that are flexible enough to answer the present and future needs of the industry and of the surrounding ecosystem at local, regional and/or national levels

Specific objectives:

<b>Objective 1</b>	To provide a comprehensive understanding of needs and define criteria and conditions for Bio-Based Education Centres (BBECs) to create dynamic ecosystems
<b>Objective 2</b>	To define the most effective design and business models for developing and establishing a BBEC and their educational activities
<b>Objective 3</b>	To provide governance plans, learning programs and feasibility assessment of proposed BBECs
<b>Objective 4</b>	To provide a roll-out strategy and a roadmap for coordinating the replication of BBEC at European and international level, fostering the outcomes exploitation and collaborations
<b>Objective 5</b>	To ensure motivated co-creation, stakeholder involvement, dissemination and communication

# CONCEPT









Bio-based Industries Consortium



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## BIObec Bio-Based Education Centres

BBEC	Country	Main target beneficiary	Partners involved	Network	Knowledge area	Main value chains
<b>BIObec Mediterranean Europe Hub</b>	Italy, Spain 	UNIBO	SIE, CTA, CNR, FVA	Local to pan EU	Academic-industry	Food and food waste
<b>BIObec North-West Europe Hubs-Finland</b>	Finland 	UEF	APT (Nancy branch)	Regional/sector-oriented	Academic-industry	Forestry
<b>BIObec North-West Europe-Denmark</b>	Denmark 	FBCD	WU	Within the same country, region in Europe, pan-EU	VET and workforce	Food
<b>BIObec North-West Europe-Ireland</b>	Ireland 	MTU	IBF	National (Ireland) plus international students (e.g. UK)	Academic level, Industry	Agr-food, Marine
<b>BIObec Central-East Europe-East</b>	Poland, Czechia 	PRO-CIVIS, BIO HUB CZ	IBE, ART	Regional oriented to the BIOEAST region	Academic – Industry, VET and workforce	Fresh Water, Bioeconomy
<b>BIObec Central-East Europe-Germany</b>	Germany 	UHOH	BOKU; APT (Paris branch)	Regional (State Baden-Württ.), pan-EU (EBU), international	academic level, VET or workforce	Biorefinery, Agri-Food

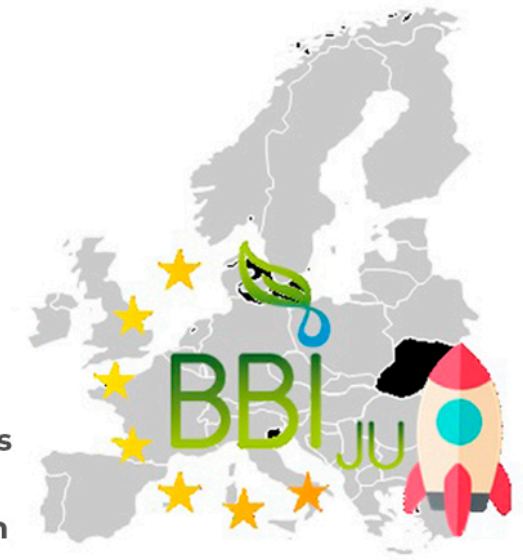


- Assessment of the ecosystem needs
- Criteria and conditions for BBEC setting up

- Governance plan
- Budget & financial plan
- Maintenance plan

- Feasibility and sustainability assessment of BBECs

- Train the trainer
- Best practices & story maps
- International positioning
- Networking and replication



## Needs

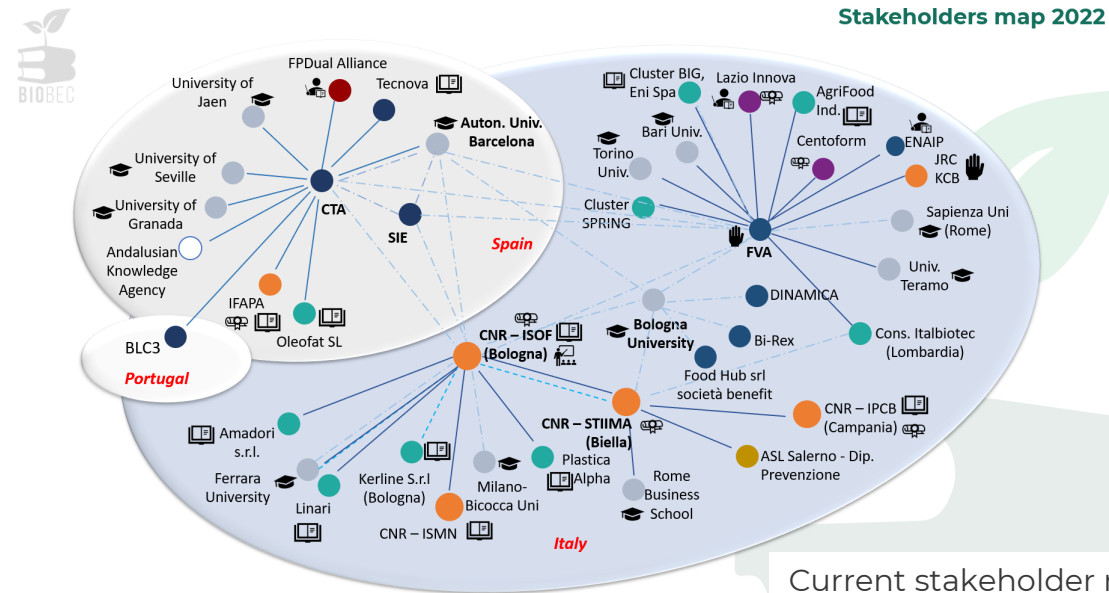
link levels of education      communication  
training ecosystem      train the trainer  
**cooperation with industry**  
workplace training      **across regions**  
**new ways of collaboration**  
interdisciplinarity      certification  
bioeconomy      experts in territory      softskills training  
intedisciplinarity  
consultancy services

## Generic guidelines

- Guidelines for designing and running new biobased education education hubs, such as regional BBECs, developed



# Education in local innovation networks (AKIS? KISB?) (cont.)



<ul style="list-style-type: none"> <li>University</li> <li>Research institutes</li> <li>Industry</li> <li>National/regional governmental organisations</li> <li>Accelerators/incubators</li> <li>NGO</li> <li>Other</li> </ul>	<ul style="list-style-type: none"> <li>Higher education</li> <li>Primary and secondary</li> <li>Vocational</li> <li>On-the-job training</li> <li>Informal</li> <li>Continuing education</li> </ul>	<ul style="list-style-type: none"> <li>knowledge exchange</li> <li>funding</li> <li>Staff/student exchange</li> <li>Joint Project</li> </ul>
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Current stakeholder map for the Mediterranean Hub



## Business Model Canvas Mediterranean BBEC

<p><b>Key partners</b></p> <ul style="list-style-type: none"> <li>IRWGs</li> <li>BIObec partners (UNIBO, CTA, FVA, CNR, UAB);</li> <li>Industry (private companies, SMEs, etc.)</li> <li>European Commission</li> <li>Public administration (local/regional, national and international);</li> <li>ET institutions (public and private);</li> <li>Technology transfer centres;</li> <li>Non-EU Bioeconomy experts/entities;</li> </ul>	<p><b>Key activities</b></p> <ul style="list-style-type: none"> <li>Matching demand and supply of ET service by brokerage and matchmaking activities;</li> <li>Valorization of existing teaching material first and then creating common teaching materials;</li> <li>Training the trainers – at different Educational levels;</li> <li>Identification of priorities, skill profiles, education and training needs;</li> <li>Re-allocate or improve (ex. internships) students' curriculums in compliance with industry requirements.</li> </ul>	<p><b>Value Propositions</b></p> <ul style="list-style-type: none"> <li>Facilitating the delivery of better bioeconomy education and training services related to the bioeconomy;</li> <li>Contributing to industry education and training needs;</li> <li>Exploit synergies between education, innovation processes, communication and awareness rising through a wide collaboration;</li> <li>The BBEC fill the gap of individual needs of industry not covered by other educational institutes.</li> </ul>	<p><b>Customer relationships</b></p> <ul style="list-style-type: none"> <li>Establishing relationships according to the type of customer. It is possible to foresee different levels of interaction depending on the customer segment. E.g. three levels: <ul style="list-style-type: none"> <li>✓ 1. basic, can access all open access material;</li> <li>✓ 2. standard, access paid material;</li> <li>✓ 3. premium, can interact with trainers.</li> </ul> </li> </ul>	<p><b>Customer segments</b></p> <ul style="list-style-type: none"> <li>Students;</li> <li>Workers that need to reallocate their curriculum</li> <li>Industry;</li> <li>Research centers;</li> <li>Academia;</li> <li>ET institutions;</li> <li>Schools (each level with its own activities);</li> <li>Public administration;</li> <li>NEETs;</li> </ul>
<p><b>Cost structure</b></p> <ul style="list-style-type: none"> <li>Administrative costs;</li> <li>Administrative staff (salary + lifelong learning);</li> <li>Personnel (salary + lifelong learning);</li> <li>Online platform &amp; newsletter.</li> </ul>	<p><b>Revenue streams</b></p> <ul style="list-style-type: none"> <li>Public funds (initially);</li> <li>Projects (e.g. Erasmus+)</li> <li>Members &amp; Students fee;</li> <li>Fee for services (ex. Micro-credentials recognition);</li> </ul>			
<p><b>Governance</b></p> <ul style="list-style-type: none"> <li>Virtual Centre with national section/branches (in order to interact with non-English speakers and national institutions);</li> <li>Independent organization (legal entity) from existing (partner) institutions;</li> <li>Public-private partnership;</li> <li>Mediterranean governance with national branches.</li> </ul>				



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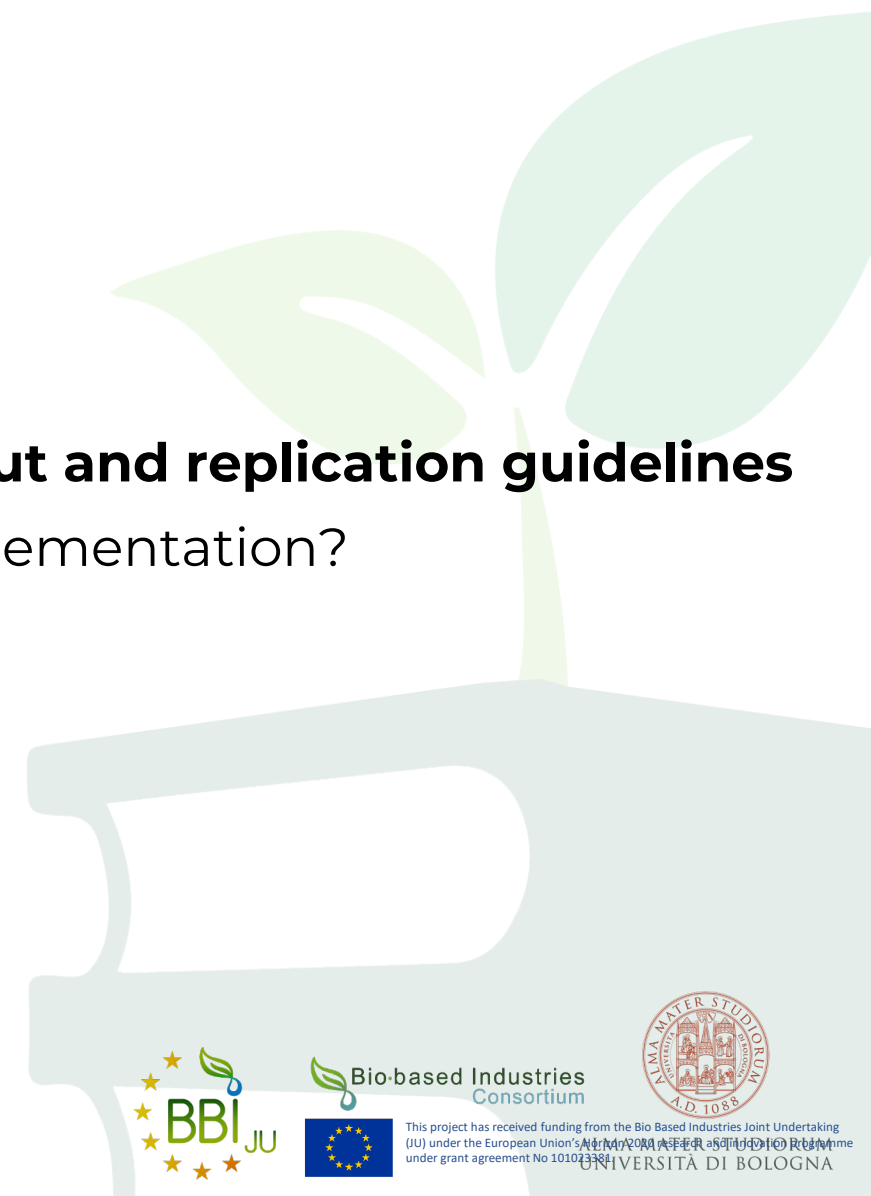
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## Reality check

- Programs and activities
- Governance models
- Budget and financing
- Overall sustainability assessment

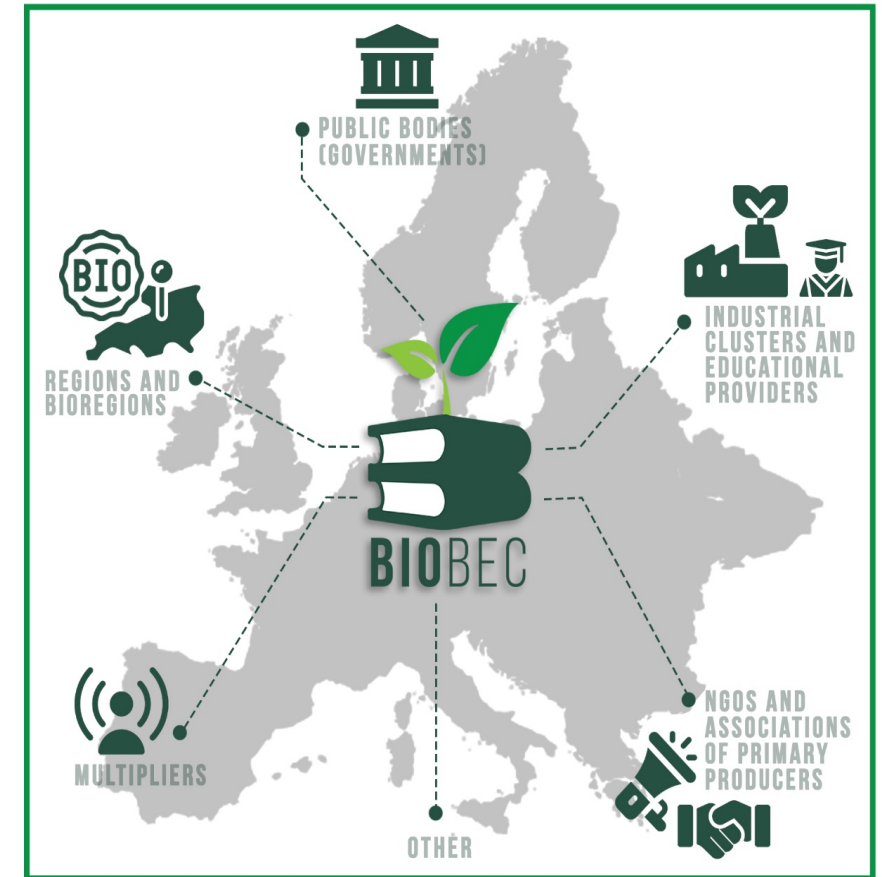
- **Roll out and replication guidelines**
- ... implementation?



## Programs and activities

### Example of activities (MED BBEC)

- Identify the priorities, training needs and profiles required in the bioeconomy field
- “Training the trainers” (for different educational levels)
- Encourage and enable internships
- Coordinate and assist mentoring activities of the industry
- Offer an online service (platform)
- Dissemination and communication activities



# Balance and financing

BSEC	Capex	Opex	Revenue	Balance
Eastern Europe	245.000	1.852.375	2.197.919	100.544
Finland	37.000	792.000	855.000	26.000
Germany	142.000	1.102.145	711.000	-533.145
Ireland	15.000	757.286	797.286	25.000
Mediterranean	89.300	893.600	950.000	-32.900
Denmark	95.000	875.000	866.000	-104.000

# BioBec Governance

Very different from case to case

The most important was to think about it during the feasibility

Central-Eastern	Danish	Finnish
Virtual Consortium of independent entities	Commercial Foundation	Collaboration platform, and private entity in the future
German	Irish	Mediterranean
Public Body linked to University of Hohenheim.	National bioeconomy education & engagement platform hosted with Munster Technological University	Non-profit Association

Table 2: Legal status of each BBEC.



Structure of BBEC CE

## Student-centered education

- T-shaped education
- Active learning
- Bioeconomy education & public awareness
- Education for all ages
- Education, careers, mentoring
- (BBEC as education hubs for tailored individual programs & pathways)



## BBEC and other education institutions

New curricula or Horizontal skills, or...?

Exploiting existing know how

Fitting with existing sectoral organisation

Complementary to what already exists (traditional curricula, tools, education programs, etc.)

**Better interaction with students, industry, public bodies**

**->networking and knowledge through light interactions during the students life**



## And more challenges/opportunities

Circular, systemic etc.

Uncertainty and “resilience by education”

(Entrepreneurial) mindset

New technologies

Distance learning

AI

(but also reconsideration of in-person training)





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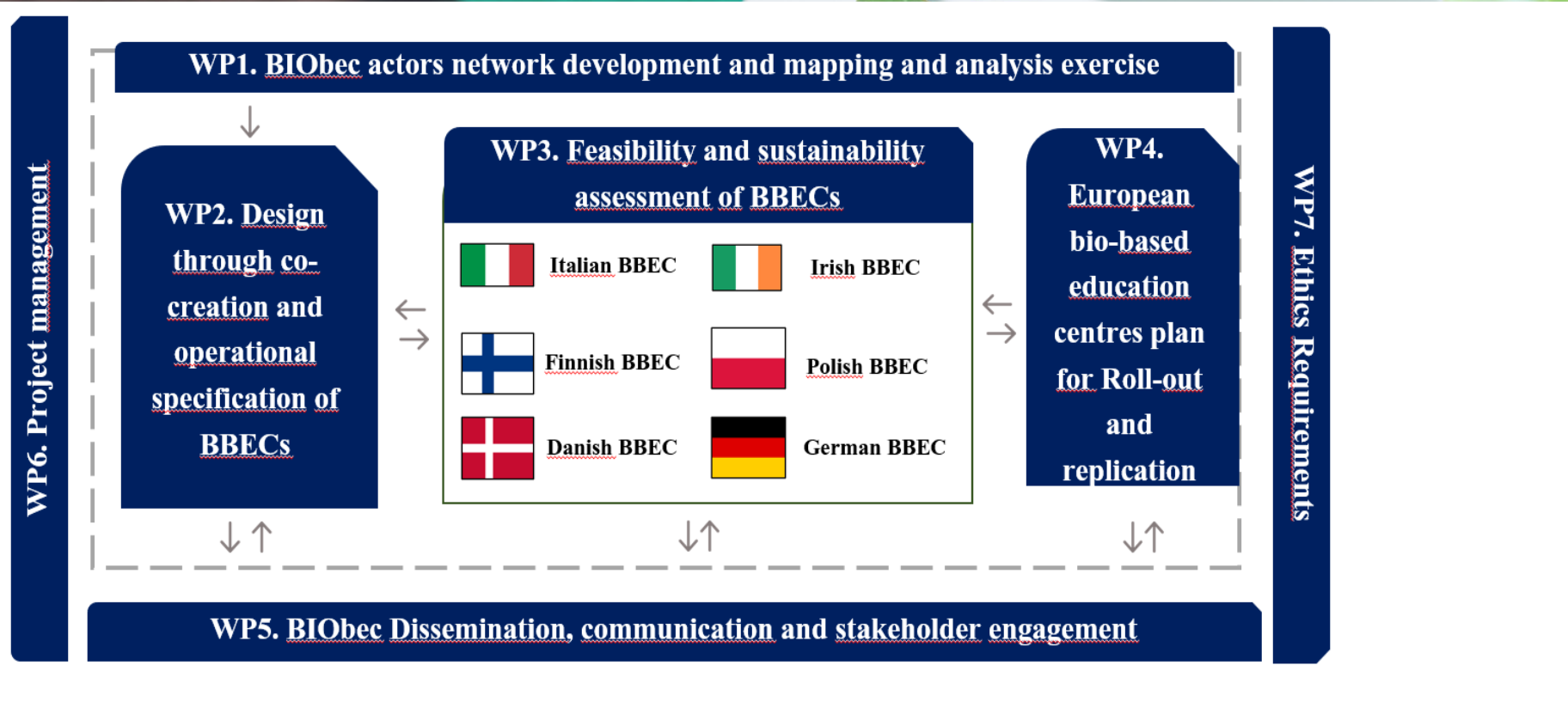
**Thank you very much**

Davide Viaggi

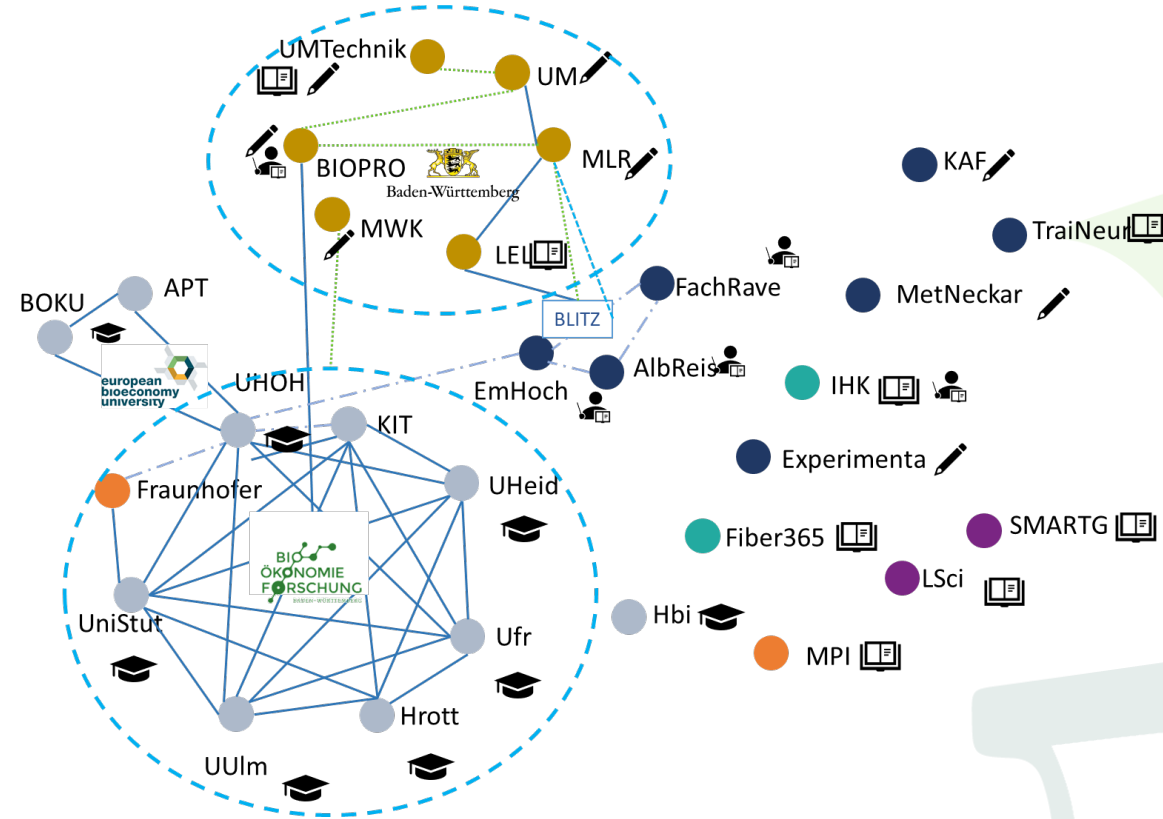
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# IMPLEMENTATION



## Education in local innovation networks (AKIS? KISB?)



Current stakeholder map for the BIObec Central-Eastern Europe-Germany