



D5.4 Impact, exploitation and sustainability Strategy - update

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www.transition2bio.eu info@transition2bio.eu

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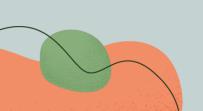
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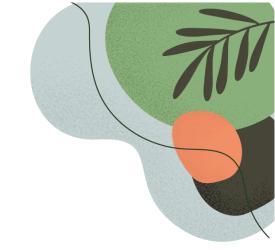
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Contributors

NAME	ORGANISATION
Konstantinos Giagtzoglou	Q-PLAN
Alexia Panagiota Lorentziadou	Q-PLAN
Susanna Albertini	FVA
Margit Hofer	ZSI
Jana Bielikova	PEDAL
Pietro Rigonat	LOBA
Chiara Pocaterra	APRE
Lily Teitelbaum	BIOCOM
Davide Viaggi	UNIBO

Peer Reviews

NAME	ORGANISATION
Susanna Albertini	FVA
Margit Hofer	ZSI
Jana Bielikova	PEDAL

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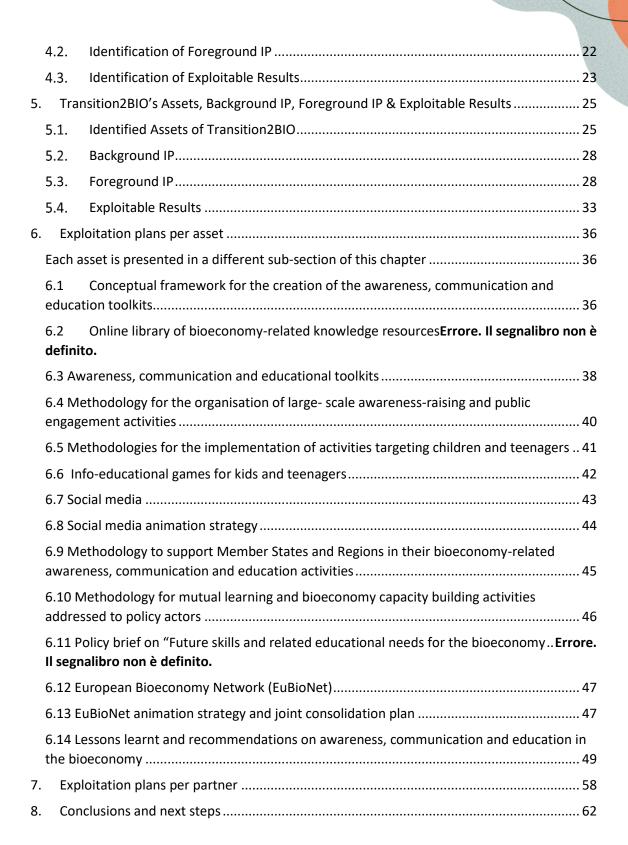
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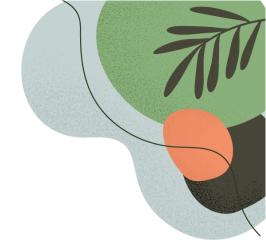


List of Terms and definitions

Table 1. Definitions

Abbreviation	Definition	Abbreviation	Definition
BG	Background	FG	Foreground
CA	Consortium Agreement	IP	Intellectual Property
EC	European Commission	Intellectual Property Rights	
EPC	European Patent Convention	TBD	To be determined
ER	Exploitable Results	WIPO	World Intellectual Property Organisation
EM	Exploitation Manager	WP	Work Package





Executive Summary

This report constitutes the deliverable 5.4 "Impact, exploitation and sustainability Strategy - update" of the 24-month Horizon 2020 Coordination and Support Action project Transition2BIO (GA 101000539).

Transition2BIO builds upon the most relevant communication and education EU funded projects and initiatives to contribute to the implementation of the updated 2018 EU Bioeconomy Strategy and promote the transition towards a more sustainable production, consumption and lifestyle. The project aims to implement an integrated package of communication, awareness-raising and educational activities addressing a wide range of target stakeholders, representing demand side, supply side, multipliers, and supportive environment.

The current report presents the final version of Transition2BIO's Impact, exploitation and sustainability Strategy, encompassing the project's Innovation and IPR Management Strategy. This document sheds light on the key terms and procedures pertaining to the management and protection of intellectual property, lays down the main components of the relevant methodology that was applied throughout the project (IPR Matrix methodology) and describes the final results of its implementation, in terms of Background IP, Foreground IP and Exploitable Results

Along these lines, an overview of Transition2BIO's assets is also presented, along with the partners' plans for their post-project exploitation. In particular, this report includes specific exploitation plans per each identified asset, including the target groups that stand to benefit from their use, as well as individual exploitation plans for each member of the Transition2BIO's consortium.





1. Introduction

Transition2BIO places great emphasis on managing the Intellectual Property Rights (IPR) of the partners' ideas and project results, as well as on mapping out the expected uses and benefits of each Transition2BIO asset, with a view to effectively paving the way for smooth exploitation and sustainability of its results, following its completion. With that in mind, the current document constitutes the final version of Transition2BIO's "Impact, exploitation and sustainability Strategy", that was implemented in the framework of Task 5.3 towards sound innovation management as well as towards exploitation and sustainability of the project's results after the end of the grant.

The document comprises 8 chapters, as follows:

- Chapter 1 provides introductory information about the context and the structure
- Chapter 2 clarifies the key terms pertaining to IPR management of the project, defines the underlying objectives and explains the main intellectual property protection instruments
- Chapter 3 outlines the IPR management strategy and its underlying stages in the context of Transition2BIO and describes the methodology that was followed in this respect
- Chapter 4 introduces the IPR Matrix and explains the procedures followed in order to identify the Transition2BIO background and foreground IPs as well as the project's exploitable results
- Chapter 5 offers an overview of the project's assets that were co-created during the project, the background and foreground IP from all project partners and the project's exploitable results
- Chapter 6 describes the exploitation plans per project asset, including actions that are foreseen as necessary in order for the assets to achieve their desired impact
- Chapter 7 outlines the individual exploitation plan for each of the members of the Transition2BIO consortium
- Chapter 8 encompasses the conclusions of the current document.





2. IPR Management Overview

The following subsections describe the objectives of the IPR management strategy as well as clarify the main terms concerning the key elements of IPR management, which represent the principal aspects of the IPR management procedures of the project.

2.1. Objectives

Transition2BIO's IPR management objectives embrace the need to protect project's assets in order to handle and manage efficiently all the outcomes that stem during the project's life span with a view to ensure the exploitation of the Transition2BIO assets, along with their proper dissemination. To this end, the main objectives of the Transition2BIO's Innovation and IPR Management Strategy are the following:

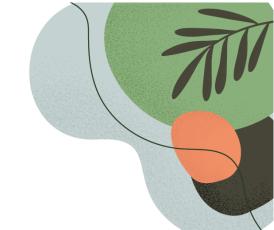
- Describe the IPR management methodology implemented within the context of Transition2BIO.
- Identify the assets that emerge from the activities foreseen within the lifecycle of the project thus, determining an assets' portfolio.
- Develop a common understanding among the Transition2BIO's partners, concerning terms and issues of the background and foreground IPs and respective access rights.
- Conceptualise a framework of the IP protection that will be employed in each identified exploitable asset of Transition2BIO.
- Define and eventually dissolve any possible conflicts in IPs within the consortium and beyond.
- Establish common guiding routes and actions within the consortium to safeguard the smooth operation of the IPR strategies.

In general, the key concepts to consider for designing the Innovation and IPR management strategy of H2020 projects are the following:

- Background IP knowledge
- Foreground IP knowledge
- Exploitable results
- Dissemination channels
- Access rights

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. Background

Background IP can be defined as data, know-how or information – including any rights - owned or licensed to a project partner prior to the commencement of the agreement and needed to implement the action or exploit the project's assets¹. The background needed for carrying out the project activities must be accessible to the other project partners on a royalty-free basis. Under this frame, all project partners must identify the background that is pertinent for the project actions and grant access rights to this IP, in principle². The background of a project can be identified and agreed (i) within the consortium agreement, after the internal evaluation of pre-existing knowledge, or (ii) in a separate agreement ("agreement on the background"). In this respect, there are two main aspects to consider when dealing with the background of a project³:

- Identification of background: Naming of the assets that each project partner provides to the
 consortium and which are imperative for successful implementation and exploitation of the
 project actions.
- Definition of Access Rights: Clarification of the rights to use knowledge under the terms and conditions agreed within the consortium and in alignment with the underlying background rules and obligations set by the EC in order to ensure the smooth implementation of the project.

2.3. Foreground

Foreground refers to the results and assets that are generated through the implementation of the project activities, including pieces of information, materials, and knowledge⁴. These results comprise any tangible or intangible output of the project's actions which can be protectable or not. In this respect, foreground IP can arise and be obtained from project partners in order to protect and exploit the underlying exploitable assets of the project. It includes intellectual property rights (e.g., copyrights, industrial designs, patents), similar forms of protection (e.g., rights for databases) and unprotected know-how (e.g., confidential material). It should be noted that results generated outside the project activities cannot be defined as foreground.

The Grant Agreement of Transition2BIO establishes that the results of the project are owned by the project partner who generates them⁵. 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 and is subject to the agreement on the allocation and terms of

¹ See Article 24.1 of the Transition2BIO Grant Agreement.

² See Attachment 1 in the Consortium Agreement for a detailed description of the Transition2BIO background and the access rights granted in principle for the consortium.

³ See http://www.iprhelpdesk.eu/sites/default/files/newsdocuments/Fact-Sheet-Background-in-H2020.pdf.

⁴ For the detailed definition of the Foreground see: https://iprhelpdesk.eu/glossary/foreground

⁵ See Article 26.1 of the Transition2BIO Grant Agreement.





the exercise of their joint ownership. Each joint owner can grant non-exclusive licenses to third parties to exploit the jointly owned results unless otherwise agreed in the CA or the joint ownership agreement.

2.4 Exploitable Results

Exploitation of project's results means the utilisation of results in further research activities other than those covered by the action concerned, or in developing, creating and marketing a product or process, or in creating and providing a service, or in standardisation activities⁶. Under this scheme, an exploitable result constitutes a result of the project that meets the following two conditions:

- Has commercial/ social/ academic relevance;
- Can be commercialised/ exploited as a standalone result (product, process, service, etc.)⁷.

Therefore, exploitable results can be a combination or part of a foreground result. Not all foreground items may meet the above conditions⁸.

2.5 Access Rights

Access rights refer to user rights for requesting access to a project partner's background and foreground in order to implement its activities under the project or to use its own results. In addition, access rights can be utilized as long as they are needed for exploiting the project's results and assets. The granting of access rights within a collaborative H2020 project follows specific rules pre-defined in the Grant Agreement⁹ and the Consortium Agreement¹⁰. Depending on their purpose of use, access rights within Transition2BIO can be depicted in the following table.

Table 2. Access Rights

Purpose for Access	Access to Background (Article 25 of Transition2BIO's GA)	Access to Results (Article 31 of Transition2BIO's GA)
Project Implementation	 Royalty-free Unless otherwise agreed before accession to the GA 	Royalty-free

⁶ https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/support/glossary.

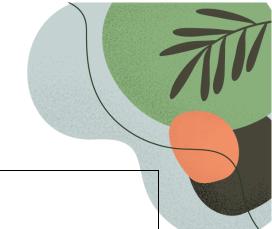
⁷ A patent for licensing is also an exploitable result.

⁸ See European Commission, Dissemination and Exploitation in H2020: http://ec.europa.eu/research/participants/data/ref/h2020/other/events/2017-03-01/8 result-dissemination-exploitation.pdf.

⁹ See Article 25 and Article 31 of the Transition2BIO Grant Agreement.

¹⁰ See Section 9 of the Transition2BIO Consortium Agreement.





Exploitation of Own Results

- Subject on individual agreement
- Granted under fair and reasonable conditions

2.6 Protection of Results

When considering IP protection, it must be noted that IP assets 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.

There are various types of instruments that may be considered for protecting IP. Under the frame of Transition2BIO, meaningful IP protection instruments that can be used are the following:

- Trade and service marks;
- Patents;
- Utility models;
- Copyrights;
- Trade secrets;
- Confidentiality agreements.

Further details with respect to each of the above-mentioned protection instruments are provided in the subsections below.

Trademarks

A trade mark constitutes an exclusive right over the use of a sign in relation to the goods and services for which it is registered¹¹. Trade marks consist of signs capable of distinguishing the products (either goods or services) of a trader from those of others. The main function of a trademark is to identify the commercial origin of a product. This does not mean that it must inform the consumer of the actual person who has manufactured the product or even the one who is trading in it. It is sufficient that the consumer can trust in a given enterprise, not necessarily known to him, being responsible for the product sold under the trademark.

Service Marks

In modern trade, consumers are confronted not only with a vast choice of goods of all kinds but also with an increasing variety of services which tend more and more to be offered on a national and even international scale. There is therefore also a need for signs that enable the consumers

 $^{^{11}}$ See $\underline{\text{https://iprhelpdesk.eu/sites/default/files/2018-12/european-ipr-helpdesk-your-guide-to-ip-ineurope.pdf}$ for the definition of trade mark in Europe.





to distinguish between the different services such as insurance companies, car rental firms, airlines, etc.

These signs are called service marks and fulfil essentially the same origin-indicating and distinguishing function for services as trademarks do for goods. Since service marks are signs that are very similar in nature to trademarks, basically the same criteria can be applied. Thus, service mark protection has sometimes been introduced by a very short amendment to the existing trademark law, simply providing for the application to service marks of the provisions on the protection of trademarks¹².

Patents

A patent is an exclusive right granted for the protection of inventions (products or processes) offering a new technical solution or facilitating a new way of doing something. The patent holder enjoys the exclusive right to prevent third parties from commercially exploiting their invention for a limited period. In return, the patent holder must disclose the invention to the public in the patent application¹³.

A patent does not give its owner the positive right to use the patented invention. Third party rights may have to be requested. Still, a patent owner has the right to decide who may or may not use the patented invention throughout the period during which the invention is protected. Moreover, the patent owner may give permission to other parties, or license them, to use the invention on mutually agreed terms. The owner may also sell the right to the invention to someone, who then becomes the new owner of the patent. Finally, patents are granted only country by country, some regionally, and may also be used in non-patented territories.

Once a patent expires, the protection ends, and the invention becomes part of the public domain, in the sense that the owner no longer holds exclusive rights in it, and it becomes available for commercial exploitation, free of charge, by others¹⁴.

Utility Models

Also referred to as a "petty patent", a utility model is an exclusive right granted for an invention, which allows its owner to prevent others from commercially using the protected invention, without their authorisation, for a limited period¹⁵. The inclusion of utility models into the intellectual property system in some countries has the primary objective of nurturing the rapid

¹² See WIPO Intellectual Property Handbook 2008: Policy, Law and Use. Chapter 2: Fields of Intellectual Property Protection, p. 68.

¹³ Definition of patents in the European context retrieved from https://iprhelpdesk.eu/sites/default/files/2018-12/european-ipr-helpdesk-your-guide-to-ip-in-europe.pdf.

¹⁴ See WIPO Intellectual Property Handbook 2008: Policy, Law and Use. Chapter 2: Fields of Intellectual Property Protection, p. 17.

¹⁵ Definition of utility models in the European context retrieved from https://iprhelpdesk.eu/sites/default/files/2018-12/european-ipr-helpdesk-your-guide-to-ip-in-europe.pdf.





evolution of indigenous innovativeness, particularly in small and medium-sized enterprises and among individuals¹⁶.

Copyrights

Copyright (or author's right) is the term used to describe the rights that creators have over their literary, scientific and artistic works. There is not an exhaustive list containing the works that can be protected by copyright. However, there are several works usually covered by copyright at international level¹⁷:

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

Copyright protection also includes moral rights, including the right to claim authorship of a work, and the right to oppose changes to it that could harm the creator's reputation. The creator - or the owner of the copyright in a work - can enforce rights administratively and in the courts, by inspection of premises for evidence of production or possession of illegally made "pirated" goods related to protecting works. The owner may obtain court orders to stop such activities, as well as seek damages for loss of financial rewards and recognition. Finally, it is important to note that copyright only protects the expression of ideas represented in a physical embodiment, not the ideas themselves, and provided the expression is original¹⁸.

Trade Secrets

Any confidential business information providing a competitive advantage to an enterprise can be considered a trade secret. The type of information that can be protected as a trade secret is therefore highly diverse. It can include know-how, technical knowledge (potentially protectable

¹⁶ See WIPO Intellectual Property Handbook 2008: Policy, Law and Use. Chapter 2: Fields of Intellectual Property Protection, p. 40.

¹⁷ Definition of copyrights in the European context retrieved from https://iprhelpdesk.eu/sites/default/files/2018-12/european-ipr-helpdesk-your-guide-to-ip-in-europe.pdf.

¹⁸ See WIPO Intellectual Property Handbook 2008: Policy, Law and Use. Chapter 2: Fields of Intellectual Property Protection, p. 40.





as a patent), but also business and commercial data such as lists of customers, business plans, recipes or manufacturing processes¹⁹.

Confidentiality Agreements

Confidentiality is an extremely important issue for participants in innovation projects, from the setting-up to the implementation and exploitation phases. Exchanging valuable information with other partners is generally a necessity that regularly occurs in collaborative initiatives or undertakings. Accordingly, confidentiality issues and measures should be taken into consideration in order to safely exchange information, facilitating the project development and ensuring the non-disclosure of sensitive technology, business or commercially confidential information. Confidentiality agreements provide protection and more security to an organisation that is about to share or make available information to another organisation by ensuring that confidential information will be used only for the permitted purposes agreed between the signatories of the agreement and will not be used or revealed to third parties without consent. Therefore, the signature of a confidentiality agreement can be seen as a very important step to keep confidential information secret in order to maintain a competitive edge²⁰.

¹⁹Definition of trade secrets in the European context retrieved from https://iprhelpdesk.eu/sites/default/files/2018-12/european-ipr-helpdesk-your-guide-to-ip-in-europe.pdf.

²⁰ See Chapter Non-Disclosure Agreement of European IPR Helpdesk.





3. IPR Management Strategy

Under the frame of Transition2BIO, key IP and innovation management have been employed, with a view to setting a common understanding concerning the background, foreground, ownership (including joint ownership), access and usage rights, dissemination and exploitation during and after the project development. In this respect, the Transition2BIO IPR management strategy applies a comprehensive framework which separates the IP management processes of the project in the following stages:

- Grant Agreement preparation stage;
- Project implementation stage;
- Post-project stage.

In this respect, the following figure illustrates the IPR management stages, as considered within Transition2BIO. More details about these stages are presented in the sub-sections that follow.

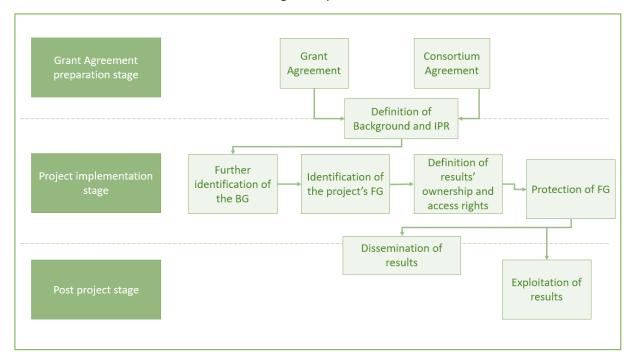


Figure 1: Transition2BIO IPR Management Stages

3.1. Grant Agreement preparation stage

Both the Grant Agreement and the Consortium Agreement constitute documents which include a description of several issues related to IPR. Their unique provisions represent a reference point for IPR issues within the project partners. In this respect, any further advancements regarding IPR actions put in place by project partners were facilitated under the underlying provisions.





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 EC and the Transition2BIO partners. It represents the main contractual basis for Transition2BIO while its main points and sections referring to IPR are included in Section 3 "Rights and obligations related to Background and Results" Under this scheme, the management of the Transition2BIO IP is regulated, whereas access rights and obligations related to the background are set. In addition, the GA defines issues concerning the ownership and 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 Transition2BIO GA.

3.1.2 Consortium Agreement

The Consortium Agreement constitutes a contract among the partners of Transition2BIO consortium which aims to define rights and obligations within the partnership for the purposes of carrying out the project's foreseen actions and activities²². 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 Transition2BIO 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.

3.2 Project implementation stage

During the implementation stage of the project, IP handling procedures were applied among the Transition2BIO partners in order to properly organise results/ assets management of the project. In this respect, as the project evolved, the focus was shifted on foreground identification, assets' ownership, access rights, and protection, as well as the exploitation of the project's results. The Transition2BIO IPR management emphasises on establishing robust handling procedures of the IPR issues that are of strategic importance to the project in order to facilitate exploitation of its results.

²¹ In particular, see Articles 23a – 31 of the Transition2BIO Grant Agreement.

²² See IPR helpdesk for the definition of Consortium Agreement.





In this respect, key IP related issues in the Transition2BIO implementation phase include:

3.2.1 Background identification

During the project, it is imperative to identify the relevant knowledge, know-how, and data of partners, complementary to those outlined in the consortium agreement, which constitute the background of the project. Under this framework, the underlying background can be attached to the generated assets of the project, which, eventually, help the determination of access rights, ownership issues and IPR.

3.2.2 Foreground identification

A core process of the Transition2BIO IP management is the project assets' identification with a view to creating a concrete mapping of the project's assets and enhancing the Transition2BIO IP portfolio. Therefore, all IP valuable assets within the project were identified, listed, named, described and analysed in a systematic way.

3.2.3 Results' ownership

Partners were asked (through the Transition2BIO IPR Matrix – See Section 4) to elaborate further on the provisions of the CA with regards to results' ownership. Special attention must be paid on handling joint ownership issues. One option would be to link the main assets of the project with the tasks within which they were developed, so that contributing partners of each asset can be preliminarily easily identified.

3.2.4 Protection of results

Effective exploitation of the innovative concepts and assets developed under the frame of Transition2BIO depends on the protection of the project's results. In particular, the project's results must adequately be protected if²³:

- The project's results can reasonably be expected to be commercially exploited and;
- Protecting them is possible, reasonable and justified (given the circumstances).

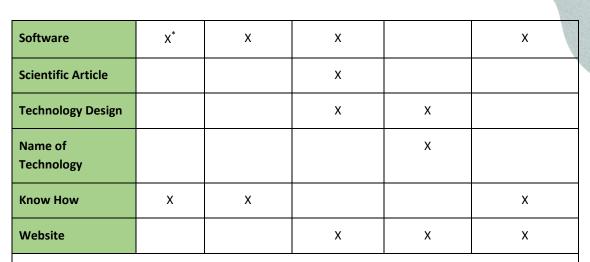
In this respect, when considering IP protection Transition2BIO partners must consider their own interests along with the interests of the whole consortium. Project partners must safeguard the identified exploitable Transition2BIO results with adequate protection schemes, which will offer a decent protection period within a suitable geographical territory. The table that follows, illustrates the different protection instruments that can be applied to a variety of subjects.

Table 3. Protection Instruments of Results

Subject Matter	Patent	Utility Model	Copyright	Trade Mark	Confidential Information
Invention	Х	х			Х

²³ See https://ec.europa.eu/easme/sites/easme-site/files/ip in h2020 european ipr helpdeskmd09112017.pdf.





^{*}Software patentability is still a debated issue given its exclusion as subject matter as by Article 52(2)(c) and (3) of the European Patent Convention (EPC). Source: IPR Helpdesk.

3.2.5 Exploitation of results

The identified exploitable results and assets of Transition2BIO will be effectively exploited for any relevant use as foreseen within the Transition2BIO GA²⁴. In particular, the Transition2BIO consortium has sought exploitation opportunities of the project's results in (i) further research activities, (ii) developing, creating or marketing a product or process and (iii) creating and providing a service

3.2.6 Dissemination of results

Transition2BIO partners have identified the appropriate means for dissemination of project results (e.g., publication on web sites, conferences, etc.), according to the conditions set forth in the CA²⁵. When assets are disseminated by means of publications, they will be deposited according to the <u>"Guidelines on Open Access to Scientific Publications and Research Data in Horizon 2020"</u>.

3.3 Post Project Stage

This deliverable describes the activities that were implemented in order to ensure the use and sustainability of Transition2BIO results. In addition, it includes the final findings concerning IP issues, as well as the final update of the IPR Matrix (See Section 4), detailing the intellectual property rights applied and registered. This deliverable, therefore, encompasses the final strategy for exploitation, management of intellectual property rights and sustainability after project end.

²⁴ See Article 28.1 of the Transition2BIO Grant Agreement.

²⁵ See Section 8.4 of the Transition2BIO Consortium Agreement.





3.4 Role of the Exploitation Manager

The Exploitation Manager (EM) is responsible for defining the project's Innovation and IPR Management Strategy, preparing the respective reports and ensuring that innovative ideas which arise during the project are thoroughly examined and assessed for potential exploitation, while at the same time all background and foreground intellectual property of the project is managed.

3.5 Knowledge Management of the Project

The management of the IP constitutes an integral part of the overall Transition2BIO project management structure and thus it is important to establish a permanent IP monitoring scheme during the project. In this respect, an efficient IPR management methodology was defined from the early stages of the project documenting the procedures under which the identified results would be handled within the lifespan of Transition2BIO. To facilitate this process, the Transition2BIO IPR management strategy foresaw creating and updating a living IPR Matrix (See section 4) to be revised and extended with new pieces of project results as the project's implementation advanced.

3.6 IP Conflicts

In order to proactively avoid IP conflicts, project partners were informed about IP rules and guided through the exploitation process not only via the IPR Matrix but also through the help of the Exploitation Manager. In this respect, project partners identified their IPR assets and formulated their ownership and exploitation claims The Exploitation Manager was available to provide assistance for the following indicative (and not exclusive) issues:

- Is there a possible misunderstanding about the definition of the exploitable result and therefore of the object of claims?
- Are there exploitation claims that should be further specified so that the partners can check the compatibility of their claims?
- Are the foreseen exploitation claims compatible with the ownership claims of the partners (related issue of access rights)?
- Are there any confidentiality issues e.g., on new knowledge of strategic importance for a partner and consequently the need for a confidential agreement?
- Are there any possible IP conflicts between the partners, both related to ownership and the related need for access rights and to exploitation claims?





4. IPR Matrix Methodology

The Transition2BIO IPR management approach foresaw the utilisation of an IPR Matrix in order to define the main IPR issues concerning the Transition2BIO Innovation and IPR Management Strategy. This approach supported all project partners in identifying and managing the background, foreground knowledge and exploitable results of the project, and also of potential co-innovators, in order to have a full overview about IP protection and necessary agreements to enable successful exploitation of the project's offerings. The IPR Matrix methodology is comprised of 4 distinct but interconnected steps, as follows:

- Step 1: Identification of the background IP and definition of access rights among partners within the project.
- Step 2: Identification of the assets and results, which constitute the foreground IP of the project and are generated under the Transition2BIO activities.
- Step 3: Identification of the project's exploitable results/assets and the corresponding interest for their further exploitation along with the contributing partners to each result.
- Step 4: Definition of a framework of IPR protection for the identified Transition2BIO assets, to enhance their further exploitation.

Under this framework, the structure of the IPR Matrix is summarised below.

Table 4. Structure of the IPR Matrix

Background (BG)	Foreground (FG)	Exploitable results (ER)
 BG# Partner's Background Contributing Partner Short Description of BG Type of Protection Conditions to Use within Transition2BIO Conditions to use outside Transition2BIO Interest in further exploitation through Transition2BIO results 	 FG# Project Result Related WP Contributing Partners Short Description of FG Related BG# Type of Protection Conditions to Use within Transition2BIO Interest in further exploitation of Project Results Conditions to use after the end of the Project 	 ER# Exploitable result Main partner Further contributing partner(s) Related FG# Related BG# Proposition for the ERowner Short description of the ER Relevance for IP Protection Exploitation claims Expl. Routes and action plan





4.1. Identification of Background IP

In the first part of the IPR Matrix, the background IP is identified, as illustrated in the following table.

#	Relevant Background	Contributing Partner	BG number	Short description of BG	Type of protection	Conditions to use within Transition2BIO	Conditions to use outside Transition2BIO	Interest in further exploitation through Transition2.BIO results	Remarks
						1			
						Î			
						1			
						1			
						Î I			
						i			

Figure 2. IPR Matrix Background

In the 2nd column of this part of the IPR Matrix, the project background assets are listed. In the 3rd column, the name of the partner who owns this background is indicated. For each identified background required for the creation of the result, a specific background number per partner shall be assigned. In column 4, the corresponding background number shall be indicated while column 5 should include a short description of the background. In column 6, partners shall indicate relevant IP protection types for the background in terms of patents, copyright, etc. In the 7th column, the conditions to use the background within the project (e.g., free to use or subject to charges, etc.) shall be indicated by each partner, whether there are any restrictions to use the background or not. In the 8th column, the background's condition to use outside Transition2BIO is indicated while in the last column partners shall mention if they have any interest in exploitation/ commercialisation of the relevant background through the project results.

4.2. Identification of Foreground IP

In the second part of the IPR Matrix, the foreground IP of the project is registered, as presented in the following table.

W	/p	Project result (PR)/Achievement	Specific project result	Main	Contributin g partner(s)	Short description of FG	FG number	Type of protection	Conditions to use within Transition2BIO	Insert in Further Commercialisation of further results	Conditions to use after the end of project

Figure 3. IPR Matrix Foreground

In the first four columns, the Transition2BIO results, along with the corresponding WP, are listed. In the 5th column, the main partner responsible for the foreground shall be indicated. In the 6th column, the further contributing partners for the foreground knowledge shall be indicated as





well. In the 7th column, the related background number is attached to the underlying FG. In the 8th column, a short text describing the identified FG shall be included by the responsible project partner or potential co-innovator. In the 9th column, an FG number shall be attached to each result per each contributing partner. In the 10th column, partners shall indicate the relevant IP protection type for the FG, in terms of patents, copyright, etc. In the next column, the conditions to use the FG within Transition2BIO (e.g., free to use or subject to charges, etc.) shall be indicated by each partner whether there are any restrictions to use the FG or not. In the 12th column, the project partners shall describe if they have an interest in commercialisation of the project result. Finally, in the last column, the conditions (e.g., free to use, license fee, etc.) to use after the end of the project shall be indicated by the project partners.

4.3. Identification of Exploitable Results

Based on the identified foreground IP, the Transition2BIO consortium defined the exploitable assets along with the underlying IPR management procedures, such as protection, the definition of access rights and exploitation pathways. At this step, the third part of the IPR Matrix is elaborated, which defines the Exploitable Results (ER), indicating also the main contributors for these results. The main aim of this part of the IPR Matrix is:

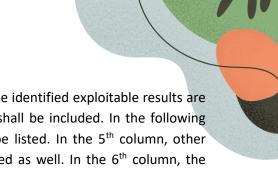
- to identify IP ownership and exploitation claims, as well as pro-actively indicate possible conflicts for each exploitable result; and
- to support decisions on issues pertaining to IP protection, in order to timely make the needed steps in this regard, including any potential IP agreements (e.g., for joint ownership, providing access rights or even an NDA for confidentiality).

With the above in mind, the following table provides an illustrative overview of this part of the IPR Matrix.

ER#	Exploitable Result	Short desciption of ER	Main partner(s)	Contributing Partner(s)	Related FG number	Related BG number	Potential IP protection	М	U	L	S	0	Most promising concerning M-U-L-S-O

Figure 4. IPR Matrix Exploitable results



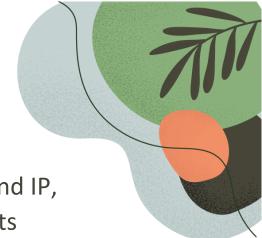


In the first two columns, the number and a short name of the identified exploitable results are listed. In the 3rd column, a short text of the identified ER shall be included. In the following column, the main partner(s) responsible for the ER shall be listed. In the 5th column, other relevant contributing partner(s) for the ER shall be indicated as well. In the 6th column, the related FG number shall be indicated, whereas in the 7th column the relevant background number shall be stated. In the 8th column, a proposition of the IP ownership of the ER shall be indicated by the main partner contributing to the creation of the ER. In the next column, the responsible partner shall indicate the relevance for possible IP protection. In the next 5 columns, the exploitation claims are divided into five different categories:

- M: Making a product and selling it.
- U: Using the project result internally for further development, for instance:
 - o to develop something else for sale; or
 - o for R&D departments (public or private) to use the results in new research projects.
- L: Licensing the project result to third parties.
- S: Providing a Service, such as consultancy, etc.
- O: Others

The responsible partner for the ER shall choose which exploitation paths are appropriate in consultation with the contributing partners, the Project Coordinator and the Exploitation Manager. Finally, in the last column, the responsible partner shall indicate which exploitation claim would be the most promising.





5. Transition2BIO's Assets, Background IP, Foreground IP & Exploitable Results

5.1. Identified Assets of Transition2BIO

The main assets of Transition2BIO, as identified by the consortium, along with their description are presented in the table that follows.

Table 5. The Transition2BIO's main assets

Title	Brief description	Main partner leading the asset
Conceptual framework for the creation of the awareness, communication and education toolkits	The Framework is a set of recommendations about the most suitable channels (HOW), messages (WHAT FOR) and contents, tools and activities (WHAT) to address the different stakeholders' needs (WHO).	UNIBO
Transition2BIO Library	A one-stop online source of available knowledge and awareness, communication and education material and tools integrated in the Transition2BIO web portal.	LOBA
6 Awareness, communication and education Toolkits	Bioeconomy awareness, education and communication toolkit tailored to the specific needs of citizens, teachers, students, communicators, policy makers and business.	BIOCOM
Methodologies for the organisation of large-scale events	Methodologies for the organization of large-scale public engagement events with a view to increasing the citizens' knowledge and awareness of the potential benefits of all bioeconomy sectors.	PEDAL
Methodologies for the organisation of Hands-on Labs for kids	Methodologies for the organization of Hands-on Labs for kids to raise awareness and facilitate the understanding of the bioeconomy, informing children and educating them about all bioeconomy areas through touching, feeling, smelling and exploring the bioeconomy.	BIOCOM APRE



		100
Material for teachers' training in bioeconomy education	Material stemming from the teachers' trainings aiming to build the capacity of teachers to communicate and stimulate the children's interest in the bioeconomy and to integrate bioeconomy in the school curriculum.	ZSI APRE
Methodologies for the organisation of bioeconomy school competitions	Methodologies for the organisation of bioeconomy school competitions to motivate and inspire school classes, science clubs, teams and individuals to apply with ideas/projects in the bioeconomy sector and win prizes to further familiarize them with bioeconomy.	ZSI APRE
Methodologies for the deployment of bioeconomy awareness raising activities on social media	A connected strategy and methodology for the different social networks (Instagram, Facebook, Twitter and LinkedIn), disseminating relevant content on all channels through gamified approaches that help raise awareness as well as collect consumer perceptions and ideas.	FVA
Online gamified version of the book "What is Bioeconomy"	An online gamified version of the book "What is bioeconomy" with mini-games, quiz, gamified call-foraction tools on bioeconomy, targeting from primary school to young adults available in 11 languages. (https://bb4k.fvaweb.eu/index.html)	FVA
Transition2BIO Memory game	A memory game for young children, stimulating the interest and providing information on different uses of biological resources and biomass.	LOBA
BioWHAT, BioHOW, BioACT methodological approach	A methodological approach to organize the awareness, communication and stakeholder engagement activities	FVA, APRE
Social media channels @BIOVOICES	BIOVOICES social media channels with related followers and contents	FVA
Transition2BIO capacity building package (EN)	A capacity-building programme for educating Member States and Regions, as well as other national and regional stakeholders in the implementation of awareness and communication activities for the deployment of their Bioeconomy Strategies.	APRE, FVA
Transition2BIO capacity building package (IT)	A capacity-building programme for educating Member States and Regions, as well as other national and regional stakeholders in the implementation of	APRE, FVA



	awareness and communication activities for the deployment of their Bioeconomy Strategies.	
Methodologies for organising and implementing the Transition2BIO Mobilisation and Mutual Learning Workshops	Methodologies to achieve fruitful debate, mutual learning, good practices exchange and collaboration on challenges related to awareness raising, communication and education among national, regional and local policy actors.	Q-PLAN
Methodology for organising the "Future skills for Bioeconomy" co-creation workshops	A methodology for designing and implementing co- creation workshops, aiming at involving Quadruple Helix stakeholders to identify what are the future skills needed for each Bioeconomy sector.	UNIBO
Policy brief "Future skills for Bioeconomy"	A policy brief report based upon the outcomes of the (5) co-creation workshops which documenting and reflecting on the future skills for bioeconomy.	UNIBO
Methodology for maximizing the collaboration among projects and initiatives: the European Bioeconomy Network experience	A methodology for increasing EuBioNet's impact in all member states, facilitating the collaboration, mobilisation and mutual learning among the majority of EU-funded projects in the bioeconomy thus maximising knowledge sharing and the impact of project activities.	FVA
"EuBioNet" website, knowledge and partnership	Network of 125 projects and Initiatives promoting the bioeconomy, DB of projects and contact	FVA
Innovative formats developed as "EuBioNet"	2 innovative formats developed under Transition2Bio, namely "Projects2Projects" and "Projects2Policy"	FVA
Transition2BIO brand and community	The Transition2BIO brand and community created and enhanced throughout the duration of the project facilitating the dissemination and exploitation of the project's assets after its completion.	LOBA
Transition2BIO lessons learnt and recommendations	A set of concrete recommendations stemming from the outcomes of the project, highlighting key experiences and lessons learnt throughout its duration.	APRE



5.2. Background IP

#	Relevant Background	Contrib. Partner	BG number	Short description of BG	Type of protection	Conditions to use within Transition2BIO	Conditions to use outside Transition2BIO	Interest in further exploitation through Transition2BIO's results	Remarks
1	Data contained in the APRE database 'EURINDPRO'	APRE	BG 2.1	Data contained in the APRE database 'EURINDPRO'		No access rights	No access rights		
2	Data contained in the APRE mailing list	APRE	BG 2.2	Data contained in the APRE mailing list		No access rights	No access rights		
3	"European Bioeconomy Network" database and mailing lists	FVA	BG 4.1	"European Bioeconomy Network" database and mailing lists		Will be used for project's activities by FVA, but will not be shared among partners	Will be used for project's activities by FVA, but will not be subject of exploitation by the consortium		
4	"European Bioeconomy Network" website, knowledge and partnership	FVA	BG 4.2	"European Bioeconomy Network" website, knowledge and partnership		Will be used for project's activities by FVA	Will be used for project's activities by FVA		
5	@biovoices social media channels	FVA	BG 2.3	@biovoices social media channels		Will be used for project's activities by FVA	Will be used for project's activities by FVA		
6	Book "What is Bioeconomy?"	APRE, FVA, PEDAI, LOBA, Q- PLAN	BG 2.4	A book for kids written for children aged 5-8 in order to raise awareness of the sustainable and circular bioeconomy, and bio-based products in particular. Available in 11 languages, the book communicates scientifically sound contents in an easy and comprehensive way to children and their families	Copyright	In accordance with regulations for copyrighted work	To be used in accordance with regulations for copyrighted work for partners UNIBO, BIOCOM, ZSI. To be used according to the regulations of article 8.1 – Joint ownership of the Consortium Agreement of BIOVOICES for APRE, FVA, PEDAI, LOBA, Q-PLAN	Yes	



5.3. Foreground IP

W P	#	Project result (PR)	Specific project result	Main Partner	Contrib. partner	BG	Short description	FG	IP Protection	Conditions to use within T2BIO	Interest in Further Commercial isation	Conditions to use after the end of project
1	1	Conceptual framework the awareness, commu education toolkits		I I I I I I I I I I I I I I I I I I I						Free to use within the project	No	Free to use
1	2	Transition2BIO resource	es Library	LOBA	ALL PARTNERS		An one-stop online source of available knowledge and awareness, communication and education material and tools integrated in the Transition2BIO web portal.	FG 1.2	Copyright	Free to use within the project	No	Payment of yearly hosting costs
1	3	Awareness, communication and education toolkits ALL PARTNERS A bioeconomy awareness, education and communication toolkit tailored to the specific needs of different stakeholders such as citizens, teachers, students, communicators, policy makers, business					FG 1.3	Copyright	Free to use within the project	No	Free to use	
2	1		Methodologies for the organisation of large scale events	PEDAL	ALL PARTNERS		A methodology for the organisation of large-scale public engagement events with a view to increasing the citizens' knowledge and awareness of the potential benefits of all bioeconomy sectors.	FG 2.1	Copyright	Free to use within the project	No	Free to use
2	2	Methodologies for public engagement and awareness raising activities Methodologies for the organisation of Hands-on Labs for kids to raise awareness and facilitate the understanding of the bioeconomy, informing children and educating them about all bioeconomy areas through touching, feeling, smelling and exploring the bioeconomy.		FG 2.2	Copyright	Free to use within the project	No	Free to use				
2	3		Material produced for teachers' training in bioeconomy education	ZSI, APRE	ALL PARTNERS		A methodology for the organisation of teachers' trainings aiming to build the capacity of teachers to communicate and stimulate the children's interest in the bioeconomy and to integrate bioeconomy in the school curriculum. Free to use within the project				No	Free to use



	W P	#	Project result (PR)	Specific project result	Main Partner	Contrib. partner	BG	Short description	FG	IP Protection	Conditions to use within T2BIO	Interest in Further Commercial isation	Conditions to use after the end of project
	2	4		Methodolgies for the organisation of bioeconomy school competitions	ZSI FVA APRE	ALL PARTNERS	A methodology for the organisation of bioeconomy school competitions to motivate and inspire school classes, science clubs, teams and individuals to apply with ideas/projects in the bioeconomy sector and win prizes to further familiarise them with bioeconomy. Free to use within the project		within the	No	Free to use		
,	2	5		Methodologies for the deployment of bioeconomy awaresess raising activities on social media Methodologies for the different social networks (Instagram, Facebook, Twitter and LinkedIn), disseminating relevant content on all channels through gamified approaches that help raise awareness as well as collect consumer perceptions and ideas.			No	Free to use					
	2	6	Info-educational games	Online gamified version of the book "What is Bioeconomy"	FVA	ALL PARTNERS		An online gamified version of the book "What is bioeconomy" with mini-games, quiz, gamified call-foraction tools on bioeconomy, targeting from primary school to young adults available in 11 languages. (https://bb4k.fvaweb.eu/index.html)	FG 2.6	Copyright	Free to use within the project	No	Free to use
	2	7	Info-educational games	Transition2BIO Memory game	LOBA	ALL PARTNERS		A memory game for young children, stimulating the interest and providing information on different uses of biological resources and biomass.	FG 2.7	Copyright	Free to use within the project	No	Free to use
	2	8	social media channels @BIOVOICES	BIOVOICES social media channels with related followers and contents	FVA	ALL PARTNERS	BG 2.3	BIOVOICES social media channels with around 10.000 followers is animated by FVA under Transtion2Bio and will be exploited in the future in similar projects to inform the various target audiences about the bioeconomy and bio-based economy.	VA under Transtion2Bio and ure in similar projects to FG 2.9 audiences about the		Free to use within the project	yes	Service to be paid
	3		Methodologies for supporting the Member States and Regions in awarenss, communication &	Transition2BIO capacity building package (EN)	APRE, FVA	ALL PARTNERS		A capacity-building programme for educating Member States and Regions, as well as other national and regional stakeholders in the implementation of awareness and communication activities for the deployment of their Bioeconomy Strategies. Free to use within the project		No	Free to use		



	W P	Project result (PR)	Specific project result	Main Partner	Contrib. partner	BG	Short description	FG IP Conditions to use within T2BIO Interest isation				Conditions to use after the end of project
3	3 2	education activities in bioeconomy	Transition2BIO capacity building package (IT)	APRE, FVA	ALL PARTNERS		A capacity-building programme for educating Member States and Regions, as well as other national and regional stakeholders in the implementation of awareness and communication activities for the deployment of their Bioeconomy Strategies.	ions, as well as other national and colders in the implementation of communication activities for the				Service to be paid
3	3		Methodologies for organising and implementing the Transition2BIO Mobilisation and Mutual Learning Workshops	Q-PLAN, APRE	All partners		A methodology to achieve fruitful debate, mutual learning, good practices exchange and collaboration on challenges related to awareness raising, communication and education among national, regional and local policy actors.				No	Free to use
3	3 2		Methodology for organising the "Future skills for Bioeconomy" cocreation workshops	UNIBO	ALL PARTNERS		A methodology for designing and implementing cocreation workshops, aiming at involving Quadruple Helix stakeholders to identify what are the future skills needed for each Bioeconomy sector.	FG 3.4		Free to use within the project	No	Free to use
3	3 5		Policy brief "Future skills for Bioeconomy"	UNIBO	ALL PARTNERS		A policy brief report based upon the outcomes of the (5) co-creation workshops which documenting and reflecting on the future skills for bioeconomy.	FG 3.5		Free to use within the project	No	Free to use
4	1 1	Methodology for maxi collaboration among p initiatives: the Europea Network experience.	rojects and	FVA	ALL PARTNERS	BG4.1, BG 4.2	A methodology for increasing EuBioNet's impact in all member states, facilitating the collaboration, mobilisation and mutual learning among the majority of EU-funded projects in the bioeconomy thus maximising knowledge sharing and the impact of project activities.	FG 4.1		Free to use within the project	No	Service to be paid
4	1 2	"European Bioeconom website, knowledge ar		FVA	FVA	BG 4.2	twork of 125 projects and Initiatives promoting the economy. DB of projects and contact			Free to use within the project	yes	Service to be paid or funded under



							,					/
W P	п	Project result (PR)	Specific project result	Main Partner	Contrib. partner	BG	Short description	FG	IP Protection	Conditions to use within T2BIO	Interest in Further Commercial isation	Conditions to use after the end of project
												future EU projects
4	3	Innovative formats dev "European Bioeconomy	•	FVA	FVA		2 innovative formats developed under Transition2Bio, namely "Projects2Projects" and "Projects2Policy"		Copyright	Free to use within the project	yes	Free to use
5	1	1 Transition2BIO brand and community LOBA ALL PARTNERS			The Transition2BIO brand and community created and enhanced throughout the duration of the project facilitating the dissemination and exploitation of the project's assets after its completion.	FG 5.1	Copyright	Free to use within the project	No	Free to use		
5	2	Transition2BIO lessons recommendations	learnt and	APRE	A set of concrete recommendations stemming from the outcomes of the project, highlighting key experiences and lessons learnt throughout its duration.		FG 5.2	Copyright	Free to use within the project	No	Free to use	
5	3	BioWHAT, BioHOW, Bio methodological approa			APRE		A methodological approach to organize the awareness, communication and stakeholder FG 5.3 engagement activities		Copyright	Free to use within the project	No	Free to use



5.4. Exploitable Results

ER#	Exploitable Result	Short desciption of ER	Main partner	Contrib. Partner	Rel. FG num.	Rel. BG num.	ER Owner	Potential IP protection	М	U	L	s o	Most promising M-U-L-S-
1	Conceptual framework for the creation of the awareness, communication and education toolkits	The Framework is a set of recommendations about the most suitable channels (HOW), messages (WHAT FOR) and contents, tools and activities (WHAT) to address the different stakeholders' needs (WHO).	UNIBO	ALL PARTNERS	FG 1.1		UNIBO	protection		х			U2
2	Transition2BIO Library	An one-stop online source of available knowledge and awareness, communication and education material and tools integrated in the Transition2BIO web portal.	LOBA	ALL PARTNERS	FG 1.2		LOBA	Copyright		х			U1,U2,L
3	Awareness, communication and education Toolkits	Bioeconomy awareness, education and communication toolkits tailored to the specific needs of citizens, teachers, students and trainees, communicators, policy makers, business	вюсом	ALL PARTNERS	FG 1.2		All partners - joint ownership	Copyright		х			U2
4	Methodologies for the organisation of large scale events	A methodology for the organisation of large- scale public engagement events with a view to increasing the citizens' knowledge and awareness of the potential benefits of all bioeconomy sectors.	PEDAL APRE	ALL PARTNERS	FG 2.1		All partners - joint ownership	Copyright		х			U2
5	Methodologies for the organisation of Hands-on Labs for kids	A methodology for the organisation of Hands-on Labs for kids to raise awareness and facilitate the understanding of the bioeconomy, informing children and educating them about all bioeconomy areas through touching, feeling, smelling and exploring the bioeconomy.	BIOCOM APRE	ALL PARTNERS	FG 2.2		All partners - joint ownership	Copyright		х			U2
6	Materials for training in bioeconomy education	Materials stemming from teachers' trainings aiming to build the capacity of teachers to communicate and stimulate the children's interest in the bioeconomy and to integrate bioeconomy in the school curriculum.	ZSI APRE	ALL PARTNERS	FG 2.3		All partners - joint ownership	Copyright					L
7	Methodologies for the organisation of bioeconomy school competitions	A methodology for the organisation of bioeconomy school competitions to motivate and inspire school classes, science clubs, teams and individuals to apply with ideas/projects in the bioeconomy sector and win prizes to further familiarize them with bioeconomy.	ZSI APRE	ALL PARTNERS	FG 2.4		All partners - joint ownership	Copyright					L
8	Methodologies for the deployment of bioeconomy awareness raising activities on social media	A connected strategy and methodology for the different social networks (Instagram, Facebook, Twitter and LinkedIn), disseminating relevant content on all channels through gamified approaches that	FVA	ALL PARTNERS	FG 2.5		FVA					S	S



		help raise awareness as well as collect consumer perceptions and ideas.										
9	Online gamified version of the book "What is Bioeconomy"	An online gamified version of the book "What is bioeconomy" with mini-games, quiz, gamified call-for-action tools on bioeconomy, targeting from primary school to young adults available in 11 languages. (https://bb4k.fvaweb.eu/index.html)	FVA	FVA	FG 2.6	BG 2.4	APRE,FVA	Copyright	х			U2
10	Transition2BIO Memory game	A memory game for young chindren, stimulating the interest and providing information on different uses of biological resources and biomass.	LOBA	FVA	FG 2.7		LOBA	Copyright	х			U2
11	Social media channels @BIOVOICES	Biovoices social media channels with related followers and contents	FVA	FVA	FG 2.9	BG 2.3	FVA	Copyright	х	×	,	U2, S
12	Transition2BIO capacity building package (EN)	A capacity-building programme for educating Member States and Regions, as well as other national and regional stakeholders in the implementation of awareness and communication activities for the deployment of their Bioeconomy Strategies.	APRE, FVA	ALL PARTNERS	FG 3.1		ALL PARTNERS	Copyright		×		S
13	Transition2BIO capacity building package (IT)	A capacity-building programme for educating Member States and Regions, as well as other national and regional stakeholders in the implementation of awareness and communication activities for the deployment of their Bioeconomy Strategies.	APRE, FVA	ALL PARTNERS	FG 3.1		APRE	Copyright		×		S
14	Methodologies for organising and implementing the Transition2BIO Mobilisation and Mutual Learning Workshops	A methodology to achieve fruitful debate, mutual learning, good practices exchange and collaboration on challenges related to awareness raising, communication and education among national, regional and local policy actors.	Q-PLAN	All partners	FG 3.2		All partners - joint ownership	Copyright	х			U2
15	Methodology for organising the "Future skills for Bioeconomy" cocreation workshops	A methodology for designing and implementing co-creation workshops, aiming at involving Quadruple Helix stakeholders to identify what are the future skills needed for each Bioeconomy sector.	UNIBO	All partners	FG 3.3		UNIBO		х			U2
16	Policy brief "Future skills for Bioeconomy"	A policy brief report based upon the outcomes of the (5) co-creation workshops which documenting and reflecting on the future skills for bioeconomy.	UNIBO	All partners	FG 3.4		UNIBO		х			U2
17	Methodology for maximizing the collaboration among projects and	A methodology for increasing EuBioNet's impact in all member states, facilitating the collaboration, mobilisation and mutual learning among the majority of EU-funded	FVA	All partners	FG 4.1	BG 4.2	FVA	Copyright		Х		S



	initiatives: the European Bioeconomy Network experience.	projects in the bioeconomy thus maximising knowledge sharing and the impact of project activities.										
18	"European Bioeconomy Network" website, knowledge and partnership	Network of 125 projects and Initiatives promoting the bioeconomy, DB of projects and contact	FVA	FVA	FG 4.2	BG 4.2	FVA	Copyright			х	S
19	Innovative formats developed as "European Bioeconomy Network"	2 innovative formats developed under Transition2Bio, namely "Projects2Projects" and "Projects2Policy"	FVA	FVA	FG 4.3		FVA	Copyright			x	S
20	Transition2BIO brand and community	The Transition2BIO brand and community created and enhanced throughout the duration of the project facilitating the	LOBA	All partners	FG 5.1		All partners					N/A
21	Transition2BIO lessons learnt and recommendations	A set of concrete recommendations stemming from the outcomes of the project, highlighting key experiences and lessons learnt throughout its duration.	APRE	All partners	FG 5.2		APRE	Copyright	,	(U2
22	BioWHAT, BioHOW, BioACT methodological approach	A methodological approach to organize the awareness, communication and stakeholder engagement activities	FVA	APRE	FG 5.3		FVA, APRE	Copyright)	(U2



6. Exploitation plans per asset

In this section of the impact, exploitation and sustainability strategy, the main assets of the Transition2BIO project are described, along with the main contributors to their development. It is also addresses who their projected users could be, what the expected benefits are from exploiting that asset as well as how that exploitation is expected to happen. In parallel, the main creator of each asset indicates any foreseeable action that may be needed in order to facilitate the intended exploitation of the asset. More specifically, in this section the main creators of the Transition2BIO assets indicate what needs to be done, when and by whom.

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

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

Each asset is presented in a different sub-section of this chapter

6.1 Conceptual framework for the creation of the awareness, communication and education toolkits

Table 6. Exploitation plan for the Transition2BIO Conceptual framework for the creation of the awareness, communication and education toolkits

Asset description	The Framework is a set of recommendations about the most suitable channels (HOW), messages (WHAT FOR) and contents, tools and activities (WHAT) to address the different stakeholders' needs (WHO).
Creators of Asset	The main creator of the asset is UNIBO with the contribution of all partners.
	The main users of Transition2BIO's conceptual framework will be academics and researchers (e.g., the EuBioNet stakeholders, etc.), policy makers at a local, national or EU level, communicators and NGOs.
Intended users and expected benefits from exploiting the asset	The academics and researchers can use this set of recommendations as the basis for future research on how to mainstream the bioeconomy.
	The policy makers can use the insights (channels, messages, etc.) and recommendations of the framework to design new policies and measures to support bioeconomy awareness raising in regional and European level.



	Communicators can use the framework as a tool for designing and setting up bioeconomy communication activities in their region.
Intended exploitation route	The conceptual framework of the Transitio2BIO's project will be disseminated through the project's website, as well as through well-known open repositories (e.g., Zenodo, Horizon Results Platform), providing the interested parties with information about the suitable channels (HOW), messages (WHAT FOR) and contents, tools and activities to communicate the bioeconomy. The framework will also be used by UNIBO and other partners as basis for future research in the framework of new grants.

Table 7. Actions needed for the exploitation of the Transition2BIO Conceptual framework for the creation of the awareness, communication and education toolkits

	What?	By who?	When?
Communication and dissemination	The conceptual framework of the Transitio2BIO's project will be extensively disseminated to all target users following its exploitation route described above.	·	

6.2 Transition2BIO Library

Table 8. Exploitation plan for the Transition2BIO Online library of bioeconomy-related knowledge resources.

Asset description	A one-stop online source of available knowledge and awareness, communication and education material and tools integrated in the Transition2BIO web portal.
Creators of Asset	The main creator of the asset is LOBA with the contribution of all partners.
Intended users and expected benefits from exploiting the asset	The online library will be very useful for communicators, NGOs, CSOs, academia, research, policy makers, business and the general public. These target users will have access to an online centralised repository of validated bioeconomy-related materials in different languages and clustered based on: category, content type, source, country and language. They can use the online library functionality
	to search for tools and material in their own language to use for



	education purposes (academia), for bioeconomy awareness raising (communicators, CSOs, NGOs, etc.) and for business purposes.
	The online library is a core part of the Transition2BIO website and will be provided with free access to all interested parties for 5 years after the end of the grant. After that, the online library could be continued by any partner of Transition2BIO interested in doing by undertaking the payment of the yearly hosting costs.
Intended exploitation route	Another option would be to license the online library to any interested party. Additionally, the format and contents of the library will be used by LOBA, in the framework of future European projects on bioeconomy communication (e.g., GenB Horizon Europe GA 101060501).
	In parallel, the deliverable corresponding to the Transition2BIO online library will be uploaded in reputable open access platforms/ communities (e.g., Zenodo, OpenAire, Horizon Results Platform, etc.).

Table 9. Actions needed for the exploitation of the Transition2BIO online library of bioeconomy-related knowledge resources

	What?	By whom?	When?
IPR	The main IPR protection measure,	No actions	During the
	which is considered as necessary is:	needed	project
	Copyright		
Testing, validation and finetuning	The online library was continuesly	LOBA, All	During the
	improved throughout the project	partners	project
	based on collected feedback.		
	The online library will be promoted	All partners	Before and
Communication and	through the partners dissemination		after the
dissemination	activities in high level conferences, and		project
	other channels.		

6.3 Awareness, communication and education toolkits

Table 10. Actions needed for the exploitation of the Transition2BIO awareness, communication and educational toolkits

Asset description	Bioeconomy awareness, education and communication toolkits tailored to the specific needs of citizens, teachers, students, communicators, policy makers and business.
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Creators of Asset	The main creator of the asset is BIOCOM with the contribution of all partners.		
	The main target groups that will be benefitted from the bioeconomy awareness, education and communication toolkit are the citizens, teachers, students, communicators, policy makers and business.		
	All these target groups will have access to a set of 6 interactive, engaging collections of bioeconomy resources tailored to their specific needs.		
Intended users and	Citizens: (i) Successful stories, (ii) Information materials in their mother language, (iii) impacts and benefits of BBPs, etc		
expected benefits from exploiting the asset	Teachers: (i) educational material for the classroom, (ii) games, (iii) success stories, etc.		
	Students: (i) hands-on activities, (ii) games, etc.		
	Communicators: communication and awareness raising materials with a variety of examples presenting the circular approach in the bioeconomy		
	Policy makers: access to insights and information to support them in understanding the practical issues and boosting bioeconomy through the definition of strategies and support measures.		
Intended exploitation route	The 6 different toolkits will be available through the project's website for 5 years, and they will also be available on established open platforms (e.g., Zenodo, Horizon Results Platform, etc.) for all interested parties. The toolkits are already provided to different target groups through a variety of activities performed by partners (e.g., workshops organized by Transition2BIO or attended by Transition2BIO, WP2 large scale events, WP3 capacity building activities, Transition2BIO website, online means, etc.) in order to be used by those target groups after the end of the project. Apart from that, the toolkits, along with training on how to use them have been provided to other relevant initiatives (e.g., Biobec project, CEE2ACT project, etc.) so they can valorize them in the framework of their bioeconomy promotion activities (with teachers and beyond), thus contributing to their sustainability. Finally, BIOCOM will make		



use of the 6 awareness, communication and educational toolkits in the context of future research activities.

Table 11. Actions needed for the exploitation of the Transition2BIO awareness, communication and educational Toolkit 1 - demand side

	What?	By who?	When?
IPR	The main IPR protection measure, which is considered as necessary is: Copyright	No actions needed	Before the end of the project
Communication and dissemination	The toolkits are disseminated to their target audiences according to their exploitation route.	BIOCOM, All partners	During and after the end of the project.

6.4 Methodologies for the organisation of large-scale events

Table 12. Exploitation plan for the Transition2BIO methodology for the organisation of large-scale events

Asset description	A methodology for the organisation of large-scale public engagement events with a view to increasing the citizens' knowledge and awareness of the potential benefits of all bioeconomy sectors.
Creators of Asset	The main creator of the asset is PEDAL with the contribution of all partners.
Intended users and expected benefits from exploiting the asset	The main target groups that will be benefited are multipliers (e.g. CSOs/NGOs, policy makers, academia, etc.). All of them will have access to tested methodologies in order to know how to raise awareness on the bioeconomy among large public in an engaging and attractive way.
Intended exploitation route	The methodologies will be available on the Transition2Bio portal (5 years) or other open access portals e.g. (Zenodo, CORDIS, OpenAire, Horizon Results Platform etc.) and will also be disseminated to interested stakeholders by means of a concise guide of lessons learnt and recommendations. On top of that, PEDAL will use this tested and validated methodology as reference point for the implementation of large-scale events in the context of future projects on bioeconomy awareness raising.



Table 13. Actions needed for the exploitation of the Transition2BIO methodology for the organisation of large scale events

	What?	By whom?	When?
IPR	The main IPR protection measure, which is considered as necessary is: Copyright	No actions needed.	Before the end of the project
Communication and dissemination	The methodologies will be available on the Transition2Bio portal and other open access portals e.g., Zenodo, Cordis, etc.	Involved partners	After the end of the project

6.5 Methodologies for the organisation of Hands-on Labs for kids

Table 14. Exploitation plan for the Transition2BIO methodologies for the organisation of Hands-on Labs for kids

Asset description	A methodology for the organisation of hands-on labs for kids to raise awareness and facilitate the understanding of the bioeconomy, informing children and educating them about all bioeconomy areas through touching, feeling, smelling and exploring the bioeconomy.
Creators of Asset	The main creator of the asset is BIOCOM with the contribution of all partners.
Intended users and benefits from exploiting the asset	The interested target groups that could benefit from the respective methodologies are teachers, parents, daycare professionals as they will have access to tested methodologies on how to raise awareness on the bioeconomy among kids in an interactive and engaging way.
Intended exploitation route	The methodologies and hands-on activities are delivered to schools, museums, and other educational facilities in different EU countries through the T2.2 activities along with their material for post-project replication. The methodologies will also be available through the Transition2Bio website (5 years) and other open platforms and communities (e.g., Cordis, Zenodo, OpenAire, Horizon Results Platform, etc.). Additionally, BIOCOM will use these tested and validated methodologies in the framework of future research on bioeconomy communication and education.



Table 15. Actions needed for the exploitation of the Transition2BIO methodologies for the organisation of Hands-on Labs for kids

	What?	By whom?	When?
IPR	The main IPR protection measure, which is considered as necessary is: Copyright	No actions needed.	Before the end of the project
Communication and dissemination	The methodologies are disseminated to schools, museums, etc. and they also can be found on the Transition2Bio website and presented on large-scale events.	BIOCOM, All partners	Before and after the end of the project

6.6 Material for teachers' training in bioeconomy education

Table 16. Exploitation plan for the Transition2BIO methodologies for the organisation of teachers' training in bioeconomy education

Asset description	Material for the organisation of teachers' trainings aiming to build the capacity of teachers to communicate and stimulate the children's interest in the bioeconomy and to integrate bioeconomy in the school curriculum.
Creators of Asset	The main creator of the asset is ZSI with the contribution of all partners.
Intended users and expected benefits from exploiting the asset	The main target groups that will benefit from this methodology are teachers and educators that will have free access to the methodological guide and tools (experiment leaflets, moderation sheets, educational content, books, etc.) on how to set-up, plan and implement interactive teaching techniques in class, in order to spark interest and engage children into bioeconomy.
Intended exploitation route	The material stemming from the teacher training is publicly accessible in order to prepare lessons plans for students. The material will be available on the Transition2BIO website (5 years) and other open access portals and communities (e.g., YouTube, Cordis, Zenodo, OpenAire, Horizon Results Platform, etc.). Additionally, the material will be further elaborated by ZSI towards an expert reflection workshop in the context of a successor Horizon Europe project (Engage4BIO). Given the amount of already existing materials for teachers, a reflection workshop with



experts on a practical level, is considered as high potential for the bioeconomy awareness raising efforts.

Table 17. Actions needed for the exploitation of the Transition2BIO methodologies for the organisation of teachers' training in bioeconomy education

	What?	By whom?	When?
	The main IPR protection measure,	-	Before the
IPR	which is considered as necessary is:		end of the
	Copyright		project
Communication and	The asset will be disseminated	ZSI, QPL,	Before the
dissemination	according to its exploitation route.	LOBA	end of the
uisseiiiiiatioii			project

6.7 Methodologies for the organisation of bioeconomy school competitions

Table 18. Exploitation plan for the Transition2BIO methodologies for the organisation of bioeconomy school competitions

Asset description	A methodology for the organisation of bioeconomy school competitions to motivate and inspire school classes, science clubs, teams and individuals to apply with ideas/projects in the bioeconomy sector and win prizes to further familiarize them with bioeconomy.
Creators of Asset	The main creator of the asset is ZSI with the contribution of all partners.
Intended users and expected benefits from exploiting the asset	The main target users of this asset are teachers, parents, bioeconomy networks, CSOs and NGOs. The target users can benefit from the Transition2BIO methodologies for bioeconomy school competitions as they will have free access to a transferable set up (methodology, guidelines, tools, promotional material) of school competitions in order to engage children in the bioeconomy. Parents can have the opportunity to have information about school competitions regarding bioeconomy and learn how to help their children on demonstrating their bioeconomy ideas. Bioeconomy networks will have access to a methodological guide on how the school competitions are organized in order to know the process and proceed with more collaborations with schools for the promotion of bioeconomy.





The methodologies are directly implemented with schools, museums, and other educational organisations in the context of the Task 2.2 activities. Moreover, the methodology for school competitions will be available on Transition2BIO website (5 years) and other open access portals (e.g., Zenodo, Cordis, etc.). Finally, ZSI will use the knowledge collected from the school competitions in the context of future research projects.

Table 19. Actions needed for the exploitation of the Transition2BIO methodologies for the organisation of bioeconomy school competitions

	What?	By whom?	When?
IPR	The main IPR protection measure,	No actions	the end of
	which is considered as necessary is:	needed.	the project
	Copyright		
Communication and dissemination	The methodology for school	ZSI, QPL,	Before the
	competitions will be disseminated	LOBA	end of the
uissemination	according to its exploitation route.		project

6.8 Methodologies for the deployment of bioeconomy awareness raising activities on social media

Table 20. Exploitation plan for the Transition2BIO methodologies for the deployment of bioeconomy awareness raising activities on social media

Asset description	The Transition2BIO methodology for the deployment of bioeconomy awareness raising activities on social media is a connected strategy and for the different social networks (Instagram, Facebook, Twitter, LinkedIn and YouTube), disseminating relevant content on all channels through gamified approaches that help raise awareness as well as collect consumer perceptions and ideas.
Creators of Asset	The main creator of the asset is FVA with the contribution of all partners.
Intended users and expected benefits from exploiting the asset	The main target groups that can benefit from the strategy for social media are other related H2020 and HE projects on bioeconomy promotion, academia, research, and other stakeholders involved in mainstreaming bioeconomy. All of the above will have access to information on how they to effectively use social media for their target groups with the appropriate content in order to promote bioeconomy.





The methodologies will be accessible to the target users through the Transition2Bio website (5 years) and other open access portals. FVA will also use these methodologies in the context of successor Horizon Europe projects (e.g., GenB Horizon Europe GA 101060501) to animate the social media channels of the actions.

Table 21. Actions needed for the exploitation of the Transition2BIO methodologies for the deployment of bioeconomy awareness raising activities on social media

	What?	By whom?	When?
IPR	The main IPR protection measure, which is considered as necessary is:		Before the end of the
	Copyright		project
Communication and	The methodologies can be found on the	FVA, QPL,	Before the
dissemination	Transition2Bio website and other open	LOBA	end of the
	access portals.		project.

6.9 Online gamified version of the book "What is Bioeconomy"

Table 22. Exploitation plan for the Transition2BIO Online gamified version of the book "What is Bioeconomy"

Asset description	An online gamified version of the book "What is bioeconomy" with minigames, quiz, gamified call-for-action tools on bioeconomy, targeting from primary school to young adults available in 12 languages. (https://bb4k.fvaweb.eu/index.html)
Creators of Asset	The main creator of the asset is FVA.
Intended users and expected benefits from exploiting the asset	The main users the online gamified version of the book are young children (ages 5-8) and teachers. Children can learn through the book about the bioeconomy in a gamified way and adopt new eco-friendly habits in their everyday life. Teachers can use the book in their classes in order to stimulate the interest and inspire the young generation on the different uses of biological resources and biomass.
Intended exploitation route	This online book is distributed directly to schools, teachers, museum, educational facilities and children in the context of the Task 2.2 activities, for example through the hands-on labs, the large scale events and the teacher trainings. The online book will keep being distributed to these target groups in the context of successor Horizon Europe projects (e.g. GenB GA



101060501). Moreover, the gamified book will also be available through the Transition2Bio website (5 years).

Table 23. Actions needed for the exploitation of the Transition2BIO Online gamified version of the book "What is Bioeconomy"

	What?	By whom?	When?
	The main IPR protection measure,	No actions	Before the
IPR	which is considered as necessary is:	needed	end of the
	Copyright		project
	This online book will be distributed to	FVA	Before and
	the target users as well as will be		after the
Communication and	disseminated through the		end of the
dissemination	Transition2Bio website and other		project
	education communities or projects (e.g.		
	GenB project).		

6.10 Transition2BIO Memory game

Table 24. Exploitation plan for the Transition2BIO Memory game

Asset description	A memory game for young children, stimulating the interest and providing information on different uses of biological resources and biomass.
Creators of Asset	The main creator of the asset is LOBA with the contribution of FVA, and the rest of the partners for the translation in local languages.
Intended users and expected benefits from exploiting the asset	The main target group of the memory game are young children and teachers. Through the game young children learn about the bioeconomy products and the biomass in an attractive way. Teachers can use the memory game to inspire young generation to adopt a more sustainable lifestyle and learn the value and use of the biobased products.
Intended exploitation route	The memory game is disseminated to schools and teachers to be used in class in order to stimulate interest about bioeconomy in a fun way. These target groups can download the memory game in their local language and print it through the Transition2BIO website (5 years). The memory game will also be used in the context of future Horizon Europe projects on bioeconomy education targeting the youth (e.g., GenB).

Table 25. Actions needed for the exploitation of the Transition2BIO Memory game



	What?	By whom?	When?
	The main IPR protection measure,	-	Before the
IPR	which is considered as necessary is:		end of the
	Copyright		project
		LOBA, FVA,	Before and
Communication and	The memory game is disseminated	All partners	after the
dissemination	according to its exploitation route.		end of the
			project

6.11 Social media channels @BIOVOICES

Table 26. Exploitation plan for the Transition2BIO Social media channels @BIOVOICES

Asset description	The transition2BIO social media channels are the @BIOVOICES social media channels with related followers and contents.	
Creators of Asset	The main creator of the asset is FVA.	
Intended users and expected benefits from exploiting the asset	The main users of this asset are large public groups or even professional public (depending on the social media channel) that can benefit from the content and the information uploaded promoting the bioeconomy.	
Intended exploitation route	FVA will make the social media available for new EU funded projects promoting the bioeconomy, that it is involved in or they could also provide them as a service in the case of relevant interest.	

Table 27. Actions needed for the exploitation of the Transition2BIO Social media channels @BIOVOICES

	What?	By who?	When?
IPR	The main IPR protection measure, which is considered as necessary is: Copyright	No actions needed.	After the end of the project
Communication and dissemination	Not applicable		

6.13 Transition2BIO capacity building package (EN)

Table 28. Exploitation plan for the Transition2BIO capacity building package (EN)

Asset description	A capacity-building programme designed and developed in the framework of WP3, for educating Member States and Regions, as well
	as other national and regional stakeholders in the implementation of



	awareness and communication activities for the deployment of their bioeconomy strategies.		
Creators of Asset	The main creators of the asset are APRE and FVA with the contributions of all partners.		
Intended users and expected benefits from exploiting the asset	The main target groups of the capacity building package are policy makers as well as regional and national public entities, as they have the opportunity to learn how they can build communication paths to support the implementation of their regional bioeconomy strategies.		
Intended exploitation route	The capacity building package can be exploited in the framework of future capacity building activities for policy makers (through training and webinars, etc.) in the context of successor Horizon Europe projects or in the context of other APRE/ FVA activities (provided as a service). The capacity building package is freely available on the Transition2BIO website (https://www.transition2bio.eu/capacity-building/) (5 years) encompassing the different modules, along with the video recordings, the PowerPoint presentations and useful references and resources. Additionally, to further enhance its sustainability, the capacity building activities have been delivered to other bioeconomy related initiatives (e.g. BIOEAST initiative, CCE2ACT project, BERural Network of Knowledge), in order to equip them with the knowledge and resources to implement their own bioeconomy awareness raising activities.		

Table 29. Actions needed for the exploitation of the Transition2BIO capacity building package (EN)

	What?	By whom?	When?
IPR	The main IPR protection measure, which is considered as necessary is: Copyright	No actions needed.	Before the end of the project
Communication and dissemination	The capacity building package will be disseminated according to its intended exploitation route.	APRE, FVA, All partners	Before and after the end of the project



6.14 Transition2BIO capacity building package (IT)

Table 30. Exploitation plan for the Transition2BIO capacity building package (IT)

Asset description	A capacity-building programme in the Italian language, designed at developed in the framework of WP3, for educating Member Stat and Regions, as well as other national and regional stakeholders the implementation of awareness and communication activities for the deployment of their bioeconomy strategies.				
Creators of Asset	The main creators of the asset are APRE and FVA with the contributions of all partners.				
Intended users and expected benefits from exploiting the asset	policy makers as well as regional and national public entities, as they have the opportunity to learn how they can build communication				
Intended exploitation route	The capacity building package can be exploited in the framework of future capacity building activities for policy makers (through training and webinars, etc.) in the context of successor Horizon Europe projects or in the context of other APRE/ FVA activities. For FVA this activity could take the form of a paid service.				

Table 31. Actions needed for the exploitation of the Transition2BIO capacity building package (IT)

	What?	By whom?	When?
IPR	The main IPR protection measure, which is considered as necessary is: Copyright	No actions needed	Before the end of the project
Communication and dissemination	The capacity building package will be disseminated according to its intended exploitation route.	APRE, FVA	Before and after the end of the project.

6.15 Methodologies for organising and implementing the Transition2BIO Mobilisation and Mutual Learning Workshops

Table 32. Exploitation plan for the Transition2BIO methodologies for organising and implementing the Transition2BIO Mobilisation and Mutual Learning Workshops

Asset description	The Transition2BIO methodologies for organising and implementing					
•	the Transition2BIO Mobilisation and Mutual Learning (MM					(MML)



	workshops is a consolidated methodology to achieve fruitful debate, mutual learning, good practices exchange and collaboration on challenges related to awareness raising, communication and education among national, regional and local policy actors.			
Creators of Asset	The main creator of the asset is Q-PLAN with the contribution of all partners.			
Intended users and expected benefits from exploiting the asset	The main target groups that stand to benefit from the methodologies about the MML workshops are academia, researchers, policy makers or other stakeholders organising MMLs. All these prospective users will have free access to a sound and tested methodology on how to plan, prepare, promote, implement, disseminate and report a Mobilisation and Mutual Learning Workshop for bioeconomy awareness raising, communication and education.			
Intended exploitation route	The methodology about the MML workshops will be available on Transition2BIO web portal (5 years) as well as on other reputable open platforms (e.g., Zenodo, Cordis, etc.). Additionally, this methodology will be exploited by Q-PLAN in the framework of future Horizon Europe projects (e.g., GenB), whereby Q-PLAN is tasked with the organization of workshops and debates on bioeconomy promotion.			

Table 33. Actions needed for the exploitation of the Transition2BIO methodologies for organising and implementing the Transition2BIO Mobilisation and Mutual Learning Workshops

	What?	By whom?	When?
IPR	The main IPR protection measure, which is considered as necessary is: Copyright	No actions needed.	Before the end of the project
Communication and dissemination	The methodologies about the MML workshops are available on the Transition2BIO web portal and other open platforms.	QPL, LOBA	Before the end of the project



6.16 Methodology for organising the "Future skills for Bioeconomy" co-creation workshops

Table 34. Exploitation plan for the Transition2BIO methodology for organising the "Future skills for Bioeconomy" co-creation workshops

Asset description	A methodology for designing and implementing co-creation workshops, aiming at involving Quadruple Helix stakeholders to identify what are the future skills needed for each Bioeconomy sector (e.g. Forestry, Agriculture, blue bioeconomy, etc.).			
Creators of Asset	The main creator of the asset is UNIBO with the contribution of all partners.			
Intended users and expected benefits from exploiting the asset	The main target users for this asset are academia and researchers working on identifying future skills for bioeconomy or other stakeholders organising co-creation workshops. These target groups will benefit from having free access to a sound methodology, guidelines and tools for designing and implementing co-creation workshops with their audience.			
Intended exploitation route	The methodology for organizing the "Future skills for bioeconomy" co-creation workshops will be available on the Transition2BIO web portal (5 years) as well as on other open platforms. UNIBO will also use this methodology and the knowledge gained through the workshops for the organization of similar workshops in the context of future research activities.			

Table 35. Actions needed for the exploitation of the Transition2BIO Methodology for organising the "Future skills for Bioeconomy" co-creation workshops

	What?	By who?	When?
Communication and dissemination	The methodology will be available on the Transition2BIO website as well as other open platforms.	· ·	Before the end of the project

6.17 Policy brief "Future skills for Bioeconomy"

Table 36. Exploitation plan for the Transition2BIO Policy brief "Future skills for Bioeconomy"



Asset description	A policy brief report based upon the outcomes of the (5) co-creation workshops which is documenting and reflecting on the future skills for bioeconomy.
Creators of Asset	The main creator of the asset is UNIBO with the contributions of all partners.
Intended users and expected benefits from exploiting the asset	The main target groups of this asset are policy makers (regional and European level), academia and researchers. Policy makers will have access to a concise policy brief providing them with insightful information on the future educational and training needs in the different areas of the bioeconomy. Academia and researchers will benefit from the available information in order to make further research for the development of bioeconomy skills.
Intended exploitation route	The policy brief will be available on the Transition2BIO website (5 years) and on other open access platforms. The policy brief will also be exploited by UNIBO in the framework of relevant future research activities.

Table 37. Actions needed for the exploitation of the Transition2BIO Policy brief "Future skills for Bioeconomy"

	What?	By whom?	When?
Communication and dissemination	The policy brief will be available on the Transition2BIO website and other open access portals.	LOBA, QPL	Before the end of the project

6.18 Methodology for maximizing the collaboration among projects and initiatives: the European Bioeconomy Network experience.

Table 38. Exploitation plan for the Transition2BIO methodology for maximizing the collaboration among projects and initiatives: the European Bioeconomy Network experience.

Asset description	A methodology for increasing EuBioNet's impact in all member states, facilitating the collaboration, mobilisation and mutual learning among the majority of EU-funded projects in the bioeconomy thus maximising knowledge sharing and the impact of project activities.	
Creators of Asset	The main creator of the asset is FVA with the contributions of all partners.	



Intended users and expected benefits from exploiting the asset	This asset targets policymakers, academia, research, and other stakeholders involved in bioeconomy promotion. All these groups will have access to a methodology and action plan on how to foster synergies among projects and initiatives in the bioeconomy promotion.	
Intended exploitation route	The action plan for the awareness raising and communication activities of the European Bioeconomy Network, as well as the results of these activities will be available on the Transition2BIO web portal and other open platforms. The animation of the European Bioeconomy Network could also be provided as a service by FVA in the case of relevant interest. Alternatively, the European Bioeconomy Network could continue all or some of its activities in the framework of future Horizon Europe projects.	

Table 39. Actions needed for the exploitation of the Transition2BIO methodology for maximizing the collaboration among projects and initiatives: the European Bioeconomy Network experience.

	What?	By whom?	When?
IPR	The main IPR protection measure, which is considered as necessary is: Copyright	No actions needed.	Before the end of the project
Communication and dissemination	The methodology will be available on the Transition2BIO web portal and other platforms.	LOBA, QPLAN	Before the end of the project

6.19 "European Bioeconomy Network" website, knowledge and partnership

Table 40. Exploitation plan for the Transition2BIO "European Bioeconomy Network" website, knowledge and partnership

Asset description	Network of 125 projects and initiatives promoting the bioeconomy, along with a database of projects and contact.
Creators of Asset	The main creator of the asset is FVA.
	The main target groups of the network are policymakers, academia,
Intended users and	research, and other stakeholders and EU projects involved in
expected benefits	bioeconomy promotion. All the target groups can be benefited from
from exploiting the	the network as it provides the chance to access a large community in
asset	order to facilitate collaboration and mutual learning among a wide
	community of initiatives and the exploitation of project's results.



Intended exploitation route

The "European Bioeconomy Network" website, knowledge and partnership can be exploited by FVA in the framework of alternative public funding sources or by a financial scheme based on project's members fees.

Table 41. Actions needed for the exploitation of the Transition2BIO "European Bioeconomy Network" website, knowledge and partnership

	What?	By whom?	When?
IPR	The main IPR protection measure, which is considered as necessary for the website is: Copyright	No actions needed.	Before the end of the project
Communication and dissemination	Partners will focus in raising awareness on the importance of the community for the projects and the bioeconomy ecosystem, through their dissemination activities	FVA, All partners	Before and after the end of the project

6.20 Innovative formats developed as European Bioeconomy Network: "Projects2Projects" and "Projects2Policy":

Table 42. Exploitation plan for the Transition2BIO "Projects2Projects" and "Projects2Policy" formats

"Projects2Projects" is a format to facilitate the thematic discussion, mu learning and knowledge exchange among EU funded projects having sin interests. "Projects2Policy" is an innovative format to facilitate the dialogue betwee policy and projects through facilitated round of interactions	
Creators of Asset	The main creator of the asset is FVA.
Intended users and expected benefits from exploiting the asset	The main target groups of the formats are EU funded projects, policymakers, academia, research, and other stakeholders and EU projects involved in bioeconomy promotion. All the target groups can benefit from the exploitation of the formats as they provide a methodological approach to facilitate collaboration and mutual learning among a wide community of initiatives and the exploitation of project's results by policy.
Intended exploitation route	The formats could be exploited by the European Commission, the Transition2BIO partners, the European Bioeconomy Network or other initiatives. The formats are easily replicable in different contexts and used to facilitate the mutual learning and valorisation of any type of content or thematic interest.



Table 43. Actions needed for the exploitation of the Transition2BIO "European Bioeconomy Network" website, knowledge and partnership

	What?	By whom?	When?
IPR	The main IPR protection measure, which is considered as necessary for the website is: Copyright	No actions needed.	Before the end of the project
Communication and dissemination	The formats were widely disseminated in events and contexts, where they were presented as case studies (e.g. Ecomondo). Meetings, speeches at conferences or events are the most suitable communication channel.	FVA, All partners	Before and after the end of the project

6.21 Transition2BIO brand and community

Table 44. Exploitation plan for the Transition2BIO brand and community

Asset description	The Transition2BIO brand and community created and enhanced throughout the duration of the project facilitating the dissemination and exploitation of the project's assets after its completion.	
Creators of Asset	The main creator of the asset is LOBA with the contributions of all partners.	
Intended users and	The main target group of the brand and community is all stakeholders	
expected benefits	involved to the project that can benefit from the project results.	
Intended	The Transition2BIO brand and community represents only the	
exploitation route	Transition2BIO project.	

6.21 Transition2BIO lessons learnt and recommendations

Table 45. Exploitation plan for the Transition2BIO lessons learnt and recommendations

Asset description	A set of concrete recommendations stemming from the outcomes of the project, highlighting key experiences and lessons learnt throughout its duration.
Creators of Asset	The main creator of the Asset is APRE with the contributions of all partners.
Intended users and expected benefits	The main target group of the lessons learnt and recommendations are policy makers, regional and national public entities.



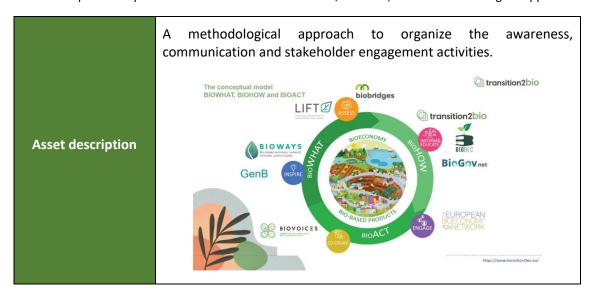
from exploiting the	Policy makers can be benefited as they can find available important	
asset	information to develop policies for the promotion of bioeconomy.	
	Regional and national public entities will have access to a series of lessons and recommendations to develop appropriately their communication strategies for their target groups.	
	Transition2BIO lessons learnt and recommendations can be	
	disseminated on events informing and raising awareness on	
Intended	bioeconomy. The corresponding deliverable will also be publicly	
exploitation route	available through the project's website (5 years) and through	
	established open access platform and communities (e.g., Zenodo,	
	OpenAire, Cordis, HRP, etc.)	

Table 46. Actions needed for the exploitation of the Transition2BIO lessons learnt and recommendations

	What?	By whom?	When?
IPR	The main IPR protection measure, which is considered as necessary is: Copyright	-	After the end of the project
Communication and dissemination	The lessons learnt and recommendation will be disseminated according to its intended exploitation route.		

6.22 Transition2BIO BioWHAT, BioHOW, BioACT methodological approach

Table 47. Exploitation plan for the Transition2BIO BioWHAT, BioHOW, BioACT methodological approach





Creators of Asset	The main creator of the Asset is FVA with the contributions of APRE	
Intended users and expected benefits from exploiting the asset	The main target group of the BioWHAT, BioHOW, BioACT methodological approach are policy makers, regional and national public entities, companies, other projects and initiatives and in general every stakeholder interested in communication the circular bioeconomy. The model is complemented with related capacity building activities to better make use of it.	
Intended exploitation route	The BioWHAT, BioHOW, BioACT methodological approach can be adopted by project's partners and other interested stakeholders in future awareness raising, communication, education and stakeholder engagement activities activities.	

Table 47. Actions needed for the exploitation of the Transition2BIO lessons learnt and recommendations

	What?	Who?	When?
IPR	The main IPR protection measure, which is considered as necessary is: Copyright	FVA, APRE, all partners	During/after the end of the project
Communication and dissemination	The BioWHAT, BioHOW, BioACT approach was widely disseminated in conferences and events during the projects. 2 publications about the BioWHAT, BioHOW, BioACT approach have been made by FVA and APRE in Transition2BIO.		



7. Exploitation plans per partner

This section summarizes, in tabular format, the assets of the Transition2BIO project that each partner is interested the most to exploit, as well as how they intend to proceed to this end.

Table 34. Individual exploitation plans per partner

Individual exploitation plans of the Transition2BIO partners Transition2BIO partner: Asset(s) of major interest: "Transition2BIO Capacity Building Package of Services", Lessons learnt from capacity building activities implementation.

APRE is interested in exploiting Transition2BIO brand and results, more specifically APRE is willing to deliver – even in a paid format – the "Capacity Building Package of Services" to the interested stakeholders and policy actors at regional, national and EU level, empowering them with capacity building in bioeconomy awareness, communication and education, so as to facilitate the mutual learning, knowledge and good practices exchange even after the end of the project. APRE has already reached out to other projects – e.g CEE2ACT, a project funded under the topic 2021-Governance-01-10 – to deliver the package for the benefit of the consortium partners and the relevant stakeholders. Also, APRE is willing to later exploit the lessons learnt and recommendations coming from the project's outcomes, in particular concerning T3.1, led by APRE itself. Lessons learnt stemming from the implementation of activities supporting EU Member States and Regions in awareness, communication and education activities in bioeconomy, could be delivered in Conferences/events at National and EU level, as well as exploited though publications.

Asset(s) of major interest: Methodologies
for the deployment of bioeconomy
awareness raising activities on social media,
Online gamified version of the book "What
is Bioeconomy", Transition2BIO Memory
game, Methodology for maximizing the
collaboration among projects and
initiatives: the European Bioeconomy
Network experience.

FVA is mainly interested in exploiting the following assets:

• The European Bioeconomy Network, an alliance of 125 projects and initiatives dealing with bioeconomy promotion. FVA is the main contact of EuBioNet, that was created under BIOVOICES project and strengthened under Transition2Bio. EuBioNet is an important asset for FVA and the entire bioeconomy community, since it facilitates the collaboration among projects and initiatives.



- @BIOVOICES social media channels with more than 10.000 followers is animated by FVA under Transtion2Bio and will be exploited in the future in similar projects to inform the various target audiences about the bioeconomy and bio-based economy.
- Tools, methodologies and contents to raise awareness and communicate the bioeconomy. Several tools, including the online version of the "What's bioeconomy" book for kids, the updated version of the BioArt Gallery, the toolkits have been developed under Transition2Bio and will be exploited by FVA in the context of new EU funded projects and also through FVA company activities.
- Formats developed to communicate the bioeconomy, such as large-scale events, school projects, communication activities. These formats are easily exploitable in other bioeconomy related projects, as well as any other communication activity that is the core FVA business.
- Education, Capacity Building and training modules. FVA actively participated to the
 design and delivery of these contents, both in English and Italian and is willing to
 exploit them in the future. In particular the training for teachers and for regional
 actors are of high value for the company.
- Methodological approaches, publications and speeches. FVA developed several contents that are delivered in different contexts and will be extensively used in future projects and publications.

Transition2BIO partner: ZSI	Asset(s) of major interest: Methodologies
	for the organisation of teachers' training in
	bioeconomy education, Methodologies for
	the organisation of bioeconomy school
	competitions

ZSI will exploit the projects results primarily in successor HE projects (GenB, Engage4BIO, BioLoc and RualBioUp). Especially the selected educational toolkits will be of high value for GenB for any engagement and awareness activity with young children, as well as the very successful hands-on Labs for young children.

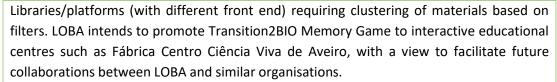
With regards to the other projects, they will benefit from the toolkits in addition to the lessons learned of the capacity building lessons and the large scale events (in specific the Mobilisation and Mutual Learning Workshops). Further, the teacher training materials will be further elaborated towards an expert reflection workshop.

Transition2BIO partner: LOBA

Asset(s) of major interest: Transition2BIO
Library, Transition2BIO Memory Game

LOBA intends to use contents and materials available in the Library as knowledge base for future bioeconomy-related projects requiring similar services, additionally, LOBA intends to use the back office of the Library as basis to facilitate the development of future





Transition2BIO partner: PEDAL

Asset(s) of major interest: Awareness, communication and education Toolkits, gamified version of the book "What is Bioeconomy", Memory game, capacity building package (EN), methodologies for implementing Mobilisation and Mutual Learning Workshops, Policy brief "Future skills for Bioeconomy", lessons learnt and recommendations

In the long term, PEDAL aims to contribute to raising awareness about bioeconomy, building capacities and networking of various types of target groups, as well as provide support in bioeconomy uptake in the regions. The main assets to be used in these efforts include Transition2BIO Memory game, Transition2BIO capacity building package (EN), Methodologies for organising and implementing the Transition2BIO Mobilisation and Mutual Learning Workshops, Policy brief "Future skills for Bioeconomy", Transition2BIO brand and community, Transition2BIO lessons learnt and recommendations. Using synergies with other related projects, these assets will be used in further activities, especially development of capacity building programmes, further community building and engagement of various stakeholders, and thus contribute to the development of BE.

Transition2BIO partner: Q-PLAN

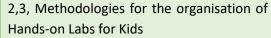
Asset(s) of major interest: Methodology in supporting Member States and regions in deploying bioeconomy strategies, methodology for organizing MMLs, Transition2BIO brand and community

Q-PLAN's involvement in supporting Member States and regions to deploy their bioeconomy strategies will enhance its expertise in policy support. Along these lines, the tacit and explicit knowledge obtained through Q-PLAN's involvement in the organisation and delivery of the Transition2BIO Mobilisation and Mututal Learning Workshops will be exploited in the framework of successor Horizon Europe projects, for the cases where Q-PLAN is tasked with the organisation of MMLs, workshops, debates, etc. (e.g., in GenB). Additionally, Q-PLAN is particularly interested in exploiting T2BIO's brand and community as the fields cross-cutting the Transtion2BIO project (bioeconomy, policy support, co-creation, stakeholder engagement approaches, etc.) are of strategic interest for Q-PLAN. Furthermore, the community developed through the project will enrich Q-PLAN's international network, broadening the pool of potential clients and collaborators.

Transition2BIO partner: BIOCOM

Asset(s) of major interest: Awareness, communication, and education Toolkit 1,





BIOCOM sees potential in exploiting the awareness, communication, and education toolkits during and after the T2B project as they represent a valuable resource for a range of target groups which BIOCOM actively engages with. This will be accomplished during the project through the organisation of a large-scale event (WP2) for the German general public and through the implementation of a capacity building package (WP3) with regional authorities. BIOCOM plans to find synergies with its work in other EU Projects, such as BE-Rural in which regional bioeconomy strategies and roadmaps have been developed and now could benefit from support in raising awareness and communicating the bioeconomy. The toolkits represent a valuable knowledge package for many regional players with which BIOCOM works with. The methodologies of the organization of Hands-on Labs for Kids fit in nicely with BIOCOMs repertoire of biobased exhibitions, which can be adapted to engage a younger audience. In addition, the resources for teachers in the toolkits and Hands-on Labs learnings are being exploited to help in training teachers.



8. Conclusions

This final version of the Transition2BIO "Impact, exploitation and sustainability Strategy" describes the strategy and methodology employed within the framework of Transition2BIO to manage innovation and related IP and ensure the sustainability of project results after the end of the grant.

In parallel, the deliverable also provides an overview of the Background and Foreground IP of Transition2BIO as well the main Exploitable Results. A dedicated tool, namely the IPR Matrix, has been elaborated in order to facilitate the identification and management of Transition2BIO's assets by project partners under the supervision of the Exploitation Manager (Q-PLAN) throughout the project.

Along these lines, the document provides a detailed description of Transition2BIO's 22 main exploitable assets, along with the main target groups of external stakeholders (target users) and the potential benefits they stand to gain from their use.

Finally, the exploitation plans per asset and per partner are defined in order to ensure the useability of Transition2BIO's main assets, thus fostering the successful post-project exploitation and sustainability of the project's assets.



www.transition2bio.eu info@transition2bio.eu

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