



Dissemination, communication and exploitation plan

Deliverable 8.1 – D35 – WP8

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OPTIMISING BIO-BASED FERTILISERS IN AGRICULTURE – PROVIDING A KNOWLEDGE BASIS FOR NEW POLICIES

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Deliverable 8.1 – D35 – Version 3 Work-package n°8

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Dec	Websites, patents, filling etc.		
Dem	Demonstrator		
O	Other		

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CO	Confidential, only for members of the consortium (including the Commission Services)		



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LEX4BIO aims to reduce the dependence upon mineral/fossil fertilisers, benefiting the environment and the EU's economy. The project will focus on collecting and processing regional nutrient stock, flow, surplus and deficiency data, and reviewing and assessing the required technological solutions. Furthermore, socioeconomic benefits and limitations to increase substitution of mineral fertiliser for BBFs will be analysed. A key result of LEX4BIO will be a universal, science-based toolkit for optimising the use of BBFs in agriculture and to assess their environmental impact in terms of non-renewable energy use, greenhouse gas emissions and other LCA impact categories. LEX4BIO provides for the first-time connection between production technologies of BBFs and regional requirements for the safe use of BBFs.

The project runs from June 2019 to May 2024 (Amendment for 12 months extension from February 2021). It involves 21 partners and is coordinated by Luke (Luonnonvarakeskus - Natural Resources Institute Finland).

More information on the project can be found at: <http://www.lex4bio.eu>





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D8.1: DISSEMINATION, COMMUNICATION AND EXPLOITATION (DEC) PLAN

I. INTRODUCTION

This deliverable presents the dissemination, communication and exploitation activities linked to the LEX4BIO project. It is a strategic tool, which includes methods and channels by which a message is delivered to an audience in multiple locations.

General objectives of the DEC activities:

- To engage all relevant stakeholders and strategically selected target groups about activities and results of the project
- To inform and raise awareness about the project itself and project results
- To cluster and create synergies with relevant EU and national projects on nutrient recycling
- To ensure exploitation of project results and follow-up of the potential outcomes through policies and implementation

The plan will be regularly updated when needed in order to be able to respond to new opportunities. The purpose of the DEC plan is to define in detail:

- The target groups and stakeholders,
- The messages that the LEX4BIO partners want to bring across,
- The materials and channels which are most suited to communicate the messages to the targeted groups of stakeholders,
- Guidelines and templates for consortium partners to disseminate and communicate about the project results,
- A planning and timing of the dissemination activities.

The last version of the DEC plan in M60 will include a plan for the maintenance of the communication materials, results' exploitation and knowledge management (period for keeping the domain name, final version of the exploitation plan, etc.).

At present, two updates to the DEC Plan were made – one in December 2020 with the progress shown and a second update in December 2021. This is the third update of the Plan.



II. METHODOLOGY

Dissemination and Communication activities play a key role within the LEX4BIO project in order to foster the impact towards acceptance and policy support of BBFs at the EU level, within the duration of its EC funded lifecycle as well as for the sustainability of the results after the end of the project. This role is becoming increasingly important with the project entering its final phase. Lex4Bio has just concluded its second Reporting Period and is only 12 months away from its closing event by May 2024.

The share of dissemination activities has increased due to the prolific results partners are gaining in their relevant work packages. They keep being accompanied by an extensive communication effort while reaching all Lex4Bio target audience groups and conveying project's messages by answering the questions below:

- What do we want to say? **Messages**
- Who do we want to reach? **Audience**
- When, where, who, how? **Dissemination Strategy**
- How do we exploit the results? **Exploitation framework**

III. H2020 GRANT AGREEMENT: DISSEMINATION & COMMUNICATION

Dissemination & Communication are clearly defined, both in the rules of participation in the H2020 program and in the Grant Agreement signed between the LEX4BIO Consortium and the European Commission. It is important to keep distinguishing between the concepts of communication and dissemination, whereas the latter is defined as follows:

“Each beneficiary must — as soon as possible — ‘disseminate’ its results by disclosing them to the public by appropriate means (other than those resulting from protecting or exploiting the results), including in scientific publications (in any medium).”.

LEX4BIO Consortium has adopted the definitions hereunder of research dissemination and research communication:

- **Research Dissemination:** distributing information to various audiences within the academic community and beyond in forms that are appropriate to their needs, often a one-way process.
- **Research Communication:** communicating research outputs to a range of intermediate and end users, through an iterative and multidirectional process involving a wide range of stakeholders from planning, implementation, monitoring and evaluation.

IV. LEX4BIO DISSEMINATION & COMMUNICATION PLAN

Introduction

The DEC plan of the LEX4BIO project “constitutes the reference document for all DEC implementation” (*Grant Agreement, annex 1, WP8*). More specifically, the activities of communication and





dissemination of the project continue contributing to the achievement of the specific objectives of WP8 as listed below, with greater focus on disseminating project outputs and preparation for the exploitation of project results. (Grant Agreement, annex 1, WP8):

- 8.1 Communicate about project activities to all relevant stakeholders
- 8.2 Cluster and coordinate activities to create synergies with related EU and national projects on nutrient recycling
- 8.3 Disseminate project outputs to relevant stakeholders and potential end-users of the outputs
- 8.4 Prepare the exploitation of the project results and the follow up of the potential outcomes through policies and implementation

Strategy, target audience and messages

Overview. The DEC plan targets the audience foreseen in Grant Agreement, annex 1, “Dissemination & Exploitation of results” i.e.:

Table 1 - Target audiences

Target audience	Indicator	Activities implemented	Channels used
EC & national decision-making bodies, regulatory bodies	20	Recommendations on actions, programmes and communication Policy Roadmap (D8.5) Four specific presentations during seminars and international events, including policymakers Four articles published in non-scientific magazines	i) Conferences, seminars ii) Dedicated publications iii) Webinars
End-users (farmers, consumers)	5 000	Workshops & special content easily understandable as online information materials Visits to demonstration sites and field days (at least once during the project) Popular articles at national and local level	i) Events, meetings ii) Newsletters iii) Popular articles, media actions
Scientific community	100	At least 15 publications on the methodology, approach, solutions and results in peer-reviewed, international journals Participation to conferences and fairs 20 universities and 100 academics contacting regarding the project results Cooperation with other ongoing projects	i) Forum, conferences, fairs ii) Scientific publications



Industry	150	Interaction through NDF, contact with companies involved in fertilisers, biofertilisers, environmental protection and food safety Information and input to industries” own channels 15 stakeholders per country reached	i) Fairs, market exhibition ii) Dedicated publications, news iii) NDFs & workshops
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Project general message

Bio-Based Fertilisers (BBF) have the potential to transform the agricultural industry by minimizing the environmental impact of existing fertilisers and improving sustainability through recycling of nutrient-rich side-streams (NRSS)

Increased productivity of European agriculture after the Second World War was largely based on the use of mineral fertilisers, without considering its impact on the environment. Only in recent decades, protection of biosphere and food quality have gained more attention, both of which are heavily dependent on fertiliser application rate, fertiliser quality, as well as soil characteristics. Imported mineral phosphate and fossil energy-intensive nitrogen fertilisers cause major detrimental impacts on the environment, whilst nutrient-rich side-streams/organic waste remain under-used. By optimising usage of bio-based fertilisers (BBF) from side-streams, ensuring their safety, building evidence-based trust in their usage and developing legislative framework for their use, it will be possible to reduce dependence upon mineral/fossil fertilisers, benefiting the environment.

LEX4BIO will enable the development of a profound knowledge basis and new coherent methods to take full advantage of BBFs

LEX4BIO will evaluate the fertilisation potential and other properties against national and EU fertilisation requirements of the most promising technologies for BBF production. This will provide essential tools for closing European nutrient cycles and contribute to ameliorating the impact of fertilisation on the environment.

The most important impact of the project will be to provide a policy framework for the EU’s transition to maximising fertiliser self-sufficiency by using BBFs.

Specific identification, expectations and needs of the DEC target audience

EC & national decision-making bodies, regulatory bodies. Involving European and national policy makers and regulatory bodies including NGOs, permitting and regulatory authorities (for instance Ministries of Agriculture, Forestry, Rural development & Food, Ministries of Environment, Food authorities, Agencies for Health and Food Safety, National offices for Agriculture, DG Agri of the European Commission) allows for keeping abreast with the decision makers vision and set priorities in the defining of standards, regulations and legislation in the field of fertilisers. In the current geo-



political environment, when the EU is looking for ways to decrease Europe's dependency on mineral fertilizers import from other parts of the world and the never-ending increase in price, the establishment of mutually beneficial relationships with the regulatory bodies is of significant importance. Lex4Bio partners will invigorate contacts with EU representatives, with main effort shifted to the EU Commission.

End-users (farmers, consumers). Farmers are involved through direct contacts or more structured activities and cooperation with farmers unions and clusters through the execution of the National Dissemination Forums. End-user involvement from the early stages of the project is critical for the project sustainability and continues until the end of the action as it impacts positively project results acceptance at a later stage. acceptance and their role must be carefully considered with specific activities. Within LEX4BIO, two-way engagement with end-users is considered:

1. Input from the end-users to the project: During the implementation of the field trials, end-users are invited to visit the demonstration sites. This gives farmers direct access and visibility to the field work and results, and enables the collection of real time feedback and impressions and concerns. Farmers opinion is sought through the developed and conducted by Lex4Bio Survey on barriers towards replacing conventional fertilizers with biobased alternatives.
2. Input from the project to the end-users: Dissemination of tailored communication materials and press releases in specialised magazines, updating end-users on work progress and new available opportunities in the field of agronomy.

Scientific community. Researchers, soil scientist and nutrient recycling specialists are reached at scientific conferences through presenting Lex4Bio outputs with the intent to establish future collaborations stepping on the novel methods developed within LEX4BIO as well as utilize the results and data collected from the field trials, to include repurposing and recycled use of the findings analysis. These engagement with these stakeholders is elaborated also in the updates of **D8.3 "Synergy report and action plan" (M8)** identifying collaboration mechanism with other EU funded projects.

Industry. A main task enabling the development of the work programme is building an inventory of current and novel promising BBFs and select them for trials and analysis conducted during the LEX4BIO project. Therefore, the relevant industries specialised in fertilizers and BBF production are considered a key asset. They are reached through integrating major organisations in the National Dissemination Forums as well as direct communication activities.

Communication & Dissemination Best Practices

Successful communication strategy is based on a set of criteria that need to be fulfilled in order to maximise the impact of the project and take advantage of the means at the disposal of the partners. With this regard, the following of the initially shared best practices (BP) with partners continues to be in effect:



BP1 – CREATE AND PROMOTE APPEALING INFORMATION BASED ON SPECIFIC CONTENT

As a research project, LEX4BIO delivers high amount of content, which could be shared to the different stakeholders. Depending on their vested interest in the project, the communication and dissemination activities are tailored to the specifics of the target group, channels and tools selected. Each item is based on relevant information derived from scientific data and results, especially as it regards the local and national dissemination activities, such as NDFs for example. Messages should be clear and in line with project objectives, the interest of the audience, and the overall goal of LEX4BIO to contribute to BBFs acceptance at large.

BP2 – COMMUNICATION & DISSEMINATION CHANNELS CORRESPONDING TO THE MESSAGE AND STAKEHOLDERS' EXPECTATIONS

The selection of CD channels and medium should be accommodated to the format of the delivered content as well as the audience behavior and expectations for the respective channel. Depending on the message, we should decide on the media outlet that could be used so that our goals are achieved at the desired level of performance.

BP3 – USE OFFICIAL COMMUNICATION MATERIALS FOR YOUR DEC ACTIVITIES

All tools and communication materials introduced in the Plan and in **D8.2 “Portfolio of communication materials and the general project website” (M6)** are shared, commented and validated by all partners. They constitute the media corner of LEX4BIO and should be used as a communication and dissemination baseline, to provide official content and complete specific technical presentations with more general information on the project itself.

BP4 – SHARE PUBLICATIONS WITH THE CONSORTIU BEFORE PUBLISHING

LEX4BIO partners, according to the Consortium and Grant Agreement have agreed on a specific notice process regarding publications, at least 30 calendar days before effective publishing. Any objection shall be made in accordance with the Grant Agreement, in writing form to the coordinator, the Parties and EP.

BP5 – ENRICH YOUR COMMUNICATION WITH ON-FIELD EXPERIMENT AND CONCRETE RESULTS

As a research project, LEX4BIO relies on technical and scientific terms and contents. However, its main impact will be linked to the understanding of the project objectives by the whole value chain related to BBFs, from policy makers, to industries towards the final users as the farmers and the consumer. Hence, communication materials are adapted to a layman language through the employment of the principles of storytelling (add personal experiences and anecdotes to create perceived proximity between the narrator and their readers or listeners).





BP6 – FOLLOW THE ROADMAP AND AGENDA FOR COMMUNICATION

While defining the communication strategy, the frequency of publications, activities and events has been aligned with **Table 4**, **Table 5**, **Table 6**, and to the individual strategies defined in *Error! Reference source not found*. It is of major importance that the partners commit to this agenda and anticipate the needs in terms of content drafting, validation process and notice prior to publication.

Key words and phrases for communication

Bio-based fertilisers
 Fertilisation
 Circular economy
 Soil fertility
 Resource
 Preservation
 Policy roadmap
 Food safety
 Nutrient cycle
 Waste recycling
 Phosphorus
 Sustainable agriculture
 Environmental impact
 Recovery

Communication management

To implement a successful communication, dissemination & exploitation strategy, it is essential to identify a clear methodology and structure. This is based on the following requirements:

Communication manager & key people. Europroject oversees coordinating the communication & dissemination activities for the whole project, as WP8 leader. It manages overall activities linked to delivering key messages during the project lifetime, internally and externally, as well as the achievement of the dedicated milestones:

Table 2 - Milestones - WP8

#	Milestone title	Lead	Due date	Means of verification
MS29	8.1. Project identity, DEC plan, online presence and materials ready	EP	M6	Visuals, accounts and some materials created, available and used by partners
MS30	8.2. Synergies identified and project cluster used for better cooperation	Luke	M4	Synergies identified and other projects contacted, cooperation methods agreed
MS31	8.5. Roadmap for policies defined	Luke	M8	Clear roadmap discussed and created



As WP8 leader, Europroject oversees creating and managing the visual identity of the LEX4BIO project. It receives content to be published through the diverse communication means defined hereunder (web, social networks, newsletters).

EP organized the creation of the communication materials, offering to the partner a first structure of the design and contents to be developed. If any of the partners carries out communication and dissemination activities, they are communicated to EP and reported through email.

Specific identified people in charge of the communication are identified hereunder:

Table 3 - Communication team

Complete name	Entity	E-mail	Phone	Role
Sirma Anastassova	EP	sirma.anastassova@europroject.bg	+359 2 943 11 76	WP8 leader
Ana Hristova	EP	ana.hristova@europroject.bg	+359 2 943 11 76	WP8 leader
Milen Velikov	EP	milen.velikov@europroject.bg	+359 2 943 11 76	Graphic designer

Patterns and design. Europroject has developed a specific graphic charter (see in appendix 3 and D8.2 “Portfolio of communication materials and the general project website”) including all the rules for use of the logo, templates and colours linked to the Lex4bio project. This charter should be respected for each publication. In case of uncertainty regarding the usage of the templates, the partners should refer to the graphic team of EP for support.

Communication database at European, local and national level. A dissemination database available in this deliverable (appendix 2) has been developed to collect from the partner the information regarding their participation to dissemination activities especially events and NDF. Moreover, partners have shared their contacts at local scale for preparing a list to whom disseminate press releases and newsletters all over the project duration (according to the GDPR rules). This database will be updated regularly with the partners contacts.

Languages. The official language of the project is English and hence all communication, either internal or external will be performed in this language. However, since the project is aiming at disseminating information, among other targets, to the farmers and other end-users, communicating in local language is necessary for specific messages and with specific communication means (during NDFs, local events, stakeholders meeting, and in attracting local media attention). If local translations are needed, each partner will oversee communicating to EP, based on editable templates, the complete contents in the language requested.

Under agreement with the partners, the project website is only available in English. Posts in social networks are also done in English except for specific requests made by the partners.



Communication Tools

Table 4 - Communication tools

Communication tools		
DEC tool – Partner in charge	Partners' contribution (aside from responsible partner)	Frequency
DEC plan – EP	Input on individual and local dissemination strategies	1
Logo – EP	Validation of the logo	1
Official project website – EP	Validation of the contents	Regular updates
Social media – EP	Input on individual news to share on the social networks, relaying news	Regular updates
Project brochure – EP	Validation of contents, translation in local languages if needed	2
Project newsletter – EP	Cross-cooperation on content definition, input and validation, collection of contact database	8
Press release & public articles – All	Individual local strategy	2 – 3 during the project lifespan

The tools regarding communication & dissemination of the LEX4BIO project are briefly described hereunder. However, a complete deliverable D8.2 “**Portfolio of communication materials and the general project website**” is detailing their development and means of use.

Logo. The logo is the main graphic identity element and the key to build a successful graphic identity. It will be used in all material and documents related to the project. The logo has been designed and presented prior to the Kick-off Meeting by Europroject. Different variations were presented to the partners in order to select the most appropriate version. The official logos of LEX4BIO, in colour and in black and white are available to all partners in Tiimeri.



Use of the EU emblem. All activities should contribute to the visibility of European funds among citizens. For this purpose, Article 29 and Article 38 of the Grant Agreement provides that: “Unless the Agency requests or agrees otherwise or unless it is impossible, any dissemination of results [Art. 29] / any communication activity [Art. 38] related to the action (including in electronic) must:



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 818309

- (a) display the EU emblem, and
- (b) include the following text:
“This project has received funding from the European Union’s Horizon 2020 research and innovation programme under grant agreement No 818309”.

In order to adhere to this rule, the following logos are available to all partners in Tiimeri, management platform dedicated to the LEX4BIO project.

LEX4BIO website. The project website requires regular updates depending on the nature and timing of Lex4Bio activities. It was improved in terms navigation and better user experience so that the information is easily found and accessed. The website is maintained by Europroject, and available from M6.

New sections to the website are added to host reports and scientific publications now, in addition the Conference Posters and Deliverables subsections. Deliverables are uploaded to the website as they are ready for submitting, with the disclaimer they are not yet approved and changes may occur upon their approval by EC.

In order to maximize the visibility of Lex4Bio results and make them as open and accessible as possible, a link to the project’s ZENODO Community was added to each relevant page featuring results.

The web address is: www.lex4bio.eu. The website is more specifically described in the deliverable D8.2 “Portfolio of communication materials and the general project website”.





Lex4bio social networks. Social networks are constantly update with relevant content – both, created by Lex4Bio but also curated content as well as shared from partners accounts, as part of an agreed cross-communication support. They are believed to increase the visibility of the results among all stakeholder. LEX4BIO has active Facebook, Twitter and LinkedIn profiles. Europroject manages the social channels.

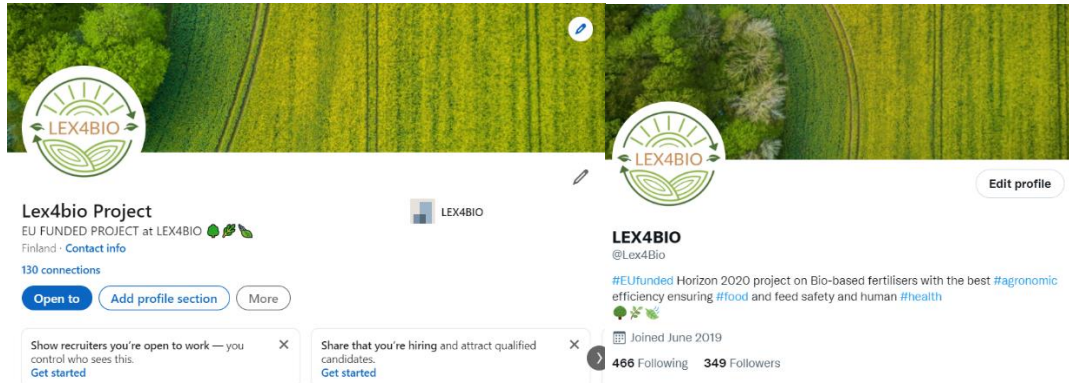


Figure 1 - Lex4bio social networks – LinkedIn and Twitter

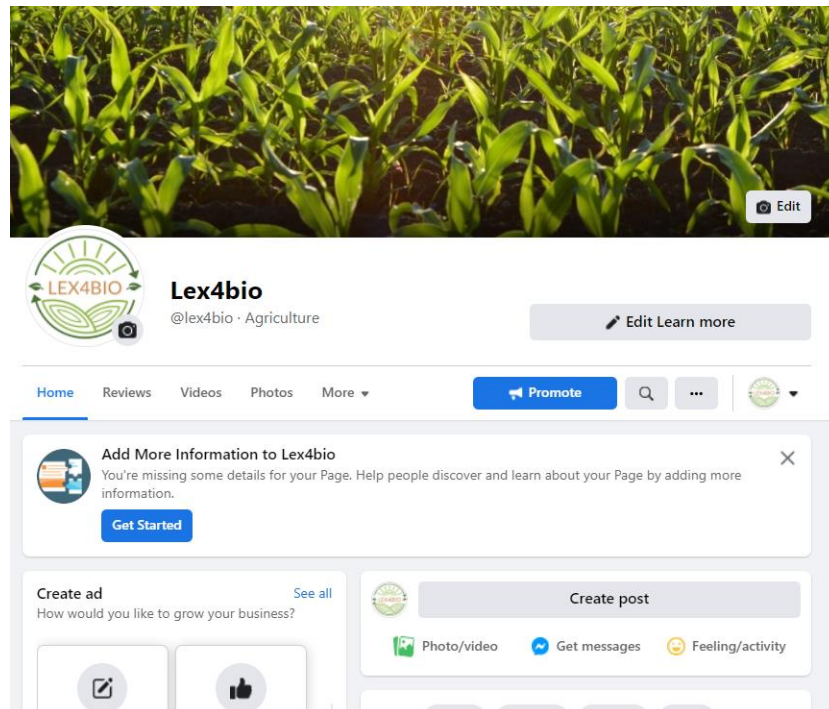


Figure 2- Lex4bio social networks - Facebook

Brochure. The main objective of the project brochure is to provide the audiences with an attractive project overview, summarizing the main objectives and foreseen results of LEX4BIO. Two brochures will be developed during the project. The first one has been released in M3 and presents the general concept, objectives and activities. It is dedicated to global communication towards the stakeholders





identified as target audience. It has been designed in English, under two formats: one for on-line dissemination and one to be distributed during project events, information days and visits. In addition, the brochure has been translated in German and Polish according to the local needs of the partners to convince and engage farmers. Likewise, each of the partners will cooperate in the online distribution of the brochure in its field of action through publication on their own websites and social networks, as well as additional websites and social networks of institutions with interest in the project (neighbourhood centres, consumer pages, blogs, etc.).

The **second brochure for disseminating project's key outputs** was designed as an e-booklet featuring two scientific papers dedicated on assessing the phosphorus demand in European agricultural soils and the potential ammonia volatilization from 39 different novel biobased fertilizers on the European market. The booklet is uploaded to the Communication Kit on the website (https://lex4bio.eu/wp-content/uploads/2023/04/Lex4Bio_Booklet_V2.2.pdf)

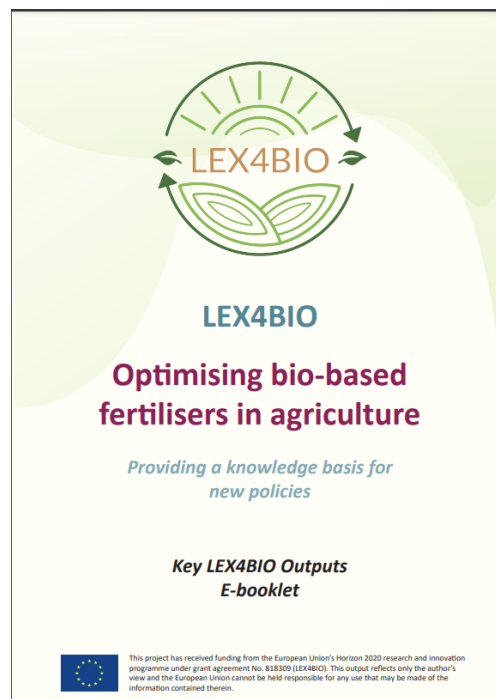


Figure 2 - Lex4bio e-booklet with results

Newsletters. The LEX4BIO newsletter offers direct communication with the project's audience. Even though the cadence of issuing a newsletter every six months was discredited due to the Covid-19 pandemic, the overall initial number of releasing 8 editions is kept, with a slightly modified schedule, per below list:

Newsletter 4 – June 2022

Newsletter 5 – January 2023

Newsletter 6 – June 2023

Newsletter 7 – December 2023

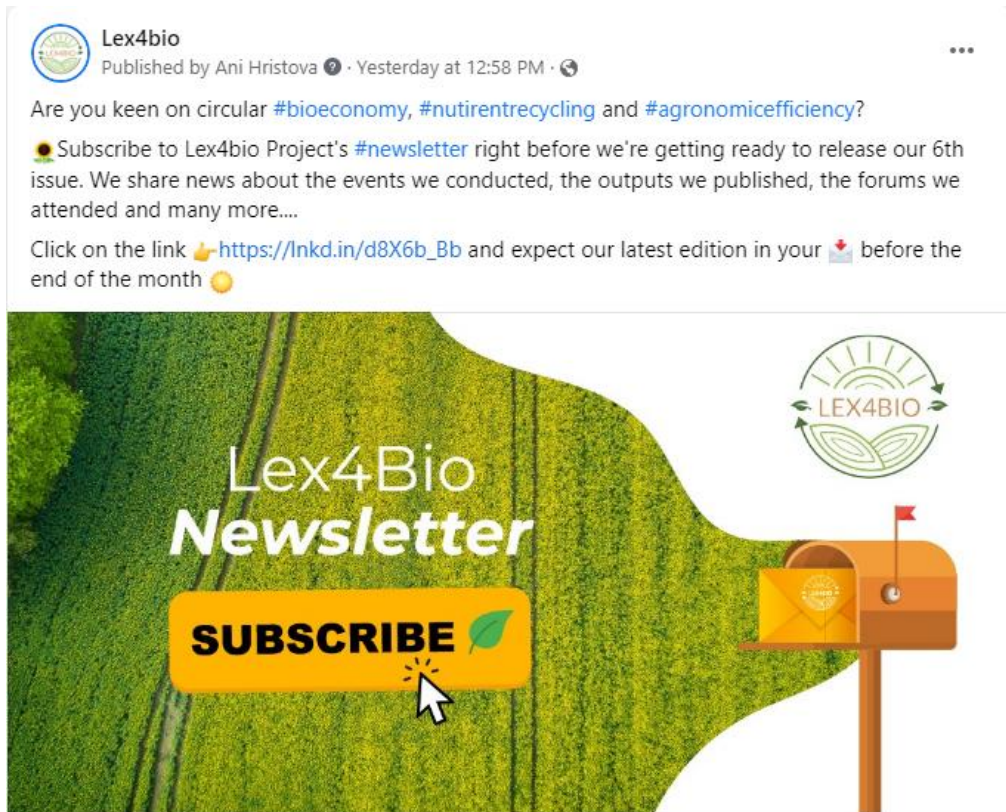
Newsletter 8 – April/May 2024 – the last issue, covering final results, announcing final conference, lessons learned, future plans to build upon LEX4BIO results, etc.





The associated Deliverable **D8.4 Project newsletters compiled** was compiled and submitted to the portal in M48, with the closing of Reporting Period 2. The remaining newsletters could be added as a revision while it is still unclear whether this update will replace the first version.

Shortly before we approach the release of an issue, the project publishes a prompt for subscription on its social media in an effort to further expand on the number of its subscribers.



All Lex4Bio newsletters are available in downloadable format on the website:
<https://lex4bio.eu/newsletters/>

Press releases & public articles. In order to reach a larger audience, popular science articles will be written by partners. They are hosted in a Blog section on the website, which will be created by September 2023, and will also be distributed to local magazines and online media. To facilitate the process of content creation and publication planning, EP developed a Blog Post Content Planner, for partners to make suggestions regarding topics they will write about and suggested formats.





Partner Name	Topic/Title	Channel	Keywords (up to 3)	Format	Target audience	Date of Delivery	Campaign Name
Examples:							
UHOH/FIBL	Effect of selected BBFs on soil parameters and crop growth	website; repost on SM (LI, FB & Twitter)	biobased fertilizers, soil health, nutrient recycling	Article	general public; value chain actors	15-Apr-23	Dissemination through popular articles on Lex4Bio results
PAS	Ten most common barriers to replacing conventional fertilizers with biobased alternatives	website; repost on SM (LI, FB & Twitter)	biobased fertilizers, circular economy	Blog post/News post	general public; farmers, policy makers	10-May-23	Dissemination through popular articles on Lex4Bio results
JKI	Check out Lex4Bio toolkit for ecotoxicological methods for assessing the environmental risks associated with using BBFs in agriculture	website; repost on SM (LI, IG, FB & Twitter)	risk assessment, ecotoxicological studies	Guides and how-tos	value chain actors	15-Mar-24	Dissemination through popular articles on Lex4Bio results

A second press release is planned to be published before the second Review Meeting, underscoring Lex4Bio results, Zenodo Community and planned project’s final events.

Dissemination activities update

Table 5 - Scientific dissemination activities

Scientific dissemination		
DEC tool – Partner in charge	Partners’ contribution	Frequency
Participation to fairs and events – All	Each partner should promote LEX4BIO in local/national/international event	3 conferences & 2 fairs
Poster presentation – Scientific partners	Validation before presentation + provision of the graphic design by EP	During conferences & fairs
Scientific articles & Publications – Scientific partners	Validation process before publication	10

Video – During the final year of the project, Lex4Bio intends to produce a professional video, featuring in a visual and understandable way the need for the research conducted within Lex4Bio, the solution it offers through its achieved results, impact in the context of circular economy and green deal as well as considerations for the way ahead. Although the video will be targeting the general public, it will be compelling enough for policy makers and specific stakeholder groups with the style it adopts in explaining complex notions, often considered by common people as detached from their everyday lives, in a simple, engaging and understandable spoken and visual language. The length of the video aims to be about 3 minutes and is expected to be released by the end of 2023. The video will be played during all final events of Lex4Bio (final conference, ManuResource conference) and will be shared on the website and social media as well.

EP will provide the first draft of a script for partners to share feedback in terms of messaging coherence and fine tuning.

Publication process. Lex4Bio project is conceived as charged with potential to greatly impact the research background in the field of BBFs in Europe. To enhance the results of the project and to strengthen the exploitation plan, publications continue to be a core activity of the communication strategy. All publications related to LEX4BIO project are published on ZENODO and the website, and in concurrence with the established within the consortium pre-publication approval process.



An updated list for Lex4Bio forthcoming dissemination activities until the project ends, discussed and approved by the consortium, is suggested below:

a. Publication Venues

Partners' prevailing opinion is to take advantage of the existing dissemination channels in the EU and EC context that are free of charge. The consortium agreed to keep focus on producing scientific publications for the time being and use them as a foundation for recycling to popular science articles. They can be disseminated to local media outlets (newspapers, magazines, professional associations' journals, etc.) in response to incoming invitations from editors/journalists, which ensures publishing at no charge. Another added value to increasing the visibility of Lex4Bio results and their impact is the link these media provide to public at large, to include policy makers and in addition to the scientific community reached through scientific journals.

Some dissemination sources suggested by partners:

- <https://cordis.europa.eu>
- <https://tipik.eu/> - a prominent player in the EU communications market, providing end-to-end communication services to public institutions and international organizations, most notably the EU institutions
- <https://researchoutreach.org/> - a communication agency specialising in research. They work with research teams to craft outreach stories on EU projects
- <https://circulareconomy.europa.eu/platform/en/knowledge> - excellent platform for disseminating publications as well as events – outreach to scientific community
- https://environment.ec.europa.eu/research-and-innovation/science-environment-policy_en

It was agreed by all that articles intending to reach farmers and fertilizer producers, published in national outlets, should be in the respective national languages. This still necessitates informing EP about the publication with short summary what the article is about and a link to it, so that it can be shared on Lex4Bio social accounts and demonstrate the national reach to specific groups of stakeholders.

b. Blog section on website

The format of the popular science articles should be blog-post-like, about 1000 – 1500 words. They will be dedicated to the results obtained in the project, while highlighting their relevance to topics such as nutrient recycling, life cycle assessment, circular economy, green deal, liaising Lex4Bio outputs with the greater socio-economic impact of the action and its significance for our everyday lives.

A potential risk to the accomplishment of the above is partners not having the time and human resources available to do it. The target is producing at least 5 or 6 such blog posts on the website. Partners committed to contributing the content. The articles that are going to be provided to local media in national languages could be re-used by translating them to English and publish them on Lex4Bio website. The articles are collected through a content planner discussed above.



c. White paper by WP5

A comprehensive document on the vision of how to proceed with BBFs. Led by UaV, with an estimated time of completion – spring 2024. Opportunities to integrate the white paper with WP3 and 4 are being explored although this combination may make it difficult to encompass all aspects in the desired detail.

d. Webinar idea – lead UaV

When: fall of 2023 - public event, open to all interested stakeholders Access to the event is granted upon registration in order for the consortium to enlarge its contact database. Lex4Bio will explore the opportunity to organize it with the support of Biorefine Cluster Europe and advertise it within their existing platform and network as well. The goal of this Lex4Bio webinar is to reach a more diverse audience and therefore an adequate promotion campaign should be deployed.

e. Final events – two scenarios are deemed as most feasible:

1. **Joint final conference with sister project Fertimanure** to be organized in Brussels in April 2024, with the goal of reaching policy makers. The Project Officer will be informed well in advance so that she manages to assist in distributing the invitation to political officers. The conference will be organized with the support of ESPP and Fertilizers Europe. By presenting the successful outputs of Lex4Bio to policy executives, we set the stage for potential following up on Lex4Bio activities in a subsequent new project, building up on what has been already achieved, and increasing the chances of new project proposal’s approval. The organization of the event is supported by the European Sustainable Phosphorus Platform and with the collaboration of all the RUR-08 sister projects – RUSTICA, SEA2LAND and WALNUT.

2. **A dedicated Lex4Bio session to be organized at ManuResource Conference**, 20 – 22 March 2024 – Lex4Bio reaches scientific and professional community. This will be a great venue to present strong scientific results of the project to academia and convey project’s messages to the industry at the same time.

f. **CM in Seville** – November 2023, at the University of Seville. For dissemination purposes, JRC and CMC representatives in Seville will be contacted to explore the feasibility of inviting them to the meeting – to raise awareness about what Lex4Bio activities. Depending on the response, partners will define next steps of action, such as sending out an invitational letter to attend the whole meeting, letting them choose which sessions to attend or organize a special session just for them.

Synergy and networking

Table 6 - Synergy activities

External networking strategy		
DEC tool – Partner in charge	Partners’ contribution	Frequency
Synergy report – EP	Input on on-going projects	1





Partners' websites	Integration of LEX4BIO as section in existing webpages (either as a news, references, specific page ...)	1
Biorefine & ESPP SCOPE newsletters	Input on individual news to share through the external newsletters related to the project	Biorefine: one a month ESPP: 3 times per year
National Dissemination Forum – Scientific partners	Minutes of the NDF to define the LEX4BIO policy roadmap	Each time after the event

Synergies and networking opportunities are identified in a specific deliverable **D8.3 “Synergy report and action plan” (M8)**. The synergy activities are based on the following inputs:

- 1. The coordinator, the project communication leader and the partners at their level will network with on-going projects:** a database of project (see appendix 2) has been drafted and is updated by EP with the support of the partners. EP is then getting in contact with the Communication leader of the identified projects to start cross-cooperation in terms of communication activities and technical inputs.
- 2. The partners have the duty to communicate about LEX4BIO using their own communication means** (see appendix 2), to increase the visibility of the project within external to the consortium networks.
- 3. Each partner in their dissemination strategy, should participate in 1 to 3 events during the project lifetime**, with a planned budget specified in this DEC plan.
- 4. Clustering with specific networks:** The Biorefine Cluster Europe and the European Sustainable Phosphorus Platform have been identified as core partners and main channels to communicate the project results. As such, LEX4BIO is providing them with news about on-going activities, events and outputs of the project on a regular basis to enable publishing information regularly through their media.



5. National Dissemination Fora: Partners from research institutes/universities from EU countries (Finland, Denmark, Germany, Poland, Austria, Hungary, Switzerland, Netherland, Belgium and Spain) have the goal to set up NDF once a year for knowledge-exchange among relevant stakeholders. Participants in NDF represent ministries of agriculture and environment, advisory services, farmers union and representatives from industry and NGOs (e.g. fertiliser industries, research institutes, nutrient platforms, universities, associations of organic farmers), securing dissemination at large to all relevant stakeholders and establishing strong communication channels for dialogue and mutual inspiration. The updated planning of these events is listed:

- Finland – an NDF will be conducted end of 2023 or early 2024
- Denmark – Jun/Jul 23
- The Netherlands – an event will be organized in the summer of 2023 with the Dutch Earth and Environmental Science Society





- Austria - one more NDF before the end of the project. For better productivity, farmers are to be reached through the Chamber of Agriculture
- Germany – May 2023
- Switzerland – a field day in May 2023

Activities in this task are further identified in the course of the project and presented in a “**Synergy report and action plan**”:

- Networking with relevant project will support the achievement of project objectives that meet jointly stipulated quality requirements and have a measurable effect on crop growth. Cooperation will hence include knowledge exchange for evaluating available data of manure (e.g. Manure Standards), fertilisation value of BBFs (e.g. SUSFERT), nutrient recycling (e.g. NUTRI2CYCLE, SYSTEMIC, ReNu2Farm), soil quality (e.g. iSQAPER), sustainable management of P sources (e.g. InPhos) and providing fertilisers for organic farming (e.g. RELACS). Regarding this strategic vision of the synergy activities, the LEX4BIO consortium will also devote this task to initiating and maintaining links to relevant European Innovation Partnership (EIP-AGRI) focus groups for enhancing the circular economy around BBFs. Joint events are organized between Lex4Bio and other projects, such as the joint final conferences with Fertimanure and ManuResource described in greater detail earlier in this document.
- Eventually, the final target of this synergy action plan is composed by two clusters identified at EU level, providing support and promotion for projects, and hence offering a great platform to network with circular economy and recycling-based approaches. These clusters are the following: **Biorefine Cluster Europe and European Sustainable Phosphorus Platform.**

V. LEX4BIO EXPLOITATION PLAN

LEX4BIO is expected to have a vast impact on the sustainable production and use of organic residuals and bio-based fertilisers in Europe. **The objective is to develop a strategy which will ensure effective exploitation of project outputs and sustainability of the proposed solutions to replace mineral fertilisers and increase resources efficiency through three sub-objectives:**

- 1) Results are transferred successfully, and the knowledge is applied;
- 2) There is an increased potential for impact from the transfer
- 3) It is possible to measure and demonstrate the impact of the transfer.

Methodology. The exploitation plan is based on the preliminary draft presented in the H2020 LEX4BIO proposal, where diverse results have been identified for exploitation at larger scale that will be regularly updated and refined as stated in this deliverable D8.1 every 6 months, depending on the results of the project, and exploitation opportunities appearing. As WP leader, EP has overseen drafting this exploitation plan methodology and will collect the main needs, requirements and inputs from the partners. Luke, as project coordinator and task leader of T8.4 “Knowledge management: exploitation,



technology transfer and IPR management”, will communicate with EP each important results to be registered in the DEC plan.

Preliminary draft of the exploitable results to be generated by the LEX4BIO project. During setting-up stage, 4 main results have been identified with high potential for exploitation during and after the end of the project:

- **Analyses and analytical testing methods:** the methods are mature, tested and ready for implementation, but for the time being have been scarcely applied to BBFs and European soils. Proposed methods will be developed, tested and validated during the project and will be considered compliant if they can be applied to a majority of BBFs and European soils, and if they give valid, robust and repetitive results.
- **Advanced compliance methods for BBF and soil testing:** they will be disseminated during the project through the EAB and NDF. Full implementation of the new compliance methods at European and Member State level will, however, take time after the project has finished, apart from the project participants having a commercial interest in spreading the new methods. Additional associated partners such as the **ESPP** and the **International Nitrogen Initiative (INI)** will provide additional dissemination channels to different key stakeholders after the end of the project.
- **Advanced compliance methods for N-BBF testing:** Carbon and Nitrogen mineralisation characteristics and prediction by using NIR / FTIR spectroscopy.
- **Policy roadmap and regulatory-linked deliverables:** The expected outputs of Lex4Bio have significant potential for exploitation, both in a push to promote the EU Strategy for a Circular Economy, as well as supporting and driving the implementation of EU Fertilising Products Regulation in the coming years. The convention for comparable LCAs of fertilizing materials from primary and secondary resources, the models of logistic and socioeconomic impacts from regional redistribution, processing and use of BBFs, will all be extremely useful to guide and drive new policies and regulatory instruments.



These results will be updated using the following table:

Table 7 - Exploitation of the project results

Results	Targets	Exploitation opportunities within LEX4BIO	Exploitation opportunities outside LEX4BIO
Analyses and analytical testing methods	H ₂ O, NAC, Bicarbonate, Iron Bag, EUF, DGT Ion exchange membranes	Screening of BBFs to understand their behaviour in soils	Use as new methods for BBF compliance testing to improve the BBF characterization
Advanced compliance methods for BBF and soil P testing	DGT, EUF and modified Olsen P evaluated for improved soil P testing.	Estimation of P fertilization requirement in the EU and potential of BBFs for replacing mineral P fertilizers.	Estimating agronomic efficiency of various BBFs as well as future novel P-BBFs in various climatic and soil conditions.
Advanced compliance methods for BBF N testing	C and N mineralisation characteristics and prediction by NIR / FTIR	Estimation of mineral N fertilizer replacement value of BBFs and impacts on soil C storage.	Estimating agronomic fertilizer replacement value of current and future novel N-BBFs in various climatic and soil conditions.
Convention for comparable LCAs of fertilizing materials	Making LCAs of bio-based fertilisers more comparable	No direct exploitation opportunities within the project	By adopting the convention in other projects, the target of higher comparability is achieved
Models of logistic and socioeconomic impacts	Development of models of logistic for BBFs at regional/interregional scale & defining of socioeconomic impact	Improvement of logistic of BBFs usage at regional/interregional scale & socioeconomic factors for usage of BBFs	Knowledge transfers outside LEX4BIO consortium and policy making

IPR management strategy. The management of IPR is strictly ruled by the Consortium Agreement (CA) which includes all provisions related to the management of IPR including ownership, protection and publication of knowledge, access rights to knowledge and pre-existing know-how as well as questions of confidentiality, liability and dispute settlement.

In the CA, the Partners have identified the background knowledge included and excluded. The CA regulates the ownership of results. The knowledge acquired in the course of the project shall be considered as a property of the contractor generating it, and in this sense the originator is entitled to use and to license such right without any financial compensation to the other contributors. If the features of a joint invention are such that it is not possible to separate them, the contributors could agree that they may jointly apply to obtain and/or maintain the relevant rights and shall make effort to reach appropriate agreements in order to do so.

The CA also regulates the transfer of results ownership. Each Signatory Party may transfer ownership of its own Foreground following the procedures of the Grant Agreement Article 30. Each Signatory



Party may identify specific third parties it intends to transfer the ownership of its Foreground to in Attachment to the CA. The other Signatory Parties hereby waive their right to prior notice and their right to object a transfer to listed third parties according to the Grant Agreement Article 30.1 The transferring Party shall, however, at the time of the transfer, inform the other Parties of such transfer and shall ensure that the rights of the other Parties will not be affected by such transfer. Any addition after the signature of the CA requires a decision of the Executive Board Committee.

Reminder – Ownership & protection of results – Annex 1 GA

1. The background brought into the project by each partner will be listed in the Consortium Agreement. When planned in the tasks, access to background is given royalty-free to other partners for the implementation of the tasks.
2. Results shall be owned by the partner who generated them. Each partner is responsible for ensuring fulfilment of its obligations under the Grant Agreement regarding results, by making arrangements with any third parties that could claim rights to them.
3. Whenever results have been produced jointly between two or more partners, the ownership of the results is to be shared among the partners who have carried out the work. The terms of the joint ownership, protection and share of ownership is to be agreed in writing in a joint ownership agreement.
4. Each partner is responsible for examining the possibility to protect any results, which can be expected to be commercially or industrially exploited. When deciding on the protection, the partner must consider its own legitimate interests and the interests of the other partners. The partners will ensure that adequate steps towards protection are taken prior to exploitation, dissemination and communication, preventing unapproved public disclosure of results, tools, products and services.
5. Access rights to results are granted on a royalty-free basis for further research and on fair and reasonable conditions if needed for commercial exploitation.

Exploitation strategy at the end of the project. This section will be developed within the project duration and completed by the end of LEX4BIO. It will include, if necessary, a reminder on business and commercial strategy initiated from the results of the project.



VI. OPERATIONAL VISION OF THE DEC PLAN

Table 8 - Personal costs and other budget categories linked to WP8

Partner short name	WP8 efforts	Travel for conference and events	Fees and materials
Luke	9	14 640 EUR	13 400 EUR
PM	5	2 430 EUR	450 EUR
JKI	2	1 560 EUR	800 EUR
UCPH	1	3 120 EUR	1 200 EUR
BOKU		6 090 EUR	2 400 EUR
UvA	2	2 340 EUR	900 EUR
UHOH	2	2 530 EUR	800 EUR
FIBL	1	2 580 EUR	1 200 EUR
US		1 900 EUR	1 000 EUR
UP	2	2 640 EUR	400 EUR
UG		1 680 EUR	520 EUR
NGI		2 320 EUR	700 EUR
UH	1	1 640 EUR	
All-RG	1	1 010 EUR	400 EUR
ECP		590 EUR	
RUOKAVIRASTO		1 530 EUR	500 EUR
SC		440 EUR	
EP	18	1 400 EUR	2 500 EUR
FS		1 100 EUR	400 EUR
PAS	1	1 840 EUR	9 810 EUR
AG		700 EUR	

VII. CONCLUSION

Updates version of this DEC plan will be produced for each reporting period at least, and every 6 months as noted in the work programme and in Grant Agreement – Annex 1, in order to align the communication strategies with the activities carried out. This is the third update of the DEC plan, which comes out with the closing of the second reporting period for Lex4Bio. It has two previous updates made by EP. No more revisions were necessitated for the Plan due to the delays in activities caused by Covid-19 and the respective amendment for extension of the project lifetime with 12 months.

The main strategy for EP as a whole as WP8 leader is to keep developing relevant communication materials, and match the guidelines contained in the Communication and Dissemination Plan and the communicative actions performed by the partners. EP collects suggestions and proposals from WP leaders and amends this document accordingly in order to curb any issues and to improve the Plan.

It is important to highlight that this DEC plan is completed by:





- D8.2 “Porfolio of communication materials and the general project website”
- D8.3 “Synergy report and action plan”
- D8.4 “Project newsletters compiled”
- D8.5 “Policy roadmap”

