Start-up Handbook: An Entrepreneur's Guide to Blue Growth

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University College Cork

Innovation in the Marine Environment

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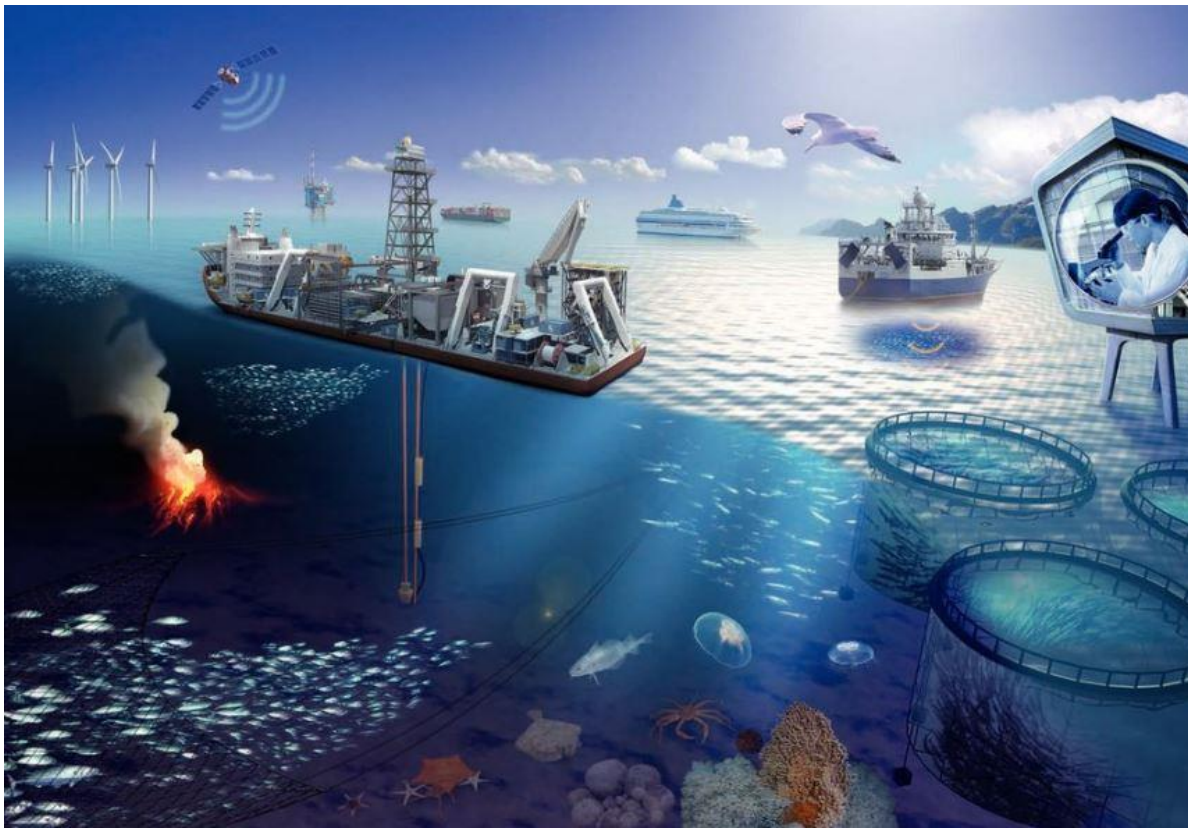
Introduction to the Start-up Handbook: What is Blue Growth?

The European Commission defined Blue Growth as “an initiative to harness the untapped potential of Europe’s oceans, seas and coasts” which for the first time identified the rich marine resources as an unique asset for economic development in coastal regions and on islands.

ProtoAtlantic, an Interreg Atlantic Area funded project, supports the transnational collaboration and connectivity between five countries: France, Ireland, Portugal, Spain, and Scotland. The Atlantic Area is rich in resources, both geographically and in terms of the management of the resources. Each Atlantic Area region provides unique competences which enable the stimulation of innovation and competitiveness by fostering resource efficiency by providing technical assistance and business support to our regional SMEs.

This handbook is aimed at aspiring entrepreneurs and marine start-ups that would like to gain a better understanding of existing maritime development strategies and agencies in the Interreg Atlantic Area, i.e. the coastal regions of France, Ireland, Portugal, Spain, and Scotland. The handbook will shed some light on the existing enabling policies and agencies providing business development support in these regions. The handbook will also illustrate some of the vital and existing test-bed infrastructure available to entrepreneurs and marine start-ups. Finally, this handbook will provide some best-case examples of how entrepreneurs and start-ups have navigated and benefited from projects like ProtoAltantic.

What are marine activities?



The marine economy consists of a variety of marine activities which depend on the availability of marine resources, the geographic, and geopolitical context of the coastal regions. Marine activities include shipping and transport, oil and gas, coastal tourism, aquaculture, marine renewable energy which includes offshore wind energy, and kinetic energy such as tidal and wave energy, seabed mining, marine biotechnology, among many others.

The development of marine sectors and economies depend on the rich maritime history, the geopolitical decision making, pioneering policies in marine sectors and marine development, access to the marine resources, and supporting infrastructures for businesses. This means that there is no one-size-fits-all solution for coastal regions, but that every coastal region is unique in their approach to marine sector development.

The needs of start-ups and SMEs in marine sectors differ greatly from land-based enterprises. The following section provides an overview of available marine and economic development policies and agencies that provide support for marine enterprises.

Marine Policy Infrastructure

From the perspective of a marine entrepreneur the marine policy landscape may appear to be confusing – especially when considering multiple jurisdictions. The policy interventions to support Blue Growth in the Atlantic region are plentiful providing diverse mechanisms to support marine entrepreneurship.

Across the Atlantic region, the local marine and economic agencies provide a wide arrange of business support and elements to start-ups and entrepreneurs. Local enterprise offices in each region are vital first-contact points for anyone interested in starting their own marine enterprise.

To help understand the complex infrastructure in each of the coastal regions, ProtoAtlantic project partners Technopôle Brest-Iroise in France, Cork County Council and University College Cork in Ireland, INESC TEC in Portugal, Innovalia and EMERGE in Spain, and EMEC in Scotland populated a database highlighting the national, regional, and local mechanisms that enable Blue Growth.

This work has shown a high degree of or a variability between the different jurisdictions. From the database the following regional infographics were created which provide snapshots of marine and economic development policies and agencies available in each of the ProtoAtlantic regions (as available in 2019). The infographics also provide key take home messages for marine start-ups and entrepreneurs.

You will also find some 'Watch this Space' opportunities where you have access to additional support for your marine start-up from business advice to pitching and investment opportunities within the Atlantic Area. In addition to business support, you will also find a test-bed infrastructure which gives you an overview over the available testing facilities in the ProtoAtlantic region.

Icon Legend:

Marine Development Strategies Marine Development Agencies

Economic Development Agencies Economic Development Agencies

Brest, France

National Marine and Economic Development Strategies

National Strategy for the Sea and Coast

Strategy for the North Atlantic and West Channel seafront

National Marine and Economic Development Agencies

Business France

Bpifrance

Regional Marine and Economic Development Agencies

Pôle Mer Bretagne Atlantique

Bretagne Dévelopement Innovation

Bretagne Commerce International

Regional Marine and Economic Development Strategies

Regional maritime and coastal strategy

Regional Strategy for economic development, innovation and internationalization

Local Marine and Economic Development Strategies

Community contribution to the national and regional maritime and coastal strategies

Community strategy for economic development

Local Marine and Economic Development Agencies

Campus Mondial de la Mer

Technopôle Brest-Iroise

Take home message: Start-ups and SMEs interested in the western Brittany area can find support at Campus Mondial de la Mer and Technopôle Brest-Iroise. They help connect companies with researchers and industries in the marine science and technologies and provide business development advice.

Cork, Ireland

National Marine and Economic Development Strategies

Harnessing Our Ocean Wealth – An Integrated Marine Plan for Ireland

National Marine and Economic Development Agencies

Irish Maritime Development Office

Enterprise Ireland

Local Marine and Economic Development Strategies

Pure Cork, An Action Plan for the City

Local Marine and Economic Development Agencies

Local Enterprise Office South Cork

Take home message: Support for start-ups and industries interested in the Cork region can be found at the Local Enterprise Office South Cork and Enterprise Ireland which provide intensive business development programmes tailored specifically to the needs of start-ups and SMEs.

Porto, Portugal

National Marine and Economic Development Strategies

National Ocean Strategy 2013-2020

Estratégia de Investigação e Inovação para uma Especialização Inteligente

National Marine and Economic Development Agencies

National Agency of Innovation

Regional Marine and Economic Development Strategies

Norte 2020 – Regional Smart Specialisation Strategy

Take home message: Porto presents a streamlined process to start-ups and SMEs. The National Agency of Innovation provides business and funding advice and overall information about Portugal's public and private funding possibilities.

Orkney, Scotland

National Marine and Economic Development Strategies

A strategy for growth for the UK marine industries

Scotland's economic strategy (March 2015)

National Marine and Economic Development Agencies

UK Marine Industries Alliance

Regional Marine and Economic Development Agencies

Innovate UK

Scottish Enterprise

Regional Marine and Economic Development Strategies

Report on Social and Economic Objectives for a Scottish Marine Plan

Local Marine and Economic Development Strategies

Orkney Hydrogen Economic Strategy

Orkney Sustainable Energy Strategy

Orkney Local Development Plan

Local Marine and Economic Development Agencies

Highlands and Islands Enterprise

Take home message: An increasing number of people are choosing to live, work, study, and invest in Orkney – a highly successful and competitive region where Highlands and Islands Enterprise help grow the low carbon economy using Scotland's natural resources sustainably and responsibly.

Canary Islands, Spain

National Marine and Economic Development Strategies

- Marine Strategies Spain
- General Economic Development Economy of Spain – Economy reforms 2017

National Marine and Economic Development Agencies

- Spanish Maritime Safety Agency
- Spanish institute Safety Agency
- MINECO (Minister of Economy and Competitiveness)
- MITECO (Ecological Transition Ministry)

Regional Marine and Economic Development Agencies

- ITC (Institute of Technology of the Canary Islands)
- PROEXCA (Agency for Internationalization and Investments Attraction)
- ACIISI (Canary Agency of Research, Innovation and Society Information)
- SODECAN (The Society for the Economic Development of Canary)
- ZEC (Canary Islands Special Zone)

Regional Marine and Economic Development Strategies

Blue Economy Strategy (currently under development by the ACIISI, ITC, and CETECIMA)

- Action Plan from European Strategy in Canary Islands
- Action Plan for Internationalization of Canary Economy

Local Marine and Economic Development Strategies

- Agreement for the seas (Las Palmas de Gran Canaria Town Hall)
- Las Palmas de Gran Canaria – A model of city

Local Marine and Economic Development Agencies

- SPEGC (Economic Promotion Society of Gran Canaria)
- ITC (Institute of Technology of the Canary Islands)
- PLOCAN (The Oceanic Platform of the Canary Islands)
- CMC (The Maritime Cluster of the Canary Islands)
- CETECIMA (Marine Science Technology Centre)

Take home message: SODECAN helps SMEs and start-ups to access funding for innovative and feasible business projects. SODECAN specialises in covering gaps in the market by supporting business projects which find it particularly difficult to obtain private funding.

Watch this Space: Opportunities for Marine Start-ups and Entrepreneurs

ProtoAtlantic Stakeholder Platform

ProtoAtlantic provides access to specialised training material and expert workshops for marine start-ups and entrepreneurs on the ProtoAtlantic Stakeholder Platform. The platform provides a range of engaging and interesting training sessions on Branding and Marketing, Economic and Financial Plan, Lean Management, Partnership and Leadership, and Pitch to Investors, among others. The platform is an initiative to provide valuable training and access to ocean governance resources, investment and funding opportunities, mentorship programmes, and information on prototyping and testing, free of charge, to marine start-ups in the Atlantic Area.

https://cutt.ly/VwngAW1

Watch this Space: Opportunities for Marine Start-ups and Entrepreneurs

Marine Research Infrastructures and Facilities Portal

Campus Mondial de la Mer, a collaborative and multidisciplinary community devoted to sustainable development and management of our oceans and seas, developed a portal that provides access to the available marine tools and expertise in the Brittany region. The portal showcases Brittany's extensive infrastructure and facilities devoted to marine science and technology and explains how to access the available infrastructure, the platforms, and the equipment, the terms of access, and the services on offer.

https://www.infras-campusmer.fr/en/

Watch this Space: Opportunities for Marine Start-ups and Entrepreneurs

BlueInvest Platform

The European Commission supports the development of marine businesses and marine sectors through the BlueInvest platform which provides innovators, entrepreneurs, and start-ups with support in investment and growth prospects, BlueInvest readiness assistance, and thematic workshops and knowledge exchange between marine businesses. The BlueInvest platform is an initiative spearheaded through the maritime policy that aims to increase awareness and provide support mechanisms for ocean governance and ocean literacy as well as the management and governance of marine resources.

https://webgate.ec.europa.eu/maritimeforum/en/frontpage/1451

Watch this Space: Opportunities for Marine Start-ups and Entrepreneurs

BlueInvest Day 2020

The European Commission under the European Maritime and Fisheries Fund (EASME) organised the first annual BlueInvest Day held in Belgium in February 2020. The BlueInvest Day brings together innovators, entrepreneurs, marine start-ups, investors within marine sectors with the objective to generate concrete business opportunities. The BlueInvest Day also is an unique opportunity to increase visibility of any marine business and to connect with industry leaders, make valuable investor connections, and meet high-level representatives from government and the public sector.

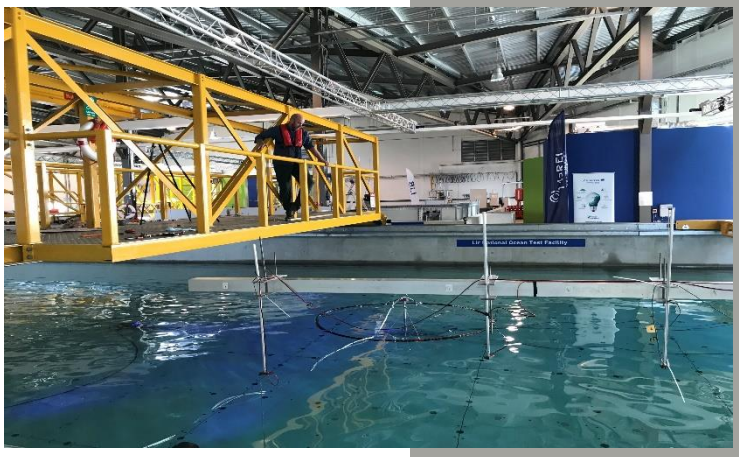
https://ec.europa.eu/easme/en/blue-invest-day

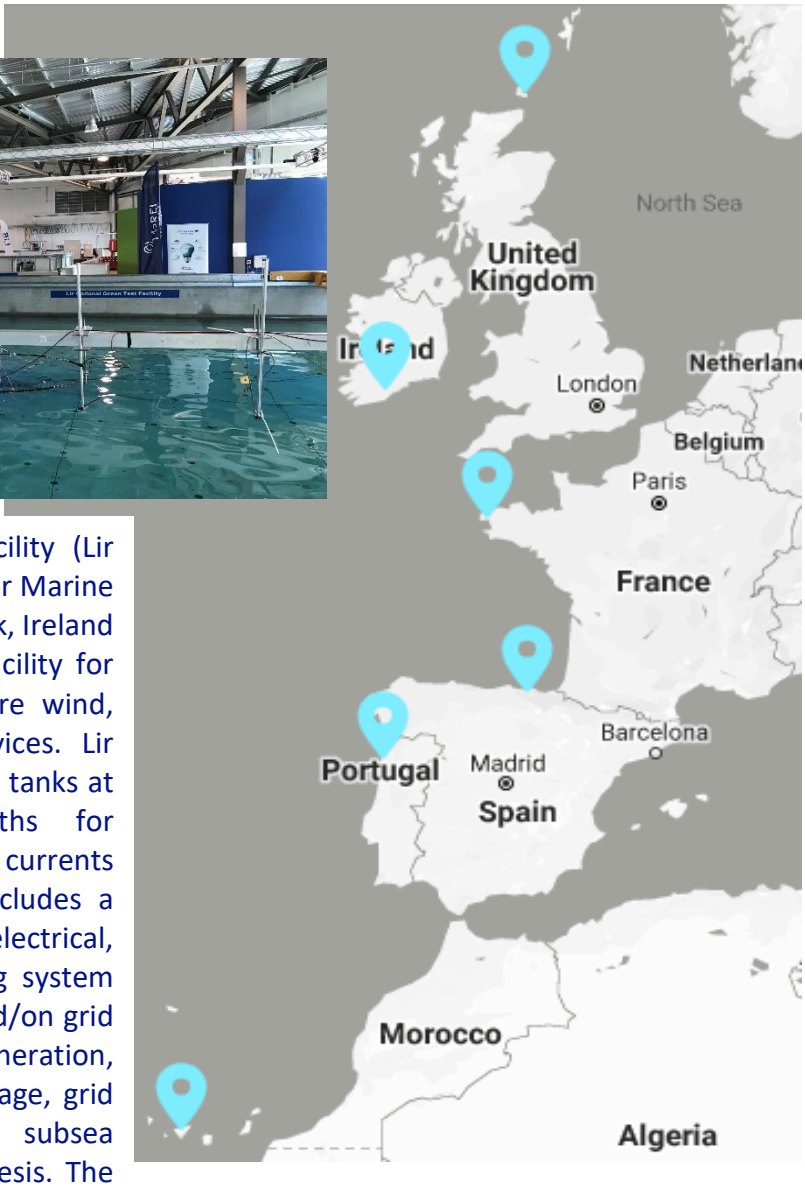
Available test-bed infrastructure: European Marine Energy Centre

European Marine Energy Centre (EMEC) in Orkney in Scotland provides the world's only multi-berth, purpose-built, open sea test facilities for wave and tidal energy converters. EMEC provides the infrastructure and technical expertise to test technology in a real sea, grid connected environment testing the performance of technologies underpinned by the accredited verification process in line with ISO17020 standards.

More information available at:
http://www.emec.org.uk/

Available test-bed infrastructure:
Lir National Ocean Test Facility





Lir National Ocean Test Facility (Lir NOTF) at the MaREI Centre for Marine and Renewable Energy in Cork, Ireland is a custom designed test facility for laboratory testing of offshore wind, wave and tidal energy devices. Lir NOTF provides access to four tanks at various scales and depths for emulation of ocean waves, currents and wind. Lir NOTF also includes a variety of bench test rigs for electrical, power take off and mooring system testing along with a microgrid/on grid infrastructure for test generation, control, power take off, storage, grid integration, power quality, subsea transmission and fault synthesis. The Lir NOTF research infrastructure allows for the wave-to-wire design of wind, wave and tidal renewable energy devices.

More information available at:
http://www.lir-notf.com/

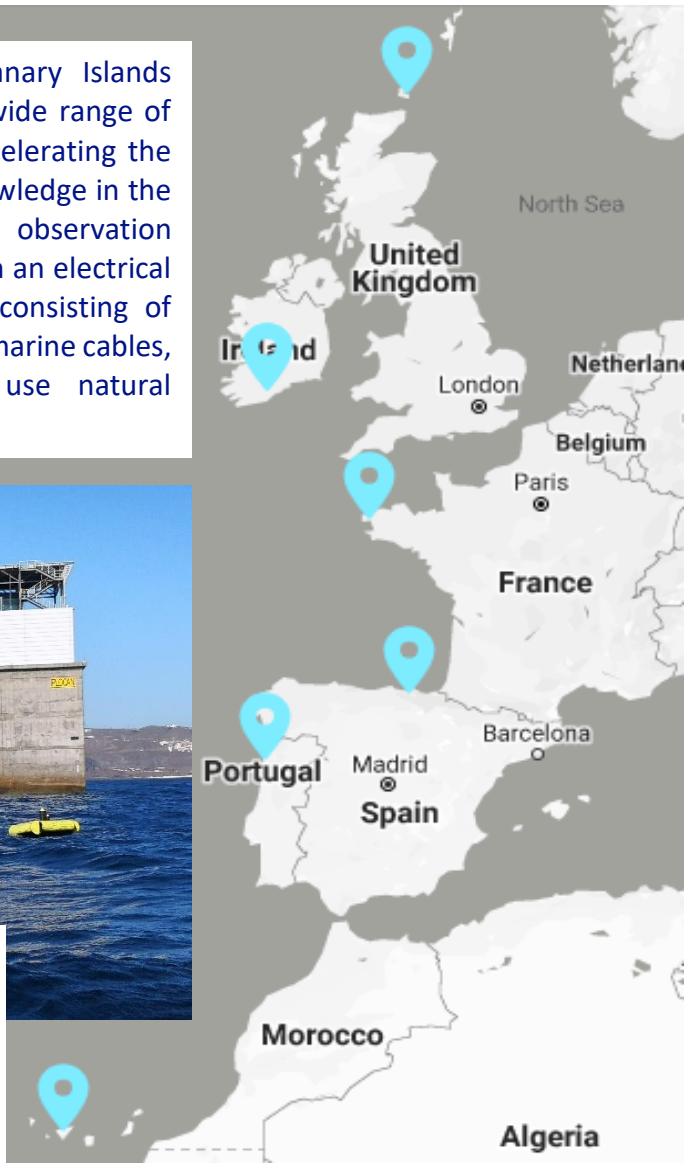
Available test-bed infrastructure:
INESC TEC Centre for Robotics and Autonomous Systems

INESC TEC's Centre for Robotics and Autonomous Systems (CRAS) in Porto, Portugal, develops prototypes for the marine sector with hyperbaric test capacity until 250 bar for devices with volumes until 1000 mm length and 230 mm diameter. CRAS conducts research and development activities in autonomous robotic systems, mobile robotics, among others.

More information available at:
https://www.inesctec.pt/en

Available test-bed infrastructure:
PLOCAN Oceanic Platform of the Canary Islands

PLOCAN Ocean Platform of the Canary Islands provides an offshore test side for a wide range of marine technologies dedicated to accelerating the development of technologies and knowledge in the marine environment, with deep-sea observation systems. The test site is equipped with an electrical and communications infrastructure, consisting of two medium-voltage (5MW each) submarine cables, for connecting technologies that use natural resources to generate electricity.



PLOCAN, as part of the Multipurpose Offshore Platform VIMAS (Underwater Vehicles, Instruments and Machines), provides a permanent service of operational support through a multidisciplinary fleet of cutting-edge autonomous ocean platforms and instruments related to ocean monitoring.

More information available at:
https://www.plocan.eu/en/
https://www.plocan.eu/en/test-site/
https://www.plocan.eu/en/vimas-2/

Best case practices: Start-up Testimonies

ProtoAtlantic has since 2017 provided the local and regional start-up communities in the Interreg Atlantic Area region with support mechanisms such as training sessions on Lean Startup, Business Models, Branding and Marketing, Economic and Financial Planning, Lean Management, Partnership and Alliances, Pitching for Investment, mentorship programmes for business model and pitching preparation, and prototyping and testing opportunities at EMEC (Scotland), LIR NOTF (Ireland), and INESC TEC (Portugal). As such, the start-ups and SMEs were able to accelerate their business development and have since been able to also progress further along the Technology Readiness Level (TRL) scale.

ProtoAtlantic was able to support start-ups and SMEs in the Atlantic Area region and beyond particularly in marine robotics, aquaculture, marine biotechnology, monitoring and operation of offshore wind development, communications, and many more. The following section provides a small selection of the companies supported and the benefits that ProtoAtlantic was able to provide.

Best case practices: Start-up Testimonies

Subsea Mechatronics S.L. is a marine robotics company based in Las Palmas, Spain and have been developing a robotic dredger for precision works *Toolbot* and a pipe inspection remotely operated underwater vehicle (ROV), *PIPEYE.* Toolbot offers a solution for the last mile dredging operations where spots are hard to reach, where underneath infrastructures have to be maintained or when conventional methods are oversized to actuate with precision. Toolbot is of particular interest in ports, dams, reservoirs, and environmental impact projects. PIPEYE is a pipe inspection hybrid autonomous underwater vehicle (AUV) for the pipe inspection of industrial plants such as desalination ones, equipped with intervention tools, together with a methodology to provie the services in an efficient and safe manner. More information about Subsea Mechatronics S.L.: https://www.subseamechatronics.com/

Subsea Mechatronics S.L. attended the bootcamp training sessions on Lean Startup, Business Model, Branding and Marketing, Economic and Financial Plan, Lean Management, Partnership and Alliances, Pitching for Investment, and received mentorship in Business Model Preparation and Pitching Preparation.

What Subsea Mechatronics S.L. says about ProtoAtlantic: *"ProtoAtlantic is a special platform where we have been able to find expertise in the marine sector and specifically in the robotics domain. With the support of EMERGE and the technical advice and prototyping facilities of INESC TEC, SSM is accelerating its path to the market, testing sensors and tools of the PIPEYE hybrid inspection robot. ProtoAtlantic was able to raise SSM's visibility and provided access to the end users of our technology."*

Best case practices: Start-up Testimonies

Sea Wave Energy Ltd (SWEL) is a R&D company based in the UK & Cyprus that has been focused on the design and development of its wave energy converter (WEC) – The "Wave Line Magnet", a wave energy converter that has been evolved for more than 10 years achieving numerous patents. The company's technology is a robust and durable WEC that can supply substantial power on demand at a low cost, with minimal maintenance and can be deployed in any wave environment. The target market is power production, namely electricity and hydrogen, and also desalination, coastal erosion prevention and fish farming. More information about SWEL: https://www.swel.eu/

SWEL qualified for the Fast-Tracked Product Development at the LIR NOTF in Cork and was able to test their wave and tidal technology which subsequently progressed from TRL 3 to TRL 4.

What SWEL says about ProtoAtlantic: "*ProtoAtlantic is a valuable platform for developers in an array of industries to enrich the efforts of companies by facilitating them with a straightforward route for gaining access to facilities and expertise. Through the ProtoAtlantic route SWEL was able to progress its understanding of the technology further and gather valuable data for the WEC. The whole experience was both educational and constructive, setting a solid milestone on the road towards commercialization. Additionally, SWEL had the opportunity to network and meet people in the industry*."

Interreg Atlantic Area
European Regional Development Fund

EUROPEAN UNION

Lead Partner

innovalia ASSOCIATION

Main Partners

INESCTEC

EMEC ORKNEY
THE EUROPEAN MARINE ENERGY CENTRE LTD

EMERGE
STARTUPS · INNOVATION

Cork County Council
Comhairle Contae Chorcaí

UCC
University College Cork, Ireland
Coláiste na hOllscoile Corcaigh

TECHNOPÔLE
BREST-IROISE

Associated Partners

Ayuntamiento de Las Palmas de Gran Canaria

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