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THUNDERSTORM WARNING SYSTEM THUNDERBALL

The Saab thunderstorm warning system, ThunderBall, improves safety and operational efficiency at airports. It uses real-time lightning data and local atmospheric electrostatic data to provide early warning of thunderstorms and lightning. The system also monitors and displays the direction and speed of a thunderstorm.

Reducing the impact of thunderstorms

ThunderBall helps reduce the risk of a thunderstorm approaching unexpectedly while refuelling. It also informs controllers once the risk of lightning has receded and a thunderstorm has moved past. This information reduces the stop time for refuelling services, both before and after a storm.

ThunderBall also gives Air Traffic Controllers valuable information for air traffic services.

Lightning detection

To ensure good triangulation, lightning detection consists of three or four GPS-based sensors around the airport, which provides optimal accuracy in detecting the strike coordinates.

The lightning sensors are connected through the Internet or intranet. For best accuracy in lightning data, GPS units determine the position of each sensor as well as the exact strike time.

Information for several airports

Several airports can share information from the lightning detectors, since they maintain a high degree of accuracy over large areas.

The Field Mills sensor at the airport monitors potential development of lightning and an alarm is activated when conditions are ideal for lightning to occur.

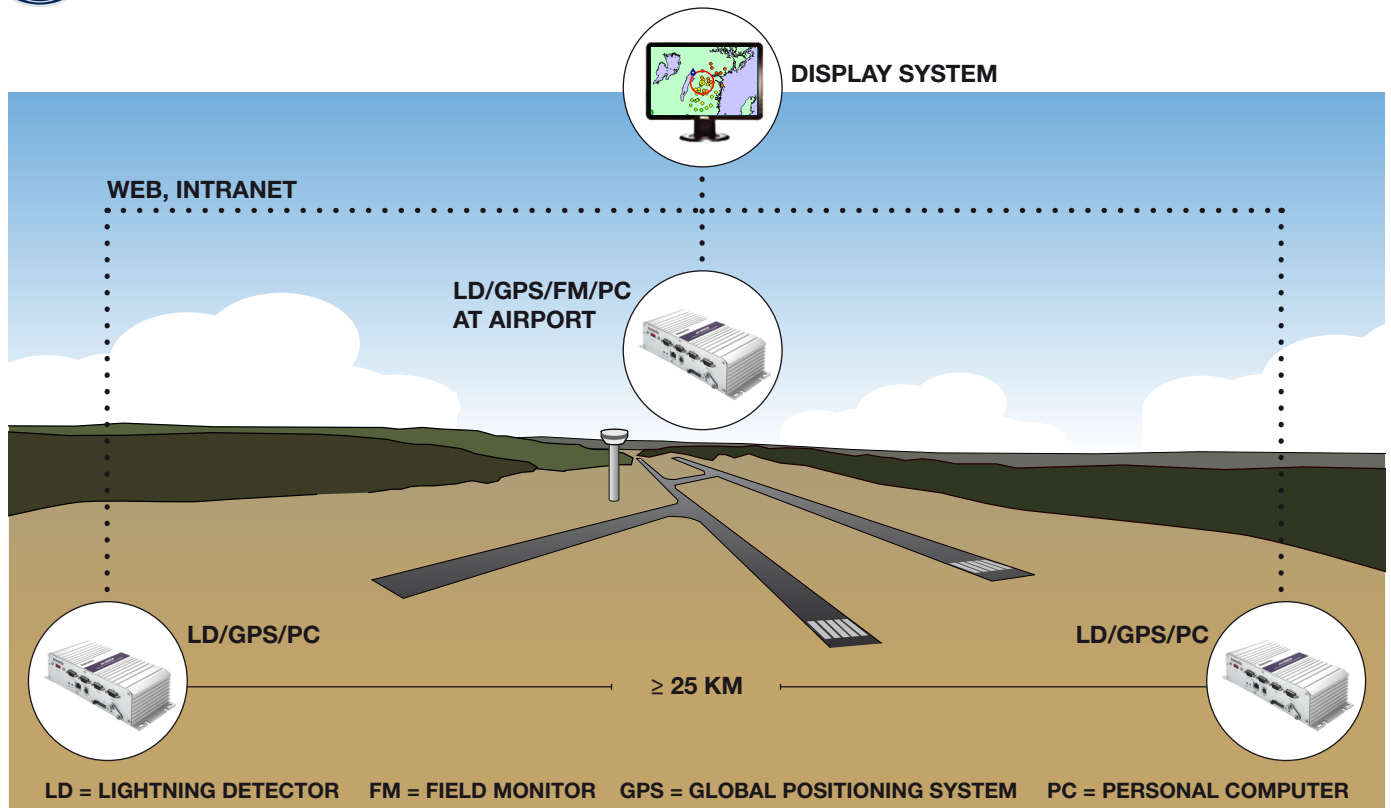
Clear presentation

Information from the sensors is displayed on a scalable map with the airport in the centre. An intuitive HMI allows the user, with a simple glance at the display, to get thunderstorm information facilitating operational decisions. Acoustic and visual alarms can be activated automatically, based on locally agreed parameters.

ThunderBall can be used as a stand-alone system or be integrated in other systems.



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VERSIONS

- Stand alone system
- ThunderBall can be integrated in the following systems from Saab: AWOS (Automated Weather Observation System), MetView (MET Display for ATC) and IRIS (combined weather and AIS system)

HARDWARE

- Lightning sensor, CAB-LD250
- Atmospheric electrostatic Field Monitor, CAB-FM100
- GPS-unit, CAB-GPS01

BACKGROUND MAP

- Vectorized maps, allowing high resolution for all scales

NOTIFICATION OF WARNINGS

- Acoustic and visual alarm in the work stations
- E-mail
- SMS
- External acoustic and visual alarm

SYSTEM COMPONENTS

A complete ThunderBall System consists of:

- 3 Lightning sensors
- 3 GPS-units
- 3 Standard PCs
- 1 Standard PCs (local)
- 1 Atmospheric Electrostatic Field Monitor
- Software package
- Electronic map (background)

Note: If there are existing lightning sensors from Saab within the recommended distance, the first three items can be excluded from the local system.