



## AIRFIELD SURFACE MOVEMENT SURVEILLANCE AND MONITORING COMPLEX OF AUTOMATED FACILITIES “VEGA”(A-SMGCS CAF “VEGA”)



Controller's console with A-SMGCS CAF  
“VEGA” equipment in Pulkovo airport



**A-SMGCS CAF “VEGA”**, which does comply with the second level of A-SMGCS as per ICAO classification, is intended for providing the controllers of taxiing, runway and landing with information regarding location and identification of aircraft and transport aids as well as other objects of surveillance equipped with transponders; monitoring of access to runway and its occupancy; maintaining airport capacity including situations of limited visibility; and for ensuring thereat the required level of terminal movement safety.

A-SMGCS CAF “VEGA” ensures processing and combining of data from several (up to three) airfield surveillance radars, terminal surveillance radar, aerodrome multilateration surveillance system and ADS-B aids, planned and actual data regarding aircraft locations and trajectories, weather conditions in airport zone and status of runway

surface directly from meteo-server or via airport ATC automated system as well as from other sources available.

Providing controllers with true information regarding location and movement parameters of aircraft and transport aids within the airport movement area thanks to combining of data from dependent and independent surveillance sources of data, does ensure possibility of automation of aerodrome movement surveillance and monitoring functions, of identification of unauthorized objects and their movement, generation of alarms and warnings about potential conflicts, working-out recommendations on conflict elimination, solution of other information-calculation tasks indispensable for ensuring aerodrome movement safety, especially in conditions of limited visibility.



A-SMGCS CAF "VEGA" comprises the following software-hardware complexes:

- SW-HW complex for combining of data;
- SW-HW complexes for controllers (quantity is subject to defining in the course of placing the order for equipment);
- SW-HW complex for engineer;
- SW-HW complex for flight director;
- SW-HW complex for registration, recording and archiving.

Set of A-SMGCS CAF "VEGA" comprises as well remote consoles for control and displaying of data, network equipment required, operational documentation and SPTA.

High performance data and technical parameters of A-SMGCS CAF "VEGA" are ensured by means of application of double "hot" stand-by, modern network techniques of distributed multi-processor processing of data that allows increasing functional potentialities of automated facilities complex and adapting to special features of an airport and to the Customer's requirements.

### Basic Technical Specifications

Parameter Denomination	Value
Number of workstations, pcs, not more than	9
Number of tracked objects	400
Continuous recording time, days	30
Delay of radar data displaying on the monitor, s, not more than	0.5
Capacity of data transfer in LAN, MB/s, not less than	100
Time of availability for service, minutes, not more than	5
Time of continuous operation, hrs, not less than	24
Time for switching-over to stand-by facilities, s, not more than	0.5
MTTR, hrs, not more than	0.5
MTBF, hrs	20 000
Power supply voltage, V with frequency of, Hz	230±10 50±1
Power consumption of the each component part, W, not more than	500



Example of operator's display appearance

### Implemented Projects





## A-SMGCS CAF "VEGA"

*Type Certificate  
issued by  
Interstate Aviation Committee*



A-SMGCS CAF is intended for equipping aerodrome control tower and for providing controllers of taxing, runway and landing with true data regarding location and identification on aerodrome movement area of aircraft, transport aids and other objects of surveillance, for monitoring of access to runway and its occupancy, maintaining airport capacity including situations of limited visibility.

## Interaction with Data Sources





## Basic A-SMGCS Functions Realized within A-SMGCS CAF "VEGA"



a) Surveillance

b) Monitoring

c) Planning

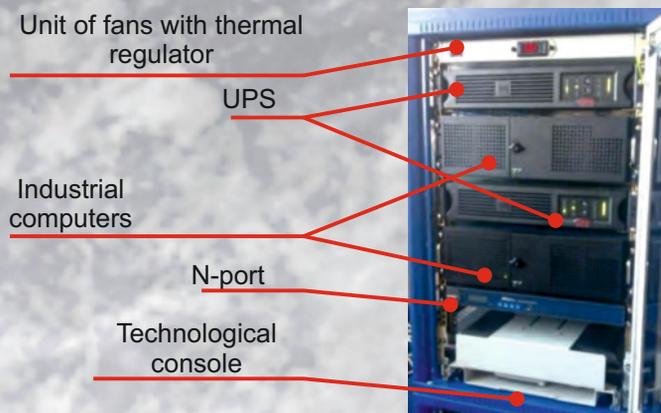
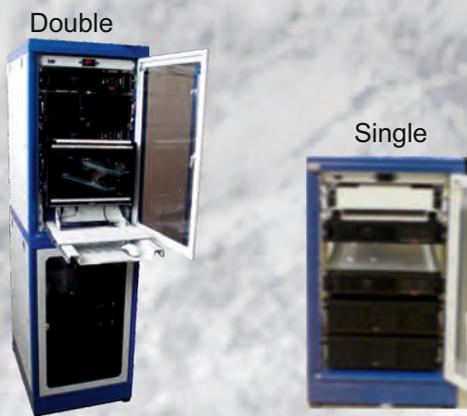
d) Guidance

*Basic A-SMGCS functions realized within A-SMGCS CAF "VEGA" recommended by ICAO in A-SMGCS Manual (Document 9830)*

## Placement of A-SMGCS CAF "VEGA" Equipment

**Equipment of A-SMGCS CAF is placed inside 19-inch racks**

**SW-HW complex**



**Example of placement of remote console for displaying of data**

