



**SEAWEED**  
for **EUROPE**

# **INVESTOR MEMO**

## **THE CASE FOR SEAWEED INVESTMENT IN EUROPE**

### **EXECUTIVE SUMMARY**

# ACKNOWLEDGEMENTS

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## About the SUN Institute Environment & Sustainability

The SUN Institute was established in 2014 by the Deutsche Post Foundation to strengthen its international activities in supporting institutions, programmes and projects dealing with the environmental challenges and opportunities of globalisation and enhanced cross-border activities. Find out more at: [www.sun-institute.org](http://www.sun-institute.org)

## About Seaweed for Europe

Seaweed for Europe is a Coalition seeking to accelerate and scale the European seaweed industry by driving innovation and investment, with the ultimate aim of unlocking significant economic, environmental and social benefits. The Coalition brings together a range of stakeholders from the seaweed value chain, the investment world, and science and civil society thought leaders. It is headed by a Coalition Secretariat run by SYSTEMIQ as well as Co-Chairs Maria Damanaki, Maren Hjorth Bauer and Vidar Helgesen. Find out more at: [www.seaweedeurope.com](http://www.seaweedeurope.com)

## About SYSTEMIQ

SYSTEMIQ Ltd. is a certified B Corp. The company was founded in 2016 to drive the achievements of the Paris Agreement and the United Nations Sustainable Development Goals by transforming markets and business models in three key economic systems: regenerative land use and ocean, low carbon energy, and materials and the circular economy. Find out more at: [www.systemiq.earth](http://www.systemiq.earth)

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# INTRODUCTION: REPORT OBJECTIVES

## 1. Target audiences

The document addresses public and private investors with and without a prior interest in the ocean economy:

### Private commercial or financial investors

Private investors with either financial (HNWI, VC funds, incubators, accelerators, private equity firms, large-scale investment funds) or commercial return (corporates) can provide funding and scale effect to a burgeoning seaweed start-up and innovative SME environment.

### Public investors

Development Financial Institutions (“DFIs”), sovereign investment funds, and state/regional or local governments are capable as investors of structuring and taking the necessary risks to nudge the European seaweed industry towards success.

### Private non-for-profit investors

Philanthropies with an environmental, economic and/or social focus can provide grants or concessional financing, as well as capabilities to de-risk and advocate for the seaweed industry in Europe.

## 2. Objectives

**The objective of the document is three-fold:**

- (1) To demonstrate that there is already a solid pipeline of innovative seaweed companies in Europe;
- (2) To help investors better understand the seaweed space in Europe (i.e., where on the value chain innovations are taking place, the commercial maturity of this pipeline, and its geographic distribution, etc.);
- (3) To demonstrate that the seaweed industry in Europe has already attracted investment and is open to a range of investments.

## 3. Methodology and scope

### Scope

Europe (EU and European non-EU countries, including Israel).

### Research performed based on:

- Seaweed for Europe network
- European seaweed industry stakeholders’ interviews
- Desktop research
- Phyconomy and Ubuntu databases

### Companies sample size

The study was performed on 223 European companies (headquartered and with most of operations in Europe) without distinction of size, business model or industry (with the exception of small-scale wild harvesting businesses, not undertaking any transformation activities, as these were deemed less relevant targets for investors).

During the screening, additional players were identified but are not incorporated in the analysis:

- o 8 non-profit institutions
- o 41 Research Labs and Universities working around the seaweed ecosystem

### Investors sample size

The study was performed on the investors of the 223<sup>i</sup> European companies. Given the low amount of publicly available information, investors have been identified for only 45 of the 223 European companies, and 1 was identified for a non-European company<sup>ii</sup>.

The study focuses on 92<sup>iii</sup> investors from the 46 companies mentioned totalling 138 transactions<sup>iv</sup> for a total value of €69m invested over 11 years. For the purpose of this study, grant-making entities were also classified as investors.



# KEY HIGHLIGHTS

The time is right to invest in a sustainable and booming European seaweed industry

**There is strong momentum for the European seaweed industry**

**The global seaweed market has more than tripled between 2000 and 2018, reaching 32.4 million tonnes of production with a value of USD 13.3 billion (€11.3 billion)<sup>v.1</sup> in 2018. Most market forecasts anticipate a double-digit CAGR for the next 5 to 10 years to come.**

Key points:

- **Its biochemical composition and properties make seaweed a valuable material:**

It is used for a growing range of applications ranging from food products and animal feed to cosmetics and bio-based chemicals for various industries. Many of these applications provide sustainable, low-carbon and less harmful alternatives to existing options, offering diverse environmental and health benefits.

- **The environmental benefits of seaweed:**

Including the absence of need for land, freshwater nor fertiliser, absorption of carbon and excess nutrients, habitat creation for marine animals, etc.

As well as **socio-economic benefits**, including the potential for creating local jobs, increasing the economic resilience of coastal communities, etc., contribute to explaining the boom in the seaweed industry across the globe.

- **European seaweed production benefits from:**

(1) perfect natural conditions, as cold and nutrient-rich waters from the Atlantic Ocean and the North Sea constitute the optimal environment for seaweed growth;

(2) an increasingly strong and wealthy customer base;

(3) a thriving R&D environment, opening new markets to seaweed production every year;

(4) a political momentum, with increasing policy makers' interest in seaweed;

(5) an already existing and increasingly strong investor appetite.

Given the above, non-European investors have already taken steps to position themselves in the market, and contribute to an important part of the capital raised by the industry every year.

- **The European market for seaweed in 2030 has the potential to represent an industry worth up to €9.3 billion.**

Under the right conditions, European producers could capture around one-third of this market (€2.7 billion), generating 85,000 jobs.

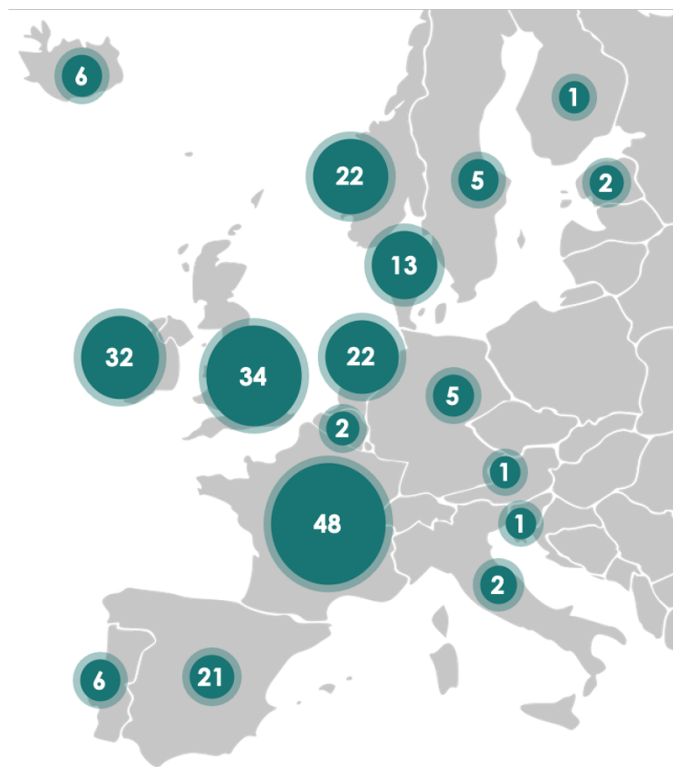
# A solid, growing, and diversified pipeline of seaweed start-ups and innovative SMEs in Europe

For this analysis, Seaweed for Europe has sampled 223 European-based seaweed start-ups and SMEs.

**The number of seaweed industry players (from production, consumer good development and sales) has almost tripled in Europe in 10 years.**

- Despite being relatively nascent (55% or 123 out of the 223 companies in scope were created less than 10 years ago) and small-scale (58% or 130 out of the 223 companies in scope have less than 10 employees), most of the companies of this industry have an advanced Technology Readiness Level (TRL) – 85% or 188 out of the 223 companies in scope have a TRL of at least 8, and are already generating revenues.

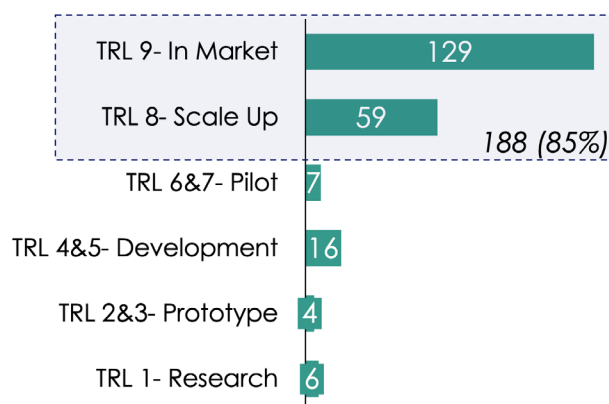
## Pipeline breakdown by geographic region



Note: Within the 223 established companies and start-ups in Europe screened by the Seaweed for Europe (S4E) team.

**77% of projects surveyed are in 6 countries**  
**65% are in countries surrounding the North Sea**  
**Pipeline weakness: Baltic & Mediterranean Sea**

## Pipeline breakdown by TRL

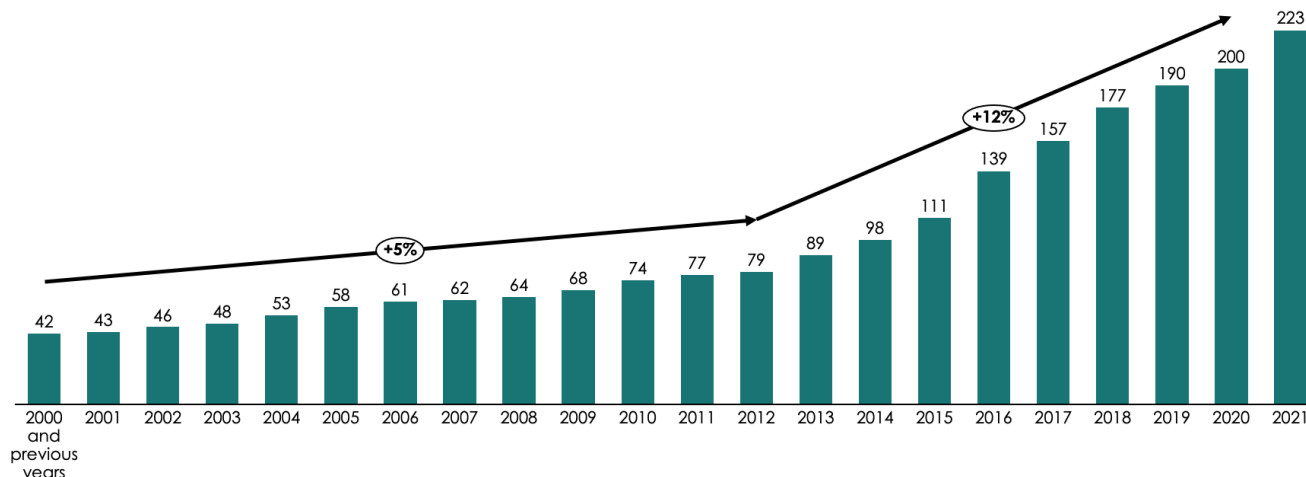


Note: Within the 223 established companies/start-ups in Europe screened by the Seaweed for Europe team.

- Despite being part of a nascent industry, most seaweed companies surveyed have some level of vertical integration, proving the industry's robustness – 140 companies (63%) perform more than one of the activities across the seaweed value chain, mostly across production, processing and biorefinery and product development
- Despite a large concentration on a few applications (more than 50% of companies are dedicated to human food and animal feed applications), an increasing number of companies are exploring alternative applications and end markets for seaweed – 68 (31%) have a diverse portfolio, especially combining cosmetics, pharmaceutical and food consumption activities
- The European seaweed industry is supported by a network of public and private research centres providing this environment with new products, research, and innovations necessary to the scale up of seaweed production and transformation. The appetite of non-European investors (e.g., Maabarot) within the European seaweed space is also linked to the strength of the research network in Europe. This network opens the door to disruptive innovations and greater potential for scaling – two keys to attracting investors.

## Number of European seaweed innovative companies' broken down by year of creation

(accumulated number of companies, within the 223 established companies and start-ups)



Note: Within the 223 established companies and start-ups in Europe screened by the Seaweed for Europe team. Data sourced directly from companies' website when available, or from their LinkedIn and/ or Crunchbase profile. Founding date information was not available for 23 companies.

- There is room for existing seaweed companies to see their valuation increasing sharply in the next decade. Value to sales ratios of European seaweed companies are still much lower than other industries which have been rapidly growing over the

last decade, and can be considered as peer industries (e.g., insect-based feed, plant-based meat). These industries see high valuation to sales ratios while revenues remain low and within the range of average revenues generated by seaweed companies.

## A growing number of investors are betting on the European seaweed industry

We have gathered information on **92 investors** representing a total of €69m disclosed investments over 11 years, with average tickets per investor of about €610k.

**In 10 years, the European seaweed industry has seen an exponential growth in both the number and amounts of investments.**

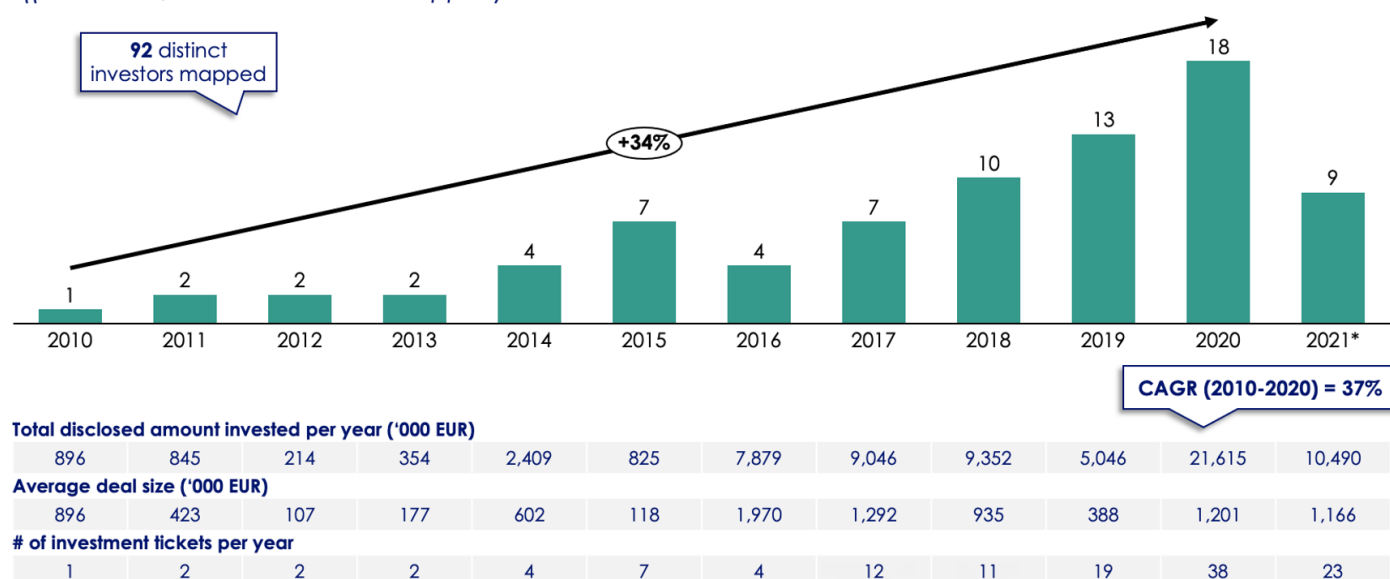
- **The overall amount invested in European seaweed companies has grown by 24x between 2010 and 2020**, growing from less than €900k annually in 2010 to more than €21.6m in 2020. Similarly, the number of investments has grown by 34% on a yearly basis, from 1 to 18 transactions per year. This exponential growth does not even consider more conventional bank financing (as data is less publicly available). Also, the first 6 months of 2021 have already seen a significant important amount invested in European seaweed compared to 2020, which reinforces this optimistic trend.

- **The growth in investments has also opened the door to an evolution of transactions from predominantly VC capital funding in 2010 to being driven by private equity and debt funding; a trend which emerged in 2014 and which has grown steadily over subsequent years.** The appearance of debt and late-stage capital financing shows that the industry is already showcasing some strong business models capable of sustaining long term debt and leveraged capital structures.

The continued growth of grant funding (with a peak reached in 2019 of €3,8m) highlights the recognition by the public sector and philanthropies of the importance of the environmental, economic and social benefits of seaweed, and the need for catalytic funding to help this nascent industry grow.

## Number of investors' deal driven by professional investors per year

((in '000 EUR, within the 92 deals mapped))



Note: Within the 92 investors and 138 investment tickets mapped by the Seaweed for Europe team. Considers only deals with disclosed amounts for amount invested data, and considering multiple investors in the same round as different transactions. 13 companies with year of investment not available. \*2021 is considering the 6-month period from January to June.

## An increasingly attractive business environment to support an innovative seaweed ecosystem

The European seaweed industry benefits from a growing political support at global, national, and local levels as well as an increasing interest from large corporates which are investing in seaweed to secure a sustainable supply from an industry with rapidly growing demand.

- At the global level, seaweed has been considered as a promising ocean-based solution to help counteract climate change **and support the UN Sustainable Development Goals ("UN SDGs")**. At the European Union level, seaweed's climate change mitigation potential is considered by the European Commission (through the DG mare for instance) as a mean to support the **EU Green Deal's** target of a 55% reduction in greenhouse gas emissions by 2030 compared with 1990 levels.
- **Large corporates broadcast the use of seaweed by acting as off-takers, investors, or simply by communicating about the success of seaweed products and new applications.** Based on the study of recent

M&A transactions in the seaweed space, corporates typically take strategic equity investments or majority shareholdings in production or transformation companies. Corporates are also signing long-term and large volumes commercial contracts with seaweed production, harvesting or transformation companies. Out of the 92 investors surveyed, 10 are corporates and their primary interests are in seaweed for consumption as food and in companies involved in seaweed production and processing. Out of the €15.6m invested by corporates, €15.3m is invested in seaweed producers or processors.

- The convergence of the aforementioned positive signals is likely to **lead to attractive risk return profiles with a significant positive impact on nature and people.** Further ROI analysis would need to be developed in the near future to continue to inform investors about this industry's developments.

## ANNEX I: LIST OF VIDEOS TO LEARN MORE ABOUT SEAWEED

- **The Importance of Seaweed | Ocean Vet | S01 E10 | Free Documentary Nature**

<https://www.youtube.com/watch?v=m9A36BDDv3c>

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- **Why demand for seaweed is about to boom**

<https://www.cnn.com/video/2020/09/19/why-demand-for-seaweed-is-about-to-boom.html>

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- **Seaweed: sustainable crop of the future? | FT Food Revolution**

<https://www.youtube.com/watch?v=Y3zllorFC8g>

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- **Seaweed farming: an economic and sustainable opportunity for Europe**

<https://www.youtube.com/watch?v=kmmjbGRIReA>

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- **This seaweed can fight climate change**

<https://www.youtube.com/watch?v=RtG24Vmwyzw>

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- **Can seaweed help curb global warming? | Tim Flannery**

<https://www.youtube.com/watch?v=tuvxXnQrRv8> Farming The Ocean To Feed The World |

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- **Scott Lindell | TEDxCambridgeSalon**

<https://www.youtube.com/watch?v=fVMOjSB5cuE>

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- **The Seaweed Project**

<https://www.youtube.com/watch?v=w68Tdm7TwVU>

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- **Is algae the food of the future? | Mission Ahead CNN Business**

<https://www.youtube.com/watch?v=tAdrNQNP8ew>



## NOTES

- i. Considering only the 221 European established companies and start-ups
- ii. AlgiKnit, an US-based company, which received an important amount of funding in March 2021
- iii. Of which 9 names were not disclosed in the deal
- iv. Considering multiple investors in the same round as different transactions
- v. At an average annual exchange rate of €0.8475 to USD 1

## REFERENCES

1. Exchange Rates UK. (2018). Retrieved from <https://www.exchangerates.org.uk/USD-EUR-spot-exchange-rates-history-2018.html>



