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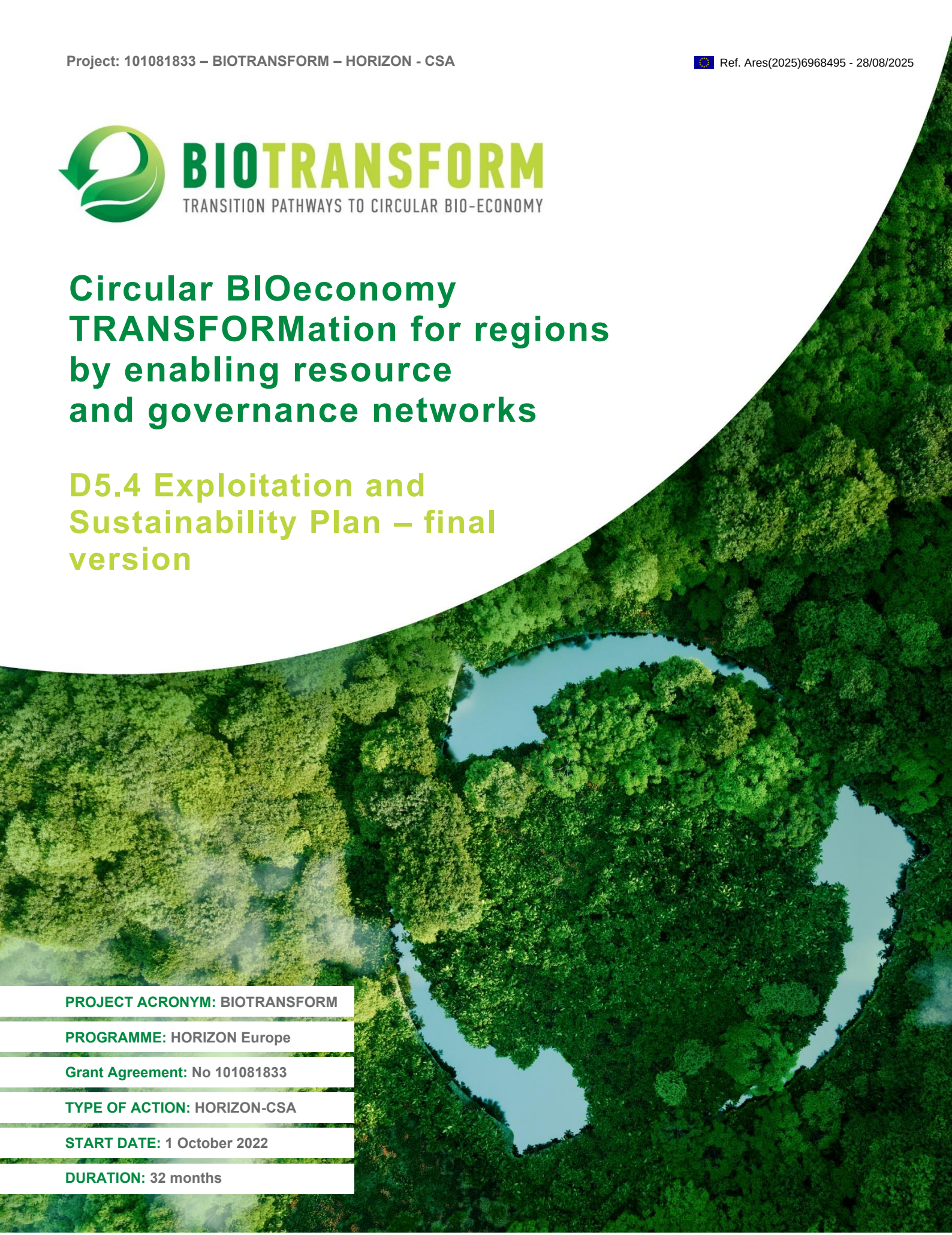
BIOTRANSFORM
TRANSITION PATHWAYS TO CIRCULAR BIO-ECONOMY

Circular BIOeconomy TRANSFORMation for regions by enabling resource and governance networks

D5.4 Exploitation and Sustainability Plan – final version



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1. Table of Contents

EXECUTIVE SUMMARY 7

1. INTRODUCTION 8

2. OBJECTIVES AND KEY CONCEPTS OVERVIEW 9

2.1 OBJECTIVES 9
2.2. KEY CONCEPTS OVERVIEW 9
2.2.1 Background 10
2.2.2 Results and Ownership of Results 10
2.2.3 Key Exploitable Results 10
2.2.4 Access Rights and Rights of Use 11
2.3 PROTECTION OF RESULTS 12
2.3.1 Copyrights and Creative Commons Licenses 12
2.3.2 Non-disclosure and Confidentiality Agreements 15
2.3.3 Trade marks 15
2.3.4 Trade Secrets 16
2.3.5 Patents and Utility Models 16
2.3.6 Industrial Designs 17

3. STRATEGY 18

3.1 GRANT AGREEMENT PREPARATION STAGE 19
3.1.1 Grant Agreement 19
3.1.2 Consortium Agreement 20
3.2 PROJECT IMPLEMENTATION STAGE 20
3.2.1 Further Identification of Background 20
3.2.2 Capturing Results, Assessing Exploitability and Defining Owners 21
3.2.3 Protection of results 21
3.2.4 Exploitation of results 22
3.2.5 Dissemination of results 23
3.3 POST PROJECT STAGE 23
3.4 MAIN ROLES 24

4 METHODOLOGY 25

4.1 OUTLINE OF METHODOLOGICAL STEPS AND TOOLS 25
4.2 BACKGROUND IDENTIFICATION / MODIFICATION FORM 26
4.3 EXPLOITABILITY ASSESSMENT AND PLANNING TEMPLATES 27

5 BACKGROUND AND KEY EXPLOITABLE RESULTS 31

5.1 OVERVIEW OF BIOTRANSFORM'S IDENTIFIED BACKGROUND 31
5.2 BIOTRANSFORM'S KEY EXPLOITABLE RESULTS AT A GLANCE 34

6 EXPLOITATION PLAN PER KEY EXPLOITABLE RESULT 35

6.1. BIOTRANSFORM'S IMPACT ASSESSMENT TOOL 35
6.2. BIOTRANSFORM'S ASSESSMENT PACKAGE AND USER MANUAL 36
6.3. BIOTRANSFORM'S TRANSITION PLANNING TOOL 38
6.4. TRANSITION FINANCING AND GOVERNANCE METHODOLOGY 39

6.5. KEY POLICY RECOMMENDATIONS 40
7. EXPLOITATION PLAN PER PARTNER 41
8. REPLICATION POTENTIAL 44
9. CONCLUSIONS AND NEXT STEPS 51

List of Figures

Figure 1: The pillars on which BIOTRANSFORM's IP management strategy is founded. 18

Figure 2: BIOTRANSFORM's IP Management Stages 19

List of Tables

Table 1: Access Rights according to the GA 11
Table 2: The most up-to-date licenses offered by CC 13
Table 3: Protection instruments of Results 22
Table 4: Background identification / modification form 27
Table 5: Exploitability Assessment Template 28
Table 6: Exploitation Planning per KER Template 29
Table 7: Exploitation Planning per Partner Template 30
Table 8: Identified Background of BIOTRANSFORM 34
Table 9: List of BIOTRANSFORM's Key Exploitable Results 34
Table 10: Exploitation Plan for the BIOTRANSFORM's impact assessment tool 35
Table 11: Actions needed for the exploitation of the BIOTRANSFORM's impact assessment tool 36
Table 12: Exploitation plan for assessment package tools 36
Table 13: Actions needed for the exploitation of the assessment package tools 37
Table 14: Exploitation plan for the transition planning tool 38
Table 15: Actions needed for the BIOTRANSFORM's transition planning tool 38
Table 16: Exploitation Plan for the Transition financing and governance methodology 39
Table 17: Actions needed for the exploitation of the Transition financing and governance methodology 39
Table 18: Exploitation Plan for the key policy recommendations 40
Table 19: Actions needed for the exploitation of the key policy recommendations 40
Table 20: Actions needed for the exploitation of the knowledge generation 41
Table 21: Individual Exploitation Plans for partners 41

ABBREVIATIONS

AB	Advisory Board
BG	Background
CA	Consortium Agreement
CC	Creative Commons
EC	European Commission
EM	Exploitation Manager
EPC	European Patent Convention
EUTM	European Union Trademark
EUIPO	European Union Intellectual Property Office
GA	Grant Agreement
IM	Implementation Manager
IP	Intellectual Property
IPR	Intellectual Property Rights
IPs	Intellectual Properties
KER	Key Exploitable Results
MARC	Multi-Actor Regional Constellation
NDAs	Non-disclosure agreements
TBD	To Be Determined
WIPO	World Intellectual Property Organisation
WP	Work Package

Executive Summary

In the context of BIOTRANSFORM, the **management of innovation and Intellectual Property Rights** (IPR) is crucial for effectively exploiting the results of the project beyond its end. Therefore, the partners of BIOTRANSFORM have **strategically underpinned the implementation of** BIOTRANSFORM with a tailored strategy and methodology for IP management, carefully planning and working towards exploitation and sustainability. Along these lines, this report is elaborated as the **final version of the Exploitation and Sustainability Plan** of BIOTRANSFORM, providing an overview of the project's Innovation and IPR Management strategy as well as the methodology and results of its application by this stage of implementation.

In particular, the report sheds light on the **objectives of IP management** in the framework of BIOTRANSFORM, presenting an overview of **key concepts and terms** with a view to creating better awareness amongst the consortium. At the same time, it lays down the main components of our **strategy** and **methodology** in this respect before ultimately describing the results of our work in terms of **Background as well as Key Exploitable Results (KERs) identified** so far by the partners. The outline of BIOTRANSFORM's KERs is presented in this report, together with the partners' **updated plans and actions** for post-project exploitation. In particular, specific exploitation plans were crafted and fine-tuned **per partner and per each identified KER**, including target groups that stand to benefit from their use, key exploitation routes, necessary protection measures, as well as actions required for advancing the exploitation readiness and potential of each KER by the end of the project and beyond. Along the exploitation plans for each KER and partner, this report also presents the current status of the consortium efforts to attract the interest of other regions in circular bioeconomy transformation with a view to paving the way for replication.

The current report consists of the final Exploitation and Sustainability plan of BIOTRANSFORM, reflecting the results of the consortium with respect to exploitation planning, with a view to guiding post-project exploitation of BIOTRANSFORM's key exploitable results.

1. Introduction

The development of meaningful project results that can sustainably be exploited beyond the end of the grant is both a priority as well as a commitment of BIOTRANSFORM's partners. To this end, Intellectual Property (IP) management plays a key role and underpins the implementation of BIOTRANSFORM throughout its course, paving the way for the smooth exploitation of its results.

Our approach to IP management has been updated to incorporate novelties and strategic shifts related to IP management in the context of projects funded under the European Union's Framework Programmes for Research and Innovation. In particular, our work considers: (i) the existing guide "Your Guide to IP in Horizon 2020", since the tips and recommendations it provides remain valid and helpful for Horizon Europe projects; (ii) the new guide "Your Guide to Intellectual Property Management in Horizon Europe" which focuses on Horizon Europe collaborative projects; and (iii) the guide "Successful Valorisation of Knowledge and Research Results in Horizon Europe", which explains how to boost the impact of a project through effective communication, dissemination and exploitation.

With these in mind, this report presents the **final version** of BIOTRANSFORM's Exploitation and Sustainability Plan, which builds on the previous version and summarises the work of the consortium towards planning for the exploitation of results by this stage of implementation (updating the list of key exploitable results, reflect the result of discussions and decisions that have taken place for underlying IPR issues on the exploitation plans of each KER, etc.).

Along these lines, the remaining of the document comprises of the following chapters:

- **Chapter 2** provides an overview of IP management in the context of BIOTRANSFORM, defining objectives and clarifying key concepts and terms (including IP protection measures).
- **Chapter 3** outlines the IP management strategy of the project and its underlying stages of applications during the different stages of BIOTRANSFORM's implementation.
- **Chapter 4** introduces the methodology and tools used to capture the Background and key exploitable results of BIOTRANSFORM, as well as to craft an exploitation plan for each one.
- **Chapter 5** offers an updated overview of BIOTRANSFORM's Background and Key Exploitable Results (KERs), along with a brief description of each one.
- **Chapter 6** describes the exploitation plans crafted per KER, including the actions which are currently foreseen as necessary for the KERs to be effectively exploited.
- **Chapter 7** outlines the individual exploitation plan set out by each of the members of the BIOTRANSFORM consortium at this stage of the project.
- **Chapter 8** report on the consortium's efforts to attract other regions in using BIOTRANSFORM's tools and methodologies to transition to circular bioeconomy.
- **Chapter 9** Concludes with the next steps foreseen in the context of the project towards the exploitation of its KERs.

The methodology of BIOTRANSFORM for exploitation and sustainability builds on know-how, tools and templates that were developed internally by Q-PLAN as well as on good practices from the literature (such as guides developed by the IPR Helpdesk for H2020 and Horizon Europe). As in

previous EU-funded projects, tailored modifications to the methodology were implemented for BIOTRANSFORM as well, to comply with the conditions of the Grant Agreement (GA) and the particularities of the project. Along these lines, this deliverable presents the adjusted methodology as it was further developed and applied in BIOTRANSFORM, presenting the results from its application during the project.

2. Objectives and Key Concepts Overview of IPR management

2.1 Objectives

The overall purpose of BIOTRANSFORM's IP management is to appropriately protect all the results that stem from the project during its life span, handle and manage them effectively, ensuring exploitation and dissemination of Key Exploitable Results (KERs).

The main objectives of the Exploitation and Sustainability Plan are to:

- Develop a common understanding among BIOTRANSFORM's partners concerning key terms and issues revolving around IP, Background, KERs as well as access rights.
- Assess and conceptualise a strategy along with a framework for managing IP that can be employed for each identified KER of BIOTRANSFORM.
- Establish common guiding routes and actions within the consortium to safeguard the smooth implementation of IP management.
- Describe the IP management methodology to be followed within the context of BIOTRANSFORM for the identification and exploitation of results.

In this section, we start by providing definitions and key information on important terms and issues with an eye on developing a shared understanding among BIOTRANSFORM's partners about them. We also facilitate the protection of IP stemming from BIOTRANSFORM by providing helpful information on available protection measures and relevant concepts.

2.2. Key Concepts Overview

In general, the key concepts to consider for designing the Innovation and IPR management strategy of Horizon Europe projects are the following:

- Background
- Results and ownership of results
- Key Exploitable Results
- Access rights and rights to use

Therefore, the following subsections aim to clarify the main terms concerning the key elements of IPR management, which represent key aspects of the IPR management procedures of the project.

2.2.1 Background

Background means any data, know-how or information — whatever its form or nature (tangible or intangible), including any rights such as intellectual property rights — that is: (a) held by the beneficiaries before they acceded to the Consortium Agreement and (b) needed to implement the action or exploit the results[1].

According to BIOTRANSFORM's Consortium Agreement (CA), the background needed to carry out the project activities must be accessible to the other project partners on a **royalty-free basis** unless otherwise agreed previously. All project partners must identify the background pertinent to the project actions and grant the respective access rights[2]. The background is determined and agreed upon within the CA after the internal evaluation of pre-existing knowledge. During the project, partners can add background if needed after they give written notice to the other partners and if the Steering Committee approves the addition[3].

2.2.2 Results and Ownership of Results

Result means any tangible or intangible effect of the action, such as data, know-how or information, whatever its form or nature, whether it can be protected or not, as well as any rights attached to it, including intellectual property rights[4].

According to BIOTRANSFORM's Grant Agreement (GA), project results are owned by the partners that generate them. Given the collaborative nature of the project, some results can be jointly developed by several partners. In this case, joint ownership can arise among the contributing partners, with the share of each joint owner and the terms of the exercise of their joint ownership agreed upon between the involved parties[5]. In principle, each joint owner can use their jointly owned results (i) for non-commercial research and teaching activities on a royalty-free basis or (ii) for other exploitation purposes after providing fair and reasonable compensation to the remaining joint owners[6]. Partners may establish a separate joint ownership agreement to define the allocation and terms of exercising their ownership[7].

2.2.3 Key Exploitable Results

Overall, exploitation refers to using a result produced in an EU project in further activities (other than those covered by the project), such as performing other research activities or developing, creating

[1] See Article 16, "Intellectual property rights (IPR) — background and results —access rights and rights of use", in the Terms and Conditions of the BIOTRANSFORM Grant Agreement
[2] See Attachment 1 in the Consortium Agreement for a detailed description of the BIOTRANSFORM background and the access rights granted in principle for the consortium.
[3] See Section 9.3, "Access Rights for Implementation", of the BIOTRANSFORM Consortium Agreement
[4] See Article 16, "Intellectual property rights (IPR) — background and results —access rights and rights of use", in the Terms and Conditions of the BIOTRANSFORM Grant Agreement
[5] See "Intellectual property rights (IPR) — background and results — access rights and rights of use (— article 16)" in Annex 5 of the BIOTRANSFORM Grant Agreement
[6] See Article 8, "Results", of the BIOTRANSFORM Consortium Agreement
[7] See "Intellectual property rights (IPR) — background and results — access rights and rights of use (— article 16)" in Annex 5 of the BIOTRANSFORM Grant Agreement

and marketing a product, process or service.[1] Among the various results generated and which could potentially be exploited, some are distinguished as KERs.

> Key Exploitable Result (KER) is an identified main interesting result, which has been selected and prioritised due to its high potential to be exploited – meaning to make use and derive benefits- downstream the value chain of a product, process or solution, or act as an important input to policy, further research or education[9].

Usually, there are many results as project outcomes, and the purpose is to distinguish the few KERs, meaning those that can really "make a difference" [10]. Selecting and prioritising results as KER can be based on the degree of innovation, exploitability and impact potential[11].

2.2.4 Access Rights and Rights of Use

Access rights refer to the rights to use the project results or background[12]. They are required if carrying out some project tasks or exploiting the results would be impossible without them (or if project implementation would be significantly delayed or require significant additional financial or human resources)[13]. The granting of access rights within a collaborative Horizon Europe project follows specific rules pre-defined in the GA and the CA. Depending on their purpose of use, access rights within BIOTRANSFORM can be depicted in the following table.

Table 1: Access Rights according to the GA

Purpose for Access	Access to Background	Access to Results
Project Implementation	• Royalty-free • Unless otherwise agreed in Attachment 1 of Consortium Agreement	Royalty-free
Exploitation of Own Results	• Subject to individual agreement • Granted under fair and reasonable conditions	

Source: *European Commission, European Innovation Council and SMEs Executive Agency, Your guide to intellectual property management in Horizon Europe, Publications Office of the European Union, 2022, https://data.europa.eu/doi/10.2826/409260*

The European Commission (EC) does not own the results produced under BIOTRANSFORM. However, for policy, information, communication, dissemination and publicity purposes, the EC has

[1] Funding & tender opportunities, Glossary, https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/support/glossary
[9] European IP Helpdesk, Introducing the Horizon Results Platform and Horizon Results Platform TV, Horizon Results Platform, Bulletin No. 4 – Horizon Europe, https://intellectual-property-helpdesk.ec.europa.eu/system/files/2022-02/HEU%20Results%20platform.pdf
[10] EU Science and Innovation (2023), Horizon Results Platform: Opportunities for ERC Beneficiaries, https://www.youtube.com/live/MA9k6j9zWBs?si=1Fghc4_ysmFJcD77&t=767)
[11] European IP Helpdesk, Introducing the Horizon Results Platform and Horizon Results Platform TV, Horizon Results Platform, Bulletin No. 4 – Horizon Europe, https://intellectual-property-helpdesk.ec.europa.eu/system/files/2022-02/HEU%20Results%20platform.pdf
[12] European Commission (2023), AGA — Annotated Grant Agreement: V1.0 DRAFT, EU Grants, EU Funding Programmes 2021-2027, https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/common/guidance/aga_en.pdf
[13] Section 1, "Definitions", of the BIOTRANSFORM Consortium Agreement

the right to use non-sensitive information and other materials and documents relating to the project, such as deliverables, pictures or audio-visual material, on a royalty-free basis, both during the project implementation and afterwards[14].

2.3 Protection of Results

When considering IP protection, it must be noted that IP can be protected by several types of IPR, and consequently, the most appropriate protection strategy must be chosen**.** The selection of the most suitable form of IP protection depends on the nature and specific characteristics of the results under consideration and the objectives of the IP owner.

A few key terms concerning IP protection are the following.

- Copyrights and creative commons licenses;
- Non-disclosure and confidentiality agreements;
- Trade and service marks;
- Trade secrets;
- Patents and utility models;
- Industrial designs.

Short definitions and key elements of these terms are provided in the following subsections.

2.3.1 Copyrights and Creative Commons Licenses

Copyright

Copyright (or author's right) is the term used to describe the rights that creators have over their literary, scientific and artistic works[15].

An exhaustive list encompassing works eligible for copyright protection does not exist. Nevertheless, there are typically several types of works internationally recognised and covered by copyright, including the following[16]:

- literary works such as novels, poems, plays, newspaper articles;
- computer programs, databases;
- films, musical compositions, and choreographies;
- artistic works such as paintings, drawings, photographs, and sculptures;
- architecture; and
- advertisements, maps, and technical drawings.

According to the European IP Helpdesk, in the European Union, copyright protection is automatically granted upon creating a work without the need for registration or other formalities. While registration

[14] See Article 16, "Intellectual property rights (IPR) — background and results —access rights and rights of use", in the Terms and Conditions of the BIOTRANSFORM Grant Agreement
[15] European Commission (2019), Your guide to IP in Europe, Publications Office, Executive Agency for Small and Medium-sized Enterprises, https://data.europa.eu/doi/10.2826/94924
[16] Same as above

is not a prerequisite for establishing the right, it can prove beneficial in certain situations, such as resolving disputes over ownership or creation and facilitating financial transactions. In practice, including a copyright notice on the work is common, such as “all rights reserved” or the symbol © along with the year of creation. This informs others about the existence of copyright, reducing the likelihood of infringement.

Copyright encompasses both economic and moral rights. Economic rights empower right holders to control the use of their works, allowing them to sell or license the works to others. Meanwhile, moral rights include the author’s right to claim authorship and object to any distortion or mutilation of their work. These dual aspects of copyright provide a comprehensive framework for authors to protect their creative endeavours.[17]

Creative Commons Licenses

The Creative Commons (CC) licenses are a free, simple, and standardised way that every person and organisation in the world can use to grant copyright permissions for creative and academic works. They are free of charge and do not require creators or other rights holders to register with Creative Commons organisation to assign a CC license to their work[18].

According to Creative Commons, CC licenses are copyright licenses and depend on the existence of a copyright to work. Also, as they are built on copyright, CC licenses work worldwide and last as long as applicable copyright lasts. In practice:

- creators who want to preserve their copyright and make their work available to the public for limited kinds of uses shall consider using CC licenses.
- instead, if they want to reserve all their rights under copyright law, they should not use CC licenses[19].

In November 2013, CC published the version 4.0 license suite. These licenses are briefly presented in the following table.

Table 2: The most up-to-date licenses offered by CC

License buttons	Description of the license
	Attribution (CC BY). This license lets others distribute, remix, adapt, and build upon your work, even commercially, as long as they credit you for the original creation. This is the most accommodating of licenses offered and recommended for maximum dissemination and use of licensed materials.
	Attribution-ShareAlike (CC BY-SA). This license lets others remix, adapt, and build upon your work, even for commercial purposes, as long as they credit you and license their new creations under identical terms. This license is often compared to “copyleft” free and open-source software licenses. All new works

[17] European Commission (2019), Your guide to IP in Europe, Publications Office, Executive Agency for Small and Medium-sized Enterprises, https://data.europa.eu/doi/10.2826/94924
[18] Creative Commons (2023), Frequently Asked Questions, https://creativecommons.org/faq/#what-is-creative-commons-and-what-do-you-do
[19] Same as above

License buttons	Description of the license
	based on yours will carry the same license, so any derivatives will also allow commercial use. This is the license used by Wikipedia and is recommended for materials that would benefit from incorporating content from Wikipedia and similarly licensed projects.
	Attribution-NoDerivs (CC BY-ND). This license lets others reuse the work for any purpose, including commercially; however, it cannot be shared with others in adapted form, and credit must be provided to you.
	Attribution-NonCommercial (CC BY-NC). This license lets others remix, adapt, and build upon your work non-commercially, and although their new works must also acknowledge you and be non-commercial, they don't have to license their derivative works on the same terms.
	Attribution-NonCommercial-ShareAlike (CC BY-NC-SA). This license lets others remix, adapt, and build upon your work non-commercially as long as they credit you and license their new creations under identical terms.
	Attribution-NonCommercial-NoDerivs (CC BY-NC-ND). This license is the most restrictive of our six main licenses, only allowing others to download your works and share them with others as long as they credit you, but they can't change them in any way or use them commercially.

Source: Creative Commons. About Cc Licenses. https://creativecommons.org/share-your-work/cclicenses/

The CC buttons (i.e., the pictures in the first column of the table above) are a shorthand way to convey the basic permissions associated with material offered under CC licenses. Creators and owners who apply CC licenses to their material can download and apply those buttons to communicate the permissions granted in advance to users[20].

Deliverable authors and other result creators can simply mark their work with a statement such as **"This work is licensed under the Creative Commons** license [mention which license you wish to apply to your work from the table above]. Or they can insert the applicable license buttons with the same statement[21].

[20] Creative Commons (2023), Frequently Asked Questions, https://creativecommons.org/faq/#what-is-creative-commons-and-what-do-you-do
[21] Creative Commons, About Cc Licenses, https://creativecommons.org/share-your-work/cclicenses/

2.3.2 Non-disclosure and Confidentiality Agreements

Non-disclosure agreements (NDAs) are legally enforceable agreements between parties that are used to ensure that certain information will remain confidential[22].

NDAs are often used to protect trade secrets (such as know-how), client lists, and financial data in business settings. Similar to NDAs, Confidentiality Agreements aim to ensure that information will remain confidential as well. However, they are typically devised in employment or personal situations instead[23]. In any case, the subject of an NDA or a Confidentiality Agreement is legally protected and can only be a piece of information that is (i) not known by the public, (ii) not already known by the receiving party, and (iii) not made public in ways other than breaking the confidentiality rules[24]`.

In collaborative projects, such as BIOTRANSFORM, maintaining confidentiality is important for organisations involved, from the initial setup of the project to the stages of implementation and exploitation[25]. For this reason, BIOTRANSFORMS's Consortium Agreement foresees that, throughout the project and for five years after its end, partners will uphold the confidentiality of any data, documents, or other materials deemed confidential in connection to the project's execution[26].

2.3.3 Trademarks

A **trademark** is an exclusive right over the use of a sign in relation to the goods and services for which it is registered. Trademarks consist of signs capable of distinguishing the products (either goods or services) of a trader from those of others[27].

According to the World Intellectual Property Organization (WIPO), a trademark can comprise a single word, a group of words, letters, or numbers. It can also include drawings, symbols, three-dimensional aspects like the shape and packaging of products, or even specific colours used to stand out. There are countless possibilities for what a trademark can be[28]. A trademark owner can stop others from using similar signs for the same or related products and/or services unless they get permission first[29].

In order to protect a trademark in a specific country or region, you can do so by registering it. This involves submitting an application to the relevant national or regional trademark office and paying the

[22] Thomson Reuters (2022), 4 things you should know about non-disclosure agreements, https://legal.thomsonreuters.com/en/insights/articles/4-things-to-know-about-non-disclosure-agreements
[23] Bloomberg Law (2023), Confidentiality and Nondisclosure Agreements Explained, https://pro.bloomberglaw.com/brief/confidentiality-and-non-disclosure-agreements-explained/
[24] European Commission (2020), Your guide to IP and contracts – Stay ahead of the innovation game, Executive Agency for Small and Medium-sized Enterprises, Publications Office, https://data.europa.eu/doi/10.2826/607724
[25] European IP Helpdesk, Non-Disclosure Agreement (Template), www.horizon-europe.gouv.fr/sites/default/files/2021-12/one-way-non-disclosure-agreement-5143.pdf
[26] Section 10, "Non-disclosure of information", of the BIOTRANSFORM Consortium Agreement
[27] European Commission (2019), Your guide to IP in Europe, Publications Office, Executive Agency for Small and Medium-sized Enterprises, https://data.europa.eu/doi/10.2826/94924
[28] WIPO, Trademarks, https://www.wipo.int/trademarks/en/
[29] European Commission (2019), Your guide to IP in Europe, Publications Office, Executive Agency for Small and Medium-sized Enterprises, https://data.europa.eu/doi/10.2826/94924

necessary fees[30]. At the EU level, you can obtain an EU trademark (EUTM) at the European Union Intellectual Property Office (EUIPO) [31].

2.3.4 Trade Secrets

Trade secrets can be considered any confidential business information providing a competitive advantage to an enterprise. The information must be secret (meaning that it is not generally known), have commercial value due to its secrecy and have been subject to reasonable measures to keep it secret[32].

A broad spectrum of information qualifies for protection as a trade secret. This encompasses diverse categories, ranging from know-how and technical knowledge to business and commercial data like customer lists, business plans, recipes, or manufacturing processes. [33]

According to WIPO, various measures are employed to safeguard a trade secret. These can involve securely storing confidential information, entering NDAs when discussing trade secrets with business partners, and incorporating non-disclosure clauses into various agreements such as employment agreements and consortium agreements. This is particularly important in situations where the exchange of confidential information is highly likely or deemed necessary. If someone who has to keep information secret shares it without permission, it's considered a violation of the agreement. In such instances, the trade secret holder can pursue remedies for the breach.[34]

2.3.5 Patents and Utility Models

A **patent** is an exclusive right granted to protect inventions (products or processes) that offer a new technical solution or facilitate a new way of doing something[35].

According to the European IP Helpdesk, the patent holder is granted the exclusive right to prevent third parties from commercially exploiting the invention for a limited time. In exchange, the patent holder is obligated to disclose the details of the invention in the patent application, making it public knowledge. Permission for others to use the invention can be granted through a mutually agreed-upon arrangement, known as a patent licensing agreement. Alternatively, the patent owner has the option to sell the patent, transferring ownership to another entity.[36]

Overall, according to WIPO, patent rights are applicable and enforceable within the geographical boundaries of the country or region where they are officially registered. Upon the expiration of a

[30] WIPO, Trademarks, https://www.wipo.int/trademarks/en/
[31] European Commission (2019), Your guide to IP in Europe, Publications Office, Executive Agency for Small and Medium-sized Enterprises, https://data.europa.eu/doi/10.2826/94924
[32] Same as above
[33] Same as above
[34] WIPO, Frequently Asked Questions: Trade Secrets, https://www.wipo.int/tradesecrets/en/tradesecrets_faqs.html
[35] European Commission (2019), Your guide to IP in Europe, Publications Office, Executive Agency for Small and Medium-sized Enterprises, https://data.europa.eu/doi/10.2826/94924
[36] European Commission (2019), Your guide to IP in Europe, Publications Office, Executive Agency for Small and Medium-sized Enterprises, https://data.europa.eu/doi/10.2826/94924

patent, the protection it provides ceases, and the invention becomes part of the public domain. Subsequently, the invention becomes available for commercial exploitation by others, free of charge.[37]

Similar to a patent, a Utility Model grants an exclusive right for the protection of an invention. The criteria for obtaining a utility model are less strict than patents, and the associated fees for acquiring and sustaining a utility model are typically more affordable. Additionally, the duration of protection granted to a utility model is shorter than that afforded to a patent[38].

2.3.6 Industrial Designs

An **industrial design** is the outward appearance of the whole or part of a product resulting from the features of the lines, contours, colours, shape, texture and/or materials of the product itself and/or its ornamentation[39].

According to WIPO, industrial designs are used on many different products, ranging from packages and containers to furniture, household items, jewellery, electronics, and textiles. Essentially, if someone has a registered industrial design, they can stop others from making, selling, or bringing in products that look very similar to the protected design, especially when these actions are done for business purposes[40].

[37] WIPO, Frequently Asked Questions: Patents, https://www.wipo.int/patents/en/faq_patents.html
[38] European Commission (2019), Your guide to IP in Europe, Publications Office, Executive Agency for Small and Medium-sized Enterprises, https://data.europa.eu/doi/10.2826/94924
[39] Same as above
[40] WIPO, Industrial Designs, https://www.wipo.int/designs/en/

3. Strategy of IPR management

The **strategy** for Intellectual Property (IP) management we employ in BIOTRANSFORM is founded on the **6 pillars of IP management in Horizon Europe**[41] (as depicted in the figure included below), with the aim of addressing the diverse IP issues that typically arise at different stages of a collaborative Horizon Europe project (from its start, over to its end and beyond).

Figure 1: The pillars on which BIOTRANSFORM's IP management strategy is founded.

Source: European Commission (2022), Webinar: IP Management in collaborative Horizon Europe projects

At the start of the project, it is crucial to identify and agree on which existing IP is to be shared among partners and under what terms and conditions (Background) for use during the project (implementation) and after its end (exploitation) if needed (Pillar 1: IP used).

As the project progresses, the results born from its implementation need to be captured and defined, while decisions are to be made about their owners that will be managing them (Pillar 2: IP created). Along the way, the exploitability potential of the results for commercial or research applications is assessed in order to identify key exploitable results (Pillar 3: IP assessment) as well as appropriate measures for their protection (Pillar 4: IP protection).

Towards the end of the project, as the final results of the project become available and planning of exploitation routes becomes more important, our strategy focuses on fine-tuning dedicated action plans for exploitation (with alternative pathways if needed) towards the long-term sustainability of the project's results (Pillar 5: IP dissemination and exploitation).

The exploitation plans consider the period after the end of the project by design, including any requirements for continuing to disseminate and/or exploit results identified at that time as well as any potential IP transfers or agreements (Pillar 6: IP post-project management).

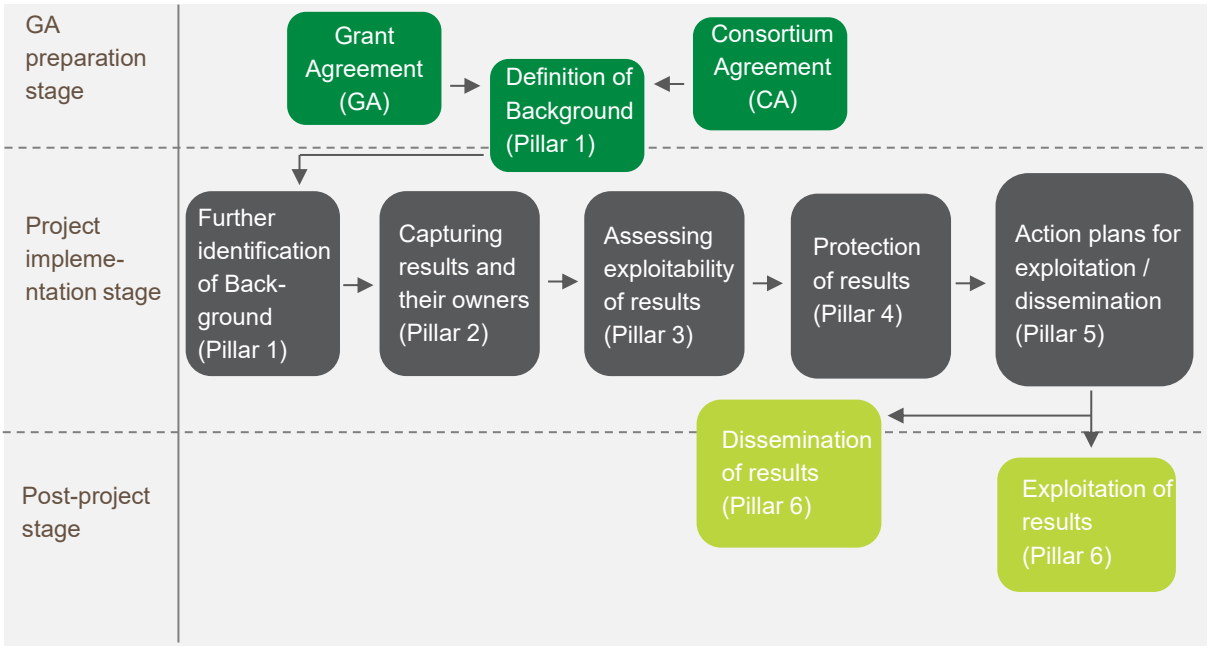
Along these lines, BIOTRANSFORM's IP management strategy lays out a comprehensive **framework** which distinguishes the **IP management processes** across the following stages:

[41] European Commission (2022), Webinar: IP Management in collaborative Horizon Europe projects, https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/other/events/20210609/4_ip-management-in-collab-horizon-projects_en.pptx

- **GA preparation stage;**
- **Project implementation stage;**
- **Post-project stage.**

The following figure provides a more illustrative overview of the different IP management stages, as they are considered within the framework of BIOTRNASFORM's respective strategy.

Figure 2: BIOTRANSFORM's IP Management Stages



More details about these stages are presented in the sub-sections that follow.

3.1 Grant Agreement Preparation Stage

Both **the Grant Agreement (GA) and the Consortium Agreement (CA) constitute documents that describe several issues related to Intellectual Property Rights (IPR)**. Their provisions are a reference point for IPR issues, underpinning the implementation of our IP management strategy. Any further advancements regarding IPR actions put in place by partners will be facilitated under the underlying provisions of the GA and the CA.

3.1.1 Grant Agreement

The Grant Agreement constitutes a contract which sets out the key rules and conditions of the project and is conducted between the European Commission (EC) and the BIOTRANSFORM partners. It represents the main contractual basis for BIOTRANSFORM while its main points and sections referring to IPR are included in **Section 2 "Rules for carrying out the action"**[42]. Under this scheme, the management of the BIOTRANSFORM IP is regulated, whereas access rights and obligations related to the background are set. In addition, the GA defines issues concerning the ownership and

[42] See Article 16 and Annex 5 of the BIOTRANSFORM Grant Agreement.

protection of the project's generated results, as well as their exploitation and dissemination outcomes. Finally, transferability and access rights to results are also defined in the BIOTRANSFORM GA.

3.1.2 Consortium Agreement

The Consortium Agreement constitutes a contract among the partners of BIOTRANSFORM consortium which aims to define rights and obligations within the partnership for the purposes of carrying out the project's foreseen actions and activities[43]. The CA minimises the probability of later disputes as it provides rules and responsibilities during the project as well as defines the access rights to be granted to the partners concerning the project. In addition, rights and responsibilities are outlined among the consortium members concerning issues of the IP.

The BIOTRANSFORM Consortium Agreement main points and sections referring to IPR are contained in:

- **Section 8 "Results**", that sets out provisions on ownership and joint ownership of results, as well as on their transfer and dissemination.
- **Section 9 "Access Rights",** which clarifies the access rights governing principles along with the access rights for the exploitation and dissemination purposes. It also states specific provisions for access rights to the software.
- **Attachment 1 "Background included"** that presents the initial list of usable background IP.

3.2 Project implementation Stage

During the implementation stage of BIOTRANSFORM, IP handling procedures have been applied among partners to organise the sound management of the project's results. As the implementation of the project advanced, the focus has shifted from capturing and assessing the exploitability of the results over to **defining Key Exploitable Results (KERs)** and agreeing on their owners and protection measures. Ultimately, the focus has been placed on putting in place and working towards suitable **action plans for exploitation and dissemination**.
Along the way, BIOTRANSFORM's IPR management has emphasised the establishment of robust handling procedures for IPR issues that are of strategic importance to the project to facilitate the exploitation of its KERs. Therefore, partners have focused on two different points:

- **Providing access rights to their knowledge** that is needed for other partners to carry out their work on the project.
- **Establishing procedures for the early identification of key exploitable results** with a view to designing timely action plans for protecting and exploiting them.

In this respect, the following sub-sections cover key IP-related issues that have been addressed by the IP management strategy of BIOTRANSFORM during the course of the implementation stage.

3.2.1 Further Identification of Background

Partners may have **identified, if necessary, further essential knowledge, know-how, or data** complementary to those outlined in the Consortium Agreement, which may have needed to be added

[43] See Section 2 of the BIOTRANSFORM Consortium Agreement.

to the Background of the project. The Background can be attached to the results of the project, which, eventually, help determine access rights, ownership and protection measures.

3.2.2 Capturing Results, Assessing Exploitability and Defining Owners

A core process of BIOTRANSFORM's IP management strategy has been to effectively capturing the results of the project and carefully assessing their exploitability, all with a view to creating a concrete mapping of the project's KERs, with the potential to enhance BIOTRANSFORM's IP portfolio, along with the owner(s) of each one. Thus, all **valuable IP stemming from BIOTRANSFORM have been identified, listed, named, described and analysed in a systematic way**.

To this end, all partners have been asked to elaborate further on the provisions of the Consortium Agreement with regard to the results born from their work in the context of the project and their ownership (through BIOTRANSFORM's IPR management tools, as described in chapter 4 of this report). Overall, **KERs are owned by the beneficiary(-ies) that generate them**. Due to the strong collaborative work that Horizon Europe projects entail, typically, two or more partners may jointly contribute to the creation of an individual result. Thus, in the framework of our strategy, **special attention has been paid to handling joint ownership issues**.

Information regarding the ownership of KERs needs to be reported to the EC by the end of the project. Partners are required to elaborate a "**Results Ownership List**" and include it within the final (periodic) report of the project[44]. This list will include all identified KERs of the project and clearly indicate which partner(s) is ultimately responsible for protecting, exploiting and, by extension, managing each one beyond the end of the project[45].

3.2.3 Protection of results

Effective exploitation of the new knowledge developed within the frame of BIOTRANSFORM requires the **protection of the project's KERs**. Thus, each partner has carefully examined the possibility of protecting its KER(s) and must adequately protect them across an appropriate **period of time** and with proper **territorial coverage** if: **(i)** the KER can reasonably be expected to be commercially or industrially exploited; and **(ii)** protecting the KER is possible, reasonable as well as justified (given the circumstances at the time of the decision)[46].

In this respect, when considering IP protection for the KER(s) they own, BIOTRANSFORM's **partners have considered their own interests along with the interests of the entire consortium**. Partners have been safeguarding the identified KER(s) with adequate protection measures, which will offer a decent protection period within a suitable geographical territory. The following table indicatively illustrates protection instruments that may be applied to various subjects.

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[44] See Annex 5 "Specific Rules" of the BIOTRANSFORM Grant Agreement and in particular the Section "Intellectual Property Rights – Background and Results – Access Rights and Rights of Use (Article 16)"
[45] Scherer, J., Weber, S., Alveen, P. et al. (2022), European IP Helpdesk – Successful valorisation of knowledge and research results in Horizon Europe – Boosting the impact of your project through effective communication, dissemination and exploitation, European Commission, European Innovation Council and SMEs Executive Agency, Publications Office of the European Union, https://data.europa.eu/doi/10.2826/437645
[46] European Commission (2022), Webinar: IP Management in collaborative Horizon Europe projects, http://tinyurl.com/mrykuafu

Table 3: Protection instruments of Results

Subject Matter	Copyright	Trademark	Tradesecret	Patent	Industrial design
Promotional and advertising material	X				
Scientific articles and technical reports	X				
Computer software, databases	X				
Appearance of technical devices					X
Design of product packaging					X
Company or technology logo		X			
Client lists			X		
Business plans			X		
Industrial processes for manufacturing			X	X	
New technologies used in the industry			X	X	

Overall, IP protection constitutes a tool to create value through the licensing, sale or commercialisation of IP in the form of products and services. Moreover, its utilisation is vital for prospective commercial or industrial exploitation as it can contribute to supporting the branding of products and services both to customers and investors.

The decision on whether to seek protection for intellectual property rights has been made before deciding whether or not to publish results. For instance, when aiming at patent protection, research results can only be published after the patent application has been filed. Therefore, the protection of research results and their commercial exploitation is promoted[47].

3.2.4 Exploitation of results

BIOTRANSFORM's KER(s) will be effectively exploited for research, commercial or other relevant uses. Partners have been and will continue to find and seize exploitation opportunities of the project's results in: (i) further research activities, (ii) developing, creating or marketing a product or process, (iii) creating and providing a service, (iv) using them in standardisation activities or other use scenarios such as to inform policy or for educational purposes.

Along these lines, following the successive phases of identifying and assessing results as well as defining owners and protection measures, further actions have been run, including:

- **Outlining potential exploitation routes** foreseen for each of BIOTRANSFORM's KERs beyond the end of the project.

[47] Scherer, J., Weber, S., Alveen, P. et al. (2022), European IP Helpdesk – Successful valorisation of knowledge and research results in Horizon Europe – Boosting the impact of your project through effective communication, dissemination and exploitation, European Commission, European Innovation Council and SMEs Executive Agency, Publications Office of the European Union, https://data.europa.eu/doi/10.2826/437645

- **Elaboration of BIOTRANSFORM's Exploitation and Sustainability Plan** to serve as the road map for exploitation actions.

All project partners are obliged to take measures to ensure the exploitation of their KER(s) up to four years after the completion of the project[48]. Exploitation may occur directly or indirectly by another legal entity (e.g., through transfer and licensing of results). As formalised in the GA, "*If, despite a beneficiary's best efforts, the results are not exploited within one year after the end of the action, the beneficiaries must (unless otherwise agreed in writing with the granting authority) use the Horizon Results Platform to find interested parties to exploit the results*"[49]. The Horizon Results Platform is hosted at the Funding &Tenders Portal of the EC. It is a free tool that partners can use to disseminate their KER to targeted users and seize opportunities for exploitation through successful matchmaking.

3.2.5 Dissemination of results

BIOTRANSFORM's partners have selected appropriate means for the dissemination of the project's KERs (e.g., scientific publications, publication on websites, conferences, open access, etc.), according to the conditions set forth in the GA and the Consortium Agreement[50]. In this context, **all partners have been aware that they should first ensure the protection of a project's KER and then proceed to dissemination actions of the underlying result**.

Overall, BIOTRANSFORM follows the **"Open Science"** approach, taking any steps required to spread knowledge as soon as it is available using digital and collaborative technology. Open access to research data follows the principle "*as open as possible, as closed as necessary*"[51]. Thus, partners make their scientific publications and data available with open access. They may have decided not to provide open access to research data only if it has gone against their legitimate interests or for other justified reasons (e.g., confidentiality or security concerns). In such a case, a justification will be included in the final version of the BIOTRANSFORM Data Management Plan[52].

3.3 Post Project Stage

Dissemination and exploitation of KER(s) take place even after the project ends. Thus, BIOTRANSFORM**'s IP management continues after the end of the project**, for example, to protect KERs (if needed), manage any agreements related to IP (e.g., licences) or potential costs and revenue sharing. In preparation for the post-project stage, the BIOTRANSFORM consortium will:

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[48] European Commission (2022), European Innovation Council and SMEs Executive Agency, Your guide to intellectual property management in Horizon Europe, Publications Office of the European Union, https://data.europa.eu/doi/10.2826/409260
[49] See Annex 5 "Specific Rules" of the BIOTRANSFORM Grant Agreement and in particular the Section "Intellectual Property Rights – Background and Results – Access Rights and Rights of Use (Article 16)"
[50] See Section 8.4, "Dissemination", of the BIOTRANSFORM Consortium Agreement
[51] European Commission, Directorate-General for Research and Innovation (2024), Open Science, https://research-and-innovation.ec.europa.eu/strategy/strategy-2020-2024/our-digital-future/open-science_en
[52] Scherer, J., Weber, S., Alveen, P. et al. (2022), European IP Helpdesk – Successful valorisation of knowledge and research results in Horizon Europe – Boosting the impact of your project through effective communication, dissemination and exploitation, European Commission, European Innovation Council and SMEs Executive Agency, Publications Office of the European Union, https://data.europa.eu/doi/10.2826/437645

- **Discuss and agree on (joint) exploitation strategies and pathways**. As some of the KERs are built on the combined knowledge of several partners, partners work on shared strategies for managing, protecting, and exploiting them.
- **Look at possible IP ownership arrangements and related responsibilities** (e.g., on maintenance costs). This requires the definition of the relative contributions of joint owners.
- **Explore, if needed, potential agreements (e.g., licensing) and remuneration options** for the use of IP stemming from BIOTRANSFORM and choose what fits better to the circumstances.[53]

With the above in mind, at the project's conclusion, this final version of the project's Exploitation and Sustainability Plan provides the final outline of the use that the BIOTRANSFORM consortium intends to make of its KERs along with the respective action plans and time frame for exploitation. This includes any further activities aimed at the dissemination, use, and sustainability of BIOTRANSFORM's KERs, along with any findings concerning IP issues. As a result, the deliverable envisages our final strategy for exploitation, management of IPR and sustainability, including also any selected commercialisation pathways if applicable.

Finally, **if there is any request from the EC, partners will have to report their progress towards exploiting their KERs, including any needs or obstacles they may have faced after the end of the project**. Such a request may come two years after the end of BIOTRANSFORM, and the requested information may be asked in the form of a structured questionnaire incorporated into the System for Grant Management (SyGMa) of the EC[54].

3.4 Main roles

The IP management strategy of the project constitutes an integral priority for BIOTRANSFORM's management structure. **Roles, with clear responsibilities and expected contributions**, have been established to put in place a continuous IP monitoring mechanism that can help ensure that IP information is reliable and timely captured, along with tailored procedures under which newly generated/ identified KERs have been handled within the lifespan of BIOTRANSFORM.

The key roles established in this context are concisely outlined below.

Exploitation Manager

The Exploitation Manager (EM) of BIOTRANSFORM project is Q-PLAN. **EM's role has been to lead the definition, implementation, monitoring and fine-tuning of the project's IPR management strategy**, ensuring that novel knowledge and results which arise during the project are properly assessed and managed.

In this framework, the EM has been responsible for screening any newly identified KERs and handling any corresponding IP issues that have risen during the project's lifespan. To this end, the EM has been directing partners to commonly establish the most adequate and efficient exploitation route(s)

[53] European Commission, European Innovation Council and SMEs Executive Agency (2022), Your guide to intellectual property management in Horizon Europe, Publications Office of the European Union, https://data.europa.eu/doi/10.2826/409260
[54] European Commission, European Innovation Council and SMEs Executive Agency (2022), Your guide to intellectual property management in Horizon Europe, Publications Office of the European Union, https://data.europa.eu/doi/10.2826/409260

based on the nature of their KERs and the purposes of the BIOTRANSFORM consortium concerning their exploitation. This included a **crucial mediation role in case of IP conflicts**, guiding involved partners to find mutually agreeable solutions (including written agreements whenever necessary) and always in line with the provisions of BIOTRANSFORM's CA (see Article 12.8 of the CA).

Along the way, the EM has been closely cooperating with the Project Coordinator and the General Assembly across the duration of the project to exchange information born from advancing project activities and to determine adequate handling and protection of KERs. Finally, the EM has been coordinating the **development of the project's Exploitation and Sustainability Plan**, including the elaboration of the respective deliverables (initial and final version).

All partners

Efficient management of IP in BIOTRANSFORM has been achieved through the adoption of a participatory process, based on which **all partners have been actively contributing to the timely identification and assessment of the IP being born from their work** under the framework of the project.

Along these lines, **each partner has been responsible for**: **(i)** identifying the IP they are bringing as Background for the implementation of the project and/or exploitation of its results; **(ii)** capturing and assessing the exploitability of the results stemming from their work in the project; **(iii)** protecting their results when meaningful; and ultimately **(iv)** safeguarding their exploitation by identifying and taking any necessary actions during or after the project (e.g. deciding on ownership issues, making any needed IP agreements, maintaining protection measures, etc.).

It is good practice for **partners to inform and consult with the EM** before deciding whether to protect a KER stemming from their activities or not – particularly if the partner is considering a potential joint IP scheme. **Should Work Package Leaders identify a new result generated under their respective Work Package, the EM must be informed**.

To facilitate the implementation of our IP management strategy, while supporting each partner to carry out their role in its framework, a dedicated methodology with respective tools has been customised for use in BIOTRANSFORM, as outlined in the section that follows.

4 Methodology

4.1 Outline of Methodological Steps and Tools

The implementation of BIOTRANSFORM's IP management strategy has been realised through the utilisation of a tailored methodology along with a suite of IPR management tools which aim at supporting all partners of the project to identify, protect and manage their Key Exploitable Results (KERs) in a way that paves the way for successful exploitation beyond the end of the project.

In particular, our **methodology** is aligned with the different IP management stages of our strategy and can be broken down into **4 distinct but interconnected steps,** as follows:

- **Step 1**: Identify any further background required for implementation or exploitation.
- **Step 2**: Assess project results and define KERs along with their owners.

- **Step 3**: Outline exploitation routes for KERs and decide on protection measures.
- **Step 4**: Craft action plans for exploitation (and commercialisation, if applicable).

In order to allow for the implementation of these methodological steps, the tools employed by partners in the context of BIOTRANSFORM encompass (in brief) the following:

- **Background identification / modification form**, which is to be used by partners in order to notify the Exploitation Manager in the case that they identify any further own Background required for implementation or exploitation of results as well as in the case that modifications to any already identified own Background need to take place.
- **Exploitability assessment and planning templates**, that partners can employ in order to capture and convey key information required for assessing the exploitability of the results stemming from their work in the project as well as to outline owners with their contributions, appropriate protection measures and potential exploitation routes.

An initial application of our methodology has already been completed, with the results outlined in the initial version of BIOTRANSFORM's Exploitation and Sustainability Plan. From then on and up to this stage of the project, the objective of our methodology was to re-iterate the application of our IPR management tools with a view: (i) to update the list of the project's KERs, ensuring that any access rights required (either for implementation or exploitation) are all in place; as well as (ii) to fine-tune the initially crafted exploitation routes and action plans, taking into account the latest developments of the project. The results of this new iteration are outlined in this final version of the Exploitation and Sustainability Plan.

With that in mind, the structure of our methodological tools along with the data that each one is designed to capture is concisely outlined in the sub-sections of this report that follow below.

4.2 Background Identification / Modification Form

In this context of BIOTRANSFORM's IP management methodology, the background identification / modification form (see table below) has been designed **to collect crucial information about the Background of partners, beyond of what is documented and agreed in the CA** of the project. In particular, the form serves a dual purpose as it can be used to: (i) identify any additional Background, on top of the Background already identified in the CA, along with its specific restrictions and/or conditions for implementation / exploitation; and (ii) to modify any previously identified Background and its respective restrictions and/or conditions if applicable.

Owner(s)	
Description	
Specific restrictions and/or conditions for implementation	

Specific restrictions and/or conditions for exploitation	
Connected Key Exploitable Result(s)	

Table 4: Background identification / modification form

To this end, the form was used by partners to identify the owner of the Background, provide a concise description of the Background as well as to clearly specify any restrictions and/or conditions for the use of the Background by the other partners for implementation or the exploitation of results. A direct reference to any connected KERs was also required if relevant. The form is completed on an ad hoc basis, when the need arises during the project, and is provided to the EM. The EM then assess the proper course of action, following the relevant provisions of the project's CA and in cooperation with the proper management bodies of the consortium.

The **Background required for the implementation and exploitation of BIOTRANSFORM's results**, as identified by project partners by M30, is **outlined in Section 5** of this report. The background identification / modification form is included in its Annex (see Annex I).

4.3 Exploitability Assessment and Planning Templates

The exploitability assessment and planning templates of our IP management methodology were designed to **facilitate the work of the partners that is required to identify the KERs of the project as well as to carefully plan and act towards their sustainable post-project use** (be it for research, commercial or other use) during and after the end of BIOTRANSFORM. They are accordingly comprised of templates dedicated for exploitability assessment of results, exploitation planning per KER and exploitation planning per partner, as described below.

Exploitability assessment template

The exploitability assessment template aims at supporting partners towards identifying and **assessing the exploitation potential and readiness of results**, while also pinpointing and elaborating on **key aspects pertaining to exploitation and IP**, as depicted in the table below.

Brief description	
Creator and relevant background (If applicable)	

Intended users and expected benefits	
Intended exploitation route(s)	
IP protection measures	

Table 5: Exploitability Assessment Template

Besides a brief description of the KER identified, partners are also required to reflect on the following aspects which are important for the exploitation of the result at hand:

- **Creators and relevant background** (if applicable): The partners that were principally involved in the development of the key exploitable result is captured here and, if possible, the way each one contributed to this end. If applicable, any background used in order to create the key exploitable result along with its owner is recorded here too.
- **Intended users and expected benefits**: The main stakeholder groups that are expected to use the key exploitable result are listed in this part of the template. This includes consortium partners as well as external stakeholders if applicable (such as SMEs, corporates, research institutes, public authorities, citizens, etc.). Partners are also asked to describe why each of the aforementioned groups is expected to use the key exploitable result, highlighting the benefits to be derived from its use.
- **Intended exploitation route(s)**: This part of the template captures the main exploitation route foreseen for the key exploitable result along with any alternatives if applicable (e.g. exploitation in future research projects, commercialization, open access dissemination, etc.). Attention is given (to the degree possible depending on the stage of the project) on how the key exploitable result will be provided to its target users (where they will find it, how they will access it, under what terms, etc.).
- **IP protection measures**: Partners are asked to define in this part of the template the measure considered (or measures if alternatives are to be considered) in order to protect the key exploitable result as well as the rationale behind their selection(s).

The main partner responsible for each KER is tasked with the completion of this template (in cooperation with other partners contributing to the creation of the specific result), which serves as the basis for discussing, agreeing and ultimately defining the exploitation plan for each KER of the project, along with the necessary actions required to make it a reality.

Exploitation planning per KER template

The purpose of the exploitation planning template in the framework of our IP management methodology is to lay out a road map for exploitation with concrete actions and a specific timeline for each KER, guiding all involved partners on the road to their selected exploitation route(s). An outline of the exploitation planning template is depicted in the table which follows.

Action	What?	By Whom?	When?
Intellectual			
property rights			
Development, testing and validation			
Ownership			

Table 6: Exploitation Planning per KER Template

This template calls for partners to consider and document the main points that need to be addressed to **ensure that BIOTRANSFORM's KER(s) are ready and on the way for exploitation**. These points may include **key dimensions** ranging from **ownership** (e.g. decision on owners and/or terms of use for each involved partner, preparation of IP agreements) and **IPR** (such as the selection of proper protection measures and the preparation for any applications needed) over to the **actions needed to advance the exploitation readiness and prospect** of the KER (e.g. development, testing and/or validation, design of business model or plan). Such actions may also pertain to the **definition of appropriate dissemination measures** (such as finding a proper repository for the longer-term accessibility of the KER) as well as the **exploration of different alternatives for exploitation** (e.g. discussing and aligning with other consortium partners or organisations outside of the consortium for licensing or transferring the result, agreeing on costs sharing) if applicable for the chosen exploitation route of the KER.

For each of the identified points, partners are required to define the actions that need to take place in order to address them and advance towards their exploitation route as well as which partner needs to take action and by what time, creating a **clear (joint) action plan** to this end. The completion of the template for each KER is led by the main partner responsible for the respective KER and implemented in cooperation with other partners of the consortium contributing to the creation of the KER with guidance from the EM when needed.

Exploitation planning per partner template

The third and final template of our exploitability assessment and planning template package (see table below), aims at outlining the **individual exploitation plan of each BIOTRANSFORM partner**, identifying which of BIOTRANSFORM's KERs will fit in this context and how, while also facilitating the identification of potential synergies and joint exploitation pathways at the same time.

< Partner Short Name >	KER of main interest: KER1, KER2, …, KERX

Table 7: Exploitation Planning per Partner Template

Along these lines, through this template, each partner is required to indicate the project's **KERs that are of main interest** to their organisation in terms of exploitation and/or dissemination beyond the end of BIOTRANSFORM. Moreover, they are asked to provide a concise **narrative that elaborates on how the exploitation routes of their selected KERs align and will be integrated within the current or future trajectory of their work**. With that in mind, this template is completed by each partner (starting with information from the GA if available) and is **gradually enriched and fine-tuned as the project progresses** in order to deliver the final individual exploitation plan of each partner by the end of BIOTRANSFORM.

The **KERs of BIOTRANSFORM** which were identified via the applications of our methodology and tools by this stage of the project, are **presented in Chapter 5**, while at the same time the **exploitation plans crafted per KER and per partner are outlined in Chapters 6 and 7,** respectively. The respective templates are annexed to this report (Annex II).

5 Background and Key Exploitable Results

5.1 Overview of BIOTRANSFORM's Identified Background

The Background required for the implementation of BIOTRANSFORM and/or the exploitation of its results, as it has been identified by partners by this stage of the project, is presented by the following table.

No	Owner	Brief description	Specific restrictions and/or conditions for implementation	Specific restrictions and/or conditions for exploitation	Connected KER
1	**ALCN IPR taken over by alchemia-nova research & innovation gemeinnützige GmbH**	Background knowledge in biomass conversion processes, strategy conceptualization, multicriteria assessment, bio- and phytoremediation, nature-based technologies and air/water treatment	Access rights to background is only granted to the extent that it is strictly required for the implementation of the action, and subject to the terms and conditions of existing third-party agreements that may prohibit the granting of Access Rights.	Access Rights to background is only granted to the extent that it is strictly necessary for the exploitation of another beneficiary's own results, under fair and reasonable conditions, subject to any legal restrictions or limits, including restrictions imposed by the rights of third parties and personnel, and existing IPR, specifically: (1) Patent Nr. AT516363 – Gradual vertical constructed wetlands; (2) Trademark "vertical ecosystem ®"	All
2	**VTT**	Background knowledge in forest biomass conversion processes and technologies, in chemical processes and in sustainability assessment.	Access rights to background is only granted to the extent that it is strictly required for the implementation of the action, and subject to the terms and	Access Rights to background is only granted to the extent that it is strictly necessary for the exploitation of another beneficiary's own results, under fair and	1,2,5

			conditions of existing third-party agreements that may prohibit the granting of access rights	reasonable conditions, subject to any legal restrictions or limits, including restrictions imposed by the rights of third parties and personnel, and existing IPR	
3	**LIST**	Background knowledge and methods in sustainability assessment, carbon footprinting, decarbonization strategies, decarbonization roadmaps for territories, alignment to Paris agreement targets, socio-economical assessments	Access rights to background is only granted to the extent that it is strictly required for the implementation of the action, and subject to the terms and conditions of existing third-party agreements that may prohibit the granting of access rights	Access Rights to background is only granted to the extent that it is strictly necessary for the exploitation of another beneficiary's own results, under fair and reasonable conditions, subject to any legal restrictions or limits, including restrictions imposed by the rights of third parties and personnel, and existing IPR.	1,2,3
4	**HUB**	Background knowledge in availability and conversion strategies of Biomass (Agricultural and Forest). Processes and Technologies in use	Access rights to background is only granted to the extent that it is strictly required for the implementation of the action, and subject to the terms and conditions of existing third-party agreements that may prohibit the granting of access rights	Access Rights to background is only granted to the extent that it is strictly necessary for the exploitation of another beneficiary's own results, under fair and reasonable conditions, subject to any legal restrictions or limits, including restrictions imposed by the rights of third parties and personnel, and existing IPR.	1,2,5
5	**CluBE**	Background knowledge in analysing regional biomass and bioenergy potentials, the core cluster structures, and the regional innovation systems devoted to the energy, bioeconomy and environment sectors	Access rights to background is only granted to the extent that it is strictly required for the implementation of the action, and subject to the terms and	Access Rights to background is only granted to the extent that it is strictly necessary for the exploitation of another beneficiary's own results,	All

			conditions of existing third-party agreements that may prohibit the granting of access rights	under fair and reasonable conditions, subject to any legal restrictions or limits, including restrictions imposed by the rights of third parties and personnel, and existing IPR.	
6	**CTA**	Know-how gained through the SUPERBIO, ICT-BIOCHAIN, EXCornsEED, BIOSWITCH, BioBEC, BIO4AFRICA, Scale-UP, A3BIO, MPowerBIO, P2PFinBio and urBIOfuture projects: lessons learned, materials, deliverables and reports, as well as network contacts.	Access Rights to Background if Needed for Exploitation of a Party's own Results within BIOTRANSFORM, including for research on behalf of a third party, shall be granted on Fair and Reasonable conditions.	Access Rights to Background if Needed for Exploitation of a Party's own Results outside BIOTRANSFORM, including for research on behalf of a third party, shall be granted on Fair and Reasonable conditions.	2,3,4,5
7	**CLIB**	Knowledge about chemical industry in NRw region, including structures and side streams. Knowledge about side and residue streams in the region, potentials of utilisation.	Access rights to background is only granted to the extent that it is strictly required for the implementation of the action, and subject to the terms and conditions of existing third-party agreements that may prohibit the granting of access rights.	Access Rights to background is only granted to the extent that it is strictly necessary for the exploitation of another beneficiary's own results obtained within BIOTRANSFORM, under fair and reasonable conditions, subject to any legal restrictions or limits, including restrictions imposed by the rights of third parties and personnel, and existing IPR.	2,3,4,5
8	**VITO**	Knowledge about logistic supply chain optimisation	Access rights to background is only granted to the extent that it is strictly required for the implementation of the action, and subject to the terms and conditions of existing third-party agreements that may prohibit the	Access Rights to Background if Needed for Exploitation of a Party's own Results outside BIOTRANSFORM, including for research on behalf of a third party, shall be granted on Fair and Reasonable conditions.	1,2.3,5

			granting of access rights		

Table 8: Identified Background of BIOTRANSFORM

5.2 BIOTRANSFORM's Key Exploitable Results at a Glance

The results of BIOTRANSFORM, which have been assessed and considered as KERs by partners at this stage of the project, are listed in the table which follows along with a brief description.

No.	Asset	Description
1	BIOTRANSFORM's impact assessment tool	BIOTRANSFORM's impact assessment tool to support decision making towards circular bioeconomy.
2	BIOTRANSFORM's assessment package and user manual	User manual for measuring specific impacts utilising tools in the assessment package. Logistics tool, resource flow analysis tool, and a impact assessment tool (multi-criteria decision overview).
3	BIOTRANSFORM's transition guideline	Transition roadmap and methodology development for regional authorities.
4	Transition financing and governance methodology	Transition financing and governance support to help regional authorities shift between linear fossil-based systems to circular bio-based ones.
5	Key policy recommendations	Key policy recommendations to be implemented at European or national level to overcome the barriers and take advantage of the opportunities for the transition from linear fossil-based to a circular bioeconomy.

Table 9: List of BIOTRANSFORM's Key Exploitable Results

6 Exploitation plan per Key Exploitable Result

In this section of the Exploitation Plan per KERs of the BIOTRANSFORM project are described, along with the main contributors to their development. Information is also provided on who their intended users are, the benefits they stand to gain from exploiting that KER as well as on potential exploitation routes. In parallel, the main creator of each KER indicates any foreseeable action that may be needed to facilitate the intended exploitation route(s) of the KER, concisely outlining what needs to be done, when and by whom.

The above information is presented in two tables for each KER:

- One table summarizing the exploitation plan of that KER.
- A second table summarizing any actions needed for the exploitation of that KER.

Each KER is presented in a different sub-section of this section.

The Exploitation Plan per Key Exploitable Result constitute the final plan as updated in this final version of Exploitation and Sustainability Plan on M30.

6.1. BIOTRANSFORM's impact assessment tool

Table 10: Exploitation Plan for the BIOTRANSFORM's impact assessment tool

Brief description	BIOTRANSFORM's impact assessment tool to support decision making towards circular bioeconomy
Creators and relevant background (if applicable)	LIST and CTA are the creators of this KER with contribution from CluBE & VITO
Intended users and expected benefits	• Research institutes • Industry • Consultancies • Regional authorities The BIOTRANSFORM's impact assessment tool aims to identify the optimal transition pathways for biomass (value chains) as a replacement for fossil-based materials across diverse regional sectors. To ensure a thorough analysis of the regional pathways, the tool estimates relevant environmental, social, and economic indicators and provides insights into bio-based alternatives' overall environmental and socio-economic sustainability. Therefore, facilitating robust decision-making in the first place will give less room for lobbying.

Intended exploitation route(s)	**Exploitation path #1:** The impact assessment tool will be provided to the intended users who wish to proceed to an impact assessment to support and facilitate decision-making. **Exploitation path #2:** The tools will be also utilised on other research projects and activities which demand assessment. **Exploitation path #3:** The tools will also be used for services for clients like regions, municipalities, biomass-processing organisations or other actors within the bioeconomy
IP protection measures	Creative Commons Attribution-ShareAlike (CC BY-SA)

Table 11: Actions needed for the exploitation of the BIOTRANSFORM's impact assessment tool

Action	What?	By whom?	When?
Intellectual property rights	Creative Commons Attribution-ShareAlike (CC BY-SA)	LIST	Before the end of the project
Testing, validation, and fine-tuning	The impact assessment tool has been tested and fine-tuned through application in the case-study regions	LIST	During the project (M5-M30)
Communication and dissemination	The impact assessment tool has been shown in conferences and other relevant events, and it has been promoted through publications and other interested media channels	LIST, VTT, VITO, CTA, CluBE, CLIB, HUB	Before the end of the project

6.2. BIOTRANSFORM's assessment package and user manual

Table 12: Exploitation plan for assessment package tools

Brief description	BIOTRANSFORM's assessment package is composed of 3 different tools (Logistics tool, Resource flow analysis tool and an impact assessment tool (multi-criteria decision analysis) to help assess and establish transition pathways accompanied by a user manual for measuring specific impacts utilising tools of the assessment package.
Creators and relevant background (if applicable)	VTT, LIST, CluBE & VITO are the creators of this KER with contribution from CTA, CLIB and HUB

Intended users and expected benefits	• Research institutes • Industry • Consultancies • Regional authorities The BIOTRANSFORM's assessment package will provide awareness and tools/services (excel-based or python scripts combined with GUROBI Optimizer and ESRI ArcGis) for enabling the transformation towards a full circular bioeconomy by assessing environmental, social, and economic impacts of circular bio economies, and providing a comparison of circular bio-based vs linear fossil-based economies. This way, decision-making will be supported and accelerated
Intended exploitation route(s)	**Exploitation path #1:** The assessment package can be exploited as a standalone KER in the form of a decision support tool/service. **Exploitation path #2:** The tool will be also utilized on other research projects and activities with stakeholders which demand impact assessment.
IP protection measures	Copyright on proprietary python scripts (VITO) for the logistics tool.

Table 13: Actions needed for the exploitation of the assessment package tools

Action	What?	By whom?	When?
Intellectual property rights	Copyright	All partners	Before the end of the project
Testing, validation, and fine-tuning	The assessment package was created by M12 and validated through pilot application to all or some of the 6 case-study regions. The assessment package has been refined through co-creation workshops and feedback loops	CluBE, VTT, VITO, CTA, CLIB, HUB	Before the end of the project
Communication and dissemination	The assessment package tools have been promoted through events and publications or other interested media channels	CluBE, VTT, VITO, CTA, CLIB, HUB, LIST	Before the end of the project

6.3. BIOTRANSFORM's Transition Guideline

Table 14: Exploitation plan for the transition planning tool

Brief description	Transition roadmaps from linear fossil-based to a circular bioeconomy for regional authorities. The transition guideline will become public through the BIOTRANSFORM dashboard
Creators and relevant background (if applicable)	CluBE is the proprietor of this KER based on a methodology developed by ALCN with support from LIST and VITO on the dashboard. As ALCN is not a partner anymore of this project, CluBE took over this work.
Intended users and expected benefits	• Policymakers • Regional authorities The transition methodology will aid policymakers in assessing and promoting policies in favour of the circular bio-based transition in Europe.
Intended exploitation route(s)	This transition methodology will be exploited through a public route, ensuring maximum uptake by policymakers enhanced by communication activities
IP protection measures	Creative Commons Attribution-ShareAlike (CC BY-SA)

Table 15: Actions needed for the BIOTRANSFORM's transition planning tool

Action	What?	By whom?	When?
Intellectual property rights	Creative Commons Attribution-ShareAlike (CC BY-SA)	CluBE	Before the end of the project
Communication and dissemination	The transition methodology will be publicly available through the project's website and will be promoted through events and publications in scientific journals of other interested media channels	All partners	Before the end of the project

6.4. Transition financing and governance methodology

Table 16: Exploitation Plan for the Transition financing and governance methodology

Brief description	Transition financing and governance support to help regional authorities shift between linear fossil-based systems to circular bio-based ones
Creators and relevant background (if applicable)	ACR+ is the creator of this KER with contribution from CluBE, CTA, CLIB, VTT, HUB, CTA
Intended users and expected benefits	• Policymakers • Regional authorities The practical guideline targeting regional authorities will provide key principles and recommendations for a regional governance toward a circular bio-based economy, as well as how to fund and finance this transition assisting them to take up funding/financial and governance solutions tailored to their needs.
Intended exploitation route(s)	This financing and governance roadmap will be exploited through a public route, ensuring maximum uptake by policymakers and regional authorities
IP protection measures	CC license

Table 17: Actions needed for the exploitation of the Transition financing and governance methodology

Action	What?	By whom?	When?
Intellectual property rights	CC license	ACR+	Before the end of the project
Communication and dissemination	The roadmap will be publicly available through the project's website and will be promoted through events and publications in scientific journals of other interested media channels	All partners	Before the end of the project

6.5. Key policy recommendations

Table 18: Exploitation Plan for the key policy recommendations

Brief description	Key policy recommendations to be implemented at European or national level to overcome the barriers and take advantage of the opportunities for the transition from linear fossil-based to a circular bioeconomy.
Creators and relevant background (if applicable)	ACR+ is the creator of this KER with contribution from CluBE, VTT, CTA, CLIB, HUB
Intended users and expected benefits	• Policymakers • Regional and national authorities • Relevant EU Initiatives This asset can feed the ongoing revision of the European bioeconomy strategy, as well as national bioeconomy strategies under design in other EU countries. The good practices included in the document can also provide useful insights and examples on how to concretely implement the recommendations.
Intended exploitation route(s)	These policy recommendations will be exploited through a public route, ensuring maximum uptake by EU and national policymakers.
IP protection measures	CC license

Table 19: Actions needed for the exploitation of the key policy recommendations

Action	What?	By whom?	When?
Intellectual property rights	CC license	ACR+	Before the end of the project
Validation and fine-tuning	A dedicated policy working group has been established and utilised during project implementation to receive feedback on the policy recommendations	ACR+	Before the end of the project

Communication and dissemination	Promotion and dissemination of material through the BIOTRANSFORM communication channels (website, social media, newsletter, press releases), presentations by partners to various events and conferences and though partners networks.	All partners	Before the end of the project

Table 20: Actions needed for the exploitation of the knowledge generation

Action	What?	By whom?	When?
Intellectual property rights	Copyright	All partners	Before the end of the project
Communication and dissemination	Available in the project Website, open access repositories, promoted through events and publications in scientific journals of other interested media channels	All partners	Before the end of the project

7. Exploitation plan per partner

This section summarizes, in tabular format, the Key Exploitable Results of the BIOTRANSFORM project that each partner is currently interested the most to exploit, as well as how they intend to proceed to this end.

Table 21: Individual Exploitation Plans for partners

Individual Exploitation Plans of the BIOTRANSFORM partners	
BIOTRANSFORM partner: VTT	Key Exploitable Results of major interest: • BIOTRANSFORM's transition guidelines • Policy recommendations • BIOTRANSFORM's assessment package and user manual
Exploitation Plan: VTT is a visionary R&D and innovation centre, which has a mission to drive sustainable growth of business and society by tackling global challenges by the means of science and technology. VTT's interest in the transition methodology, guidelines and roadmaps of the assessment tool will be used as efficient means to guide local and governmental authorities as well as companies in bioeconomy transition and to accelerate the coordination between industries and policy makers. Additionally, VTT will utilise the above KERs to enrich inhouse existing knowledge	

and expertise and boost future collaborations with other R&D organisations, industries, academia, policy makers and civil society.
VTT intends to exploit the project's results by providing and acquainting the policymakers of Finland with the transition methodology and policy recommendations, to accelerate the transition.

BIOTRANSFORM partner: LIST	Key Exploitable Results of major interest: • BIOTRANSFORM's impact assessment tool • Policy recommendations • BIOTRANSFORM's assessment package and user manual

Exploitation Plan: LIST is a Research and Technology Organisation (RTO). The Environmental Sustainability Assessment and Circularity (SUSTAIN) research unit provides industry and policy makers with science-based assessment of the impacts and risks associated to manufacturing of products and technologies, consumption patterns, energy systems and the urban built environment. The main interest of LIST for BIOTRANSFORM assets is the impact assessment tool and the impact assessment package to be further developed and applied in a replicable perspective, to support the definition and development of transition pathway towards sustainable, circular bioeconomy in European and other regions. The development of the assessment package will also enrich LIST's existing knowledge and expertise, giving to it a competitive edge in the field of circular economy transitioning.

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BIOTRANSFORM partner: VITO	Key Exploitable Results of major interest: • BIOTRANSFORM's module on logistic and supply chain optimisation (as part of the assessment package) • User manual & dashboard including the transition guidelines

Exploitation Plan: VITO is an independent Flemish research organisation on a mission to accelerate the transition towards a sustainable world.
The main interest of VITO is to promote its BIOTRANSFORM module on logistic and supply chain optimisation as a decision support service.

- **Market entry: via regional authorities, consultants and entrepreneurs (in the circular biobased sector)** as well as research projects
- Marketing/visibility: via moov.vito.be, MooV LinkedIn page, communicate to regions (cf. subsection 8 hereunder), communicate to ERRIN (subsection transport)
- **Business model: usage-based pricing**/service-fee
- **Type of KER: outcomes provide decision support on setting up optimal supply chains (increase performance, decrease risks, support critical decisions).**

BIOTRANSFORM partner: CTA	Key Exploitable Results of major interest: • BIOTRANSFORM's impact assessment tool • BIOTRANSFORM's transition guidelines • Policy recommendations • BIOTRANSFORM's assessment package

Exploitation Plan: CTA, as an innovation cluster playing a key role in a region which is undergoing an ambitious transition towards a circular and greener economy with a relevant interest in boosting the bioeconomy as a key regional sector. CTA is intending to exploit the project's results by providing and acquainting the policymakers of Andalucia (and other potential regions in Spain with

the transition methodology and policy recommendations, to accelerate the transition in the region). CTA's key role of increasing regional knowledge by promoting innovation between the regional stakeholders and its members, reinforces its aim to exploit the project's results. CTA will be able to enhance its knowledge and experience in the bioeconomy field through exploiting the project's KERs. Additionally, the project KERs will enrich the expertise and knowledge of CTA boosting the quality of its services to members and stakeholders and facilitating the involvement in EU projects.	
BIOTRANSFORM partner: CluBE	Key Exploitable Results of major interest: • BIOTRANSFORM's transition guidelines • Policy recommendations • BIOTRANSFORM's assessment package
Exploitation Plan: CluBE, as a quintuple helix cluster playing a key role in a region which is undergoing an ambitious transition from being Greece's primary coal energy producer for more than half a century. CluBE is intending to exploit the project's results by providing and acquainting the policymakers of Western Macedonia with the transition guidelines and policy recommendations, to accelerate the transition in the region. CluBE's key role of increasing regional knowledge by promoting innovation between the regional stakeholders and its members, reinforces its aim to exploit the project's results. CluBE will be able to enhance its knowledge and experience in the bioeconomy field through exploiting the KERs.	
BIOTRANSFORM partner: CLIB	Key Exploitable Results of major interest: • BIOTRANSFORM's transition guidelines • Policy recommendations • BIOTRANSFORM's assessment package
Exploitation Plan: CLIB is an international open innovation cluster, focusing on industrial biotechnology as a key technology for sustainable products and processes in the circular bioeconomy. CLIB is interested in the above listed project KERs to increase its own expertise and knowledge on circular economy and will utilise them to help academia and industry including SMEs, as well as local and regional authorities in such transitions.	
BIOTRANSFORM partner: HUB	Key Exploitable Results of major interest: • BIOTRANSFORM's impact assessment tool • BIOTRANSFORM's transition guidelines • Policy recommendations • BIOTRANSFORM's assessment package
Exploitation Plan: BioEast HUB is a non-profit organization based in Prague (Czech Republic) supporting bioeconomy development in the wider Central and Eastern Europe (CEE) to support and promote bioeconomy. BioEast HUB is interested in most project KERS that will first of all enrich BioEast HUB expertise and knowledge on circular bioeconomy and will be used to support regions in the wider CEE to make such transitions by utilising the project generated knowledge and the relevant tools and methodologies developed. Results from other case study regions (Austria & Finland) can also be of interest for some Czech regions which have closer connections to agriculture and forestry.	
BIOTRANSFORM partner: ACR+	Key Exploitable Results of major interest: • Transition financing and governance methodology • Policy recommendations

Exploitation Plan: ACR+, as a network of local and regional authorities, is mostly interested in outputs that can support regional authorities to plan and coordinate circular bioeconomy strategies. ACR+ intends to spread the knowledge generated through the project across its network to support policy makers in the planning and coordination of circular bioeconomy strategies within their local contexts. The promotion of the results will be done through events, online advertising on ACR+ media channels and website and through direct contact with members. The provision of recommendations, guidelines, methodologies and assessment methods to public authorities to establish and roll out circular biobased systems will facilitate a smooth transition to this model that is adapted to their specific context.

BIOTRANSFORM partner: Q-PLAN	Key Exploitable Results of major interest: • Key policy recommendations • BIOTRANSFORM's transition guidelines

Exploitation Plan: Q-PLAN is an innovation and management consulting company that focuses its activities on European research, innovation and support actions in various sectors such as Bioeconomy and circular economy, business and finance support services to private and public organisations operating in several industrial and market sectors. The commitment of Q-PLAN to exploit BIOTRANSFORM's assets stems from its strategic goal of integrating state-of-the-art services in its portfolio, to facilitate its clients' innovation processes and growth. The key policy recommendations as well as the guidelines and roadmaps will enrich expertise and knowledge of Q-PLAN in a field where already is active leading to boosting the quality of its services and facilitating the involvement in such EU projects.

8. Replication potential of BIOTRANSFORM's methodology

Towards our effort to increase replication potential of our approach, all BIOTRANSFORM partners have joint forces in attracting other regions interested in a circular bioeconomy transition with a view to paving the way for the replication of our results. To achieve this, we have leverage our planned activities along with dedicated replication activities endorsed by BIOTRANSFORM case-study partners as follows:

- The T4.1 working group has been a great avenue to attract the interest of other European regions and present BIOTRANSFORM's tools and methods, with the following regional organizations being represented.

Organisation	Region
Bioeconomy Hotspot Guldborgsund Municipality	Nykøbing Falster
Government of Navarra	Navarra
Municipality of The Hague	South Holland province
City of Munich	Upper Bavaria
Pays de la Loire regional council	Pays de la Loire
SPW ARnE - DSD - DIGPD	Wallonia

Region Sud	Provence
Government of Catalonia	Catalonia
REAP - Regional Energy Agency of Pazardjik	Pazardzhik provence
Cities northern Netherlands	North Holland

- The T3.3 pan-EU event organized by ACR+ as part of the EU Circular talks as a webinar to attract the interest of regional managers, experts and stakeholders to share good practices, gather feedback and explore opportunities for replication and scaling. Below is a list of organizations that attended the event.

Organisation Type	Region	Country
City representative	Basque country	Spain
City representative	Flemish region	Belgium
City representative	Dún Laoghaire–Rathdown County	Ireland
City representative	Oisterwijk	The Netherlands
Consultancy	Brussels - Capital region	Belgium
Consultancy	Berlin - Brandenburg	Germany
Consultancy		Global
Consultancy	Basel-Stadt	Switzerland
Consultancy	Catalonia	Spain
Consultancy		UK
Consultancy	Central Bohemian Region	Czech Republic
Consultancy	Western Netherlands	Netherlands
Consultancy	Valencia	Spain
Consultancy		Global
Consultancy	Vienna	Austria
Consultancy	Oranmore	Ireland
Consultancy	New York	USA
Government	Catalonia	Spain
Hub	Auckland	New Zealand
Hub		Europe
Hub	Brussels - Capital region	Belgium
Hub		Europe
Hub	Plovdiv	Bulgaria
Industry	Brussels - Capital region	Belgium
Industry		France
Industry		Global
Industry	Brussels - Capital region	Belgium
Industry	Brussels - Capital region	Belgium
Industry	Kantō region	Japan
Industry	Berlin - Brandenburg	Germany

Industry		Global
Industry	Dusseldorf	Germany
Industry	Athens - Capital region	Greece
Industry		Europe
Industry		Global
Industry		Global
Industry		Global
Industry		Italy
Industry		Global
Industry	Valencia	Spain
Industry	Dusseldorf	Germany
Industry	Orkanger	Norway
Industry	Tokio	Japan
Industry	Dublin	Ireland
Industry	Brussels - Capital region	Belgium
Industry	London	UK
NGO	Ottawa	Canada
NGO		Germany
Non-profit	London	UK
Non-profit		Global
Non-profit	Amsterdam	The Netherlands
Non-profit	Brussels - Capital region	Belgium
Non-profit		Europe
Policy office	Brussels - Capital region	Belgium
Policy office		Europe
Policy office		Europe
Policy office		Europe
Policy office	Brussels - Capital region	Belgium
Public Authority	East-Midlands Dublun	Ireland
Public Authority		Austria
Public Authority		Portugal
Public Authority	Andalusia	Spain
Public Authority	Lisbon	Portugal
Public Authority		Singapore
Public Authority		Norway
Public Authority	Wallonia	Belgium
Public Authority	Dublin	Ireland
Public Authority		The Netherlands
Public Authority		Sweden
Public Authority	Navarra	Spain
Think Tank		Global

University	Suceava county	Romania
University	Greater London	England
University	Western Australia	Australia
University	South Bačka District	Serbia
University	Gavle	Sweden
University	Zwolle	The Netherlands
University	Nairobi	Kenya
University	Rovaniemi	Finland
University	Athens - Capital region	Greece
University	Iasi	Romania
University	Prague	Czech
University	Bologna	Italy
University	Burgos	Spain
University	Covihla	Portugal
University	London	UK
University	Riga	Latvia
University	Zwolle	Netherlands
University	Aachen	Germany

- VTT efforts on replication have reached out to industries from different Finnish regions through participation in BIOTRANSFORM events organized by VTT and external events in which BIOTRANSFROM was presented, along with dedicated B2B meetings to present BIOTRANSFORM's tools in an effort to replicate our results in other EU regions.

Organisation type*	Region	Region interested in BIOTRANSFORM tools	Region introduced to BIOTRANSFROM tools
Municipality	Central Finland	X	X
Industrial organisation	Helsinki region	X	X
Finance	Helsinki region	X	X
Industry	Eastern Uusimaa	X	X
Industry	Central Ostrobothnia	X	
Industry	Helsinki region	X	X
Industry	Helsinki region	X	X
Municipality	Mikkeli region	X	X
Education and R&D	South-East Finland	X	X
Ministry	Helsinki region	X	X
Industry	Helsinki region	X	
Industry	Tampere region	X	
Ministry	Helsinki region	X	
Industry	Helsinki region	X	
Industry	Central Finland	X	X

Industry	Helsinki region	X	
Industry	Central Finland	X	
Industry	Central Finland	X	X
Industry	Central Finland	X	X
Industry	Satakunta	X	X
Education and R&D	Helsinki region	X	X
Industry	South-East Finland	X	X
Industry	South-East Finland	X	X

*Organization names have been removed for GDPR purposes.

- CluBE efforts on replication have reached out to industries, universities, regional representatives, NGO and other relevant stakeholders from different regions through participation in over 7 events for the case-study of Western Macedonia, along with dedicated B2B meetings to present BIOTRANSFORM's tools in an effort to replicate our results in other EU regions. The Austrian case-study of Northern Burgenland replication workshop is planned for April thus, relevant information is not currently available.

Organisation type*	Region	Region interested in BIOTRANSFORM tools	Region introduced to BIOTRANSFROM tools
Industry	GR –Western Macedonia	X	X
Waste management company	GR –Western Macedonia	X	
Industry	GR – Western Macedonia	X	
Region representative	GR - Peloponnese/Attica	X	X
Region representative	GR – Western Macedonia and Epirus	X	
Non-Profit SME Organisation	GR - Attica	X	X
Non-Governmental Organisation	GR - Thessaly	X	X
University	GR – Western Macedonia	X	X
University	GR - Thessaly	X	X
Region representative	GR - Arcadia		X
Region representative	GR - Attica		X
Region representative	GR - Thessaly		X
Region representatives	GR – Western Macedonia	X	
SME	GR – Western Macedonia	X	
Municipality member	GR – Western Macedonia	X	

Geotechnical chamber	GR – Western Macedonia	X	
Economical chamber	GR - Western Macedonia	X	
R&D	GR – Central Macedonia	X	
Non-Profit SME Organisation	GR – Western Macedonia	X	
Consultants' agency	GR – Western Macedonia	X	
Forestry management	GR – Western Macedonia	X	
Regional association of municipalities	GR – Western Macedonia	X	
Technical chamber	GR – Western Macedonia	X	
Public company	GR – All Greece	X	
Non-Governmental Organisation	GR – Western Macedonia	X	

*Organization names have been removed for GDPR purposes.

- CLIB has reached out to industries and clusters from different regions through dedicated B2B meetings to present BIOTRANSFORM's tools in an effort to replicate our results in other EU regions. Additionally, a replicator workshop event will be organized in late April and thus, relevant data is not available at this point.

Organisation type*	Region	Region interested in BIOTRANSFORM tools	Region introduced to BIOTRANSFROM tools
Innovation Campus	Limburg, Netherlands	x	x
Municipality	Limburg, Netherlands	x	x
Regional office	Limburg, Netherlands	x	x
University	Bavaria, Germany	x	x
Innovation Cluster	Lower Saxony, Germany	x	x
Open-access pilot/demo facility	Ghent, Belgium	x	x

*Organization names have been removed for GDPR purposes.

- HUB efforts on replication have reached out to industries from different regions through participation in 2 info-day events organized by them in spring 2023 2 local conferences where innovation (May 2024) and local challenges (March 2025) were discussed with local stakeholders. There HUB had the chance to share information related to the project. Additionally, several consultations with local experts, along with dedicated B2B meetings were held throughout the project to present BIOTRANSFORM's tools to inform the right people to replicate our results in other EU regions.

Organisation type*	Region	Region interested in BIOTRANSFORM tools	Region introduced to BIOTRANSFROM tools
Municipality	CZ - Charles Spa Region	X	X
Energy Management company	CZ - Charles Spa Region	X	X
Innovation Agency	CZ - Charles Spa Region	X	X
Rural – Agri	CZ - Moravian – Silesian Region	X	X
Chamber of Commerce	CZ – Moravia-Silesian Region	X	X
Research institute green tech	CZ - Prague	X	X
Food research institute	CZ - Prague	X	X
Policy makers & municipality	CZ - Prague	X	X
Technology university	CZ - Brno	X	X
Regional agriculture agency	Vysočina	X	X

*Organization names have been removed for GDPR purposes.

- CTA efforts on replication have reached out to key organisations from different Spanish regions through participation in a replication webinar organized on 20th March 2025, along with dedicated B2B meetings to present BIOTRANSFORM's tools in an effort to replicate our results in other EU regions.

Organisation type*	Region	Region interested in BIOTRANSFORM tools	Region introduced to BIOTRANSFROM tools
Private Company	Andalusia	X	X
Institute Research	Andalusia	X	X
Public Company	Andalusia	X	X
Private Company	Andalusia	X	X
Regional Government	Andalusia	X	X
Bioeconomy Hub	Catalonia	X	X
Public Administration	Catalonia	X	X
Technology Center	Galicia	X	X
Technology Center	Galicia	X	X
Technology Center	Murcia	X	X
Entrepreneurship Program	Basque country	X	X

*Organization names have been removed for GDPR purposes.

9. CONCLUSIONS

This final version of the BIOTRANSFORM Exploitation and Sustainability Plan describes the strategy and methodology employed in this respect within the framework of BIOTRANSFORM, while also providing an overview of its Background and project Key Exploitable Results. A dedicated methodology has been elaborated to facilitate the identification and management of BIOTRANSFORM's Key Exploitable Results by project partners under the supervision of the Exploitation Manager (Q-PLAN) throughout the project.

This Exploitation and Sustainability Plan of BIOTRANSFORM reflect the final project results along with their protection, ownership, access rights with the support of all partners, providing a more accurate outline of the main exploitable assets of the project, the main target groups of external stakeholders (e.g. prospective end-customers) and the potential benefits they stand to gain from BIOTRANSFORM's outcomes, the exploitation plans per asset, per partner and per groups of partners.

The EM is responsible for updating the Exploitation and Sustainability Plan. In collaboration with all partners, the EM have been monitoring the activities of the project as they have evolved in order to capture and assess any new results (not already identified), pave the way towards the exploitation of the identified KERs as well as to resolve any potential conflicts that may have risen along the way, with a view to jointly fostering smooth post-project exploitation of results in a sustainable manner.

ANNEX

Annex I - Background Identification / Modification Form

According to the Grant Agreement, Background is defined as "data, know-how or information (…) that is needed to implement the Action or exploit the results". Partners must identify and agree amongst them on the Background for the project. In this context, the purpose of this form is to identify: (i) any additional Background, on top of the Background already identified in the Consortium Agreement of the project along with its specific restrictions and/or conditions for implementation / exploitation; as well as (ii) the need to modify any previously identified Background along with its specific restrictions and/or conditions for implementation / exploitation.

< Insert title of Background >	
Owner(s)	Please specify the owner of the Background.
Description	Please elaborate here a brief description of the Background.

Specific restrictions and/or conditions for implementation	Please list here any restrictions and/or conditions for accessing and using the particular Background for the implementation of the project.
Specific restrictions and/or conditions for exploitation	Please list here any restrictions and/or conditions for accessing and using the particular Background for exploitation of project results.
Connected Key Exploitable Result(s)	Please list here any Key Exploitable Result(s) for which the Background is required in the context of implementation and/or exploitation.

Annex II - Exploitability Assessment and Planning Templates

a. Exploitability Assessment Template

(to be completed by the main partner responsible for each KER)

< Insert title of Key Exploitable Result >	
Brief description	Please enter here a brief description of the key exploitable result that further elaborates on the initial description included in the DoA.
Creators and relevant background (if applicable)	Please list here the partners that were principally involved in the development of the key exploitable result and, if possible, the way each one contributed to this end. If applicable, clearly state any background used in order to create the key exploitable result along with its owner.
Intended users and expected benefits	Please list here the main stakeholder groups that are expected to use the key exploitable result. This includes consortium partners as well as external stakeholders if applicable (such as SMEs, corporates, research institutes, public authorities, citizens, etc.). Briefly describe why each of the aforementioned groups is expected to use the key exploitable result, highlighting the benefits to be derived from its use.
Intended exploitation route(s)	Please list here they key exploitation route(s) (e.g. exploitation in future research projects, commercialization, open access dissemination, etc.) foreseen for the key exploitable result, highlighting how it will be provided to its target users (where they will find it, how they will access it, under what terms will they be able to use it, etc.).
IP protection measures	Please mention the measure selected to protect the key exploitable result as well as the rationale behind its selection (concisely).

b. Exploitation Plan per KER Template

(to be completed by main partner responsible for each KER)

Actions needed to make the key exploitable result ready for use			
Action	What?	By Whom?	When?
Intellectual property rights			
Development, testing and validation			
Ownership			
Dissemination			
…			

c. Exploitation Plan per Partner Template

(to be completed by each partner for the main KERs which they intend to use)

< Insert Partner Short Name >	**KER of main interest:** XXX, XXX and XXX
Please mention here the main key exploitable results that are of interest to your organisation in terms of exploitation beyond the end of the grant. Explain how they fit with your current work and/or future plans, describing how you plan on exploiting each one.	