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EUROPEAN REGIONAL DEVELOPMENT FUND
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Baltic Blue Growth

SH Schleswig-Holstein
Ministry for Energy Transition, Agriculture, Environment, Nature and Digitalization

BUSINESS PLAN "KIELER MEERESFARM"

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Content

Kiel Marine Farm

Name: *"Kieler Meeresfarm" ("Kiel Marine Farm")*

Location: *Kiel Fjord*

Owner: *Kieler Meeresfarm GmbH*

Production Capacity: *up to 5 tons per year, upscaling is in progress*

Main use for mussel:

- ✖ Human consumption
- ☐ Ingredient
- ☐ Biogas
- ☐ Other

The Kiel Marine Farm – mussel cultivation in the Kiel Fjord (Foto: Lemcke)

Mussel business in the German Baltic Sea – a general overview from a governmental point of view

The mussel culture economy has a long tradition in Schleswig-Holstein and is still of great economic importance today. However, this statement refers to the mussel industry on the North Sea - the rearing takes place there in the bottom culture process. Cultivated areas in specially designated mussel culture districts are covered with seed mussels, and after a period of growth of one to two years, they are harvested, producing high quality food mussels. The required seed mussels are fished partly on approved areas in the vicinity of the cultivated areas from natural hatching, partly by so-called seed-collecting plants (Smart Farm System).

At the North Sea, Schleswig-Holstein currently has issued seven mussel licenses, the prerequisite to cultivate and harvest. The mussels harvested in the North Sea are marketed exclusively as food mussels for human consumption. The following numbers give an overview of the harvested amounts of recent years (the value for 2018 was not known at the time of going to press).

2012: 4,925.239 kg

2013: 3,192.485 kg

2014: 5,333.376 kg

2015: 8,114.128 kg

2016: 19,150.575 kg

2017: 14,383.594 kg

The state of Schleswig-Holstein has set up a so-called "mussel program" for the exploitation of shellfish resources on the North Sea and concluded a public-law contract with the companies and the producer organization of the mussel fisheries.[1].

Since 2016, the mussel culture industry in the North Sea has been certified as "sustainable" according to the criteria of the Marine Stewardship Council (MSC).

[1] für mehr Details siehe https://www.schleswig-holstein.de/DE/Fachinhalte/F/fischerei/muschelfischerei.html

The situation at the Baltic Sea is completely different. There was a long tradition of wild mussel fishing, which was formerly practiced in different parts of the Schleswig-Holstein Baltic Sea. Until 2017, there was still a large-scale wild mussel fishery at the Flensburg Fjord (approved landings of up to 1,500 t per year), which ended with the expiration of the license.

Unlike on the North Sea, the cultivation of mussels on the Schleswig-Holstein Baltic Sea is currently only of very minor importance. The Kieler Meeresfarm is at the moment the only commercial supplier of cultured mussels from the Baltic Sea of Schleswig-Holstein, and the amount of cultivated and harvested mussels at the Kieler Meeresfarm is very low compared to the North Sea (3 - 5 tons of mussels a year). By extending and expanding the farm, as detailed in the following business plan, the operator aims to increase this amount to up to 50 t annually. The harvested mussels of the Kieler Meeresfarm, certified as "organic" according to the EU regulation, are currently only sold at the local market; mainly in direct marketing by the operator himself.

Based on the reform of the EU Common Fisheries Policy and the 2013 Fisheries Regulation[2], the establishment of national strategic plans for the development of aquaculture have been submitted by both Germany (supra-regional) and Schleswig-Holstein. The mussel aquaculture in the Baltic Sea is part of these plans. This planning was coupled with the intended extension of fish aquaculture - the mussels were to serve as compensatory organisms for nutrient inputs due to fish farming (IMTA concept, see below).

The Schleswig-Holstein strategy [3] basically presents existing potentials for aquaculture in the Baltic Sea. For example, the SH-strategy focuses on subjecting the IMTA concept to a practical test as part of a pilot-facility. In the case of positive experiences with an IMTA (given general environmental compatibility and proof of complete nutrient compensation), the strategy should be updated accordingly. In order to support this development process, the responsible ministry assigned a framework of a study, identify the most important basics for the settlement of an IMTA or independent mussel cultures (including the search for suitable areas for the settlement of industrial partners, among others). Furthermore the ministry has published a Guideline for the approval of Aquaculture businesses in Schleswig Holstein.

[2] VERORDNUNG (EU) Nr. 1380/2013 DES EUROPÄISCHEN PARLAMENTS UND DES RATES vom 11. Dezember 2013 über die Gemeinsame Fischereipolitik und zur Änderung der Verordnungen (EG) Nr. 1954/2003 und (EG) Nr. 1224/2009 des Rates sowie zur Aufhebung der Verordnungen (EG) Nr. 2371/2002 und (EG) Nr. 639/2004 des Rates und des Beschlusses 2004/585/EG des Rates

[3] Strategie zur Entwicklung einer nachhaltigen Aquakultur in Schleswig-Holstein. MELUR, März 2014. (https://www.schleswig-holstein.de/DE/Fachinhalte/F/fischerei/aquakultur.html)

The development of the "Kieler Meeresfarm" (development of mussel production capacity, cultivation of brown algae, entry into the rearing of food fish, conception as "zero emission plant" within the framework of an IMTA) fits into the development strategy of the country presented above and fits very well into areas for the development of aquaculture in Schleswig-Holstein. Currently, the relevant application process is ongoing. One approach of the requested expansion of the Kiel Marine Farm is the *in situ* measurement and, if necessary, optimization of the general environmental compatibility of an IMTA, especially with regard to the nutrient compensation-scheme.

Summary:

The development of sustainable marine aquaculture on the Schleswig-Holstein Baltic Sea coast is supported from a political-administrative perspective in the context of the country's aquaculture strategy. The prerequisite is always the guarantee of the environmental compatibility of these systems. Against the background of the existing excessive pollution of the Baltic Sea with nutrients (eutrophication) special attention has to be paid to this aspect. Mussels, as compensatory organisms, can gain importance in the implementation of the IMTA concept. The desired expansion of the Kiel Marine Farm fits perfectly into this strategic orientation of the country.

Regardless of the development of the Kiel Marine Farm, further investors are welcome, which, with their intention to settle, are guided by the development scheme outlined in the country's aquaculture strategy. In addition to aspects of environmental compatibility, the comparatively high competition for use in the coastal waters of Schleswig-Holstein should be noted. Therefore, settlement opportunities for large, high-volume units are likely to be limited. Ultimately, however, every plan has to be assessed on a case-by-case basis.

The MELUND is responsible for the development of aquaculture in Schleswig-Holstein. It is always available for interested investors!

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Preface to the Business Plan

The following Business Plan is the current Business Plan of the Kiel Marine Farm. Hence it contains confidential information that is not shown. The Information not shown are private or company secrets. However, the general idea and all crucial information are given in the business plan. So it can be used as a starting point to develop an own plan. All relevant points are covered and can be used to plan a financial sound income.

(The translation of the plan was done in parts with the help of the online tool www.babelfish.de.)

Kiel Marine Farm – the Business Plan

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1.1 Once upon a time there was the “Kieler Fördemuschel” ...

The "Kieler Fördemuschel" is now known as a product across national borders. it is certified organic and therefore unique in Germany. In addition to the excellent quality, the sustainable and environmentally friendly production also improves the water quality.

The previous sales to end consumers, well-known restaurants and wholesalers has been expanded to include direct sales at regional weekly farmer-markets and nationwide shipping: The "Kieler Fördemuschel" is now in demand to such an extent that production urgently needs to be expanded. A maximum of 5-10 tonnes of mussels per year can be produced on the current site, which is far from sufficient to meet the demand. In addition, the product range is expanded: In addition to the fresh mussels also processed mussels are offered.

The Kieler Meeresfarm GmbH will now multiply its area eightfold. Preparations are in full swing: hundreds of lines, nearly two hundred tons of concrete blocks as base weights, thirty thousand buoys, more than 18 truckloads and "heavy equipment" at sea - all producers, suppliers, workers, cars, ships and cranes are on their toes - just waiting for the launch signal ... The installation of the new plant will start in spring 2019!

In addition to mussel production, Kieler Meeresfarm GmbH has been involved in several prestigious research projects for several years, more of which will commence 2019. Kieler Meeresfarm GmbH will benefit from the funds over the next 3 to 9 years. Talks about funding and funding programs to finance the enlargement are running successfully, and local and national representatives have already signalled great interest and goodwill.

In order to be able to ensure organizational development and make the best possible use of the human and temporal resources needed for structural changes and creative processes, financial support is now needed to bridge the income gap until the first "big harvest" in autumn 2022.

1.2 The starting point

For several years, there has been a shellfish and algae breeding facility, which has already been successfully managed by the founders. In order to safeguard the ecological and economic sustainability in the future, another plant for shellfish, algae and fish farming is to be built adjacent to the existing plant.

1.3 The business idea

An aquaculture facility for mussel, fish and algae breeding is being built on the Kiel Fjord. The basic goals are to produce food in the Baltic Sea in a sustainable and environmentally friendly way, as well as to create and secure jobs.

Breeding, harvesting and selling blue mussels is the focus of the business. The approximately 85 long-line-systems offer mussels a species-appropriate habitat in which they are monitored and from which they can be harvested. The harvest plan behaves analogously to the multi-field economy on land, so that at no time all lines are harvested at the same time. This takes into account the reproduction cycle of the mussels.

Algae cultivation is added as a second component after about 2-3 years. For this purpose, up to a maximum of one quarter of the plant area is expected to be used.

Fish farming will then be implemented as a third pillar from the fourth year, rather later.

The installation of the new plant will start in the spring of 2019:

- First, the external boundaries of the plant will be marked and secured with appropriate navigational markings.
- From April 2019 (depending on weather conditions), approximately 172 basic weights / ground anchors will be deployed according to the line orientation at pre-determined coordinates for the later securing and anchoring of the linen systems, fish cages and working platforms.
- Then the linen systems are safely installed and held on the water surface with buoyancy bodies.
- This work will be completed by the end of April 2020, so that then the larvae fall in May 2020 can be benefited.
- The first harvest from this area will take place in winter 2021 / 2022.
- In the meantime, (from May 2020) the working platforms and fish cages will be installed.

- At the same time, the company structures are being expanded:
  - Adapting and further developing work processes, updating process descriptions
  - Adapting and developing quality management processes, updating process descriptions
  - develop and implement marketing and sales strategies
  - continue product development
  - continue and expand existing customer care, expand and continue new acquisition strategies
  - develop staffing plan and salary structures

- as soon as all shellfish harvesting, harvesting and selling processes are implemented in a semi-standardized or standardized manner, the breeding, harvest and sale of algae will be integrated into the company processes.
  - Selecting algae strains, creating breeding concept, spreading seedlings, breeding, harvesting and selling algae
  - Defining work processes, creating and updating process descriptions
  - Defining quality management processes, creating and updating process descriptions
  - Developing and implementing marketing and sales strategies Developing and implementing new acquisition strategies
  - Staff requirements plan Implementing Salary Structures

- The third step is to develop and expand fish farming:
  - select fish strains, create breeding concept, stocking fish, breeding, harvesting and selling fish
  - Defining work processes, creating and updating process descriptions
  - Defining quality management processes, creating process descriptions and continue
  - Developing and implementing marketing and sales strategies Developing and implementing strategies for acquiring new customers
  - Implementing the personnel requirements plan and salary structures

For better traceability of the work processes, especially on the priority of breeding, harvesting and selling the mussels, the main process of the core business should be clarified once again. For logical orientation and traceability, this can be based on the dwell time of a

mussel on the farm, so the process takes about 1.5 years from May to September of the following year.

The starting point is that all basic conditions exist: the required permits and permissions have been granted. The aquaculture facility is built. Personnel, tools, equipment and vehicles are sufficiently available and ready for use.

- In May, mussels settle on the collector lines during the larval case and remain on the lines for about 1.5 years until they are harvested.
- The harvest season starts in September until March / April.
- Also in September starts the sales season of the mussels

The main process therefore begins with the "preparation" of the aquaculture facility, vehicles and equipment, personnel. Then follows the development of the mussel larvae, control and surveillance of the settlement, securing of shellfish (for example, enough buoyancy, lines are repaired, ...). From the start of the season, the harvesting process and the sales begins, ...

... which, at the end of the season, leads back into the tasks of preparation for the next season.

1.4 The location

The Kieler Meeresfarm already uses the existing site of oceanBASIS for cultivation (marked in green). The new plant will now connect to the existing site. A written agreement with the company oceanBASIS is already in place, in which it is stipulated that the existing site will remain freely accessible.

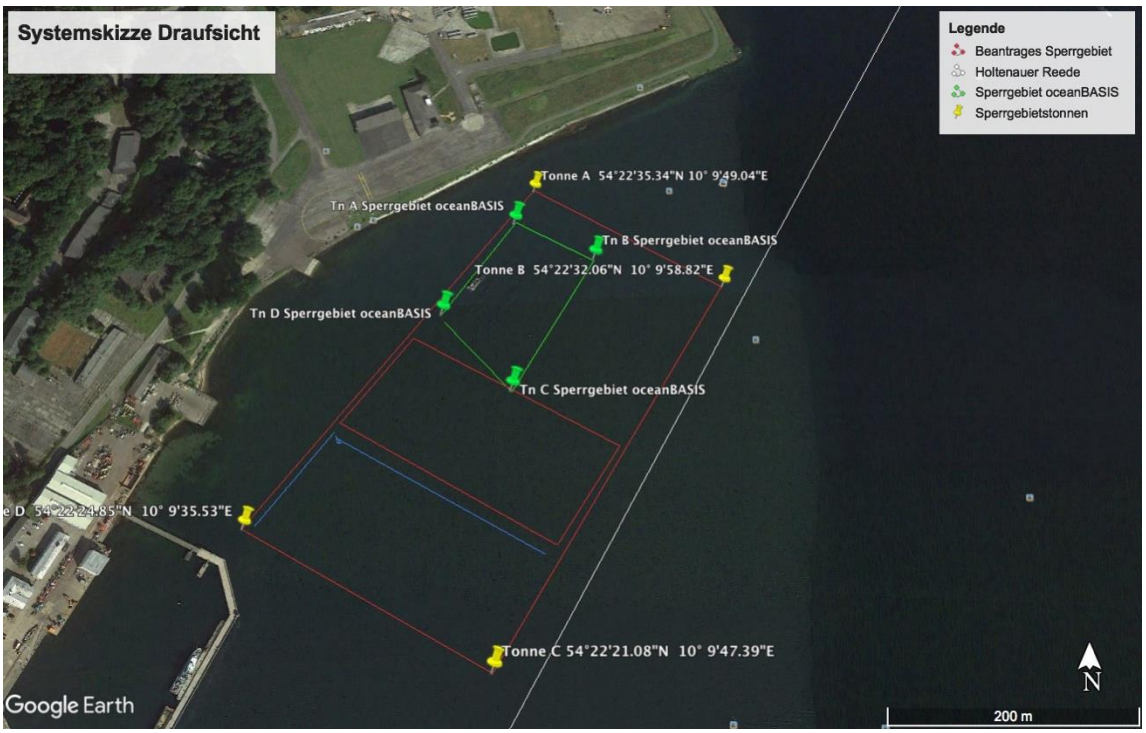
All approvals and also experience in production and sales have been made since 2012. A first customer base of private customers, business customers and scientific customers has been developed.

In addition to the aquaculture plant, a production and packaging centre will be built on the land side. This will be built in the form of container modules in the Marina “Plüschowhafen”.

Office:	* Tiessenkai (in planning: Plüschowhafen)
Point of sale:	* Tiessenkai * local markets * delivery to catering
Production and boat mooring:	* water area in front of the MFG5 terrain * Plüschowhafen
Planned date:	* from 2019 onwards

1.5 Site plan

In the following figure the area to be managed in the future is shown:



Top view of farm area

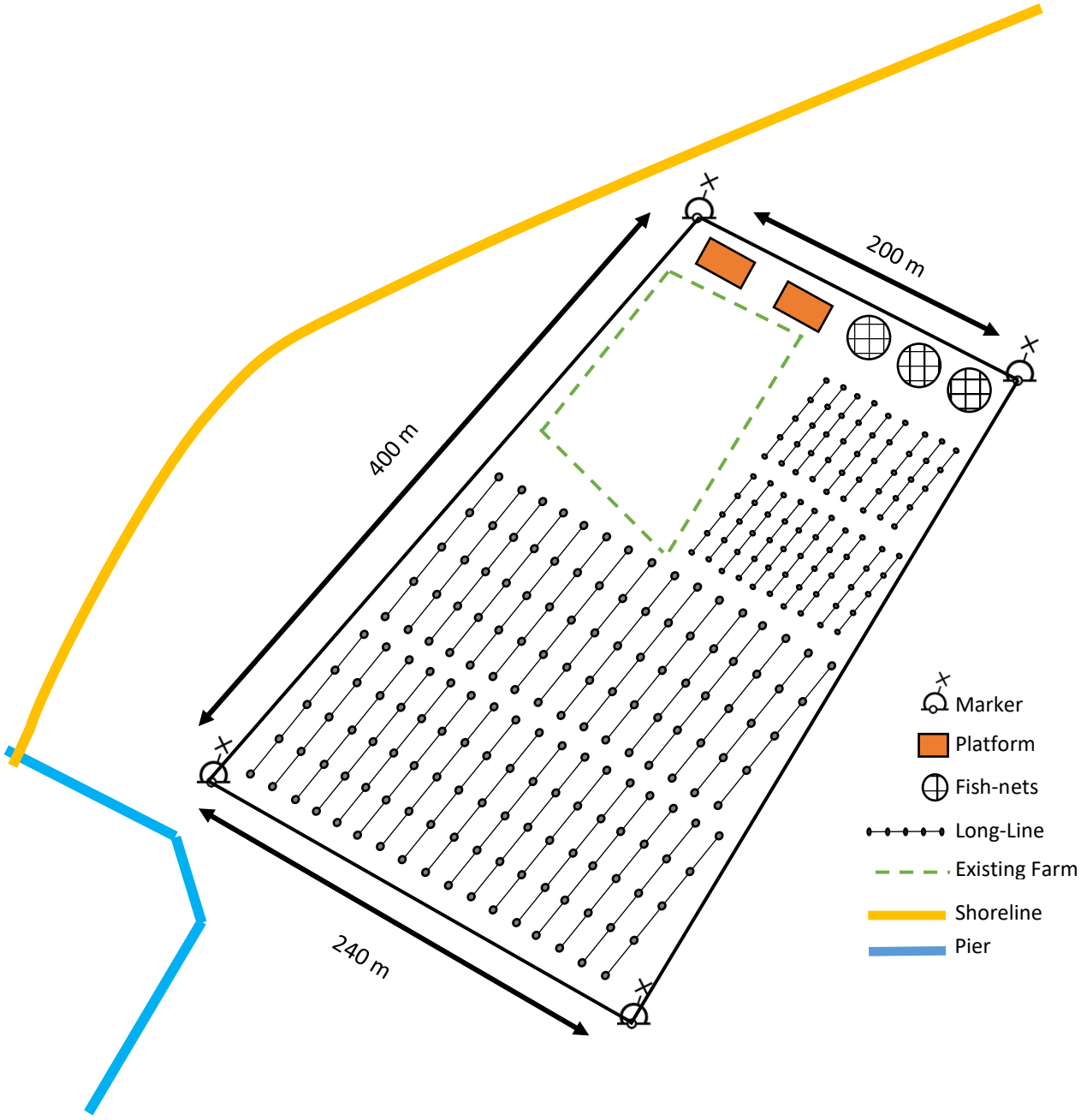
The area has a length of about 400 meters and a width of about 240 meters at the southern end and about 200 meters at the northern end. Thus, the total area is about 8.79 hectares.

The distance to “Holtenauer Reede” is at least 25 meters at the narrowest point to ensure the safety and ease of shipping on the Kiel Fjord.

The distances to surrounding buildings such as the pier of the Water and Shipping Authority Lübeck and the sheet piling along the shoreline are each more than 25 meters away from farm, so that the aquaculture facility can be easily bypassed from all sides.

The currently cultivated area is marked with “restricted area marker”. To mark the new plant, these markers will be relocated to the corners of the new area, in agreement with oceanBASIS as lessee of the existing area. In addition, an additional “restricted area marker” will be positioned on each of the long sides of the designated area.

1.6 Farmplan



Top View

The distance between the individual lines is at least 7 meters. At the northern end, depending on requirements, several working platforms (planned: 2 pieces) of 12 x 6 meters of surface area will be installed. These are securely anchored with weights / screw anchors. In addition to the work platforms, three fish cages described below will also be installed to complete the farm.

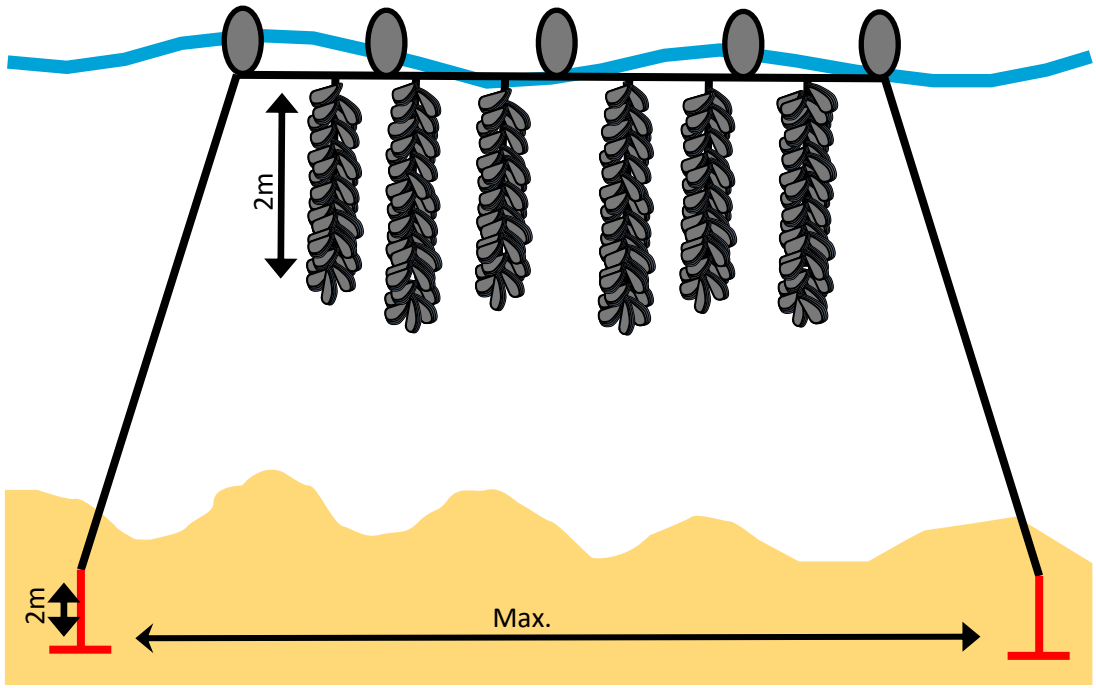
1.7 Longlines

The algae and mussels are cultivated on surface longlines. Here, the mussels are cultivated on so-called collectors. The collectors are made of suitable materials and reach down to 5 meters into the water. In these systems, algae are woven into or grown onto vertical algae cords reaching into the water. The algae lines also reach down to 5 meters into the water.

The longlines will each have a total length of approx. 100 meters and will be securely anchored to the ground at both head ends. Intermediate anchors are not required with this line length, since the base weights or ground anchors have sufficient holding power.

The buoyancy of the longline is ensured by adequate buoyancy bodies with an approximate volume of 25 litters each. The floats are evenly distributed over the length of the line and hold the longlines on the water surface.

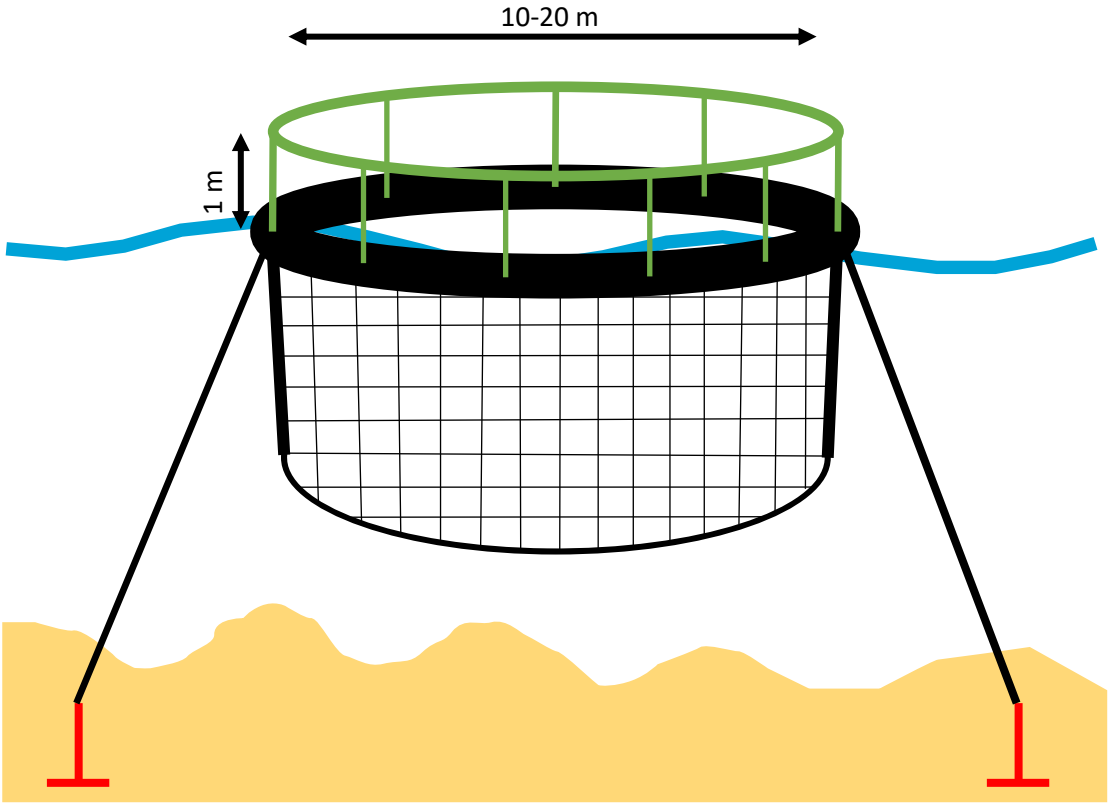
In the event of threatening ice drifts in severe winters, the entire line system can be lowered below the water surface if necessary.



Sectional view of the longlines

1.8 Fish cages

The circular fish cages each have a diameter of 10 to 20 meters and a circumference of up to 60 meters and a depth of 6 meters. They are anchored securely to the ground with screw anchors / basic weights.

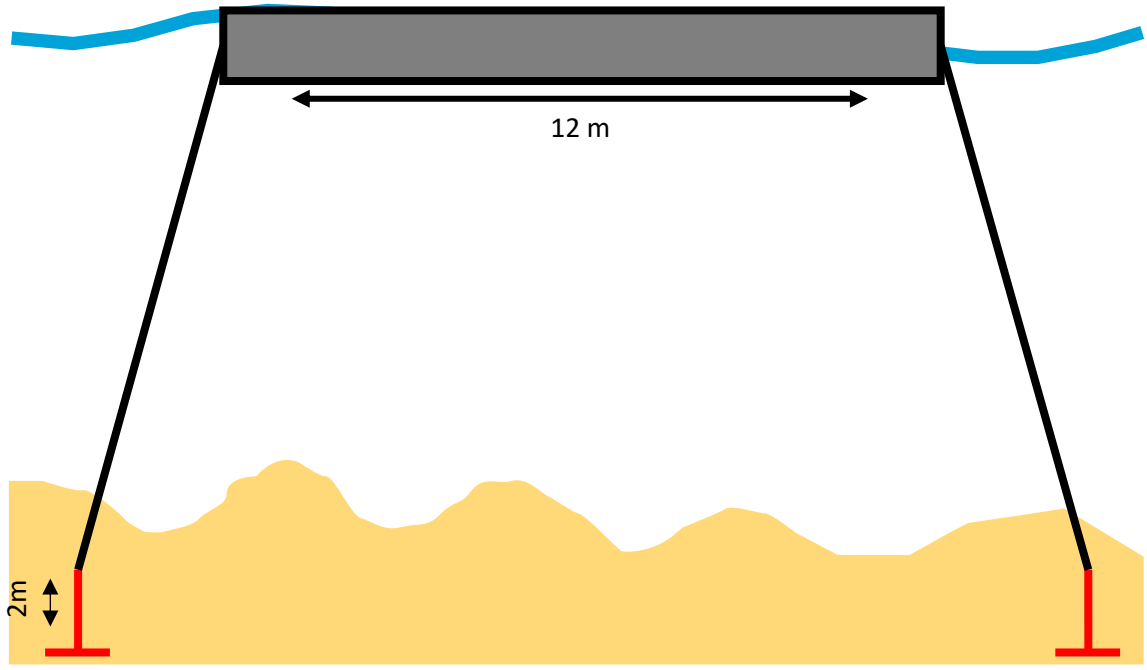


Sectional view of fish cage

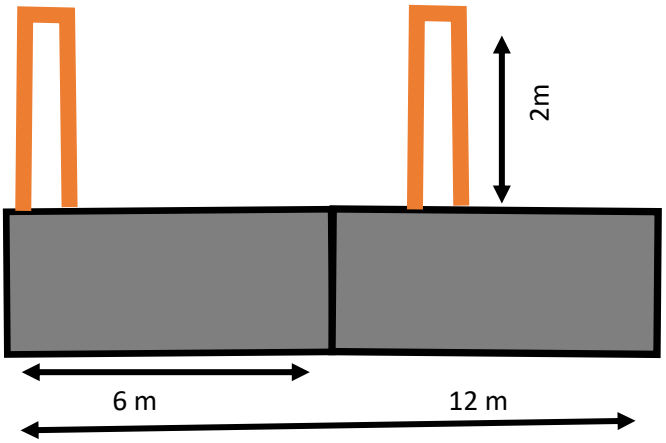
The buoyancy of the cages is ensured by DN 250 HDPE pipes, each with a diameter of approx. 25 centimetres and a thickness of approx. 15.1 millimetres. So that the buoyancy ring is safely accessible, a railing is installed on the outer side. This railing consists of a handrail with longitudinal braces of DN 50 HDPE pipes, each with a diameter of about 5 millimetres and a height of 1 meter. It should be noted that only one of the three fish cages should be used for breeding fish. The two other cages serve only as storage for unused buoyancy bodies, which are then used on demand for the mussel and algae lines.

1.9 Work and research platforms

The work platforms consist of two connected pontoons made of aluminium and are each equipped with two outriggers.



Cross section, working platform



Top view working

One platform has a total area of 6 x 12 meters. The outriggers are aligned to the northeast, so that the platforms can be approached safely. Floating pontoons are also firmly anchored to the ground with weights / ground anchors.

1.10 Anchor blocks / screw anchors

Depending on requirements and circumstances, the individual components of the farm are anchored with

- weights of approx. one cubic meter (approx. 100 centimetres x 100 centimetres x 100 centimetres, weight approx. 2000 - 2500 kg per anchor block)

  or

- Screw anchors (diameter approx. 25 - 35 centimetres, length approx. 55 - 60 centimetres) securely anchored to the ground.

1.11 The success factors

Only a few unique selling points of the Kieler Meeresfarm are:

The Kieler Meeresfarm offers unique products (mussels, algae and fish) in the highest organic quality at fair prices with transparent production on site.

- it is the only working integrated multitrophic aquaculture facility (IMTA) in the German Baltic Sea
- manufacturer of the first certified organic mussels from the German Baltic Sea
- manufacturer of the first bio-certified algae from the German Baltic
- regionally producing and sustainable provider of fresh seafood in organic quality
- the only aquaculture facility that offers research cooperations for universities in Germany and abroad in addition to the regular business

1.12 The corporate philosophy and objectives

The sustainable use of the oceans is becoming increasingly important: overfishing, exploitation and pollution are topics that have become a permanent focus of public attention.

The country's leaders have now decided to give land between the North Sea and the Baltic Sea a pioneering role in terms of sustainable marine use: Schleswig-Holstein has been designated as an "aquaculture country", and politically-motivated implementation strategies have been laid down.

Against this background, it is now time to transfer the experience and insights gained from the existing facility into a larger facility that is ecologically and economically sustainable.

As a small company, our goal is not to compete with the producers from the North Sea. Our aim is rather to take over the niche of regionally and sustainably produced goods - first with the production of high-quality mussels, then with algae and later with fish. Because of their ability to filter water and grow without feeding, mussels are ideal organisms for the environmentally conscious and sustainable use of the oceans. Especially in the Baltic Sea with its large inputs of nutrients, Kiel is an ideal location to grow mussels, because they do not only reach a comparable size to the North Sea mussels, there is a long tradition of mussel cultivation in the Kiel fjord, which unfortunately fell into oblivion and is now filled with life again.

Furthermore, it is our ambition to grow algae in the same plant, which are used as an additive in many products: From cosmetics to pharmaceutical products to the use in food. In

addition, algae are a key element in a sustainability concept because they also filter and purify the water, complementing a careful and sustainable use of the sea.

Fish should eventually be bred as the last pillar in the system. When choosing the type, it will also be about occupying a given niche. Naturally, the farmed fish should also receive the organic certificate in order to remain true to the sustainable line of the company. Fish farming will then complete the development of the facility into an integrated multi-trophic aquaculture (IMTA), in which the state of Schleswig-Holstein has signalled great interest as a pilot project.

Science also has immense interest in aquaculture. We would like to support this interest and make our aquaculture facility available as a base for research projects and cooperation projects.

1.13 The product

What?

- profitable operation of a sustainable integrated multitrophic aquaculture facility (IMTA) in the Baltic Sea
- value added from the cultivation and distribution of food and raw materials from IMTA
- value added by providing IMTA for research projects

When?

An existing facility has been successfully managed since 2014. The expansion of the plant and the construction of the new plant is scheduled for March 2019.

Where?

Mussels, algae and fish are produced on the Kieler Meeresfarm in the Kiel Fjord in front of the former site of the Naval Aviation Squadron 5. The working ship as well as equipment and machinery for further processing and packaging are housed in the Plüschowhafen. Our offices are located at Tiessenkai in Holtenau.

How?

Through a license agreement with the state of Schleswig-Holstein we have the opportunity to manage the corresponding water surface. Due to the additionally existing contract of use with the owners of the aquaculture plant (oceanBASIS), which was previously operated, the initially required technical facilities are made available to us very cost-effectively. Based on our experience and contacts from the previous operation, we already have the necessary technical and technical knowledge to operate the system.

Furthermore, there are already long-standing and sustainable collaborations and contacts to wholesalers, specialists and customers who have already assured the future acceptance of the Kieler Fördemuschel, the algae and the fish - as far as possible and predictable.

There are also cooperation's for research purposes with various universities in Germany and abroad.

Why?

We are convinced that the management of the enlarged plant is ecologically and economically sustainable.

1.14 The target groups

The three customer groups addressed have different requirements.

Private customers

For mussels, algae and fish, criteria such as freshness, quality and regionalism of the product count here. In addition, the sustainable and gentle production right on the doorstep is an important selling point. The end users are quite willing to pay above the market price level for high-quality organic quality. The whole week order acceptance by phone and e-mail with personal pickup on the market days by the customers turned out so far to be extremely practicable and is well accepted.

Business Customers

Quality, freshness and regionalism are of course also the top priority for business customers. Since the business customers are resellers and restaurateurs, the prices here are calculated harder so that both sides can ensure fair earnings. As an additional service, the resident restaurateur gets the goods delivered free of charge. This delivery creates a deep customer loyalty and allows a flexible order and delivery of the goods.

Scientific Institutions

Cooperation with scientific institutions requires a high degree of flexibility and ingenuity. Here, the clientele expects above all a co-thinking and co-action in the various missions. A clear distinction between work and own interest is indispensable in order to reach the set goals and to keep the set deadlines.

1.15 The price policy

Price segmentation

Due to the high proportion of manual labour, combined with the best organic quality from the region, the high price of the goods is justified.

Price policy of competitors

Large purchase quantities keep the price low for the producer. Due to long sales chains to the end user with many intermediaries, the final price, which the customers pay, is seldom higher than the final price of our products. However, due to the lack of a dealer chain, the profit is much higher in our case.

Customer reaction to price changes and the consequences for the market

End customers and business customers are aware that mussels, algae and fish are generally high-priced products in general. In this respect, there is a great willingness to pay for high quality and corresponding prices.

Description of terms of payment to the customer

End customers pay directly upon receipt of the goods, while business customers receive a monthly invoice with immediate payment.

1.16 The market area

Due to the current approval as a direct producer of food, our sales radius is limited to 100 km around the production area Kiel. In the future, this radius will be unblocked by the construction of a packaging centre. Corresponding efforts have already been made with the Food and Veterinary Office and initiated.

In general, the main catchment area for customers is initially the Kiel region, as there is still great potential here. In addition, direct sales at weekly markets will be extended to relevant cities throughout Schleswig-Holstein.

Through targeted marketing, word of mouth and continuous attendance at the Kiel weekly markets, we expect a doubling or quadrupling of customer numbers in the immediate region over the next few years. So far, the demand of the customers could not be covered, so that, for example, the shell sale had to be ended prematurely due to sell-off of the goods. The business customers have not been specifically advertised so far, so we expect here also with a multiplication of sales.

1.17 The competition analysis

There are two different mussel producers on the market: mussel fishermen and mussel breeders. Shellfish breeders from the Danish Baltic Sea would be comparable to our company here. This is a large industrial type of shellfish production. The volumes produced are harvested, packed and sold at great machine-expense and with little manpower. The daily production of these farms corresponds to the annual production of the Kieler Meeresfarm, but such farms do not have any organic certification and do not serve the high-priced market of environmentally conscious customers. Furthermore, the sale is tied to distributors and several middlemen, so that only small prices are paid to the producer in order to serve the long chain of resellers with adequate prices.

As the only supplier of regionally and sustainably produced and organic-certified mussels and algae from the German Baltic Sea and due to our small production volume of the highest quality, there are no competing mussel producers who sell their goods in the same price and market segment.

1.18 The founders and their qualifications

Professional career:

School/education:

Knowledge and experience:

Professional qualifications:

Industry qualification:

Commercial qualification:

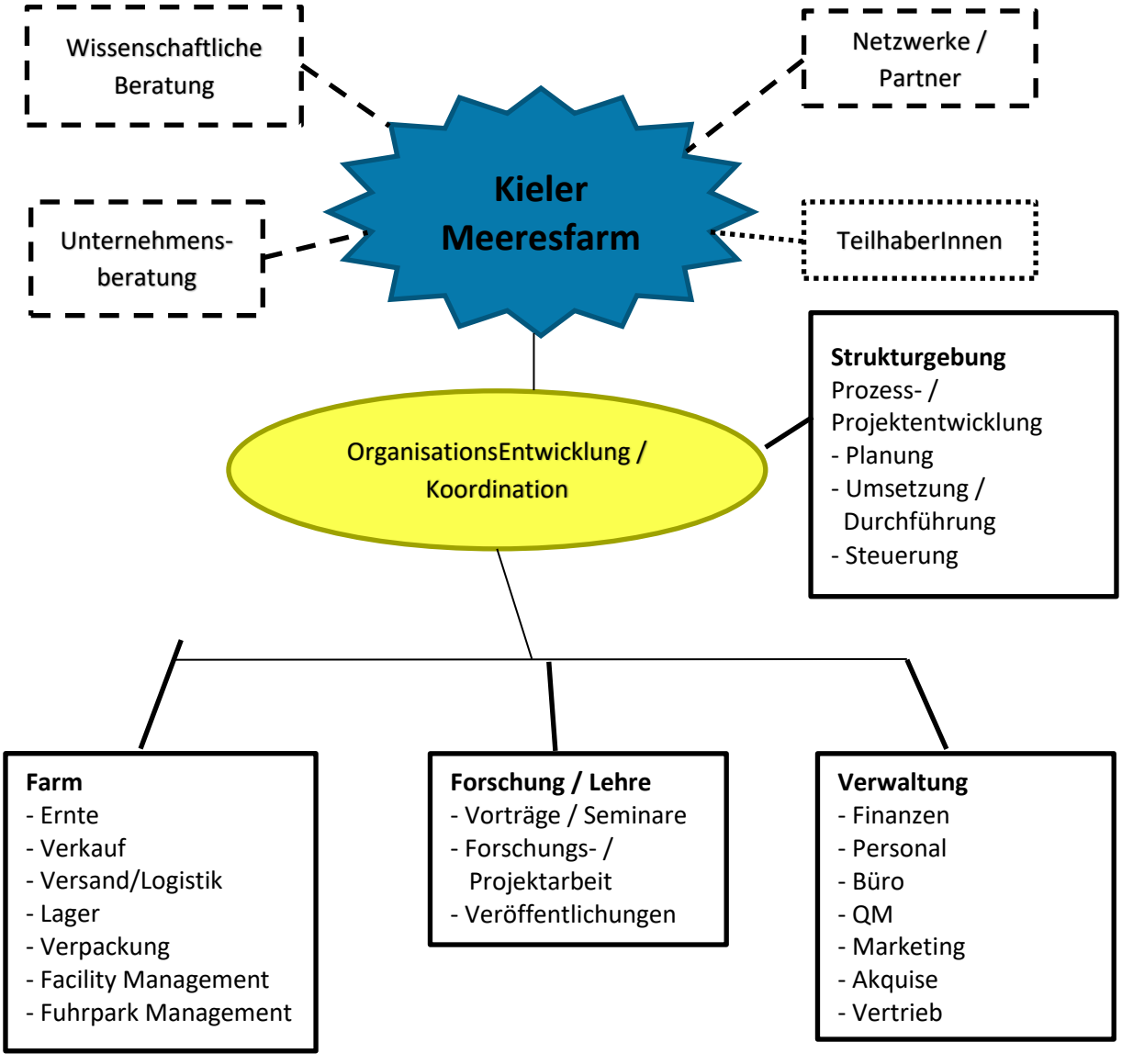
Confidential Information

1.19 The company organization and responsibilities

In the first three years of operation, the organization and responsibility for the company were carried out by Mr. Staufenberger. Since 2018, Ms. Hartwig and Mr. Nissen complete the company management as a successful team of three.

The competences, interests and personalities complement each other perfectly, so that all participants quickly found their roles and tasks in the company and support each other.

The organigram created on this basis clarifies once again the different storylines, whereby not all areas are currently fully developed. Certainly, in the course of the growth process, there will be some structurally meaningful changes, but first of all the schema illustrates the present and future organizational areas.



Organigram of Kieler Meeresfarm

1.20 The figures part

The biggest cost factor is the installation of the new aquaculture facility, which means higher investment costs right at the beginning of the project, but that will pay off in just a few years. In order to ensure this rapid repayment, all the necessary vehicles, machines and other materials have to be purchased promptly in order to completely install the complete system as quickly as possible.

Further capital requirements will only arise later on when algae and fish farming are implemented. However, these investments can then be made from the profits made so far.

Other purchases, such as another workboat or packing centre, should be considered in preparation for the first harvest of the large area by the summer of 2021 at the earliest.

Basically, the Kieler Meeresfarm is in terms of material currently in a good working condition. However, the current size or the current potential sales volume is not sufficient to secure plannable income for the medium to long term. Investing in a larger area meets this need, and in addition it creates more jobs.

1.21 Market launch

Planned market launch activities:

The mussels and algae have been established on the market for several years. The fish will be continuously included in the existing range over the next few years.

The individual steps, dates and activities are regularly reported on the own website. In addition, the Kieler Meeresfarm is integrated into an active network of large customers, traders and catering businesses.

As the Kieler Meeresfarm has already been represented on the market for several years, no "market launch costs" are expected for the relaunch. Enlargement costs are more likely to be the result of increasing market costs, higher packaging costs and the purchase of additional vehicles and equipment and machinery for the extended and larger volume of adapted production processes.

Existing active customer base:

A customer base already exists. These include private end customers, various restaurants in the immediate vicinity, as well as a hypermarket with three branches in Schleswig-Holstein and two branches in Mecklenburg-Vorpommern. In addition, research partnerships with partners in the European area have already been established, and further research partnerships and co-operations are planned for the coming years.

Advertising concept and strategy (corporate identity):

So far, there is already a logo that is currently being developed. Flyers and business cards are also already available. The appearance to the outside is ensured by uniform work clothes.

Measures for the presentation of the company to the outside world:

As a mussel and algae producer, the Kieler Meeresfarm has been known for several years in Internet, print media, television and radio contributions and is repeatedly advertised through reports and reports. The interest in the media is growing significantly both regionally and nationally.

Furthermore, the unique sales stand (a converted fishing boat) in the markets and other events for great attention and thus provides a high recognition value.

In addition, various lecture events are offered, which also provide public attention.

1.22 Predicted turnover

Description of the product categories

The Kieler Meeresfarm offers certified organic mussels, algae and fish. The focus is on the distribution of mussels.

Production potential

The maximum annual production potential is:

Confidential tonnes for mussels
tonnes for algae
tonnes for fish

Definition of price categories

Depending on the quantity taken, there are different price categories. For the algae and fish, although current prices are known, but as the breeding and the sale will take place in a few years, the price development at this point can only be estimated exemplary Even against this background, the future pricing is not yet predictable. The following calculation therefore only refers to the basis of the "main product" mussels.

purchase quantity	Retail price net (gross)
Blue Mussels	Confidential Information
Algae	
Fish	

Estimated Turnover per day

customers per market day?	**Confidential Information**
kg per customer?	
Business customers per day?	
kg per business customer?	
by large customers / dealers per day?	
= total sold kg of mussels per day	

Estimate of the average net sales depending on the quantity purchased

	Sold kg per price group	**Daily turnover per price group**	**% - of daily turnover**	**% of turnover per price group**
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Calculation of daily turnover				

Sales days per year per year based on an 8 - month season (September to April)

242 days	242 days
minus sale free days per week	68 days
minus public holidays	(9 days) not relevant
minus possible days off (e.g. Due to weather)	5 days
= Total sales days	**169 days**

The possible sales days are calculated very conservatively, since the season can be started in the best case in July. Thus, the preliminary sales projection is rather conservative.

preliminary sales projection

Sales days 169 * Daily turnover in € = preliminary annual sales projection in €

1.23 Sales forecast (3 Years)

Presentation of how the type, size and level of assumed planned sales are to be achieved:
Based on the previous sales figures for mussels, future expected crop yields and sales revenues were calculated.

Production Year 1:									
Product	Price / kg	Var. costs	Time /kg	kg /month	**Time /month**	**kg / year**	**Turnover per year**	**Var. costs/year**	**Gross yield**

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Additional revenue sources

These calculations are based solely on the sales figures for shellfish. The sales of algae and fish farming are not considered here. Since these branches require little additional investment and these are then also to be covered by the current revenues from the sale of shellfish, additional profit can be expected from these branches of industry.

Furthermore, only the revenue from the sale of the "big" mussels are calculated. The use of the "undersized" mussels is also not shown here. The "undersized" mussels are sold in the markets as cooked mussels for consumption and thus provide an additional source of income. In addition, the "undersized" mussels are also used to produce durable goods in the form of cooked mussels, antipasti or mussel paste. This product is then also sold in the summer months. In addition, efforts are being made to develop other uses (e.g., in the production of high quality animal feed or as horticultural fertilizer).

The earning potential from the science sector is also not yet shown. Appraisal and presentation activities are billed at daily rates of approx. € Other services such as sampling for research purposes are also regularly requested and billed accordingly. And last but not least, long-term research projects currently bring in up to € per year.

The calculations were deliberately and purposefully related exclusively to the product "mussels" to show that only this product range is lucrative enough to be economically sustainable for the Kieler Meeresfarm.

1.24 operating costs (3 years)

	1st Year	2nd Year	3rd Year
- Material cost			
- personnel costs			
- Managing director costs			
-rent			
-electricity, gas, water, heating			
-advertisement costs			
-gasoline costs			
-travel costs			
-interne, telecommunication			
-office materials			
-repair costs			
-insurances			
-other costs			
-interest			
-bookkeeping costs			
-leasing			
-banking costs			
-other labour costs			
Sum of costs:			
Operating Profit:			
-depreciation			
Profit/Loss:			

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1.25 Operational profits (3 years)

	1st Year	2nd Year	3rd Year
Turnover			
Mussels			
Operating Profit:			
-depreciation			
Profit:			

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1.26 Private need for money (3 years)

Given the fact that the company is run or operated by 3 persons, the total demand is shown below. The individual requirements are rather calculated generously, so that the actual need in reality still has leeway and can be adjusted accordingly.

	1st Year	2nd Year	3rd Year
Living			
rent			
Electricity/heating/water			
food			
communication			
Insurances			
healthcare			
care for old age			
unemployment			
invalidity			
liability			
other			
Car			
gasoline			
insurance			
car leasing			
Taxes			
general tax			
Other expenses			
leisure expenses			
savings			
holidays			
Sum of costs:			
Needed payment			

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Staff Plan

The Kieler Meeresfarm is carried by three persons. Both management tasks and operational tasks are assumed and executed by these persons, so that the core business is initially covered.

For the 2020/2021 season, the maximum number of staff will be increased by sporadic temporary workers (for example, in sick leave). Additional staff will be needed for the 2021/2022 season:

- one office assistant to assist in bookkeeping and other administrative tasks
- 1force to support research projects (project funded)
- 1 force for sorting, packaging and shipping
- 2 harvest workers
- 2 market helpers outside harvesting and sales time, no additional forces are needed.

Since the time until the first "big" harvest will take just under two years, the interim time will be used to structure and optimize work processes in order to further develop the existing process descriptions. In this respect, it is only then clear where personnel are actually needed. Since the job offers are predominantly about seasonal employment, student temporary workers will be able to meet the demand.

There is also the idea of creating suitable job offers through social projects and measures for social participation.

1.27 Personnel costs (3 years)

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1.28 Material assets/Material costs

	Amount	Costs
Lodging and leas		
office		
harbour		
farm area		
vehicles		
car		
boat		
trailer		
vending trailer		
clothes		
Safety clothes		
Safety vests		
Safety boots		
Other costs		
Resources required:		

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1.29 Earnings forecast (3 years)

	1st Year	Percentage of Turnover	2nd Year	Percentage of Turnover
Turnover 1				
- Material cost				
= gross yield 1				
+ other yield				
Total gross yield 1				
- personnel costs				
- "private" needed payment				
Total gross yield 2				
-rent				
-electricity, gas, water, heating				
-advertisement costs				
-gasoline costs				
-travel costs				
-interne, telecommunication				
-office materials				
-repair costs				
-insurances				
-other costs				
-interest				
-bookkeeping costs				
-leasing				
-banking costs				
-other labour costs				
Sum of costs:				
Operating Profit:				
-depreciation				
Profit/Loss:				

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1.30 Liquidity Plan (10 years)

Liquidity Plan Year 1													
Turnover 1	Jan	Feb	March	Apr	May	Jun	July	Aug	Sep	Oct	Nov	Dec	Total
- Material cost													
+ other yield													
Total gross yield 1													
- personnel costs													
- "private" payment													
Total gross yield 2													
-rent													
-electricity, gas, water													
-advertisement costs													
-gasoline costs													
-travel costs													
-interne, phone etc.													
-office materials													
-repair costs													
-insurances													
-other costs													
-interest													
-bookkeeping costs													
-leasing													
-banking costs													
-other labour costs													
Sum of costs:													
Operating Profit:													
-depreciation													
Profit/Loss:													
Taxes to be payed													
Coverage/Deficit													

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