

Galway Bay Smart Bay Cable

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**International Research
Ship Operators**



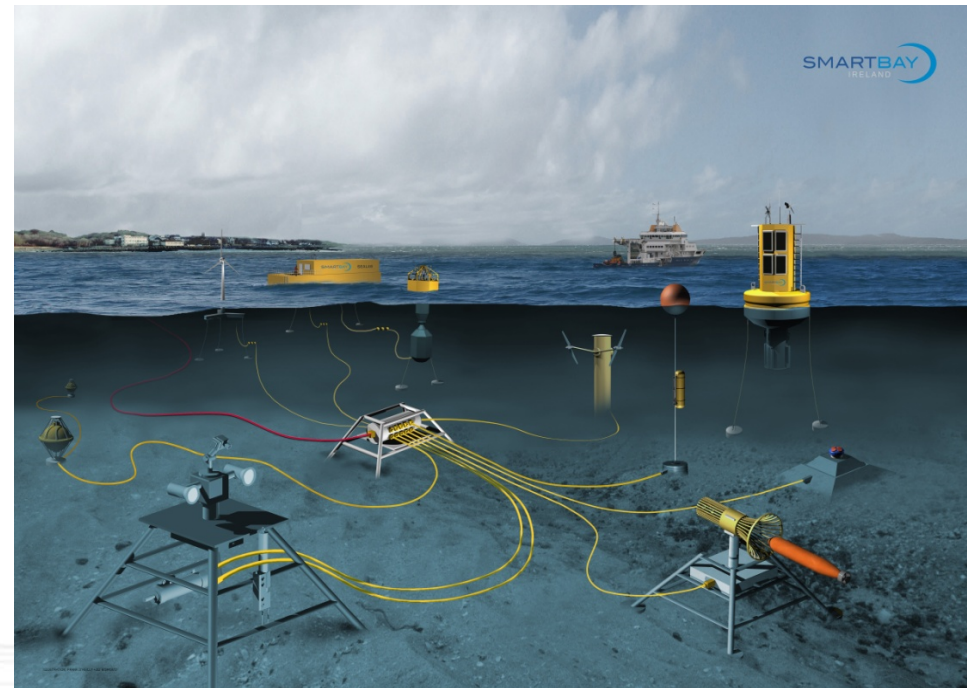


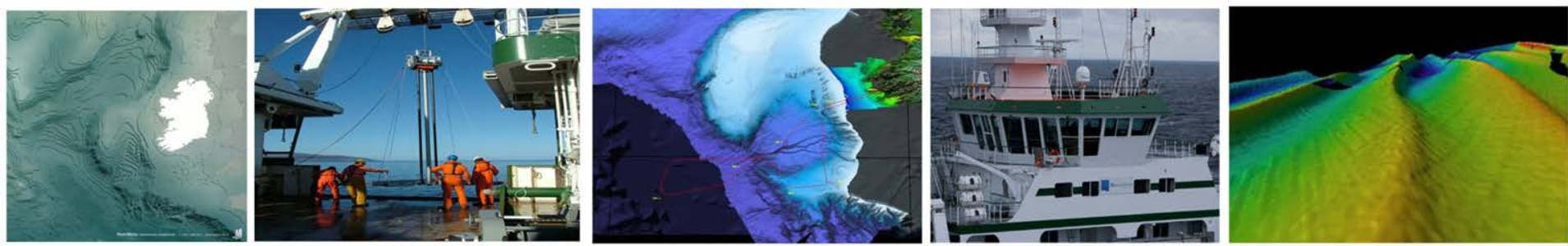
SmartBay description

- The Ocean Energy Test Bed is deployed at the existing 1/4-scale ocean energy test site and consists of:
 - A standard telecommunications cable from a shore station to the wave energy test site providing power and data connectivity
 - Subsea test and monitoring platforms

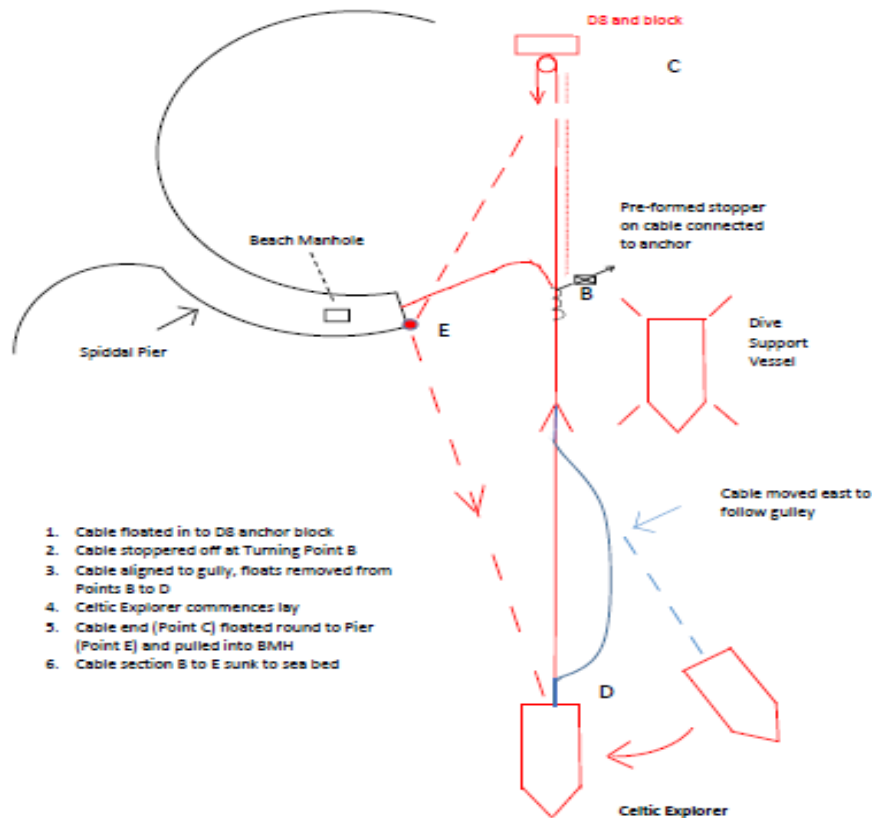
MI Scope of Work

1. To procure and install main system components
2. To apply for all relevant permissions (foreshore, planning, road opening licence)
3. To procure and commission all onshore infrastructure (ductwork and shore station)
4. To ensure integration of the entire system
5. To handover the test bed to SmartBay for operation





Deployment



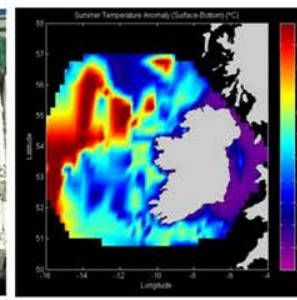
- Scheduled for 12th-20th April 2015 on board the R.V. *Celtic Explorer*
- Advised by Mallin Consultants
- beach machinery sited in line with vessel position on foreshore inside of pier head.
- Cable to be floated ashore with A23 type net floats
- Cable haulage via work boat tow from vessel at 10 metre contour



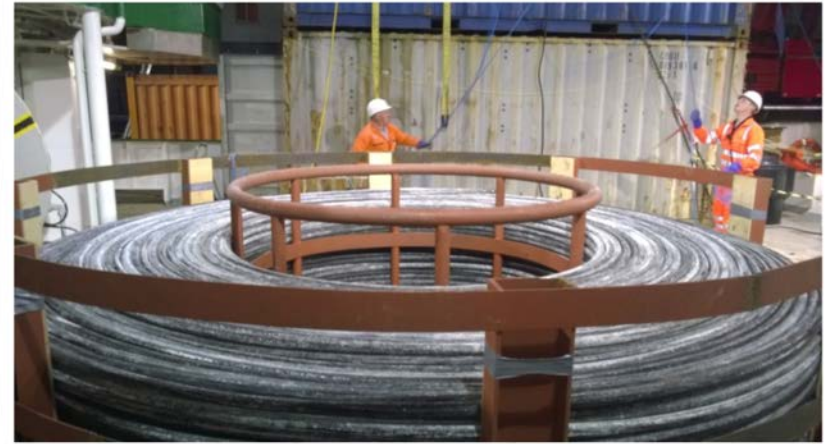
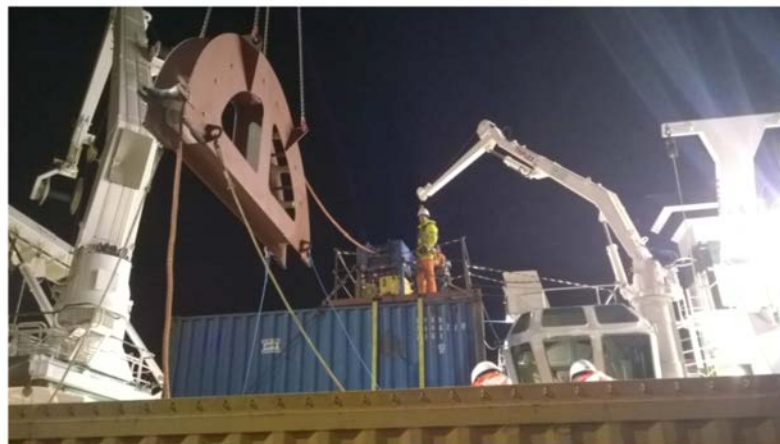
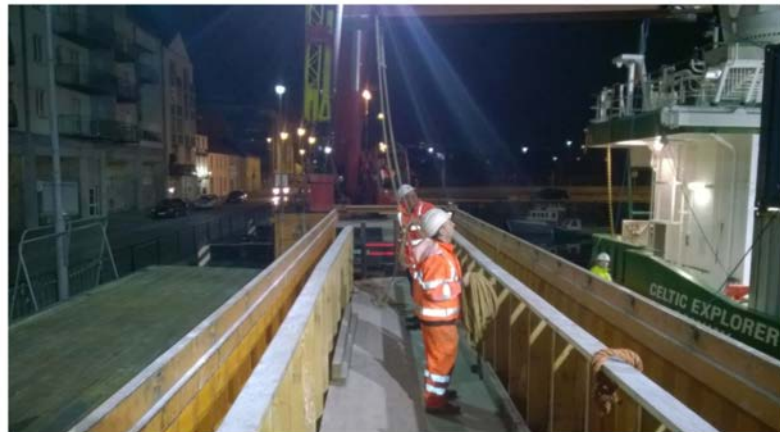
Mobilisation

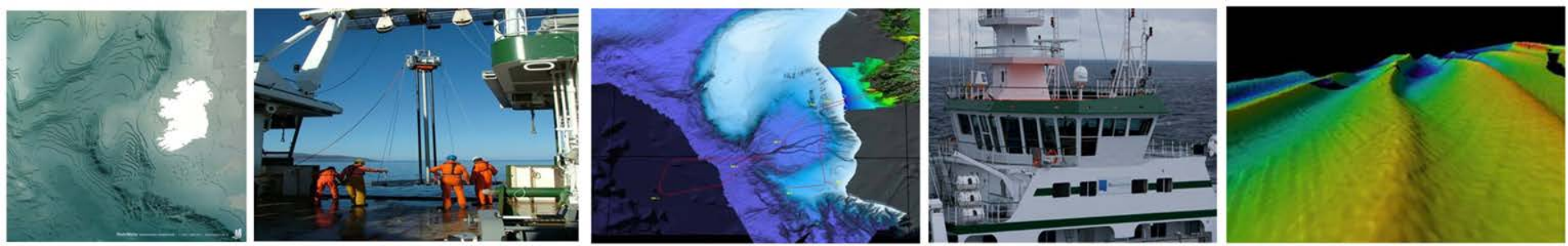
- Immediately after Blue Whiting survey the vessel had to be converted in a cable Lay vessel. Workshop manufactured a lot of the components
- Required the construction of a cable tank to take 4.35km of 37mm cable (20Tonnes)
- Installation of Cable engine, cable chute and powerpack
- Loading of cable took about 7 hours





Mobilisation/Cable Load





Installation

- Vessel could only get to c.10 metre contour
- 450 metres of cable to be floated in to pier (towed by workboat)
- Once cable in place floats to be cut off (divers)
- Anchors used to secure cable at bends
- Once secure vessel laid out cable at 3-400m per hour
- Once at test site cable end equipment laid on seabed
- Entire operation complete in 18 hours
- Cable tested using OTDR during lay





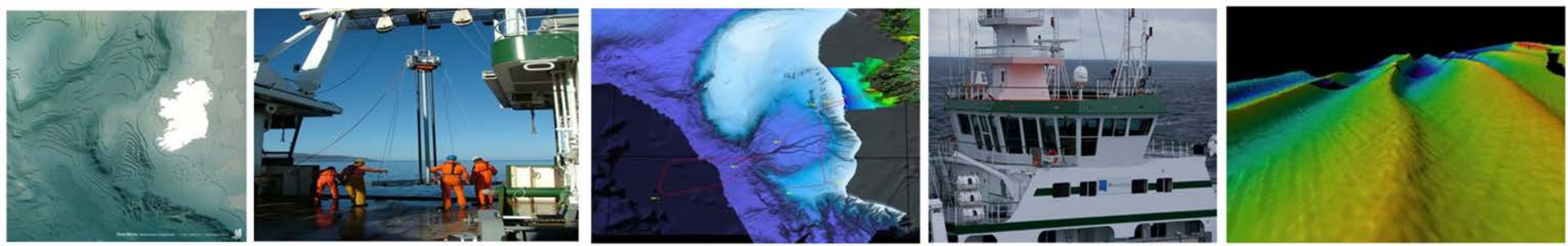
CELTIC EXPLORER
GALWAY



CELTIC EXPLORER







Media/PR

- Use of a drone for the first time off the Celtic Explorer (Octocopter)
- Flew off the foredeck
- Very successful but not good in wind!
- Very good coverage on 6 -1 news, Tg4, morning Ireland etc



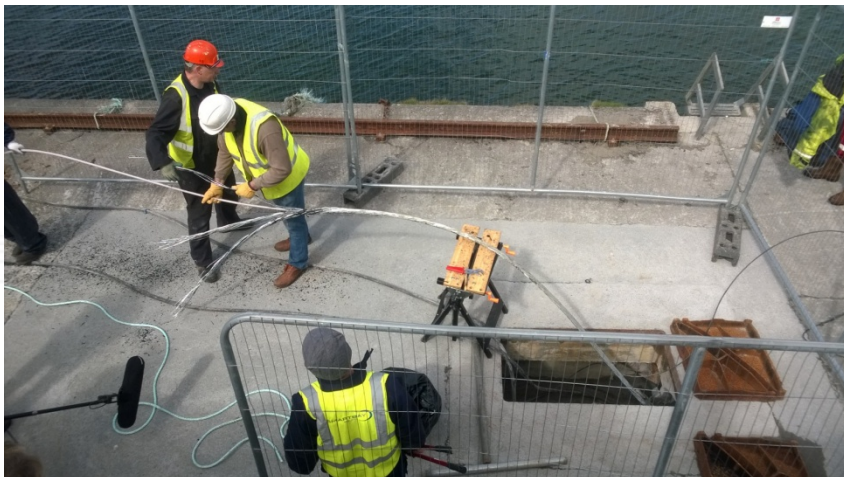
RTE 1 Six One News - 17th April 2015.mp3





Shore side works and cable burial

- First 450 metre of cable protected using cast Iron Protector shells
- Rest of cable buried using cable burial system
- Cable terminated to shore cable in manhole





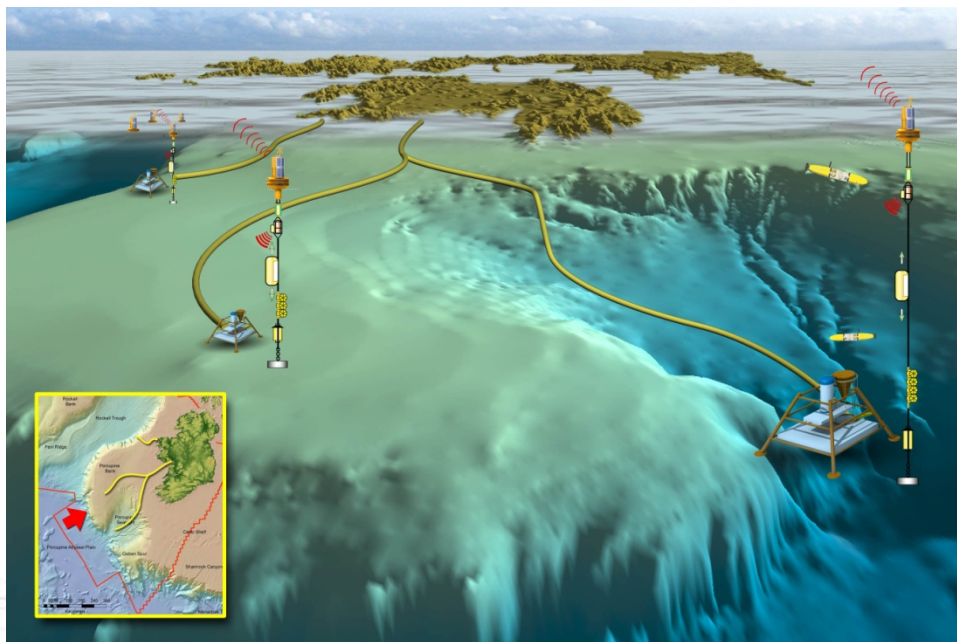
Policy Context

- This project is very important to the MI from a strategic perspective
- Involvement in a much wider context of European ocean observation projects
- Policy drivers include renewable energy, digital and innovation agendas but also 'Galway Statement on Atlantic Ocean Cooperation'
- The MI has been successful in a number of new funding rounds which are relevant to the test bed – Jerico NEXT, AOCRA, AtlantOS

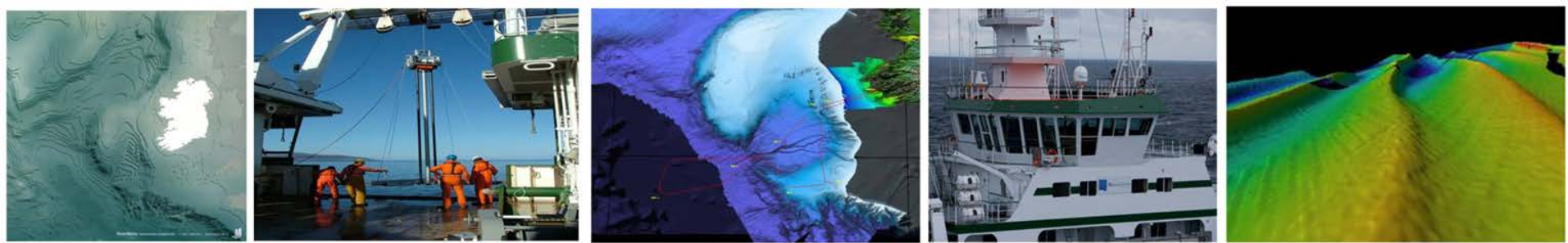




Medium to Long Term Vision



- Aim is to develop the SmartBay system so that is scalable
- Through a variety of opportunities we may deploy a number of observation systems and nodes across the Irish continental margin



Unique Aspects of this Project



- Hugely complex project – the ideal scenario to minimise risk would have been to tender for a turn key solution
- Implications for the budget would have been significant
- Procurement was difficult and complex when key tenders advanced to negotiation procedures
- Installation completed in 18 hours!



Thank You

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