

# National Work Group Session

Defining Technical Duties, Knowledge, Skills & Abilities for Remote, Autonomous and Interconnected Systems Technicians



**DECEMBER 2, 2025**

## Purpose

This invitation-only Work Group brings together a select group of subject matter experts to define the technical duties, knowledge, skills, and abilities (KSAs) required for technicians **supporting remote, autonomous and interconnected shipboard systems**, navigation, propulsion, communications, HVAC, and more. As maritime autonomy advances, the workforce must evolve with it. This session is the first in a series designed to ensure technician training and certification programs are aligned with real-world industry needs.

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## Your contributions will directly inform:

- **A national technician profile**
- **A KSA map for education and training programs**
- **A case study to guide workforce development policy and investment**

## Agenda Summary

This will be a facilitated working session designed to surface and synthesize expert insights. Participants will engage in structured discussions to define the technician role in autonomous maritime operations.

- **Coffee & Introductions**
- **Welcome & Context**  
*Framing the session and its national impact*
- **Individual Reflection**  
*Capture top KSAs from each subject matter expert*
- **Group Discussion 1: Knowledge & Skills**  
*Question: What knowledge and skills are non-negotiable for success?*

### CATEGORIES FOR REFINEMENT & DISCUSSION:

- Marine systems knowledge (engine/propulsion, thrusters, HVAC, fuel, navigation, communications).
- Digital/IT knowledge (networks, PLCs, automation, cybersecurity).
- Integration/troubleshooting (electrical/electronic, cross-system).
- Maritime safety & compliance (regulations, COLREGS for autonomy, fail-safes).

- **Group Discussion 2 – Abilities & Workforce Gaps**

*Question: What abilities distinguish excellent technicians? Where are workforce gaps?*

### EXPECTED THEMES:

- Systems thinking, adaptability, decision-making under uncertainty.
- Situational awareness in hybrid crew/autonomy settings.
- Rapid troubleshooting and resilience.

- **Synthesis & Validation**  
*Draft a technician profile*
- **Next Steps**  
*Contributions to a national blueprint and future Work Groups*
- **Networking**

# National Work Group Session

This Work Group supports WaveWorks Alliance's mission to expand access to ocean economy careers by aligning education and workforce systems with industry needs.

**WaveWorks Alliance will take responsibility for distributing these outcomes** to academic institutions, training providers, and workforce development organizations across the country.

## Session Details

DATE	December 2, 2025
DURATION	3 hours
TIME	1-4 p.m. CST
LOCATION	Morial Convention Center Room #240 New Orleans, LA
PARTICIPANTS	10-12 invited experts from industry, associations, and standards bodies

## Outcomes will include:

- **Draft KSA Map for shipboard autonomy technicians**
- **Industry-validated Technician Profile**
- **Initial workforce gap analysis**
- **Material for a national case study and education blueprint**

## Help Build the Bridge Between Innovation and Career Pathways

**Your expertise is essential.** This is a unique opportunity to help shape how the maritime workforce prepares for the future of autonomy. By participating, you'll contribute to national standards that will guide training, hiring, and education across the country. **Join us in building the bridge between maritime innovation and real career opportunity.**

Contact Denielle Christensen to confirm your participation at [denielle@waveworksalliance.org](mailto:denielle@waveworksalliance.org) or (207) 749-4429.

## WaveWorks Bridge Program

This event is part of the WaveWorks Bridge Program, a national initiative **designed to close the gap between today's training programs and tomorrow's ocean economy.** Through strategic collaboration with employers, technology providers, supply chain partners, and educators, the Bridge Program ensures that workforce development keeps pace with rapidly emerging technologies across maritime, marine technology, offshore energy, and more. By aligning training with real-world needs, we're helping to build a future-ready workforce.

Each Bridge event tackles a critical topic identified by industry leaders, starting with our inaugural session in New Orleans. These convenings are just the beginning, the insights, tools, and models developed will be transformed into accessible resources for educators and trainers nationwide. WaveWorks will lead the charge in distributing these deliverables, creating a lasting impact that extends far beyond each event.

