

OFFSHORE WIND & MARINE RENEWABLE ENERGY IN ATLANTIC FRANCE

Overview of regional partners and support organizations

2019 Version

Please visit the website below to know more about Offshore Wind
and Marine Energy in the Pays de la Loire region

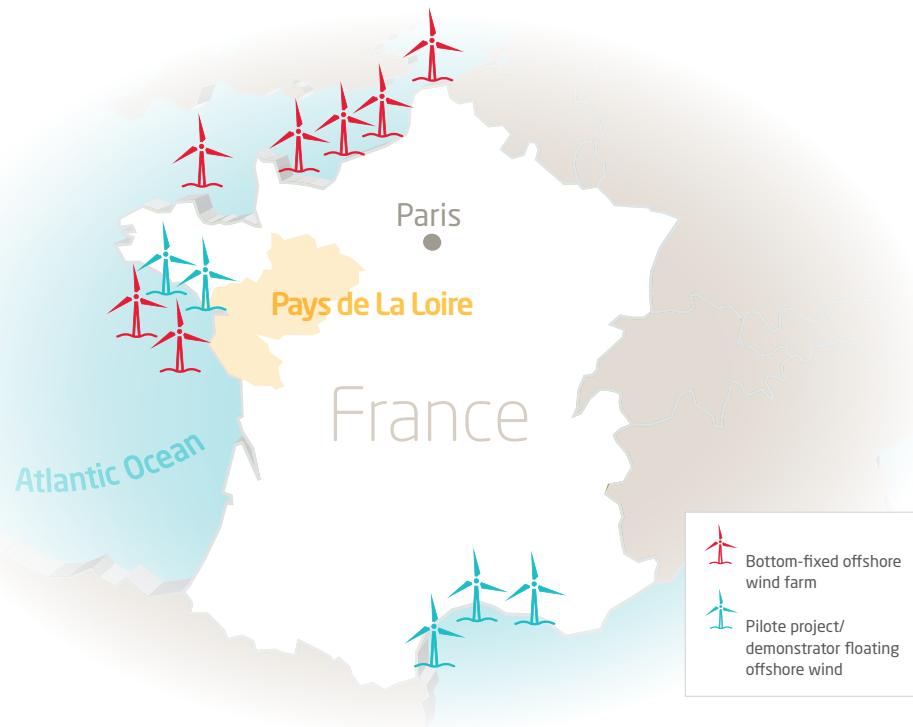
www.mre-paysdelaloire.com

Solutions & Co

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This directory lists your main points of contact for the offshore wind & marine renewable energy sector in the Pays de la Loire region, Western France. It covers the following topics:

- Setting up in the region
- Regional, national and international Business and technology development
- Research, innovation, skills training and education
- Logistics and supply chain



SETTING UP IN THE REGION

The Regional Economic Development Agency : Solutions&Co and Business Solutions Atlantic France

Setting up # Support for business projects # European funding



Solutions&Co by Business Solutions Atlantic France is responsible for driving the Pays de la Loire offshore wind & marine renewables industry. It offers the following services to support business development in Pays de la Loire:

- providing information about the regional public support & policies
- connecting international companies with the right partners in Pays de la Loire
- supporting international companies setting up in the region
- highlighting and sharing expertise

Contact details



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Business Solutions Atlantic France by Solutions&Co is the regional correspondent for Business France.

CARENE / Local development Agency for the St Nazaire area

Setting up # Support for business projects



CARENE provides business support to new companies setting up in the Saint-Nazaire area. Its services include:

- real estate solutions
- help with recruitment
- support for business growth and innovation, industrial partner searches, financing.

For the offshore wind and marine renewables industry, the CARENE teams can identify real estate near or alongside port facilities, thus enabling businesses to locate to the heart of the local ecosystem (GE, Les Chantiers de l'Atlantique, Saint-Nazaire port logistics hub,...)

Nantes Saint-Nazaire Développement / Local development Agency for the Nantes-St Nazaire area

Setting up # Support for business projects



Nantes Saint-Nazaire Développement helps businesses set up in the Nantes St-Nazaire area.

Services include:

- organizing a feasibility study based on client specifications
- identifying property solutions, supporting relocating staff, and providing recruitment expertise
- organizing introductions with the business community and local authorities.

Website : www.nantes-saintnazaire.fr/en

REGIONAL, NATIONAL AND INTERNATIONAL BUSINESS DEVELOPMENT

Atlantpole / Regional Business Incubator

Business support # Innovation



This regional incubator provides customized support based on the unique business needs of project developers. To turn ideas and technologies into successful businesses, it offers consultancy on cross-cutting topics such as: road-mapping, legal issues, funding sources, human resources, go-to-market strategies and international development. The incubator program runs up to 5 years from the startup's inception.

In addition, the incubator fosters European collaborative innovation projects in France and Europe with support from regional clusters.

Website : www.atlantpole.com

Business France / National Agency

Export # International development



Business France helps businesses go international by providing a range of services from market studies, human resources via the "VIE international internship program" to organizing business meetings with partners and customers. As its advisors are sector-specific, Business France services can be tailored to the offshore wind and marine renewables industry.

Website : www.businessfrance.fr/en/home

Pays de la Loire Regional Chamber of Commerce and Industry

Export # International development



As part of their strategy to bring about the 3rd industrial and agricultural revolution, the Pays de la Loire Regional Chamber of Commerce is helping drive new growth sectors in line with the energy transition and digital revolution.

The regional chamber is particularly involved in developing renewable energy, including offshore wind and marine renewables.

Firstly, they seek to help local businesses to secure design, manufacture, and operation and maintenance contracts with prime contractors in the sector. Secondly, they work to promote the region's offer of offshore wind and marine renewables excellence on the international stage.

Neopolia / MRE business cluster

Cluster # Collaborative business projects # Business support

neopolia EMR Neopolia is a network of regional firms whose aim is to generate more business by working together. Its offshore wind and marine renewables business cluster has around 100 members.

Many skills areas are covered, with design offices (engineering, environment etc.), the manufacturing industry (welding, assembly, special machines, etc.), logistics firms, main contractors, subcontractors...

The cluster draws on its members to offer 5 commercial "solutions":

- Project development support
- Offshore installation support
- Operation & Maintenance
- System health monitoring
- Concrete monitoring in oceanic conditions.

Its motto is "Networking for your business."

Website : www.emr.neopolia.com

RESEARCH, INNOVATION, SKILLS TRAINING AND EDUCATION

CEA Tech / Regional Technology Transfer Platform

Innovation # Technology dissemination # Marine energy systems



CEA Tech is the French Atomic Energy and Alternative Energy Commission (CEA) technology research unit. It disseminates the key enabling technologies (KETs) developed by CEA for industrial stakeholders including SMEs and startups.

CEA Tech runs local technology research platforms tailored to the regional economic fabric. They supplement existing CEA and stakeholder facilities and their scope may ultimately be extended to the whole of France.

In Pays de la Loire, CEA Tech performs research on offshore wind and marine renewable energy with emphasis on systems for managing power generation, conversion and storage in harsh marine environments.

Website : www.cea-tech.fr/cea-tech/english/Pages/home-uk.aspx

France Energies Marines / Institute for Energy Transition

Innovation # Research # Development # Expertise



This organization provides and promotes the scientific and industrial environment that is needed for breaking technology bottlenecks in the offshore wind and marine renewables industry.

Its service offer has two strands:

- Technical expertise on the environmental impacts of offshore wind and marine renewables (project management assistance to the project owner)
- Expertise in metocean resource characterization and modeling; structure design/dimensioning and characterization, including systems; mooring lines and dynamic cabling.

France Energies Marines has all the equipment, resources and validated methodologies to support project developers and technology providers in their offshore wind and marine renewable schemes.

Website : www.en.france-energies-marines.org

IRT Jules Verne / Technology Research Institute

Innovation # Advanced manufacturing # Metal and composite manufacturing processes # Large-scale demonstrators # Industry of the future



IRT Jules Verne is one of the French Institutes of Technology and provides manufacturers with R&D support for their products and processes in the following areas:

- Composite processes
- Metal Additive Manufacturing processes
- Robotics - Cobotics
- Structural health monitoring
- Structural simulation and processes

The institute enjoys acknowledged expertise in collaborative R&D project design and management.

Website : www.irt-jules-verne.fr/industrial-research-institute

LHEEA - Research Laboratory / Centrale Nantes

Innovation # Lab # Hydrodynamic testing # Ocean engineering, marine renewable energy # Modeling and digital simulation # Wave and towing tank



LHEEA is the Research Laboratory in Hydrodynamics, Energetics & Atmospheric Environment.

The ocean test facilities at Centrale Nantes are some of Europe's largest.

Various types of device and vessel can be tested in river or ocean conditions in order to verify performance (production and cost) and component reliability.

The facilities are capable of testing fishing boat, transport vessels and offshore wind and marine renewable energy devices (fixed-bottom and floating wind turbines, and tidal and wave devices).

The research teams at Centrale Nantes are on hand for companies and manufacturers, supporting them in all project phases, from pre-design to full-scale testing. For this, the teams use four separate tanks including a towing tank (140m X 5m) and an ocean engineering wave tank (50m X 30m), modeling and simulation software, and the SEM-REV offshore test site.

Website : <https://lheea.ec-nantes.fr/test-facilities/>

EMC2 / Advanced manufacturing technologies cluster

Cluster # European projects # Advanced manufacturing # Industry of the future



EMC2 is the French industrial cluster dedicated to advanced manufacturing technologies

It has 360 members who come together to work on R&D projects for advanced manufacturing. Its overall aim is to create the right environment for fostering innovation and industrial competitiveness.

The cluster works in a range of fields including offshore wind & marine renewables. For more than 10 years, it has encouraged, supported and accredited over 140 collaborative R&D projects-worth over €700m including €200m of public investment-relating to offshore wind & marine renewable energy.

The projects deal with advanced manufacturing technologies, metallic and composite materials, predictive maintenance, SHM, functional materials, assembly and energy efficiency.

Website : www.pole-emc2.com

Pôle Mer Bretagne Atlantique / Sea Innovation Cluster

Cluster # Innovation # Collaborative R&D



The cluster's role is to support industry and academia in developing a French offshore wind and marine renewables sector. It does this by:

- developing innovative second-generation technologies to bring down production costs
- leveraging the capabilities of France's energy and offshore sector to expand operations for harnessing natural resources
- helping organize the offshore wind and marine renewables sector (skills development, working groups, expertise...) in the region, nationally and even at European level

Website : www.pole-mer-bretagne-atlantique.com/en

S2E2 / Smart Electricity Cluster

Cluster # Support # Finance # Innovation



S2E2 is a cluster that encourages the emergence of new technology solutions, products and services relating to offshore wind and marine renewables, energy efficiency and Smart Grids.

It promotes and organizes collaboration between the business community and university laboratories through innovation and market-oriented projects. The cluster has over 130 members.

Website : <http://www.s2e2.fr/en/home>

SEM-REV / Offshore Multi-Technology Test Site

Multi-technology test site # Innovation # Digital simulation # Grid connection



SEM-REV is Europe's first offshore multi-technology test site connected to the national grid. It has all necessary consents and licensing. Environmental monitoring has been ongoing since 2009.

The onshore and offshore facilities can be used to develop, validate and optimize offshore wave and wind power devices. The site can cater for complete units or sub-units and is managed by a team of engineers who help manufacturers to test new technologies.

One of first pieces of technology to be tested at SEM-REV is the Floatgen floating wind turbine (Ideol, Bouygues Travaux Publics, Centrale Nantes), which is France's first offshore turbine.

The research teams at Centrale Nantes are on hand for companies and manufacturers, supporting them throughout all project phases, from pre-design to full-scale testing. For this, the teams use advanced digital modeling software and operate 4 wave tanks in addition to the SEM-REV site.

Website : www.sem-rev.ec-nantes.fr/english-version

Technocampus Ocean / Mutualized Technological Research Platform

Innovation # Mutualized platform # Pioneering technology # Metal structures



Technocampus Ocean's activities are as follows:

- bringing together in a single place academic and industrial research teams who develop pioneering technologies for metal structures and manufacturing in the shipbuilding and offshore wind and marine renewables sectors
- offers shared facilities (state-of-the-art equipment, staff and ancillary services) and caters for projects at various stages of maturity, from fundamental research to prototyping
- fosters knowledge sharing and encourages new collaborative R&D projects between academia and industry.

Website : www.technocampus.fr/en

WEAMEC / West Atlantic Marine Energy Community

Innovation # Research # Skills training and education # European projects



WEAMEC is an umbrella organization bringing together the offshore wind and marine renewables ecosystem in the Pays de la Loire region. It focuses on research, innovation and training. About a third of its members are clusters, universities and research labs, and the remainder is businesses across the region.

Drawing on WEAMEC members' capabilities and key test facilities, some 200 regional, national and European projects are being carried out and benefiting from over €50m in funding just from regional sources. Some 300 engineers and researchers just from the academic partners, which equates to 150 people working full time.

WEAMEC offers the following:

- An entry point into its members' skills base, test facilities, projects, training courses
- A technology roadmap put together by WEAMEC's industry and academic partners
- Calls for regional research projects issued by local and regional authorities where academic partners lead the project and then associate industrial partners to finalize the research
- Support for setting up French/European projects: search for project calls, funding possibilities, help with proposal writing
- A comprehensive higher education portfolio from operator level to doctorate
- Tailored skills development courses

General communication and specific communication on each partner

Website : www.weamec.fr/en

LOGISTICS AND SUPPLY CHAIN

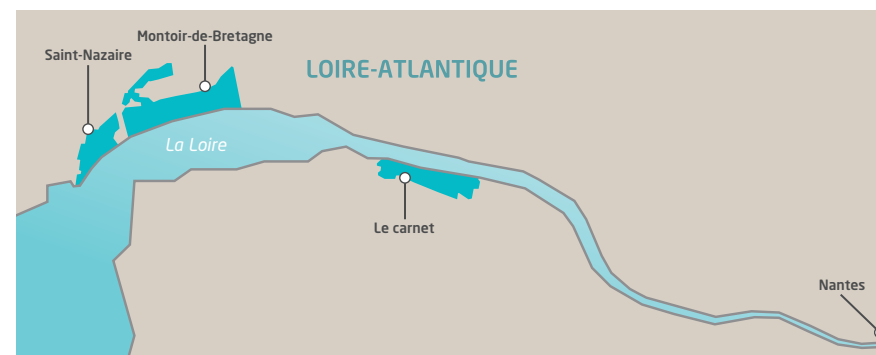
Nantes Saint-Nazaire Port

Logistics # Supply chain # Port facilities # Industrial estates



The port comprises 3 key sites for the offshore wind and marine renewable industry:

- 1 A 12 ha logistics hub, harbor basins, reinforced quays with a load limit of 15t/m² and a 400 metric ton heavy-lift derrick. (Saint Nazaire)
- 2 A 30 ha industrial estate directly connected with the Ro-Ro and container terminals, a reinforced quay close to the GE assembly plant for wind turbine nacelles. (Montoir)
- 3 A 110 ha site under development dedicated to industrial activities. (Le Carnet)



Website : <http://www.nantes.port.fr/?L=1>

PASCA / Logistics, Procurement & Supply Chain

Cluster # Supply chain # Logistics # Skills training and education



PASCA is the regional cluster dedicated to logistics, procurement & supply chain.

The cluster's aim is to:

- help businesses be more competitive by leveraging procurement and logistics
- act as an enabler of supply chain optimization

PASCA fosters and develops industrial projects relating to supply chains. It sets up direct contact between academia and industry as a way to enhance the sector. Services include logistics simulation and help with locating to the Pays de la Loire region: infrastructure and internal supply chain optimization, both up- and downstream.