Portfolio of communication materials and the general project website

Deliverable 8.2 – D36 – WP8

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

Project funded by the European Commission within the Horizon 2020 programme (2014-2020)

Deliverable 8.2 – D36 – Version 2

Work-package n°8

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V0.1	Initial version of the deliverable	Manon Ballester, EP	19.11.2019
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Nature of the deliverable		
R	Report	
Dec	Websites, patents, filling etc.	
Dem	Demonstrator	
O	Other	X

Dissemination Level		
PU	Public	X
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 2023. 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

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

D8.2: PORTFOLIO OF COMMUNICATION MATERIALS AND THE GENERAL PROJECT WEBSITE

I. INTRODUCTION

LEX4BIO communication activities aim to maximise the impact of project results. This objective is to ensure high visibility of the project in Europe.

Communication materials spread in three types:

- Communication materials to promote the project to a large audience and general public
- Communication materials to ensure support of the policy makers and stakeholders providing regular outcomes of the project.
- Dissemination materials.

This deliverable will be considered as the portfolio of LEX4BIO communication strategy, enabling the partners to have access to a media corner to promote the project.

It will be regularly updated until the end of the project depending on the new materials to be created.

II. THE PROJECT WEBSITE

The LEXBIO website is conceived as the project's main public interface. This platform is seen as i) a platform to collect and provide accurate information, news and outcomes regarding LEX4BIO project and its results, ii) a database for the international stakeholders to find information and contents and iii) a reference for our project partners to communicate about LEX4BIO.

In this section, we will address the following characteristic:

1. Website architecture
2. Website contents
3. Website maintenance strategy and updates

Website architecture. The LEX4BIO website has been designed to provide logical navigation paths for users to follow through the website. It has also been based on different wording enabling the visitors to reach the information they need independently from their understanding of European project language elements.

Hence, the structure is divided in 4 main sections described aside.

However, the home page has been created to guide the users and refine the structuration. Hence, each subsection is defined according to what the visitor can find in it rather than the formal EU project wording:

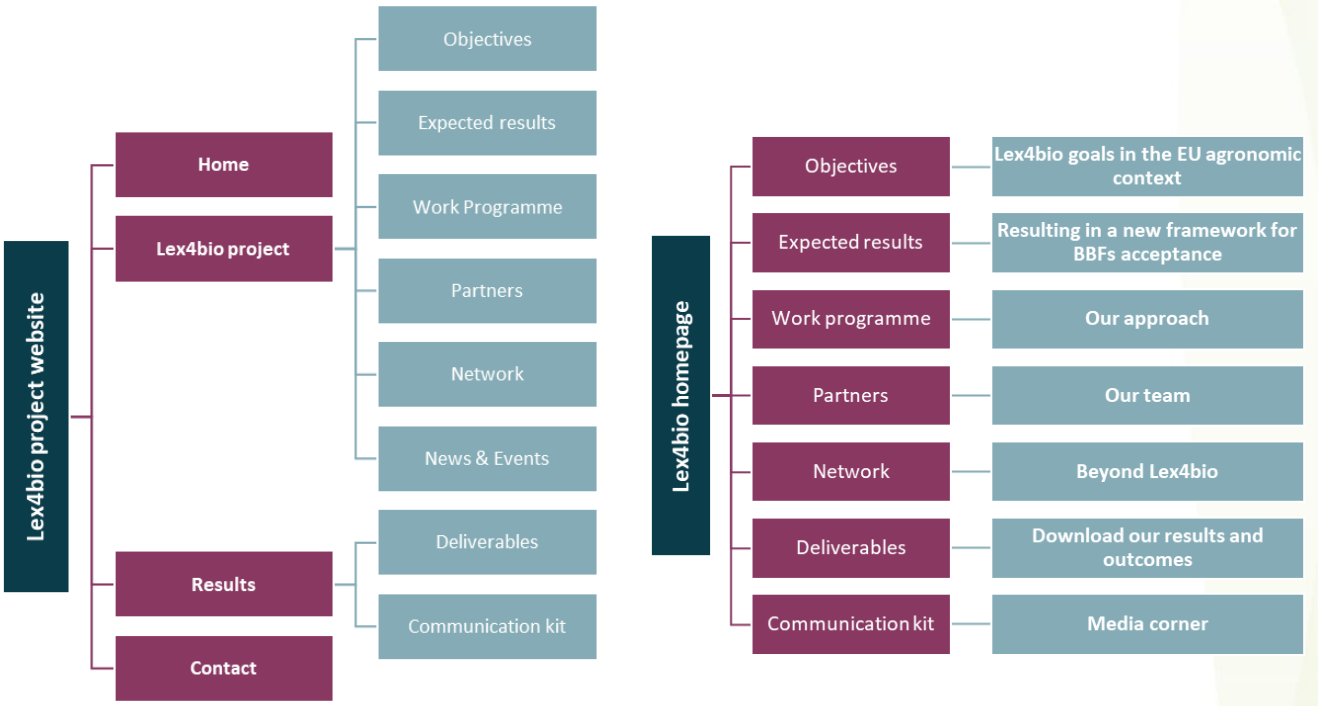


Figure 1 - Lex4bio official website architecture & homepage architecture

Eventually, the website architecture includes a link to the social networks pages in the footer, as well as the proper privacy policy to comply with EU legislation.

Website content. All the content presented hereunder is accessible from the website menu.

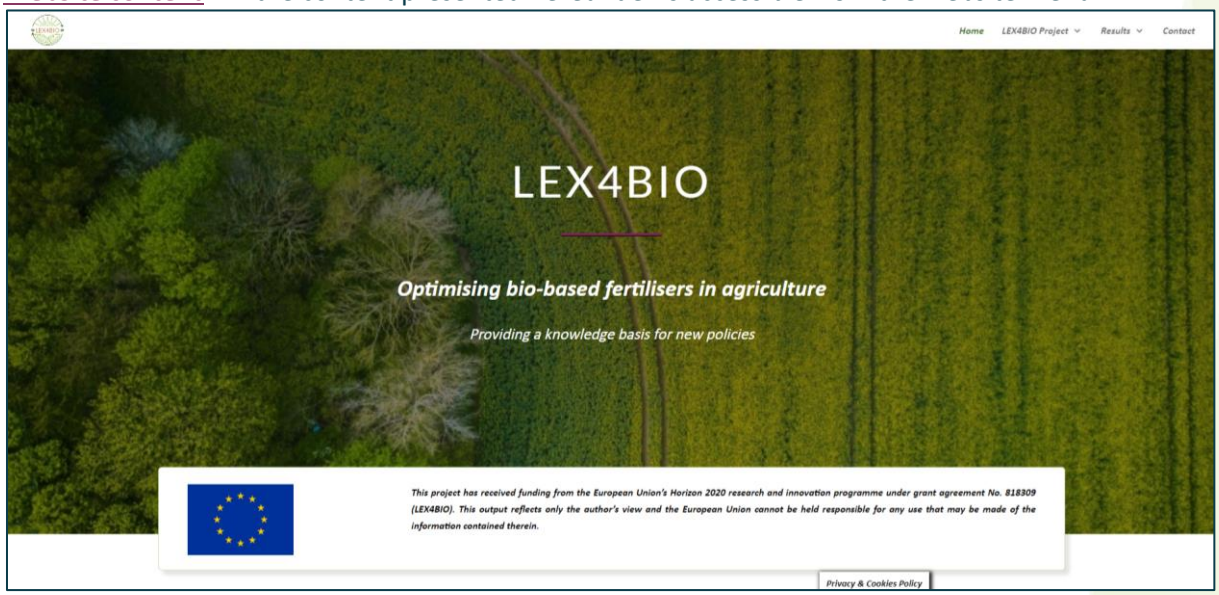


Figure 2 - Lex4bio homepage and notice of EU funding

Homepage. The official website address is www.lex4bio.eu. However, the homepage can be reached through the following domain names ensuring higher visibility and better referencing:

- www.lex4bio.eu
- www.lex4bio.com
- www.lex4bio-project.eu
- www.lex4bio-project.com

It is the starting point for most user visits and hence, has been phrased to enable easy navigation within the website in addition to the menu. The homepage is hence divided in 5 sections:

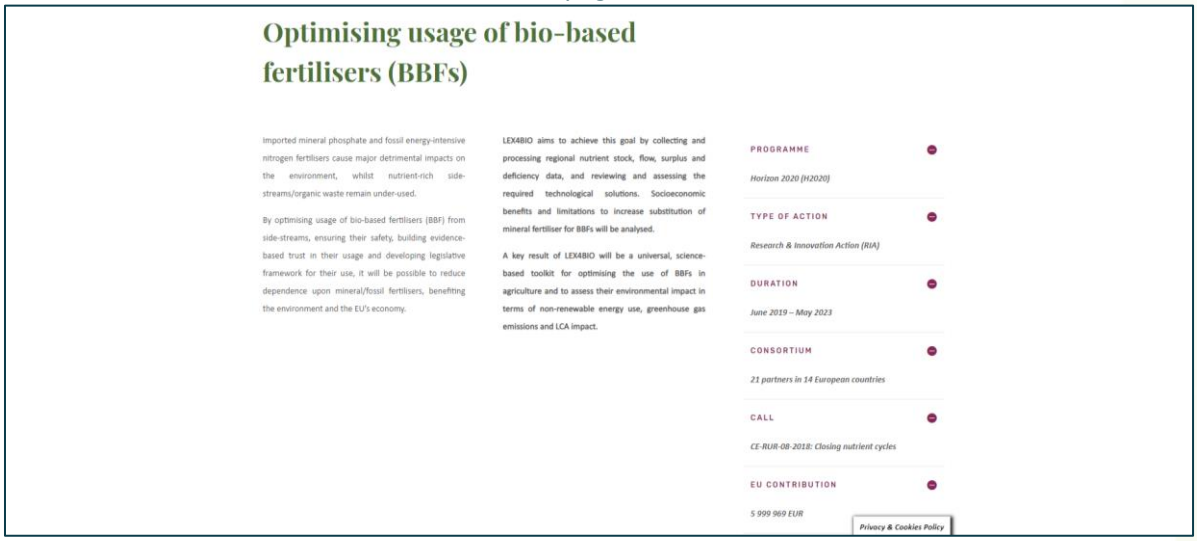


Figure 3 - The general presentation of the project

Figure 4 - The presentation of the 6 main project pages to reach information on the Lex4bio ambition and activities

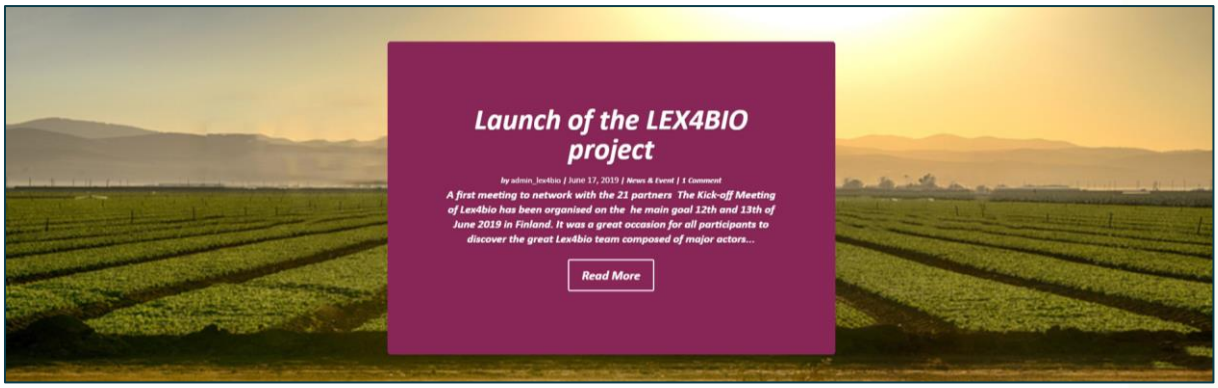


Figure 5 - The last news related to the project

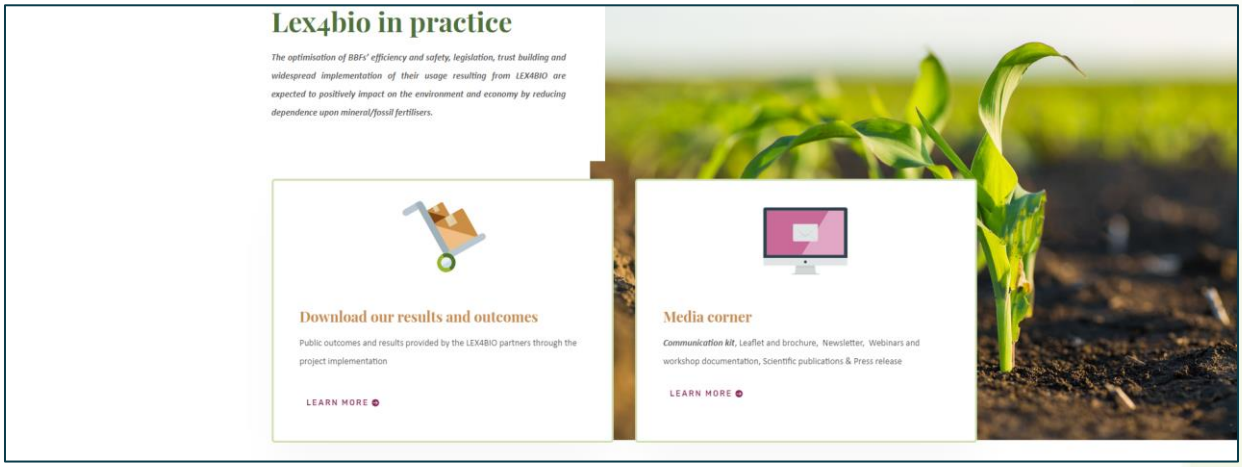


Figure 6 - The results pages, dedicated specifically to downloading Lex4bio contents, deliverables and media kit

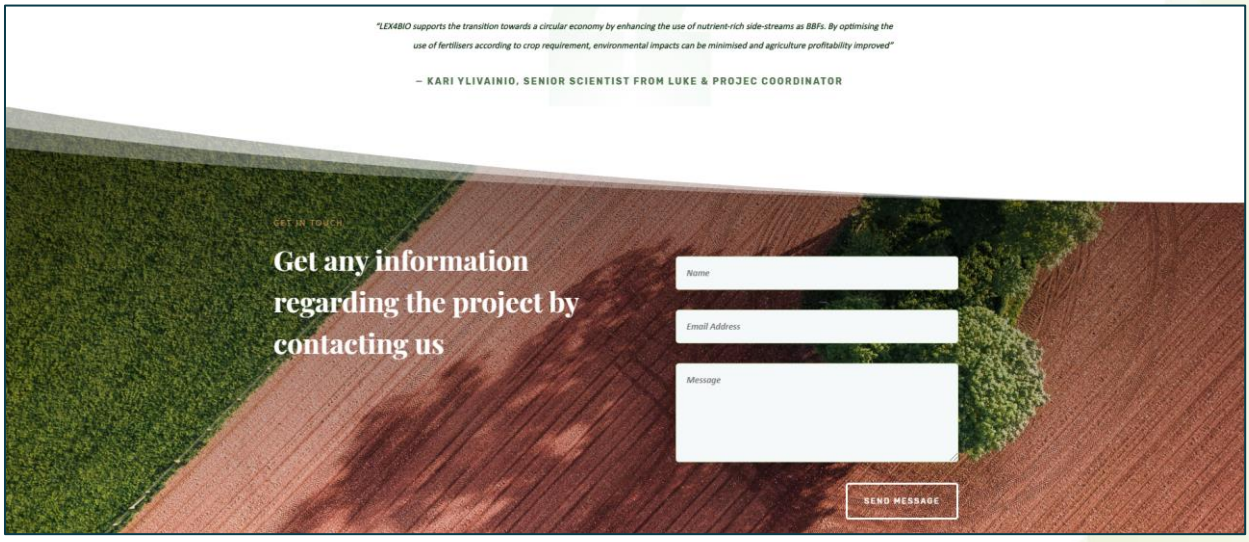


Figure 7 - The contact form

This structure will evolve along the project lifetime:

- First half of the project: the website will mainly provide static information on its goals and ambitions

- Second half of the project: the results' pages will be highlighted to reach concrete contents and outcomes provided by the implementation of LEX4BIO.

The LEX4BIO project. 6 specific subtopics are included in this part of the website:

1. **Objectives i.e. "LEX4BIO goals in the EU agronomic context"**: This page includes an overview of the LEX4BIO context, the rapid visualization of the main projects objectives and the detailed methodology applied to each of them. A color code, implemented in the whole website i.e. **purple** for pending, **orange** for undergoing and **green** for completed, shows the current situation of the objectives' development.

Figure 8 - Overview of the context

Figure 9 - Objectives in brief, with the color code

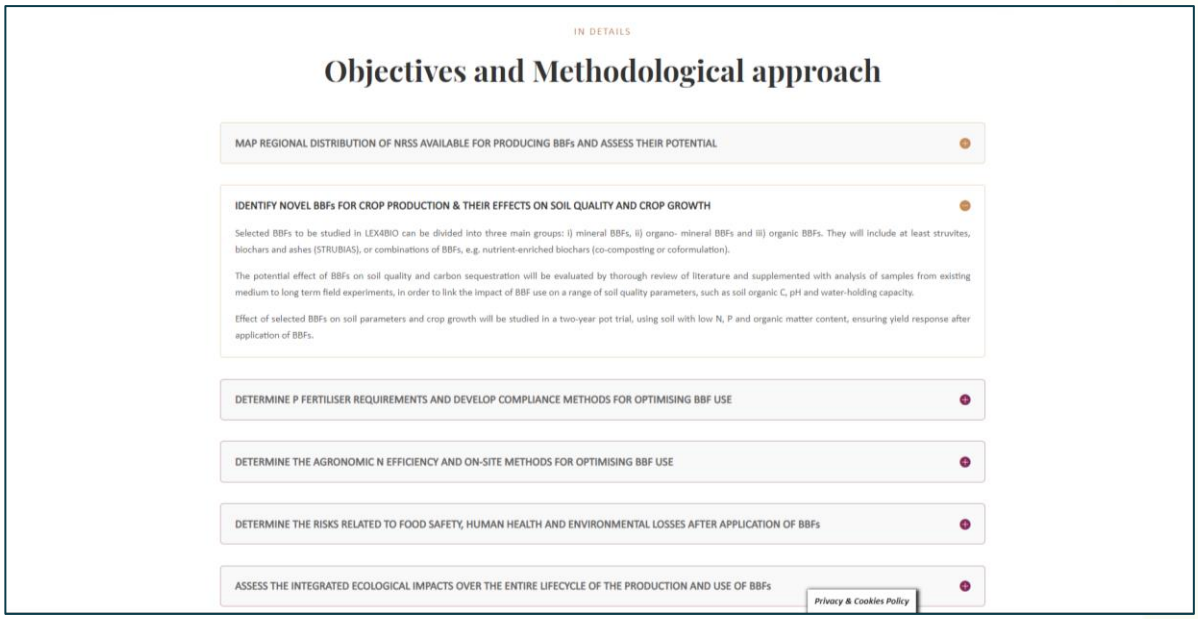


Figure 10 - Objectives in details, including methodology, using the color code

2. **Expected results i.e. "Resulting in a new framework for BBFs acceptance"**: This page includes a specific overview of the main 5 expected results and impacts of the project linked to the methodology and activities that will be performed to reach them. The objective is to show the whole ambition of the project, both with the objectives' webpage and to provide accurate and precise contents.

Figure 11 - First expected results overview

3. **Work programme i.e. "Our approach"**: This page includes presentation of the work plan. After a short overview of the complementary approach applied to LEX4BIO, the ten work packages are

described in detail, including the main contact related to the WP to ease the potential additional requests for more information.

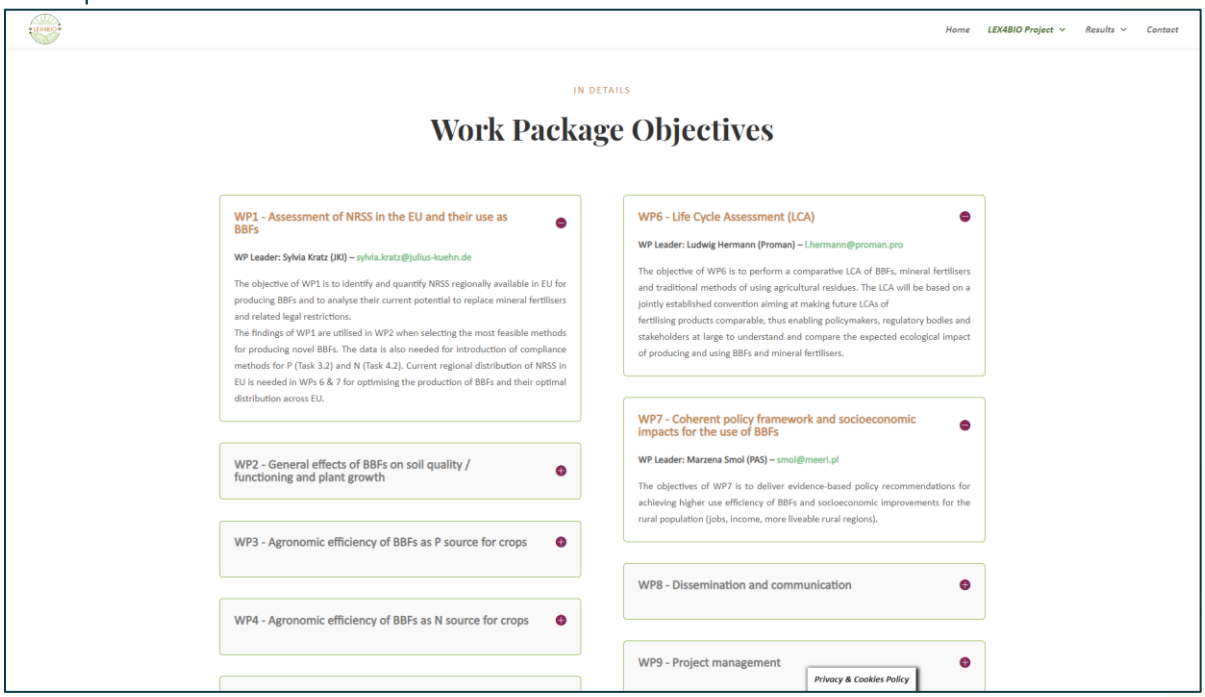


Figure 12 - Overview of the work package objectives

4. **Partners i.e. "Our Team"**: The consortium section provides information about the 21 partners that constitute the LEX4BIO team. Each partner logo has a link to a detailed description starting with the specific involvement of the partner in the project, and more information about its experience and main research field, ended with the partner's website and main contact.

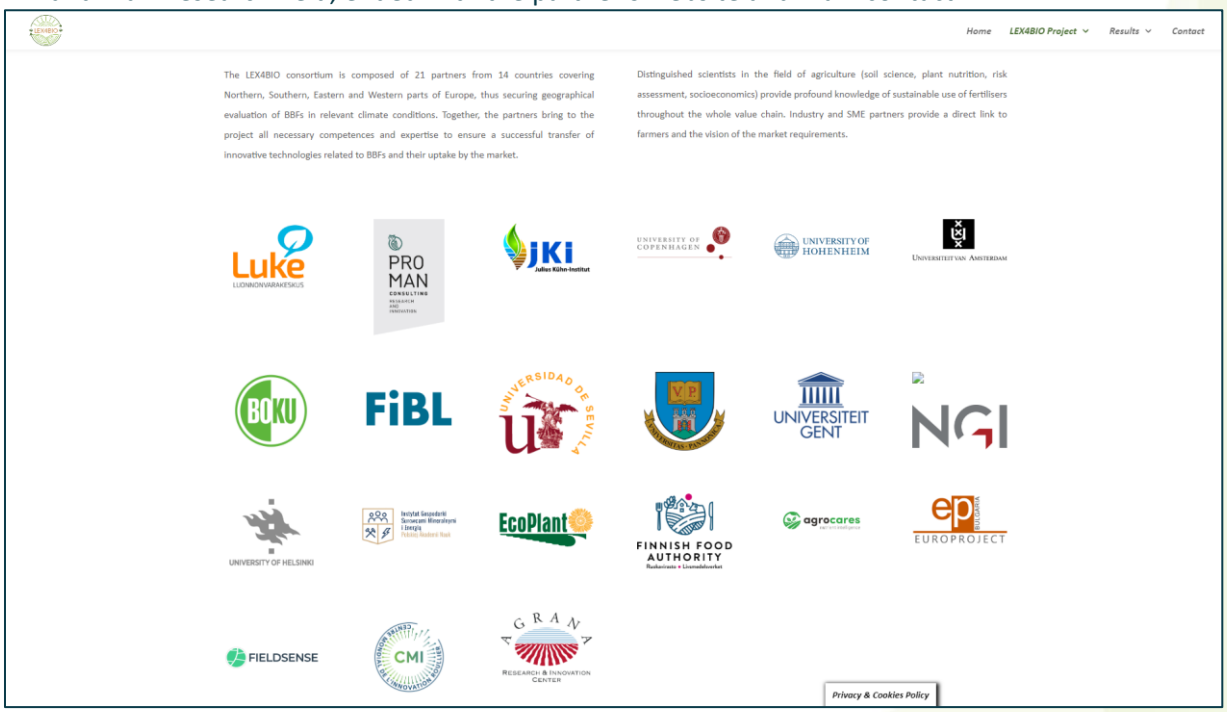


Figure 13 - Partner overview and logos

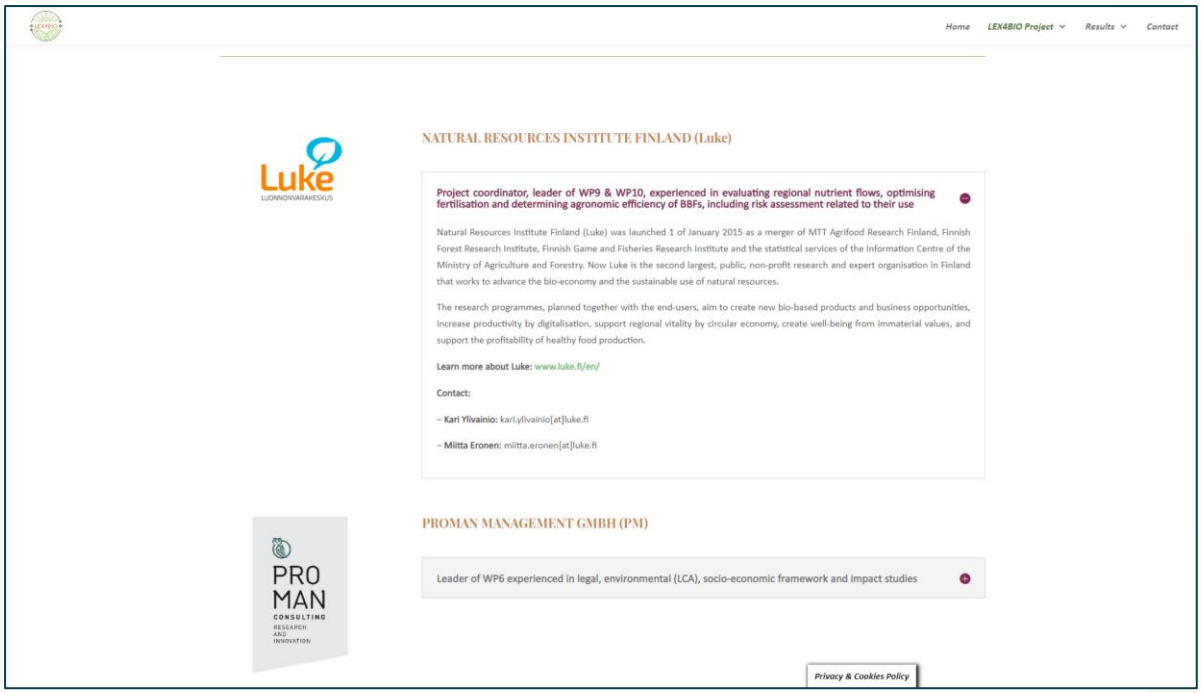


Figure 14 - Partner detailed involvement and expertise

5. **Network i.e. "Beyond LEX4BIO"**: Communication and synergy strategy of LEX4BIO is based on cross-cooperation and close partnership with two main actors in the field of BBFs and phosphorus management. It was of main importance to promote these partners, and potential future ones, on the project website.

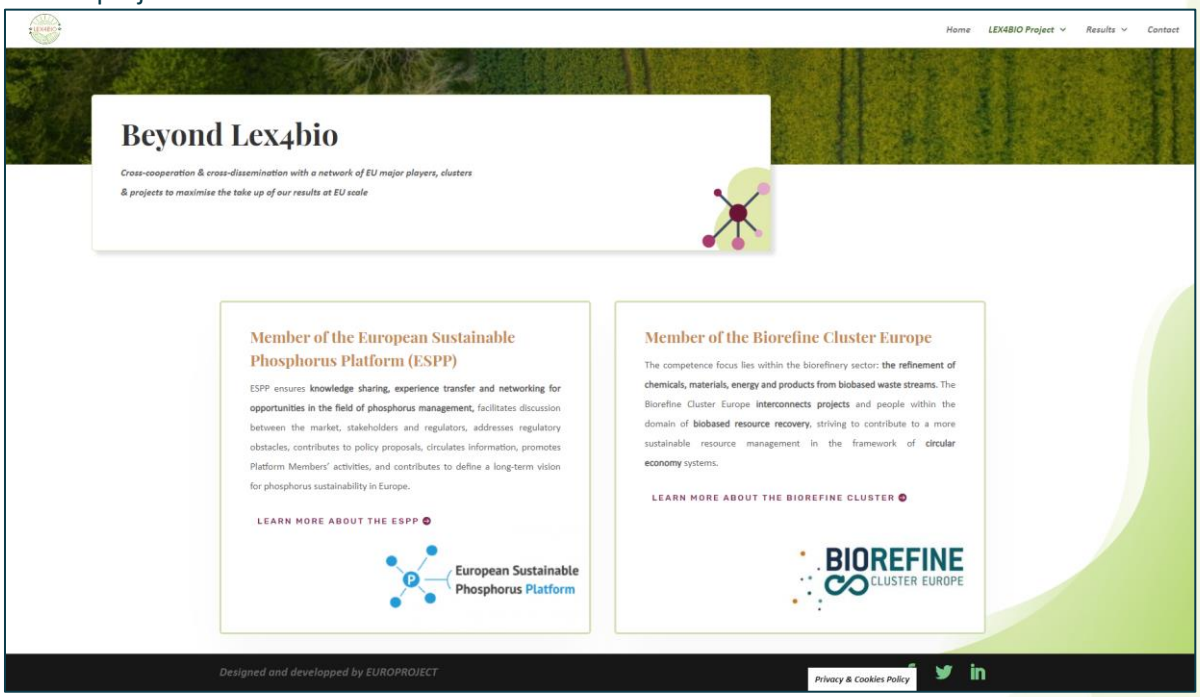
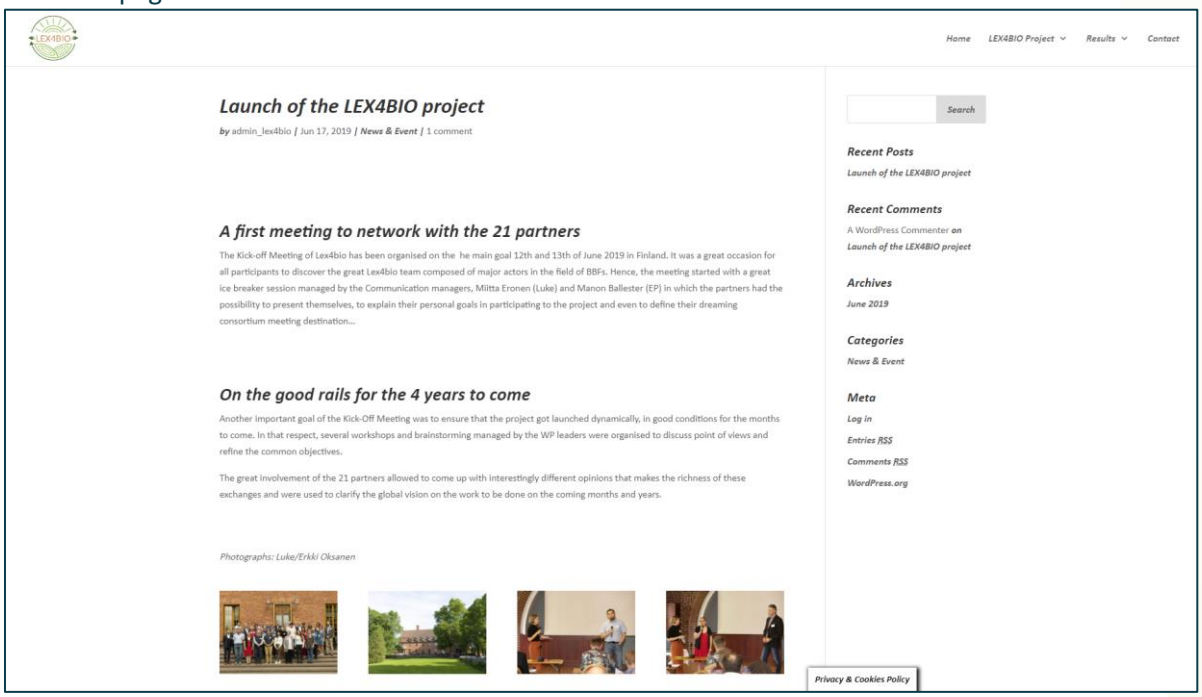


Figure 15 - Our partners

6. **News & Events**: this section is linked to the blog of the LEX4BIO project. Major information (such as participation of partners to events, publications, related conferences and projects, information

on consortium meetings and NDF) will be published in this section, and simultaneously on the homepage.



The Results section. As a research project with informative and large-scale purpose, the large majority of the deliverables of the LEX4BIO project remains public. Hence, the results' section includes both the whole public deliverables in free access and the media corner. The same colour code as for the objectives' achievement has been applied for deliverables.

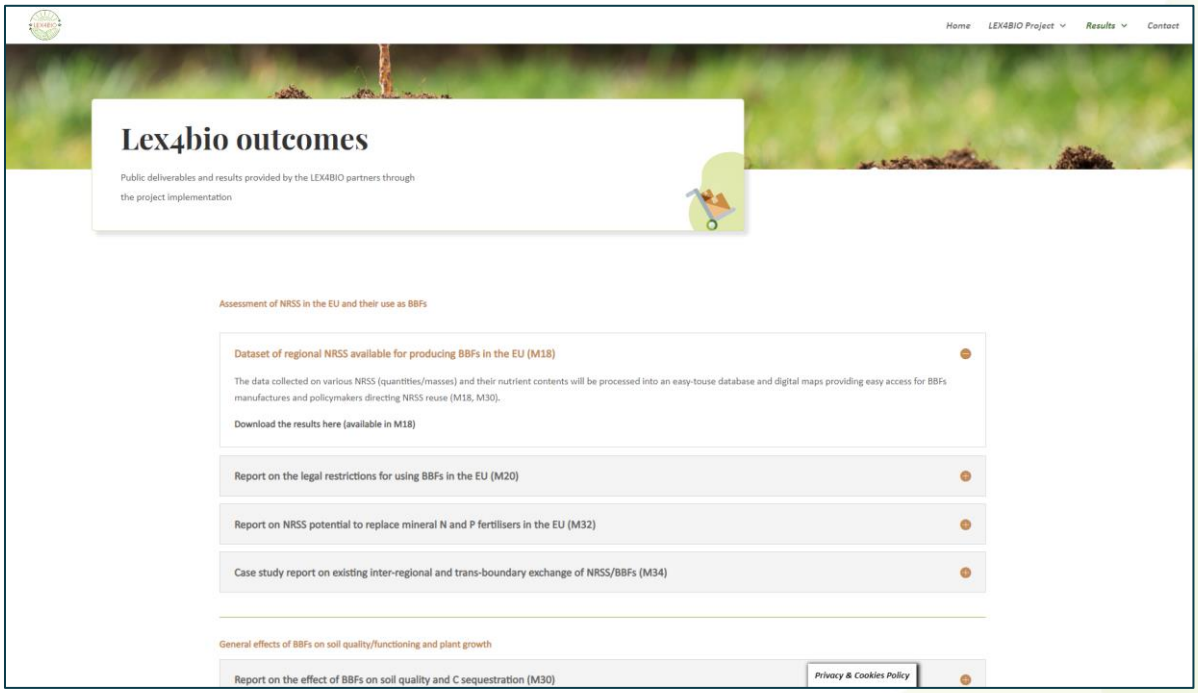


Figure 16 - Deliverables for downloading

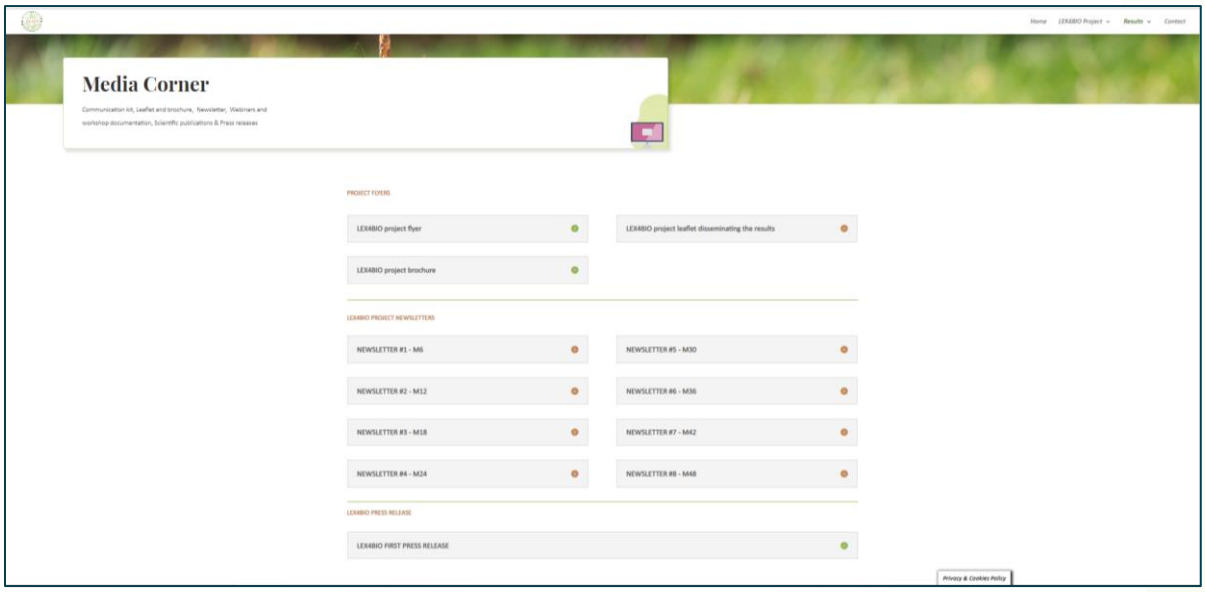


Figure 17 - Media corner

Statistics & Indicators linked to the webpage. The webpage is linked to a Google Analytics account providing information on the number of users, geographical coverage, most visited pages and other information on visitors' habits. These indicators will be regularly updated in this document with accurate numbers every six months to ensure good follow-up of the on-line LEX4BIO visibility.

Table 1 - Website indicators

Indicators	M12	M18	M24	M30	M36	M42	M28
Number of visits							
% of retention							
5 first visiting countries							
Main visited pages after homepage							
Number of news & events posted							

III. ONLINE VISIBILITY – SOCIAL NETWORKS STRATEGY

To ensure a wider visibility of the project, and a regular presence on the web aside from the LEX4BIO webpage, specific social network pages have been created including:

- Facebook page: https://www.facebook.com/lex4bio/
- Twitter profile: https://twitter.com/Lex4Bio
- LinkedIn specific page: https://www.linkedin.com/in/lex4bio-project/

A strict post policy has been implemented with at least one post per week on twitter as the most viral and regular network to be used. LinkedIn and Facebook pages are regularly updated with concrete contents to enable retaining the interest of the followers.

Statistics will be updated regularly, every 6 months, with the following indicators, within this deliverable.

Twitter statistics. The number of posts includes automatic reply to each follower personally to thank them for the follow, as well as automatic repost of tweets including reference to the LEX4BIO project, enabling to raise the visibility and activity on the account.

Table 2 - Twitter indicators

Indicators	M6	M12	M18	M24	M30	M36	M42	M28
Followers	191							
Posts	192							
Clicks	77							
Likes	282							

Tweets with the highest impression rate on the first period – M1 to M6:

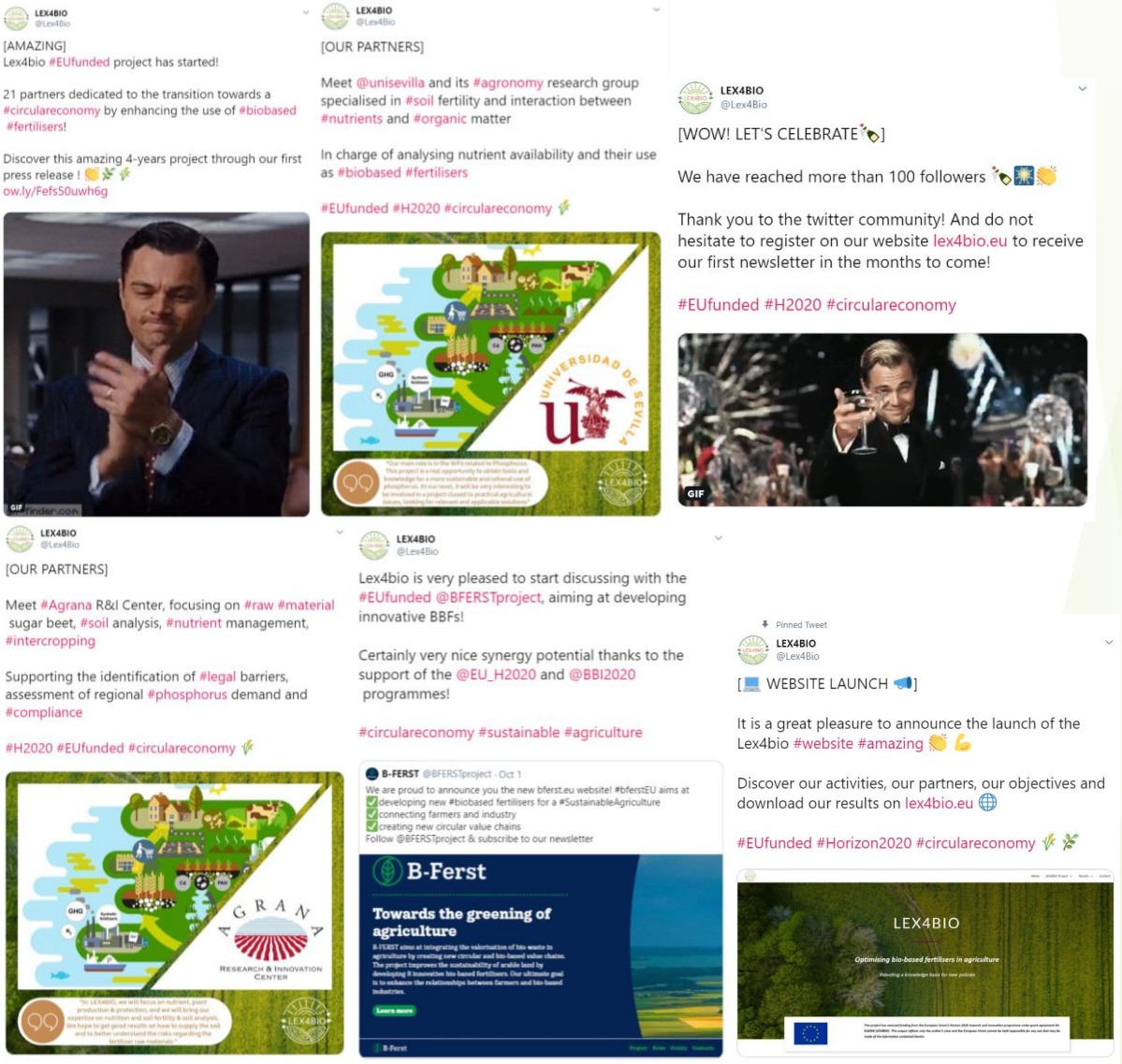


Figure 18 - Examples of Tweets

Facebook statistics

Table 3 - Facebook indicators

Indicators	M6	M12	M18	M24	M30	M36	M42	M28
Page Like	69							
Publications	30							
Clicks	70							
Comments & post likes	33							

Publications with the highest impression rate on the first period – M1 to M6:

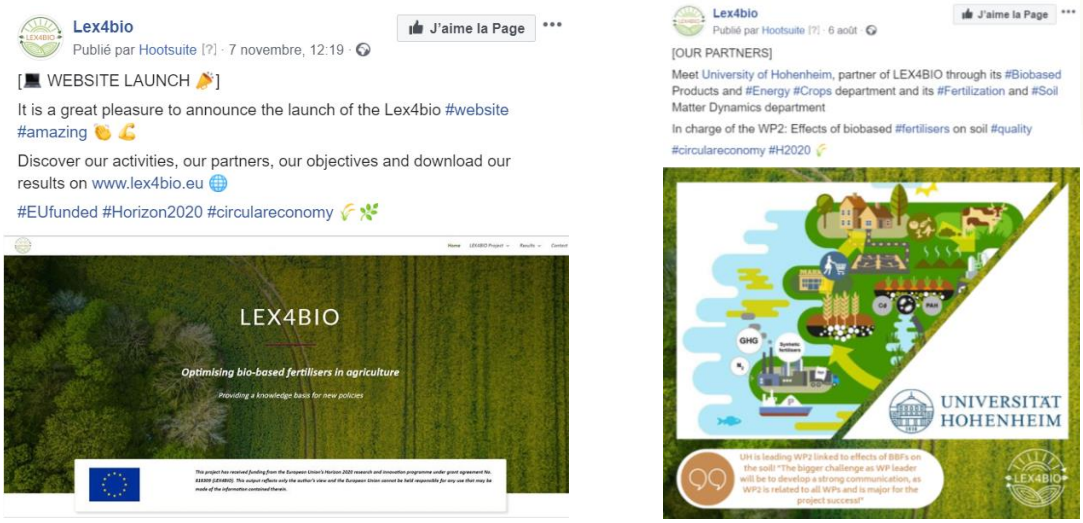


Figure 19 - Examples of Facebook publications

LinkedIn statistics.

Table 4 - LinkedIn indicators

Indicators	M6	M12	M18	M24	M30	M36	M42	M28
Followers	86							
Posts	36							
Views in feed	3 678							
Like	76							

Posts with the highest number of views on the first period – M1 to M6:

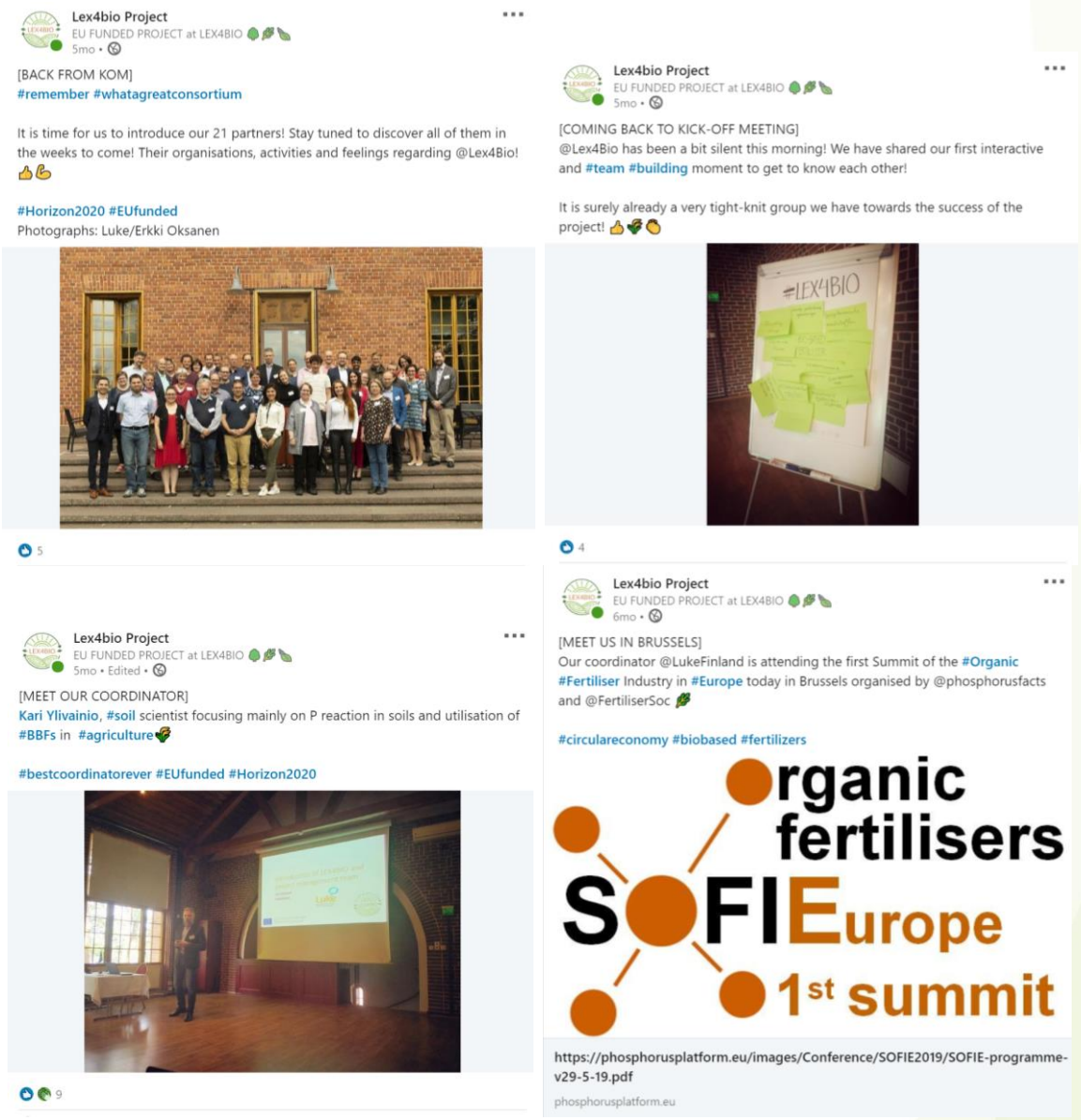


Figure 20 - Examples of LinkedIn posts

IV. PROJECT BROCHURES

For the LEX4BIO project, two brochures will be designed and developed. The first brochure has been released in M3 and is presenting the overall ambition of the project. The second brochure will be available in M28 to present the first results and start engaging stakeholders in maximizing the LEX4BIO impacts.

The first project brochure has been designed in English, German and Polish according to the needs of the partner. Its architecture includes: i) basic project information and key figures, ii) the project objectives, iii) the project expected results, iv) the partnership and v) the contact information.

This brochure is available in two versions:

1. A web version has been developed for **mailing and on-line communication campaign**, in a flyer format, 2 pages.

Figure 21 - Web version of the brochure

2. A second version designed specifically for prints, has been specifically developed for **project events, information days, conferences, seminar and exhibitions**.

Figure 22 - Print version of the brochure

Both are available through the LEX4BIO website and on social networks. Likewise, each of the partners has cooperated 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 (especially the **European Sustainable Phosphorus Platform** and **The Biorefine Cluster Europe**).

V. NEWSLETTERS

During the project, 8 newsletters will be published. Every six months, newsletters provide information about the project and its development. Newsletters' audience will be essentially the stakeholders identified in the Deliverable 8.1. Registration through the website and contact lists from partners have been collected, according to GDPR requirements. All partners will be involved to contribute in newsletter edition. Depending on the needs, the newsletter will be developed in English and then translated in several project languages.

Foreseen newsletter strategy is available hereunder, and this table will be updated with information every six months.

Table 5 - Newsletter strategy

Title/N°	Foreseen date of publication / Effective date of publication	Proposed topics / Topics covered	Links
Newsletter #1	M6 /	General information about the project, word of the coordinator, presentation of the partners	
Newsletter #2	M12 /	Actions undertaken during the first year of the project development, synergies and NDFs first results, publication of the policy roadmap	
Newsletter #3	M18/		
Newsletter #4	M24 /		
Newsletter #5	M30 /		
Newsletter #6	M36 /		
Newsletter #7	M42 /		
Newsletter #8	M48 /		

Diffusion of the newsletters will be done through MailChimp according to the GDPR requirements. Statistics will be kept here:

Table 6 - Newsletters indicators

Title/N°	Number of recipients	Open rate	Click rate
Newsletter #1			
Newsletter #2			
Newsletter #3			
Newsletter #4			
Newsletter #5			
Newsletter #6			
Newsletter #7			
Newsletter #8			

VI. PRESS RELEASES

To reach larger audience at local level, and engage the farmers in the project, layman language articles will be published. These will be drafted by EP and Luke. They will then be sent to the partners as it is important that they modify the contents to adapt the articles to their local communication strategy. These press releases will be spread through local communication means. It is expected that 2 press releases in total at least will be published annually.

The list of press release will be hold in the table below. Each partner can reuse the contents for local diffusion and adaptation to their own communication strategy as defined in Deliverable 8.1 "Dissemination, communication and exploitation plan".

Table 7 - List of press releases

Press release #	Month of delivery	Link
Press Release #1	M1	https://www.lex4bio.eu/wp-content/uploads/2019/10/LEX4BIO_First_press_release_0619.pdf
Press Release #2	M2	https://www.julius-kuehn.de/presse/pressemeldung/news/pi-nr-23-projektstart-biobasierte-duenger-sollen-kuenftig-mineralduenger-ersetzen/

VII. POSTERS

Posters will be prepared and diffused by the scientific partners during the project. Their purpose will be to enhance the visibility of LEX4BIO in scientific event and community.

Table 8 - List of posters

Poster #	Issuer	Use	Link
Poster #1	Luke	IPW9 conference in Zurich, July 2019	https://plantnutrition.ethz.ch/ipw9.html
Poster #2	Luke	DGT2019, 18th to 20th September 2019 at the University of Natural Resources and Life Sciences, Vienna (BOKU)	https://dgt2019.boku.ac.at/
Poster #2	PAS	Conference for young researchers in Poland, Kraków, December 2019	

The posters will be stored in the website and recorded hereunder:

https://www.lex4bio.eu/

Closing phosphorus cycles in Europe – knowledge basis for new policies

Kari Ylivainio[1], E.K. Bünemann[2], J. Santner[3], A. Ehmann[4], A. Delgado[5]
[1]Natural Resources Institute Finland (Luke)
[2]Research Institute of Organic Agriculture FiBL, Switzerland
[3]University of Natural Resources and Life Sciences, Vienna (BOKU)
[4]University of Hohenheim
[5]University of Sevilla

Introduction

European agriculture is dependent on imported phosphorus (P) fertilisers for sustaining its productivity. However, at the same time overfertilisation has increased soil P status in some regions, mainly due to segregation of crop production and animal husbandry. Optimising the use of bio-based fertilizers (BBF), produced from nutrient-rich side-streams (NRSS), in agriculture is a requirement for closing the nutrient cycles (Fig. 1) and securing the availability of finite P resources in the future. Here we present the concept of the work package on P in a new Horizon 2020 project on "Optimising bio-based fertilisers in agriculture – Providing a knowledge basis for new policies (**LEX4BIO**)"

Figure 1. LEX4BIO aims at enhancing the circular economy by improving the utilization of bio-based fertilisers (BBF)

P use efficiency of BBFs

The most promising BBFs of three groups: i) mineral BBFs, ii) organo-mineral BBFs and iii) organic BBFs will be evaluated for their P use efficiency (PUE) in both greenhouse and field trials (Fig. 2). Growth trials will be conducted in various climatic regions across Europe (Finland, Germany, Switzerland, Austria, Hungary, France, Spain).

Figure 2. Greenhouse and field trials

Compliance methods

The new EU fertiliser regulation sets P solubility criteria for BBFs. Methods included in the EU fertiliser regulation are evaluated against PUE determined in growth trials. Also following novel potential methods are evaluated:

- Diffusive Gradient in Thin-films (DGT)
- Electro-ultrafiltration (EUF)
- Iron oxide-filled dialysis bags

P status of cultivated fields in Europe

Bioavailable P content of European cultivated fields is determined by analysing soil samples derived from the LUCAS soil archive collected in 2015 and 2018. About 3000 out of 9000 soil samples from arable fields across EU-28 will be analysed with the following methods: DGT, EUF and modified Olsen. Results are extrapolated to the whole LUCAS dataset through correlation with known Olsen P data.

Environmental P losses

Fractionation of soil P (e.g Hedley fractionation) after greenhouse trials will give an indication for P leaching potential. This is validated in a rainfall simulation with typical agricultural soils across Europe: Northern (Finland), Central (Germany) and Southern (Spain).

Potential of BBFs in the EU

Critical soil test P values and required P application rates for achieving up to 97% of the maximum yield in different regions across the EU is determined:

- Field trials in LEX4BIO
- Other past and on-going field trials for which archived soil samples and information for the optimum P application rates are available.

Phosphorus fertilisation requirement across the EU together with the PUE of BBFs gives an estimation for their potential to replace imported mineral P fertilisers.

Funded by the Horizon 2020 Framework Programme of the European Union

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Figure 23 - Poster #1 - IPW9 conference

https://www.lex4bio.eu/

Phosphorus fertilization requirement in Europe

Kari Ylivainio[1], J. Santner[2], T. Hermann[3], G. Tóth[3]
[1]Natural Resources Institute Finland (Luke)
[2]University of Natural Resources and Life Sciences, Vienna (BOKU)
[3]University of Pannonia, Hungary

Introduction

Phosphorus (P) is an essential plant nutrient but also one of the main drivers for eutrophication of surface waters. For securing the availability of finite P resources and minimizing environmental deterioration, fertilization recommendations need to be based on crop requirement, commonly estimated with soil testing P methods (STP). However, due to a large number of STP methods used across Europe, common understanding of soil P status is lacking. Here we present the concept of the work package on P in a new Horizon 2020 project on "Optimising bio-based fertilisers in agriculture – Providing a knowledge basis for new policies (LEX4BIO)" (Fig. 1). In this project several STP methods, including DGT, are used for estimating soil P status in the European agricultural soils and determining critical STP values for optimal crop growth in different climate regions in Europe.

Figure 1. LEX4BIO aims at enhancing the circular economy by improving the utilization of bio-based fertilisers (BBF) in Europe.

P status in agricultural soils

During 2018, a total of about 12000 topsoil samples (0-20 cm) from agricultural fields (LUCAS survey), both cropland and grassland, were re-sampled from all the EU-28 countries (Fig. 2) by the Joint Research Center (JRC). Out of this soil archive, a representative number of samples is selected, taking into account relevant soil characteristics that affect P availability for plants, e.g. Olsen-P, soil texture, pH and organic matter content. These soil samples will be analyzed with the DGT-method, evaluated against above mentioned soil characteristics and further extrapolated for the whole agricultural soil dataset.

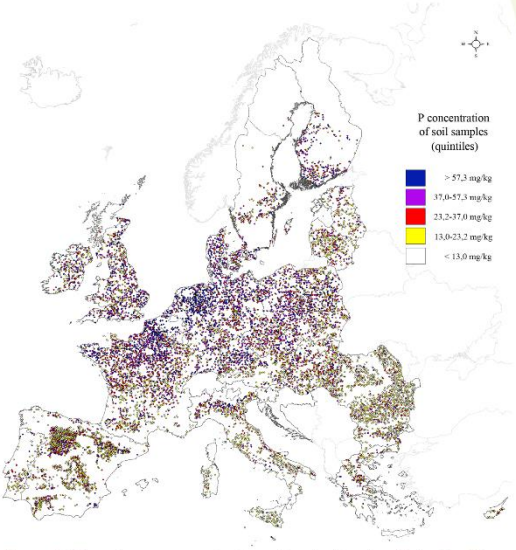

Figure 2. Phosphorus concentration of agricultural soils in the EU according to the LUCAS dataset (Tóth et al. 2014: Eur. J. Agr. 55: 42-52).

P requirement for the optimum yield

Two-year field trials on P-deficient soils in different climatic conditions across Europe will be conducted (Fig. 3). Also past and on-going field trials, with archived soil samples and known yield responses after P fertilization will be evaluated and soil samples analyzed with the DGT-method. Critical DGT values for reaching optimum yield will be determined and P fertilization recommendations across the EU will be presented.

Figure 3. Field trials for determining optimal soil P test values for reaching optimal yields.

Funded by the Horizon 2020 Framework Programme of the European Union

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Figure 24 - Poster #2 - DGT2019

Mineral and Energy Economy Research Institute
Polish Academy of Sciences

Marzena Smol[1], Dariusz Włóka[1], Michał Preisner[1], Dominika Szołdrowska[1], Kari Ylivainio[2]

[1]Mineral and Energy Economy Research Institute PAS, Division of Biogenic Raw Materials
[2]Natural Resources Institute Finland (Luke)

Luke NATURAL RESOURCES INSTITUTE FINLAND

Identification of key stakeholders related to the waste based fertilizers

Potential of the waste based fertilizers

In recent years, interest in organic products has increased due to increased public awareness and health-promoting educational campaigns. Such products are supplied by farms where the use of chemical plant protection products and mineral fertilizers has been limited as much as possible. One way to reduce the use of mineral fertilizers is to replace them with fertilizers from waste. The use of organic fertilizers in agriculture and horticulture improves the quality of obtained crops and their health-promoting properties due to the content in the right proportions of macroelements (nitrogen, phosphorus, potassium) and microelements. Their use can have a positive effect on soil conditions [1]. Waste for fertilizer production can come from agriculture, households, sewage sludge and many others. It follows that everyone contributes to waste production.

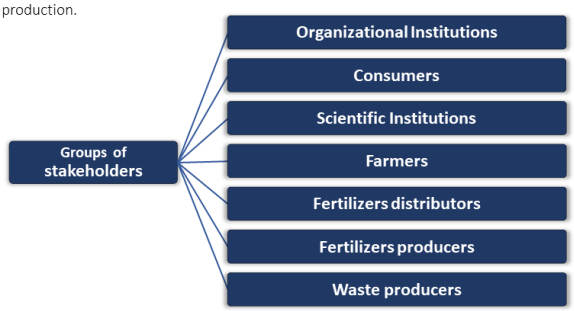

Figure 2. Groups of stakeholders for the study

Table 1. Characteristics of stakeholders

Stakeholder	Characterization
Organizational Institution	• Significant impact on the success of the project • Ability to establish business contacts • Thanks to this group, the product can increase its range of recipients
Consumers	• Significant impact on the success of the project • Very important group that provides information on the requirements of the final product
Scientific Institution	• Interest in the subject of fertilizer for scientific research • Acquiring information about new technologies for processing waste into fertilizers
Farmers	• Significant impact on fertilizer production • The group is a valuable source of practical information
Fertilizers distributors	• An important group supplying fertilizer products to customers • Low impact on the quality of fertilizers produced • A group focused mainly on financial profit • Thanks to this group, the product gains potential recipients
Fertilizers producers	• Significant impact on the quality of the final product • Great interest in the source of the product to be processed
Waste prodcucers	• Significant impact on the quality of fertilizers from waste • An important source of information on the general composition of the waste for future fertilizer production

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Who are the stakeholders?

The term "stakeholders" explains the definition given by E. Freeman, who stated that the stakeholder is an *"any identifiable group or individual who can affect the achievement of an organization's objectives or who is affected by the achievement of an organization's objectives.„* [2]. It should also be remembered that an organization is an open system that takes resources from the environment, which after transformation can be transferred back to it in the form of results. Stakeholders are therefore involved at the entrance, offering, among others, technology, work, information and as an output, as they use the company's products and services [3]. In this case, we are considering stakeholder groups related to waste fertilizers. In Table 1, 7 stakeholder groups were characterized.

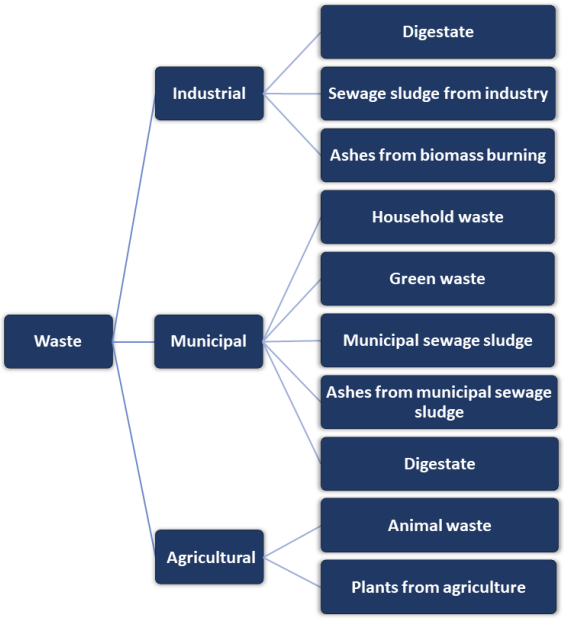

Figure 1. Origin of organic fertilizers

Stakeholders analysis

Understanding the socio-psychology of the decision making process of individual groups is main to encouraging further use of beneficial management practices, such as biogenic compounds management planning [4]. Each of listed groups were evaluated in terms of the potential impact on the generations of barriers associated with the bio and waste origin fertilizers production, usage and distribution. As with many other fields of science, more coordinated action should be taken to educate the general public about waste fertilizers in terms of yield, soil quality and health [5]. The production and use of biological fertilizers from organic waste brings a number of socio-economic benefits to society, the environment and farmers [6].

References

1. Łagocka, A., Kamiński, M., Cholewiński, M., & Pospolita, W. (2016). Korzyści ekologiczne ze stosowania pofermentu z biogazowni rolniczych jako nawozu organicznego. Kosmos, 65(4), 601-607.
2. Freeman, R. E., & Reed, D. L. (1983). Stockholders and Stakeholders: A New Perspective on Corporate Governance. California Management Review, 25(3), 88–106. https://doi.org/10.2307/41165018
3. Mendel, T. (2001). Partycypacja w zarządzaniu współczesnymi organizacjami. Poznań: Akademia Ekonomiczna.
4. Blackstock, K. L., Ingram, J., Burton, R., Brown, K. M., & Slee, B. (2010). Understanding and influencing behaviour change by farmers to improve water quality. Science of the total environment, 408(23), 5631-5638.
5. Singh, B., & Ryan, J. (2015). Managing fertilizers to enhance soil health. International Fertilizer Industry Association, Paris, France, 1-24.
6. Bencheva, N., & Tepavicharova, M. (2017). Możliwości i postawy rolników w zakresie produkcji biogazu i nawozów naturalnych w Bułgarii. Zagadnienia Ekonomiki Rolnej, (3).

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Figure 25 - Poster #3 - Conference for young researchers in Poland

VIII. CONCLUSION

Updated version of this portfolio will be produced for each reporting period at least, and every 6 months as proposed by the Communication leader EP, in order to update the media corner available for the partners.

This document reflects only the official communication materials to be used by the partners as a basis for their specific communication strategy, and at large scale for engaging stakeholders in the project. The communication database available in the DEC plan (D8.1) will integrate in its update every 6 months, the local activities performed additionally by each partner.

Hence, it is important to highlight that this deliverable is complemented by:

- D8.1 “Dissemination, communication and exploitation plan” to be published in M6
- D8.4 “Project newsletters compiled” to be published in M48 based on regular release (every 6 months) of the project newsletter