



# Grafmarine Limited

Grafmarine is developing a power generation and energy storage solution to help decarbonizing the shipping industry

**Problem:** 90% of global trade is transported by sea, shipping carries everything from grains and iron ore to cars and domestic electronics such as televisions. Currently, there is no single, market leading alternative fuel to comply with the emerging GHG emission regulations. All ship owners and operators must find alternatives to heavy marine fuel.

**Solution:** NanoDeck produces clean, sustainable electricity that can be used on demand or stored at source for use when needed. The tiles turn any flat surface into a smart power generation and energy storage hub. With a unique energy management system to control usage and smooth energy peaks/troughs to ensure constant on-demand delivery.

**Business:** We plan to be an energy manager for the clients and our long-term contracts will be designed to make margins on the technology costs. Monetization of carbon credits are also part of the model.

**Market:** Our 5 validated customers are dry bulk carriers and tankers. We have received formal expression of interests, and this is reflected in our business plan. In Q4 2022 we will be testing our prototypes to validate the relevance of our technology

**Accomplishments:** We have received expressions of interest and we are looking to satisfy them.

**Pitch deck:** <files.dealum.com/2022-10/us32xg7hrk6g...>

## Team



**Nigel Marc Roberts**

Commercial Director

**Experience:** An award-winning innovation & commercialisation specialist, business owner, and passionate innovator, with a comprehensive range of skill sets, developed as a successful business owner and non-executive director over 35 years.



**Martin Leigh**

Chief Technology Officer

**Experience:** Martin has created a number of new technology-led products for different industrial sectors. With 4 patents granted, a further 3 pending, in the last 5 years. Awarded EU and Innovate UK funding. Successfully designing new shape-changing 2D materials for the diabetes medical sector, to potentially save UK NHS up to £1bn annually, and creating new agri-meta materials to increase crop yields by up to



## GREENBACKERS INVESTMENT SHOWCASE

Step: Live Deals

Tags: COP 27 Pitch

Powered by Dealum

Registered Aug, 2015

[www.grafmarine.com](http://www.grafmarine.com)

**Country:** United Kingdom

[www.linkedin.com/company/20024937/a](http://www.linkedin.com/company/20024937/a)

[twitter.com/GrafmarineLtd](https://twitter.com/GrafmarineLtd)

MVP/Seed Stage

Other

Energy, Maritime  
Cleantech

Graphene, Battery storage  
Solar energy

B2B

**Capital seeking (£):** 2,000,000 - 3,000,000

**Funding stage:** Seed Round

**Already raised of current funding round (£):** 0

**Minimum ticket size (£):** 50,000

**Pre-money valuation (£):** 7,200,000

**Registered/incorporated:** Yes

**Company legal name:** Grafmarine Limited

**Company registration number:** 09750381

**EIS/SEIS approved:** EIS approved

**What is your business model?:** Hybrid (SaaS & Hardware)

**Primary currency:** GBP

**Contact:** Nigel Marc Roberts,  
+447956961351,  
[matteo@grafmarine.com](mailto:matteo@grafmarine.com)



**Chris Russell**

Chief Engineer

**Experience:** Chris is an innovative Engineering Director with a background in medium-heavy mechanical engineering, design and IT management, with over 30 years of comprehensive experience in a safety first, technically challenging and business critical environment.

His attention for high quality standards coupled with excellent organisational and communication skills, will, we believe deliver the step change

**Number of team members:** 4

**Number of employees:** 4

**Second point of contact:** Nigel Marc Roberts

**Their email:** marc@grafmarine.com

**Their phone number:** +447956961351

---

## Solution

**What stage is your technology at?:** Field tests

**Technology readiness level (TRL):** TRL 4 - Technology validated in lab

---

## Market

**Geographic markets:** All

**What steps have you taken to validate the market?:** We have worked with the IMO (International Maritime Organization) and we worked with one of their naval architects and he designed ships and validated our technology in its early stages. We also spoke to the World's largest oil tankers, and we were helped by Brookes Bell and the main issue has been to provide large volumes. We would now like to satisfy the expressions of interest we have received.

**Approximate market size, in millions (£):** 1,500,000

**How did you estimate the market size?:** We have figures about the spending of the maritime industry to decarbonize itself by 2050.

**What is the competitive advantage of your company?:** We are compatible with other renewable energy technology and our product will be fully recyclable.

**Which companies do you consider to be your main competitors and why?:** Marine diesel engines and alternative fuel powered engines are the main competitors to NanoDeck. Alternative fuel engines that run on ammonia, methanol or hydrogen, have significant design and capital costs. Ships using low Sulphur fuels or LPG still use fossil fuels and continue to emit GHG's. Vessels using Flettner or rotor sail technology are expensive and bespoke to avoid inherent problems with stability and so on. Moreover, if wind conditions allow the use of the rotor, diesel engine power is throttled back reducing fuel consumption and emissions, but such technology does not produce sufficient or continuous power to fully replace diesel power. Exhaust Gas Cleaning Systems - scrubbers - reduce sulphur oxide from engine exhaust gases but the process creates highly toxic wastewater that is discharged into sea causing pollution and has severely detrimental effect on marine life.

---

## Business Model

**What is your business model type?:** Usage-based

**Can you list, in detail, your sales pipeline for the next six months?:** Sales are expected to start in H2 2024

---

## Finance

**Monthly burn (£):** 60,000

**Months of runway:** 12

**Has the company received any funding or investments to date?:** Yes

**Type of funding and investments received:** Grants, Own Investments

**Raising capital:** Yes

**Capital seeking (£):** 2,000,000 - 3,000,000

**Funding stage:** Seed Round

**Already raised of current funding round (£):** 0

**Minimum ticket size (£):** 50,000

**Do you have a lead investor?:** I'm looking for a lead investor

**Pre-money valuation (£):** 7,200,000

**How much are you planning to raise in the future? (£):** 3,000,000 - 5,000,000

**When are you planning to raise the next funding round(s)?:** November 2022

---

## Strategy

**What milestones are you planning to reach with current funding round?:** Customer A - Shipping undertake NanoDeck sea trial

Battery management software development

NanoDeck smart speed ports test at Poole

Identify supply chain partners and sign agreements Procurement/Exec Team

Lloyd's Register Product technical qualification complete

Completion of energy management & system control software

LR Marine class certification

Manufacturing scale-up

Supply chain validation and production protocols - complete

Commercial pilots start

Pilot 5 - customer sea trials complete

**Sustainable Development Goals:** GOAL 7: Affordable and Clean Energy

**Explain how your company is contributing to the goal 7 (Affordable and Clean Energy):** NanoDeck, introduced by Grafmarine Limited, is a power generation and energy storage solution for clean off-grid energy production

**What is your exit strategy?:** IPO/RPO

**What is your exit timeline? Explain.:** We are looking for a timeline of 3 years which provides alignment with the EIS UK tax relief we are offering to UK investors. This is also the expected time of our first sales.

---

## Other

**Have you participated in any accelerator or incubator program?:** No

**Business Plan (pdf, pptx, docx):** [files.dealum.com/2022-10/zufv9kqzveli...](https://files.dealum.com/2022-10/zufv9kqzveli...)

---