
Title: Lead Researcher - Slándáil Mhuirí na hÉireann: A Pilot Research Programme on Irish Maritime Security and Critical Underwater Infrastructure (2025-2027)

Department: Maritime Studies, National Maritime College of Ireland (NMCI)

Contract Type: 24 Month Fixed Term, Whole Time Contract

Location: NMCI Campus, Cork

Reporting to: Dr Paul Hegarty

Overview

The National Maritime College of Ireland (NMCI) is Ireland's national and only institution for the education and training of maritime professionals including professional civilian and naval seafarers. NMCI delivers maritime emergency response training to Ireland's Emergency Services, it is an important centre for supply chain education for the southwest region and an internationally recognised centre for maritime research. A public sector institution, NMCI is situated on a dedicated ten-acre campus in Ringaskiddy, lower Cork Harbour. NMCI is a constituent college of Munster Technological University (MTU), a partnership with the Irish Naval Service and a public private partnership.

Munster Technological University (MTU), in collaboration with the Department of Defence and Department of Climate, Environment and Energy, invites applications for a Lead Researcher in **Slándáil Mhuirí na hÉireann: A Pilot Research Programme on Irish Maritime Security and Critical Underwater Infrastructure**. This opportunity is situated in Cork, Ireland's vibrant and culturally rich second-largest city, offering an exceptional environment for students and researchers alike. The successful candidate will have the chance to work on cutting-edge research in a national priority action area.

Project Overview:

We are seeking a Lead Researcher to manage the following project:

Research Project Overview – Slándáil Mhuirí na hÉireann: A Pilot Research Programme on Irish Maritime Security and Critical Underwater Infrastructure (2025-2027)

As geopolitical tensions and hybrid threats increase, Critical Underwater Infrastructure (CUI), such as subsea cables, offshore wind assets, and energy pipelines, has emerged as a major national security priority for all countries, particularly island nations. This pilot programme integrates research on maritime cybersecurity, surveillance, energy security, and maritime domain awareness, delivering actionable intelligence, policy insights, and capability-building to inform the work of the Project Ireland Marine 2040 Coordination Group and the development of Ireland's first National Maritime Security Strategy.

This project takes advantage of NMCI's unique position within the Irish maritime landscape, as part of Munster Technological University (MTU), the NMCI integrates advanced academic research with hands-on operational and technical training, providing an ideal environment for a cross-disciplinary, security-focused programme. With state-of-the-art simulation capabilities and experience in maritime defence, cybersecurity, and offshore energy, NMCI provides a purpose-built platform for building national resilience across the maritime domain.

Programme Objectives

The pilot programme will seek to address the following five objectives:

1. Assess Risks and Threats to Critical Underwater Infrastructure in Irish and EU waters.
2. Advance the evolution of Maritime Cyber Resilience of shore and offshore assets through threat analysis, simulation and module development.
3. Enhance Maritime Domain Awareness (MDA) through surveillance and data integration.
4. Support Energy and Infrastructure Security against hybrid (cyber + physical) threats.
5. Foster National & International Dialogue through expert conferences and policy exchange.

The successful candidate will contribute to the following key areas, which will address a number of discrete yet interrelated thematic areas, as outlined below:

WP1: Securing Critical Underwater Infrastructure (CUI)

- Mapping and vulnerability assessment of Ireland's subsea cables, proposed offshore wind farms, energy pipelines, and interconnectors.
- Risk modelling for sabotage, espionage, and disruption scenarios.
- Develop response protocols in coordination with naval and civil authorities.

WP2: Maritime Cybersecurity

- Cyber threat landscape analysis for ships, ports, and maritime infrastructure.
- Simulation of cyberattack scenarios on CUI and response mechanisms.
- Development of cyber training modules for operators and local/national authorities.

WP3: Maritime Surveillance & Situational Awareness

- Integration of satellite, radar, and autonomous systems for MDA.
- AI and sensor fusion tools for early warning of anomalous maritime behaviour.
- Assess dual-use capabilities of naval and civilian surveillance systems.

WP4: Offshore Energy and Infrastructure Protection

- Scenario planning for hybrid attacks on offshore wind farms and cable landings.
- Recommendations for physical security, redundancy, and incident response planning.
- Coordination with energy policy and marine spatial planning frameworks.

WP5: Policy, Governance & Capacity Building

- Author policy briefings and risk mitigation strategies for Project Ireland Marine 2040 Coordination Group.
- Contribute to national and EU legal frameworks for protection of subsea infrastructure, including through regional Sea Basin Strategies.
- Lead capacity-building workshops for government and industry.
- Coordinate a review of extant national Maritime Emergency Planning procedures and plans.

Key Deliverables

Publications – The programme will deliver an expert report that may help inform policy development and practical implementation by Government Departments and Agencies. Additionally, the programme will deliver 2-3 research/policy papers during the lifetime of the programme.

Conferences – The programme will host at least two expert conferences over the 2-year period, and these will align to the thematic areas and associated work packages. These conferences can be utilised to focus on key national action areas relevant to the maritime domain.

Qualification Requirements and Selection Criteria for role:

Essential:

- A PhD qualification or equivalent and significant relevant research experience (at least 6 years research experience) in a relevant field of Maritime Cyber Security, Securing Critical Underwater Infrastructure, Maritime Surveillance and Maritime Domain Awareness, Offshore Energy and Infrastructure Protection, and Policy Governance and Capacity Building, ensuring a deep understanding of the theoretical and practical aspects of these disciplines.
- The capacity to work independently on research projects.
- An international track record of high-quality prestigious publications or other identifiable research and innovation impacts demonstrating excellence.
- Should have a track record of securing competitive funding as a Principal Investigator and independently winning substantial research funding on an ongoing basis and driving a research agenda.

- Demonstrable leadership skills.
- Teaching experience within an academic environment.
- Experience of research student supervision.
- Track record of making contributions to professional bodies, national/international academic community, the University (as appropriate).

Other attributes:

- Good communication and interpersonal skills
- Evidence of ability to work on own initiative as well as part of a team
- Ability and willingness to work in a collaborative environment

NOTE: In addition to the minimum qualifications, it may be necessary to introduce further shortlisting criteria. Therefore, candidates may be shortlisted based on qualifications and suitable experience based on details given in the application. Candidates should note that they may be called for more than one interview. Upon completion of interview, a panel will be formed from appointable candidates.

Remuneration, Benefits and Facilities:

Salary scale effective 1 August 2025:

Remuneration will be on the scale €85,786 - €99,770.

The rate of remuneration for all appointments may be adjusted from time to time with government policy.

Additional Benefits:

- Comprehensive Sick Leave Policy
- Employment Assistance Programme
- Staff Discount Scheme
- Gym Access

On site Facilities:

- On site dining facilities
- On site TFI Bike Sharing Station

Interview & Additional Information:

Interview Process:

If invited to interview, candidates are likely to be assessed at the interview under the following criteria. Additional criteria may be added for the interview as the need arises.

- Relevant Industry/Professional Experience
- Communications & Interpersonal Skills
- Research Knowledge and Experience
- Team Working and Organisational Skills
- Management and Delivery of results

Shortlisted candidates will be invited to attend for interview.

Additional Information:

A successful candidate will be required to submit a passport, documentary evidence confirming academic qualifications, and to undergo a medical examination. Garda vetting and/or an international police clearance may also be required. References will be sought in relation to successful candidate.

MTU welcomes applications from non-EEA citizens. However, employee permit regulations set by the Department of Enterprise, Trade & Employment must be strictly adhered to. Any appointment offer to Non-EEA candidates is subject to the granting of a work permit by the Euraxess Ireland or relevant Immigration permissions/stamp.

Candidates may be required to produce documentary evidence to support any statements made by them on their application form or any supporting documentation.

Candidates should note that any inaccurate information will invalidate their application.

Application Process:

Applications by MTU eRecruitment system only. Applications will not be accepted in any other format or through any other channel of communication. Please log on to www.mtu.ie/vacancies to apply for this position.

**Closing date for receipt of completed
applications is:**

1.00 pm on November 4th 2025.

The information given in this document is of a general information nature only and should not be taken as contractual.

MTU is an equal opportunities employer.

Important Notes:

- Screening and short-listing only takes place on the basis of information submitted on the application. In addition to the minimum criteria, it may be necessary to introduce further shortlisting criteria. Candidates should note that they may be called for more than one interview.
- Please ensure that full information is given on qualifications and that the information is accurate and corresponds to the original transcript of qualifications.
- Please ensure that those you nominate as referees are contacted by you and will be able to supply a reference without delay if requested.
- The University regrets that it cannot pay expenses for candidates attending interviews for this post or for taking up the position, if appointed.
- Applications received after the closing date will not be accepted.
- Appointments will be subject to Garda vetting.