

# ALPHA

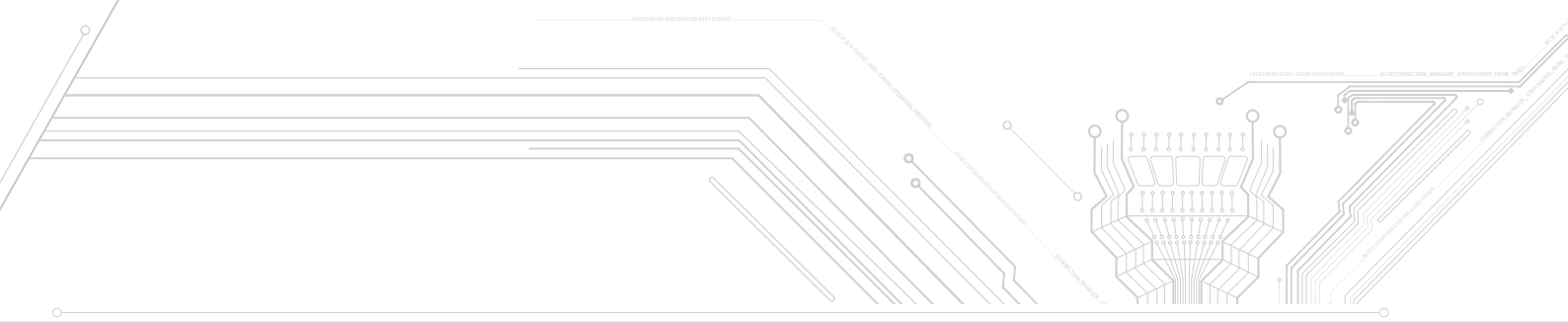
## AIR TRAFFIC CONTROL SYSTEM

ALPHA ATC System is a high-tech multi-purpose system providing air traffic, flight plan, weather and air navigation data receipt, processing, integration and display at air traffic control workstations.

### FUNCTIONALITIES

The system functionality enables ATC staff to get comprehensive situational awareness picture and to make prompt decisions under high air traffic intensity conditions:

- Receipt, multi-sensor processing and display of surveillance air traffic situation data
- FPL data receipt and distribution to sectors
- FPL data display as various types of lists depending on flight stage (stripless non-radar control)
- Weather data receipt and display
- Configurable integrated multi-window user interface
- Calculation of 4D trajectories using BADA data and considering weather
- **Safety Nets:**
  - warning on predicted and actual descent below minimum safe altitude (MSAW)
  - warning on predicted and actual safe separation thresholds (SSA)
  - warning on predicted and actual restricted areas approach and hazardous weather (APW)
  - short-term and medium-term conflicts alert (STCA, MTCD)
  - assigned route and altitude deviation alert (MONA)
  - unway occupancy monitoring during taxiing and approach (TSN)
  - control of fights in RVSM airspace
  - RNAV support alerts
- **Decision making support functions:**
  - vertical profile for routes and maneuvering areas (VAW)
  - tactical controller tools (TCT)
  - arrival/departure management (AMAN/DMAN)
- **Tower automation functions:**
  - course and glideslope approach monitoring window
  - graphic and tabular display of parking ramps occupancy
  - integration with ground traffic monitoring systems (A-SMGCS)
- automatic ATC handover/takeover between sectors
- voiceless (OLDI, AIDC) interaction between ATC centers
- CPDLC communication interface
- additional service functions (notebook, special calculator, notification of events on a preset time basis, etc.)
- standby surveillance data processing (by-pass)



## COMPONENTS

- Servers
- LAN equipment
- Automated workstations including:
  - unified radar and non-radar control workstations
  - ground traffic display workstation (TWR WS)
  - arrival/departure management workstation (AMAN/DMAN)
  - standby surveillance data processing and display workstation (by-pass WS)
  - reference information display workstation
- Technical control and monitoring workstation including:
  - control and monitoring workstation
  - multi-sensor processing quality control workstation
  - air traffic situation surveillance workstation

ALPHA ATC System is operated in more than 130 ATC units together with other systems of airspace and air traffic management. It is also used as the basic air traffic situation data processing and displaying subsystem within ATM automation systems of consolidated ATC centers. Maximum configuration implemented comprised more than 160 workstations.

