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Spire Global Launches Aircraft Exposure Analytics for Weather-Related Aircraft Risk

Powered by actual aircraft utilization based on global ADS-B data and Significant Meteorological Information alerts, Aircraft Exposure Analytics measures aircraft exposure to turbulence, icing, storms, and more

VIENNA, Va.--(BUSINESS WIRE)-- [Spire Global, Inc.](#) (NYSE: SPIR) ("Spire" or "the Company"), a global provider of space-based data, analytics and space services, announced the launch of Aircraft Exposure Analytics, an aviation solution that enables users to quantify aircraft-level exposure to hazardous weather conditions using real flight trajectories and global weather alerts.

Spire's Aircraft Exposure Analytics combines the Company's global multi-source ground and space-based Automatic Dependent Surveillance-Broadcast (ADS-B) flight data with Significant Meteorological Information (SIGMET) alerts to deliver environmental exposure metrics for each aircraft.

By overlaying flight paths with real-time and historical weather hazard data, Aircraft Exposure Analytics identifies when and where individual aircraft have flown through conditions such as turbulence, icing, thunderstorms, volcanic ash, tropical cyclones, and more. This insight provides airlines, maintenance teams, OEMs, lessors, and aviation insurers a clearer understanding of how environmental stressors may be affecting asset valuation, aircraft performance, safety, and long-term wear.

"Unlike traditional systems that infer risk based on routing or general forecasts, Aircraft Exposure Analytics uses ground and space-based data to deliver precise, per-aircraft insights," said Philip Plantholt, general manager of Aviation at Spire. "By combining real flight trajectories with trusted weather alerts and tying them to verified airframe identifiers, we're offering a high-resolution, data-driven understanding of how weather impacts aircraft condition, updated daily."

Spire's Aircraft Exposure Analytics supports a range of aviation use cases from more precise condition-based predictive maintenance planning to better fatigue monitoring and inspection scheduling. It also helps insurers and aircraft lessors assess environmental wear, maintenance costs, and operational stress in a more transparent and quantifiable way.

The platform is available now as part of Spire Aviation's Flight Report, which delivers detailed flight histories, trajectory analysis, event detection, and environmental exposure metrics for a comprehensive view of aircraft operations.

[Learn more about Spire's Aircraft Exposure Analytics](#)

About Spire Global, Inc.

Spire (NYSE: SPIR) is a global provider of space-based data, analytics and space services, offering unique datasets and powerful insights about Earth so that organizations can make decisions with confidence in a rapidly changing world. Spire builds, owns, and operates a fully deployed satellite constellation that observes the Earth in real time using radio frequency technology. The data acquired by Spire's satellites provides global weather intelligence, ship and plane movements, and spoofing and jamming detection to better predict how their patterns impact economies, global security, business operations and the environment. Spire also offers Space as a Service solutions that empower customers to leverage its established infrastructure to put their business in space. Spire has offices across the U.S., Canada, UK, Luxembourg, Germany and Singapore. To learn more, visit spire.com.

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