Department of the Navy SBIR/STTR Transition Program

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ONR Approval #2026-9-21-2888

Topic # N23A-T025
Enhanced Tactical Decision Support through Nowcasting-to-NWP (N2N) Data Fusion for Cloud Nowcasting
Acme AtronOmatic LLC

WHO

SYSCOM: ONR

Sponsoring Program: Office of Naval Research

Transition Target: Military weather, aviation, intelligence, and mission-planning organizations through integration with existing operational environmental intelligence systems and decision-support tools.

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Other Transition Opportunities:

Updated capabilities are integrated into MyRadar's existing weather platform, providing advanced cloud and visibility forecasting products to millions of users through mobile, web, and API-based services. Commercial customers, including aviation operators, drone companies, logistics providers, and weather-sensitive enterprises, will benefit from improved operational planning and risk reduction through enhanced short-term weather intelligence.

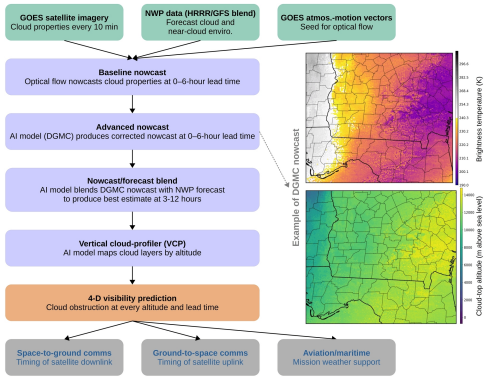

Image Courtesy of MyRadar (2026)

Notes:

ACME AtronOmatic (dba MyRadar) was founded in 2009; with over 60 million downloads and 15 million annual active users, is one of the top-selling and most-used mobile weather applications in the United States.

WHAT

Operational Need and Improvement: The U.S. Navy conducts operations across vast maritime environments where weather conditions can change rapidly and significantly affect mission success. Cloud cover influences surface and aviation operations, intelligence collection, surveillance effectiveness, satellite communications, and targeting capabilities. Accurate short- and long-term forecasts of cloud height, phase, and thickness provide critical environmental awareness needed to plan and execute operations safely and effectively. Enhanced cloud forecasting reduces uncertainty, increases operational flexibility, and enables better-informed decision-making in contested and dynamic environments.

Specifications Required: Develop an algorithmic tool for the seamless assessment of previous, current, and short-term forecast (0-24 h) atmospheric cloud characteristics such as ceiling, thickness, and optical depth for single and multiple overlapping cloud fields using machine learning methods to combine satellite based environmental monitoring (SBEM) analysis information, ground based remote sensing, and numerical weather prediction model fields.

Technology Developed: An AI-driven 4-D cloud nowcasting system that will link a generative AI model, Deep Generative Modelling of Clouds (DGMC), with a second analytical AI model, Vertical Cloud Profiler (VCP), via the Algorithm Working Group's Cloud Height Algorithm (ACHA) to produce a seamless nowcasting framework.

Warfighter Value: DoW, civil, and private aviation users will benefit from a state-of-the-art capability that improves understanding of cloud and visibility evolution through all stages of flight operations. Naval applications for surface warfare, maritime domain awareness, intelligence collection, ISR missions, and Fleet operations benefit from our environmental data analysis, enhancing Fleet operations where environmental conditions directly affect mission planning and execution. Improved cloud characterization and forecasting provide commanders with greater environmental awareness, support more informed tactical and operational decisions, and enhance mission effectiveness across distributed maritime operations. This effort has the potential to fill a data gap in all aspects of meteorological analysis as well as provide a foundation for additional data fusion opportunities.

WHEN

Contract Number: N68335-25-C-0035 **Ending on:** Feb 16, 2027

Milestone	Risk Level	Measure of Success	Ending TRL	Date
Phase I Completion - initial development, proof-of-concept, and system validation	Medium	Successfully demonstrated cloud generation and vertical profiling	3	4th QTR FY24
Initial Deep Generative Model of Clouds and Vertical Cloud Profiler Integration	Medium	AI model that added vertical dimensionality converting nowcast cloud properties from 3-D to 4-D	4	4th QTR FY25
Optimization of Models at Longer Lead Times	Medium	Models perform at 6-12 hour lead times with similar results as 1-3 hour lead times.	4	3rd QTR FY26
Full Ensemble Demonstration	Medium	Successful demonstration of full ensemble at the end of the base period.	4	2nd QTR FY27

HOW

Projected Business Model: MyRadar's business model combines direct-to-consumer weather services, enterprise data licensing, and government technology deployment. The company develops advanced environmental intelligence capabilities and commercializes them through premium subscription products, enterprise APIs, and government contracts, creating multiple revenue streams from a common technology foundation.

Company Objectives: MyRadar is a leading provider of operational environmental intelligence through the combination of advanced sensing, artificial intelligence, and predictive analytics. Through continued investment in weather forecasting, Earth observation, remote sensing, and AI-enabled analytics, MyRadar seeks to expand its portfolio of mission-critical products while creating scalable dual-use technologies that address emerging needs in aviation, national security, transportation, energy, and space operations.

Potential Commercial Applications: MyRadar will commercialize the funded research by incorporating new capabilities into our existing weather intelligence platform, mobile applications, and enterprise data services. The resulting products will provide enhanced cloud and visibility forecasting for aviation, drone operations, logistics, and weather-sensitive industries, creating new subscription, licensing, and API revenue opportunities while improving forecast accuracy and decision support for millions of existing users. Both civil and commercial applications will benefit from enhanced data streams, improved forecast predictability, and increased cross-over between civil and commercial satellite remote sensing activities.

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