Volga-Dnepr Airlines

Soaring to new heights of safety and efficiency with near real-time weather analytics

Boeing 747

The Weather Company
An IBM Business

Business challenge
How could Volga-Dnepr Airlines help its flight dispatch team ensure that valuable customer cargo would always land in perfect condition, whatever the weather?

Transformation
By unifying information on flight plans, airports and weather conditions in a single interface, WSI Fusion empowers Volga-Dnepr Airlines' flight dispatchers to optimize and adjust routes in near real time.

Results
Optimizes flight planning and enables agility as weather conditions change

Helps to increase safety of customer cargo by bypassing weather hazards

Boosts fuel efficiency and reduces costs with smarter flight path planning

Relying on multiple different weather and flight-tracking systems made flight planning complicated for dispatchers at Volga-Dnepr Airlines. By adopting WSI® Fusion from The Weather Company, an IBM Business, the airline can now help easily get the insight it needs to avoid disruptive weather events in near real-time—re-routing aircraft with increased agility, while maximizing fuel efficiency.

Business challenge story
Preparing for takeoff
As one of the world's leading air freight carriers, the Volga-Dnepr Group of airlines promises its customers safe and efficient transportation of oversize and super-heavy cargo. With a fleet that includes some of the world's largest civil cargo aircraft, Volga-Dnepr Group specializes in delivering a huge variety of cargo types, including aerospace and oil and gas equipment, industrial machinery and vehicles, humanitarian aid, pharma and live animals.

"WSI Fusion has provided new methods of visualizing weather data, which in turn have improved our operational agility, flight safety, and efficiency."
—Dmitry Levushkin, Chief Flight Dispatcher, Volga-Dnepr Airlines

Dmitry Levushkin, Chief Flight Dispatcher at Volga-Dnepr Airlines, which provides flight dispatcher services for all three cargo airlines in Volga-Dnepr Group, explains: "We handle many types of unusual cargo worldwide—it could be oversize and heavy turbines on one flight, and medical supplies or mobile hospitals for earthquake victims in Haiti on another. We've even transported elephants, dolphins and Beluga whales. What remains the same is the vital importance of providing a safe, smooth flight that ensures our customers' sensitive and high-value cargo touches down in perfect condition."

To ensure safe, efficient flights, the airline produces highly detailed flight plans that plot an aircraft's proposed journey. Yet, no matter how carefully a flight is planned before takeoff, it may still need to be adapted when weather conditions change or unforeseen circumstances arise during the flight.

Dmitry Levushkin continues: "The major factor that impacts flight safety is weather. Weather events such as icing, volcanic ash clouds, and turbulence can have a severe impact on cargo condition or delivery time. We have to make sure our aircraft fly only those routes that comply with strict weather minimums—rules which determine the worst weather conditions under which an aircraft may be legally operated."

Software

The Weather Company: WSI Fusion

"The most attractive feature of the product is the way it brings together multiple channels of mission-critical information and presents it in one live global map."

– Dmitry Levushkin, Chief Flight Dispatcher, Volga-Dnepr Airlines

So how do the flight dispatchers at Volga-Dnepr Airlines work to have their planes avoid dangerous conditions? Access to accurate, near real-time weather data is critical. Equipped with this information, Volga-Dnepr flight dispatchers are able to guide multiple flights in changing weather conditions across the globe.

However, with data coming in from so many different sources, achieving full situational awareness can become highly complicated.

Dmitry Levushkin continues: "Our flight dispatchers are very busy; they must monitor a huge amount of information constantly. To facilitate this, they have a number of screens at their terminal and a host of programs on each screen. The ideal situation for a flight dispatcher is to have one program per screen, so they can see all the information they need in one place".

"At Volga-Dnepr, we were using a total of nine different systems for flight planning, weather monitoring, flight tracking, NOTAM monitoring, and planned airport condition and suitability checks. While we were able to maintain high safety, navigating through such a large number of programs was time-consuming and awkward for our flight dispatchers. We wanted to reduce the number of programs as much as possible and achieve increased visibility into changes in weather conditions."

Transformation story

Surveying the skies on every continent

After exploring a variety of available IT solutions for flight tracking and weather and NOTAM monitoring, and testing trial versions from three solution providers, Volga-Dnepr Airlines chose to implement WSI Fusion. WSI Fusion is a smart weather analytics solution that feeds flight dispatchers with a wealth of near real-time information.

WSI Fusion displays consolidated global flight data, weather updates, airport status updates and other mission-critical information on one easy-to-read map-based interface.

The solution helps flight dispatchers plan the optimal route for each flight by avoiding dangerous weather events, tracking the current progress of multiple flights, and monitoring important data such as current aircraft position and flying conditions at each airport. With all this information in one place, it is much easier for dispatchers to recognize potential issues posed by dangerous weather systems, and re-route flights to avoid them.

"WSI Fusion emerged as the best solution for us because it was both cost-effective and easy to integrate with our existing systems," says Dmitry Levushkin, "We knew that switching over to the new solution would be very intuitive for our team. It didn't take much training before our flight dispatchers felt fully familiar with capabilities of WSI Fusion".

"By far the most attractive feature of the product is the way it brings together and visualizes multiple channels of mission-critical information, and presents it in one live global map". The fact that flight dispatchers can view live weather data with the current trajectory of each aircraft greatly increases the visibility of potential risks posed by changing weather systems.

With the help of The Weather Company, Volga-Dnepr Airlines has molded the solution around its unique operating practices. "Working with The Weather Company continues to be a really positive experience," says Dmitry Levushkin. "They focused on our specific aims and delivered a high-quality solution for us. We've used the software for over six years now, and we almost never experience any technical or usability issues."

Results story

Smooth flying for pristine cargo delivery

Volga-Dnepr Airlines uses WSI Fusion along with its comprehensive flight planning system. These complementary systems help ensure superior weather situation awareness and visualization. Having a detailed near real-time knowledge of weather conditions and flight data helps the company secure customers' cargo and ensure that it will reach its intended destination in perfect condition.

Dmitry Levushkin explains: "It is much easier to achieve flight safety because we have advanced warning of dangerous atmospheric conditions. For example, when the volcano Eyjafjallajökull erupted in Iceland at night on 15 April 2010, we had a plane flying over Norway, on a trajectory that would have taken it dangerously close to the ash cloud. WSI Fusion together with Eurocontrol gave us early warning and predicted the trajectory of the volcanic ash plume, which enabled us to divert the flight onto a safer alternative route. More recently, we used WSI Fusion to reroute a flight from Khabarovsk in Russia to Los Angeles, when the volcano Klyuchevskaya Sopka on the Kamchatka Peninsula in Russia erupted soon after takeoff".

"This ability to track weather conditions in near real time is also invaluable when we guide cargo through the equator regions where typhoons and hurricanes are common. If you can accurately track where the weather systems are heading, you can adjust your routes to fly around them in the most efficient way, without substantially increasing the distance or the flight time."

More efficient routes also mean that Volga-Dnepr Airlines is gaining valuable fuel savings. Since the airline only operates heavily-loaded cargo aircraft, which typically require much more fuel than a passenger flight, any reduction in fuel consumption has a significant impact on the company's bottom line.

Dmitry Levushkin continues: "The Weather Company solution is also enabling us to save time as well as costs. WSI Fusion incorporates information on destination airports and alternative airports, which may be used in the event of unforeseen circumstances. The solution computes near real-time information on how busy an airport is according to the number of landings and takeoffs, helping us to make the best selection of primary and alternate airports. Selecting a more available airport reduces the need to keep flights in a holding pattern while they wait for an open runway, which again saves fuel and avoids delays."

He concludes: "WSI Fusion has made monitoring flights much easier for our flight dispatchers and continues to help us ensure the safety of our customers' cargo, whilst reducing the cost of our operations."

About Volga-Dnepr Airlines

Volga-Dnepr Group is an international corporation comprising three cargo airlines: Volga-Dnepr Airlines, AirBridgeCargo Airlines and Atran Airlines. Volga-Dnepr Airlines is a world leader in oversize and super-heavy cargo transportation and provides logistics services for air charter movements. AirBridgeCargo Airlines is a major Russian carrier, and one of the world's top 15 international cargo airlines, whilst Atran Airlines is a regional carrier. Both AirBridgeCargo Airlines and Atran Airlines offer logistics services for scheduled and charter cargo transportations.

Take the next step

The Weather Company, an IBM Business, is the world's largest private weather enterprise, helping people make informed decisions – and take action – in the face of weather. The company offers the most accurate, personalized and actionable weather data and insights to millions of consumers and thousands of businesses via Weather's API, its business solutions division, and its own digital products from The Weather Channel (weather.com) and Weather Underground (wunderground.com). The company delivers up to 26 billion forecasts daily. Its products include a top weather app on all major mobile platforms globally; the world's largest network of personal weather stations; a top-20 U.S. website; the seventh most data-rich site in the world; one of the world's largest IoT data platforms; and industry-leading business solutions. Weather Means Business™. The world's biggest brands in aviation, energy, insurance, media, and government rely on The Weather Company for data, technology platforms and services to help improve decision-making and respond to weather's impact on business.

For more information visit:
www.theweathercompany.com and business.weather.com

HPC12461-USEN-00

The
Weather
Company
An IBM Business