

IMS4 Airport Lightning Alert System

IMS4 Airport Lightning Alert System addresses the top severe weather threat of the airport operations.



Standalone, or integrated within IMS4 Automated Weather Observation System, the IMS4 Airport Lightning Alert System combines the standalone lightning detector with the lightning detection network data, thus benefiting from the both technologies, which provide:

- detection of electrostatic field and / or charged precipitation providing an early warning even before the overhead clouds develop,
- detection of in-cloud and cloud-to-ground lightnings, storm cells identification and nowcasting.

Using these data, the system is capable of detection and alerting, thus enabling the protection of the people and property at the airport from the lightning and the thunderstorm related phenomena (heavy rainfall, hail, poor visibility, turbulence, windshear, etc.).



BTD-300 Thunderstorm Detector

Alerting subsystem

The alerting subsystem is capable of alerting various alert levels depending on the severity based on lightning distance or indication of the thunderstorm activity development. The on-duty personnel / stakeholders are alerted by outdoor strobe lights, high-decibel horns (110 dBA) with battery backup, or notified via e-mail, SMS and/or messaging services.

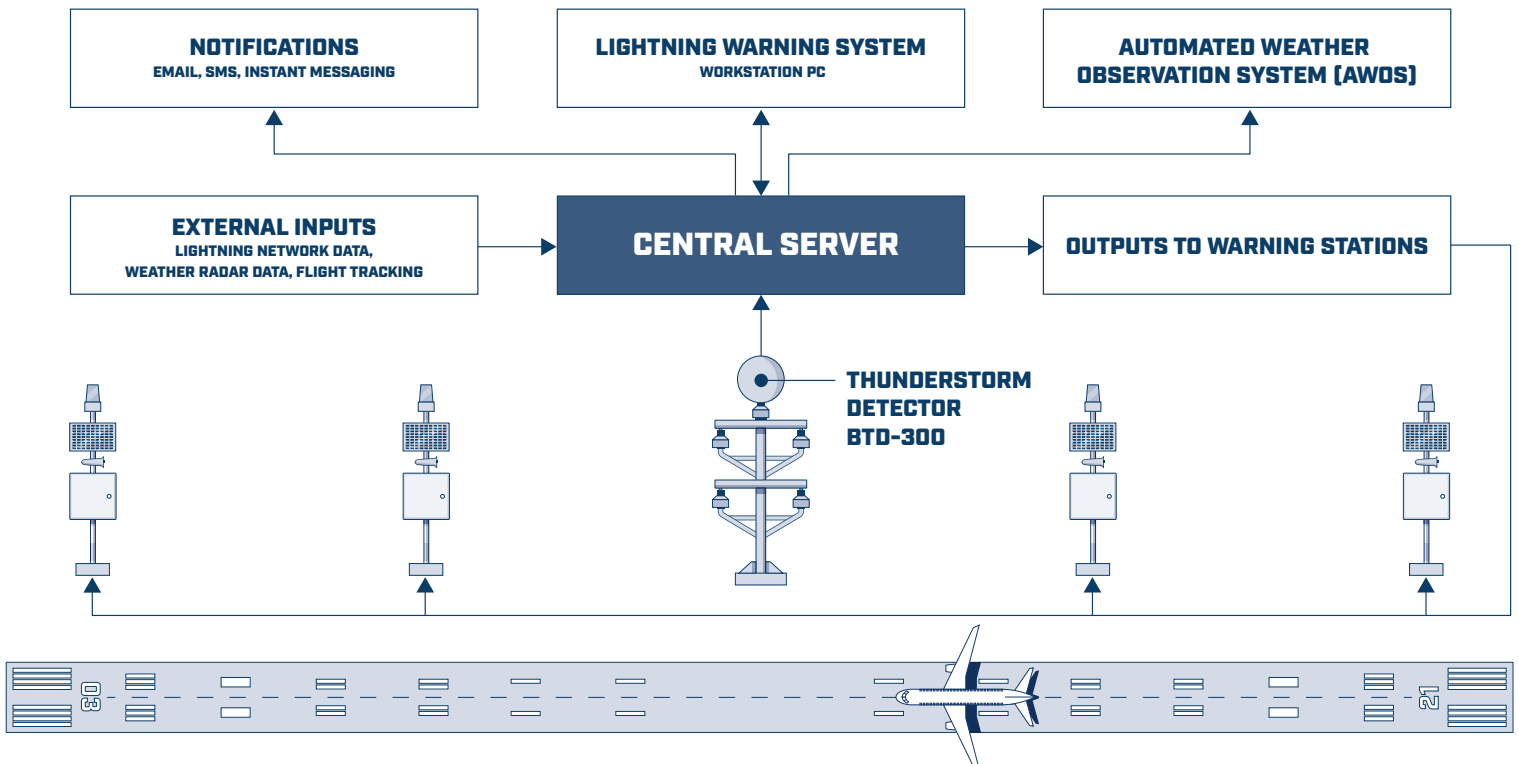
Advanced Warnings and Situational Awareness Display

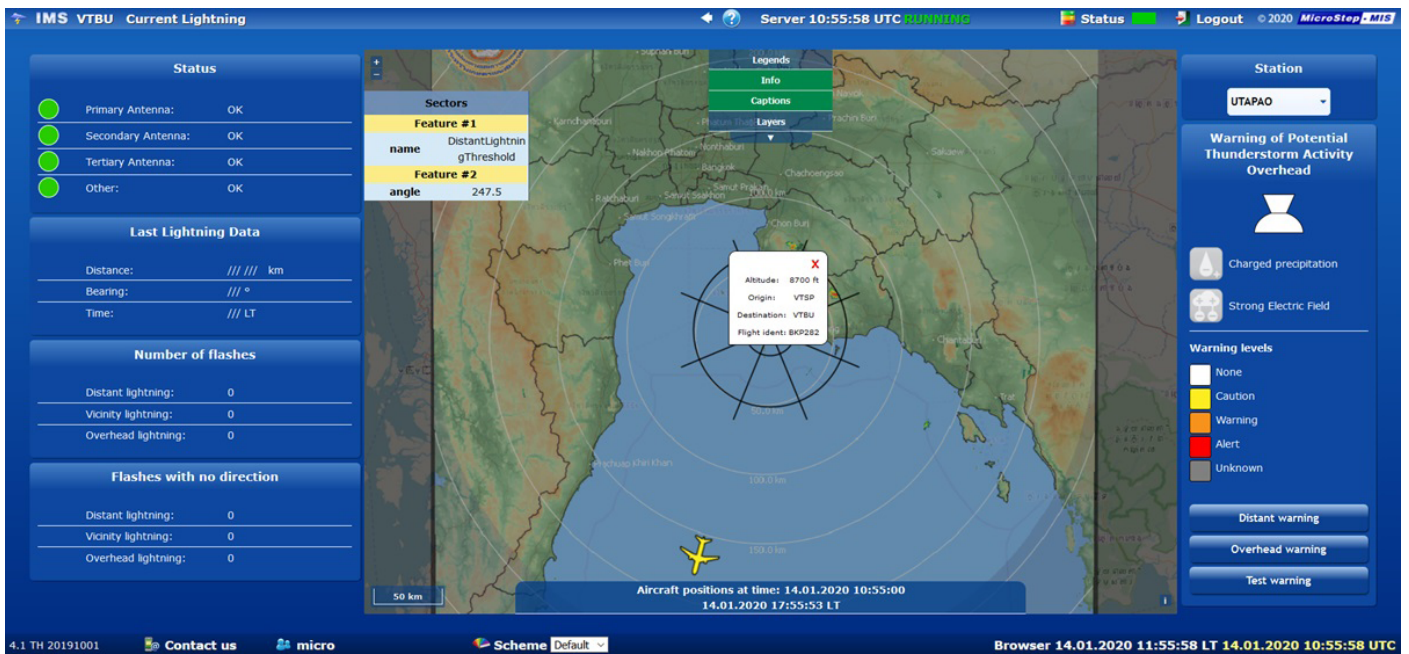
The IMS4 Maps web display provides the operators with the map layers showing the total weather situation at and around the airport:

- individual flashes with the age indication,
- storm cells data as a result of the raw lightning data clustering
 - » storm cells in form of the georeferenced polygons
- storm cells nowcasting products
 - » tracking in time
- polygon indicating the speed and direction of the threat as well as its probable location and duration,
- radar products (CAPPI, ColumnMax, nowcasting products etc.) from MicroStep-MIS or 3rd party radar
- background map
- flight tracking

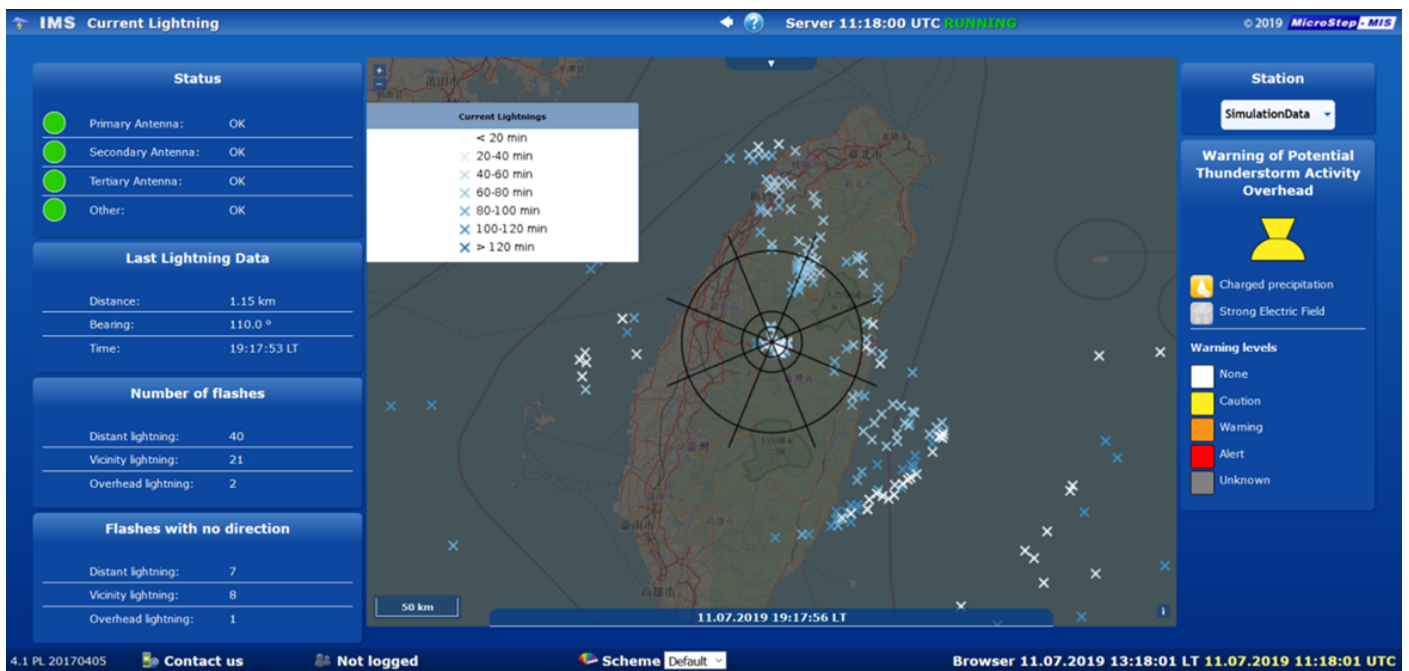


Warning station





Current lightning display



Lightning visualization

System requirements

- Standard server or a dual hot-failover cluster
- Linux or Microsoft Windows 7/10/Server 2012 operating
- Mozilla Firefox/Google Chrome/Edge (Chromium-based) browsers supported

Compliance with standards

- ICAO Annex 3 and 10 for Data Processing and Reporting Practices
- ICAO Annex 14 Aerodrome Design and Operations
- IATA Ground Operation Manual
- OGC Web Map Service, Web Feature Service
- ISO 9001: 2015



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