

Finnair's A350 transcontinental roundtrip using SBAS LPV (WAAS & EGNOS) at both origin and destination airports

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Credits: Finnair

As a launch customer of the Airbus A350 XWB, Finnair received its first A350-900 in October 2015. Five years later, Captain Marko Valtonen, Finnair's Fleet Chief Pilot for the A330/350, has performed the first known transcontinental roundtrip between Europe and the USA using SBAS LPV approaches at both origin and destination airports with the A350 (tail OH-LWI).

This singular flight used the latest SBAS technology to approach both airports using the United States SBAS (WAAS) at John F. Kennedy International Airport (JFK) in New York and the European SBAS (EGNOS) at Vantaa Airport (HEL) in Helsinki.

Operational approval

Apart from airworthiness, the flight operation elements that allowed Finnair to perform those RNP APCH down to LPV minima comprised two main activities: the training of pilots and the modification of the operational manual described generically in the PBN Manual ([ICAO Doc 9613](#), Vol I, 3.4.3 and attachment C), and translated to FAA and EASA regulations. When asked, Captain Valtonen recalls that the process was worthwhile but required effort and resources, and he believes it will be much easier to implement LPV capability in future Finnair planes. Each stakeholder, Finnair, and its NSA were intertwined and had their learning curve.

With its own EU-based NSA operational approval, Finnair then started the process directly with the FAA, which eventually recognised and approved Finnair's performance of LPV operations in US airspace as well.

Benefits of interoperability

On September 12, 2020, while parked at the gate in Helsinki airport, Finnair's flight crew AY5 HEL-JFK set the flight plan to New York and chose the RNP APCH at JFK down to LPV minima on RWY04R.

On September 13, after a 24-hour layover at N.Y., and using the same plane, they performed a pre-planning for cargo flight AY6 JFK-HEL choosing the RNP Approach down to LPV minima for RWY15 at HEL. Landing took place on September 14, after receiving confirmation for RWY15 and completing the roundtrip.

When asked about his insight on the A350 LPVs roundtrip and the trip as a whole, Captain Valtonen said "it is very easy to select LPV approaches at both ends, as there is no need to mess with low level details such as WAAS or EGNOS selection. Just enter your destination and the type of approach, and all the information is there. Confirm the SBAS channel and other info you need and go."

In terms of the future, which may bring SBAS LPV capability to relevant planes including the Airbus A320/A330 and Boeing B737MAX/B777X families, Captain Valtonen shared the thought that SBAS LPV "is now a reality, for sure a part of the future of air navigation". He also highlighted this service would be especially helpful for airlines that, under poor weather conditions, wished to land in certain airports that could not afford ground nav aids.