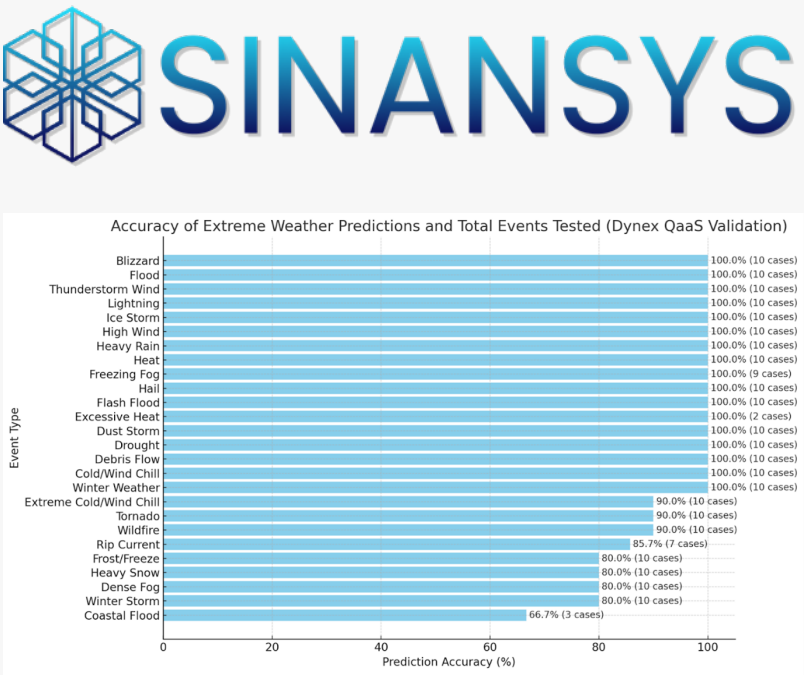
Sinansys Validates Quantum-Enhanced Extreme Weather Intelligence for Asset-Intensive Industries

Validation across 241 events shows earlier, low-noise signals that help energy, chemicals, agriculture, & manufacturing operators protect assets and continuity.



High Accuracy of Quantum Enhanced Extreme Weather Model

NEW YORK, NY, UNITED STATES, January 9, 2026 /EINPresswire.com/ -- Sinansys, a next-generation supply chain resilience platform, today announced the results of a comprehensive validation study demonstrating how quantum-driven solutions for extreme weather intelligence, can help highly climate-exposed industries anticipate disruption earlier and respond more effectively. Dynex, a global leader in developing quantum-driven solutions together with Dynex Moonshots Foundation, the family office of Dynex and the investment, strategic and ethical steward of the Dynex Ecosystem, and in close collaboration with Sinansys, a RecycleGO company, developed the extreme weather inference solution.

> Supply chain resilience today is not just about visibility, it's about foresight"
>
> *Stan Chen, Founder & CEO, Sinansys*

The study evaluated event-level extreme weather inference integrated into supply-chain risk workflows and emulated scenarios at scale through Dynex's proprietary Quantum-as-a-Service (QaaS) technology available on a cloud-based qubit-agnostic computing platform, which provides the infrastructure and API access required to run quantum-driven inference workloads in real world environments. Conducted in collaboration with the Dynex Moonshots Foundation, the study confirms that integrating Dynex's extreme-weather inference outputs into

Sinansys workflows can materially improve the early identification of high-impact weather events that drive operational, asset, and financial disruption across global supply chains. Using the co-developed Dynex QaaS API, Sinansys evaluated 241 historical extreme weather events across the United States during 2025, spanning 48 event categories relevant to logistics, manufacturing, agriculture, energy, and critical infrastructure.

Validation Results

In the validation, the Dynex QaaS model achieved an overall event-level detection accuracy of 94.61% (228 of 241 events) under explicit spatiotemporal matching criteria requiring the correct event type, location (±50 km), and timing (±1 day). Observed accuracy remained above 90% at lead times extending up to fourteen days, subject to event type and confidence thresholds. The model also demonstrated a low false alarm rate of 2.5%, supporting more reliable operational decision-making and reducing unnecessary mitigation actions.

Unlike many traditional forecasting approaches, observed accuracy did not decline monotonically as lead time increased. Instead, performance reflected variability across event types and the application of confidence-based filtering rather than simple temporal decay, an approach aligned with decision-making needs in asset-intensive and time-sensitive operations.

“Supply chain resilience today is not just about visibility, it’s about foresight”, said Stan Chen, Lead Author of the Validation Report and Founder of Sinansys. “As climate volatility accelerates, organizations need to anticipate disruption before it cascades through suppliers, logistic networks, physical assets, and financial exposure. This validation shows that quantum-enhanced inference can provide that early, actionably insight.”

“The independent validation conducted by Sinansys highlights the importance of rigorous assessment in applied quantum research,” said Daniela Herrmann, Co-Founder of Dynex and Mission Leader of Dynex Moonshots. “It confirms that quantum-driven approaches implemented on Dynex’s qubit-agnostic Quantum-as-a-Service architecture can be evaluated under real-world conditions, contributing to the responsible exploration of quantum technologies in operational contexts.”

Extreme weather is now one of the most significant drivers of systemic risk across global industries, extending far beyond transportation delays.

Sector-Specific Implications of Extreme Weather Intelligence

Energy Industry
Extreme weather threatens power generation, transmission infrastructure, refineries, and energy logistics. Heatwaves stress grids and reduce generation efficiency, while storms and flooding

damage substations, pipelines, and fuel terminals. Earlier event-level detection enables utilities and energy operators to stabilize grids, protect assets, schedule maintenance proactively, and secure fuel supply continuity.

Agriculture, Farming & Forestry
Weather volatility directly affects crop yields, harvest timing, irrigation planning, and forestry operations. Floods, droughts, frost, and extreme heat can cause cascading supply shortages. Quantum-enhanced early warnings allow producers to protect crops, adjust planting and harvesting schedules, deploy resources more efficiently, and strengthen food security.

Chemical Industry
Chemical manufacturing depends on tightly controlled processes, temperature-sensitive inputs, and reliable logistics. Extreme weather can disrupt feedstock supply, damage facilities, and create safety risks. Early identification of weather threats enables operators to safeguard plants, adjust production schedules, manage hazardous materials responsibly, and reduce downtime.

Shipping, Storage & Logistics
Ports, warehouses, and transportation corridors are highly exposed to floods, high winds, heat, and winter storms. Event-level foresight supports earlier rerouting, capacity planning, and asset protection—reducing delays, congestion, and downstream ripple effects across global trade networks.

Manufacturing
Manufacturers face disruption not only from transportation delays but also from facility shutdowns, labor safety risks, and supplier failures caused by extreme weather. Predictive insight enables production rebalancing, preventive maintenance, workforce protection, and continuity planning across distributed manufacturing networks.

By enabling earlier and more reliable identification of extreme-event risk, the Sinansys–Dynex framework supports proactive mitigation strategies that help reduce operational disruption, protect asset value, and inform financial risk management across these sectors.

For enterprise leaders and public sector stakeholders, earlier identification of extreme events can support action such as:

- Reconfiguring logistics and routing before disruption materializes
- Protection critical facilities and high-value assets
- Improving supplier and inventory planning
- Informing insurance, risk, and capital allocation decisions

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Ahead of World Economic Forum, Davos

The validation report will be featured as part of Sinansys' engagement with global leaders during the World Economic Forum (WEF) Annual Meeting in Davos, where resilience, climate risk, and supply chain stability are central themes. Sinansys will share insights from the study with executives, policymakers, and partners evaluating next-generation approaches to managing systemic risk.

Read the full Validation Report:
 www.sinansys.com

About Sinansys

Sinansys, a RecycleGo technology company, is a next-generation supply chain resilience platform focused on transforming climate and operational uncertainty into actionable intelligence. Built to support complex, asset intensive global networks, Sinansys integrates advanced analytics and quantum-enhanced inference to help organizations anticipate disruption, protect assets, and strengthen resilience across supply chains.

About Dynex & Dynex Moonshots Foundation

Dynex (https://dynex.co/) is an award-winning global leader in developing quantum-driven solutions at scale through its proprietary Quantum-as-a-Service (QaaS) technology. It provides access to Dynex's emulation of up to 1 million algorithmic qubits and, with Dynex's quantum-driven neuromorphic chip "Apollo", up to 10,000 physical p-qubits. Through its unique cloud-based qubit-agnostic platform architecture, it enables accessibility to solving real-world problems at scale and supports the acceleration toward mainstream adoption.
From day one, mainstream adoption of Dynex's quantum-driven computing has been underpinned by focus on ethical integrity. This is led and safeguarded by Dynex Moonshots Foundation (https://www.dynexmoonshots.com/), steward of the Ethical Committee and an investor in pioneers shaping the future in health, society, nature, and space. Dynex Moonshots is also the investor and founder of the quantum educational programs Q:Edu (https://www.qedu.co/).

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