



HALPIN

Centre for Research & Innovation at NMCI

Ionad um Thaighde agus Nuálaíocht ag NMCI

<http://Halpin.nmci.ie>



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Overview

- HALPIN is the research and innovation pillar of the National Maritime College of Ireland (**NMCI**)
- NMCI is a constituent College of the Cork Institute of Technology (**CIT**) and a partnership with the Irish Naval Service (**INS**)
- HALPIN is the *maritime* research and innovation activity for CIT
- Through the NMCI partnership, HALPIN undertakes research and innovation activities for the INS





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History



- HALPIN came into being in 2012 following a decision to formalise and scale-up ad-hoc NMCI research activity that had been going on since circa 2008
- HALPIN was formally launched in May 2013 by the then Irish Minister for Science and Innovation Sean Sherlock T.D.
- HALPIN is named after Irishman Captain Robert Halpin who was a seafaring pioneer and innovator. Halpin, commanding the S.S. *Great Eastern* (the famous iron ship built by Isambard Brunel), successfully laid the first trans-Atlantic telegraph cable between Ireland and Newfoundland in 1866. He went on to lay over 26,000 miles (41,800km) of submarine cables across the World's oceans. Halpin's cable laying voyages were the first steps towards what would become the "global village" that we all live in today
- The HALPIN Centre has enjoyed much success since 2012, a lot of it coming from collaborations with other CIT research Centres, groups and individuals



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Today



- The HALPIN team consists of **10 researchers**, one of which is a full time secondment from the Irish Naval Service
- HALPIN has successfully **completed 25 projects** since 2012
- HALPIN has **3 Horizon 2020, 1 European Maritime Fisheries Fund, 2 Framework 7, 1 EI Commercialisation Fund, 2 ERASMUS+ and 1 European Space Agency** projects ongoing
- HALPIN has **secured €4.1m in direct external research funding** to date
- HALPIN has supported **2 PhDs (L10)** and **7 masters (L9)**. The 2 PhDs and 5 of the Masters were collaborative efforts with CIT research entities and Departments. The remaining 2 Masters were INS personnel supported in their studies by HALPIN projects
- We have **worked with 180 research partners** across the World to date including in e.g. Canada, China and South Korea



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Research Areas

- HALPIN works in two primary areas; **Maritime Operations** and **Maritime Mechatronics**
- **Maritime Operations** is concerned with problem solving operational challenges at sea and coming up with innovative ways to increase safety, improve efficiency & sustainability and reduce cost
- **Maritime Operations** work in HALPIN has four sub-themes:
 - Safety, Security & Defence
 - Supply Chain
 - Training and Education Innovation
 - Human Factors



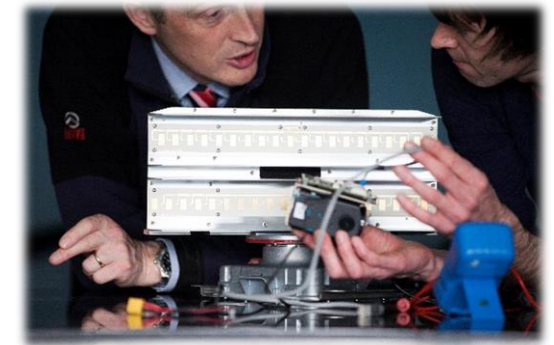
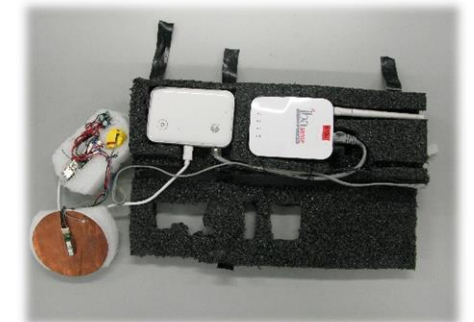
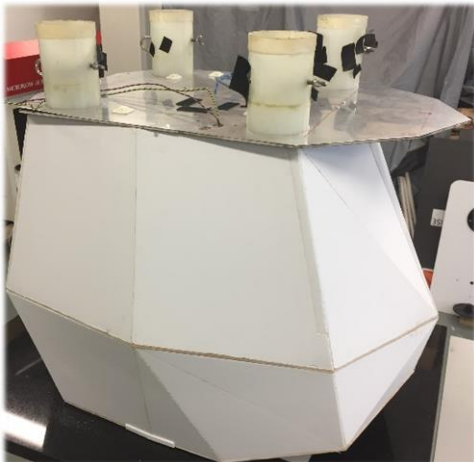


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Research Areas

- HALPIN's **Maritime Mechatronics** team is developing innovative solutions for coastal & offshore monitoring, surveillance and data collection applications.
- Our objectives are to:
 - Fill temporal, spatial and capability gaps and
 - Disruptively lower the total cost of ownership for by leveraging the mass-production, consumer grade electronics phenomenon





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Current Projects

NEW

ONBOARD; Development of technical profiles and training curriculum for the ports and logistics sector (*Erasmus+. Maritime Operations; Training & Education Innovation*)

NEW

CAMELOT; C2 Advanced Multi-domain Environment and Live Observation Technologies – maritime border surveillance and security (*Horizon 2020. Maritime Operations; Safety, Security & Defence, Maritime Mechatronics*)

NEW

ENTROPI; Enabling Technologies and Roadmaps for Offshore Platform Innovation; Commercial and operational roadmap to deliver Europe's first multi-use maritime offshore platforms (*EMFF. Maritime Operations; Supply Chain*)

NEW

SEDNA; Safer Arctic Operations (*Horizon 2020. Maritime Operations; Safety, Security & Defence. Maritime Mechatronics*)

- **AEOLUS^{M3}**; Mid-altitude airborne maritime monitoring and surveillance platform (*EI Commercialisation Fund. Maritime Mechatronics. Maritime Operations; Safety, Security & Defence*)





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Current Projects

- **VETPORT**; Port Professional Training Standardisation (*Erasmus+. Maritime Operations; Training & Education Innovation, Maritime Operations; Supply Chain*)
- **SYNCHRO-NET**; Synchromodal logistics and Smart Steaming for a more efficient global Supply Chain (*Horizon 2020. Maritime Operations; Supply Chain*)
- **SEASEARCH**; Mobile phone and 2.4GHz wi-fi signal detection out to sea for SAR and security purposes (*ESA. Maritime Operations; Safety, Security & Defence, Maritime Mechatronics*)
- **EUCISE-2020**; a Security Research project of the European Seventh Framework Program that aims at achieving the pre-operational Information Sharing between the maritime authorities of the European States (*FP7. Maritime Operations; Safety, Security & Defence*)
- **LEANWIND**; Logistics of building, operating and decommissioning large scale offshore wind farms (*FP7. Maritime Operations; Supply Chain, Maritime Operations; Safety, Security & Defence*)



Synchro-NET

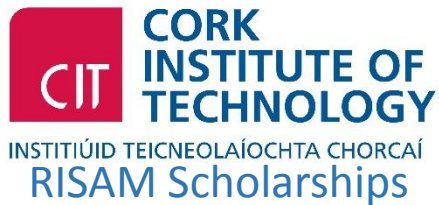


EUCISE 2020





Current Funding Sources





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or

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