

*Unlocking the potential of
macroalgae for a thriving
European blue
bioeconomy*

DIGITAL
MARKETPLACE



A Platform for Market Exploitation

SEAMARK DELIVERABLE 7.2

SUBMARINER Network for Blue Growth EEIG



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SEAMARK DELIVERABLE 7.2: A PLATFORM FOR MARKET EXPLOITATION

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Abstract

Multiple native European seaweed species are subject to growing interest from European policymakers, researchers, industry, and consumers alike as climate-smart alternatives to terrestrial crops and fossil-based industrial feedstocks. In Europe, commercialisation of macroalgae remains in its infancy: most producers are small-scale, with biomass applied predominantly in niche or low-volume product. The potential range of mainstream industrial applications of macroalgae is far-reaching, from bio-stimulants and feed additives to meat replacers, nutraceuticals, cosmeceuticals, pharmaceuticals, and biomedical devices. Remaining bottlenecks to upscaling the industry include the development of robust, high-yield seed material; high-volume pre-processing and biorefinery; product development; as well as industry-, regulatory- and consumer acceptance. The SeaMark (“Seaweed-based market applications”) project will identify, develop, and exploit concrete solutions to all of the above bottlenecks, thereby accelerating the upscaling of the industry to achieve commercial scale across multiple market sectors in a cascading biorefinery approach. Work Package 7 of the project is dedicated to the development of a Go-to-market strategy, including the establishment of an Industry Purchasing Group (IPG) to identify and understand producer, processor and end-user needs, predominantly in the B2B (business-to-business) domain. The current paper sets out a plan for the technical facilitation of interactions between producers and industry players from processors to distributors. The proposed platform(s) will maximise accessibility of market knowledge to key stakeholders through mutual learning exercises and enable business model co-development. The study analyses and compares multiple online platform solutions through simple SWOT (strengths, weaknesses, opportunities, strengths) analysis to aid selection of a platform which delivers the most short- and long-term impact within the scope of the project. The paper then lays out a methodology for the creation of the platform(s) and identifies requirements including ongoing maintenance and exploitation post-project, as well as recommendations for further elaboration of the platform(s) into a commercial B2B marketplace for seaweed biomass.

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LIST OF ABBREVIATIONS

Abbreviation	Description	Abbreviation	Description
ALG	Algaia SRL	No.	Number
AVE	Aventure AB	NOF	NOFIMA
B2B	Business-to-Business	OCE	Oceanium Ltd
CARL	Carlsberg Group	ORF	Ocean Rainforest
D	Deliverable	PU	Public
EU	European Union	R	Report
FEXP	Fermentation Experts AS	RUI	Ruitenberg Ingredients BV
GA	Grant Agreement	SJO	Sjókovin - Blue Resource
IP	Intellectual Property	SUB	SUBMARINER Network for Blue Growth EEIG
KPI	Key Performance Indicator	SWOT	Strengths, Weaknesses, Opportunities, Threats
M	Month	T	Task
MS Teams	Microsoft Teams	WP	Work Package

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INTRODUCTION

Deliverable 7.2 is described in the Grant Agreement as follows:

Deliverable Number: D7.2

Deliverable Name: A platform for market exploitation based on identified products and user needs

Lead Beneficiary: 8. SUB

Type: R – Document, report

Dissemination Level: PU - Public

Work Package No: WP7

Description

Report on the market platform content (established in T10.3) for market exploitation based on the identified products and user needs. The Industrial Purchase Group (IPG) will be identified consisting of potential purchasers and users of the market applications demonstrated. This deliverable will serve as input to the platform concerning product complexity, interdependencies, and buying processes (Results of T7.2).

The above deliverable is interpreted as a technical specification and implementation plan to define the steps required to establish and maintain a platform for market exploitation in the context of the SeaMark project. This will include background, interpretation and scope of the undertaking, the level of ambition and concrete steps for the implementation of the platform. The methodology for the practical use of the platform will refer only to the administrative management of information flows, registration and infrastructure. Content population of the platform (e.g. onboarding, supply chain analysis, data entry and interpretation) will be coordinated by Nofima (NOF) with support from Sjókovin (SJO) and Submariner (SUB).

BACKGROUND

The platform for market exploitation and Industry Purchasing Group (IPG) is referred to in the following contexts in the SeaMark Grant Agreement:

- 1.1.2 Overall objectives related to economic development (pg.6)
- T7.1 Frame ideas and identify products (pg.12)
- T7.2 Adding content and populating the platform for market exploitation (pg.12)
- T7.3 Investigate market structure and potential for algae products (pg.13)
- T7.4 Initial assessment of market application potential (pg.13)
- T10.3 Facilitate and maintain a platform for market exploitation (pg.16)
- Industry engagement (pg.22)
- Industry Purchasing Group (pg.24)
- D7.2 A platform for market exploitation based on identified products and user needs (pg. 41)

- D10.2 Platform for market exploitation (pg.47)
- Milestone 11 Market structure and potential for seaweed products identified (pg.53)

BRIEF

The platform for market exploitation is intended as a Customer Relationship Management (CRM) tool, business matchmaking tool and online trading desk for the SeaMark Industry Purchasing Group (IPG), with the following definitions:

Customer Relationship Management

Customer relationship management (CRM) is a process in which a business or other organisation administers its interactions with customers, typically using data analysis to study large amounts of information.

Business Matchmaking

Business matchmaking is a method to identify and connect (match) companies and people with common business interests, complementary services, expertise, technologies or business strengths. The goal is to create cooperative connections and realize business opportunities that mutually benefit both parties.

Online Trading Desk

An online trading desk is a virtual location where transactions for buying and selling securities occur. Depending on the type of financial institution, the trading desk may be filled by traders trading for their own proprietary account, brokers who act as agents matching buyers and sellers, or some mixture of both.

INTERPRETATION AND SCOPE

- The report D7.2 will be interpreted as a strategy document comprising a plan for the technical facilitation of the platform.
- SUB will be responsible for the administrative facilitation and maintenance of the platform (i.e. membership management, general information flows, use of communication tools, infrastructure, access, formats, updates, interactive functionality, filters, categories).
- NOF and SJO will give feedback on the infrastructure drafted by SUB, then gather and provide content for the platform throughout the project period (i.e. companies, buying processes, customer segmentation) from the project consortium and companies identified through desk research and the stakeholder database compiled by SUB.
- 'Buyers' will refer to both the buyers of raw materials from Algolesko (ALO), Ocean Rainforest (ORF), Ocean Forest (OF) and ALGApplus (ALGP) as well as potential buyers of the 12 SeaMark products (nutraceuticals, pig feed,

cosmetics and alginates). Buyers will include both local buyers (e.g. pig feed manufacturers) as well as international distributors.

- The IPG will initially comprise the industry partners in the SeaMark project (FEXP; RUI; ALG; CARL; AVE; OCE). The IPG will be extended throughout the project to include companies identified through the stakeholder database compiled by SUB (Milestone 1 / Task 10.1), user surveys & field studies (T7.1 / 7.2), desk research (e.g. companies identified on the [Norwegian Seaweed Association](#) or [SUBMARINER Business Catalogue](#)), as well as nominations from project partners and networking activities.

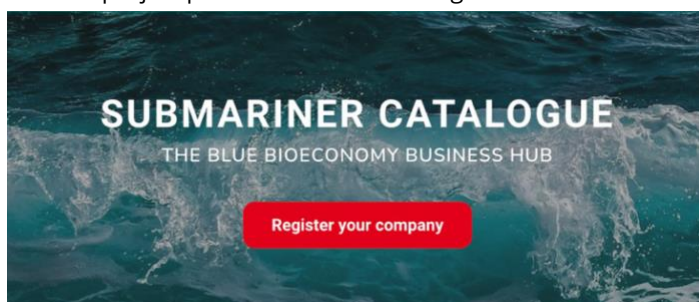


Figure 1: Screenshot of the SUBMARINER Business Catalogue

AMBITION

For the purpose of this project, three levels of ambition have been identified, each of which meet the requirements in the deliverable description at varying levels of complexity, as follows:

Option 1: Internal Catalogue for Project’s Duration

The most basic version of the platform will meet the - minimum requirements promised in the Grant Agreement, intended purely as an internal catalogue of prospective buyers during the course of (but not beyond) the project period.

Option 2: Extended Internal Exploitation Platform with Public-Facing Elements

A platform which is designed for further use post-project, subject to a commitment from one or more of the SeaMark partners to continue to facilitate and maintain the platform after the project has finished. Access to the platform and onboarding of new members will be maintained and remain online for at least five years after the project period.

Option 3: Permanent Public B2B Market Platform

The most advanced version of the platform will include a public-facing, permanent user interface which facilitates lead development, B2B sales and support provided by third-party service providers. This option incurs significant ongoing costs which make it unsuitable within the scope of a single European project. It also raises multiple questions with regards to Intellectual Property (IP) which could negatively impact the project’s outcomes.

SPECIFICATION

Based on the Grant Agreement, the platform should bring together target stakeholders (i.e. producers, processors and buyers) to identify and address the following criteria:

- SeaMark products
- User needs
- Risks
- Market entry points
- Potential purchasers / users of the market applications demonstrated
- Product complexity
- Interdependencies
- Buying process(es)
- Market organisation
- Degree of competition
- Factors that influence supply and demand

The platform should have the necessary functionality to support the above structure and information flows. Members of the IPG (i.e. producers, processors & buyers) will be invited to register for the platform, add content relevant to their business needs and interact with other members. This is broken down into Buyer Segmentation, Functionality and Collaborative Exercises and Relevant Deliverables as follows:

Buyer Segmentation

In marketing, market segmentation is the process of dividing a broad consumer or business market, normally consisting of existing and potential customers, into sub-groups of consumers based on some type of shared characteristics. The characteristics with which producers, processors and buyers of SeaMark products will be categorised under the following provisional criteria. This list will be refined throughout the project to obtain the most useful information for market exploitation to achieve maximum functionality in market exploitation activities:

1	Company Name	12	Output Volumes
2	Website	13	Supply Chain Stage
3	Industry Sector	14	Biomass Requirements
4	Company Size	15	Logistical Requirements
5	Geographic Location	16	Industry Applications
6	Revenue	17	Target Market
7	TRL	18	Customer Type
8	Species of Interest	19	Degree of Competition
9	End-product	20	Level of Complexity
10	Production Process	21	Interdependencies
11	Input / Feedstock	22	External factors

Functionality

1. Login & Registration
2. Search
3. Filters
4. User Profiles
5. Interactive Functionality (chat, video conferencing, file sharing)
6. User Feedback Mechanism

Collaborative Exercises

1. Production Scenarios
2. Buyer Personas
3. Decision Process / Priority Matrix
4. Cost Benefit Analysis
5. Risk Assessment
6. SWOT Analysis
7. Business Model Canvas
8. End-User Focus Group

Relevant Deliverables

SeaMark deliverables from various Work Packages will be developed using input from the platform and uploaded to the platform once available as a resource for exploitation. The most relevant deliverables identified are marked in green:

#	Name	Due
D7.1	Specification of flagship products and plan market strategy	M6
D7.2	A platform for market exploitation based on identified products and user needs	M6
D8.1	Characterisation of SeaMark products	M6
D8.2	Preliminary value chain analysis of selected SeaMark processes	M18
D7.3	Initial assessment of market application potential	M18
D8.3	Preliminary techno-economic assessment	M24
D7.4	Recommendations from the feasibility studies as basis for testing scenarios	M28
D8.4	Socio-economic impacts of upscaling European macroalgal cultivation and biotransformation	M36
D8.5	Value chain analysis of selected SeaMark products	M36
D7.5	Report on pilot scale sales and deliveries	M36
D8.6	Techno-economic assessment of selected SeaMark products and processes	M40
D7.6	Report on commercial scale sales and deliveries	M46
D8.7	Business exploitation plans for SeaMark products	M46

SWOT ANALYSIS

The following analysis assesses the suitability of various different platform tools and service providers according to identified strengths, weaknesses, opportunities and threats. This analysis will establish which platform, tool or combination thereof will be most suited to the overall purpose of identifying product- and user needs, product complexity, interdependencies and buying processes.

Option 1: Internal Catalogue for Project's Duration

The most basic version of the platform will meet the minimum requirements promised in the Grant Agreement, intended purely as an internal catalogue of prospective buyers during (but not beyond) the project period, with the following features:

1.1 EXCEL

Strengths:

- Widely used
- Password protection

Weaknesses:

- Low aesthetic appeal

Opportunities:

- Easily imported into other applications

Threats:

- Files easily lost, forgotten or leaked

1.2 TEAMS

Strengths:

- Already in use as project platform
- Various features (e.g. Meet, Chat)
- Restricted access to specific users

Weaknesses:

- Access issues for some partners
- Limited functionality (no email / calendar integration)

Opportunities:

- Integration with other applications or platforms

Threats:

- Non-EU company

Option 2: Extended Internal Exploitation Platform with Public-Facing Elements

A platform which is designed for further use post-project, subject to a commitment from one or more of the SeaMark partners to continue to facilitate and maintain the platform after the project has finished. Access to the platform and onboarding of new members will be maintained and remain online for at least five years after the project period.

2.1 WORDPRESS USER ACCOUNTS

Strengths:

- Various WordPress plugins available



Weaknesses:

- Requires user management (troubleshooting etc.)

Opportunities:

- Will remain online post-project

Threats:

- Non-EU company

2.2 LINKEDIN

Strengths:

- Widely used for professional interactions
- Option to restrict access (invitation only)



Weaknesses:

- Limited co-working space (filesharing etc.)

Opportunities:

- Will remain online post-project

Threats:

- Low uptake or user activity

2.3 SUBMARINER BUSINESS CATALOGUE

Strengths:

- Versatile online co-working space
- Simple user registration and onboarding



Weaknesses:

- Free service limited to 10 users

Opportunities:

- Could be further developed into a B2B market platform

Threats:

- Ongoing maintenance costs
- Non-EU server

2.4 CONFLUENCE



Strengths:

- Versatile online co-working space
- Simple user registration and onboarding

Weaknesses:

- Paid service for more than 10 users

Opportunities:

- Could be further developed into a B2B market platform

Threats:

- Ongoing maintenance costs
- Non-EU company

Option 3: Permanent Public B2B Market Platform

The most advanced version of the platform will include a public-facing, permanent user interface which facilitates lead development, B2B sales and support provided by third-party service providers. This option incurs significant ongoing costs which make it unsuitable within the scope of a single European project. It also raises multiple questions with regards to Intellectual Property (IP) which could negatively impact the project's outcomes. The platforms evaluated for the purpose of this report are as follows:

3.1 SALESFORCE



Strengths:

- Widely used across various industries

Weaknesses:

- Expensive

Opportunities:

- Integrations into other B2B platforms
- Could be further developed into a full trading desk with business transactions

Threats:

- Lack of uptake
- Ongoing maintenance costs for increasingly complex functionality

3.2 CONVERVE



Strengths:

- Dedicated community management platform

Weaknesses:

- Expensive

Opportunities:

- Integrations into other B2B platforms

Threats:

- Lack of uptake
- Ongoing maintenance costs for increasingly complex functionality

3.3 InnoLoft



Strengths:

- Versatile functionality and integrations

Weaknesses:

- Expensive

Opportunities:

- Integrations into other B2B platforms

Threats:

- Lack of uptake
- Ongoing maintenance costs for increasingly complex functionality

APPROACH

Based on the above analysis, the approach will be to implement *Option 2: Extended Internal Exploitation Platform with Public-Facing Elements* by the end of M6, incorporating content from Milestones 3-5 and Deliverables D7.1, D8.1 when available. This will encompass the website; LinkedIn; MS Teams and the SUBMARINER Business Catalogue.

- The market platform will consist of at least three layers: 1) a private LinkedIn group; 2) an internal Teams space and 3) the public SUBMARINER Business Catalogue. The reasoning for this approach is to ensure members are adequately vetted prior to gaining access to the internal platform, to build trust between members and avoid potential leaks of sensitive information.

- Throughout the project period, the IPG platform(s) will be continuously populated and updated with content including results from meetings (organised *ad hoc*), analyses from other Tasks & Deliverables (mostly WPs 7 and 8) and lists of potential buyers and IPG members.
- Relevant public-facing information (e.g. project publications) will be added to the SeaMark online repository (website) when they become available. This repository (i.e. a section of the project website) will remain online and accessible for a minimum of five years after the end of the project period.
- Towards the end of the project (M42 onwards), the platform’s content will be consolidated and saved in reusable formats (e.g. Excel files) suitable for integration into further project or business matchmaking activities. Partners and external IPG members will be asked to flag any sensitive information to avoid IP-related disputes.

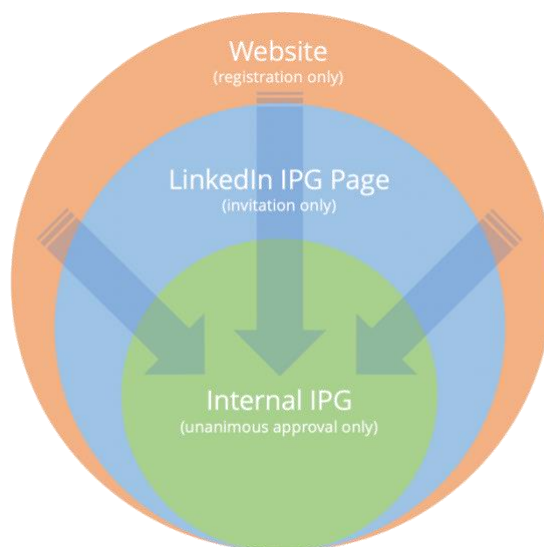


Figure 2: Recruitment approach to the IPG platform

Proposed Teams Channel structure for the sorting of documentation and resources

- a) **Microsoft Planning Tool (Shared Calendar & To Do lists)**
- b) **Collaborative Exercise Templates**
- c) **Channels (or sub-teams):**
 - i. WP2: Cultivation, Harvesting & Pre-Processing
 - ii. WP3: Biorefinery Processing for bioactive, fibres & biomaterials
 - iii. WP4: Health promoting effects of fermented seaweed
 - iv. WP5: Co-extraction towards commodity & specialty ingredients
 - v. WP6: Product application development
- d) **Folders/Pages (per Teams Channel / WP):**
 - i. Sales Cases & Buying Processes
 - ii. Competitors & Market Research
 - iii. Customers & Partners
 - iv. Processing machinery
 - v. Product Reviews
 - vi. Reports
 - vii. Opportunities

Proposed LinkedIn Page topics

- a) **Pipelines (General Characterisation):**
 - i. Raw material (fresh, dried, ground, frozen)
 - ii. Processing machinery
 - iii. Alginate
 - iv. Nutraceuticals
 - v. Animal feed
 - vi. Human food
 - vii. Cosmetics
 - viii. Pharmaceuticals & Medical
- b) **Same as “d) Folders/Pages” above**

SUBMARINER Business Catalogue

The SUBMARINER Business Catalogue will be offered to IPG members as a free-of-charge, public-facing platform to further promote their products and services, with contact information for the respective sales team.

Proposed Website Integration

Based on the functionality available, SUB will attempt facilitation of user accounts (personalised login and user profile) on the SeaMark website. If possible, this will include private messaging and a private area for IPG members.

METHODOLOGY

The below methodology outlines the process through which the platform will be created, populated, managed and maintained throughout and beyond the project lifetime.

Definition and Scope

Defines the purpose, format, structure, functionality and information flows, scope and validation of the platform.

a) Information flows

The flow of information is anticipated and mapped, with measures taken to ensure barrier-free and intuitive interactions between users of the platform.

b) Use-cases

Mapping includes identification of typical use-cases to determine the scope of the platform and its functionality.

c) Internal Review

The definition and scope of the platform is shared with project partners (including internal IPG members), who review the content and provide feedback.

Creation of the Platform

The platform will be created as an extension of the existing Teams project platform, with an additional private LinkedIn Group.

a) LinkedIn page

Semi-public platform for online business networking and vetting of potential IPG members. Membership subject to invitation and admin approval. SeaMark partners suggest potential members who are then invited by the LinkedIn group administrator (SUB).

b) Teams space

The existing project Teams space will be extended to include an IPG section with access restricted to IPG members and partners with activities relevant to the platform (SJO and NOF).

c) MS Teams channels

The IPG Teams space will be divided into “Channels” covering specific topics such as product pipelines, buying processes, list of potential buyers etc. (see “Approach” above).

d) File & folder structure

Files will be uploaded to the relevant Teams channel and sorted into dedicated folders for ease of access.

e) Collaborative exercise templates

Templates or worksheets with ideas for collaborative exercises will be uploaded to the platform for users to work on together, thereby deriving specific market knowledge from users which can then be used in project activities and provide industry insights.

Baseline Population of the Platform

Once the platform has been created, it will comprise only the bare structure with no content. Baseline content will be uploaded to the platform based on the project’s progress so far and individual contributions from project partners and IPG members.

a) Add existing IPG members from the SeaMark consortium

The project consortium includes 12 industry partners who form the core of the IPG members. These users will be granted access to the IPG platform and given instructions on how to use it.

b) Identify & upload potential buyers from existing Stakeholder Database

The results of Milestone 1 (Stakeholder Database completed) will be used to identify potential buyers. These will be extracted from the master database and integrated into a preliminary list of potential buyers, including contact information for IPG members to conduct interviews, develop leads and understand needs.

Onboarding to the Platform

IPG members will be given instructions to access the platform, along with expectations and user guidelines.

a) Stakeholder identification

Additional IPG members will be identified throughout the project (primarily via events and desk research) and encouraged to engage with the project partners via the IPG platform. SUB will create guest accounts for those users and send them access instructions to the platform.

b) Promotion of the platform

The platform will be actively promoted via social media (Twitter, LinkedIn) as well as dissemination & networking events (e.g. presentations) and the project website at seamark.eu

c) Dedicated web page at seamark.eu

The IPG platform will be promoted via the project website on a dedicated “market platform” page, explaining the commercial benefits of the platform, incentives to become an IPG member as well as expectations and limitations.

d) Website Registration form

For onboarding purposes, a registration form will be created for potential IPG members to request access to the platform. The form will be embedded on the project website market platform page. SUB will also explore the

e) option for users to create user profiles and send private messages (subject to feasibility).

f) LinkedIn IPG Page

A dedicated LinkedIn page will be used to recruit targeted business actors to the internal platform (see above).

g) Tutorial / How To

A short guide with expectations, house rules and instructions will also be available on the platform for users to orientate themselves with the resources available.

h) Ensuring Uptake

Measures to ensure uptake include meetings between SeaMark partners (SUB, NOF and SJO) and IPG members to present the platform, its tools and resources, thereby removing barriers to uptake of the platform, while answering any questions and making necessary adjustments to the platform structure and functionality as required.

Member Interaction

IPG members will be encouraged to interact with each other independently of intervention from project partners SUB, NOF or SJO.

a) Expectations

Platform users will be expected to add content to the platform in the form of resources, notes, sketches, diagrams, maps, lists, technical requirements etc. Users will be encouraged to meet and chat informally with each other through the built-in Teams functionality, working on the materials (e.g. worksheets) provided to capture useful market knowledge and record it for the project partners NOF and SJO. Platform users will have a high degree of flexibility to shape the platform’s structure according to their needs (e.g. creation of folders, new files etc.)

b) Communication Channels

Users will be able to communicate via online meetings, chat, direct messaging, email and phone. Teams Channels facilitate dedicated group chats which will be dedicated to a particular topic, e.g. a specific product pipeline, technology or supply chain. An additional mailing list (e.g. ipg@seamark.eu) will be created for formal communication and announcements.

c) Announcements

The Teams platform also provides functionality to make announcements to all platform users. These will be synchronised across all IPG-related communication channels to ensure all users are made aware. Formal announcements will also include emails to the above address, to be created and maintained (i.e. continuously adding or removing recipients) by SUB.

f) File sharing

The Teams platform facilitates easy sharing of files between users with up- and download functionality, as well as real-time co-editing of online documents.

g) Collaborative Exercises

The worksheets and/or tools (e.g. MIRO board) provided on the platform will allow users to interact and co-develop resources to better understand needs for commercialisation pathways of the 12 seaweed-based products developed in the project. These resources will capture unique market knowledge, to be analysed by NOF and SJO as part of their project activities.

h) Consolidation

NOF and SJO will be primarily responsible for the monitoring, curation and consolidation of content generated by the platform on a continual basis. SUB will offer support in any technical adjustments. At the end of the project, the project content will be backed up and saved on a secure internal server by SUB, to be made available for further use upon request and subject to IP compliance.

Ongoing Maintenance

The platform will be continually updated and maintained by SUB to ensure a smooth and proper functioning of the platform.

a) Ongoing adjustments to the Platform(s)

Adjustments to the platform requested by SeaMark partners, the Advisory Board, Executive Board or external members will be reviewed by SUB, NOF and/or SJO and implemented on a case-by-case basis to ensure the optimum performance, maximum uptake and interactive functionality of the platform.

b) Performance / Troubleshooting

The performance of the platform will be monitored via built-in metrics provided by the Teams platform, e.g. number of active users, number of meetings, chat interactions, number of files created or edited etc. Users will be given contact details of the platform hosts (SUB) for troubleshooting purposes.

c) Data Management

SUB will work closely with NOF to ensure that any data shared on the platform is coherent with the guidelines set out in the Data Management Plan (DMP).

d) Security Measures

Access to the platform will be restricted to approved IPG members. Membership approval will be facilitated through the registration form, which SUB will validate with NOF, SJO and SeaMark industry partners prior to granting access to prospective new IPG members. Access will only be given subject to a unanimous decision from the existing IPG members in writing (e.g. via email). If IPG members are unresponsive, this could lead to delays in the onboarding of new IPG members. SUB will consider a direct notification and approval mechanism for this purpose (e.g. all IPG members receive a notification and Yes/No poll when a membership request is submitted).

e) Reporting

Indicators from monitoring of performance (see 6.a. above) will be used to assess the impact of the platform. Assessments will be reviewed at each Project Partner from M7 onwards.

Post-Project Exploitation

The exploitation of the platform after the project period will depend largely on the level of uptake during the project. If the platform is successful and provides valuable input to its members, partners will discuss its further use in the final stages of the project (e.g. at the final partner meeting), with responsibilities for its upkeep delegated within the project partnership.

a) FAIR principles

Findings or data generated by the platform will be used as input for deliverables under WPs 7 (Go-to-market strategies for products) and 8 (Conduct techno-economic & socio-economic assessments). These deliverables will be subject to FAIR principles (findable, accessible, interoperable and reusable). These outputs will take the form of summary reports, factsheets, infographics or mind maps to be made available via the project website. The current document will also be made publicly available for parallel initiatives to replicate their own platform. In addition to outputs uploaded to the website, key deliverables will also be uploaded to the SeaMark community on Zenodo to ensure permanent availability after the project period.

b) Handover or Integration into other platforms

The IPG platform will be designed to allow integration or transfer of knowledge to other initiatives. Selected outputs not subject to IP will be made publicly available on the project website. Post-project, stakeholders will be able to contact the project partners and request specific information, to be reviewed by the IPG members and granted on a case-by-case basis.

c) Rollback & Disbandment

The platform is designed to be easily maintained at minimal cost after the project period. Project partners will

be made aware of this option at the end of the project. A cost-benefit-analysis will be undertaken at the end of the project to assess whether the platform will provide added value to its members once the project is over.

TARGETS AND INDICATORS

Baseline targets for the platform’s success include onboarding of all 12 SeaMark industry partners to at least one or more platforms, and sustained usage throughout the project lifetime. Beyond this baseline, the number of industry partners contacted or deemed suitable for onboarding to the platform will be at the discretion of the SeaMark consortium, subject to the estimated value of potential new members’ contribution versus risk factors such as confidentiality and feasibility and the likelihood of concrete commercial exploitation (e.g. filing of patents, business contracts).

The performance of the platform will be measured via multiple key performance indicators (KPIs) as follows:

Indicator	Target	Verification
# active users	12	MS Teams + LinkedIn metrics throughout project
# collaborative exercises (e.g. mind maps, worksheets, presentations)	12	MS Teams repository + LinkedIn
# external members	12	User list
# business models	12	MS Teams repository
# meetings	12	MS Teams metrics
# social media posts	12	LinkedIn metrics

TIMELINE

The proposed measures will be implemented and online by the end of December 2022, to be finetuned and elaborated throughout the project period according to user needs and key performance indicators. Post-project exploitation of the platform is addressed in the relevant section above.

OUTCOMES AND IMPACTS

The expected outcomes of the platform are as follows:

- Leveraging of the potential of algae as an industrial feedstock by upscaling and demonstrating the techno-economic viability of algae cultivation and biotransformation concepts with positive environmental, social and economic impacts. Implementation of the European Green Deal’s sustainable blue economy and the EU bioeconomy strategy.

- Provide market knowledge to align the development of new algae products to the uses and needs of various sectors.
- Strengthen the competitiveness of the European blue bioeconomy and marine biotechnology industry by reducing technical bottlenecks and by developing promising business models making the whole algae sector more attractive to investment.

The expected impact of the platform will be as follows:

- Demonstrate viable concepts to enable the cost-effective cultivation and processing of algae into circular bio-based products and/or environmental services (e.g. medical, cosmetics, fine and speciality chemicals, remediation). The integration with food/feed production or with other processes (such as water treatment, crop and livestock farms and carbon sequestration) could be considered if it adds to the economic, environmental and social viability of the whole concept.
- Scale-up the production of algae products and bring them closer to market by addressing key challenges such as (i) optimising strains’ biology (including if relevant associated microbiomes) and the mechanisms regulating cell performance for rapid growth and high yields of novel valuable compounds; (ii) pest and disease control; (iii) standardising the product and production lines; (iv) post-harvest treatment and storage; (v) assessing risks of escape of propagules with the potential to affect local genetic biodiversity; and (vi) securing the safety of the selected applications. The efficiency and capacity of production systems should also be improved. Demonstrate downstream processing and fractionation of components that enable the practical implementation of multiproduct algal biorefineries.
- Establish European strategic development plans for the proposed algae farming that address biodiversity and ecosystems considerations. Key factors such as the carrying capacity of the European seas and the availability and use of land/light/energy should be considered; Provide estimates of the market demand for algae products and of the market structure.

SUMMARY, RECOMMENDATIONS AND NEXT STEPS

The above plan for the IPG platform for market exploitation provides the building blocks for the implementation of the platform’s technical infrastructure and information flows. Key elements including onboarding processes, member interactions, ongoing maintenance and post-project exploitation have been considered, analysed and compared. Within the context of the SeaMark project, a basic level of ambition will be achieved by M6, allowing flexibility for the platform to evolve organically in an integrated, participatory approach with industry partners. This will allow the platform to

be finetuned and adapted throughout the remainder of the project period based on factors such as partner feedback, uptake, cooperation from IPG members and available budget. The platform coordinators (NOF and SUB) will anticipate potential further use or integration of the platform with parallel initiatives (e.g. with the sister project CIRCALGAE) both during and post-project in order to maximise its impact. Based on this initial assessment, there is scope for the development of a B2B market platform for the trading of macroalgal biomass, if the significant operational costs can be justified. Financing such a platform through short-term European projects is not a sustainable solution, unless the platform itself is designed to generate its own income. This could theoretically be financed through membership fees, advertising, corporate sponsorship, Producer Organisations or other frameworks. It remains to be seen as to whether producers, processors, and manufacturers prefer to interact through more established industry platforms (e.g. Knowde) or directly with large enterprises on a case-by-case basis, to be investigated during the project.

The next steps for the implementation of the platform are as follows:

- SUB will create the platform infrastructure as specified in the above Approach and populate it with baseline content.
- SUB will share access to NOF and SJO to review the platform and make necessary adjustments prior to launch.
- SUB will invite SeaMark industry partners to join the platform, provide feedback and add content.

REFERENCES

Bak, U. G., Mols-Mortensen, A., and Gregersen, O. (2018). *Production method and cost of commercial-scale offshore cultivation of kelp in the Faroe Islands using multiple partial harvesting*. *Algal. Res.* 33, 36–47. doi: 10.1016/j.algal.2018.05.001

ANNEX

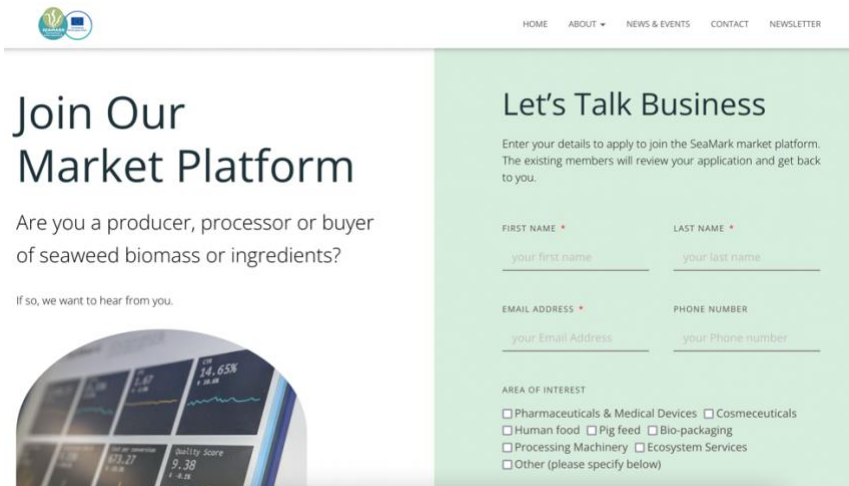


Figure 3: Screenshot of the SeaMark website market platform registration form

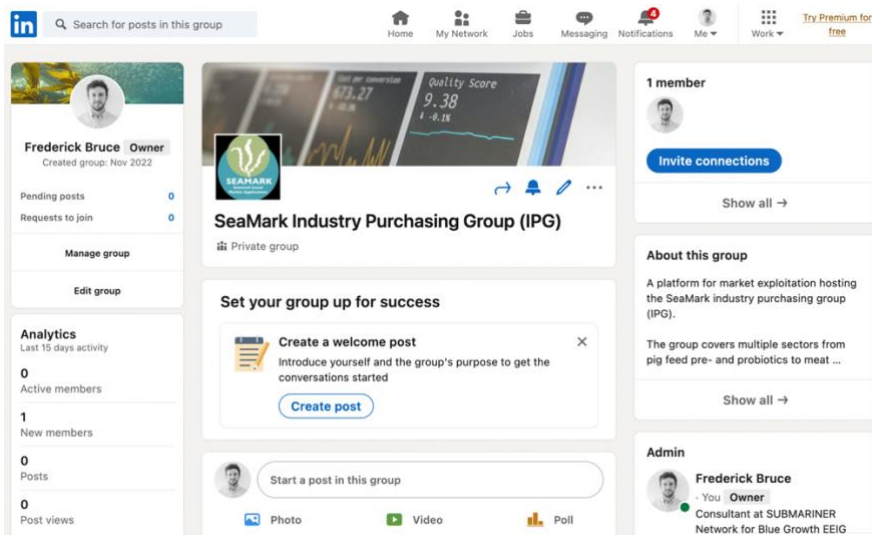


Figure 4: Screenshot of the LinkedIn IPG private group

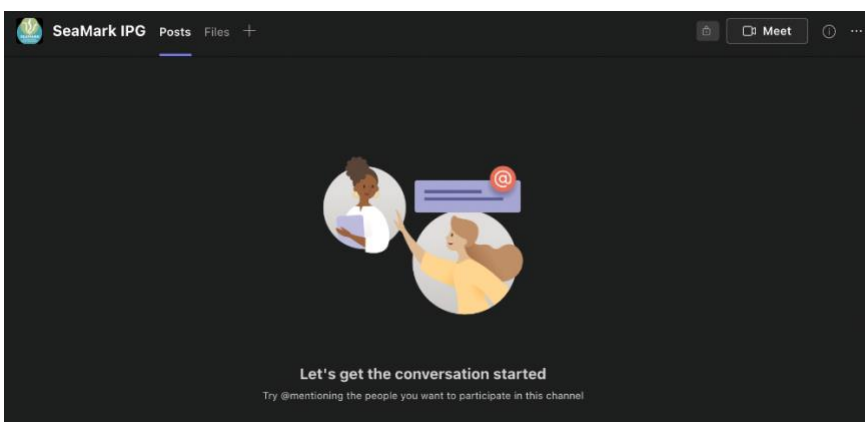


Figure 5: Screenshot of the SeaMark MS Teams IPG working space