

WBS: 2.4.1.701

Marine and Hydrokinetics Program

Thursday 10/10/2019 at 11:15am

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Project Overview

Project Summary

The Portal and Repository for Information on Marine Renewable Energy (PRIMRE) provides centralized access, standardization, community building, and integration of WPTO-funded marine energy data repositories and knowledge bases. By bringing key databases together knowledge will be increased by reducing redundancy and improving search and analysis efficiencies.

Project Objective & Impact

PRIMRE seeks to overcome data and information barriers to technology, research, design, and testing in support of the Marine Renewable Energy (MRE) stakeholders by:

- Supporting the development, integration, and maintenance of the “PRIMRE Knowledge Hubs” and including the MHK Data Repository, *Tethys*, and *Tethys Engineering*.
- Meet the needs for accessibility of technical documents by developing *Tethys Engineering*.
- Improving the connectivity and discoverability of information in Knowledge Hubs, and creating linkages to new sources of information to support the MRE industry.

Project Information

Project Principal Investigator(s)

Kelley Ruehl, Sandia
Andrea Copping, PNNL
Rick Driscoll, NREL

WPTO Lead

Allison Johnson

Project Partners/Subs

- Sandia National Laboratories
- Pacific Northwest National Laboratory
- National Renewable Energy Laboratory

Project Duration

- Begin: FY17
- End: FY21

Marine and Hydrokinetics (MHK) Program Strategic Approaches

Data Sharing and Analysis

Foundational
and
Crosscutting
R&D

Technology-
Specific
Design and
Validation

Reducing
Barriers to
Testing

Data Sharing and Analysis

- Provide original research to assess and communicate potential MHK market opportunities, including those relevant for other maritime markets
- Aggregate and analyze data on MHK performance and technology advances, and maintain information sharing platforms to enable dissemination
- Support the early incorporation of manufacturing considerations/information into design processes
- Leverage expertise, technology, data, methods, and lessons from the international MHK community and other offshore scientific and industrial sectors

PRIMRE contributes to WPTO's priority to facilitate Data Sharing and Analysis by providing broad access for all stakeholders to information on marine energy engineering, resource characterization, and environmental science.

This project ensures that stakeholders, regardless of their financial status or experience, have equal access to federally funded research and analysis that can be used to advance marine energy technologies.

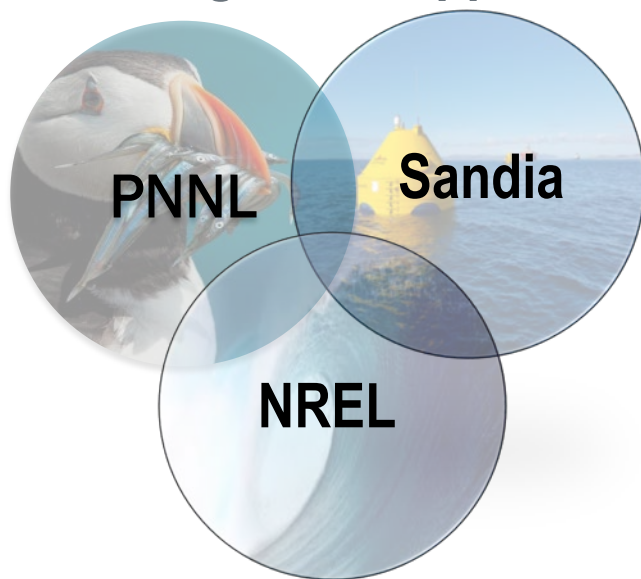
Project Budget

	FY17	FY18	FY19 (Q1 & Q2 Only)	Total Project Budget (FY17–FY19 Q1 & Q2)	
Lab	Costed	Costed	Costed	Total Costed	Total Authorized
Sandia	\$73K	\$151K	\$96K	\$320K	\$621K
PNNL	\$94K	\$155K	\$164K	\$412K	\$637K
NREL	\$58K	\$193K	\$72K	\$323K	\$596K
TOTAL	\$225K	\$499K	\$332K	\$1,055K	\$1,854K



Management and Technical Approach

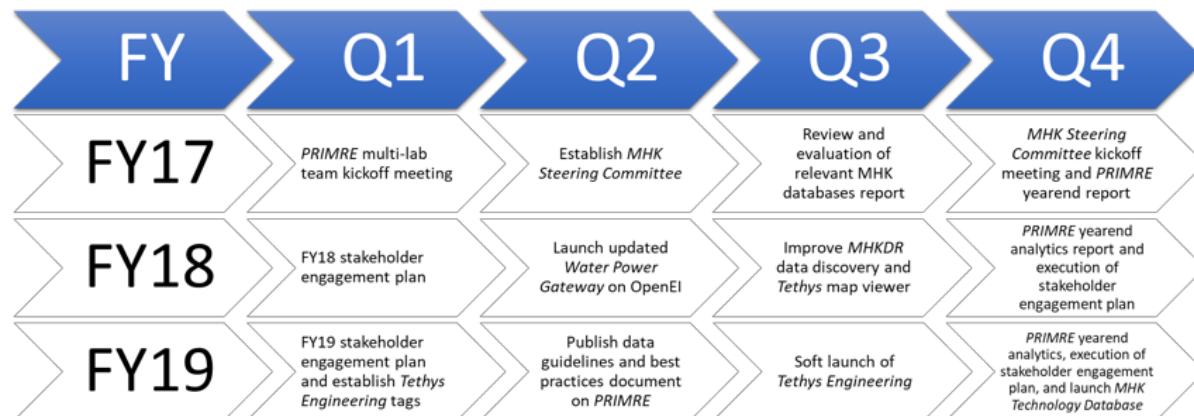
Management Approach



Technical Approach

- Assess MRE community needs
- Inventory WPTO databases
- Develop integrated interoperable system
- Stand up new knowledge hub (TE)
- Test, assess, take advice from SC, community

Milestones



Critical Success Factors

- Close coordination among 3 labs
- Ongoing involvement of Steering Committee
- Strong data and systems administration skills
- Active outreach and engagement program

Challenges

- Ensuring we understand needs of MRE community
- Creating user friendly interoperability among KHs

End-User Engagement and Dissemination Strategy



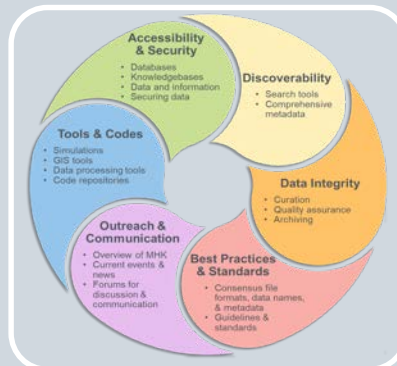
User Needs

- Through surveys, in person meetings at conferences, workshops
- Designed PRIMRE to meet those needs



Steering Committee

- Reps from industry, academia, test centers, regulators
- Quarterly meetings to provide feedback and guidance



Outreach Activities

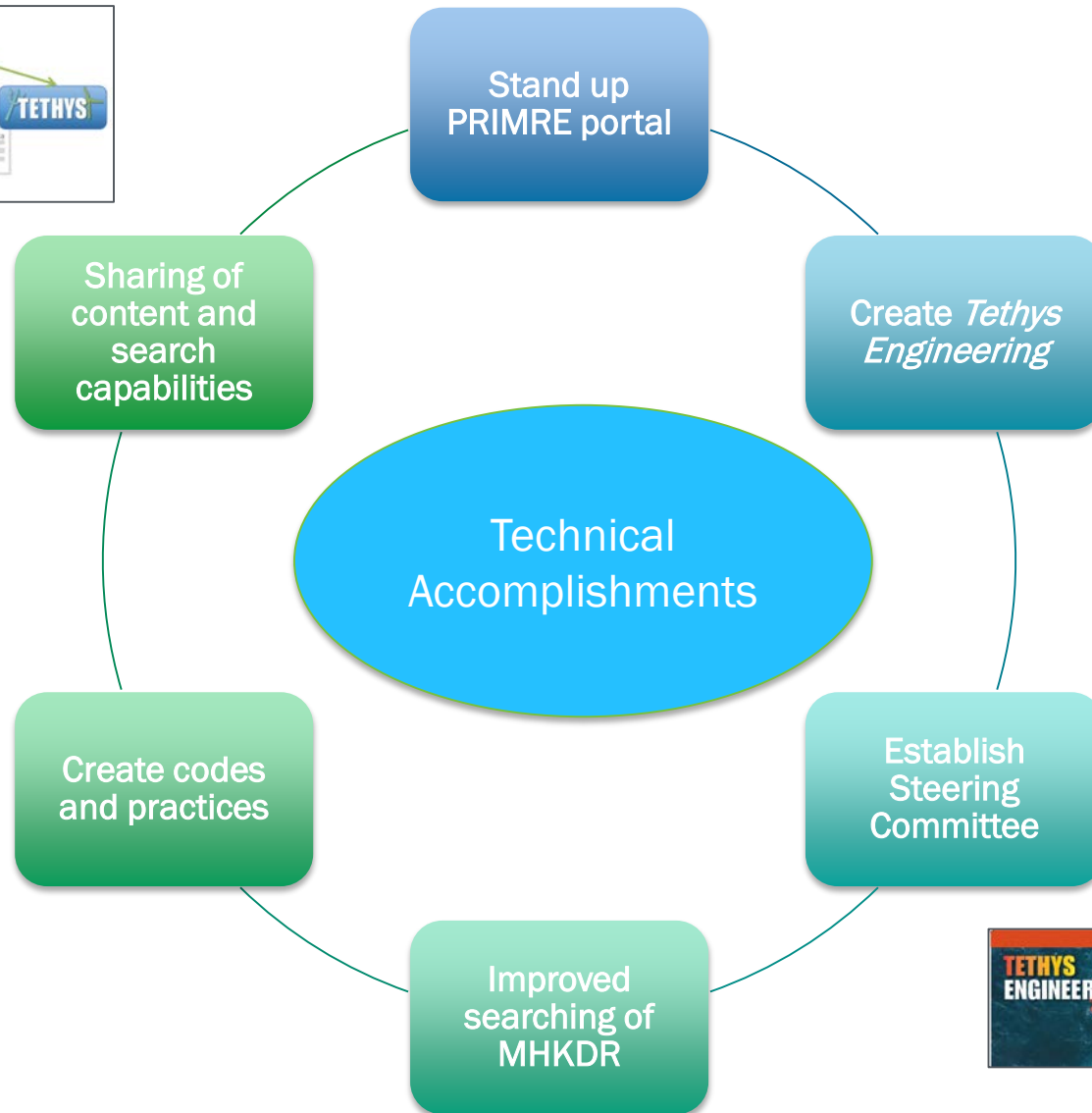
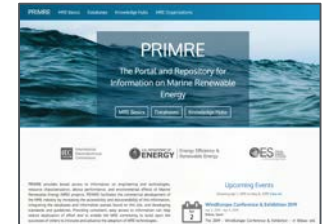
- Acquaint MRE community with PRIMRE
- Presentations, workshops, papers, webinars



Reaching Further

- Future linkages to other ocean data portals
- Proposing linkage to international data through OES

Technical Accomplishments



Technical Accomplishments

	FY17	FY18	FY19 (Q1&Q2)
Webinars	<ul style="list-style-type: none"> • Apr 18 – MEC 	<ul style="list-style-type: none"> • Feb 27 – Data & Information Sharing • Oct 3 – Data Needs & PRIMRE 	<ul style="list-style-type: none"> • Mar 18 - MEC • Aug 7 – Intro to <i>Tethys Engineering</i>
Papers, Presentations, & Workshops	<ul style="list-style-type: none"> • Apr 4 – IEA OES Meeting • May 5 – METS Workshop • Aug 29 – EWTEC Workshop 	<ul style="list-style-type: none"> • May 1 - METS extended abstract • May 2 – METS Workshop • Sep 13 – AWTEC paper 	<ul style="list-style-type: none"> • May 9 – OTC paper • Sept 2 – EWTEC Workshop • Sep 6 – EWTEC paper • Sept 12 – OREC Workshop
Steering Committee	None	4 meetings	2 meetings
Papers added to <i>Tethys</i>	363 papers	423 papers	1008 papers*
Papers added to <i>Tethys Engineering</i>	N/A	N/A	3043 papers*
Data added to <i>MHKDR</i>	883 files, 284 GB	137 files, 20 GB	95 files, 64 GB*

* Stats through August 26

Launch of *Tethys Engineering*



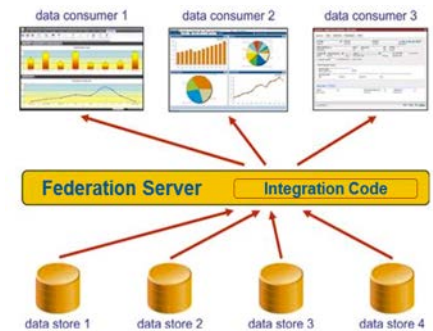
- Soft launch July 2019
- Now holds over 3000 documents

Guidelines and Best Practices



- Draft document developed
- Vetting process undertaken

Data Federation



Increased availability of data from MHKDR and *Tethys*

