Work Package 7 – Dissemination, communication, and exploitation of results

D7.5 – Intermediate Report on Exploitation and IPR Plan

Lead Contractor: SIE
Author(s): Carla Sebastiani

This document is the ALIGNED project (Grant No. 101059430) deliverable 7.5, containing the update of the exploitation and IP management plans for the project results.

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DELIVERABLE CONTRIBUTORS			
	Name	**Organisation**	**Job title**
Deliverable leader	Carla Sebastiani	SIE	Business Development Manager
Contributing Author(s)	Jorge Barona	SIE	In-house Consultant and Quality Reviewer
Reviewer(s)	Jurjen Spekreijse	BTG	Consultant
Final review and quality approval			
	Dalia Stakenaite & Massimo Pizzol	AAU	Project coordinators

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TABLE OF CONTENTS

Funded by the European Union

Horizon Europe grant agreement N° 101059430. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Research Executive Agency. Neither the European Union nor the granting authority can be held responsible for them.

List of tables

List of figures

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Acronyms and abbreviations

Abbreviations	Description
CA	Consortium Agreement
EC	European Commission
EP	Environmental Performance
GA	Grant Agreement
IP	Intellectual Property
IPR	Intellectual Property Rights
KER	Key Exploitable Results
LCA	Life cycle assessment
M	Project Month
TRL	Technology Readiness Level
WP	Work Package

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Executive summary

This document describes the intermediate version of the **Exploitation and Intellectual Property Rights Plan** as deliverable **D7.5** due **month 18**, customised for the ALIGNED project financed under Grant Agreement (GA) No. 101059430.

In order to make it easier for the reader to pinpoint the updates when comparing this version to the first one of this report, the updates are highlighted in the same colour as this summary, while the original text remains black.

The ambition of the consortium members is to transform the project results into open-source materials, frameworks, and standards to contribute to the development of life cycle assessment harmonisation for the woodworking, textiles, biochemicals, construction and pulp and paper sectors, to aid the transition to biobased solutions as a way to support the green transition. In this update of the exploitation strategy, some have stated their interest in eventually commercialising the know-how obtained from the project.

This report was updated via the 2nd exploitation workshop (held in M12) where both exploitation and IP management topics were addressed and discussed, and via an exploitation questionnaire sent to gather some more input on the partners' individual ambitions (M17).

Regarding IP background within the consortium, IP risks have been properly identified and addressed considering potential conflicts among partners, and the assessment of said risks as well as the definition for appropriate mitigation measures will be overseen by SIE every 6 months. An initial Results Ownership List is provided as part of the report and will be updated by the end of the project.

This report contains ALIGNED's intermediate exploitation and IPR management plans, and it will be updated once more at the end of the project.

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1. Introduction

This report is part of **Work Package 7 – Dissemination, communication, and exploitation of results**, and is related specifically to *Task 7.2 – Exploitation and intellectual property rights management of project results.* The main objective of this work package is to coordinate within the project consortium the performance of dissemination, communication, and exploitation activities, including intellectual property rights (IPR) management strategies.

The purpose of this work package (WP) is to ensure that the project results reach key targeted audiences with different objectives: **(1)** the exploitation of the project's KERs by the bio-based industry stakeholders, **(2)** the execution of dissemination activities which will also foster knowledge replication of the lifecycle assessment (LCA) frameworks developed, **(3)** the identification and engagement of stakeholders around the bio-based industry and the LCA practitioners, **(4)** the communication to wider, non-specialised audiences and the building of a cooperation strategy with the European Commission (EC) and relevant projects and initiatives.

The partners will maximise, as much as possible, the openness of the project results and the interaction with sectoral stakeholders in a balanced way with intellectual property (IP) protection measures established where necessary to ensure the proper exploitation of the project's key exploitable results (KER) and the protection of potentially confidential information. The Consortium will also contribute to common information and dissemination activities to increase the visibility and synergies between other Horizon Europe and H2020-supported actions.

Due to its public nature, this report will not include information classified as sensible or confidential by the project partners.

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2. Exploitation Plan Methodology

This section remains the same as the past report, as the methodology presented is still relevant to the project.

During the project, an exploitation and IP management plan will be continuously developed through Task 7.2, describing the framework that will be used. It will allow taking the most advantage of the results reached by the end of the project and aims at preventing and mediating any potential conflicts between partners regarding IP ownership and exploitation rights of said results after the project's lifetime.

Having a broad knowledge of the market, knowing where the innovation is aimed, and defining a well-prepared exploitation strategy are essential steps to increase the possibility of success of a certain product and/or service.

2.1. Exploitation obligations

Up to four years after the project completion, all beneficiaries must use their best efforts to ensure the exploitation of the results either directly or indirectly (through transfer or licensing, for example). It is important to highlight that this exploitation is not limited to commercial exploitation, so it can be either by [1]:

a) Using them in further research activities (outside the action).
b) Developing, creating, or marketing a product or process.
c) Creating and providing a service.
d) Using them in standardization activities or other use scenarios (inform policy or for educational purposes).

However if, despite the best efforts for exploitation, no uptake happens within 1 year after the end of the project, then the project must use the Horizon Results Platform to make the exploitable results visible to interested parties [1].

2.2. Exploitable innovations and ambitions

This section aims to describe the novelty value of ALIGNED's innovations, as well as their advantages and disadvantages compared to similar existing technologies in the market. It will include a description of these innovations' technical information (limited in case of sensitive information) such as features, development stages, etc. Also, it will further describe the value proposition of the project, explaining the core values of these innovations, what problems will they solve, what unfulfilled needs will they meet, or what added value will they provide compared to existing technologies that target the same user segments.

The potential barriers or limitations will also be listed and will be targeted by carrying out a risk analysis, addressing the main limitations that could be encountered through the project and that could endanger the implementation of ALIGNED and its results.

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2.3. Exploitation guidelines

The exploitation strategy will lead the way to how the innovations of the ALIGNED project can be exploited. This section will include the measures to put this strategy in place during the project's lifetime and after its end.

The exploitation plan will develop guidelines to reach the targets, depicting a roadmap on how to achieve the exploitation objectives in the following years after the end of the project. It will also describe the parties who will be responsible for the exploitation, and the external partners or experts needed to exploit the results.

The activities described and the future versions of this report will be nurtured by the activities carried out from WP2 to WP6 regarding the development of the case studies for each of the sectors of interest: construction, woodworking, bio-based textiles, pulp and paper, and bio-based chemicals.

Listed below are the possible exploitation routes to be considered, either for individual or group exploitation:

- ✓ Research activities.
- ✓ Deployment of novel product/service.
- ✓ Development of new legislation/standard.
- ✓ IP commercialisation, through license agreements, joint ventures, spin-offs, or other possible collaborations with the value chain's stakeholders.

In Figure 1 is a scheme of the exploitation strategy defined considering the intended Technology Readiness Level (TRL) to be reached by each project result.

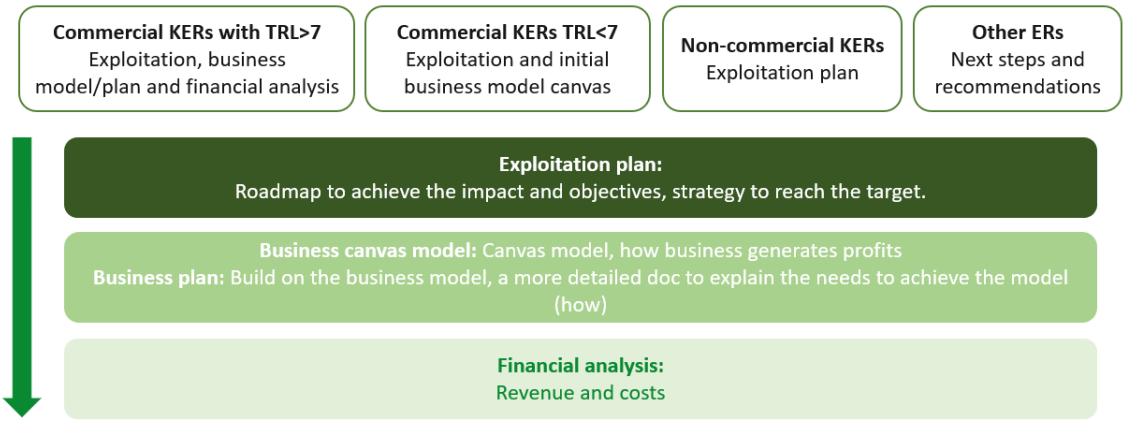

Figure 1: Exploitation strategy depending on TRL

In ALIGNED's case, the results are all non-commercial KERs, so the exploitation plan will be customised to define the route and the timeline for its execution will be further refined through this and the following reports.

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2.4. Internal exploitation risks

There are considerable risks for any newcomers to any market/sector, depending on their position in the value chain. These risks will become evident throughout the development of the project, so this and future versions of this Exploitation Plan will analyse the possible challenges that may arise when trying to exploit the achieved results.

On the Table 1 below is the format of the table to report internal exploitation risks, which will of course also be in line with the general risks identified for the project.

Table 1: Exploitation risk table format

Risk number	Risk description	Risk level (LOW=green, MODERATE=yellow, HIGH=red)
#1		
#2		

This table will be completed during the project lifetime with the identified exploitation risks and will be updated accordingly through this report's later versions.

2.5. External exploitation limitations

Like in every project, there are always exploitation limitations that can be identified from the market trends and the general evolution of a specific market. They could often be considered barriers to the penetration of the project results into the desired market segments.

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3. Exploitation Plan for ALIGNED

The following sections describe the exploitation plan for ALIGNED's KER, analysing in detail each of the innovations, with their corresponding state-of-the-art overview and other technical information, and its update for M18.

3.1. ALIGNED's innovation and ambition

The ALIGNED project aims to improve the environmental performance of bio-based industrial processes in five sectors: **construction, woodworking, bio-based textiles, pulp and paper and bio-chemicals**. The goal is to provide an evidence-based approach for decision-making to improve the sustainability of present and future bio-based industries, specifically by improving modelling practices, filling data gaps, and developing new methods for the standardized assessment of bio-based products.

This will be achieved by **(1)** aligning LCA methodologies specifically to bio-based industries, covering both environmental and socio-economic aspects, **(2)** demonstrating this methodology on 6 technology development cases in the previously mentioned sectors in order to improve their environmental performance, and **(3)** inform, involve and empower all relevant stakeholders, enabling the efficient uptake of the methodology to support replication across Europe, for sustainable growth of the bio-based sector in the region.

Currently, more and more bio-based products are being introduced to the market, leading to the growth of the sector. These products are often considered a better alternative to fossil-based products, however, measuring their environmental impact is a complicated task. This is why the use of LCA for bio-based products is recommended, hence this analysis to be carried out throughout the project's lifetime will be useful to quantify the environmental impact and to implement low carbon and circular economy solutions [2].

Currently, LCA practices are not homogenous, which makes it hard to compare results between different sectors. This is why the ambition of the ALIGNED project is to produce novel modelling approaches to the environmental assessment of the bio-based products' field, while ensuring applicability, relevance, and uptake for key stakeholders. By covering the previously mentioned sectors, the harmonisation of a very fragmented methodology landscape will be achieved via the use of advanced scientific models.

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3.2. ALIGNED's exploitation guidelines

The table below is a summarised version of the KER table for the ALIGNED project. This table can be found in the project SharePoint (restricted, only accessible to project partners), and it will function as a living document to be updated ideally every 6 months internally, up until the end of the project lifetime.

Table 2: ALIGNED's Key Exploitable Results in M18 (summarised)

KER Number	KER name	Lead partner	Participating partners	KER description	Partner contribution	KER market advantage	Exploitation form
1	**Methodological and modelling framework for improved LCA**	**AAU**	AAU NTNU INSAT ANTW BTG A4F	Partners listed, led by AAU, will develop a harmonised framework for LCA of bio-based products by reviewing existing methodologies and developing new ones. Use in sustainability assessment in consultancy, industry, and academia.	**AAU** Methods for dynamic inventory carbon accounting, methods for considering constraints to biomass availability. **NTNU** Methods to develop background prospective inventories. **INSAT** Harmonised methodology for life cycle impact assessment for climate and biodiversity impacts. **ANTW**	It is attractive to LCA practitioners working with bio-based products as it provides a one-stop-shop solution for guidance and support in performing the assessment of such products, that is currently difficult. Users are in sustainability consulting, industry, and academia.	Open-access publications. Software. Data. Prototypes. Reports. Skills and knowledge. Consultancy services.

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					Methodology for socio-economic assessment.		
2	**Overview on EP in the five bio-based industrial sectors at EU level**	**BTG**	AAU NTNU INSAT ANTW BTG A4F	An overview of each of the five BBI sectors at EU level has been collected and reviewed via online consultations and workshops.	**BTG** (4) and **NTNU** (1) have drafted the original documents, the WP lead of each sector WP has provided input.	Strong knowledge on the EP in each sector gives a market advantage in consultancy activities.	Open-access publications. Consultancy services. Skills and knowledge.
3	**Recommendations for LCA practitioners for the five bio-based industrial actors**	**AAU**	SIE AAU NTNU INSAT ANTW BTG A4F	The KER provides practical and synthetic guidance to LCA practitioners based on the application of the methodology developed in the project	Each partner will contribute from their respective case study and WP. As well as from WP1 (methodology) and WP7 (consultations and workshops)	The KER provides practical and synthetic guidance to LCA practitioners based on the application of the methodology developed in the project. It allows to see how the assessment can be used in practice and to avoid pitfalls and errors, as well to know the challenges in advance.	Reports. Skills and knowledge. Standardisation activities and policymaking. Consultancy services.

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4	**Recommendations for the five bio-based industrial sectors on how to improve their EP using the newly aligned LCA methodology**	**BTG**	SIE AAU NTNU INSAT ANTW BTG A4F	Recommendations for the five bio-based industrial sectors on how to improve their EP using the newly aligned LCA methodology, based on the work performed in multiple ALIGNED WPs.	Each partner will contribute from their respective sector WP as well as from WP1 (methodology) and WP7 (consultations and workshops)	Recommendations for LCA practitioners specific for the five bio-based sectors on interest with innovative methodology.	Consultancy services. Skills and knowledge. Software. Data. Reports.

The information in the table above has been updated via the exploitation workshops and questionnaires carried out and sent by SIE to all the consortium partners. The 1st exploitation workshop was held in M4, with the 2nd in M12, and the exploitation questionnaires were sent one in M5 and the other one in M17, in order to validate the updates and discussions had during the workshops.

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As part of the exploitation strategy, both joint and individual exploitation plans are considered, depending on the project and the type of results to be produced. In ALIGNED's case, a very collaborative approach is taken in order to develop the KER shown in the table above, which can make it challenging to assign only one partner as an IP owner.

The ownership of the results will be further discussed until the end of the project, and the final decisions will be contained in section 4 of the last version of this report due in M36.

Due to this collaborative approach, many partners are interested in exploiting the project results individually and collaboratively, which guarantees the ALIGNED will continue its impact even after the project ends. In more detail:

KER 1: Methodological and modelling framework for improved LCA

- ✓ **AAU:** This partner foresees individual exploitation of this result via further research and standardisation and policymaking practices, using the acquired know-how, tools, and methods for other research projects. They are open to collaborating with other research organizations. It is possible that the result takes the form of software, reports, skills and knowledge and open-access publications.

- ✓ **BTG:** This partner plans to exploit this result by offering consultancy services and applying the skills and knowledge gained from the project. They are open to potential collaborations but also have the capability to exploit the result individually.

- ✓ **INSAT:** The partner foresees exploitation of this result via further internal research, the use of the knowledge for other projects and new standards implementation. They will carry out the exploitation internally from INSAT, with potential collaboration of their affiliated partners, by incorporating the methodological LCA framework as the standard for future LCA studies in their lab. The result is expected to take the form of data, reports, skills & knowledge, and open-access publications.

- ✓ **NTNU:** They will use the knowledge acquired internally for research purposes and its use in other research projects. They see the potential for individual or collaborative exploitation and expect the result will take the form of software, data, skills & knowledge, and open-access publications.

- ✓ **A4F:** The partner expects to use the result for further research, standardisation activities, and commercialization via several activities: selling the services developed from results (or complementing already existing services/products), developing of new processes, technologies, and/or standards, the offering of consultancy services, and the continuation of further research in other projects. They expect the result to take the form of data, reports, skills & knowledge, standardization activities, consultancy services, and open-access publications.

- ✓ **BLOOM:** The partner plans to exploit this result via commercialisation, use for further research, policy briefs and standardization activities and open-access publications by taking the know-how acquired from the project on the LCA methodologies.

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KER 2: Overview of EP in the five bio-based industrial sectors at the EU level

- ✓ **BTG:** This partner foresees exploiting this result via the offering of consultancy services and the implementation of the skills and knowledge acquired in the project. They are open to potential collaborations but also have the capability to exploit the result individually.

KER 3: Recommendations for LCA practitioners for the five bio-based industrial sectors

- ✓ **AAU:** This partner foresees exploiting this result via further research and standardisation practices, in which they will follow the best practices and recommendations defined in the project for new LCA studies of bio-based products. They expect to exploit the result in the form of reports, skills & knowledge, and standardisation activities.
- ✓ **BTG:** This partner foresees exploiting this result via the offering of consultancy services and the implementation of the skills and knowledge acquired in the project. They are open to potential collaborations, but are in the position to exploit the result individually as well.

KER 4: Recommendations for the five bio-based industrial sectors on how to improve their EP using the newly aligned LCA methodology.

- ✓ **BTG:** This partner foresees exploiting this result via the offering of consultancy services and the implementation of the skills and knowledge acquired in the project. They are open to potential collaborations but also have the capability to exploit the result individually.
- ✓ **KING:** This partner will exploit this result via the commercialization of the result by implementing possible improvements of the EPs in the applications they work in. They expect the result to take the form of software, data, reports, and skills & knowledge.

3.3. External exploitation limitations

Among the market barriers identified in developing LCA for biobased solutions, are (no update, these remain relevant when checking other references):

Immaturity of technologies involved [3] [4]

LCA studies tend to be retrospective, meaning that they rely on historical data. Many biobased materials are in the early stages of development, so there is limited knowledge of how they would integrate with existing technologies and infrastructure. This is why LCA for biobased materials relies often on assumptions and modelled data (instead of data

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collected from real processes). These assumptions make the results less certain when comparing them with real-life applications, which in turn also makes comparison among studies more difficult.

Carbon accounting [3]

Methodological freedom to account for biogenic carbon creates discrepancies in modelling approaches and methods used, impacting the outcome of results for bio-based products. This includes how biogenic carbon is accounted for.

Considering different perceptions of technology [4]

Dealing with different perceptions of technology and feedstock combinations, particularly in the bioeconomy. The use of contrasting stakeholder perspectives on what can be considered bioeconomy technologies generates very different results because the goal and scope of the study depend on the stakeholder.

3.4. Internal exploitation risks

At this moment, no internal exploitation limitations have been identified.

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4. IP management methodology

The section below remains the same as the previous report, as what is described is still relevant to the project. It includes the methodologies and IP strategy that will be implemented for ALIGNED's KER. This is an initial approach, which will be further refined in future versions of this report.

4.1 Management of knowledge and foreground IPR

IP management is a very important matter since it ensures that results are protected in the most convenient possible way, while guaranteeing freedom to operate in potential market segments of interest, in the case of commercial results. Being one of the keys to the project's success, the background knowledge of each partner may be used to achieve the project's objectives.

The Exploitation Manager (in this case, SIE) is responsible for the management and the exploitation of Intellectual Property Rights (IPR). The role is defined to keep track of the partner's decisions on IP, as well as to manage efficiently the IP background to set a table of discussion within the consortium.

4.2 Background & foreground IP

The background knowledge of all the partners was identified before the Consortium Agreement. Background IP will remain with the originator partner and will continue to be updated throughout the project's duration. During ALIGNED's project lifetime, royalty-free access will be provided to all knowledge necessary to carry out the project activities, but once the project is over, access (if granted) must be managed by the owning partner under their conditions. The access request must be made up to one year after the end of the action.

The consortium agreement explains in detail how to ensure the protection of all intellectual property of the consortium. The IPR generated from a project's result will be the property of the partner that has developed it. Nonetheless, knowledge needed for the completion of the project must be shared among partners to ensure smooth collaboration between all parties.

Other results, such as publications, procedures and tools produced throughout the project will remain with their developing owners for exploitation. In the case of joint ownership, a joint ownership agreement is strongly recommended.

As stated in Annex 5 of the Grant Agreement under *Protection of Results*: *"Beneficiaries which have received funding under the grant must adequately protect their results — for an appropriate period and with appropriate territorial coverage — if protection is possible and justified, taking into account all relevant considerations, including the prospects for commercial exploitation, the legitimate interests of the other beneficiaries and any other legitimate interests."*

The Results Ownership List (ROL) is a new requirement for the Horizon Europe projects, and it's defined as a template to be completed during the final periodic report with the list of each of the owners for the results of the project *[5]*. The DoA contemplated that a first version of said table would be provided in this version of the report, so it is included in Table 5.

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4.3 Ownership allocation

The basic rules to allocate the ownership of the project results have been set out in Article 16 and Annex 5 of the Grant Agreement and in Section 8 of the Consortium Agreement which has been signed by all the partners participating in the project. In summary:

- ✓ The partner who generates the project results shall have ownership.
- ✓ In case the results are co-generated by multiple partners, and it is impossible to establish the respective contribution of each partner or separate for the application, obtainment or maintenance of the protection, those partners who have participated in generating the results shall have joint ownership and a separate written agreement shall be signed to decide the allocation and terms of exercising ownership, and all relevant issues.
- ✓ Each of the joint owners shall be entitled to use (and sublicense to their respective entities under the same control) their jointly owned results for non-commercial research and teaching activities on a royalty-free basis, without requiring the consent of the other joint owners.
- ✓ Each of the joint owners shall be entitled to otherwise exploit the jointly owned results and will be able to grant non-exclusive licenses to third parties (without the right to sub-license) if the other joint owners are given: (a) at least 45 calendar days advance notice; and (b) fair and reasonable compensation. The joint owners shall agree on all protection measures and the division of related costs in advance.

The ownership allocation will be further confirmed in the later stages of the project.

4.4 Transfer and licensing of results.

Any party may transfer ownership of its results, including its share in a jointly owned result, following the procedures stated in the Grant Agreement Article 16.4 and annexe 5, as long as it does not affect its obligations under said agreement. The beneficiary must ensure that their obligations under the agreement regarding the results are also passed on to the new owner to ensure compliance.

The transferring party must inform the other beneficiaries with access rights of the transfer at least 45 days in advance (or less if agreed in writing), unless agreed otherwise in writing for specifically identified third parties including affiliated entities or unless impossible under the applicable law.

Regarding licensing, the beneficiary may grant licenses to their results, including on an exclusive basis, as long as this does not affect compliance with their obligations. Exclusive licenses may be granted only if all the other beneficiaries concerned have waived their access rights.

Both beneficiaries seeking to transfer ownership of results or who plan to grant an exclusive license must formally notify the granting authority before it takes place. For this, they must:

- ✓ Identify the specific results concerned.

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- ✓ Describe in detail the new owner/licensee and the potential exploitation of the results.
- ✓ Include an assessment of the impact of this transfer/license.

The granting authority can object to the transfer/license within 60 days of receiving the notification. No transfer/licensing may take place in the following cases:

- ✓ Pending the granting authority decision.
- ✓ If the granting authority objects.
- ✓ Until the conditions are complied with (if the authority's objection comes with conditions).

4.5 IPR risks

For the consortium partners to exploit the project results freely and successfully after the end of the project, it is essential to foresee and identify any potential IP conflicts.

The assessment will be conducted and updated in the future version of the IPR management activities, which will be included in the future version of this report. The grid shown below will be used to identify if any conflict exists among the background IP owners and the partners who will be responsible for the exploitation.

As with any risk, the probability of it happening and the impact it can have on the project is considered to determine its level: minimal, low, moderate, high, or critical. The Table 3 below is a graphic representation of the risk classification to be used for the IP risks.

Table 3: Risk classification

		Likelihood of risk scenario				
		Unlikely	*Rare*	*Possible*	*Probable*	***Almost certain***
Severity of the impact for the project	**Severe**	Moderate	Moderate	High	Critical	Critical
	Large	Moderate	Moderate	Moderate	High	Critical
	Moderate	Low	Moderate	Moderate	Moderate	High
	Small	Minimal	Low	Moderate	Moderate	Moderate
	Insignificant	Minimal	Minimal	Low	Moderate	Moderate

As shown in Table 4, an IPR Risk Matrix will be used to detect any risks coming from partners' current activity or interests in certain IP asset protection.

Table 4: Example of IPR risk matrix

	Foreground Owner (partner A)	Foreground Owner (partner n)
Background Owner (partner A)	e.g.: same partner owns foreground and background.	…

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Background Owner (partner n) ….	e.g.: different partners own foreground and background, and no agreements are in place to define ownership or potential conversations.	…

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5. IP strategy for ALIGNED

Both ALIGNED's IP background and foreground were updated at M18 of the project and will remain open to be updated throughout its entire duration. As stated in the previous version of this report, the relevance of the IP strategy will be checked and updated once a year.

5.1 Background & foreground IP

The IP background or background knowledge refers to all information relevant to a collaborative venture or open innovation project that should be defined by all partners at the beginning of the said project.

Even though the ALIGNED exploitable results will be obtained by taking as a basis already existing open-source tools and models, IP management is still a very relevant topic. The strategy and procedures for the IPR management will consider the basic principles set in the Grant and Consortium Agreement.

ALIGNED's first mapping of IPR was done during the first months of the project via the 1st exploitation workshop and 1st exploitation questionnaire, with the aim to collect results' descriptions and validate lead and participant partners for the first version of this report (submitted on M6 as D7.4). On M12 during the corresponding General Assembly, a 2nd exploitation workshop was held in order to further discuss exploitation routes and IPR protection strategies, and finally, a third exploitation update was done on M17, through a 2nd exploitation questionnaire with the aim of gathering information now on the individual exploitation plans of the consortium partners. The update of the IP protection strategy is done together with the updates on the results' exploitation.

With the aim of updating the exploitation and IP strategies of the project effectively, an Excel file was uploaded to the project SharePoint containing the KER table, including information relevant to the IPR strategy like IP background, foreground, IP risks and risks description. The relevant information for IP has been included below to serve as the project's RO.

The table below depicts a summary of the previously mentioned table, which is updated every 6 months.

Table 5: ALIGNED´s Results Ownership List (ROL)

KER Number	KER name	Lead partner	Participating partners	Background IP	IP owner	IP protection strategy
1	**Methodological and modelling framework for improved LCA**	**AAU**	AAU NTNU INSAT ANTW BTG	Every material to be used will be from open sources, so no IP background identified until this moment.	TBD	Creative commons, to remain open-source. CC-BY-SA

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2	**Overview on EP in the five bio-based industrial sectors at EU level**	**BTG**	AAU NTNU INSAT ANTW BTG	N/A	TBD	Creative commons, to remain open-source. CC-BY-SA
3	**Recommendations for LCA practitioners for the five bio-based industrial actors**	**AAU**	SIE AAU NTNU INSAT ANTW BTG	Every material to be used will be from open sources, so no IP background identified until this moment.	TBD	Creative commons, to remain open-source. CC-BY-SA
4	**Recommendations for the five bio-based industrial sectors on how to improve their EP using the newly aligned LCA methodology**	**BTG**	SIE AAU NTNU INSAT ANTW BTG	N/A	TBD	Creative commons, to remain open-source. CC-BY-SA

Regarding background IP, the intentions remain to base all the work on open-source materials, meaning that at this moment, there would be no conflict with intellectual property used to base the results of the project. The incorporation of A4F to the consortium was considered for any updates of the CA regarding IP background.

The IP protection strategy is also shown in Table 5 and the intention that the partners have expressed during the first months of the project, and validated in the following months, is for all the materials and frameworks developed in the project to be protected through a creative commons license (**Attribution-ShareAlike4.0 International**), remaining open-source, with the intention that they are further used for research, academia and standardisation after the end of the project.

With the CC-BY-SA licence [6] (usually referred to as "Attribution-Share Alike") anyone is free to:

- ✓ Share: Copy and redistribute the material in any medium and format, for any purpose (including commercial).
- ✓ Adapt: Modify, remix, transform and create derivative works for any purpose (including commercial).

The restrictions of the materials protected via CC-BY-SA are:

- ✓ Attribution: you are obligated to credit the author, providing a link to the licence and you must indicate any changes made to the work.
- ✓ Share alike: you must share the derivate or modified works under the same licence as the original.
- ✓ Of course, other rights such as privacy or moral rights may limit the use of the materials as well.

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5.2 Ownership allocation

The final decision on the protection strategy for the results and the corresponding license will be finalized in the last update of this report, together with the final ROL. At the current stage, it is likely that the results will be owned jointly by all the participating partners of each result, but this will be confirmed by the end of the project.

5.3 IPR risks

Potential risks can arise when deciding the IP ownership of project results, this is why it is essential to identify potential risks beforehand, as well as to define the mitigation measures necessary in case said risk becomes a reality.

Below is the updated IPR risk table for the ALIGNED project.

Table 6: ALIGNED´s IPR risk matrix

	IP foreground												
IP background	**Partners**	**AAU**	**NTNU**	**INSAT**	**ANTW**	**BTG**	**SIE**	**OLEON**	**FOR**	**UTEX**	**CENT**	**KING**	**BLOOM**	**A4F**
	AAU													
	NTNU													
	INSAT													
	ANTW													
	BTG													
	SIE													
	OLEON													
	FOR													
	UTEX													
	CENT													
	KING													
	BLOOM													
	A4F													

As specified in Table 6, the dark green colour means that the risk is minimal and as shown in the table above, all relationships where a partner produces IP foreground using their own IP background are marked as a minimal risk. Potential conflicts may arise in cases

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where the background and foreground owner are not the same, in which case the risk will be classified by the consortium according to Table 3 when identified.

As of M18, the potential IP risks identified (marked in yellow in the table) are the same as the previous report, except for the addition of A4F to the table. The risks marked yellow (moderate) are related to the concern about keeping safe the confidential raw data to be used to perform and model the LCA analysis and frameworks. This is why, in the context of the use of this information after the project's lifetime, SIE will oversee this risk and will define with the partners the strategy to protect this information. The direct mitigation measure is to follow up every 6 months to ensure the strategy is up to date, and SIE will guide the involved partners (OLEON, FOR, BLOOM, KING, CENT, UTEX and A4F) in the definition of the availability for sharing and the conditions when necessary.

As mentioned previously, the IP strategy will be updated every 6 months via the General Assembly meetings and exploitation workshops to ensure the prompt identification of the risks and definition of mitigation measures.

The last version of this report (due M36) will contain the final details on this strategy and the finalized ROL for ALIGNED.

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6. Conclusions

The effective management of intellectual property is a critical part of the development of new technologies and services, and it supports organisations in remaining competitive. By adopting best practices in IP management, such as conducting thorough IP searches, drafting solid licensing agreements, and developing robust infringement monitoring strategies, organisations can maximise the value of their IP while mitigating the risk of legal disputes and reputational damage.

In the previous version of this report, the intention of the consortium was clear for the results' exploitation: open access is a priority, and the main exploitation route is for the result to serve for further research and for standardisation of purposes, and in some cases, also policymaking, and this remains the same. However, it is good to mention that some partners have updated the plans with their intention of utilizing the results for commercial purposes in the mid and long-term, even if it is clear that it will not be the main route.

At this moment, the consortium has agreed to protect the results via using a Creative Commons Licence (CC-BY-SA) that allows free sharing of the materials, but it is necessary that credit is given to the author and that the materials are shared as their original versions.

The final version of this report will provide a definite update of the strategies described in this deliverable, specifically as *D7.6 – Final report on the exploitation and IP plan* (due M36).

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