

SmartBay Galway is a Test and Demonstration Platform for the development of Innovative products and services for the global maritime sector.

- **Ocean Energy**
- **Environmental Monitoring**
- **Aquaculture**
- **Shipping**
- **Security and Logistics**

SmartBay is facilitating the development of innovative approaches to distributed sensing, communication and data management/visualisation technologies through deployment in a real world environment.

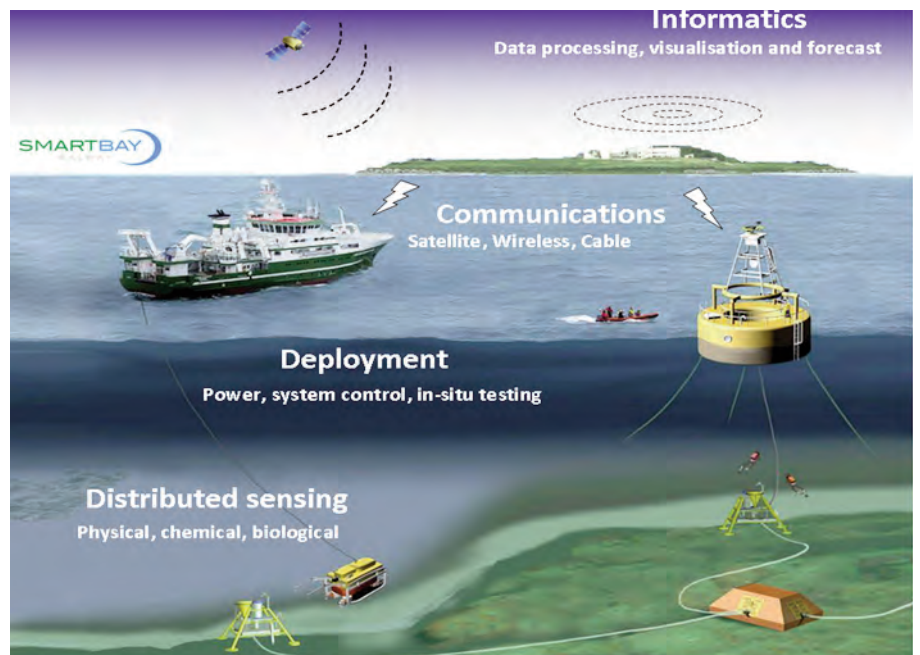
The infrastructure can be accessed by industrial and academic research groups for test and demonstration purposes.

The SmartBay pilot infrastructure was established by the Irish Marine Institute and the Environmental Protection Agency in 2007. The facility is deployed in Galway Bay on the West Coast of Ireland.



SmartBay comprises a suite of commercially available technology platforms including a network of buoys, sensor hardware and communication systems against which new technologies can be validated.

The pilot infrastructure and associated data is managed and maintained by the Irish Marine Institute. SmartBay operates a non-exclusive open access data policy. However an exclusive restricted access option can also be made available for specific development projects.



Environmental Monitoring



Real-time monitoring of water quality and environmental conditions is a key element of the SmartBay testbed capability. SmartBay monitors a broad range of water quality parameters. The data is collected and transmitted at a high frequency enabling real time monitoring of changing conditions.

Ocean Energy



SmartBay is co-located with the National Test Site for quarter scale wave energy converters operated by the Marine Institute and Sustainable Energy Ireland. Ocean Energy Developers can utilise the SmartBay infrastructure to validate data and communication systems for device deployment.

Key Features of SmartBay Platform

- High performance / Low power data acquisition and transmission system
- Large Power Capacity for multiple sensors, interchangeable components allowing easy integration of test sensors
- Single, bridle, or multipoint moorings through the hull compartment
- Robust construction - High stability in operation
- Standard Wiring looms interoperable instrumentation
- Spare capacity (power, RS232) for additional instruments via a generic connector
- Variety of Communications Protocols GPRS/Satellite/VHF/Wimax/GSM

A significant enhancement to SmartBay Galway is planned with the addition of a sub-sea floor cabled extension of 20km in length to support two undersea research nodes with 400V power and high speed communications via 10 pairs of optical fibres.

The research nodes will host a complement of sensors including flood lit high definition cameras and complex acoustic arrays as well as docking ports for autonomous underwater vehicles (AUVs). An additional 4 wireless instrumented SmartBay sensor Platforms with high speed communications is also proposed.

