

# NanoDeck Circular Economy Marine Renewable Energy

# Smart advanced manufacturing



#### **ORGANISATION PROFILE**

Insert brief description of the leading organisation: Name, Personnel, Size, Products/Services/Technical areas and R&D project expertise.

Grafmarine Limited,

Employees: 3-10.

**Contact: Martin leigh** 

The maritime sector produces around 3% of all carbon emissions. Despite new globally agreed legislation underway affecting the re-classification for Carbon Intensity Indexing of over 70,000 ocean vessels (DNV 2022), there remains no one solution to address this global decarbonisation challenge. Grafmarine have designed NanoDeck; a system of replaceable and future-proof solar tiles that can be used in any number as a cluster to create electrical energy up to 600V safely into a ship's switchboard. NanoDeck is patented around the world to retro fit onto all vessels to help meet global legislation. NanoDeck saves consistently 10% of fuel and can compliment any new or existing energy system to meet IMO legislation by being cheaper than fuel. Grafmarine are runners up in a National Maritime Award SME awards and are finalist for Technology in the Mersey Maritime Awards 2023, as well finalist in Best Welsh Innovative Startup in 2021. Grafmarine trialling with several shipping companies as well as successful harsh environment assets in ports and harbours.





## **PROPOSAL INTRODUCTION (I)**

Vision: main project goal

To provide an automated and advanced manufacturing process around a fully circular economy product for the first of its kind marine renewable energy.

Motivation: why the project is necessary

We have developed NanoDeck now going towards manufacture, but we need a level of automation to make it competitive after we have spoken to a leading contract manufacturer in the UK. The product is modular and therefore future proof. We have worked with academics in the UK to make it a fully circular product and want to retain this during manufacturing process. Help us to get this novel and leading product to market.

**Content**: which are the developments to be made in the project Feasibility and trials around scaling the manufacturing process.





## **PROPOSAL INTRODUCTION (II)**

**Expected outcome:** descriptions of the results to be obtained in the project We aim to use the know-how to immediately commercialise NanoDeck at scale – we have customers waiting for the product and identified many further opportunities in other markets.

Impacts: what will be the expected market impact of the project

We are a unique product in the sector and have no known direct European competitors the projected turnover for Grafmarine will be £323m in year 4 of trading, this represents under 1% of the market.

Schedule: start and end dates for the project. Duration.

With the right manufacturing partners this will need to be done within 6-12 months to aim towards commercial production in 2025.





#### **PARTNERS**

Current Consortium: list of partners already involved in the project

After the restrictions of Brexit we are now looking to manufacture in Bilbao. We have made early visits to Bilbao and identified but not contacted, possible partnerships and clusters with skillsets that would match the requirements of our products. We need formal introductions and support to provide this resource at a higher level to understand feasibility and contact manufacturers in a co-ordinated way.

Partner search: type of partner searched and countries of origin (if necessary).

We have worked with a number of EU countries (Holland, Poland, Spain) and were part of the Consortex group funded by the EU. We have also applied previously for Horizon 2020 but were rejected due to Brexit. We are looking for partners in Bilbao to make a supply NanoDeck.





#### **CONTACT INFO**

Contact info: of the person coordinating the project proposal

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