




Chrono Aviation utilizes SKYTRAC to identify and communicate new flight plans when flying extreme Northern routes to locations such as Baffin Island

 Value-Added Partner to Iridium®

Chrono Aviation Boeing 737-200
Photo Credit: Marc-Antoine Moreau

Chrono Aviation is a charter airline based in Montreal, Quebec City, and Rimouski whose primary mission is to offer a service with safety as its core priority.



**Organization: Chrono
Location: Quebec, Canada
Industry: Air Transport**

Background

Extreme weather events are one of the most challenging obstacles faced by pilots. Flightpath adjustments are often required to get aircraft passengers and personnel out of harm's way during rapidly deteriorating weather conditions. This is especially true in polar regions such as the Arctic and Antarctic, where vortex jet streams can cause serious issues for those flying through the regions.

For charter airlines based in extreme Northern regions, such as Quebec-based Chrono Aviation, on-time delivery and pilot safety is critical.



“It’s a key program for Chrono, as it gives us a lot of capabilities that help us make decisions ahead of time. The SKYTRAC system permits better tracking and communication in real-time – flight tracking and position reporting every 30 seconds is fantastic, especially when the weather rolls in and change of routes are required, as the communication is quick and effective.”

David Sade, VP Operations

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SKYTRAC is a member of the ACR Group of Companies.

Chrono Aviation, whose core priority is to offer service with safety front-of-mind, serves extreme Arctic regions, including Baffin Island, all the way down to the United States' most southern airports. As a result of their flight paths, Chrono Aviation's pilots often may encounter numerous regional climates in one trip.

To provide excellence in service, on-time delivery, as well as passenger, cargo, and pilot safety, Chrono Aviation requires true, reliable pole-to-pole connectivity, including in severe weather events, which can frequently disrupt connectivity.

Solution

In March of 2019, Chrono outfitted their aircraft fleet with SKYTRAC's flagship ISAT-200A SATCOM terminals for real-time flight following, voice communications, and weather tracking capabilities. Operating on the Iridium satellite network, Chrono Aviation can ensure connectivity around the globe with 99.9% reliability and extremely low latency due to the constellation's Low Earth Orbit (LEO).

The all-in-one terminals allow pilots and Operational Control Centers (OCCs) to communicate for flight dispatch, aircraft maintenance, and air-to-ground communications.

According to David Sade, Chrono's Vice President of Operations, SKYTRAC's systems have since successfully allowed them to track every flight, send weather data, and remain in direct communication with the flight crew. Sade explained that this information has proven to be extremely valuable for their operations. One such use case allows the airliner to communicate with the pilots to advise which nearby airports have replacement parts and maintenance personnel when aircraft require mechanical support, providing quick troubleshooting and reducing AOG time.

"SKYTRAC has benefited our organization by providing a safe, accurate, and reliable flight tracking system as well as SATCOM capabilities to allow us to have direct communication

with our crew members when needed," explains David Sade.

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Predicting and navigating challenging flying conditions can test any pilot and technology onboard an aircraft due to remote locations and weather conditions. Sade explained that real-time voice communications allow their flight crews to make efficient flight path changes when deteriorating weather patterns require the aircraft to circumnavigate, which results in substantial fuel savings and successfully delivers happy clients.

SKYTRAC in Action

On November 23, 2020, Chrono jet C-FGCP, a Dash-8 100 series aircraft, was on route from Newfoundland's Wabush Airport (CYWK), to New Brunswick's Charlo Airport (CYCL), when it experienced a swift deterioration in weather conditions. While in-flight to Charlo, Sade explained that while the crew made a quick-change in-flight plan, they relied on SKYTRAC's SATCOM system to identify and communicate the new flight plan around the approaching weather system.

"We observed that the weather in CYCL was deteriorating, and there was a strong possibility that we would have to deviate to our alternate, which at the time of planning was the best option. However, with the new Terminal Aerodrome Forecasts

(TAFs), we concluded that another alternate within our fuel range would be more useful regarding the client's plan. In-flight, we were able to use SATCOM, and the flight dispatcher provided new numbers, route, distance, heading, flight level, etc., for the new alternate if we could divert," which Sade explained, did eventually happen.

However, instead of altering the flight plan to the largest airport in the area, which was Greater Moncton Roméo LeBlanc International Airport (CYQM), Chrono was able to choose the most efficient flight path possible around the weather pattern. And ultimately, the client was thrilled as they were able to continue the route to CYCL instead of diverting to a much further airport.

Conclusion

Chrono selected SKYTRAC's satellite-based technologies for their aircraft because their operations have found that the system is accurate and reliable, especially when overshooting and diverting to designated alternates. Sade mentioned that time and time again, the systems have proven their effectiveness, yet there are many additional aspects to SKYTRAC's capabilities that Chrono has not yet utilized.

"It also has lots of different additions that we have not yet tried that would most likely help grow our company to be more cost-effective and efficient. We will be using SKYTRAC's Flight Data Monitoring in the near future."

When it comes to in-flight support, Sade explained that SKYTRAC's systems provide Chrono with critical in-flight assistance that consistently improves safety, communication, and operational efficiencies within their organization.

After every takeoff and every landing, for Irregular Operations (IROPS), urgent communications for ground and aircrew, flight dispatch, and maintenance support, it all depends on SKYTRAC's SATCOM systems and capabilities.

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ISAT-200A SATCOM SYSTEM

The ISAT-200A is SKYTRAC's lightweight data acquisition unit with added transceiver and on-board server capabilities. This proven and multi-functional system is central to facilitating real-time fleet awareness, accurate FDM performance analysis, and Electronic Flight Bag (EFB) document automation. Track fleet activity across the globe, automatically detect in-flight events, and capture robust data to feed your FOQA, MOQA, SMS and other operations systems.



PRODUCT HIGHLIGHTS

- All-in-one Iridium narrowband SATCOM transceiver for intelligent aircraft connectivity
- Data logging and real-time analytics capabilities
- Global satellite coverage with a small format GPS/Iridium antenna
- Aircraft flight data acquisition capabilities for robust FDM/FOQA
- On-board server capabilities for flight following, FDM analysis, and EFB document automation
- Optional Wi-Fi module for onboard in-flight Wi-Fi Access Point
- Optional internal and external audio visual with rugged, discreet camera kit

For more information, contact a connectivity expert at sales@skytrac.ca

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