



X-BAND: Filling the weather knowledge gap at airports

Trusted aviation weather from cloud to ground

At the airport, the weather means everything.

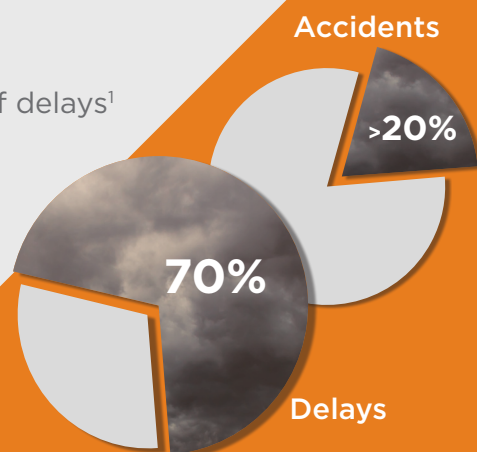
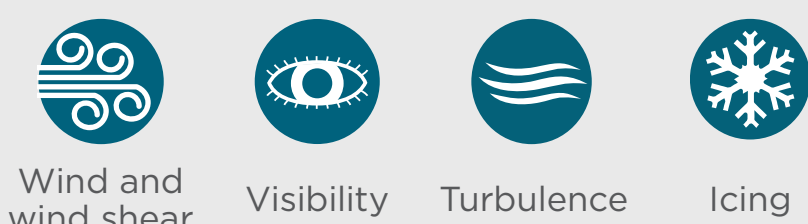
Inclement weather can disrupt, delay or cancel flights – impacting travelers and industries worldwide.

Reliable and accurate weather awareness reduces the impact of bad weather, helping to ensure smooth airport operations and avoid downtime. With constantly changing conditions, radar plays an essential part in situational awareness.

The weather effect

Weather causes more than 20% of aviation accidents and 70% of delays¹

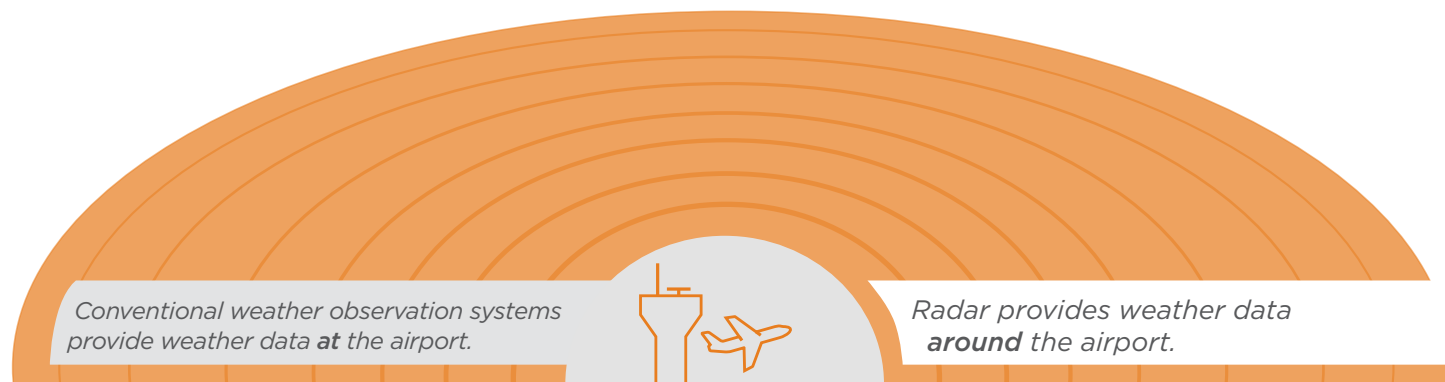
The top four aviation hazards²



Why radar is essential

Weather radar is one part of a comprehensive airport weather observation system. The job of the system is to support weather-critical decision making.

With its high accuracy and dependability, radar supports decision making by detecting current and approaching weather conditions.



Radar's top three contributions to a weather observation system:

- 1 Nowcasting
- 2 Versatility
- 3 Large, high-resolution coverage

X-band: the airport radar sweet spot

X-band	C-band	S-band
<ul style="list-style-type: none"> • 9.3 – 9.7 GHz • Built for 100km range 	<ul style="list-style-type: none"> • 5.5 – 5.7 GHz • Made for large-scale networks 	<ul style="list-style-type: none"> • 2.7 – 2.9 GHz • Made for large-scale networks

Compared to larger weather radar systems, X-band provides:

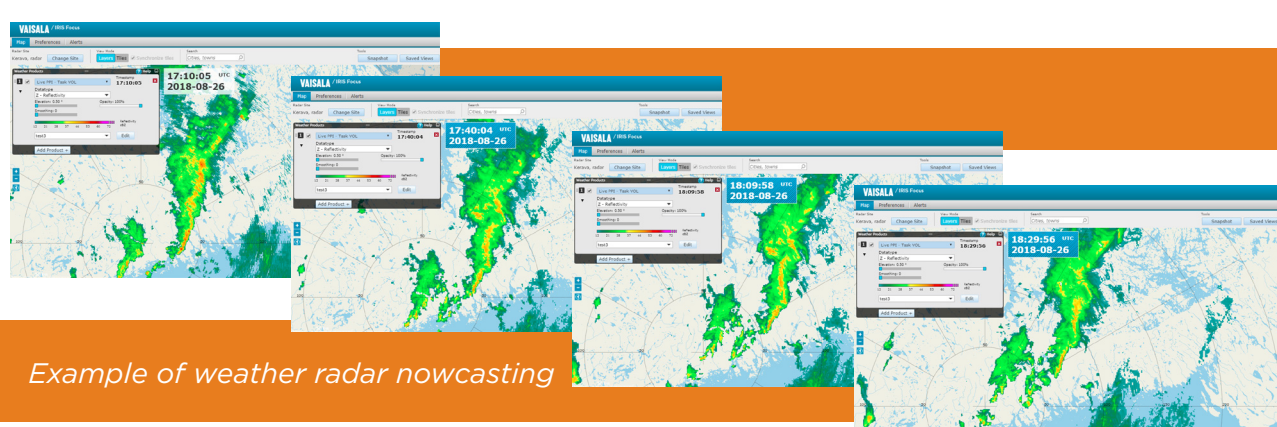
- Lower investment and lifecycle costs
- Easier civil works requirements
- Smaller, highly focused coverage

X-band radar provides great value for airport weather operations: It's **versatile**, it provides **exceptional resolution** and it offers **excellent performance**.

The forecast and the nowcast

The difference between weather forecasting and nowcasting is the difference between the rest of the day and within the hour. When it comes to operational efficiency, seeing what's coming can keep you moving ahead of the storm — and pause just long enough for the storm to pass.

Radar shows more than the weather at and around the airport: It reveals approaching convective storms, frontal systems and other weather hazards.



Nowcasting advantages:

- Closes the knowledge gap between the forecast and current airport conditions
- High-resolution weather forecasting with short lead times
- Helps you anticipate where and how the weather will change in the near future
- Helps approach control to sequence and guide arriving and departing air traffic in the most safe and efficient manner

Vaisala X-band Weather Radar WRS400

Highly accurate measurements in the observation range

Compact design with a modern solid-state transmitter for exceptional performance, reliability and data quality

Antenna ensures high-resolution radar beam, high sensitivity, and uncompromising dual polarization

Continuous, real-time calibration for data accuracy and quality plus lower maintenance

