



Annex I

Presentation of the current initiatives and EU funded projects



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Research and
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1. Alliance for Skills and Knowledge to Widen Food Sector-related Open Innovation, Optimization and Development, ASKFOOD

Text provided by Coordinator: Paola Pittia, Prof. PhD (University of Teramo, Italy)

The food & drink industry is the EU largest manufacturing sector in terms of turnover, value added and employment (FDE, 2018), but despite of financial and market turmoils, it remains stable and resilient. Innovation is a main challenge that, in a wider food system approach needs to be implemented by taking into account the impact in our society and natural environment. The food sector is also increasing its connections with other economic and manufacturing sectors (e.g. tourism, nanotech, ICT, pharma, bioeconomy) thanks to emerging trends in consumption styles, technology advancements, sustainability standards and health concerns. A better coordination among these sectors is necessary to tackle emerging challenges, catch common opportunities in the job market to food studies graduates and lead innovation in the food production chain.

Education is a key element in the new models of innovation but Academia needs to implement modern educational methodologies and to set new approaches of permanent and synergic interaction with the job-market and the main stakeholders by developing joint activities, to anticipate future changes in skills demand, set entrepreneurial skills and lead innovation.

The ASKFOOD, Erasmus+ Knowledge Alliance project (Alliance for Skills and Knowledge to Widen Food Sector-related Open Innovation, Optimization and Development, www.askfood.eu) aims at the creation of a new “educational” eco-system for innovation and sustainability of the food system by

- upgrading and modernizing training and educational methodologies by implementing an Open Innovation framework. Virtual tools to anticipate trends and emerging skills for future food-related professions are under development (i.e. Forecast aggregator, Smart Atlas, Interactive gap identifier).
- feeding the innovation and entrepreneurial mindset of the future generation of graduates in food and food-related studies by piloting acceleration and growth hacking solutions in responses to common and cross-sectoral challenges connected with the food system (e.g. Reverse Incubator)
- developing cross-industry, multisector, transdisciplinary knowledge platforms to promote the knowledge alliance between businesses and HEIs in the food-related sectors in a Quintuple Helix innovation model at EU and international level. A permanent Observatory focused on educational needs, skills and competences will be set

Target group of the project are higher education (teachers, researchers, students), training providers, industry and business representatives, authorities and policy makers in the food and food-related sectors. The ASKFOOD project will provide new tools to modernize and to improve the quality of education in food and food-related studies by meeting the job market needs and complying the EU policies and strategies.

Multidisciplinary and multisectorial collaboration between academia, business, enterprises at a cross-border level will contribute to face the social and economic challenges in the food system, opening the job market to the development of innovative educational programmes, advancements in knowledge and in knowledge transfer, new interactions with new science and cultural disciplines and new job market opportunities for the graduates in the agri-food sector, including the bioeconomy ones.



Figure 1: Project logo



Figure 2: the “double path” approach applied to implement the ASKFOOD activities

Project website: www.askfood.eu

Project timing: 1st January 2018-31st December 2020

2. BioEnergyTrain BET: How to get involved?

Text provided by eseia Director: Brigitte Hasewend brigitte.hasewend@eseia.eu

The transition to a renewable and sustainable energy economy in Europe is a critical developmental process requiring the integration of research and technology, education and training, industry and business, government, non-governmental organizations, and the general public. The H2020 BioEnergyTrain BET project coordinated by the European Sustainable Energy Innovation Alliance eseia addressed this challenge by developing co-operative learning formats engaging students from higher education institutions in real-life problems and challenges of companies and organizations working in the field of biorefinery, biobased economy or energy transition.

In four years' time BET developed several co-operative educational formats: two European masters programs on Biorefinery Engineering at TU Graz (AT) and on Bioresources Value Chain Management at UTwente (NL); nine open summer schools, interdisciplinary student camps and pilot plant research labs in different countries; and 19 course materials available on the e-learning platform. All the co-operative learning formats link industry in a new way to education at universities and widen student's disciplinary knowledge, with interdisciplinary problem analysis and solving, team work and collaboration skills and communication and presentation skills.

The co-operative formats do not need heavy institutional commitment. The success basically depends on the willingness and enthusiasm of teaching staff and staff of the collaborative companies and organizations. The BET Consortium is open to cooperate with European HEIs, research organisations, industry, regional actors, and vocational training providers to extend the co-operative learning formats and course materials developed within the BET project.

All the BET materials have been successfully transferred to the TU Graz Moodle platform. Also the co-operative educational formats will be continued: next Student Camp will take place from 24 to 28 February 2020 at the University of Twente (NL). The BET Consortium has also prepared a Cooperation Agreement template that can be adopted between the project Consortium and different Stakeholders. External partners will have the opportunity to cooperate with the BET Consortium and participate on the project educational formats.

About eseia



eseia is a European non-profit association of leading research and innovation organisations in sustainable energy. Currently, eseia has 33 members from 13 EU countries from research, academia and industry. eseia strives to become the first European reference for RES innovation and the premier provider

of practice-oriented education and training. The eseia Education and Training Programme (ETP) set up in 2010 creates innovative training solutions to fill the gap in skills development as identified by the EC SET Plan Education and Training Initiative. To date, more than 500 students and professionals have received training under the ETP including co-operative training formats, namely International Summer Schools, Student Camps, Pilot Plant Courses, and Professional Training Courses hosted by eseia member organisations.

References to Relevant Resources

BioEnergyTrain 'Theory and Practice of Co-operative Education and Training for the Support of energy Transition' <https://indd.adobe.com/view/27d78396-750e-4b21-9745-e237c25ff7b0>

www.eseia.eu

www.etp.eseia.eu

www.bioenergytrain.eu

3. Supporting Regions in the design of innovative bioeconomy educational paths: The contribution of the European Bioeconomy Network and Biovoices project

Text provided by Contact Person: Susanna Albertini
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The presentation describes the contribution of the European Bioeconomy Network (EuBioNet¹) and BIOVOICES project in supporting the regions in the design of their educational and awareness raising activities. Initiated by the BIOVOICES project in March 2018, the European Bioeconomy Network (EuBioNet) is a proactive alliance of **48 EU funded projects** dealing with Bioeconomy promotion, communication and support.

The presentation describes what the EuBioNet is, the mission, the main activities, how the EuBioNet deploys its activities through the 48 projects members. It also describes what is foreseen for the EuBioNet in the update of the European Bioeconomy Strategy how this initiative can promote all bioeconomy areas among a wide range of stakeholders, support the Regions in their awareness and education activities.

Finally, two case studies are presented, describing how the EuBioNet, through the activities of the projects members, supported:

- 1) Friuli Venezia Giulia Region (Italy) in the creation of the regional HUB for Bioeconomy Education. This is done through the co-organisation of a Mobilisation and Mutual Learning workshop with Quadruple Helix Stakeholders to identify the educational needs.
- 2) Lazio Region (IT) in the promotion of the bioeconomy-related entrepreneurial skills as part of the Startupper School Academy (developing entrepreneur skills for professional high school students). The EuBioNet, in collaboration with BIOVOICES project and Novamont, launched the “Bioeconomy Prize” dedicated to ideas and projects dealing with bioeconomy. The initiative also foresees dedicated training to teachers about bioeconomy and bio-based products.



¹ <https://eubionet.eu/>

The EuBioNet covers a wide range of stakeholders, reaching them through the activities of the 48 projects.

Impact of the European Bioeconomy Network:

- Involve citizens in awareness-raising and education activities promoting the bioeconomy and all its areas and the related environmental and socio-economic impacts, promoting the transition towards a more sustainable production, purchase, consumption and lifestyles
- Engage stakeholders in communication and engagement activities (events and tailored campaigns) to promote all bioeconomy sectors and bio-based products, at the national, regional and community level
- Share information and best practices among projects and initiatives maximising their impact
- Make available and transfer the communication tools and activities developed by the EU funded projects and initiatives to regional stakeholders, supporting them in the implementation of their bioeconomy strategies

4. Mapping exercise of bio-based industry needs

Text provided by Author: Aleix Barrera-Corominas **Affiliation:** Organisational Development Team – Universitat Autònoma de Barcelona **Contact:** aleix.barrera@uab.cat <http://edo.uab.es/en> **Project:** UrBIOfuture - Boosting future careers, education and research activities in the European bio-based industry. **Project Website:** <https://www.urbiofuture.eu/>



The project aims to bring Europe to the forefront of the Bio sector by identifying the educational needs and gaps in the European Bio sector, identifying career opportunities involving all interested parties in a co-creation process that offers the

"UrBIOFuture" experience as a fundamental tool to attract talent and provide professional guidance. The objectives proposed by the are: (1) mapping the current educational programs that develop their curriculum focused on the Bioindustrial sector; (2) achieve alignment between educational and research institutions and the industrial sector; (3) identify the current gaps between the training offer and the real needs of professionals and companies in the sector; and (4) propose a tool to promote vocations in the Bio sector, in what is going to be called "UrBIOfuture Experience".

To achieve the main objective of the project, an analysis of the current educational has actually been carried out (with the programs in progress and the complete ones) and also the analysis of a survey where the main stakeholders of the industry and the Bio sector have been involved in order to carry out a consultation to identify the main skill needs of the sector in the upcoming years.

The development of previous focus groups and interviews with stakeholders let us find out that current educational systems tend to lack significant connection between theory and practice, which generates serious difficulties when incorporating new personnel into the industry. More practical approaches are demanded by industrial agents, for example, incorporating industrial secondments in academic curricula at all educational levels and also

increasing industrial doctorates. Collaboration between universities and industry is a must in the education of high-level professional profiles, which stakeholders identify as:

- positions related to the use of information and communication technologies;
- Experts in bioinformatics to work on programming, automation, robotics or data processing;
- Professionals knowledgeable on regulations related to the Bio-economic sector;
- Jobs on analysis and quality control;
- Professionals specialized on waste management and advance in the abandonment of fossil resources and the use of biomass;
- Multipurpose profiles in an ever-changing business and market context, there is a need for professionals to have the ability to adapt to different job positions and capable of acquiring new competences easily;
- Support service professionals: management, sales, economic analysis ...) with specialized knowledge in the Bio industrial sector;
- Classic engineering competences to maintain and manage industrial machinery will continue to be necessary.

The education systems must be more permeable to allow the continuous training of the employees favoring the combination between work and studies. Increasing the internationalization of studies and secondments allows for learning from the progress achieved in other contexts as well as facilitates subsequent work in international environments and the mastering of languages.

There is also a need to introduce changes in the training methodologies seeking more balance between the processes of active transmission and those linked to more proactive attitudes of the participants, more collaborative and proactive, developing of critical thinking and the skills to discuss, reflect, draw conclusions and proposals, etc.