IBM Newsroom

Mayflower Autonomous Ship Begins Transatlantic Crossing Attempt

- AI-powered crewless vessel commences journey from Plymouth UK, to Plymouth, MA USA

New York, NY, June 15, 2021 – Ocean research non-profit ProMare and IBM (NYSE: IBM) have announced the Mayflower Autonomous Ship (MAS400) is now in international waters as it attempts to cross the Atlantic ocean and reach the United States.

Following daily briefings led by IBM's The Weather Company, the ship departed with the prospect of favourable weather from Turnchapel Wharf, Plymouth, U.K. at 4:00 a.m. GMT on Tuesday, June 15th. Footage and photos of the departure are available here.

With no human captain or onboard crew, the research vessel uses IBM's automation, AI and edge computing technologies to assess its status, environment and mission and make decisions about what to do next while at sea. People from all over the world can follow the ship's progress via the mission dashboard here which includes live video, maps and data streaming.

The journey across the Atlantic ocean is expected to take approximately three weeks. If successful, the ship is expected to land in Provincetown, MA, then make its way to the U.S. port of Plymouth.

The pioneering mission is the result of years of work and a global collaboration between marine research non-profit ProMare, IBM and dozens of partners from across industry and academia. Designed to forge a cost-effective and flexible platform for gathering data about the ocean, MAS400 will help scientists gather the data they need to advance understanding of key global issues affecting ocean health including ocean acidification, microplastics and marine mammal conservation. One of the pieces of scientific equipment on MAS is Hypertaste – an 'electronic tongue' developed by IBM Research.

The project aims to aid the development of fully autonomous AI systems and applications for use in a variety of industries such as shipping, oil and gas, telecommunications, security and defence, fishing and aquaculture.

MAS Facts:

Name:	Mayflower Autonomous Ship (MAS)
Organizations and companies behind it:	ProMare, IBM and a global consortium of partners
Mission:	Help safeguard the future of the ocean
Humans onboard:	0
Autonomy level	5 (can operate independently with no human intervention)
Sensors onboard:	50+

Sensors onboard:	30+
AI Cameras onboard:	6
Digital octopuses onboard:	1
Science projects:	Marine mammals, micro plastics, ocean chemistry, sea level height & wave patterns
Length:	15M
Width:	6.2M
Max speed:	10 knots
Weight:	5 tons/4535KG
Scientific equipment capacity:	0.7 tons/700KG
Hull design:	Trimaran (central hull with two outrigger wings)
Power:	Solar-driven hybrid electric motor
Software:	IBM Maximo Visual Inspection, IBM Edge Application Manager, IBM Operational Decision Manager automation software, data from IBM's The Weather Company
Hardware:	IBM Power Systems AC922 (onshore), 6 Jetson AGX Xavier, 2 Jetson Xavier NX, 4+ Intel-based computers, 4+ custom microprocessor systems
Navigation equipment:	Precision GNSS (Global Navigation Satellite System), IMU (Inertial Measurement Units), radar, weather station, SATCOM, AIS

Media Resources:

Webcam dashboard:	https://mas400.com/dashboard#live
Live mission portal:	https://mas400.com
Mayflower Autonomous Ship Experience	https://www.ibm.com/resources/cloud/mayflower-ship-experience/#/
More information:	https://newsroom.ibm.com/then-and-now
B-roll:	https://newsroom.ibm.com/mayflower-b-roll
Images:	https://newsroom.ibm.com/mayflower-images
Social film	https://www.youtube.com/watch?v=wpEM9oMBJuA
Docuseries	https://www.ibm.com/industries/federal/autonomous-ship

About the Mayflower Autonomous Ship

With no human captain or onboard crew, the Mayflower Autonomous Ship (MAS) uses AI and the energy from the sun to travel further and reveal more about the ocean. Working in tandem with scientists and other autonomous vessels, MAS provides a flexible and cost-effective platform for deepening understanding of critical issues such as climate change, ocean plastic pollution and marine mammal conservation. The Mayflower Autonomous Ship project is led by marine research organization ProMare with IBM acting as both lead technology partner and lead scientific partner for the project. Other partners are listed here.

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