



# PERSISTENT MULTI-DOMAIN AWARENESS WITH MINIMAL CARBON FOOTPRINT

You CAN have your cake, and eat it too





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**PRESENTERS**



# CHALLENGES

And risks of not maintaining sufficient MDA

- ▶ Challenges
  - ▶ Massive area
  - ▶ Adaptive threats
  - ▶ Incomplete information
- ▶ Economic interests
  - ▶ IUU fishing mitigation
  - ▶ Ecosystem Monitoring
  - ▶ Law enforcement and maritime safety
- ▶ Homeland protection
  - ▶ Pattern of life monitoring
  - ▶ Acoustic / RF monitoring
  - ▶ Critical infrastructure monitoring
  - ▶ Drug interdiction and counter smuggling
  - ▶ Border protection

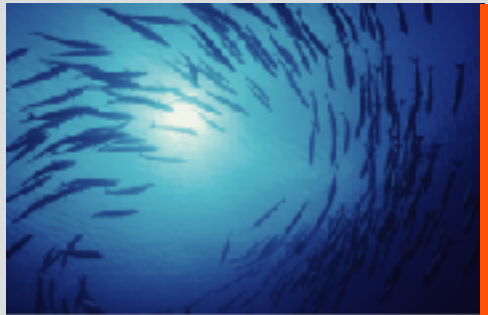


(Clockwise from top left) Whitcomber/Adobe; US Navy photo by Chief Information Systems Technician Wesley R. Dickey/Released; Canadian Forces/USNI; USNI via Military Russia blog.



## Defense & Security

Intelligence, surveillance & reconnaissance (ISR)  
Force protection • Law enforcement • Maritime safety • Ecosystem monitoring



## Ocean Research

Collecting essential ocean and climate variables.  
Fisheries • Metocean data collection • Ecosystem monitoring • Satellite calibration/validation



## Ocean Mapping

Bathymetric data collection and sub-bottom profiling for navigation and charting, telecommunications, offshore energy, and physical oceanography to 36,000 feet (11,000 m) depth



# A GLOBAL FLEET OF OCEAN DRONES

Wind and solar-powered, monitoring the planet in NRT, above and below the surface



# USVs & DEFENSE

Putting eyes and ears on the water

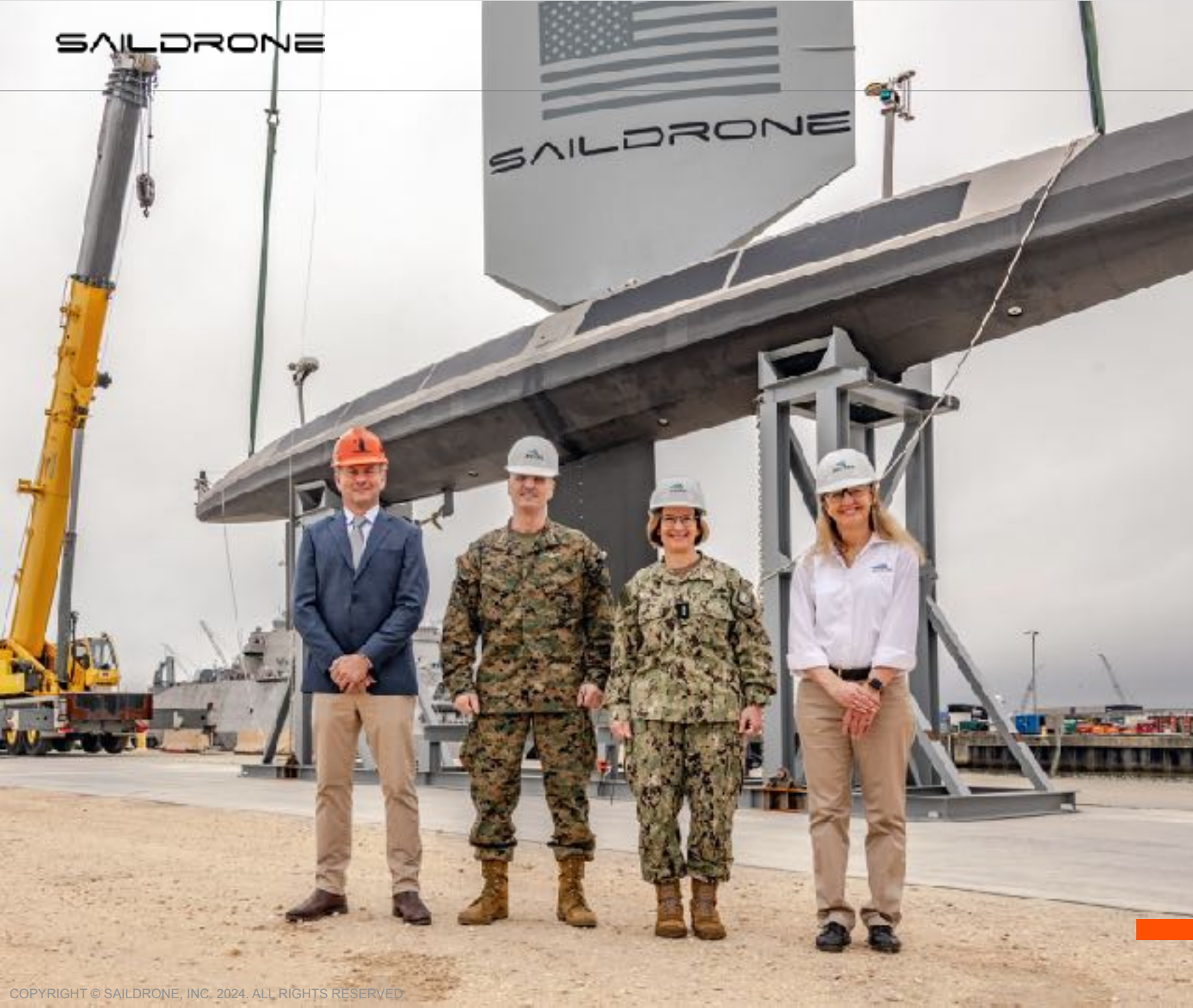
What if a USV could remain on station for months at a time, providing near-real-time eyes and ears across your AOR?

- ▶ USVs enable more effective employment of low-density / high-demand crewed platforms
- ▶ Conduct the dull, dirty, and dangerous missions performed today by other ships



# SURVEYOR SCALE

That's me!



# SURVEYOR SCALE

CNO inspects SD-3000  
ahead of launch



Satellite comms providing near-real-time comprehensive situational awareness for operations centers

Radar, camera

Persistent surveillance at sea:  
Users alerted in NRT with access to historical feed of activity

Satellite AIS, mesh, secure comms

Acoustic modem for underwater comms

Passive acoustic array

Underwater object detection

# SURVEYOR

MDA capabilities





# Task Force 59

Multi-national group doing first-of-its-kind  
manned / unmanned teaming



ARABIAN GULF

US Navy photo by Mass Communication Specialist 2nd Class Jeremy R. Boan.  
The appearance of US Department of Defense (DoD) visual information does not imply or constitute DoD endorsement.

Explorers & Voyagers

Days at Sea: 1,000+ and counting

Operation Area: Arabian Sea, Red Sea

GUARD VESSEL  
ROLES



# US Navy, 4<sup>th</sup> Fleet

Demanding, but benign environment to exercise and test the hybrid fleet

Voyagers (2024) & Surveyors (2025)  
Days at Sea: 1,000+ and counting  
Operation Area: Caribbean Sea



KEY WEST

PATTERN OF LIFE  
MONITORING



# USCG/Customs and Border Protection

Deterring illegal or unregulated activity in the US EEZ



CARIBBEAN SEA

Explorers & Voyagers

Days at Sea: 100s

Operation Area: Caribbean Sea, Pacific Ocean

PROTECTING  
NATIONAL  
INTERESTS

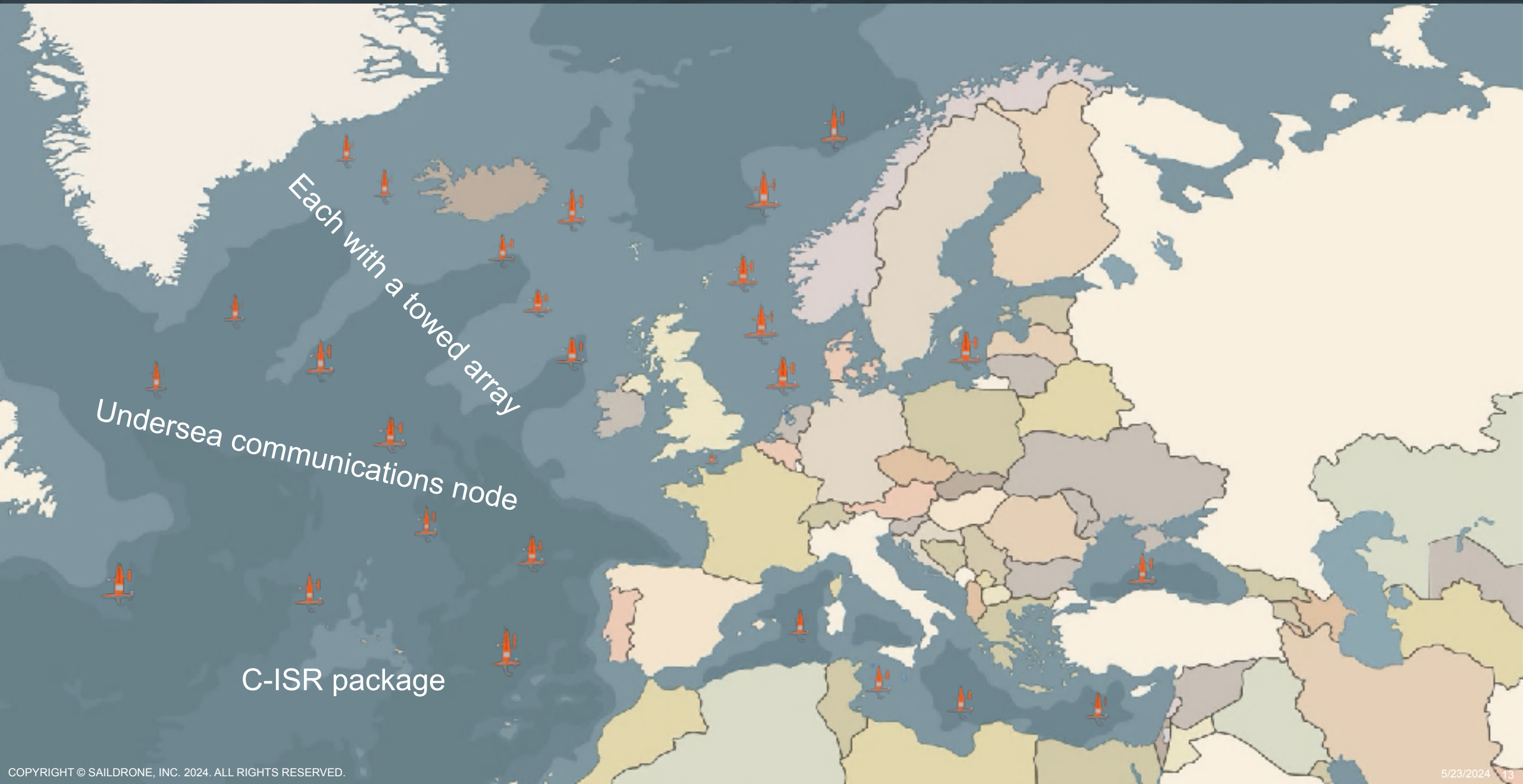


Each with a towed array

C-ISR package

Undersea communications node

C-ISR package



Each with a towed array

Undersea communications node

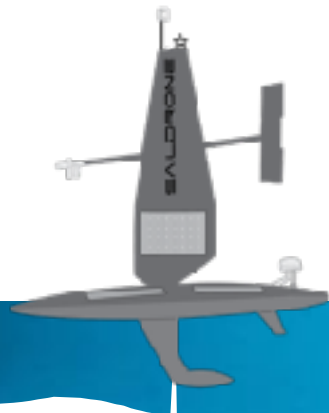
C-ISR package



# DIFFERENT SIZE VEHICLES

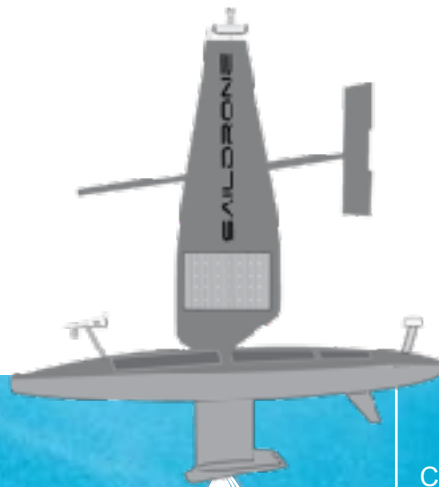
For different missions

**Explorer**  
METOC & FISHERIES



<100 meters

**Voyager**  
MDA | ISR | SHALLOW MULTIBEAM

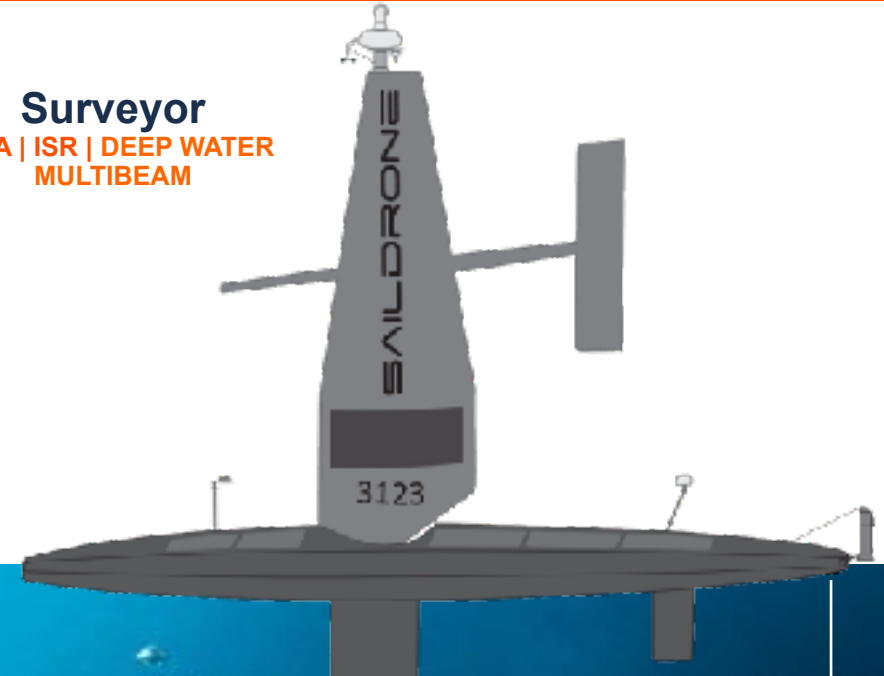


<300 meters

CTD - SVP  
to 150 m



**Surveyor**  
MDA | ISR | DEEP WATER  
MULTIBEAM



<11,000 meters

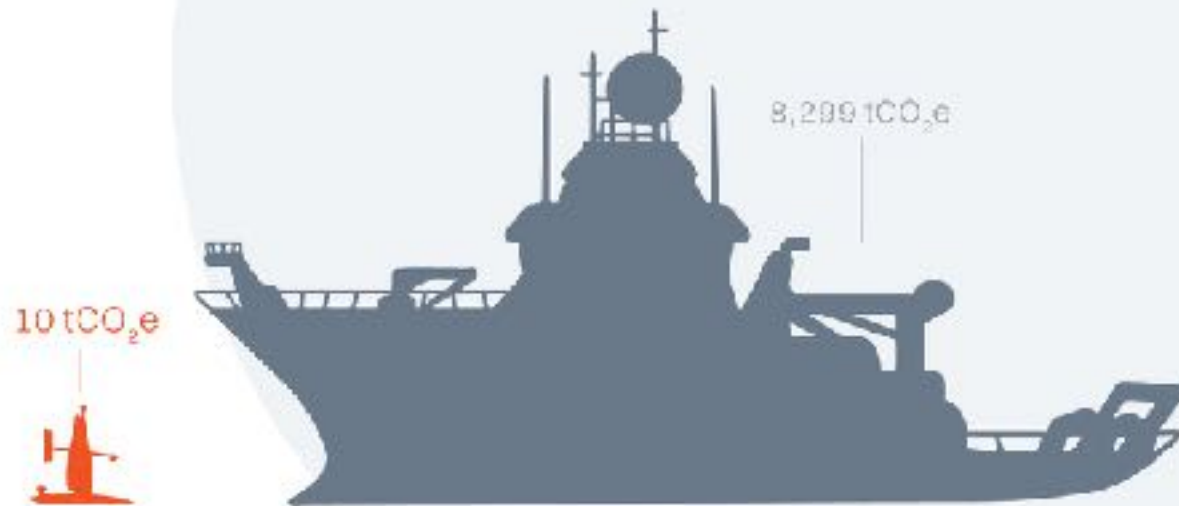
CTD - SVP  
to 500 m





# 2022 CARBON IMPACT REPORT

99% avoided emissions compared to traditional vessels



IN 2022, SAILDRONE **AVOIDED 99.9% OF OPERATIONAL EMISSIONS** FOR MARITIME DATA GATHERING.

FOR EVERY TONNE OF CO<sub>2</sub>e PRODUCED IN 2022 OPERATIONS, **WE AVOIDED 1.43 TONNES OF CO<sub>2</sub>e** THAT WOULD HAVE BEEN PRODUCED HAD SAILDRONE USVs NOT BEEN UTILIZED



SCAN TO ACCESS FULL REPORT

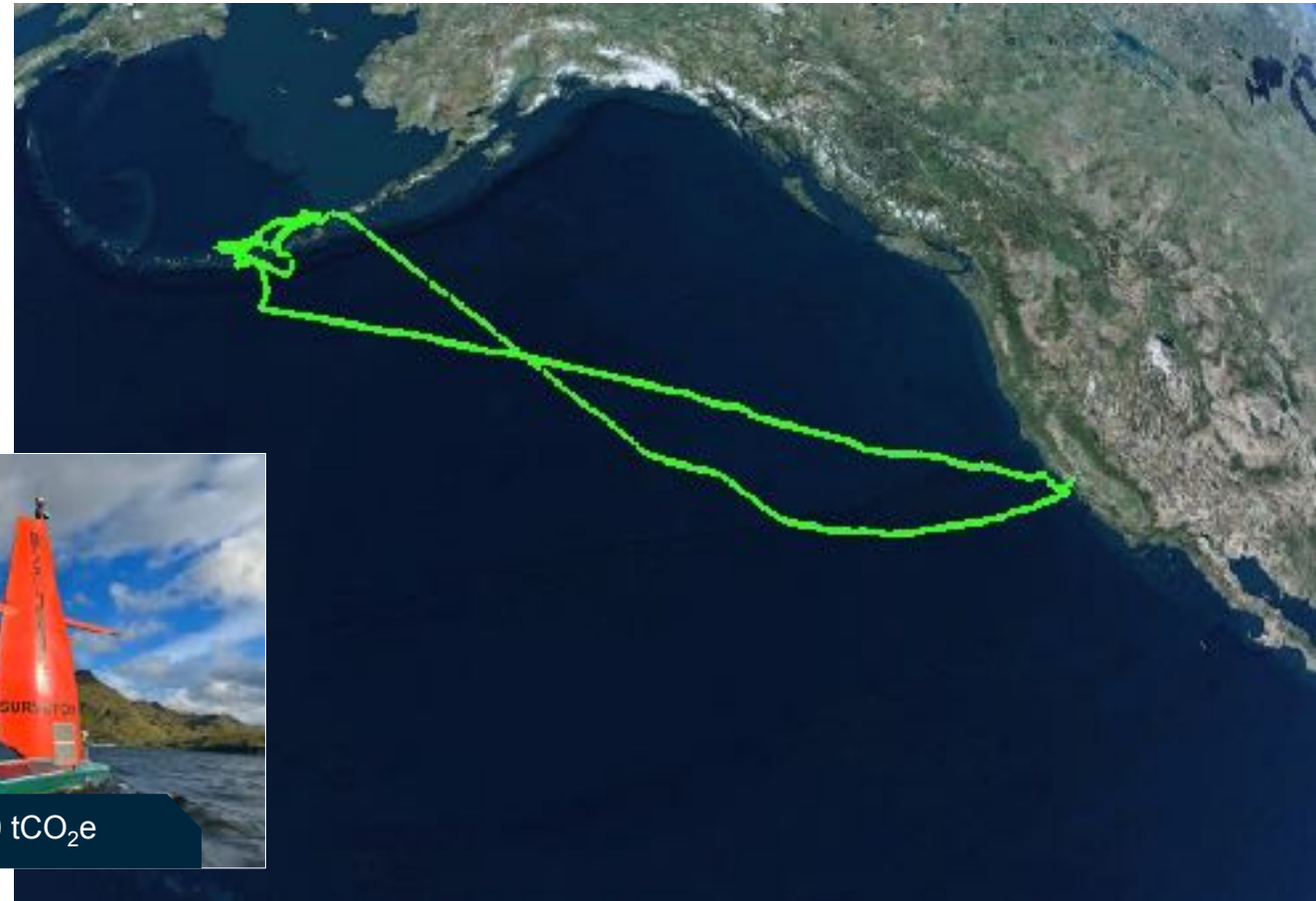




# 2022 CARBON IMPACT REPORT

## Aleutian Islands Seafloor Mapping

- ▶ 16,215 sq km mapped of previously unexplored seafloor
- ▶ 12,000 nm round trip San Francisco to the Bering Sea
- ▶ Surveyor emitted just 2.7% of CO<sub>2</sub> compared to the ship alternative

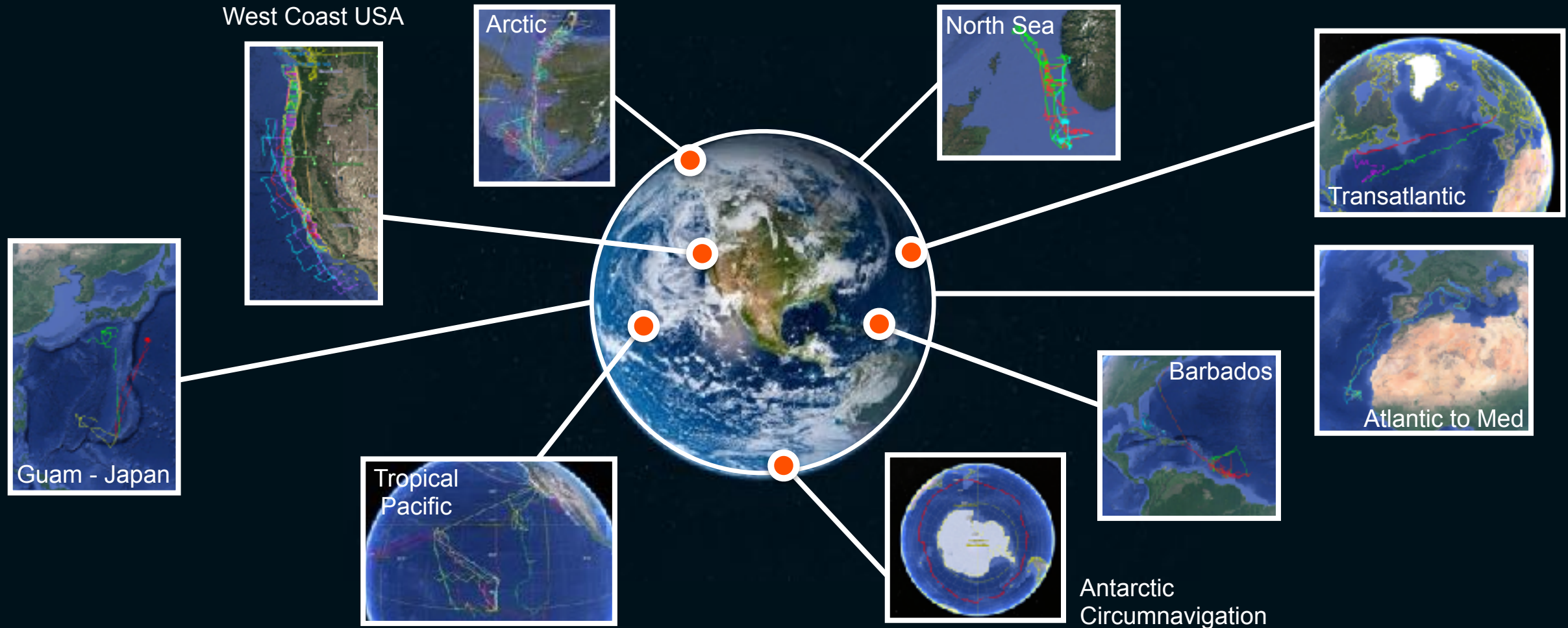






# TRACK RECORD OF SUCCESSFUL OPERATIONS

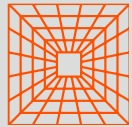
The world's most capable, proven & trusted uncrewed surface vehicles (USVs)





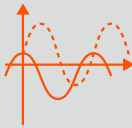
## Reliability at Sea

Global experience in challenging environments



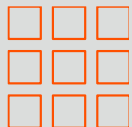
## Smarter Data in Near Real Time

Proprietary machine learning identifies and classifies vessels at sea, integrated into COP of choice via secure API



## Low Acoustic Signature

Near-silent operations that enhance the data quality of defense-specific payloads



## Payload Integration

Modular payload integrations conform to the highest standards



## Long Endurance

Outperformed competitors in the harshest conditions



## Low Carbon

Predominantly powered by renewable energy



US Navy photo by CPO Roland Franklin. The appearance of U.S. Department of Defense (DoD) visual information does not imply or constitute DoD endorsement.

# WHY SAILDRONE

Proven operations in the harshest environments



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