

TALENT for the valorisation of agricultural BY-PRODUCTS

Newsletter #004 – February 2024

Project Activities

PR4. Free and Openly Educational Resource (OER)

The **BYP4DEV Massive Open Online Course (MOOC)** represents an innovative form of online vocational education that offers opportunities to the occupational target group of the project, meaning all stakeholders related to the agri-food sector (both educational and industrial).

Through 6 modules, 26 units and 55 hours of training, the BYP4DEV MOOC offers learners the necessary guidance needed to familiarise themselves with new concepts and technologies related to the production of agro-industrial by-products with higher commercial value in circular economy. By participating in the BYP4DEV MOOC, learners get to expand their knowledge on agricultural by-product valorisation by reading texts and watching presentations and videos, containing expert knowledge. Learners can also self-assess their progress in the course by taking quizzes and working on written assignments that get evaluated by the course facilitators, as well as interacting with other MOOC participants. Course facilitators constantly support participants, tracking their progress and encouraging personal interaction between learners, as well as promoting collaboration.

The BYP4DEV Massive Open Online Course (MOOC) has been designed in line with EXELIA's core principles for MOOC development. It is accessible worldwide with no participant limits, offering free access to educational resources and training activities without any prerequisites. The course content is easily accessible anytime, on various devices through the user-friendly **THINKIFIC platform**. Thinkific has been prioritised among other platforms, due to its numerous benefits, such as its easy and user-friendly interface, a lack of language restrictions, the easy customisation of courses it offers, and its compatibility with multiple devices.

During a period of 4 weeks, the BYP4DEV consortium ran a **pilot session** of the MOOC, with the participation of learners & facilitators from the project's target group, to test the MOOC's functionality and identify weaknesses, areas of strength, and opportunities for improvement.

The evaluation of the BYP4DEV MOOC during its pilot run showed that it was well received by learners worldwide. In total, **265 participants from 14 countries have participated in the MOOC. 32% have completed at least half of the course, and 30% have completed it, receiving their certificate of completion.**

Below, the number of **participants by country or origin**:

| Country | Participants |
|--|--------------|
| Afghanistan | 1 |
| Belgium | 1 |
| Brazil | 3 |
| Canary Islands | 1 |
| Finland | 52 |
| Greece | 1 |
| Latvia | 21 |
| Morocco | 1 |
| Portugal | 72 |
| Romania | 1 |
| Spain | 105 |
| Sweden | 1 |
| Ukraine | 1 |
| United Kingdom of Great Britain and Northern Ireland | 1 |
| Unspecified | 3 |
| TOTAL | 265 |

| Level of Completion | Participant Percentage |
|--|------------------------|
| Total course completion (100%) | 30% |
| Half the course completed (50% completion – up to Module 3) | 32% |
| Subscription only | 20% |

50% of participants who evaluated the course have a Master's degree, while 66% are employed in a sector directly or indirectly related to agricultural by-products. 100% of the participants responded that:

- the topic was well covered.
- the training materials and objectives were clear.
- the quality of the course was largely sufficient.
- the platform was accessible and easy to use.
- the course improved their knowledge, skills and competences related to by-products and their valorisation process.
- the course was useful for their current work.

- they would recommend the course to others.
- they are interested in deepening their knowledge of the topic after participating in the BYP4DEV MOOC.

Partners` Pilot Results

FUNDECYT-PCTEX

Due to its characteristic, FUNDECYT-PCTEX focused the pilot training course dissemination activities to two different stakeholder's groups: **VET institutions and professionals of different primary sector**. It is remarkable the excellence response that the pilot training course received with more than one hundred participants enrolled in the course in Extremadura region/Spain.

The dissemination activities to regional VET institutions were carried out through the **stakeholder's map** elaborated at the beginning of the project. This strategy had the aim to disseminate the pilot training course directly to whose VET institution that are related to primary sector. Besides, FUNDECYT-PCTEX visited different VET institutions in order to disseminate the pilot course and to awareness about the importance of this subject. The two VET institutions visited by FUNDECYT-PCTEX were: **IES Castillo de Luna in the Albuquerque town, and I.E.S. San José located in the Badajoz city**.

Related to the primary sector professionals, FUNDECYT-PCTEX used their contact **networks** to spread the training course at regional level. Moreover, during the last Multiplier Event organised by this institution, the pilot training course and the final blueprint were presented. This event was shared together with other European project (financed by Circular Bio-based Europe) called **ROBOCOOP-EU**. This project is focused on the development of bioproducts from by-product from olive, vineyard and stone fruit sectors.

Links among projects working in the same issue are always very useful, but especially in this case as it was detected (in the framework of the Byp4Dev) the lack of professionals with knowledge and abilities to deploy a real bio-based ecosystem at regional level.

HAMK

Each partner piloted learning material in their home country. Naturally, in Finland, the **piloting was done by Häme University of Applied Sciences (HAMK). Third year biotechnology and food engineering students** used part of the Byp4dev training material, focusing on bioprocesses, in their study module 'Biomass refining'. The whole MOOC was piloted by the second-year students at Sustainable bioeconomy study module, in which they innovated and developed

solutions for the valorisation of the side streams of partner companies. The learning material was found to be interesting and quite extensive. Going through the key concepts and vocabulary together with the students made it easier to read the material. The different processing methods and techniques in the material helped to solve the utilization of side streams in many different ways in the project work.

The level and extent of Byp4Dev MOOC was quite suitable for HAMK students during the pilot. This group of students had already some skills and competence for example in chemistry and process technology. They had full seven weeks of time available for the entire project. However, by-product and sidestream valorisation expertise is needed by people working at different positions in the agro-industrial value chain and networks. People with different backgrounds and people doing different types of businesses are needed in the transition to the circular economy. It would be useful for different trainers to tailor the training material according to the needs of the learners.

EXELIA

EXELIA, as it is not a vocational training organisation, has taken dissemination initiatives and approached the **American Farm School**, an independent, non-profit educational institution in Thessaloniki, Greece.

The curriculum of the AFS includes practical training in field and horticulture, viticulture and fruit growing, animal husbandry and silkworm production. The school will integrate the use of the MOOC in its Computer Applications course of its 1st vocational high school, as the instructors showed great interest in the training material and expressed their intention to test it with their students. However, as it was the middle of the year and they could not introduce new training material, they committed to doing so as soon as the new school year begins.

At the **info day** organised by EXELIA, the MOOC was presented to four university professors – experts in the agricultural sector - who are looking for ways to integrate the MOOC into their educational programmes. Information and statistics from these two upcoming pilot tests will be available very soon.

VIDZEME

In Vidzeme, the MOOC online course was piloted within the study course **“Bioeconomics on Agriculture”** for students of Bachelor study program **“Agriculture”** in Latvia University of Life

Sciences and Technologies (LBTU). In addition, the MOOC has been included as a recommended tool for the **New Master's Degree Curricula for Sustainable Bioeconomy in Uzbekistan (BioEcUz) "Bioeconomy" developed within the framework of ERASMUS+**.

As of now, 14 bachelor students of LBTU successfully completed the online course and received a certificate, while also leaving some additional feedback which have been mostly positive, as there were comments such as "I believe it makes sense to add this course to the Bioeconomy study program at our university, as it adds knowledge, motivates listening and taking notes, provides fresh experience, and awards a certificate," as well as "Overall, this course gave me a great opportunity to learn new knowledge in my free time, it's nice that such an opportunity is available for free."

INOVCLUSTER

InovCluster highlights the active and interested **participation of more than 10 Portuguese entities** in this process. The course development process benefitted significantly from the insights provided by these entities, ensuring alignment with the dynamic demands of the agrifood sector labour market, particularly concerning the valorisation of by-products from agroindustry.

Since it was launched, in Portugal **72 people have attended the ByP4Dev course**, which is a clear indicator of the relevance of a course in this area, as well as the market opportunity that it may bring.

InovCluster believes that the overarching goal of 'ByP4Dev' that was to **foster the emergence of skilled professionals** capable of contributing to the burgeoning landscape of sustainable agro-industrial practices, thereby facilitating the transformation of waste streams into valuable resources was fully achieved, and it's results and impact maybe seen in the forthcoming years.

PR5. Blueprint/ /Roadmap

The final version of the Blueprint & Policy Recommendations is now available on the project website: [link](#)

Events & News

Transnational Project Meeting #6

On the **05th October 2023** the projects` Byp4Dev partners met **virtually** to participate in the 6th Transnational Project Meeting. During the first part of the event there were presented the e-learning platform (Open Educational Resources) and the state of the Training course (PR4).

Next all partners had the opportunity to share their own **MOOC dissemination strategies** in order to share first and receive feedback afterwards from the rest of partners.

Another important point of the meeting was the **progress of the Blueprint and Roadmap**. VIDZEME as responsible of this results shared with the rest of partners an almost final version in order also to receive further comments or suggestions for improvement.

The second part of the meeting was focused on the **communication activities, the quality plan and the next steps** to follow in order to properly complete the project.

Transnational Project Meeting#7

On the **7th of February 2024**, the team of the Byp4Dev project gathered for the last Transnational meeting, this time at HAMK, in **Hämeenlinna, Finland**. In the afternoon, the Final Event of the project took place in the Design Factory of HAMK. Finnish and international students, teachers, and other professionals, altogether 48 people, worked around the idea of using artificial intelligence (AI) and making training materials even better available for different target groups. The event included a **workshop on the topic 'Make learning materials with AI - Case of Circular Economy'** and a panel discussion focusing on the ethical use of AI in education.



In the Final Event Workshop, it was tested how the learning material created in the ByP4Dev project could be customised with the help of artificial intelligence for training different target groups. Working in small teams, each team selected a target group and a part of the training material and started to prompt AI. It was observed that results can be obtained surprisingly fast. AI was good to give ideas and basic knowledge. Editing the material to suit the target group was also quick, but the quality and correctness of the content could not be ensured. The AI-assisted tailoring of learning materials according to the needs of the learners can be useful, but the pedagogical and ethical aspects must be taken into account.

Partner



InovCluster was created in 2009 with the aim of promoting innovation and competitiveness in the agro-industrial sector in Centro region of Portugal. It has more than 150 members, including companies, scientific and technological system entities, business associations and public entities.

InovCluster provides added value services to its members and develops projects in the areas of internationalization, innovation, technology transfer and training, and territorial development. It is an industrial and innovation cluster recognized by the European Commission and participates in several European networks and initiatives aimed at developing the sector.

InovCluster's mission is to contribute to the sustainable development of the agro-industrial sector, valuing the region's endogenous resources and potential through the creation of cooperation networks.

Link to web: [link](#)