

No thunder in sight

AVTECH Sweden's proFLIGHT helps pilots pick the perfect flight path



Picture 1 WAFS: The picture shows the strength of AVTECH's weather tools: While the normal 140K CAT forecast (clear air turbulence) predicts both light, moderate and severe weather for approximately 1 hour and 45 minutes, the tailored High-Resolution CAT forecast predicts only occasional, light turbulence.

AVTECH Sweden's proFLIGHT helps pilots pick the perfect flight path thunderstorms are not usually dangerous for airplanes, but they are often followed by turbulence that really can rock. Now all airline pilots have an option to try out an easy-to-use app, proFLIGHT by Swedish AVTECH, that very precisely shows where the actual threats are in real time along the trajectory.

There is no witchcraft behind the app, but very accurate 10K weather data from Met Office UK, in combination with IATA's Turbulence Aware observations (for participating airlines) as well as real-time satellite thunderstorm data, provided by Airbus Defence and Space GmbH.

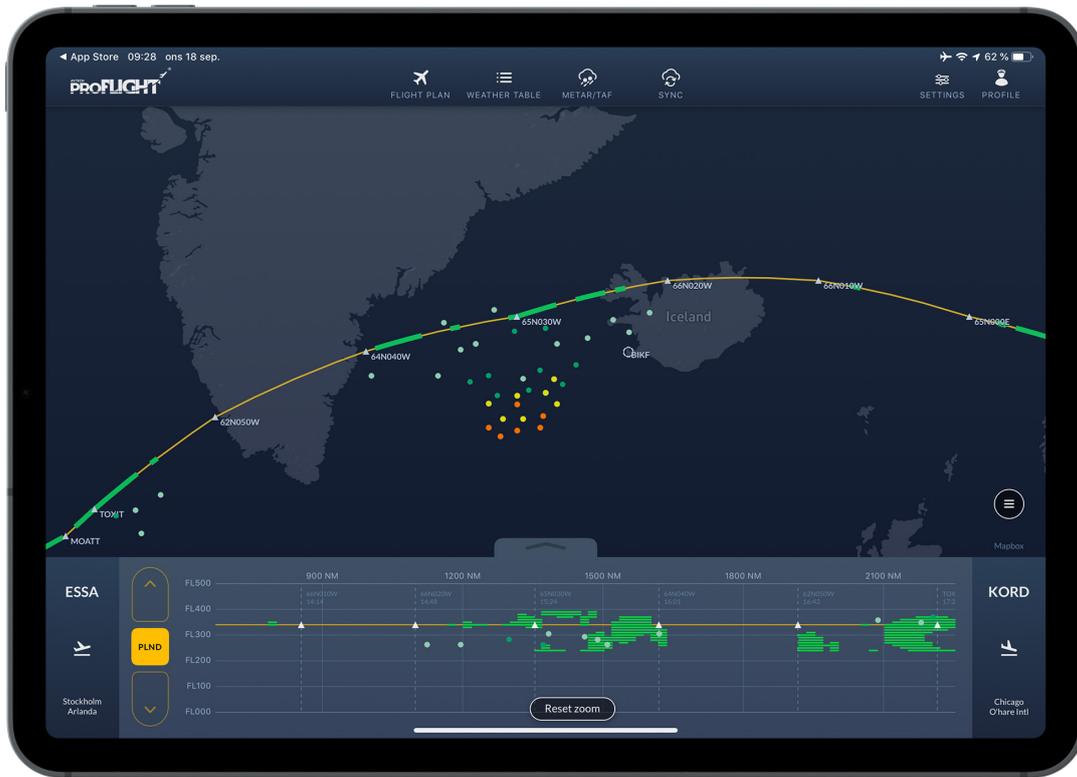
"All this information is continuously updated in our back-end systems and available to proFLIGHT users at all time", says Niklaes Persson, Head of R&D at AVTECH and a commercial airline pilot himself. "To put it shortly, our back-end system takes in enormous amounts of weather-related data all the time, which is then refined on demand to single trajectories that can be sent to the aircrafts through normal aviation communication channels." Persson explains that thunderstorms are usually caused by Cumulonimbus, abbreviated CB, which is a vertical cloud

that is capable of producing lightning and other dangerous severe weather when carried upward by powerful air currents.

"Now the app includes a new CB layer that displays current position and the state of CB-cells on a single aircraft's route", he says. "In addition, proFLIGHT now also includes a forecast of the development and movement for each of the cells with an accuracy of about one hour. This way the pilot can choose the best route to avoid probable turbulence."

The CB layer in proFLIGHT is based on real-time satellite observations of CB-clouds.

"Their first intention was to provide data from only a smaller part of Europe, since the satellite data is very expensive", Persson says. "When the project evolved, however, Airbus opened up a corridor for us all the way to Asia. So now we can offer a truly outstanding possibility for aircrafts to avoid thunderstorms and turbulence along their trajectories on many of the major routes from Europe to Asia."



Picture 2 TAD: By combining the data with IATA's Turbulence Aware Data (TAD) the pilot can confirm there is only light intensity turbulence ahead, while turbulence of higher intensity lies to the south of the trajectory.

Combining forecast with real outcome

Another big improvement in proFLIGHT is the integration of IATA's real-time Turbulence Aware Data, which is a global, industry-wide, data exchange platform for turbulence reports from the built-in sensors in aircrafts. This means that airplanes can continuously give an anonymized, detailed report for each data point along the route, including for example altitude, wind and temperature data, however, this data is only available to airlines that are part of the program.

Persson points out that when thousands of aircrafts share their data in real-time through IATA's data network, it significantly improves the situational awareness of pilots that are approaching the area in question.

"Combined with Met Office's 10K weather and the thunderstorm data, the measured turbulence data makes our thunder and turbulence warnings even more accurate", he says. "This makes it possible for pilots to choose optimal, smooth flight paths, which in turn reduces fuel costs and has a positive impact on passenger experience and brand perception."

Although aircrafts have flight radars, they can only spot severe weather from a limited distance.

"With proFLIGHT, aircrafts can look hours ahead for very precise turbulence forecasts and compare them with real observations through IATA's Turbulence Aware", Persson says. "time, you need both reliable forecasts and real observations."

"Since turbulence is moving all the time, you need both reliable forecasts and real observations."

Persson is clearly satisfied with how AVTECH's weather services are improving and how the interest from the airline business has grown.

"An example is that we were approached by Airbus Defence and Space to try out their satellite-based thunderstorm data in our services", he says. "As an airline pilot myself, I would certainly try proFLIGHT to find out how it can help my work, and not just because it's a free service for registered pilots at the moment."

About AVTECH SWEDEN

AVTECH develops products and services for digital air traffic control systems. Customers are the aviation industry's various players such as airlines, airports, aviation, technology companies and aircraft manufacturers. With the help of the company's products and services, each individual flight or the entire flight operation can be optimized in terms of economy, noise and emissions, efficiency, punctuality and safety. The head office is in Stockholm / Kista. AVTECH Sweden AB (publ) is listed on NASDAQ OMX First North and has appointed Redeye AB to certified adviser.

Contact: sales@avtech.aero
<https://proflight.avtech.aero>

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