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4. Marketing Plan

This chapter outlines the comprehensive marketing framework for the project. It details the progression from the initial business idea and Business Model Canvas to the final strategic positioning. Furthermore, it details the various market analyzes conducted and concludes with the definition of the brand image.

4.1 Introduction

The marketing plan for Maris Habitats focuses on positioning the project as a modular reef infrastructure and environmental data solution within the blue economy. Rather than claiming immediate biological recovery, the project focuses on what it can directly provide: scalable Reef Blocks, removable Smart Modules, and long-term environmental data.

The Reef Blocks create a physical structure in the marine environment and can provide surfaces, cavities, and sheltered spaces that may support habitat formation over time. The Smartlogger collects environmental data from selected locations, helping customers understand site conditions and environmental changes around the reef.

This positioning is relevant for public institutions, coastal municipalities, research organizations, environmental NGOs, port authorities, aquaculture operators, and marine infrastructure companies. These customers may need reef infrastructure, environmental monitoring, or data-based support for restoration evaluation, sustainability reporting, research, or decision-making.

This chapter defines the market context, target customers, positioning, and marketing-mix strategy for Maris Habitats.

4.2 Business Idea Formulation

The business idea of Maris Habitats is based on the need for marine habitat restoration and long-term environmental monitoring. Coastal and offshore areas are increasingly affected by habitat degradation, pollution, overfishing, and climate-related pressures. At the same time, the blue economy is becoming more important, as it aims to use ocean resources for economic growth while preserving the health of marine ecosystems **[1]**.

Artificial reefs have already been used for habitat restoration, fishery enhancement, research, and coastal management. However, their effectiveness depends on suitable design, site selection, materials, and long-term monitoring **[2]**, **[3]**. This creates an opportunity for a solution that does not only provide a physical reef structure, but also supports environmental data collection.

Maris Habitats responds to this need by offering a modular Reef Block system with an optional Smart Module. The Reef Blocks provide scalable underwater infrastructure, while the Smartlogger collects environmental data from selected locations. The purpose of the data is to help customers understand site conditions and observe how the reef and surrounding marine environment change over time.

The paying customers are not individual consumers, but organizations that benefit from better monitored marine environments. These may include public agencies, coastal municipalities, environmental NGOs, research institutions, port authorities, aquaculture operators, and marine

infrastructure companies. For these customers, Maris Habitats can provide reef infrastructure and data-based support for restoration evaluation, sustainability reporting, research, and decision-making.

The business model can be developed in stages. First, small pilot projects can be used to test the structure, Smartlogger system, and data collection method. Second, customers can purchase Reef Blocks and optional Smart Modules depending on the scale and purpose of the project. Third, annual monitoring services can be offered, including battery replacement, sensor inspection, data collection, and environmental reports.

This approach allows Maris Habitats to move beyond a one-time product sale. The project can be positioned as a scalable marine restoration and monitoring service, where customers can start with a small installation and expand the system over time.

4.3 Business Model Canvas

In this section, the Business Model Canvas for Maris Habitats is presented. Figure 1 provides an overview of the main elements of the business model, including customer segments, value proposition, channels, customer relationships, revenue streams, key resources, key activities, key partners, and cost structure. Each section of the canvas is explained in more detail below.

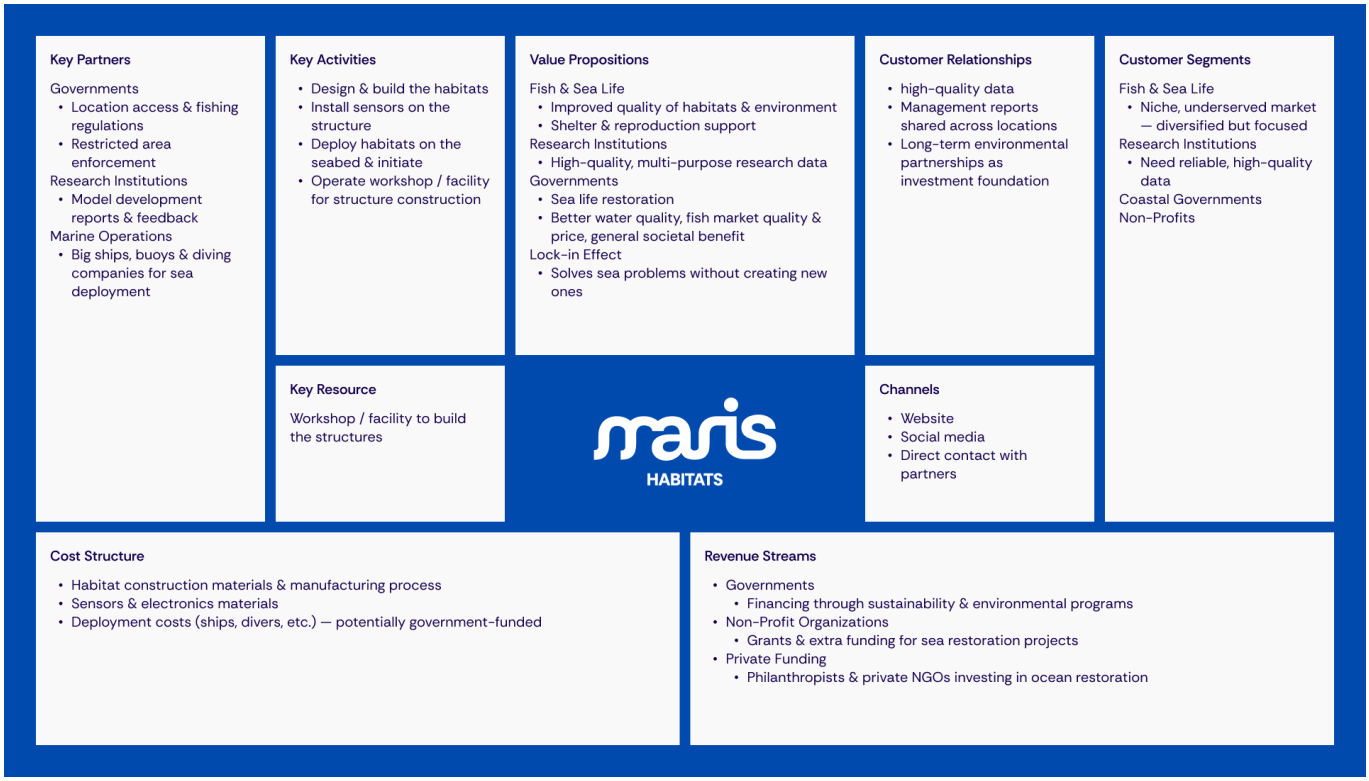

Figure 1: Business Model Canvas

1. Customer Segments

Maris Habitats is designed to support marine life, but the paying customers are organizations that manage, study, or protect marine environments. These include governments, coastal municipalities, non-profit organizations, environmental NGOs, research institutions, port authorities, aquaculture operators, and marine infrastructure companies.

The project also involves other stakeholders. Marine organisms are the main ecological beneficiaries, while society can benefit from healthier marine environments. Research institutions can also benefit

from the collected environmental data, which can support studies, monitoring activities, and decision-making.

2. Value Proposition

Maris Habitats provides modular Reef Blocks that can create physical habitat structure in marine environments. These structures may provide shelter and support habitat formation over time. The project also offers an optional Smart Module for environmental monitoring. The Smartlogger collects data from selected locations, which can help research institutions and public organizations understand site conditions and environmental changes around the reef.

For governments and public institutions, the value of the project is connected to marine restoration, environmental monitoring, and sustainability goals. For research institutions, the main value is access to environmental data that can be used for analysis and long-term observation.

3. Channels

The primary focus is placed on reaching buyers through direct personal contact, while social awareness and transparency are established through a dedicated website and social media presence.

4. Customer Relationships

The project aims to keep unnecessary human disturbance in the marine habitat as low as possible. Since the Smartlogger stores data locally, maintenance and data retrieval can be planned as scheduled operations instead of continuous site disturbance.

For research institutions, Maris Habitats can provide collected data and reports to support analysis and cooperation between different locations. For governments and public institutions, the focus is on developing long-term environmental partnerships that support restoration and monitoring projects.

5. Revenue Streams

Funding is generated through the strategic alignment of the project with government and non-profit sustainability initiatives. By presenting the product as a vehicle for marine restoration and environmental monitoring, the project can attract institutional support. This approach can also extend to the private sector, where philanthropists and NGOs may support specific conservation milestones.

6. Key Resources

The main resource is the workspace, consisting of a facility with an initial area for research and computer-based tasks, and a second area dedicated to building models through concrete molds and structures, ranging from material modeling to sensor implementation and testing. If mass production of the Reef Blocks is required, a factory will be necessary to produce them sequentially and at a higher speed.

7. Key Activities

The scope of activities includes the design and construction of Reef Blocks, as well as the development and installation of the Smartlogger system. This is followed by the deployment of the Reef Blocks on the seabed and the initialization of the monitoring process. The management and analysis of the resulting data can be supported by research centers and institutions.

8. Key Partners

Governments are expected to act not only as clients but also as partners in determining site locations and establishing fishing regulations in those areas. The relationship with research institutions is mutually beneficial, as they are provided with data to analyze while offering feedback for the project. Furthermore, partnerships are sought with marine businesses, ship owners, and diving enterprises to assist with transportation and sea deployment.

9. Cost Structure

The total budget is divided among model construction, material and manufacturing costs, sensors, electronic components, and deployment expenses, including ships, delivery, and divers. In small-scale production, the team salary is also included. In the event of a transition to mass production, worker salaries and factory-related costs would also need to be considered.

4.4 Market Analysis

Marine ecosystem degradation is increasingly recognized as both an environmental and economic challenge. Coastal and offshore areas are affected by pressures such as climate change, pollution, overfishing, and habitat loss. These pressures can reduce habitat quality and create a need for restoration, monitoring, and better environmental decision-making **[4]**, **[5]**.

Artificial reefs have already been used in different parts of the world as tools for habitat support, fishery enhancement, research, and coastal management. However, their effectiveness depends on suitable site selection, structural design, material choice, and long-term observation **[6]**, **[7]**. Many existing reef solutions mainly function as physical structures and do not include environmental data collection as a core feature.

At the same time, public institutions, research organizations, environmental NGOs, port authorities, aquaculture operators, and marine infrastructure companies increasingly need measurable environmental information. This data can support restoration evaluation, sustainability reporting, research, and long-term site management.

This creates a market opportunity for a solution that combines modular reef infrastructure with practical environmental monitoring. Maris Habitats responds to this gap by offering Reef Blocks that can be installed alone or combined with an optional removable Smart Module. The Smartlogger collects data at scheduled intervals and stores it locally for later retrieval, instead of relying on real-time underwater communication.

The primary target market consists of institutional and organizational customers rather than individual consumers. These include national and regional authorities, coastal municipalities, research institutions, environmental NGOs, port authorities, aquaculture operators, and companies involved in marine or coastal infrastructure.

The most realistic market entry strategy is gradual validation. Small pilot projects can first be used to test the reef structure, Smartlogger system, maintenance process, and data retrieval method. After technical validation, the system could be expanded through public funding, research partnerships, environmental programs, or project-based services.

In this context, Maris Habitats is positioned as a modular reef infrastructure and environmental data solution. Its market value comes from combining scalable Reef Blocks with optional monitoring services, allowing customers to start with a small installation and expand according to their budget, monitoring needs, and project goals.

4.4.1 PESTEL Analysis

A PESTEL analysis is a tool used by many businesses to study the general external environment before deciding on a business strategy. This environment is divided into political, economic, social, technological, environmental, and legal factors. The analysis helps identify changes in society and the market, allowing the business to adapt and position itself within this context.

4.4.1.1 Political

Politically, the current situation is favorable for projects related to marine restoration and environmental monitoring. The European Union (EU) has identified similar environmental challenges and has addressed them through the Nature Restoration Law (NRL), which requires member states to take corrective action toward ecosystem restoration **[8]**. As a result, demand for restoration-related solutions may increase, making the participation of public institutions and government agencies more likely.

4.4.1.2 Legal

Following the same policy direction, the United Nations (UN) has adopted the High Seas Treaty, also known as the Biodiversity Beyond National Jurisdiction (BBNJ) Agreement. This international agreement provides a legal framework for establishing Marine Protected Areas (MPAs) in international waters, emphasizing area-based management tools and environmental impact assessments in the deep sea **[9]**. These operations align with the business proposal and provide a structured framework that the project can follow.

4.4.1.3 Economic

Economically, marine restoration is moving from research-focused projects toward larger-scale implementation, and the funds and budgets allocated to these efforts are growing accordingly. In line with the previously mentioned regulations, substantial funding opportunities are available through different organizations:

- The EU, through the LIFE Program, can co-finance environmental and nature-related projects, including projects within nature and biodiversity calls **[10]**. Furthermore, under the specific mission “Restore our Ocean and Waters,” 2026 calls have been launched with an indicative budget exceeding € 115 M for topics including nature-based solutions and habitat mapping **[11]**.
- The Global Environment Facility (GEF) is also a relevant international funding mechanism for environmental projects. For the GEF-8 funding period, donor governments pledged USD 5.33 B to support global environmental challenges **[12]**.
- Lastly, at the national level, both Spain and Portugal, which are potential target locations, have initiatives related to fishing sustainability, marine restoration, and the blue economy. In Spain, examples include the PLEAMAR and Empleaverde+ programs **[13]**, **[14]**. In Portugal, blue economy funding initiatives such as Fundo Azul and Portugal Blue can also support ocean-related innovation and sustainable marine development **[15]**.

4.4.1.4 Social

On a social level, several arguments gain momentum year after year. The restoration and creation of habitats have their primary impact on the creation of “shelter zones.” This allows for an increase in biomass, which can help stabilize the economy of fishing areas and reduce conflicts arising from resource scarcity. Furthermore, these habitats can indirectly support diving tourism by diverting tourist pressure from overexploited natural reefs toward controlled and managed areas, promoting a more sustainable blue economy.

In addition, the improvement of marine habitats can enhance water quality and help protect beaches from erosion. This can increase the overall quality of life in coastal cities, particularly in high-tourism regions such as the target countries, Spain and Portugal.

4.4.1.5 Technological

Technologically, the project is currently at its least mature point. There is an increasing need for environmental activities to be monitored, recorded, and measured in order to demonstrate their effectiveness and evaluate their results. Funding bodies, in particular, require reliable evidence from supported projects. For this reason, the project depends on a simple monitoring system that can meet these requirements without overcomplicating the process.

Other projects may involve 3D scanning of the implementation or restoration area for simulations, or high-resolution mapping using sonar. However, the project goals do not include these types of systems. Because of this technological gap, a simpler monitoring system is preferred to provide the necessary information without relying on excessive, highly invasive, or unnecessary testing.

4.4.1.6 Environmental

The implementation of marine habitats is subject to strict oversight by regulatory bodies under the EU Nature Restoration Law (NRL), which requires studies proving that the intervention will not negatively alter pre-existing environmental dynamics **[16]**. To this end, baseline characterization studies are conducted for later comparison after implementation.

Another study of great importance is ecological connectivity, which assesses interaction with the surrounding environment. This can support the creation of ecological corridors that facilitate species migration and climate change adaptation. Finally, other impact assessment and ecosystem service studies can support the project and help ensure its success.

Despite these well-defined tests and studies, this area may be challenging due to numerous regulatory requirements and limited professional experience in the field. Consequently, efforts will need to be made to satisfy both technical and social requirements.

4.4.2 SWOT Analysis

The main strengths, weaknesses, opportunities, and threats of Maris Habitats are summarized in Figure 2.

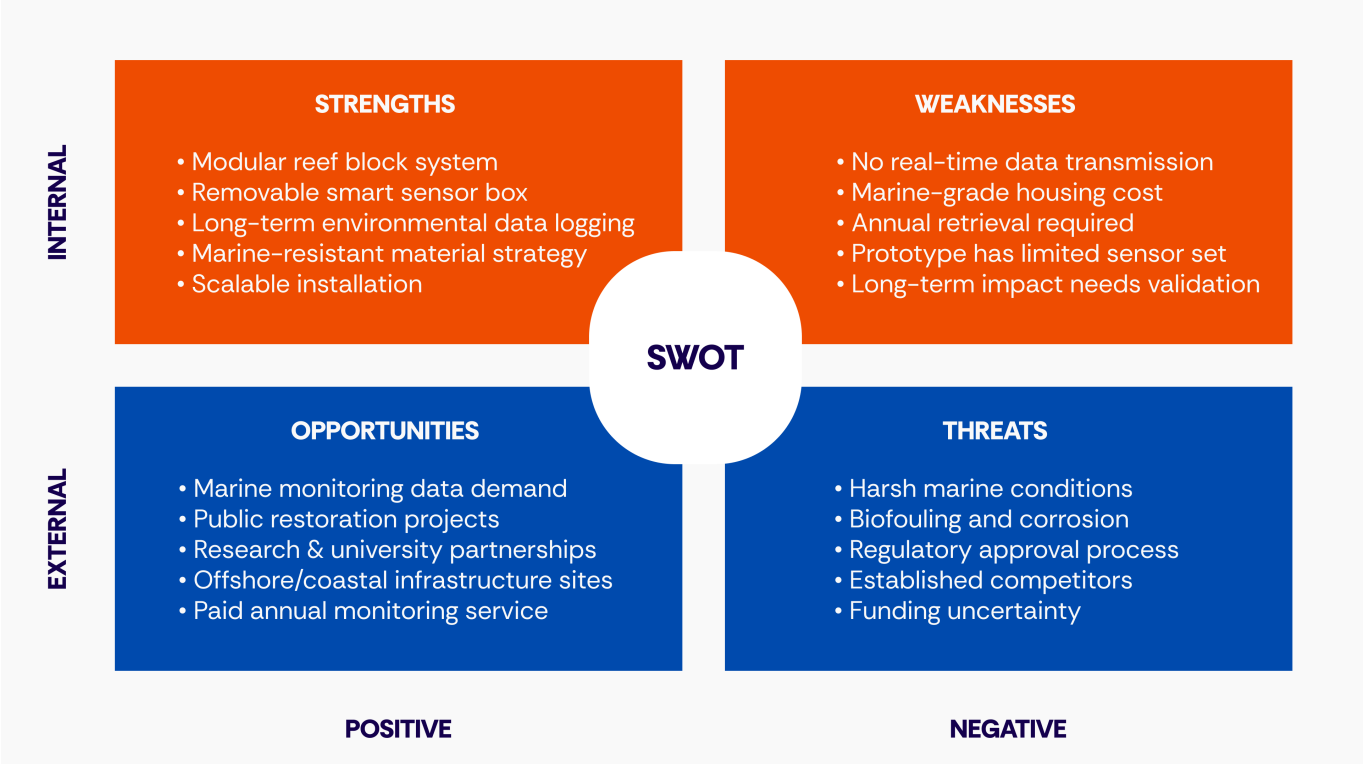

Figure 2: SWOT Analysis

4.4.2.1 Strengths

One of the main strengths of Maris Habitats is the combination of modular Reef Blocks and a removable Smart Module. The system is not only designed as a physical reef structure, but also as a tool for collecting environmental data around the reef over time.

Another strength is its modularity. Customers can start with a small number of Reef Blocks and later expand the system depending on the project size, budget, and monitoring needs. Since the Smartlogger can be removed from the Smartlogger attachment, maintenance, battery replacement, and data retrieval can be carried out without removing the whole Reef Block from the seabed.

The system also has value for long-term environmental observation. Instead of relying on real-time underwater communication, the Smartlogger stores data locally and allows the data to be retrieved during scheduled maintenance. This reduces technical complexity and power consumption while still supporting later analysis.

4.4.2.2 Weaknesses

A main weakness of Maris Habitats is the technical complexity of combining reef structures with sensors, batteries, waterproof housing, and data storage. Even though the system avoids real-time underwater transmission, the electronic components still need to operate reliably in harsh marine conditions.

Another weakness is the cost of marine-grade components. Pressure-resistant housings, underwater connectors, and durable sensors can be expensive, especially for the final product. The prototype uses lower-cost alternatives, but these are only suitable for controlled testing and cannot fully represent long-term marine deployment.

Maintenance is also a limitation. The system is designed for long-term local data logging, but the Smartlogger still needs to be retrieved periodically for battery replacement, sensor inspection, and data collection. This may require divers or technical partners, which can increase operational costs.

4.4.2.3 Opportunities

Maris Habitats can benefit from the growing demand for marine restoration, environmental monitoring, and data-based decision-making. Public institutions, coastal municipalities, research organizations, NGOs, port authorities, aquaculture operators, and offshore infrastructure companies may need solutions that combine reef infrastructure with environmental data collection.

There is also an opportunity to develop pilot projects with local authorities, universities, or marine infrastructure partners. These pilot projects could help test the modular Reef Blocks, the removable Smart Module, and the annual data retrieval process before larger-scale deployment.

Another opportunity is the development of a service-based model. In addition to selling Reef Blocks, Maris Habitats could offer annual monitoring services, including battery replacement, sensor inspection, data collection, and environmental reports. Basic datasets could also support research and education, while project-specific analysis could be offered as a paid service.

4.4.2.4 Threats

Several threats are related to the marine environment itself. Strong currents, storms, pressure, corrosion, and biofouling can affect the long-term performance of both the reef structure and the Smartlogger. These factors may increase maintenance needs, reduce data quality, or shorten the service life of some components.

Regulatory approval can also be a threat. Since the system is installed underwater and interacts with marine environments, deployment may require permits, environmental assessments, and cooperation with local authorities. This can delay implementation, especially for public restoration or coastal infrastructure projects.

Existing companies in marine infrastructure, reef restoration, and marine monitoring may also create competition. Some competitors may already have stronger market recognition, technical validation, or established partnerships with public institutions and coastal stakeholders.

Funding uncertainty is another threat. Many potential customers, such as public institutions, NGOs, and research organizations, may depend on project-based budgets, grants, or public funding. If funding is delayed or limited, customers may postpone installation or choose only a smaller pilot version.

4.5 Strategy

This chapter details the Maris Habitats marketing strategy, establishing clear objectives, market segmentation, and targeting. It defines the project's strategic positioning and concludes with a comprehensive marketing mix, analyzing the 4 Ps: Product, Price, Place, and Promotion.

4.5.1 Strategic Objectives

To determine the team's objectives, a SMART framework was used, ensuring that the goals are Specific, Measurable, Achievable, Relevant, and Time-bound. A 3- to 5-year horizon was defined to reduce ambiguity and support strategic alignment.

- Short-to-Medium Term: The primary objective is to demonstrate the system's feasibility through a functional prototype and establish strategic partnerships with research institutions, NGOs, and local authorities for pilot deployment.
- Long Term: Beyond the initial scope, the project aims to scale the solution into a modular and sustainable artificial reef system dedicated to marine ecosystem restoration and data-driven coastal management.

Monitoring, Metrics, and Baselines

The implementation of specific and measurable Key Performance Indicators (KPIs) will help guide the project. A longitudinal monitoring approach will be used by comparing post-deployment data with an environmental baseline, also referred to as the “Year 0” measurements. This comparative approach can help assess biodiversity changes, water quality improvement, and structural integrity over time **[17]**.

Critical Relevance in a Global Context

The relevance of these objectives is connected to the increasing pressure on marine ecosystems. Habitat degradation can affect marine biodiversity, ecosystem services, and communities that depend on the sea for food, tourism, and coastal protection. WWF also highlights that marine and coastal ecosystems in Europe face threats from habitat destruction, pollution, and climate change, which makes restoration planning more important **[18]**. For this reason, the strategy is not only a business goal, but also part of a wider response to marine ecosystem degradation.

Achievability and the “Experimental” Paradigm

In line with recent marine restoration guidance, this project can be considered experimental because it is still at an early validation stage and operates in a dynamic marine environment **[19]**. Unlike mature projects with predictable outcomes, this project still needs to test technical boundaries through prototypes, pilot deployment, and monitoring. Recognizing this experimental nature allows the team to maintain operational flexibility. Marine variables, such as current shifts, temperature fluctuations, and pH levels, require an adaptive management style, allowing the team to adjust its approach without compromising the core strategic objectives.

4.5.2 Segmentation and Targeting

Unlike traditional consumer products, this solution is not based on standard demographic or psychographic segmentation. Instead, it focuses on geographic and environmental conditions, especially coastal areas with similar marine characteristics.

At this stage, the main focus is on the Atlantic coast of Portugal and Northern Spain. These regions have similar ocean conditions and biodiversity, which makes it easier to apply the system without major design changes.

Although the European Union is the main institutional partner and initial market, the long-term goal is to expand to other regions with similar marine environments. Potential areas include the northeastern United States, southwestern Canada, western New Zealand, and central Chile.

In future developments, the system could also be adapted to different climates, including tropical and colder regions, allowing for wider global application.

From this perspective, the targeting strategy focuses on the main stakeholders within these regions. After identifying where the system can be implemented, it is important to define who benefits from it.

The project aims to support marine biodiversity, fish population growth, and better water quality. In addition, it may help reduce coastal erosion and protect coastal infrastructure by absorbing wave energy.

Unlike traditional solutions, the system also includes an optional Smart Module that collects environmental data at scheduled intervals. This supports data-driven decision-making for coastal management and long-term planning.

For these reasons, the main target audience includes national governments, regional authorities, and coastal municipalities. These stakeholders are responsible for environmental management and have the capacity to invest in long-term infrastructure.

The partnership strategy is based on three main criteria:

- Environmental awareness: recognition of marine ecosystem degradation
- Financial capacity: ability to support long-term investment
- Strategic alignment: consistency with sustainability policies

In this context, the EU Biodiversity Strategy for 2030 provides a strong framework because it aims to protect nature, reverse ecosystem degradation, and put biodiversity on a path to recovery by 2030. This makes Maris Habitats more aligned with European policy priorities for biodiversity and ecosystem restoration **[20]**.

4.5.3 Positioning

The positioning of Maris Habitats and selected existing companies is shown in Figure 3. The map is based on two criteria: ecological reef design on the horizontal axis and environmental data / monitoring capability on the vertical axis. These criteria were selected because Maris Habitats is intended not only to provide a physical reef structure, but also to collect environmental data around the reef over time.

Figure 3 shows that Maris Habitats is positioned between reef-based habitat solutions and marine data services, aiming to combine both ecological structure and environmental monitoring in one modular system.

The positioning map includes two types of existing solutions. ECOncrete, Reef Design Lab, IntelliReefs, and rrreefs are included as reef-related solutions, while XOCEAN is included as an example of a marine data company. XOCEAN provides turnkey ocean data services using uncrewed surface vessels, including seabed mapping and environmental monitoring. Therefore, it is positioned higher in

environmental data / monitoring capability, but lower in ecological reef design because it does not focus on artificial reef or habitat structure development **[21]**.

ECOncrete, Reef Design Lab, IntelliReefs, and rrreefs are positioned on the right side of the map because their public product descriptions focus on ecological reef design, habitat creation, material innovation, or reef restoration. ECOncrete provides bio-enhancing concrete solutions for marine infrastructure **[22]**. Reef Design Lab designs, prototypes, and manufactures artificial reefs and coastal habitat infrastructure **[23]**. IntelliReefs develops Oceanite-based reef restoration substrates for marine restoration **[24]**. rrreefs rebuilds coral reefs using a 3D-printed modular system that supports biodiversity and habitat creation **[25]**.

However, compared with Maris Habitats, their public product descriptions do not clearly present a removable Smart Module as a core feature of the reef system. This does not mean that these companies do not collect any environmental data during projects. Rather, the map focuses on whether environmental monitoring is presented as an integrated product function.

Maris Habitats is positioned in the upper-right area of the map because it combines modular Reef Blocks with a removable Smart Module for environmental data collection. This position shows the intended niche of Maris Habitats between artificial reef infrastructure and marine environmental monitoring services.

Overall, the positioning map shows that Maris Habitats aims to combine ecological habitat support with environmental monitoring in one modular system. Unlike companies that focus mainly on reef structure or companies that focus mainly on data collection, Maris Habitats proposes a combined solution that can support both habitat creation and long-term observation.

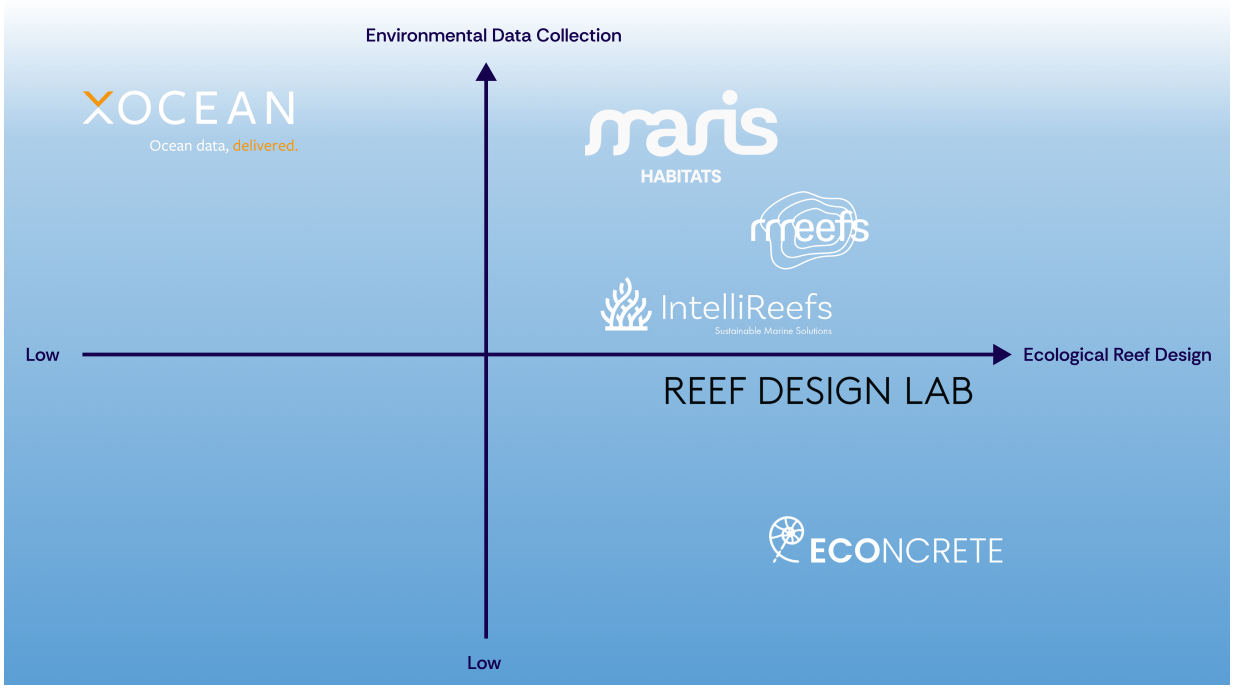

Figure 3: Positioning map of selected existing solutions and the proposed Maris Habitats system

4.5.4 Marketing-Mix

Product

Maris Habitats is a modular marine infrastructure and environmental monitoring system. The product consists of Reef Blocks, an optional removable Smart Module, and a monitoring service based on collected environmental data. The Reef Blocks are designed as modular underwater structures with textured surfaces and connection gaps between blocks, which may provide attachment areas and sheltered spaces for marine organisms over time **[26]**.

The Smartlogger collects environmental data such as temperature, pressure/depth, and selected water quality indicators from specific locations around the reef. The data is not intended to prove immediate ecological recovery. Instead, it is used to observe how the reef structure and surrounding marine conditions change over time, since artificial reef projects require long-term monitoring before ecological outcomes can be evaluated **[27]**.

The data-based monitoring service works by combining periodic data collection with maintenance and reporting. The Smartlogger records and stores environmental measurements during deployment. During maintenance visits, the data can be retrieved, checked, documented, and organized into simple reports for the customer **[28]**. These reports can help public institutions, researchers, or companies understand site conditions, compare changes over time, and plan future maintenance or restoration decisions. In this way, the service adds value to the physical reef structure by supporting long-term observation.

A key part of the product strategy is modularity. Customers can first install only the Reef Blocks and later add the Smart Module if monitoring is needed. This gives public institutions and companies more flexibility because they do not need to invest in the full system from the beginning.

The Smart Module is not included in every Reef Block. For larger installations, only selected Reef Blocks may include the Smart Module in order to collect representative environmental data while reducing the total system cost. The removable design also allows battery replacement, sensor inspection, maintenance, and data retrieval without removing the whole Reef Block from the seabed.

The final product could include different service levels. A basic version would include the Reef Blocks only. A standard version would include Reef Blocks and selected Smart Modules. A premium version could include yearly maintenance, data collection, sensor inspection, battery replacement, and environmental reports. In this way, Maris Habitats becomes more than a physical product; it becomes a modular platform for reef infrastructure, environmental monitoring, and data-based service.

Price

The pricing strategy for Maris Habitats follows a modular, scalable, and tiered pricing model. Since the system is composed of separate Reef Blocks and optional Smart Modules, the total price depends on the number of Reef Blocks, the number of Smart Modules, the selected sensor package, and the level of service required by the customer.

In the early market entry stage, Maris Habitats could apply a penetration pricing strategy through small pilot installations. Penetration pricing means setting a lower initial price for a new product or service to attract customers and gain market share at the beginning of the product life cycle **[29]**. In this project, the first installations could be offered at a lower introductory price to reduce the financial risk for customers and encourage adoption. After the product gains credibility, field data, and customer trust, the price could gradually move toward a standard market-based level.

The reef structure can be priced per Reef Block. This allows customers to start with a small pilot installation and expand the system later by adding more Reef Blocks. For larger restoration or

monitoring areas, more Reef Blocks would be required, while smaller projects could begin with only a limited number of units. This makes the product more flexible for public institutions, research organizations, NGOs, and companies with different budgets.

The Smart Module would be offered as an optional add-on rather than being included in every Reef Block. For example, if a project installs 50 Reef Blocks, it may only need 5 Smart Modules placed in selected locations. These Smartloggers can collect representative environmental data from the site while reducing the total cost of the system. This is important because large installations do not need sensors in every single Reef Block.

A tiered pricing strategy could also be used for the Smart Module. Tiered pricing allows a product or service to be divided into different levels based on features, service scope, or usage, so customers can choose the option that best fits their needs and budget **[30]**. A basic package could include essential sensors such as temperature and pressure/depth sensors. A standard package could include additional water quality indicators such as conductivity or total dissolved solids. An advanced package could include more specialized sensors or customized monitoring options for projects with higher budgets or specific research needs.

In addition to the physical product, Maris Habitats could offer an annual monitoring service. This service could include data retrieval, battery replacement, sensor cleaning, sensor inspection, and an environmental report. The service could also be divided into different levels. For example, a basic service could include only data retrieval and inspection, while a premium service could include regular maintenance and a detailed environmental report.

Through this pricing model, customers can choose the level of product and service that fits their budget and project scale. At the same time, Maris Habitats can create a more stable business model by combining one-time product sales with recurring monitoring and maintenance services. This turns Maris Habitats from a simple artificial reef product into a scalable marine restoration and monitoring service.

Place

Because Maris Habitats is not a consumer product, it would not be distributed through normal retail channels. The product is intended for institutional and project-based customers, such as public authorities, coastal municipalities, port authorities, research institutions, environmental NGOs, aquaculture operators, and marine infrastructure companies.

The distribution strategy should therefore be based on direct sales, partnerships, and pilot projects. Instead of selling the product through shops, the team would approach potential customers directly and offer project-specific solutions depending on the site, budget, monitoring needs, and environmental goals.

At the first stage, the main geographical focus would be the Atlantic coast of Portugal and Northern Spain. These regions are suitable as an initial market because they are close to the project location and have comparable marine conditions. Starting in nearby regions also makes communication, testing, transport, installation, and maintenance easier.

After validation through pilot projects, Maris Habitats could be expanded to other coastal regions with similar marine environments. Possible future markets include other European coastal areas and international regions where artificial reef structures or environmental monitoring systems are needed. However, expansion to different climates or ecosystems would require additional testing and local

adaptation.

The installation and maintenance process would likely require cooperation with local partners. These may include diving teams, marine contractors, port operators, research institutions, or environmental agencies. This partnership-based distribution model is important because underwater installation, annual data retrieval, and sensor maintenance require site access and technical support.

Promotion

The promotion strategy should focus on clear, realistic, and evidence-based communication. Since Maris Habitats is presented as an environmental solution, promotion must avoid exaggerated claims or greenwashing. The system should not be promoted as a complete solution that can fully restore marine ecosystems by itself. Instead, communication should explain what the system can realistically provide: modular reef infrastructure, optional environmental monitoring, and long-term local data collection.

The main promotional message should emphasize the difference between Maris Habitats and existing artificial reef solutions. Many existing systems focus mainly on reef structure or ecological design. Maris Habitats adds value by combining modular Reef Blocks with a removable Smart Module. The Smartlogger stores environmental data locally for later analysis.

Promotion should be targeted at professional and institutional audiences rather than the general consumer market. Suitable channels include direct presentations to public authorities, research institutions, port authorities, environmental NGOs, and marine infrastructure companies. Promotion could also include project reports, technical brochures, and presentations at conferences or events related to marine restoration, environmental monitoring, coastal infrastructure, and sustainability.

Digital communication can also support promotion. A website or project page can explain the system, show the modular structure, describe the Smartlogger, and present pilot project results when available. Social media can be used for awareness, but the content should remain informative and technical rather than overly promotional.

For early-stage promotion, pilot projects are especially important. Demonstrating the system in a controlled or small-scale marine environment would help build credibility. Data collected from pilot deployments could later be used in reports, presentations, and case studies to show how the system works and what kind of environmental information it can provide.

Overall, the promotion strategy should present Maris Habitats as a realistic and modular solution for marine infrastructure and environmental monitoring. The focus should be on transparency, technical feasibility, long-term observation, and collaboration with institutions that are already involved in marine restoration, research, or coastal management.

4.5.5 Brand

The name of the product is Maris Habitats.Maris is of Latin origin, meaning “of the sea”. This name was chosen to reflect the mission: to give back to the ocean and support the growth of new marine habitats.

Logo

The Maris logo (see Figure 4) is inspired by the movement of the ocean: fluid and continuous. It captures the essence of water through a single, uninterrupted line, symbolizing flow, connection, and natural rhythm.

Figure 4: Maris Habitats Logo

Color System

The Maris color palette (see Figure 5) is inspired by the depth and diversity of the ocean. It balances cool aquatic tones with a vibrant accent, reflecting both calmness and life beneath the surface.

- **Deep Sea Blue** — #14004D **Foundation color** Represents depth, mystery, and stability
- **Ocean Blue** — #004AAD **Core brand color** Clear, strong, and evoking open water
- **Fish Blue** — #5C9FD5 **Secondary tone** Adds lightness and movement
- **Sky Blue** — #DDEBF6 **Background color** Soft, breathable, and minimal
- **Coral Orange** — #EE4C01 **Accent color** Inspired by coral reefs, used for highlights, energy, and contrast
- **Orca White** — #F9F9F9 **Neutral base** Clean, modern, and versatile

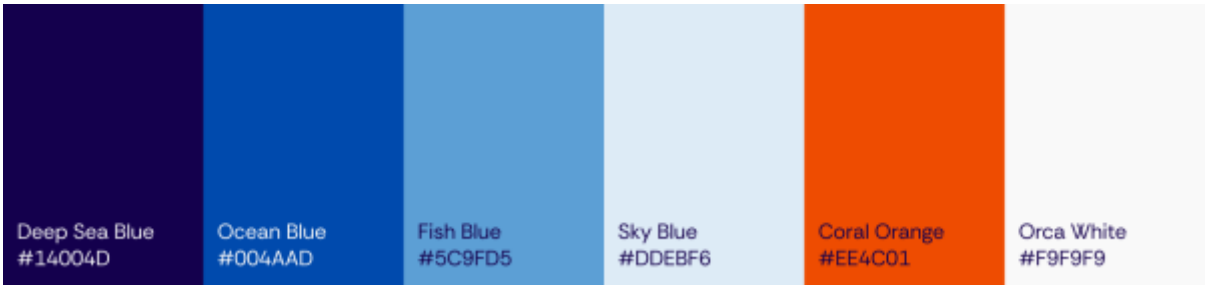

Figure 5: Maris Habitats Brand Colors

Graphic Elements

The graphic language (see Figure 6) of Maris is derived from marine ecosystems, translating organic underwater forms into bold, modern visuals. The organic shapes are inspired by coral, sea plants, and flowing water. Shapes are soft, rounded, and natural. The elements overlap to create depth, mimicking underwater environments and ecosystems.

Figure 6: Maris Habitats Graphic Elements

4.6 Marketing Programs

4.6.1 Programs

To support the visibility and future development of Maris Habitats, the marketing programs are based on four main activities. These activities combine digital communication, institutional cooperation, public awareness, and prototype demonstration.

- Social Media & Digital Promotion: Digital communication will be used to present the project and explain its main purpose. Instagram can be used to share visual updates and short videos for students and the general public, while LinkedIn can be used for technical updates, project milestones, and professional networking. A project page on the university website can also include the project description, research goals, prototype progress, and basic data examples. The content should clearly show the Reef Block design, the Smartlogger, and the environmental monitoring concept.
- Collaboration with Universities and Marine Organizations: Collaboration with universities and marine organizations is important for feedback, technical support, and future validation. The main academic collaboration will be connected to the Instituto Superior de Engenharia do Porto (ISEP), where the team can receive multidisciplinary support. In the future, the project could also cooperate with marine research centers and local environmental organizations to improve the design and make it more suitable for real marine conditions.
- Educational & Awareness Activities: Educational activities can help explain the value of artificial reefs and environmental monitoring. The team can organize technical presentations or small workshops for engineering and environmental science students. Awareness activities can also be used to inform the local community about marine habitat restoration, biodiversity protection, and the role of artificial reefs in supporting marine ecosystems.
- Prototype Demonstration: The prototype demonstration will show the physical concept of Maris Habitats in a controlled environment. It can present the scaled Reef Block and the basic operation of the Smartlogger prototype. This allows stakeholders to see how the structure, sensor system, and data collection process work before any future marine deployment.

4.6.2 Budget

To keep the marketing activities realistic during the prototype and early dissemination stages, a small and practical budget is planned. The costs are kept low by using free digital platforms, university resources, and simple printed materials.

- Social media promotion: € 0–50. Mainly organic posts, with small targeted ads if needed.
- Posters & printing: € 30. Technical posters for presentations and institutional display.
- Presentation materials: € 50. Handouts, visual materials, and support media for workshops or

meetings.
- Prototype exhibition: € 200. Transport, exhibition materials, small fixtures, and demonstration consumables.
- Website / digital tools: € 0–30. Use of university subdomains, free website tools, or open-source content management tools.

4.6.3 Control

To check whether the marketing programs are effective, simple control and feedback methods will be used. These methods will help the team understand which activities work well and what should be improved in future promotion and dissemination.

- Social Media Engagement Metrics: Digital communication results will be checked using the analytics tools available on each platform. The main metrics include likes, shares, comments, and overall reach. These results can be reviewed regularly to understand which content is more effective and how future posts can be improved.
- Feedback from Professors & Students: After workshops, presentations, or project demonstrations, feedback can be collected from professors, students, and other participants. Simple surveys or feedback forms can be used to evaluate whether the project explanation is clear, useful, and relevant. This feedback can help improve future presentations and educational activities.
- Prototype Evaluation: The prototype can be evaluated during exhibitions and demonstrations through observations and discussions with visitors, professors, and technical stakeholders. Feedback about the Reef Block design, Smartlogger system, waterproofing, sensor accuracy, and maintenance process can be used to improve the final product concept.

4.7 Summary

This chapter presented the marketing strategy for Maris Habitats. The analysis showed that the project should target institutional and project-based customers, such as public authorities, coastal municipalities, research institutions, environmental NGOs, port authorities, aquaculture operators, and marine infrastructure companies.

Based on this market analysis, the team decided to position Maris Habitats as a modular reef infrastructure and environmental monitoring solution. The product is intended for customers that need scalable reef structures, long-term environmental observation, and data-based support for restoration, research, or coastal management.

For this reason, the solution was designed with modular Reef Blocks, an optional removable Smart Module, local data logging, and service-based monitoring options. These features allow customers to start with a small pilot installation and expand the system according to their budget, site conditions, and monitoring needs.

The next chapter examines the sustainability of this solution by considering its environmental, economic, and social impacts, as well as its life cycle.

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