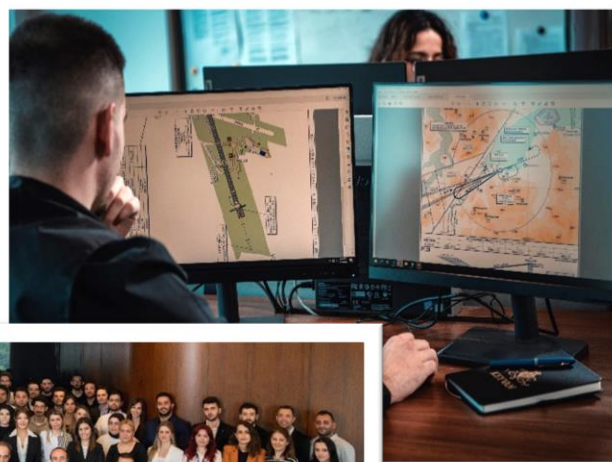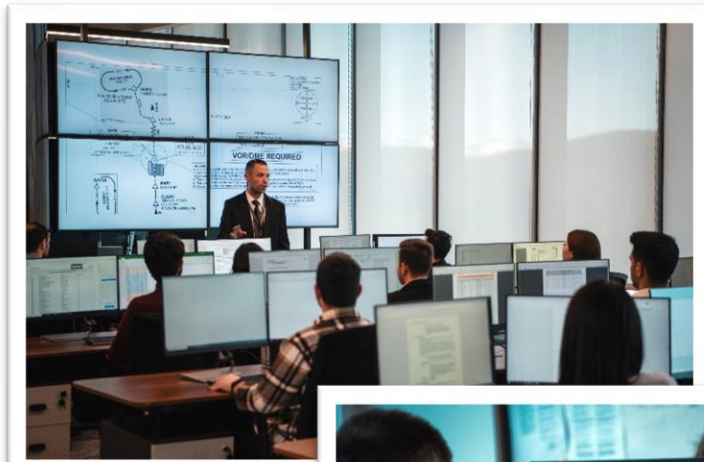# KEYVAN

Aeronautical & Navigation Database

About KEYVAN Aviation

KEYVAN Aviation is an Aviation Support and Service company, specially working to support the customers with the innovative ideas , product and solutions related to Flight Operation and Data Analytic.

A wide range of the services for Aircraft Avionics Manufacturer, Airline's Flight Operation Departments, Flight Planning systems, Airports, flight Simulators, developed by combining the experience, Special training and know-how and digital innovation with highest level of quality controls and checks.

Aeronautical and Navigation Database is the main core of our production line and our mission is to deliver worldwide data coverage with reliable data content analyzed by our experienced team. We are using our own Aeronautical & Navigation Database to support customers with Flight planning and route analyzing solutions, simulator data requirements, and new system development options.

KEYVAN Aviation's Expert team are available to support the customers with their consultancy and training needs. We are taking steps towards becoming one of Turkey's most important brands in the international aviation arena.

Quality @ KEYVAN Aviation

KEYVAN Aviation is committed to Aviation Safety and never compromises on the Quality of the services providing to the customers. KEYVAN Aviation follow the global standards and regulation. KEYVAN Aviation Quality system is based on the ISO 9001 , and all departments of the company undergo review on the regular bases to make sure about effectiveness of our quality system. Aeronautical Database analyzed in KEYVAN Aviation proceed and produced as per EU Regulation 2017/373 and Standard ED-76A (DO-200B) and requirements of ED-77 (DO-201B). KEYVAN Aviation holds ISO 27001 certificate , presenting our setup for Information Security Management System. KEYVAN Aviation received EASA TYPE 1 DAT Provider certificate for providing the Aeronautical and Navigation Database for Type 1.

Keeping the understanding of quality service in the foreground, ensuring the adoption of the quality management system and continuously increasing its effectiveness. Comply with all requirements published by TDGCA (Turkish Directorate General of Civil Aviation), ICAO, EASA. Establishes and promotes Quality and Safety cultures throughout the company. Continuously monitor changes in international legislation and make necessary adjustments by effectively utilizing the Compliance Monitoring System and Quality Assurance Program. Based on the principal of "No Compromise for Safety", meeting the needs of state and customer by means of stringent safety and security measures with managing risks.

First in TURKEY , 4th Globally EASA approved organization.

Aeronautical & Navigation Database by KEYVAN

KEYVAN Aviation offer Aeronautical and navigation database solution with worldwide data coverage, the database included more than 27,000 Airports, more than 35,000 Runways including with Civil , Private and Military category , globally , and millions row of data included with Airways , Navaids, Waypoints and procedures related to airports , restrictive and prohibited zones and ect. Data process and quality checks perform as per ED-76A (DO-200B) international standard and ED-77 (DO-201B) Data requirements , match with EU Regulation 2017/373 and under the EASA Type 1 DAT Provider Certificate. The final database delivered as per ARINC424 standard and format (Version 22) and customized to each customer's needs and requirements. Data used to create KEYVAN Aeronautical Database generated by analyzing the AIP , AIC and NOTAMs received from 195 countries every 28 days. Final database is usable by Avionics manufacturer , Flight planning and simulators and flight departments. KEYVAN Aviation implemented Data Quality Requirements (DQR) and Aeronautical Information Processing Procedure to process the data and create the final ARINC 424 database, and all process audited and approved by European Aviation Safety Agency (EASA) and Type 1 DAT Provider Certificate issued with Reference no. EASA.AOA.DAT.033 . For each update and change, every effort is made to ensure the data passed our quality system and meet the needs of EU Regulation 2017/373 as well as RTCA DO-200 and EUROCAE ED-76, and final outcome containing the most up to date, complete and reliable information available as per states publications. The Aeronautical Database will be available as a download from our worldwide customer services site, the updates will conveniently be available as per AIRAC effective dates.

Airports

Airlines

Data Analysts

Source Data

Source Data

Source Data

Procedure

Designers

Aeronautical
Information
Publication

NOTAM's

Navigation
Database

Extract

ARINC 424

Avionics Packing Program

Charts

Other

Users

ARINC 424

Simulator
Process
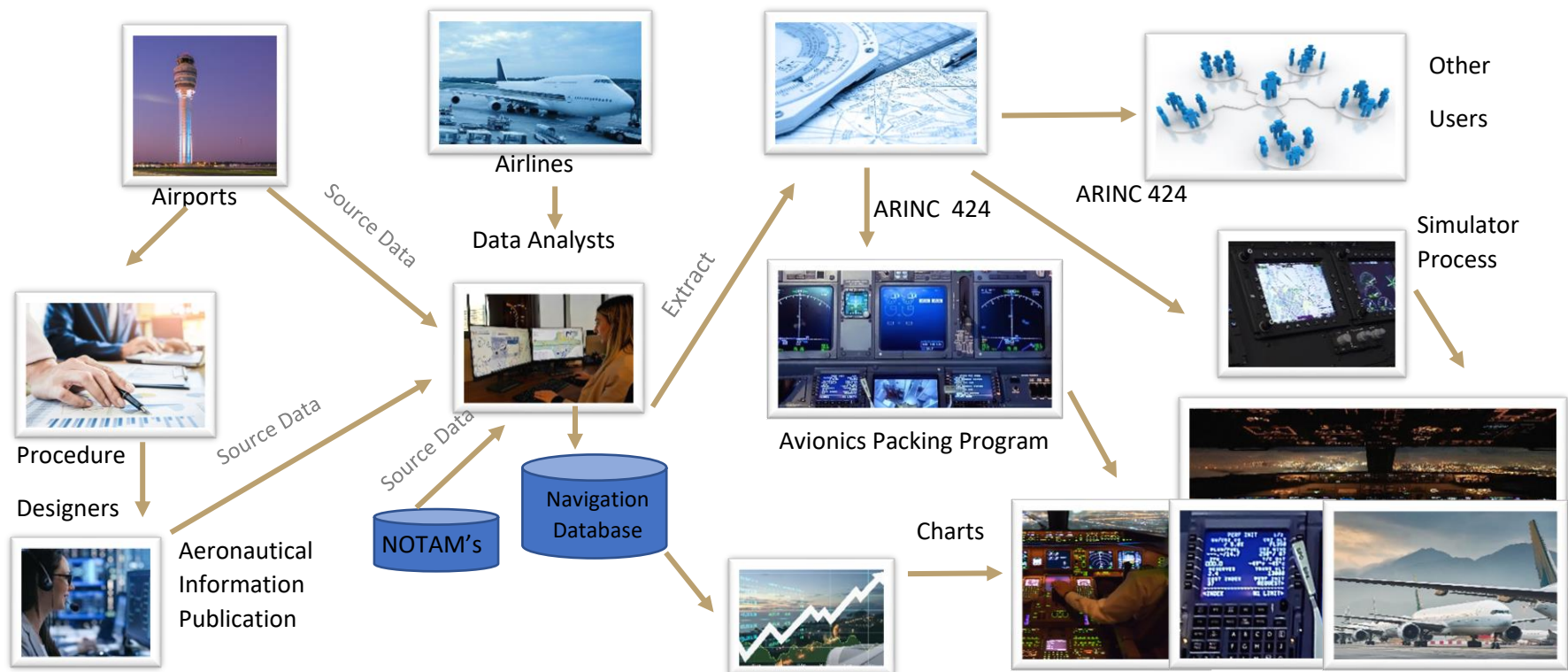
Product Content Quick Overview

COVERAGE WORLDWIDE 195 COUNTRIES

AIRPORT 27,632

RUNWAY 35,885

PC WAYPOINT 159,432

EA WAYPOINT 85,371

AIRWAYS 108,256

HOLDING PATTERN 28,825

COMM 54,227

UC AIRSPACE 581,510

HELIPORT 9,872

FIR/UIR 276,351

UR AIRSPACE 165,816

STAR 164,613

APPROACH 411,016

SID 220,494

GATE 52,869

ILS 4,343

GLIDER SITES 400 (T)

ULTRA-LIGHT SITES (T) 1,250

WATER AIRFIELD 445

MILITARY INCLUDED 684

FLIGHT PLANNING CONTINUATIONS

GRIDMORA 2,160

Database Field & Records Content

KEYVAN Aviation delivered the final Aeronautical and navigation Databases in ARINC 424 format. Below field and records are included in the database.

- ➤ NAVAID Records
- ➤ Waypoint Records
- ➤ Holding pattern
- ➤ Enroute Airways Records
- ➤ Airport Records
- ➤ Flight Procedures Records
- ➤ Runway Records
- ➤ LOC Records
- ➤ Airways Marker Records
- ➤ FIR/UIR Records
- ➤ Restrictive Airspace Records
- ➤ ENR Restriction Records
- ➤ ENR Communication Records
- ➤ Controlled Airspace Records
- ➤ Special Activity Area
- ➤ Helipad Records
- ➤ And related records to Heliport.
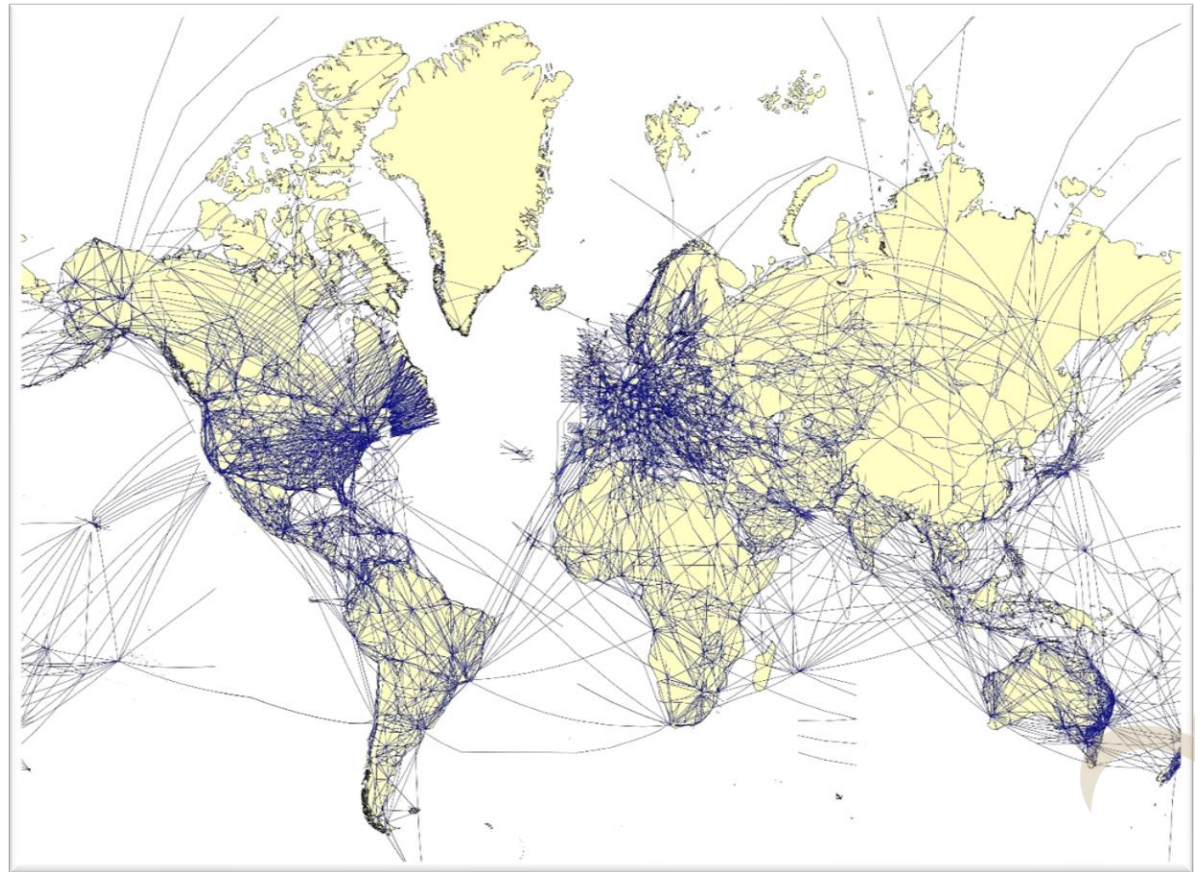
KEYVAN Aeronautical Analytic Department is ready to customized reserved fields customer requirements after required Data Quality agreements.

Database Topology
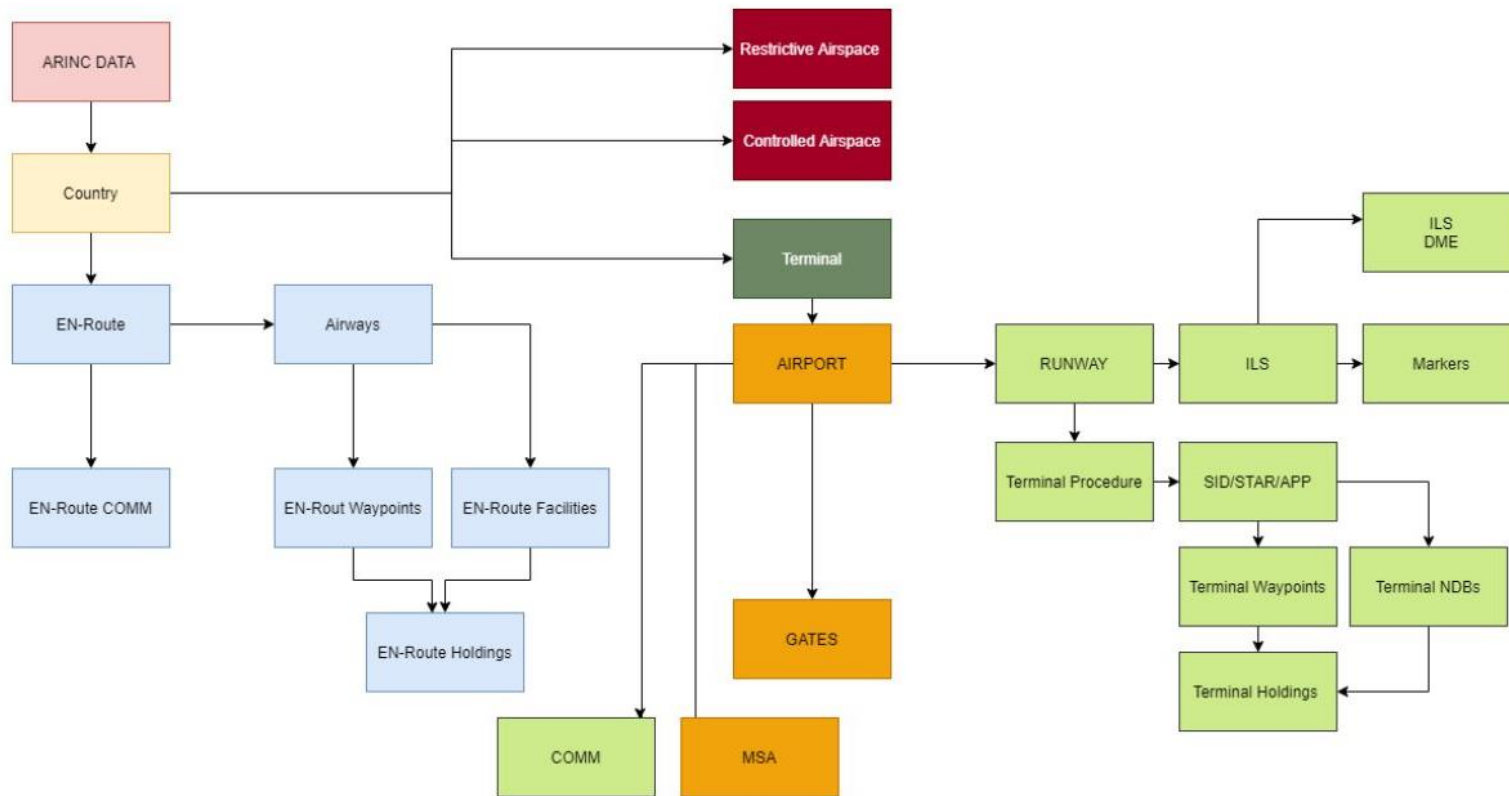
Who is the User ?

Aeronautical & Navigation Database is suitable to use on below applications :

➢ LOA Type 2 Data Providers , to produce the loadable Navigation
   Database for Flight Management System, (Page 10)

➢ Flight Planning Systems and Applications, (Page 11)

➢ Flight and Route Analyses Systems and Applications, (Page 11)

➢ Aircraft and Helicopter Electronic Flight Bag Systems, (Page 12)

➢ Runway Data Required Systems

➢ Special Mission and Special Planning Applications, (Page 13)

➢ Flight Simulators, (Page 14)

➢ Airport investments, (Page 15)

➢ Procedure Design

➢ Data Visualization Solutions, (Page 16)

Flight Management System (FMS)

The Flight Management System (FMS) provides all navigation and performance calculations on the aircraft.

Components:

1. Flight Management Computer (FMC)

2. Control and Display Unit (CDU)

3. Database

    3.1. Performance

    3.2. Navigation (Every 28 days, the navigation database must be updated within the framework of the AIRAC cycle)

KEYVAN Aviation is authorized to produce Aeronautical & Navigational Data with EASA approved LOA Type 1 DAT Provider certificate. It transforms this data, which is produced using aeronautical information publications approved by countries and authorities, into ARINC-424 (Navigation System Database Standard) format and delivers it to companies holding LOA Type 2 DAT Provider Certificate. And it is uploaded to Flight Management Systems by these companies every 28 days.

Flight Planning & Route Analysis Systems and Applications

By providing direct access to global aeronautical data, KEYVAN provides consultancy services to airline companies by providing new destination planning with flight information, routes and data on passenger movements filtered on a country and regional basis.

It provides the most appropriate route planning with reports prepared specifically for airline companies. The performance values of the aircraft are calculated with the data contained in these reports. Thus, our customers around the world both save fuel and control the total cost.The special routes we design as a result of the analyzes made in line with the needs of the airline companies are uploaded to the Flight Management System of the aircraft by the contracted LOA Type 2 DAT Providers.

Electronic Flight Bag (EFB)

It is an electronic information management device that allows information to be found electronically in aircraft and helicopter cockpits without having any printed documents. Our reliable and high quality Aerınautical & Navigational Database system is served to Electronic Flight Bag manufacturer companies to keep Electronic Flight Bags up-to-date.

Military Duty Applications

The most up-to-date Aeronautical & Navigation Database produced by our company provides services to governments for regional flight planning of countries, and applications required by risky and sensitive military operational needs.

Our Aeronautical & Navigational Database, which is approved and valid worldwide, can be used in the FMS of military aircraft, operations with manned aircraft, as well as in all private flights of UAVs and AUAVs.

With our ability to produce the most detailed and holistic aeronautical and navigational data; we provide analytical solutions to support specific flight planning requirements by integrating data on military, restricted and controlled areas.
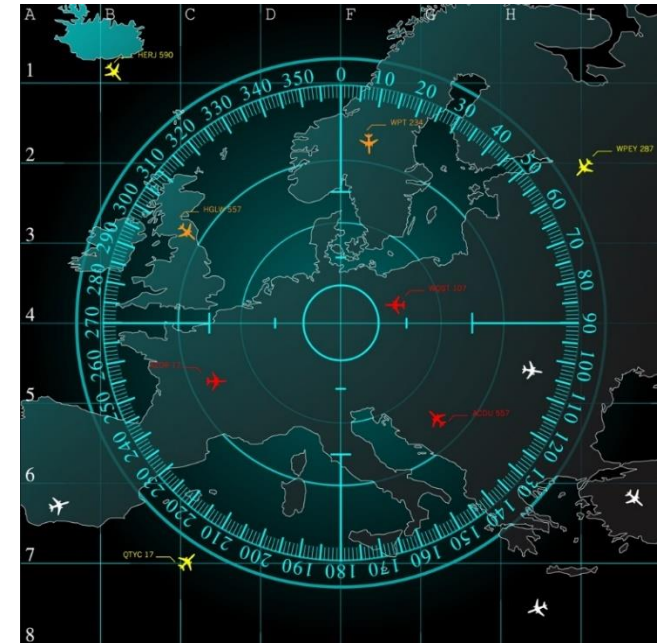
Special Planning Applications

Our Aeronautical & Navigational Database provides flight planning and navigation data requirement services as well as data specifically designed for VIP flights, search & rescue, humanitarian operations.

Flight Simulators

Simulators are one of the most critical and important support components for pilot candidates and pilots to develop their knowledge and gain different experiences. It allows them to experience approaching different aerodromes, as well as landing on runways with different characteristics, different descent procedures and difficult navigational flights.

Our database, which includes Aeronautical & Navigational data from 195 countries, offers the opportunity to perform flight training at every airport in the world with the most up-to-date information. Our database system can be used in flight schools where pilots are trained as well as simulator flights in airlines.

Airport Performance Measurement & Management Tool

The ever-growing flight network, the increasing number of aircraft and travel needs open doors to new airport investments. Data design and optimizations are critical for the approach routes, descent and landing procedures, which are among the biggest milestones of new airports, and departure routes that connect the departing aircraft to the airline.

KEYVAN Aviation has prioritized customer demands, along with flight safety, in the procedural data it has prepared specifically for airport investment companies.

Data Visualization Solution

The Aeronautical & Navigation Database visualized on the map is updated hourly with the available NOTAM in addition to being updated every 28 days (AIRAC) as standard.

FIR/UIR, AIRPORT, RUNWAY, GATE, "Prohibited and Restricted" areas and special activity areas that we produce as Keyvan Aviation; SID , STAR , "Approach" procedures provide visualization of all navigation and communication possibilities for a given FIR or Airport, in addition to Airways and Waypoints.

On the occasion of this visualization, the user; According to NOTAMs, it can actively project the airspace, limitations and waypoints, airlines, procedures, runway, gates and detailed information about them. Visualization also helps OCC and operations departments to monitor the operation with different parameters together. The final product has 2D and 3D options and will combine with ADS-B signals to check the effectiveness of SID/STAR/APPROACH procedures and new improvements based on reports generated based on actual flights at each airport. This option will help plan and improve airport management procedures and determine the impact of any temporary closures that may occur on airport surface movements.
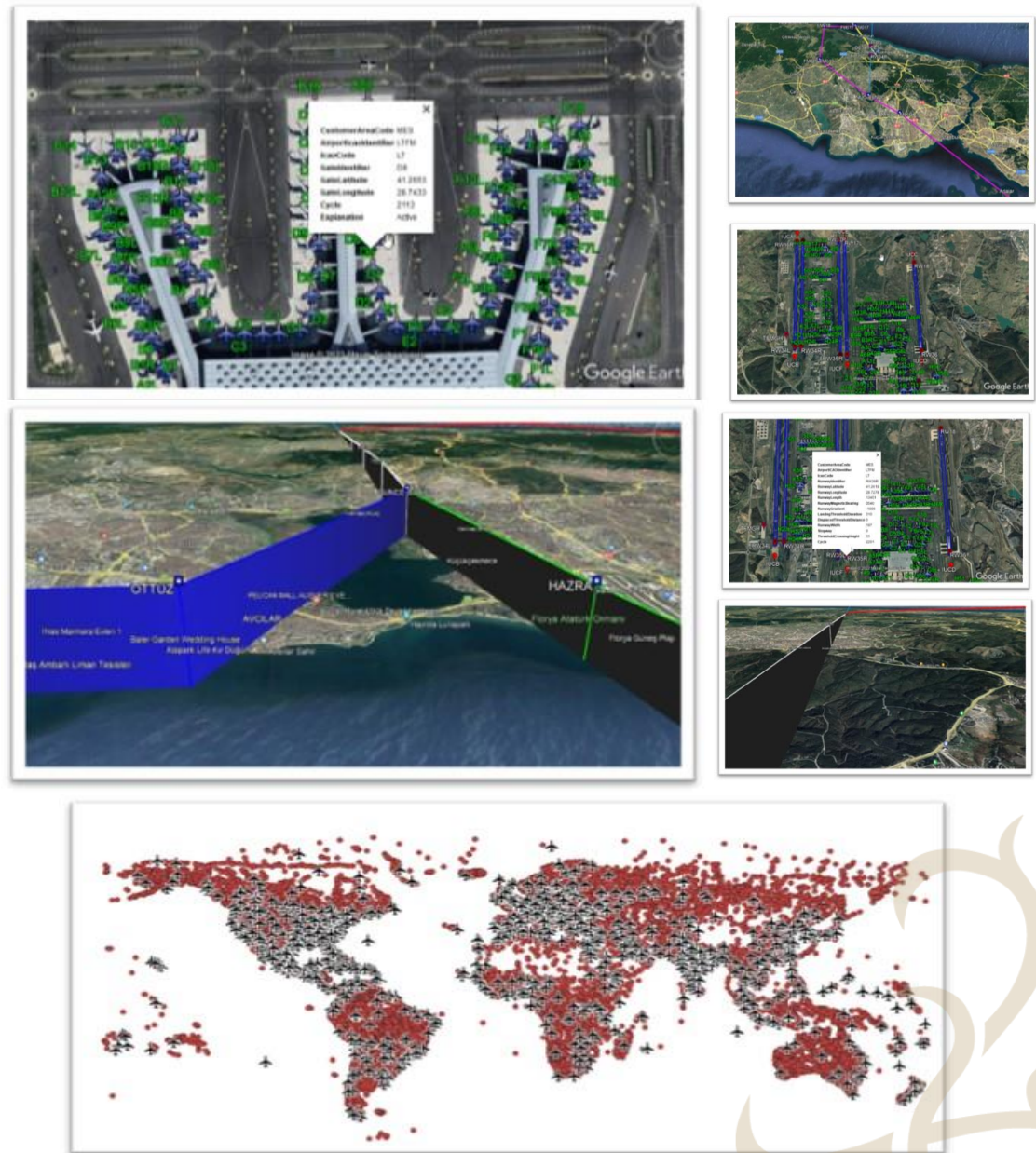
Why KEYVAN ?

➢ Highest data quality with REAL largest global coverage

➢ EASA Approved and certified Data Analytic and Production

➢ 24/7 Customer Support

➢ All in one solution for your Aeronautical and Navigation Data needs

➢ And produced by a globally recognized company:

MEMBERSHIPS

SPONSORSHIPS

To subscribe KEYVAN Aeronautical & Navigation database services , or For more information kindly contact our expert team by using the **Contact Us** form in our website or send an Email to: **navdb@keyvan.aero**

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