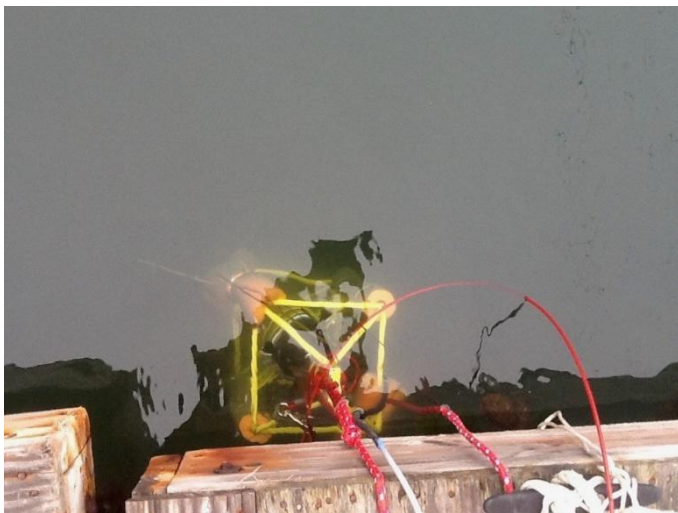




Caption: MRECo, partner, Bradshaw Lupton of **piRshared** designing IOT, internet of things connectivity for the FSI Doppler Current device at the recent remotely operated underwater vehicle design competition at the Sandwich Stem Academy.



Caption: FSI has provided use of one of their ACM Current meters to measure current direction and velocity at the demonstration site located at Eastwinds Lobster and Grill in Buzzards Bay to simulate data transmission and display.



**Caption: FSI's ACM being deployed from Eastwinds Lobster and Grill dock in Buzzards Bay, MA. Buckets contain computers and wifi devices for data transmission.**

### **For Immediate Release**

**Information Contact:** Maggie Merrill Communications and Marketing Director, Marine Renewable Energy Collaborative (mobile/text: 617-306-2764; [comms@mreconewengland.org](mailto:comms@mreconewengland.org))

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### **Data Transmission Tests Underway in Advance of Tidal Power Test Site**

(Bourne, MA) Engineers associated with the Bourne Tidal Test Site (BTTS) have been field testing a simulation of the data acquisition system that will be installed on the actual tidal turbine test structure. BTTS is going through its last paces for permitting and once the US Army Corps of Engineers, USACE, signs off, the actual test structure will be installed.

To enable tidal device designers and developers to understand how their turbine is performing in the Cape Cod Canal, they will need to know what the current velocity is during all tide cycles. In order to do that, a team of talented engineers, inventors and scientists are collaborating to see firsthand how fast the water is moving in the Cape Cod Canal and how much power one might be able to harness once a turbine is installed.

There have been several small scale demonstrations done in waters near Buzzards Bay, using a series of small parts and home spun resources to show how data from the FSI ACM Current Meter can be collected , processed and transmitted via sophisticated telemetry to computers anywhere in the world.

The real time current data was captured by an ACM-PLUS-200 acoustic current meter from Falmouth Scientific Inc.(Cataumet, MA) FSI VP of Sales & Marketing, Carl Mancuso stated, "we are happy to work on this important application for our technology. Ocean energy operations worldwide require precise and reliable current speed and direction readings. We welcome the opportunity to contribute to the establishment of the BTTS".

FSI's ACM-Plus-200 is measuring current in meters per second. That data is then being processed using software provided by piRshared (Wareham, MA). That "scrubbed" data will eventually be transmitted

through a powerful computer that will be installed on top of the tidal test structure. The data will then be transmitted via Wifi and/or cellular service to the website for display ([www.mreconewengland.org](http://www.mreconewengland.org))

The data output is being hosted at a web site which was created by Bradshaw Lupton of piRshared, a Wareham system integrator and engineering genius. piRshared is supplying system design, integration, many small and big parts and a demonstration site located close to the canal.

A key element of the BTTS project is to inspire students of all stripes to get involved. To that end we have been reaching out to STEM organizations throughout the US and within MA and the region.

“Thanks a key volunteer, Bradshaw Lupton of piRshared we were able to put the FSI ACM in the pool during the recent MATE ROV Competition at the Sandwich STEM Academy pool to show the students, teachers and parents how to capture, transmit and display real time water velocity data using off the shelf equipment and ingenuity. We continue to demonstrate the ins and outs of the data transmission system that when fully operational aboard the BTTS structure will enable students from around the world to access the data and make predictions of power output for their various engineering projects, said John Miller, Executive Director, MRECo.

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**Marine Renewable Energy Collaborative (MRECo)** is a nonprofit corporation that educates and involves all stakeholders (Academic, industry, governmental/regulatory, and public interest groups) to promote the sustainable development of renewable energy in New England ocean waters. To do this, MRECo must establish. MRECo envisions a future where New England obtains a significant, amount of its power (5% or more) from reliable and predictable ocean based renewable energy technologies. To do so, MRECo supports the infrastructure for testing that allows the cost effective, rapid commercialization of new sustainable technologies being developed by the rich entrepreneurial environment of the region. [www.mreconewengland.org](http://www.mreconewengland.org)

**Seaport Economic Council** is funding the development of the Bourne Tidal Test Site (BTTS) as part of Baker-Polito administration's commitment to promote prosperity in seaport communities of all sizes as well as to cultivate job and economic growth in the maritime economic sector. The Seaport Economic Council, chaired by the Lieutenant Governor of the Commonwealth and administered by the Executive Office of Housing and Economic Development with support from the Office of Energy and Environmental Affairs, challenges the 78 coastal communities of Massachusetts to leverage their unique geographic advantages in order to grow jobs and the economy as well as prepare for the future as we confront the challenges posed by sea level rise and increasingly powerful coastal storms.

**Falmouth Scientific Inc. (FSI)** designs, manufactures and services sophisticated instruments and systems for ocean and fresh water environments. They offer standard and customized sensors and systems for current, wave and tide measurement, as well as sonar scanning systems and acoustic transducers. Customers and applications include offshore oil operations, research programs, marine transportation, environmental monitoring and more. Their 30 plus years in the industry and their close proximity to the Cape Cod Canal (Cataumet, MA) make them a perfect partner. [www.falmouth.com](http://www.falmouth.com)

**Impact LABS** (New Bedford, MA) and its sponsors and partners, including Analog Devices, Dell, Intel, PTC and V5 Systems, share a mission to support businesses that are pursuing resilience: profitable, sustainable operations. This mission includes a particular focus on intersections between natural resource management and green infrastructure. Marine kinetic energy is a perfect market for us to support in this sense. We are thrilled to partner with MREC at the Bourne Tidal Test Site to help advance profitable, sustainable businesses in marine renewables." -- Chris Rezendes, Founder, Impact LABS.  
[www.impactlabs.com](http://www.impactlabs.com)

**piRshared Labs (Buzzards Bay, MA)** is an integration, communications, software, hardware, mechanical engineering firm founded by three former roommates at Worcester Polytechnic Institute in 1968. Their work spans and connects all current platforms from the Internet of Things on esp8266, arduino, raspberry pi, android, IOS, through to IBM BlueMIX and Watson products. The Bourne Tidal Test Site demonstration project involves the firm's marine sensor, mechanical engineering and communications experts in placing instrumentation in inland waterways and transmitting the data through the cloud via MQTT for STEM students and others to view. piRshared will offer IoT classes at Sandwich High School in September. Many thanks to contributors: Jeff Coleman, Scott Haigh, Raymond Coleman and Bradshaw Lupton.