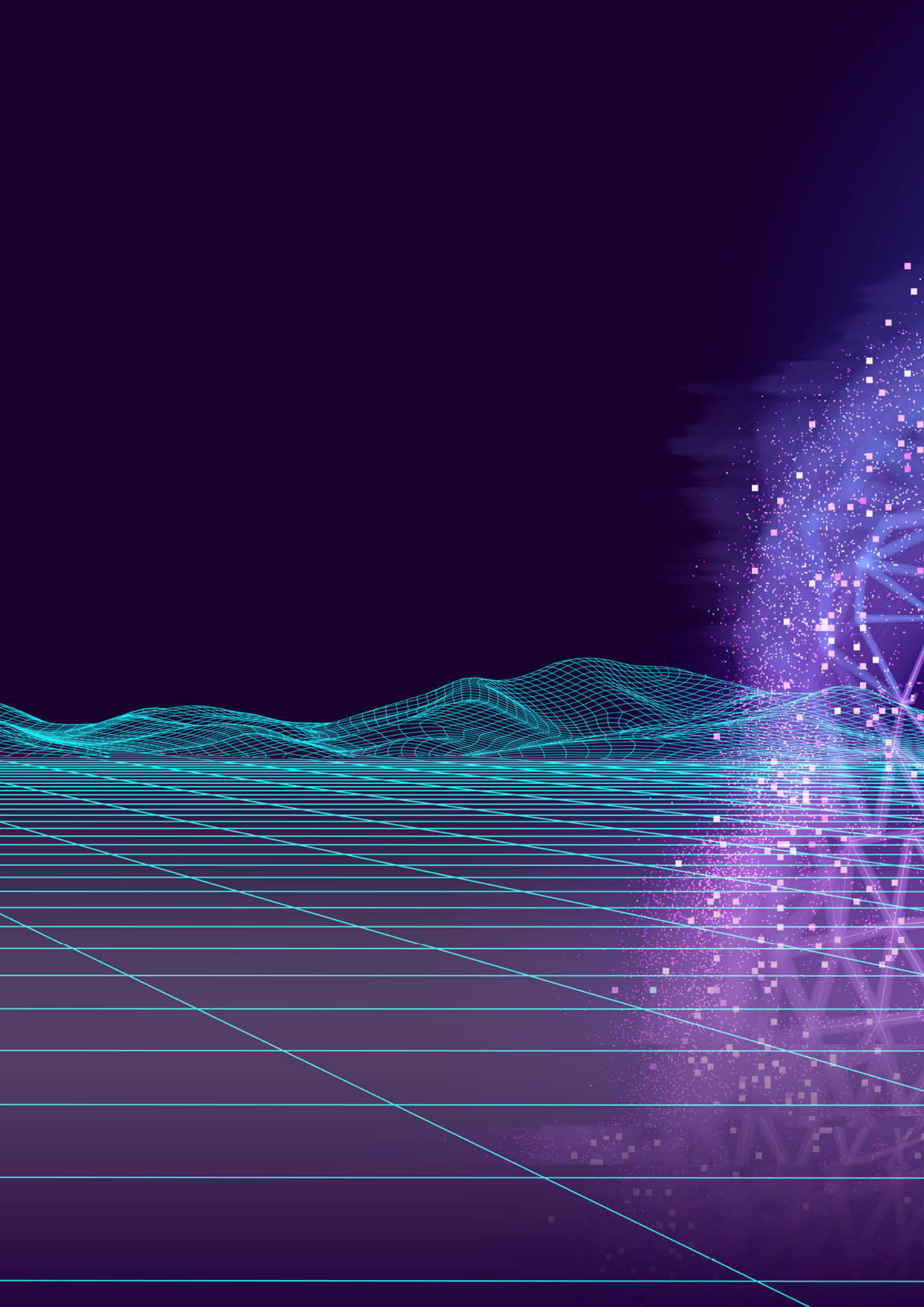
CIVIL AVIATION

STM



STM Savunma Teknolojileri, Mühendislik ve Ticaret A.Ş.

STM was established in 1991 for the provision of project management, system engineering and consultancy services to the Defense Industry Agency (SSB) and the Turkish Armed Forces (TAF).

The SSB continues to be the majority shareholder in the company, which has a workforce of 850 people, 63 percent of whom are engineers.

STM is among the leading companies operating in the defense sector, and is engaged in projects, particularly in the fields of naval platforms, tactical mini UAV systems, cybersecurity and IT services, command and control projects, satellite technologies, military aviation, radar and electronic warfare, and procurement and consultancy services.

Aside from its involvement in many national projects being conducted by the Turkish defence sector, STM is also engaged in export and business development activities for NATO with operations in more than 30 countries.

In addition to acting as the main subcontractor in the MiLGEM Project for the development of Türkiye's first national corvette, STM is also carrying out the detailed design as the main contractor in the project for the construction of TCG İSTANBUL (F-515), Türkiye's first national frigate.

STM has undertaken important tasks in submarine modernization and construction projects for the Turkish Navy, and is also responsible for Türkiye's first submarine modernization export, taking the lead role in the Pakistan AGOSTA 90B project.

STM developed KARGU, Türkiye's first indigenous attack UAV System, and launched Türkiye's first Cyber Fusion Center in 2016.

Through the INTEL-FS2 Project, STM ensures the flow of intelligence between all NATO headquarters around the world, and is successfully engaged in one of Türkiye's largest software exports to the Organization.

STM diversifies its technology-based activities to meet the needs of the public and private sectors – in particular those related to the Turkish defense sector.

STM is headquartered in Ankara, the capital of Türkiye, and continues its operations out of nine facilities, located in İstanbul, Gölcük and Ankara, as well as Pakistan.

STM was for three consecutive years listed on the Defense News Top 100 list of the world's top 100 defense companies.

OpsMet

Meteorological Analysis Dashboard

It is a web based meteorological analysis application with a specific database consisting of historical (about 25 years) METAR, TAF and SPECI reports for airports where the airlines perform flights or have a potential to perform flight.

CAPABILITIES | COMPETENCIES

- Through the OpsMet service, users can receive retroactive graphical and formatted reports using various parameters.
- Various predefined analyses such as incident inquiries, prevailling wind analysis, wind component, field vision analysis can be reported by using OpsMet.
- The OpsMet database is updated automatically with METAR, TAF and SPECI reports published daily.

AREAS OF USE

- Determination of appropriate tariff days and hours
- Provision of appropriate crew assignment
- Improving the number of passengers carried
- Presentation of accurate airfield weather forecasts
- Contribution to decision-support process at the stage of flightplanning (cancellation, delay, fuel, etc.)
- Determining the requirements of the field facilities (de-icing etc.) and maintenance equipment (lightning strike)

SECURITY

- OpsMet uses only registered data coming from registered weather condition data provider systems.
- The system is operated in a closed network that all nodes, servers and clients are on the same VPN.
- The communication infrastructure used in the OpsMet system is the server-client architecture running on the secure HTTPS protocol.

FLEXIBILITY AND EXTENSIBILITY

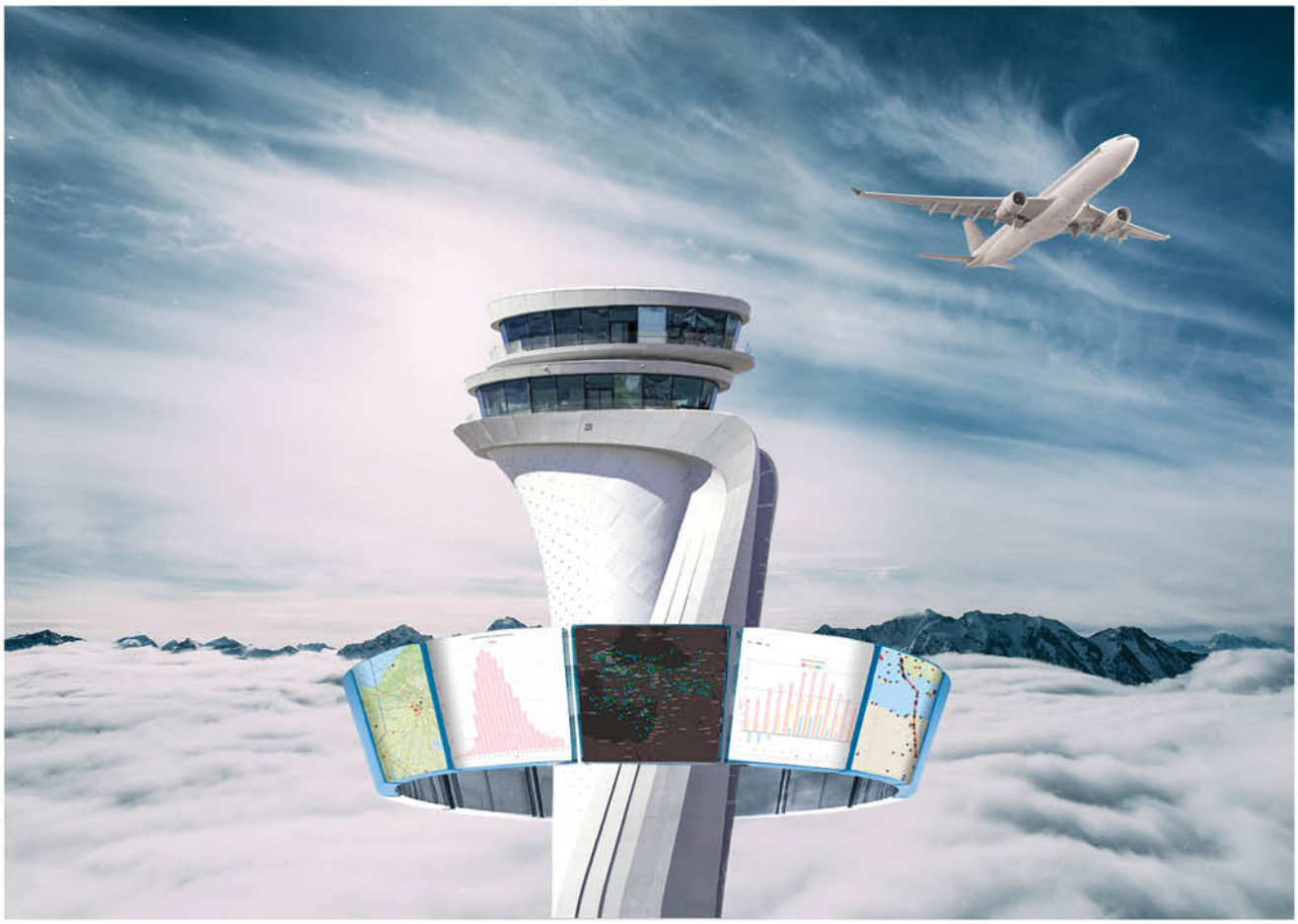
- High-end web-based technologies such as HTML5, Javascript, D3.Js, Node.Js were used in the development of OpsMet.
- The OpsMet database contains verified retrospective METAR, TAF and SPECI broadcast data for more than 1000 fields worldwide. The desired retrospective data of any field can be easily added to the OpsMet database.
- OpsMet can be integrated with operational support systems such as flight planning and crew assignment system to make flight operation and planning using more accurate and processed weather data.
- In the OpsMet road map, it is anticipated that detailed analyses of the METAR, TAF and SPECI reports published and weather forecasts on the flight route can be made in the coming period.

Turkish OpsMet Powered by OVERA

OpsEye

Integrated Flight Surveillance System

OpsEye is a traffic tracking system for the apron area that supports flight operation control units and directly contributes to the decision support mechanism in tactical operation. The system provides instant information about airplanes such as door closing, push-back, airborne, approaching and live monitoring of ground traffic, and location identification, and operates in integration with the airline's internal operational systems. With OpsEye, real-time aircraft and vehicle traffic tracking in airport apron area and approach course can be done; and with diversion module, in divert situations, landing to alternate airport and following operation coordination can be carried out.



CAPABILITIES | COMPETENCIES

- Integrated with airlines operational systems
- Direct contribution to operational decision support processes
- Enhanced recording, replaying, filtering and reporting capabilities
- Support for flight operations with preventive warnings
- Effective assistant in interruption management
- High-performance, web-based solution for real-time traffic tracking
- Landing management support to the alternative airport

SECURITY

- OpsEye only uses data from system-defined ADS-B antennas and airline operational systems.
- The system is operated in a closed environmentthat all nodes, servers and clients are on the same VPN.
- Unlike other third-party flight tracking applications, OpsEye collects data only from assigned and dedicated sources.
- The communication infrastructure used in the OpsEye system is the server-client architecture running on the secure HTTPS protocol.
- The system provides input to existing flight operational systems and future A-SMGCS (Advanced Surface Movement Guidance and Control System) systems.

MODULARITY AND EXTENSIBILITY

- High-end web-based technologies such as HTML5, Javascript, Apache Storm and Node.Js were used in the development of OpsEye.
- The data received from the airline operational systems are combined with ADS-B data to provide an integrated monitoring and tracking system to clients.
- OpsEye has the ability to track real-time and high-precision air and ground traffic, covering all Turkish and European airspaces.
- The next phaseof the OpsEye system is a flight tracking system that can track instant air and ground traffic all over the world.

OpsEye
Powered by IOCC

AeroTab

Electronic Flight Bag

Paperless Integration of Cockpit and OCC

CAPABILITIES | COMPETENCIES

- Portable Type A and Type B Electronic Flight Bag Solution
- User friendly application compatible with all aircraft types
- Modular infrastructure compatible with “Paperless Cockpit” concept
- Effective use at all stages of the flight
- Easy-to-use, remarkable interface designed for pilots
- Multi-point, touch operable design

INTEGRATION WITH AIRLINE OPERATIONS MANAGEMENT SYSTEMS

- Smart operational flight plan processing and EFB data packaging(Electronic Flight Folder)
- Easy user management (integrated with airline management systems)
- Document management system concordant to airline hierarchy which works synchronously with EFB mobile application
- SOA-based integration with airline systems

FLIGHT DATA MANAGEMENT

- Online/offline data retrieval
- Advanced document display and management
- Management and demonstration of aviation plans
- Detailed search and filter capability
- Performance calculations

INTEGRATION WITH AIRLINE PROCESSES

- Weight & balance calculation application with optimum load distribution
- Takeoff and landing performance calculations.

AVIONIC INTEGRATION WITH AIRCRAFT

- Integration with the flight management system on the aircraft via ARINC-429 protocol
- Reading and displaying instant location, fuel and time information from the aircraft
- Automatic flight plan update with dynamic FMS data

ASSISTANTSHIP SERVICES BEFORE AND AFTER FLIGHT PROCESS

- Electronic signature
- Dynamic e-log creation
- Flight and maintenance logbook integrated with technical logbook
- Post-flight data packaging and archiving

AeroTab

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