THE APPROACH OF THE PAYS DE LA LOIRE REGION TO RESEARCH, EDUCATION & INNOVATION

The Pays de la Loire region is accompanying the main themes of its territory, under the regional scheme of higher education, research and innovation 2014-2020, to prepare for the future and to enhance the competitiveness and attractiveness of its economy. This approach aims to break down barriers between the worlds of Research, Education and Innovation to help them work together to enhance their competitiveness and their recognition at national, European and international levels. The various partners: research laboratories, universities, colleges, companies, competitive clusters, local authorities and others co-build a collective development strategy, materialized by an action plan and resources over 5-7 years.
RESEARCH AMBITION

HEADER FOR RESEARCH LEADERSHIP ON OFFSHORE WIND AND MRE MULTI-TECHNOLOGY COMPONENTS
PARTICULARLY IN EXTREME CONDITIONS

5 RESEARCH CHALLENGES FOR MRE DEVELOPMENT
1. Modelling, multi-physical simulation and systems approach
2. From scale model to prototype testing
3. Assessment and control of economic, environmental and social impacts
4. Risk control, reliability, operation and life-cycle
5. Advanced materials and MRE structures

EXPECTED BENEFITS OF WEAME CENTER
- A MRE Regional coordinated action, creating synergies between 17 public laboratories and research institutes
- 10 major joint research programs over 6 years
- Up to 300 researchers focused on MRE challenges within 5 years: three-fold increase of dedicated teams
- 1 European Research Council (ERC)
- 5 European H2020 projects; 2 International conferences
- Real international outreach through partnership reinforcement with international research centers and networks

INNOVATION AMBITION

INNOVATION CATALYST AND ACCELERATOR FOR INDUSTRIAL LEADERSHIP CHALLENGES TO TAKE UP FOR AN EUROPEAN LEADERSHIP

Develop technology bricks
to develop a wide range of high-value-added products and applications along 6 main axes

Shore up platforms and experimental tools
to cover the whole MRE technology development process in an industrial-oriented strategy

Foster cooperation between research and industry,building on the existing dynamic innovation ecosystem

Strengthen infrastructure and port logistics
to support the industrial ramp-up

EXPERIMENTAL FACILITIES AND PORT INFRASTRUCTURE
SPECIFIC ONSHORE AND OFFSHORE WIND TURBINE TEST SITES
MULTI-MRE TECHNOLOGY SEA TEST SITE, LARGE LAB TEST FACILITIES

Reinforce existing lab test facilities:
wind tunnel, wave tank, soil mechanics and material testing benches

Increase capabilities and accessibility of SEM-REV sea tests site: specific R&D program on environment, technology performance and reliability, safety surveillance

Analyse and develop onshore and offshore wind turbine test sites

Specify port infrastructure development within logistical needs

EDUCATION AMBITION

BECOME THE EUROPEAN LEADER IN INITIAL EDUCATION AND THE NATIONAL LEADER IN CONTINUOUS TRAINING WITH AT LEAST 5 INTERNATIONAL PROGRAMS:

OCEAN ENGINEERING
MRE CIVIL ENGINEERING
STRUCTURES & PROCESSES FOR MRE ELECTROTECHNICAL FOR MRE MRE RELIABILITY AND MAINTENANCE

THE CHALLENGES
Setting up an educational platform for MRE co-ordination, networking and completing the existing offer with at least 5 internationally visible programs sustained by 10 to 12 regional reference programs with strong industrial links.

A European level MRE program label
to enhance programs and skills and promote professional integration.

100 students receiving initial training each year within our programs 50% of which being foreign students.

150 trainees in continuous training trained each year around 3 main axes:
- Design and installation of MRE systems
- Monitoring and maintenance
- Maritime Security and safety based on a catalogue of short courses involving both academics and industrials on two levels: “The essentials” and “Expert”.

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