*MINI TECHSURGE REPORT*

# ADVANCING COLLABORATION AND INSPIRING INNOVATION FOR OFFSHORE WIND MONITORING AND MITIGATION

July 18, 2024 | STONY BROOK, NEW YORK

RWSC
Regional Wildlife Science Collaborative for Offshore Wind

MTS
marine technology society
Opportunity runs deep™

*This event was held at 2024 State of the Science on Offshore Wind Energy, Wildlife, and Fisheries Workshop hosted by the New York State Energy Research and Development Authority (NYSERDA) at Stony Brook University.*

# ABOUT

On July 18, 2024, the Marine Technology Society (MTS) Offshore Renewable Energy Committee in partnership with the Regional Wildlife Science Collaborative for Offshore Wind (RWSC) Technology Subcommittee hosted a Mini TechSurge and Tech Café: Advancing Collaboration and Inspiring Innovation for Offshore Wind Monitoring and Mitigation. The Mini TechSurge and the Tech Café were part of the 2024 State of the Science on Offshore Wind Energy, Wildlife, and Fisheries Workshop hosted by the New York State Energy Research and Development Authority (NYSERDA), at Stony Brook University.

These events brought together industry experts, research scientists, government representatives, and technology providers to identify discrete and fundable topics that address current roadblocks to deploying and collecting information from sensors integrated into offshore wind infrastructure.

The Mini TechSurge was a half-day in-person workshop that hosted two sessions:

- **Panel Session | Innovative Approaches to Leverage Offshore Infrastructure for Environmental and Wildlife Monitoring: Insights from Above and Below Water:** The goal of the panel was to inspire participants by showcasing innovative monitoring approaches that have been successfully applied in other industries or offshore wind projects in other countries, providing potential monitoring solutions for offshore wind development in the U.S.

- **Breakout Sessions:** Participants engaged in discussions to pinpoint specific bottlenecks, assess the adequacy of data collection and sensor deployment, and explore technological and partnership solutions for enhancing the workflow.

After the Mini TechSurge, a Tech Café was hosted where industry leaders and innovators presented desktop demonstrations of the latest tools and technologies.

This report highlights the important conversations, priorities areas of effort and partnership, and next steps identified by participants. For a full summary of these events, view Appendix B.

MTS marine technology society
Opportunity runs deep™

RWSC
Regional Wildlife Science Collaborative for Offshore Wind

# GOALS

**Facilitate conversations** among stakeholders in the offshore wind energy sector, particularly tech service providers, developers, and wildlife biologists / environmental scientists.

**Discuss technologies, tools, and methodologies** and how the combination of these can improve monitoring and mitigation of marine species.

**Produce valuable insights and recommendations** on technology applications to be incorporated into an annual effort.

# AREAS NEEDING FUNDING

**Through breakout session discussions, participants identified applications of technologies that could need more funding to address the unique and urgent needs of offshore wind environmental monitoring. These fundable topics include:**

## TECHNOLOGY DEPLOYMENT

- The integration of environmental monitoring equipment during the design phase of an offshore wind project (i.e., before financing bid).
- Develop a standardized interface for sensor integration with offshore facilities.
- Conduct basic and applied research on Distributed Acoustic Systems (DAS) and their application to environmental/biological monitoring.
- Develop an all-inclusive multi-sensor fixed platform system or network that can be installed/deployed in wind farms.
- Continue to advance the evaluation of technology performance against a collaboratively developed set of metrics.
- Conduct basic and applied research on Distributed Acoustic Systems (DAS) and their application to environmental/biological monitoring.
- Develop solutions for consistent, renewable, and sufficient power supply to monitoring systems deployed offshore.

## DATA TRANSMISSION

- Advance secure data transmission technologies to transfer large quantities of data to shore-based data centers for storage and processing.
- Explore the use of platforms to serve as data couriers from offshore to shore-based data centers.
- Develop automated methods to upload local data to digital repositories for long-term archiving and access.

## DATA STORAGE & MANAGEMENT

- Develop new and enhance existing digital data repositories to ensure long-term archiving, discoverability, and access.
- Solve clock-syncing issues among multiple data streams collected simultaneously to facilitate integration across platforms and sensors.
- Develop consistent data standards for new and emerging technologies where none exist.
- Develop automation tools to automatically organize, parse, and store large quantities of data in data centers.
- Development of AI Artificial Intelligence and Machine Learning data strategies and methods as processing tools for each type ofemerging big data collection (e.g., acoustic, oceanographic, radar, imagery).

# NEXT STEPS

The RWSC Technology Subcommittee and the MTS Offshore Renewable Energy Committee have joined forces to form the "RWSC-MTS Joint Technology Committee." This committee is dedicated to addressing the gaps and ideas that emerged from Mini TechSurge and in the evaluation.

The RWSC-MTS Joint Technology Committee has committed to the following next steps:

- Facilitate discussions through virtual and in-person convenings, covering topics such as data management, data sharing, and case studies from related industry initiatives.
- Continue collaboration with a diverse range of organizations, industries, and individuals across various disciplines.
- Develop and outline a roadmap with clear timelines and milestones for future initiatives.

# TECH CAFÉ

After the Mini TechSurge, MTS and RWSC hosted a Tech Café where industry leaders and innovators presented desktop demonstrations of the latest tools and technologies. Below are the participants:

bedrock ocean exploration

COASTAL MONITORING ALLIANCE

ITHACA WATERFRONT

WILDLIFE AND OFFSHORE WIND WOW
A Systems Approach to Research and Risk Assessment for Offshore Wind Development

charles river analytics

JASCO APPLIED SCIENCES

RUTGERS THE STATE UNIVERSITY OF NEW JERSEY

OPT

WILDLIFE ACOUSTICS

NERACOOS NORTHEASTERN REGIONAL ASSOCIATION OF COASTAL OCEAN OBSERVING SYSTEMS

SMRU Consulting understand • assess • mitigate

OCEAN AERO

NORTEK

# APPENDICES

Appendix A: Agenda
Appendix B: Panel and Breakout Session Full Summary
Appendix C: Breakout Session Worksheet
Appendix D: Tech Café Exhibitors

RWSC

Regional Wildlife Science Collaborative
for Offshore Wind

MTS

marine technology society

Opportunity runs deep™