

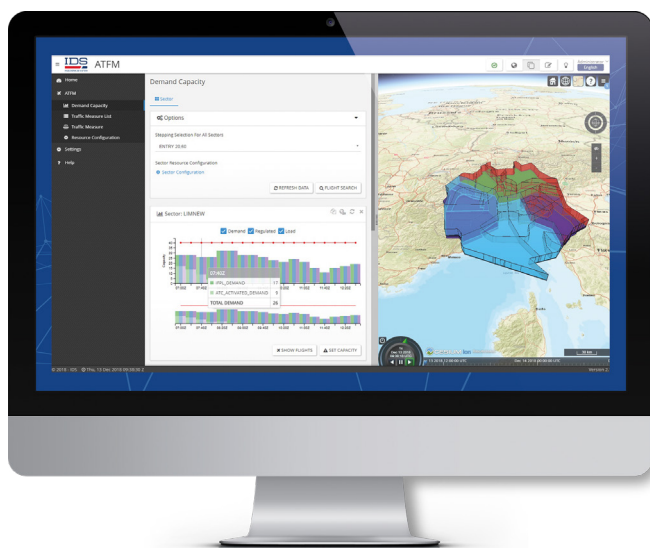
# ATFM solution

» The Air Traffic Flow Management (ATFM) service shall be implemented for airspace where air traffic demand at times exceeds, or is expected to exceed, the declared capacity of the air traffic control services concerned (ICAO Annex 11, Air Traffic Services).

Moreover, as a general rule, ATFM is needed whenever airspace users are faced with constraints on their operations, and in areas where traffic flows are significant. ATFM is an enabler of air traffic management (ATM) efficiency and effectiveness. It contributes to the safety, efficiency, cost-effectiveness, and environmental sustainability of an ATM system. It is also a major enabler of global interoperability of the air transport industry (ICAO Doc 9971, Manual on Collaborative Decision-Making).

ATFM aims at ensuring that air traffic control (ATC) capacity is utilised to the maximum extent possible, and that the traffic volume is compatible with the capacities declared by the appropriate air traffic services (ATS) authority.

Increasing intercontinental traffic will continue to drive the need for ATFM stability and data exchange. It is critical that States collaborate to implement cross-border ATFM procedures that consider the whole route of flight. In fact, ATFM is most effective when it covers a logical ATM region in order to contribute to global ATFM. This service requires precise and accurate airspace data and flight plans. Additionally, all stakeholders need to be more directly involved in ATFM, specifically airport authorities beyond ACDM applications. The vision for ATFM requires regional connectivity that drives global harmonisation to ensure maximum efficiency of airspace is realised.



## IDS AirNav Solution to meet the future ATFM challenges

The IDS AirNav vision extends the common definitions of ATFM which address the Strategic, Pre-Tactical and Tactical phases of air traffic management performed by the ANSP authority in collaboration (e.g., Collaborative Decision Making (CDM)) with aircraft and airport operators. In particular, the main operational needs to be faced are the following:

- A timely evaluation of demand vs. capacity imbalances and associated impacts;
- Evaluation process constantly integrating operational constraints and weather forecasts;

## ATFM

- Better solutions (TMIs) to improve efficiency and capacity usage;
- Multiple scenario evaluation to solve imbalances with one TMI or multiple combinations;
- Impact assessment of special uses of airspace on traffic intention for the day after;
- Improved solutions around predicted severe weather;
- Enhanced stakeholders' situational awareness via CDM sessions;
- Assistance for ATS

The main functions of the IDS Airnav web-based suite are:

- Demand and capacity providing traffic forecast over sectors and airports according to current airspace configurations;
- Traffic Situation Display providing live traffic awareness on current sector configuration;
- Integrated OIS and dashboard for NOTAMs, Advisories, Runway Configurations and operational alters and warnings publication;
- Multi-source management for flight data;
- Multi-display options (Load Graph-Histogram-Map) with consistent controls;
- AIREON READY solution able to visualize ADS-B data and correlation verification with RADAR track
- Capacity probing and impact evaluation;
- Sector configurations data ingestion, enhanced querying and filtering tools;
- Static and dynamic aeronautical data ingestion;
- What-if functionalities for multiple scenarios/TMIs;
- Integration and display of weather data (TAFs and METARs);
- Automatic reporting capabilities;
- 4D Trajectory calculation;
- Coordination with ANSPs' internal units and stakeholders via a CDM shared board;
- AIXM, FIXM; WFS, WMS, Asterix, JSON, exchange models and standard supported.



## Delivered Benefits to Operations

- Deliver to ATM community an integrated Air Traffic Flow Management system for enhancing safety, improving efficiency and predictability from gate to gate, ensuring fair and equitable use of all airspace and enabling future curb-to-curb efficiency improvements;
- Provides operators with tools to effectively meet the modern challenges of ATFM (FF-ICE) considering evolution towards Regional and Global ATFM;
- Future ATM vision includes a holistic and seamless view to all flight lifecycle (from strategic to post-operations);
- Uses leading-edge web technologies (Digital ATM) and standards (SWIM and legacy) to deliver the benefits of modern architecture in terms of integration, flexibility and interoperability system-to-system;
- It is designed to be scalable and modular to support different emerging needs and a wide range of customers.