



2020

# B5.1 Replicability and Transferability (R&T) plan development

ALINA LIFE FORMULATIONS IN OPEN-SOURCE PLATFORM

LIFE17 ENV/LV/000318



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## Background information

The Replication and transferability (R&T) actions focus on a novel approach, delivering ready-made and tested formulations to EU paint and coating companies via transnational On-line platform. Companies who would licence the formulation could assign their own label known in industry as White-label (knowing that they will pass Ecolabel certification) and can start immediate production. As well R&T actions are focused on preparing Initiative (suggestion) document to policy makers and replication to other companies in EU and sectors.

R&T plan (project's action B5.1.) development should cover the following activities:

- **On-line platform marketing plan** for reaching paint manufacturing companies interested to start production of paint products with reduced biocides and VOCs (needed for action B5.2 and action B5.3).
- **White-label paint formulation monetization strategy** to ensure recurring revenue streams for On-line platform maintenance and development of new formulations after the end of the project.
- **Analysis aimed at strategic industry partners identification** and negotiation to bring formulations to the market.
- **Evaluation and analysis of organoclay technology transfer** to cosmetics, pigment, mineral and other industries. Market potential and alternatives to organoclay, toxic chemical substitution tendencies in other industries and markets.
- **Business case development for organoclay technology licensing**, negotiations with possible partners, evaluation of potential organoclay production sites.
- **Work task specification** for the R&T team and **R&T strategy after the project**, including funding sources.

On-line platform marketing plan, Analysis aimed at strategic industry partners identification and White-label paint formulation monetization strategy are aimed towards successful development of 16 new paint & coating formulations and launch of the On-line platform.

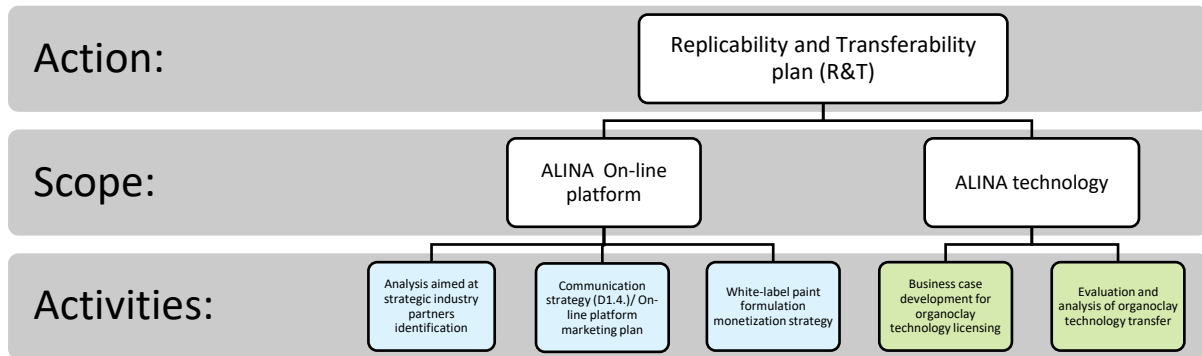
Furthermore, it is recommended to replace / rename On-line platform marketing plan with Communication strategy, described in action D1.4. as in both cases, common objective is to build On-line platform awareness among industry professionals and general public. By that, recommendation is to develop a R&T plan that is strongly aligned with activities and timeline for Public awareness and dissemination of results. Aware of this, it is clear that successful On-line platform communication strategy, white-label monetisation strategy and strategic partner identification is possible if planning is synchronised with On-line platform development and market launch.

Furthermore, business case development for organoclay technology licensing and Evaluation of organoclay technology transfer to other industries are related towards ALINA technology Intellectual Property Rights (IPR). Licencing and technology application in different industries should be supported by established intellectual property rights and strategy. It is recommended to define further R&T activities in a framework of ALINA IPR strategy, separately evaluating replicability and transferability opportunities only for ALINA technology, that is not directly related to On-line platform market launch. Still, it is important to identify possible synergies within communication strategy, described in action D1.4, where overall LIFE-ALFIO and ALINA company awareness may provide number of benefits to access different industry players, that may be interested in a technology licencing.

Replicability and Transferability plan development is organised in a three step process, where (1) firstly it is important to describe the initial situation, (2) secondly we need to determine the key factors and prioritise them, and (3) thirdly we need to propose fitting and, importantly, effective actions.

For more structured approach to develop Replicability and Transferability plan it is recommended to organise tasks in the following structure (Table no.1):

Table no.1, structured approach to develop Replicability and Transferability plan



R&T plan is organised in the following section, as it is described in the Table no.1. Work task specification for the R&T team and R&T strategy after the project, including funding sources are discussed within the scope of each and every activity.

R&T activities (Table no.3) timeline is planned in accordance with the activities related to the development of the On-line platform (Table no.2).

Table no.2, LIFE-ALFIO On-line platform launch

Paint formulation online-platform plan		2019				2020				2021				2022				2023			
Action number	Name of the action	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV
85.1	Development & Launch of the platform in test version																				
85.2	Development & Launch of the platform - 16 paint formulations published in online platform																				
85.3	Promotional content development, distribution and continuous update																				

Table no.3, R&T activities

B.5 Replicability and transferability (R&T) activities		2019				2020				2021				2022				2023			
Action number	Name of the action	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV
1. Analysis aimed at strategic online and industry partners identification																					
1.1	Developing list of raw materials for 16 paint formulations																				
1.2	Establish partnership & conditions with raw material suppliers																				
1.3	Establish partnership & conditions with raw material online data base owner																				
1.4	Establish partnership & conditions with industry media channels																				
2. Communication strategy (D1.4./) On-line platform marketing plan																					
2.1	Information and awareness raising activities for general public																				
2.2	Technical dissemination activities for paint and coating industry professionals																				
White-label paint formulation monetization strategy																					
3	Test a pilot, develop a winning strategy and timeline																				
4	Choose the right tech stack																				
5	Launch and scale																				
Business case development for organoclay technology licensing																					
6	Identify potential licensor within ALINA customers or partners																				
7	Define ALINA company internal capabilities & develop timeline																				
8	Problem - Technology fit validation																				
9	Technology - Market fit validation																				
10	Regulations & business contract signing																				
Evaluation and analysis of organoclay technology transfer																					
11	Market opportunity assessment & prioritisation																				
12	Technology development and validation for specific application																				
13	Assessment of G2M strategies (licensing / product sales)																				

## LIFE-ALFIO On-line platform

Traceability and transparency are the two main aspects that are incorporated into On-line platform development. Platform end-users will have access to all information about paint formulation including test results. Transparency stands for knowing what specific materials are used and how to manufacture specific paint products, and traceability stands for where does raw materials come from,. On-line data-base access will be available 24/7, providing information about paint formulations (technical documentation for manufacturers, obtained test results, etc.) and raw materials for paint formulations (technical information about quality standards, specifications etc.). On-line platform will provide self-service functionality for the platform end-users.

During the LIFE-ALFIO project, it is planned to establish the On-line platform, develop content and present it to the industry. The On-line platform is planned as an information database with restricted access for specific end-users. Platform end-users, that will gain an access, are divided into several groups:

- **Paint end-users and general public (individuals).** Do not require profile registration (optional). Have access to public information about paint formulations.
- **Paint manufacturers (professionals).** Requires company profile registration using company email address. Guaranteed access towards all information regarding paint formulations and related test results, including a list of possible raw material suppliers. Paint manufacturers can request and sign license agreements for specific paint formulation licensing.
- **Paint raw material suppliers (professionals).** Requires company profile registration using company email address. Guaranteed access towards paint formulations, including raw material technical specification. Paint raw material suppliers are able to add material supplier information.
- **Research and Development, Scientific and academic institutions (professionals).** Requires company profile registration using company email address. Guaranteed access towards methodologies, principles, and standards to register new paint formulations.

The On-line platform will provide following self-service functionality for the platform end-users: Profile registration, Self-service information update, Signing formulation electronic license agreements (if compliant with EU legislation), Process On-line payments. Data-base access will be available via On-line platform 24x7, where information is classified in the following order:

- **Paint formulations** – information related to paint formulation, including technical documentation for manufacturers, obtained test results, etc.
- **Raw materials** – information about raw materials in paint formulations, including technical information about quality standards, specifications etc.

On-line platform will represent a convenient tool for companies producing paints and coatings. Industry players can quickly and conveniently download paint and coating formulations and integrate them into their manufacturing processes, knowing that formulations are ready for Ecolabel certification and production. In addition, the platform will provide to paint manufacturers a database with suppliers of different raw materials offering traceable and transparent information about various raw materials. Launching of the platform will solve 2 time consuming and resource intensive problems of the industry with regard to the formulation development and supplier search.

After the project, the On-line platform will continue working. Sixteen ready-made and properly tested paint formulations will be provided in the framework of the LIFE-ALFIO project. However, a fee for formulation licensing will be applied (hereinafter – formulation license fee) to maintain the On-line platform after the project and to facilitate the development of next free formulations.

Analysis aimed at strategic industry partners identification

Partner identification and roles are affected by the On-line platform business model. To illustrate the business model, business model canvas framework is applied (Table no. 4). Illustration provides detailed analyses of business model principles, describing nine building blocks and business model mechanics. Ecolabel compliant Formulations and On-line platform are the main recourses required for successful business model development, and this aspect helps to recognise role of different partners to enable required resource availability. No less important is to assess the role of partners in reaching potential customers/ paint manufacturers.

Table no.4, LIFE-ALFIO platform business model (for the project period)

Partners	Activities	Value Propositions	Relationships	Customers
EcoLabel	On-line platform administration	Ready-made and EcoLable compliant paint and coating product formulations.	Self-service Contract-based	Paint manufacturers.
ALINA	Customer support		<b>Channels</b> Exhibitions Advertising On-line platform Direct contact	
Paint raw material suppliers	Partner management			
Paint raw material	<b>Recourses</b>			
On-line databases	Ecolabel compliant Formulations			
Binder manufacturers	On-line platform	Administrative team		
<b>Costs</b>		<b>Revenue streams</b>		
Advertising costs Administration costs Hosting costs		Annual Fees		

Partners can be classified by different objectives:

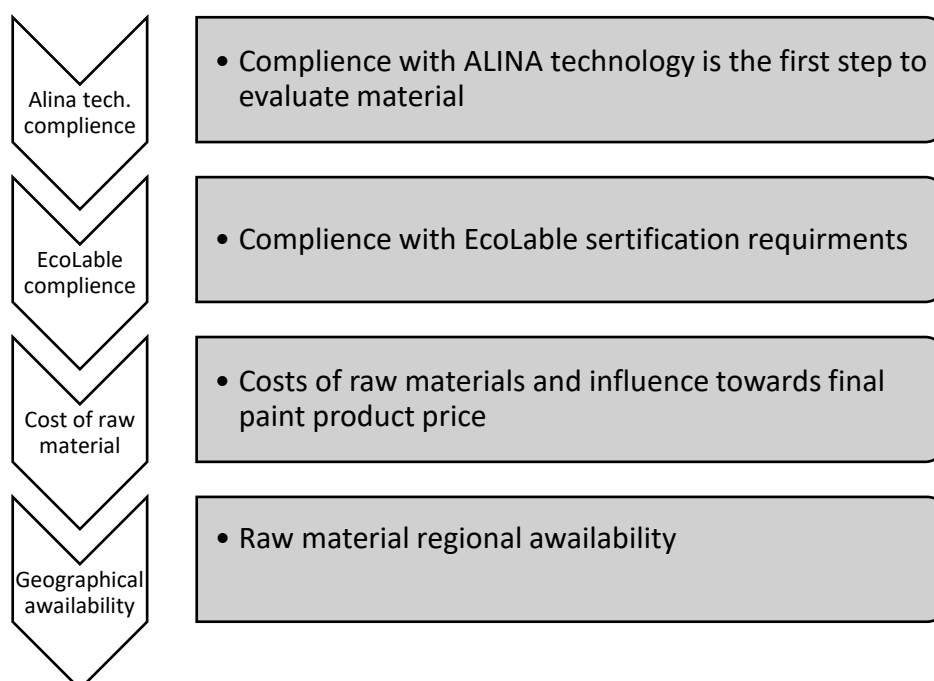
- Create & enable Ecolabel compliant formulations;
- Communicate and promote Ecolabel compliant formulations to the customers;
- Administrate and run the On-line platform.

**Create & enable Ecolabel compliant formulations.** In order to reduce the technical risks associated with the development of paint and coating product formulations, it has been decided at the beginning of the project to cooperate with binder manufacturers, involving them as experts in the development of formulations. Binder manufacturer involvement from the beginning of the project will ensure closer cooperation with ALINA team, which in the future may be realized in various forms of cooperation. Successful implementation of the project will be a demonstration to the binder manufacturers that their specific binder product will be further promoted in the market as a Ready-made and Ecolabel compliant formulation, that initially drive sale of the specific binder product. As a result of successful cooperation, it is expected that cooperation with the binder manufacturer can be expanded. One of the possible forms of future cooperation is supplementing the On-line platform database with new formulations. The role of Binder manufacturers in the development of formulations is prioritised, as it is one of the main components of paint products, as well as the choice of other raw materials, largely determined by the choice of binder.

Other raw material suppliers, as pigments, fillers and additives (in some paint formulations, there are more than 20 different ingredients) should be classified as partners. There are two aspects to consider. Firstly, raw materials that are used for paint and coating formulation development should be compliant with Ecolabel standards, that determines potential partners, being ready to provide all the documentation, to trace product composition. Secondly, raw material suppliers and the products they offer, should be evaluated by the costs of raw materials and availability, where it may influence ready-made formulation economic attractiveness in the eyes of paint manufacturers.

In both cases, when choosing a partner to supply raw materials, either Binder or any other material for paint formulation, it is necessary to assess them according to following criteria (Table no.5):

Table no.5, Raw material supplier selection criteria.



The identification of the binder and the raw material manufacturers is related to the process of developing paint formulations. Once the work on the development of specific paint formulation concepts has been completed, it is planned to identify potential partners before starting paint tests.

In order to successfully implement the operation of the On-line platform, the data used to describe the specific raw material play an important role. For this purpose, it is planned to exchange raw material data with the manufacturer as well, to find a partner who provides access to the data base of the selected raw materials and alternatives. Database provider would simplify and provide external validation for raw materials. The partner's role is to provide data that can be integrated into the LIFE-ALFIO database so that customers can obtain complete information on the technical characteristics of each material used, their composition and costs (where possible), thus ensuring transparency and traceability of formulations. Currently, several partners have been identified, companies that create raw material databases that may meet the needs and objectives of the LIFE-ALFIO project. It is planned to start negotiations on possible forms of partnership, addressing each company individually.

**Communicate and promote Ecolabel compliant formulations to the customers.** In order to facilitate ready-made formulation communication and promotion to the paint and coating manufacturers, it is important to search for media partners or other organisations, who have access to potential customers. Current market research has shown number of organization/ media with European and global coverage. Media fulfil the role to reach paint and coating manufacturers with proper advertising and promotional materials, acting as communication channels.

Still, there are number of possibilities to establish closer and more engaging partnership. Partnership opportunities should be evaluated approaching media individually, where potential synergies can be found behind content creation, exchange with data bases, affiliate marketing and ect.

**Administrate and run the On-line platform.** From a perspective of On-line platform business model, ALINA management team is an important partner, dedicating recourses to support platform development.

The above described roles illustrate partner importance towards On-line platform development during LIFE-ALFIO project. Considering On-line platform development scenarios after project, business model adjustments are planned to obtain sustainable revenue streams and solid partnerships for development of new formulations. Major adjustments in LIFE-ALFIO platform business model, period after the project, are indicated on customer side, where formulators (either binder manufacturers, academic institutions) are the ones, providing formulations to the platform, instead of ALINA team and Paint manufacturers are the ones, receiving ready made formulations for use in manufacturing.

Table no.6, LIFE-ALFIO platform business model (period after the project)

Partners	Activities	Value Propositions	Relationships	Customers
EcoLabel	On-line platform administration	Self-service On-line platform for paint-coating formulation exchange.	Self-service Contract-based	Paint manufacturers.
ALINA	Customer support			
Paint raw material suppliers, including Binder manufacturers	Partner management	Ready-made and EcoLabel compliant paint and coating product formulations.	Channels Exhibitions Advertising On-line platform Direct contact	Formulators
Paint raw material On-line databases	Ecolabel compliant Formulations			
	On-line platform			
	Administrative team	Channel to promote frame formulations and sell ready-made paint and coating product formulations.		
<b>Costs</b> Advertising costs Administration costs Hosting costs Incentives to formulators		<b>Revenue streams</b> Annual Fees		

LIFE-ALFIO platform business model for a period after the project (Table no.6) requires validation. Business model mechanics, principles and monetisation will be validated during LIFE-ALIFIO project. Identification of potential partners and identification of needs, as well as business opportunities, is one of the important conditions for further development of a business model.



Strategic partner identification process should be organised in line with LIFE-ALFIO paint formulation and On-line platform development, as well taking into consideration activities planned in communication strategy. Mentioned activities have intersection where timeline and partner roles have to be adjusted. For planning purposes, it is recommended to implement principle, where questioning about potential partner comes before establishing partnerships for LIFE-ALFIO project needs:

- **What?** Description of the partnership, the purpose. Should be interlinked with LIFE-ALFIO project activities, where partnership has a direct impact for a specific deliverable.
- **Who?** Determine potential partners, Identification of partner for involvement in the LIFE-ALFIO project. Partners should be defining as specific companies / organisation, that should be involved into LIFE-ALFIO project.
- **How?** Define, how the partnership will be expanded, it includes specific activities, agreed with each and every partner individually.
- **When?** Determine the time when partner involvement takes or will take place. Timeline should be aligned with LIFE-ALFIO project activity timeline.

Strategic industry partners identification activity timeline (Table no.7) provides detailed information about planned activities, synchronised with LIFE-ALFIO On-line platform launch (Table no.2). Partners identification is organised among activities as: Developing list of raw materials for 16 paint formulations, establish partnership & conditions with raw material suppliers, establish partnership & conditions with raw material On-line data base owner and establish partnership & conditions with industry media channels.

Table no.7, Strategic On-line and industry partners identification activity plan.

B.5 Replicability and transferability (R&T) activities		2020				2021				2022				2023											
Action number	Name of the action	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV								
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1. Analysis aimed at strategic online and industry partners identification																									
1.1	Developing list of raw materials for 16 paint formulations																								
1.2	Establish partnership & conditions with raw material suppliers																								
1.3	Establish partnership & conditions with raw material online data base owner																								
1.4	Establish partnership & conditions with industry media channels																								
2. Communication strategy (20.4.1) On-line platform marketing plan																									
01	Information and awareness raising activities for general public																								
02	Technical dissemination activities for paint and coating industry professionals																								
White-label paint formulation monetization strategy																									
1	Set a goal, Develop a testing strategy and timeline																								
2	Choose the right web stack																								
3	Launch and scale																								
Business case development for organosolvent technology licensing																									
1	Identify potential licensees within ALINA customers or partners																								
2	Define ALINA company internal capabilities & develop timeline																								
3	Problem - Technology fit validation																								
4	Technology - Market fit validation																								
5	Negotiations & license contract signing																								
Validation and analysis of organosolvent technology transfer																									
1	Market opportunity assessment & prioritisation																								
2	Technology development and validation for specific application																								
3	Assessment of 20th strategies (business / product sales)																								

Work task specification for the R&T team:

R&T Manager

- Establish partnership & conditions with raw material online data base owner
- Establish partnership & conditions with industry media channels
- Specifying Information: Purpose, Main Goals and Target Audience

Project Manager responsibilities:

- Developing list of raw materials for 16 paint formulations
- Establish partnership & conditions with raw material suppliers

On-line platform IT specialist

- Development of IT technical specification

R&T strategy after the project. Activities related to strategic On-line and industry partners identification will be maintained and planned after the end of the project. When planning to attract new formulations to the On-line platform, it is necessary to expand the range of partners.

### Communication strategy (D1.4.)/ On-line platform marketing plan

Role of communication strategy is aligned with LIFE-ALFIO project outputs, to reach specific targets, with focus on ST3 -To promote and to make easily transferable VOCs and biocide diminishing options by developing an On-line platform for: 1) paint formulation publishing, 2) transparency and traceability of paint and coating components, 3) industry communication. Communication strategy provides a guidance and principles towards LIFE-ALFIO project result communication within industry stakeholders, supporting and engaging professional communities. Prioritizing industry awareness and engagement into LIFE-ALFIO platform, planned results include reaching audience of 500 companies and 130 000 people/ individuals, preferably industry and environment professionals whose interests and needs interact with scope and outcomes of LIFE-ALFIO project.

Communication strategy (Table no.8) is an integral part R&T activity. Communication activities are synchronised with On-line platform launch timeline in (Table no.2).

Table no.8, Communication strategy (D1.4.)/ On-line platform marketing activity plan in R&T.

B.5 Replicability and transferability (R&T) activities		2019				2020				2021				2022				2023			
Action number	Name of the action	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV
1. Analysis aimed at strategic online and industry partners identification																					
1.1	Developing list of raw materials for 14 paint formulations																				
1.2	Establish partnership & conditions with raw material suppliers																				
1.3	Establish partnership & conditions with raw material online data base owner																				
1.4	Establish partnership & conditions with industry media channels																				
2. Communication strategy (D1.4.) / On-line platform marketing plan																					
D1. Information and awareness raising activities for general public																					
D2. Technical dissemination activities for paint and coating industry professionals																					
White-label paint formulation monetization strategy																					
1	Set a goal, develop a timing strategy and timeline																				
2	Choose the right tech stack																				
3	Launch and scale																				
Business case development for organoclay technology licensing																					
1	Identify potential licensor within ALNA customers or partners																				
2	Define ALNA company internal capabilities & develop timeline																				
3	Problem - Technology fit validation																				
4	Technology - Market fit validation																				
5	Regulations & license contract signing																				
Evaluation and analysis of organoclay technology transfer																					
1	Market opportunity assessment & prioritization																				
2	Technology development and validation for specific application																				
3	Assessment of G2M strategies (licensing / product sales)																				

Communication strategy activities are organised among actions, D1. Information and awareness raising activities for general public and D2. Technical dissemination activities for paint and coating industry professionals. Communication activities illustrate specific time periods of promotional campaigns, that are aligned with communication objectives and On-line Platform launch activities.

Table no.9, Communication strategy (D1.4.)/ On-line platform marketing activity plan in details.

Communication strategy (D1.4.)/ On-line platform marketing plan		2019				2020				2021				2022			
Action number	Name of the action	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV
D1. Information and awareness raising activities for general public																	
1.1	Planning and promotional content development																
1.2	Development of the landing page and social channels																
1.3	Campaign: How to assess paint and coating product toxicity to make responsible product choices																
D2. Technical dissemination activities for paint and coating industry professionals																	
1.1	Planning and promotional content development																
1.2	CRM system integration with the online platform																
1.3	Campaign: LIFE-ALFIO project update & news																
1.4	Campaign: Introducing LIFE-ALFIO project for the industry sustainable development																
1.5	Campaign: Introduction of paint formulations & online platform																
1.6	Campaign: How to use LIFE-ALFIO platform to benefit your business																
1.7	Campaign: LIFE-ALFIO project presentation in thematic events																
1.8	BS.4 Development of initiative (suggestion) document to policy makers																
1.9	D2.5 Conference/panel discussion about biocide and VOC free challenges and solutions																

Activities described in Table no.9 are explained in the communication strategy document.

### White-label paint formulation monetization strategy

White-label formulation monetization strategy should be aligned with the LIFE-ALFIO On-line platform business model. Nevertheless, we know, who are potential customers, we should understand and validate business model mechanics, towards the value proposition, paint company readiness to pay and many other aspects. For the further discussions, Table no.6 LIFE-ALFIO platform business model (period after the project) will be taken as the business model to evaluate, possible scenarios of monetisation.

Business Model, developed for the period, after the project is defined as the platform business model. A platform is a business model that creates value by facilitating exchanges between two or more interdependent groups, usually consumers and producers. In order to make these exchanges happen, platforms harness and create large, scalable networks of users and resources that can be accessed on demand. In case of LIFE-ALFIO On-line platform, two independent groups are: Paint manufacturers that need new paint formulations, and other group are the companies, including binder manufacturers, formulators as well academic organisations that develop paint formulations. From one side is a formulator and from other side a paint manufacturer, in case of absence of any of those groups, business model mechanics will not function. Business model viability is embedded into the principle, where both groups should gain some benefits from a participation in the platform.

Platform businesses are becoming increasingly integral to business value creation. It's important to understand not just the structure, but the dynamics, of different kinds of platforms. John Hage (from Deloitte University press) has distinguished four different categories of platforms that are becoming increasingly prominent in the business world (and elsewhere).

**Aggregation platforms** bring together a broad array of relevant resources and help users to connect with the most appropriate resources. These platforms tend to be very transaction- or task-focused: Express a need, get a response, do the deal, and move on. Aggregation platform, is a basic concept that is planned to integrate within LIFE-ALFIO On-line platform, where formulators provide paint and coating product formulations that are integrated with database of paint raw material suppliers, and from other side, paint manufacturers gain access to paint formulations and aggregated data about raw materials.

As another examples of platform business models, are **Social platforms, Mobilisation platforms** and **Learning platforms** that facilitate learning by bringing participants together to share insights over time. Social platforms and Mobilisation platforms do not fit the scope of LIFE-ALFIO project, where learning platforms tend to foster deep, trust-based relationships, as participants have the opportunity to realise more potential by working together. Learning platforms do not view participants as "static resources." On the contrary, they start with the presumption that all participants have the opportunity to draw out more and more of their potential by working together in the right environment. Aggregation platform have the potential to evolve into learning platforms, which is the case for LIFE-ALFIO on-line platform as well.

Framing a winning monetization strategy requires insights into the business model, an as well effective monetization strategy recognizes data as an evolving asset living and growing within a living enterprise. Data monetization strategies are indeed influenced by technological capabilities of an enterprise, however the starting focus for strategy formulation should be on defining the value to the enterprise, the value to its customers, and the potential value to third parties in its immediate or adjacent industries. It is about monetizing data or transforming this ALINA asset into currency, profits, and market advantage.

Defining the value, to recognise different stakeholders' benefits, where ALINA company, Paint manufacturers as a customers and Binder companies or academic organisations as formulation developers are the main beneficiaries. Another beneficiary is a raw material supplier.

Table no.10, LIFE-ALFIO beneficiary value exchange

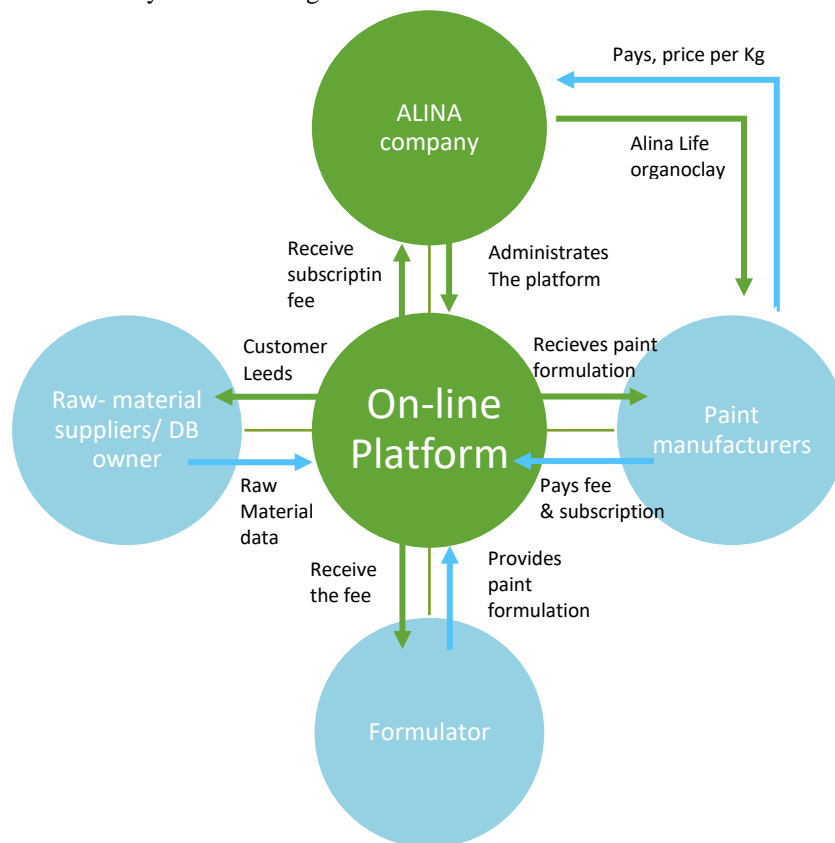


Table no.10 provides detailed illustration of value exchange between different stakeholders. For clarity, ALINA company is separated from the On-line Platform, to illustrate revenue streams, that are not associated with On-line platform directly.

Paint manufacturers are the customers of LIFE-ALFIO On-line platform, where they receive access towards ready-made paint and coating formulations, instead they pay a fee (should be decided about specific monetisation format) for each formulation they incorporate into the product portfolio. From other side, paint and coating formulations are provided, developed by the formulator (that could be a binder manufacturer, academic organisation etc.) for which formulator receives % of the fee, received by paint manufacturer. To support On-line platform with raw material data, Data Base owner is used as external partner. Data base data exchange are expected to be free of charge, and Data Base owner gains revenues in case of sales, when a specific paint manufacturer makes an order. LIFE-ALFIO on-line platform works as a channel for a specific raw material supplier, to reach potential customers. ALINA as a LIFE-ALFIO On-line platform owner and manufacturer of ALINA organoclay materials receive revenues from Paint manufacturers, % of the paid fee. Additionally, revenues are generated by selling organoclay products to paint manufacturers and affiliate payments from Raw-material suppliers.

For sustainable development of LIFE-ALFIO On-line platform, number of different alternatives should be validated. Main question that should be addressed is about, how to incentivise potential formulators **to develop new formulations for the Paint and Coating product manufacturers?** Assuming, based on calculations provided in LIFE-ALFIO project proposal, that paint and coating product formulation costs reach 70K EUR, our main task is to validate paint manufacturer readiness to pay for a specific paint formulation. Knowing, that applying ready-made and tested paint and coating formulations can substantially reduce the costs for the manufacturer, initial offer is to define fee target as 10 times the cost of formulation. In a specific case, when new paint and coating formulations are developed, recommendation is to set 7 000 EUR as a target fee, that should be received from each paint manufacturer to start manufacturing, using specific formulation. Based on initial market research, this fee is proposed as a one-time fee, that is paid to the formulator. Receiving the fee, formulator

transfers the rights of formulation to the manufacturer. Above described mechanics should be validated during LIFE-ALFIO project development stage. Additional question is about fee, that is paid to the LIFE-ALFIO platform to support platform development and administration. The estimated yearly On-line platform maintenance costs are 50 000 EUR. The costs after the end of the project will include technical support and hosting (~6000 EUR/year), platform administrator costs (~32 000 EUR/year), internet marketing and communication activities (~12 000 EUR). In a specific case, recommendation is to set 100 EUR as an annual target fee, that should be received from each registered paint manufacturer, that has access to On-line platform content. At this moment of time, this approach is not validated, and it will be tested while developing and launching LIFE-ALFIO platform. Previously made interviews with paint manufacturers, indicate some aspects that need to be evaluated. It is foreseen that additional services could be provided to the On-line platform users, like availability of frame formulations, different frame formulation benchmarking and comparison to each other, guidance towards formulation compliance with eco label standards, eco raw material listings, raw material regional availability, etc. Considering that LIFE-ALFIO On-line platform provides both transactions and opportunities to acquire information, there are still open monetisation opportunities that should be tested. Already today, we foresee number of strategies that can be incorporated into future development of LIFE-ALFIO On-line platform: Charging the demand side (where paint manufacturers are charged as registered users), Payments (where paint manufacturers are enabled to purchase paint formulations), additional products and services (not registered users are enabled to buy specific services), Pay-per-lead (where LIFE-ALFIO platform may receive payments from the raw material suppliers, providing potential customer leads). Diversifying Income Streams – it is important diversifying the income opportunities within each income stream.

In the process of developing an effective data monetization strategy there are a number of other factors that are important to consider. The non-technology-driven challenges and factors to consider include Network effect & natural barriers, as well as Partnerships & organization structures, that should be considered on the later stage of development.

Outlining some basic steps ALINA team should follow to build and implement the monetization strategy [data source: [laterpay.net](http://laterpay.net)].

**1. Set a goal.** First, it is important to determine what it is that ALINA want to achieve with LIFE-ALFIO On-line platform. ALINA team can't determine whether effort is successful if have not defined what success means.

**2. Develop a testing strategy and timeline.** Based on ALINA set goals for the LIFE-ALFIO platform, it is important to list the tactics you can deploy to reach the goal. ALINA team will also need to experiment with which content to put behind the paywall and determine which content sells best for each commitment level. Of-course price testing is something that should be considered as well. How much are visitors willing to pay? The engagement before the purchase. How much does LIFE-ALFIO On-line platform visitor need to engage with your content before they determine it's worth paying for?

**3. Choose the right tech stack.** This step actually takes place simultaneously with step #2 as ALINA team will need to figure out how can technically accommodate what is needed to do. For example, make sure that if only to put a section of LIFE-ALFIO On-line platform site behind a paywall, on-line paywall solution has that capability and will easily work with Content management system (CMS) and the way the content organized/tagged. Or, if ALINA team wants to sell individual pieces of content and price each piece differently, it is important to do that with the technology you choose.

Analytics is another big consideration when researching tech stack. ALINA team needs to be sure to get data in the right metrics and evaluate results. It is impossible to have a successful testing strategy without a way to analyse results. If the solution you choose doesn't give you sufficient data, you may have to integrate an additional tool that allows you to do that.

**4. Launch and scale.** Once ALINA team have integrated the right tools and completed testing, it should have a good idea of what will work best to achieve the goal. It's now time to roll out strategy across LIFE-ALFIO On-line platform site and do more of what has proven to produce the best results in the testing stage.

**5. Evaluate success.** Having set a goal in the beginning makes it much easier to determine if ALINA team efforts were successful. Perhaps ALINA team will set a different goal knowing how to change the strategy. But it's important to evaluate in terms of what has been set out to accomplish and the steps that was taken to achieve the goals.

**6. Iterate based on results using data and industry expertise.** After the testing stage and initial implementation ALINA team will have access to invaluable data that will help expand success. It is recommended that ALINA team constantly look at results and data and use all of the resources available to determine if strategy needs adjusting.

White-label paint formulation monetization strategy activity plan include number of activities, including Setting a goal, develop a testing strategy and timeline and choose the right tech stack Launch and scale. Monetization strategy indicate specific time periods of related activities, that are aligned with communication strategy and On-line Platform launch activities.

Table no.11, White-label paint formulation monetization strategy activity plan.

B.5 Replicability and transferability (R&T) activities		2020				2021				2022				2023			
Action number	Name of the action	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV
1. Analysis aimed at strategic online and industry partners identification																	
1.1	Developing list of raw materials for 16 paint formulations																
1.2	Establish partnership & conditions with raw material suppliers																
1.3	Establish partnership & conditions with raw material online data base owner																
1.4	Establish partnership & conditions with industry media channels																
2. Communication strategy (S&M) On-line platform marketing plan																	
01	Information and awareness raising activities for general public																
02	Technical dissemination activities for paint and coating industry professionals																
White-label paint formulation monetization strategy																	
1	Set a goal, develop a testing strategy and timeline																
2	Choose the right tech stack																
3	Launch and scale																
Business case development for organosolvent technology licensing																	
1	Identify potential licensees within ALINA customers or partners																
2	Define ALINA company internal capabilities & develop timeline																
3	Problem - Technology fit validation																
4	Technology - Market fit validation																
5	Negotiations & license contract signing																
Initiation and analysis of organosolvent technology transfer																	
1	Market opportunity assessment & prioritisation																
2	Technology development and validation for specific application																
3	Assessment of cycle strategies (economic / product sales)																

**Work task specification for the R&T team:**

**R&T Manager**

- Negotiations with existing and strategic paint co-creation partners in Denmark, Germany, Sweden about market uptake activities, formulation license agreements
- Set a goal of On-line platform monetization and develop a testing strategy and timeline
- Choose the right tech stack of White-label paint formulation monetization strategy
- Launch and scale On-line platform

**Project Manager**

- Organizing activities with stakeholders & policy makers and invite them to participate project activities
- Introduction the Initiative (suggestion) document to policy makers and stakeholders

**Marketing and Communication specialist**

- On-line platform content writing and assembly
- Promotion and communication activities to reach KPI's of paint and coating industry related companies as potential platform end-users or cooperation partners
- Support for promotional content development and distribution for On-line platform, continuous update
- Analysing media monitoring and project performance reports (related to reaching dissemination indicators)

**Data Analyst**

- Develop discussion initiative (suggestion) document to policy makers for the technical dissemination activity

**On-line platform IT specialist**

- On-line platform development process & supervision

- Leading communication with outsourced programmers
- Planning: sitemap and wireframe creation
- On-line platform design: page layouts, review and approval cycle
- On-line platform testing, review and launch

On-line platform administrator

- Continuous data collection, update & content development for the platform and users
- Publication of formulations and all related documents
- Platform end-user's data management & update
- Technical and customer support

R&T strategy after the project – White-label paint formulation monetization strategy implementation is planned during LIFE-ALFIO project period. As a result, monetisation principles will be embedded into the On-line platform with objective to support platform growth after the end of the project.

## ALINA technology

ALINA develops innovative state-of-the-art production technology to manufacture environment friendly organoclay material. Applying organoclay production technology, clay structure is modified, where organic compounds (including toxic biocidal substances that are listed under 98/8/EC - The Biocidal Products Directive) are encapsulated into the structure of clay minerals. As a result of technological process, clay minerals obtain properties from organic substance and provides unique functionality, becoming dispersible into different solvents. Unlike toxic biocidal substances, ALINA organoclay is zero VOCs material and does not cause environmental pollution. This is mainly driven by innovative encapsulation technology, where organic substances are embedded into clay structure, limiting evaporation both in indoor and outdoor environments.

### Business case development for organoclay technology licensing

ALINA technology licencing may make good business opportunity for large scale construction, building finishing material manufacturers, particularly where a company needs to bring to the market new products incorporating a third party technology in a short time (as an example, company intensively is searching for new solutions to substitute biocides in existing products); does not have the resources (human and/or financial) to conduct its own research and development (company do not have competence and recourses to identify new biocide solutions, as well do not have research and development capacity to develop new alternatives); needs technologies which are part of industry national or international standards set by standard-setting organisations (in this case, company is searching for new solutions how to comply with EU regulations, and requirements set by ecolabel, blue angel and other agency standards); needs to maintain a market position that is threatened by the commercialisation of a new technology (situations where company has threat to loose specific eco labelling of are forced to use warning signs on the product packaging that may affect future sales). Data source: <http://www.iprhelpdesk.eu/>

Considering that ALINA technology is protected by Patent Cooperation Treaty (PCT) patent, it is possible that third parity acquire the rights of ALINA technology through a licence agreement, and it is defined as a technology licensing-out (in document used as licencing).

At this stage of development, when intensively ALINA technology capabilities are tested within paint and coating market, it can be discussed about opportunities for technology licencing in a specific industry. Nevertheless, there are opportunities that extend limitations of specific industry. As for example ALINA technology use in binder, pigment and titanium Dioxide (Tio<sub>2</sub>) manufacturing. In case of technology licencing for a new industry, it should be considered to align activities with the plan described in technology transfer. For Paint and Coating industry, where market research and customer discovery are conducted already, following five step approach is applicable. Data source: <https://www.ifm.eng.cam.ac.uk/> :



- Step 1: Identify: What problems can our technology solve?
- Step 2: Select: How do we select potential customers?
- Step 3: Understand: What do these customers really need?
- Step 4: Develop: How can we develop a joint business case with the customer?
- Step 5: Present: How do we present the case to close the deal?

In any case of technology licencing for Paint and Coating industry, first three steps (Step 1: Identify: What problems can our technology solve? Step 2: Select: How do we select potential customers? Step 3: Understand: What do these customers really need?) are required to identify value for both sides, either licensor or licensee, and if it gives facts and confidence for a strong value proposition, business case development and negotiations can be started. Identifying what problems can our technology solve, identifying potential customers, and describing specific customer needs to be addressed are the **first stage where Problem – Technology fit is validated**.

Preparation for technology licensing begins with the parties asking themselves a series of questions. These questions must be answered whether the party is the licensor (the one who owns the IP and gives the license) or the licensee (the one who wants to use the IP and wishes to receive the license). Each party should ask itself the questions not only with respect to its own position, but also with respect to the probable position of the other party; each party will be in a better position for negotiations if it attempts to understand the other party’s position. It is essential to ask and answer these questions before beginning technology licensing negotiations. How will this license agreement make money for each party? What must each party gain in order for this agreement to be worthwhile? What is the best result that can be obtained for each party? What outcome does each party want to avoid? Data source: <https://www.wipo.int/>. **Defining a business case is a second stage, where Technology – Market fit is validated.**

During the Business case development, from the licensee perspective, there are number of advantage and risks, that should be assessed before the licencing process about ALINA technology is started (Table no. 12):

Table no.12, Advantages and risks

Advantages	Risks
Can get a faster access to certain markets. (for example, entering with products eco product market)	High royalties to be paid may determine a non-competitive product market price (ALINA technology licencing costs should be determined)
Can access innovative technologies and expertise, without developing in-house R&D activities (in this case it could provide substantial cost savings)	The licensee (company) can become technologically dependant on the licensor (ALINA) who can then impose unfavourable terms for the renewal of the contract (licence contract conditions should incorporate long term partnership perspective, minimising licensee and licensor risks.
May obtain rights to a product/ process whose effectiveness has been proven (in case of ALINA, technology has been tested, certified and standardised for industrial needs)	In case of non-exclusive licence, the same technology could be licensed to competitors (ALINA licencing strategy should be aligned with the principles of regional privileges and volume guarantees)



Business case & licence deal development should be arranged in information clusters to make the planning in a proper manner. Following global forum for intellectual property (WIPO) guidelines, it should cover following clusters:

1. Information Cluster one: the subject of the license.

This cluster of issues relates to the definition of the technology that is being licensed. This may sound obvious, but it is an underestimated issue that can give rise to disputes after the agreement has been signed. In case of ALINA technology licencing there are number of different opportunities, including patented composition of material or the state-of-the-art manufacturing technology.

2. Information Cluster two: what kind of rights does the license give.

An IP license includes several different “grants” of rights depending on the needs of the parties. These may vary as well depending on the IP laws that apply to the agreement; those listed below are representative of typical IP grants. These grants may include the right: • to reproduce the ALINA technology; • to modify ALINA technology; • to make derivative works from ALINA technology (making new versions or entirely new products or technologies by modifying and enhancing); to use ALINA technology for research and product development; • to make it or have it made (for manufacture by licensee or contractor); • to distribute or sell ALINA technology; and • to sub-license it to another who can do any or all of the above.

3. Information Cluster three: financial terms.

It is important to consider the value of the IP license in the context of all the other related transactions: the financial terms will vary depending on whether there is only an IP license or also a manufacturing and purchase agreement, a marketing agreement, a distribution agreement, a joint venture, etc. As pointed out before, the IP license is usually only a part of a successful technology licensing agreement

4. Information Cluster four: technology’s growth and development over time.

It is important to clarify: will the licensee have rights to future versions of the technology or product? In a pure IP license, it must be clear whether the licensee will have a license to improvements or derivative works.

**Third stage is the negotiation process.** Technology licensing negotiations are complex because there are many key terms and because for each key term there are many possible positions that may be taken, from the most advantageous to the least advantageous. The negotiator has the difficult task of keeping in mind many different key terms and positions, dealing with technical subject matter, and constantly assessing the way the key terms affect the business objectives of the license. Despite the apparent contradiction in these goals, success is possible in many cases because both parties do not have identical business objectives with respect to the same key terms. What is advantageous for one party is not necessarily disadvantageous for the other party with respect to any given key term. In other words, negotiation could not succeed if there were only one key term with one continuum from advantage to disadvantage. However, the reality is that in any technology licensing negotiation there are actually many key terms.

Based on the market best practices and above described, the technology licencing process should be organised in three stages (Table no.13):

Table no.13, Licencing process stages



Evaluating ALINA previous experience, and market specifics, it is estimated that total time required for the technology licencing could take up to 51 months (where problem-technology fit validation is typically from 12-36-month, Technology-business fit till 12 month and Negotiations estimated up to 3 month). This estimate is embedded into assumption that licencing is done for ALINA technology, including patented products and manufacturing process know how.

Additionally, to the process, how the licencing process is organised and planned, it is essential to evaluate ALINA company's internal capabilities, which means ALINA also need to organize resources effectively for technology licensing. There are six organizational factors that have a strong positive effect on licensing process performance. **These six success factors make it more likely that companies will overcome the managerial difficulties inherent in actively licensing technology:**

**Assigning dedicated ALINA employee.** ALINA should evaluate possibility to assign dedicated employee to work full-time on identifying licensing opportunities and implementing licensing deals. This employee is the contact persons for all issues concerning licensing.

**Leveraging external ALINA networks.** ALINA may rely on existing networks with other companies and potential customer base to identify licensing opportunities and to transfer technology. In particular, an ALINA network of strategic alliances with other organizations offers important informational benefits, because those networks extend a company's knowledge of potential technology applications to other industries. In this case, it is suggested to evaluate established partnerships with paint and coating manufacturers in LIFE-ALFIO project.

**Setting up ALINA teams to identify licensing opportunities.** In technology licensing, project-based approach is gaining popularity, and it represents a key complement to formal licensing approaches, which are relatively limited. In particular, ALINA should set up short-term project teams to identify licensing opportunities in a specific technology field or in specific markets. For example, in Pigments or Tio2 markets.

**Creating ALINA transfer project teams.** Once a licensing opportunity develops, ALINA should set up a specific project teams to affect the technology transfer to the licensee. Project teams will coordinate the contributions of employees from different ALINA employees, such as R&D and marketing, who may be involved in addition to any dedicated licensing staff.

**Using executive champions to promote licensing.** Executive champions play a critical role in overcoming a company's traditional reluctance to adopt active licensing strategies. These champions are high-ranking employees, where in case of ALINA it could be supervisory board of director members, who enthusiastically promote technology licensing throughout the industry network and internally.

**Enlisting widespread ALINA employee participation.** ALINA may draw on the participation of a wide variety of employees, especially R&D and marketing staff, to identify licensing opportunities and implement licensing deals. This would require, that all ALINA employees are engaged into licensing idea.

Business case development for organoclay technology licensing activity plan (Table no. 14) include number of activities, including Identify potential licensor within ALINA customers or partners, Define ALINA company internal capabilities & develop timeline, Problem - Technology fit validation, Technology - Market fit validation and Negotiations & licence contract signing. Business case development for organoclay technology licensing activity plan indicate specific time periods of related activities, that are aligned with organoclay technology development and organoclay transfer activities.

Table no.14, Business case development for organoclay technology licensing activity plan.

B.5 Replicability and transferability (R&T) activities		2019												2020												2021												2022												2023																																																																																															
Action number	Name of the action	I												II												III												IV												I												II												III												IV																																																											
1. Analysis aimed at strategic online and industry partners identification																																																																																																																																																	
1.1	Developing list of raw materials for 16 paint formulations																																																																																																																																																
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1.3	Establish partnership & conditions with raw material online data base owner																																																																																																																																																
1.4	Establish partnership & conditions with industry media channels																																																																																																																																																
2. Communication strategy (CS 4.1) On-line platform marketing plan																																																																																																																																																	
01	Information and awareness raising activities for general public																																																																																																																																																
02	Technical dissemination activities for paint and coating industry professionals																																																																																																																																																
White-tiled paint formulations monetization strategy																																																																																																																																																	
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2	Choose the right tech stack																																																																																																																																																
3	Search and scale																																																																																																																																																
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Evaluation and analysis of organoclay technology transfer																																																																																																																																																	
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2	Technology development and validation for specific application																																																																																																																																																
3	Assessment of ICM strategies (licensing / product sales)																																																																																																																																																

Work task specification for the R&T team:

R&T Manager

- Identify potential licensor within ALINA customers or partners.
- Define ALINA company internal capabilities & develop timeline.
- Problem - Technology fit validation.
- Technology - Market fit validation.

Project Manager

- Support business plan development, analysing and monitoring

R&T strategy after the project – Business case development for organoclay technology licensing activity is started during LIFE-ALFIO project period, where the main licencing customers are selected among On-line Platform users. Still, knowing about time and recourses needed to establish licencing partnership, it is estimated to continue the process after the project. It is estimated to enter into the first licensing agreement within 12-month period, after LIFE-ALFIO project is completed. Costs related towards licencing agreement will be covered by ALINA side.

### Evaluation and analysis of organoclay technology transfer

ALINA technology transfer to new industries is one of the key objectives, that has been discussed from the day of ALINA technology establishment. There are number of reasons why paint and coating industry is selected as the main market, still industries as Titanium Dioxide (TiO<sub>2</sub>), Mineral pigments, Binder and other industries are considered as future opportunities.

ALINA Technology transfer to specific industry, goes in line with the process that has been described for technology licencing. In fact, the main difference is in a need to conduct detailed market research and customer discovery process, that is a pre-requirement entering new industry.

Considering technology transfer to other industries, there are number of knowns that should be taken for the transfer plan development. For example, ALINA technology concept is established, technology abilities are identified and verified, in case of ALINA technology has been tested and validated by 3<sup>rd</sup> parity laboratories, IP protection is finalised. Knowns provide a solid foundation, to explore different technology applications in the industries outside paint and coating. Nevertheless, targeting new industries, requires technology to be adapted to the new application, this means that the level of technical readiness of the technology is reduced. This situation indicates the need to implement activities that help to do proper validation of Problem – Technology fit and Technology – Market fit. From obtained experience, following activity plan is recommended, where specific actions should be conducted to develop technology till TRL7 where ALINA technology is ready for deployment in a specific application. Plan is prepared as list of actions, where ALINA team can use it as a framework for day to day activities, collecting evidence and facts behind each of it: When ALINA technology is transferred to other industries, the technology reediness starting level is four: TRL4.

Table no.15, Technology development stages

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**TRL4: Technology validated in lab**

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- We integrated basic technological components to establish that they will work together, and obtained results are reported and assessed.
  - We have demonstrated working “Low fidelity” system - a representative of the component or system that has limited ability to provide anything but initial information about the end product/ solution.
  - We have identified specific market opportunity to focus further development efforts and potential customer segment is identified.
  - We described potential customer profile (jobs, pains, gains). Obtained results are compiled and evaluated.
  - We identified and validated **Technology / problem fit**. That involves concept of value proposition designed for customer, including cost analyses, benefits and advantages.
  - We completed business model version 1 from initial discussions with customers, partners and other industry stakeholders, describing critical building blocks and business model mechanics.
  - We completed initial Net cost calculations and done detailed risk assessment.
  - We completed initial Environmental and Social impact assessment.
  - We conducted internal and external risk assessment, developing risk mitigation strategies.
- 

**TRL5: Technology validated in relevant environment**

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- We obtained information from potential customers and partners, to define product / solution requirements for specific use case.
  - We completed “High fidelity” lab integration of product/ solution, so they can be tested in a controlled relevant environment. High fidelity addresses form, fit, and function - testing with equipment that can simulate and validate all system specifications within a laboratory setting.
  - We evaluated product/ solution compliance with industry standards and regulations. Results are assessed and described.
  - We collected performance data and conducted detailed assessment with market available alternatives.
  - We completed and validated financial net cost calculations.
  - We calculated and validated TAM (total addressable market), SAM (serviceable available market) and SOM (Serviceable obtainable market) size and value.
  - We developed **technology demonstration road map**, including detailed cost description and timeline, validated with potential customers/ partners.
- 

**TRL6: Technology demonstrated in relevant environment**

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- We completed tests of representative model or prototype system is in a relevant environment.
  - We completed and developed relevant documentation for prototype system specification.
  - Our technology related IPR is established.
  - We completed and validated business model version 2 with potential customers/ partners, including channel, customer relationship, pricing strategies and revenue streams.
  - We identified and validated **Technology / market fit**.
  - We identified first customer leads/ partners, LOI (letter of intent) / MOU (memorandum of understanding) is signed.
- 

**TRL7: System prototype demonstration in operational environment**

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- We successfully tested prototype system in a field environment - prototype near or at planned operational system.
-

- 
- We have conducted search and identified critical partnerships, to support needs of specific recourses. Partners are identified to support technology deployment needs.
- 
- We completed comprehensible financial calculations.
- 
- We validated Environmental and Social impact assessment, including Life cycle assessment.
- 
- We completed and validated business model version 3. Validation accomplished with help of potential customers/ partners.
- 
- We completed **technology deployment road map**, including detailed cost description and timeline, validated with potential customers/ partners.
- 

ALINA technology transfer to different industries is a process, that requires substantial resources and dedication from the team members. In case of the situation when the recourses are not available, process can pose risks to the core business where the main focus is to establish ALINA technology in paint and coating market.

Before making decisions about specific market opportunities, it is important to make proper market opportunity assessment, where ALINA team members and experts from industry are involved. Assessment should be made in a manner to obtain as much evidence as possible to foresee the risks and opportunities in a specific segment.

There are six different criteria, that should be considered, evaluating specific market opportunities to assess technology transfer potential:

#### **Market segment and “ability” fit**

Will someone really want ALINA technology and be willing to pay for it? If no one wants to buy it, it isn't worth anything, so the first thing is whether someone will really want what ALINA have to offer? If compelling reason to buy is low – it's simply a 'No-Go', as demand will not fly. ALINA technology ability fit for specific market / industry is the first thing to evaluate.

#### **Market volume**

How big is the market for ALINA technology, now and in the near future? Satisfying a real need is an important condition for creating value. It is the market volume that will determine to what extent we can sell ALINA technology and products and, thus, to what extent we will create that potential value! To understand market volume, we need to estimate how many customers actually face (or are expected to face) this need in the near future and how much they will be willing to pay. The size of the market provides key indications for how BIG this market opportunity is. Although market size is important, a market which is not BIG may still be an interesting option, especially if it can become a steppingstone towards a larger market that can be exploited later on.

#### **Economic viability**

Is it worthwhile from an ALINA business perspective to pursue this market? The last factor for assessing the Potential of a market opportunity estimates the economic benefit of this option for ALINA. Without getting into a detailed sales plan or return-on-investment (ROI) calculations, it refers to the basic elements that influence the economic value of a market opportunity.

#### **Implementation obstacles**

How difficult will it be for ALINA to create and deliver your offer? On your way to a successful market launch and diffusion of ALINA offering in the market, ALINA will face challenges in creating and delivering the product. Assessing these difficulties will help ALINA in understanding the Challenge associated with a particular market opportunity. Given the resources and capabilities that ALINA already possess, it is needed to obtain insights on the additional resources and abilities that you will need to develop and acquire in order to succeed with a market opportunity.

#### **Time to revenue**

How long will it take until ALINA can generate cash flow through sales? Positive cash flow is the oxygen of every company. The speed with which ALINA can generate cash flow through sales is thus a major consideration.

This factor estimates how long it will take until cash begins to accumulate in ALINA account. If the time period is too long, ALINA will likely face key challenges on the innovation path – and will likely experience significant stress, as key stakeholders, including employees, may question the viability of your endeavour.

**External risks**

What obstacles in ALINA business environment can stand in the way? The success of ALINA business can be put at risk by many companies and players in your external environment. This risk is often uncontrollable by you, yet it has to be considered when assessing how difficult it will be to capture the value internet in a market opportunity.

Collecting information and facts among each of six factors, segments should be evaluated between each other, to do proper assessment. Development of market segment attractiveness map helps to learn about each ALINA market opportunity. The Attractiveness Map allows ALINA team to depict the evaluation of market opportunities so you can better grasp their upsides and downsides and compare them with each other. The objective is to determine ALINA most attractive options, at a given point in time, so that ALINA team can make an informed decision about Primary Market Opportunity.

For evaluation of ALINA technology transfer, ALINA team and experts has identified several opportunities (Table no.16), Market opportunity description.

Table no.16, Market opportunity description.

Industry	Market segment
Binders	Binder for paint and coating industry.
Binders	Binder manufacturing for paper industry.
Mineral slurries	Mineral slurry manufacturers for industrial use.
Pigments	Colour Pigment manufacturing for construction finishing materials.
Pigments	Tio2 pigment slurry manufacturers for construction finishing materials.
Insulation	Biodegradable insulation material manufacturers.
Cosmetics	Water based cosmetic product manufacturers

Based on the current research about potential market opportunities, it is recommended to develop an activity plan (Table no.17), to enable technology transfer process. Main activities are the Market opportunity assessment & prioritisation, Technology development and validation for specific application and Assessment of G2M strategies (licencing / product sales). Market opportunity assessment & prioritisation activity is planned during LIFE-ALFIO project period, followed by Technology development and validation for specific application that include identification of potential industry partners, that are interested into co-creation project development.

Table no.17, Evaluation and analysis of organoclay technology transfer activity plan.

B.5 Replicability and transferability (R&T) activities		2019				2020				2021				2022				2023				
Action number	Name of the action	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	
1	Analysis aimed at strategic online and industry partners identification																					
1.1	Developing list of raw materials for G2M formulation																					
1.2	Establish partnership & conditions with raw material suppliers																					
1.3	Establish partnership & conditions with raw material online data base owner																					
1.4	Establish partnership & conditions with industry media channels																					
2	Communication strategy (D1, 4.1) On line platform marketing plan																					
01	Information and awareness raising activities for general public																					
02	Technical dissemination activities for paint and coating industry professionals																					
	White-label paint formulation monetization strategy																					
1	Set a goal, develop a testing strategy and timeline																					
2	Choose the right tech stack																					
3	Launch and scale																					
	Business case development for organoclay technology licensing																					
1	Identify potential licensor within ALINA customers or partners																					
2	Define which company internal capabilities & develop timeline																					
3	Problem - Technology fit validation																					
4	Technology - Market fit validation																					
5	Regulations & license contract signing																					
	Evaluation and analysis of organoclay technology transfer																					
1	Market opportunity assessment & prioritisation																					
2	Technology development and validation for specific application																					
3	Assessment of G2M strategies (licencing / product sales)																					

Work task specification for the R&T team:

R&T Manager

- Market opportunity assessment & prioritisation.

- Technology development and validation for specific application.
- Assessment of G2M strategies (licencing / product sales).

Project Manager

- Support business plan development of ALINA Technology transfer

R&T strategy after the project – Technology development and validation for specific application is planned to finance using Europe level, national and regional competence centers or public innovation grant projects. Acknowledging complexity of the process, external partnerships and cooperation with industrial partners play a critical role for successful technology validation.