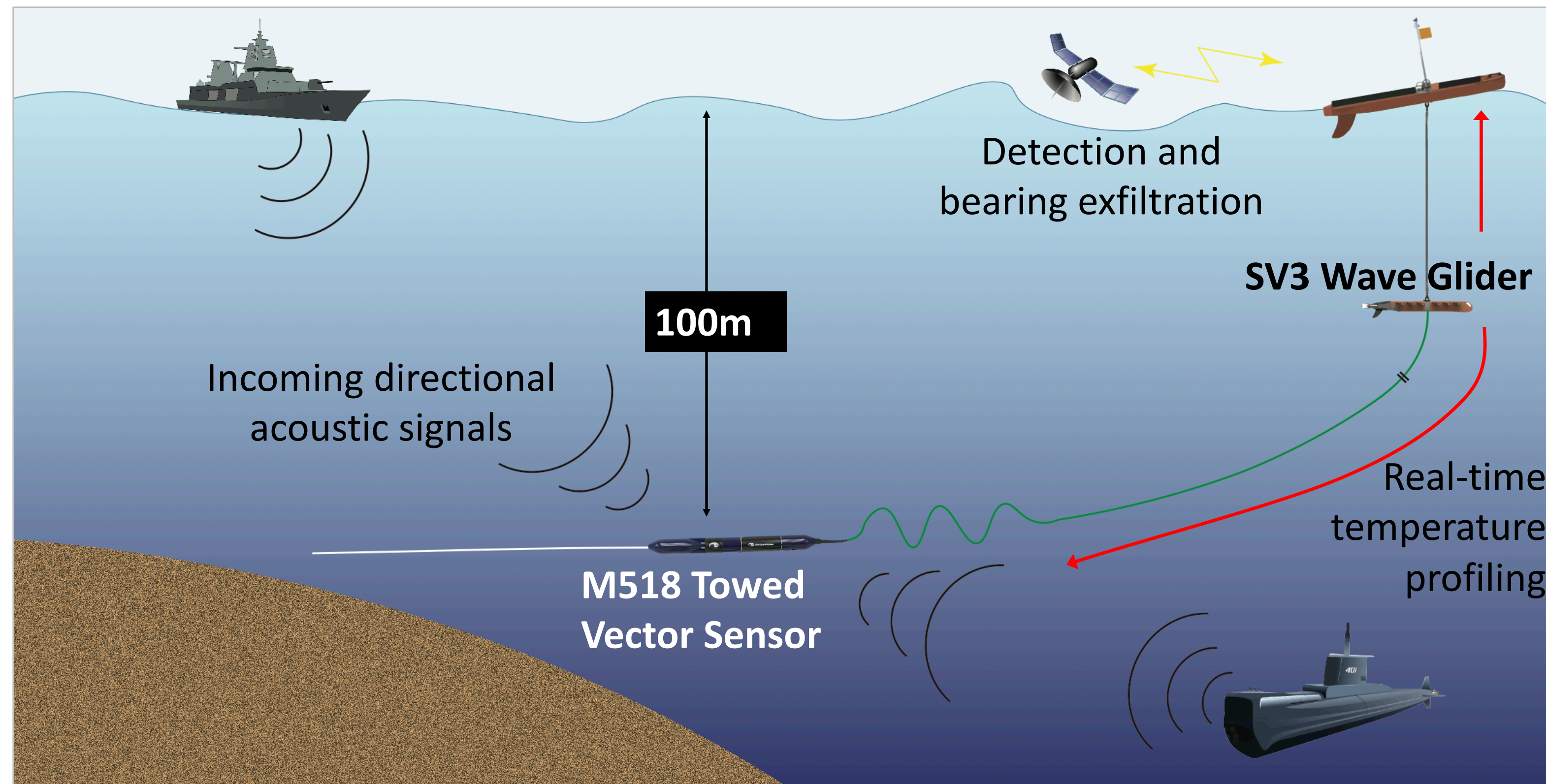


# Persistent Mobile Surveillance and Real-Time Target Motion Estimation from a Wave Glider SV3



Wave Glider towing vector sensor below mixed layer, exfiltrating target detections and bearings

- Procure Geospectrum Technologies Inc. M518 towed vector sensor system and integrate onto newly acquired Liquid Robotics SV3 Wave Glider
- Test and verify subsystem components, such as communications between Wave Glider and Towed Sensor payloads
- Test, verify tow body dynamics for proper orientation, depth and motion isolation, and modify configurations as needed
- Experiment with distributed temperature sensor integration and optical fiber routing to ensure adequate temperature profiling during deployment
- Demonstrate successful initial tracking of a surface vessel by a towed acoustic vector sensor on a SV3 Wave Glider.

- M518 towed vector sensor system integrated on and communicating with SV3 Wave Glider
- Demonstration of successful vessel tracking from a deployed SV3 Wave Glider with integrated M518 towed vector sensor system
- Test and evaluation reports of towing behavior and acoustic performance
- Demonstration of vessel tracking from ocean deployed vehicle/sensor system
- Final report detailing design of integration, performance metrics, and best operating practices

- The persistence, mobility, available communications and power provided by the SV3 combined with the passive target detection and course estimation provided by acoustic vector sensor systems, could provide unprecedented maritime sensing and fleet awareness capabilities.
- Direct applications include passive clandestine broad area acoustic surveillance, inexpensive environmental characterization in unmapped regions, ad-hoc range monitoring, marine mammal tracking, and much more.
- This effort is a novel proof of concept, and successful demonstration could expand to in-depth sponsored research as well as rapid fleet adoption.