



Unlocking the potential of our marine
and renewable energy resources through
the power of research and innovation

MaREI is the marine and renewable energy research and development Centre supported by Science Foundation Ireland. It combines the expertise of a wide range of research groups and industry partners, with the shared mission of solving the main scientific, technical and socio-economic challenges across the marine and renewable energy sectors.

MaREI has 180 researchers across 6 academic partner institutions working with 46 industry partners. It is coordinated by the Environmental Research Institute at University College Cork.



**MARINE
RENEWABLE
ENERGY
TECHNOLOGIES**

**MATERIALS
AND
STRUCTURES**

**OBSERVATION
AND
OPERATIONS**

**COASTAL
AND
MARINE
SYSTEMS**

BIOENERGY

**ENERGY
POLICY
AND
MODELLING**

**ENERGY
MANAGEMENT**

OUR RESEARCH

The MaREI Centre has built upon the excellent track record of well-established marine and energy-based research groups across each of our academic partners.

MaREI's strengths lie in the multi- and trans-disciplinary nature of its research teams, allowing it to combine insights across areas such as Marine Renewable Energy (MRE) Technologies, Materials and Structures, Observation and Operations, Coastal and Marine Systems, Bioenergy, Energy Policy and Modelling, and Energy Management.

MaREI is currently partnering in over 25 European projects, coordinating 5 H2020 projects and has active collaborative contracts with 46 companies.

INDUSTRY COLLABORATION

In addition to fundamental research, the Centre provides targeted research and contract services to a wide range of companies, which has established the Centre as a strategic research and development partner for industry.

MaREI provides innovative research, development, engineering and contract services to companies across a wide range of sectors, enabling the development of a powerful engine for innovation and growth. The close relationship that exists with our industry partners is central to the collaborative ethos of the Centre, enabling novel approaches to be applied to real-world problem solving and development. The industry-led research programme facilitates the delivery of tailored solutions to address the specific needs of our industry partners, which extend across the value chain.



OUR PEOPLE

The MaREI research team comprises internationally recognised experts from University College Cork, National University of Ireland Galway, University of Limerick, Maynooth University, University College Dublin and Cork Institute of Technology. These researchers have complementary research backgrounds key to providing the underpinning research necessary to develop commercially successful marine and renewable energy industries for Ireland and beyond. MaREI is also home to the Future Earth Coasts international project office which supports sustainability and adaptation to global change in the coastal zone. MaREI is coordinated by the Environmental Research Institute (ERI) at University College Cork and its headquarters are housed in the new UCC ERI Beaufort Building in Ringaskiddy, Co. Cork.

STATE OF THE ART TESTING FACILITIES

MaREI offers unique, world-class MRE testing infrastructure, along with state of the art structural laboratories, novel prototype development facilities, and measurement equipment that allow systematic reduction of risks through a structured Technology Readiness Level (TRL) development cycle. The Lir National Ocean Test Facility, housed in the UCC Beaufort Building in Cork, is a custom designed facility for small to medium scale laboratory testing of ocean and maritime systems. It consists of state of the art test tanks for wave and current emulation, and electrical test rigs. Other facilities include a high-bay Structures Research Laboratory at NUI Galway, mobile and marine robotics test infrastructure at University of Limerick, hydrodynamic modelling at Maynooth University and biofuel testing laboratories at the Environmental Research Institute in UCC.



FACTS & FIGURES:

6
180
90
46
20
€5
€11

ACADEMIC
PARTNERS

RESEARCHERS

ACADEMIC
COLLABORATIONS

INDUSTRY PARTNERS

COLLABORATING
COUNTRIES

MILLION INDUSTRY
FUNDING

MILLION EU FUNDING



STAKEHOLDER ENGAGEMENT

Our researchers have considerable experience in stakeholder engagement at local, national and international scales, working with NGOs, industry, government departments, local authorities, policy makers and community groups through their research projects. MaREI researchers facilitate active participation, engagement and stakeholder dialogue for mutual benefit and are focused on communicating science to enable informed decision making. MaREI also has a tailored public engagement programme which aims to communicate the relevance and impact of our research on society.



WHO WE ARE



Prof. Jerry Murphy
Director

Prof. Murphy is the Director of MaREI, Vice Director of the Environmental Research Institute (ERI) at University College Cork and Director of Bioenergy and Biofuels research in the ERI.



Prof. Mike Hartnett
Vice Director

Prof. Hartnett is Vice Director of MaREI, a Professor in Civil Engineering and Deputy Director of the Ryan Institute at National University of Ireland Galway.



Dr Eamon McKeogh
Vice Director

Dr McKeogh is Vice Director of MaREI and a Senior Lecturer in the Department of Civil & Environmental Engineering at University College Cork.



Prof. Dan Toal
Vice Director

Prof. Toal is Vice Director of MaREI, Director of the Mobile & Marine Robotics Research Centre and Associate Professor at the University of Limerick.



Prof. Tony Lewis
Principal Investigator

Prof. Lewis is Professor Emeritus at University College Cork and has been a leading international figure in marine renewable energy research for the past 4 decades.



Prof. Frederic Dias
Principal Investigator

Prof. Dias is a professor in the School of Mathematics and Statistics and the Earth Institute at University College Dublin where he works on wave energy research.



Prof. John Ringwood
Principal Investigator

Prof. Ringwood is Professor of Electronic Engineering and Director of the Centre for Ocean Energy Research at Maynooth University.



Dr Gordon Lightbody
Principal Investigator

Dr Lightbody is Senior Lecturer in Control Engineering at University College Cork. His research focuses on the application of intelligent control techniques to key application areas.



Prof. Brian Ó Gallachóir
Principal Investigator

Brian Ó Gallachóir is Professor of Energy Policy and Modelling in the Environmental Research Institute at University College Cork.



Dr Jamie Goggins
Principal Investigator

Jamie Goggins is a Senior Lecturer in Civil Engineering at NUI Galway. His research within MaREI focuses on novel materials and structural engineering for renewable energies.

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