



Air navigation
and communication
systems



Equipment
for ANSP
and airports

Statement of AZIMUT

AZIMUT is a leading Russian developer and supplier of air traffic management equipment. The Company is actively involved in the work on modernization of the Unified Air Traffic Management System (UATMS) of the Russian Federation and is included in the newly created National Technology Centre for Aeronautical and Information Systems.

AZIMUT has managed to consolidate the assets of leading enterprises of the electronic industry. Today the Company runs scientific, technical and production centres located in Saint-Petersburg, Makhachkala, Nizhny Novgorod, Chelyabinsk, and Kaluga. Having united enterprises of the same specialization, AZIMUT got an opportunity to expand the scale of its activities in order to optimize its production processes and replenish its product range with new generation products. Having high export potential, the skilled scientific and technical personnel of AZIMUT make it possible to develop advanced technical solutions and produce competitive equipment.

The main customers of the systems of communication, navigation, surveillance and automation of air traffic control systems produced by AZIMUT are airports and the aviation enterprises in charge of flight safety. The Company guarantees the exceptional quality of the air navigation equipment as a result of high production efficiency ensured due to the availability of modern laboratory facilities and a complete high-tech production cycle.

The competence of AZIMUT in the development and manufacturing of aeronautical equipment is recognized in the global market. Therefore, the Company is actively engaged in exporting its products. Instruments and equipment developed in accordance with the CNS/ATM Concept of the International Civil Aviation Organization and the requirements for the future global ATM system have been successfully commissioned in the air navigation centres of the CIS countries, EUROCONTROL, Southeast Asia, Cuba and South Korea. AZIMUT is planning to expand into the Asia-Pacific region, the Middle East, South America and Africa.

Thanks to the creation of the innovative technologies and to the development of advanced technical solutions in the air navigation, AZIMUT has earned a reputation as a popular and indispensable partner in ensuring flight safety in the booming global aviation industry.



Advanced developer and manufacturer of high-precision navigation and radio-electronic equipment

About the Company

AZIMUT Group designs, manufactures commercially, and supplies, on a turnkey basis, civil aviation enterprises with the facilities of navigation, landing, surveillance, and air traffic control automation, as well as develops and implements integrated projects of equipping and re-equipping aerodromes and air traffic control centres.

The Group's enterprises have all necessary certificates and licenses to perform works in the interest of civil and military users.

The innovative equipment, including a new generation ATC system satisfying the requirements of EUROCONTROL, is under development according to the CNS/ATM Concept of the International Civil Aviation Organization and the requirements of the future global ATM system.



airports and ATC centres
with our equipment
worldwide

History of the Company

The history of AZIMUT Group is closely related to the history of the national radio-electronic industry.

A number of AZIMUT subsidiaries established in the 1950s gained their experience back in the Soviet times, at the beginning of the full-scale development of new air routes. In the 1990s, numerous radio-electronic industry enterprises were closed down; the industry faced hard times; however, our enterprises succeeded in retaining the experience of the development and production of advanced radio-electronic facilities and systems.

Company structure

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Research Development Centres

AZIMUT (Moscow)

AZIMUT runs and coordinates activities performed by AZIMUT Group enterprises, executes marketing research at national and foreign markets, carries out the modernization and development of new communications, navigation and landing equipment, launches manufacturing equipment at the factories of AZIMUT Group, carries out development of system-level projects on the equipping of civil aviation enterprises, performs construction and installation, and commissioning works, provides warranty and post-warranty service of delivered equipment, maintains a quality system at AZIMUT Group enterprises, and organizes procurement activities for the enterprises of AZIMUT Group.

AZIMUT has branches in Saint Petersburg, Nizhny Novgorod, Chelyabinsk, Makhachkala and Kaluga.

The Research and Development Centres located at the branches perform the modernization and development of aviation safety systems and facilities of new generation.

- 1** **AZIMUT branch in Saint Petersburg**
A software developer for controller work positions and ATC automation systems.
- 2** **AZIMUT branch in Chelyabinsk**
A developer of radio-beacon stations, navigation and landing systems. The branch designs developmental prototypes of the equipment to be developed. It is a developer of ATC, navigation and aircraft carrier landing systems for the Russian Ministry of Defence as well as secondary radars for civil aviation purposes. It develops new generation surveillance systems for the purpose of the implementation of ICAO CNS/ATM technologies.
- 3** **AZIMUT branch in Nizhny Novgorod**
Development, testing and system integration of different purpose radio facilities.
- 4** **AZIMUT branch in Makhachkala**
The main production centre where the whole range of products developed by AZIMUT is manufactured. Automated management and control are carried out at all production milestones – from metal working to the testing of units and end products.
- 5** **AZIMUT branch in Kaluga**
Development centre of the Company.

Full cycle of works on the equipping of airports and ATC centres

Advantages

- High level of research and development due to the availability of highly-skilled professionals and state-of-the-art laboratory facilities.
- High production performance due to the availability of a complete production cycle using the most up-to-date machinery.
- Management automation implementing an end-to-end design cycle, the development of technical facilities, the technological preparation and organization of production, logistics from the development of needs and requests sent to the suppliers of materials till delivering them to workshops.
- Warranty and post-warranty service support.
- Availability and development of a quality management system.

Quality Management

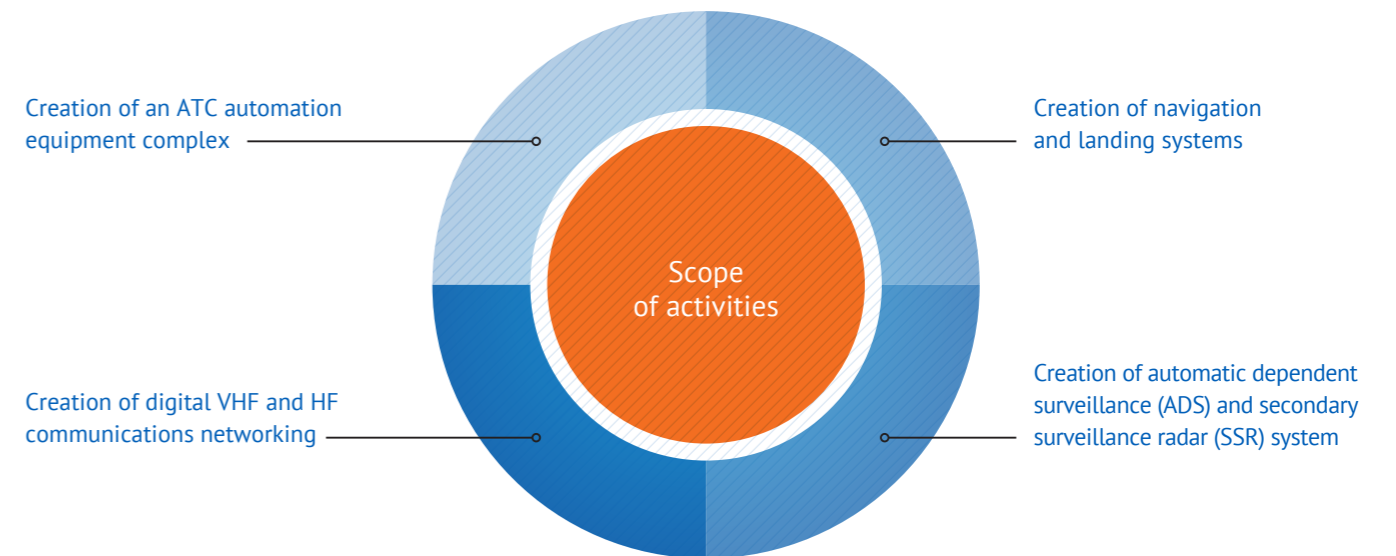
At the moment, the Quality Management System of AZIMUT is certified for conformance to the requirements of national and international standards.

Since 2012 AZIMUT has been running an internal project on the reengineering of the existing quality management system on the basis of the development of management by procedures, and the certification of the system in the internationally recognized Certification System. It has enabled the Company to improve management efficiency, expand into new markets, finding new business partners.





System Integration



Integrated approach

The primary objective of AZIMUT as a system integrator is rendering a package of services for the development of engineering solutions and a flexible information-network infrastructure capable, in the future, of integrating new subsystems and applications efficiently and with no additional expense.

AZIMUT service is a package of complementary and interdependent measures providing the implementation of all milestones of the cycle of development and evolution of customer navigation and surveillance systems, radio communications and data link subsystems, as well as monitoring and remote control systems, and air traffic control automation.

AZIMUT provides a full service for the research, development, equipment production, delivery, construction and installation, commissioning, and completion of all necessary technical and supporting documents. Since 2009, the Company has been acting as the prime contractor (system integrator) of the re-equipment and modernization of airports and ATC centres.

By the end of 2016, the Company had implemented more than 600 projects on equipping the airports with various air navigation facilities, including SP-200 landing systems, radio direction finders, different purpose radio-beacon stations (VOR, DVOR, NDB, DME), automatic transceiver stations, and ATC systems.

The design and construction of aviation facilities on a turnkey basis for the needs of law-enforcement agencies and rescue force

Designing heliports, including the milestones of «Design» and «Detail Documentation», construction of heliports (helipads with different surface types, taxiways, parking areas, hangars, container modules for heliport management, etc.).

Supply of equipment for heliports (lighting facilities, windsocks, illumination spotlights, flashing lights, feeder switchboards, cables and connectors, weather equipment, transmit-ting-receiving and recording facilities, etc.).



Innovative technologies

AZIMUT Production Facilities

Production efficiency is achieved by the continuous exploration and adoption of innovative technologies and state-of-the-art equipment, the implementation of end-to-end production preparation and organization cycle.

Production formats:

- Assembling printed board of practically any complexity completed with washing and providing moisture protection.
- Production of high-precision parts from various metals, and powder coating.
- Casting plastic in the customer's die molds to form parts.
- Adjustment and testing of radio-electronic equipment.

Brief description of production and technological base

The installation capability of the full range of surface-mounted items forms the basis of the assembly and mounting facility. The assembly and mounting facility, having equipment manufactured by leading global producers and experienced personnel at its disposal, can perform practically any variety of mounting (surface, through-hole, point-to-point).

An X-ray unit provides the possibility of the detection of the latent flaw of mounting and components.

The technological base of an engineering facility is represented by up-to-date high-performance CNC-machining technique. Lathe turning and cutting are performed on CNC-machining centre units, allowing of manufacturing parts of any complexity within the accuracy of 0,005 mm; the HPM machining centre provides heavy machining of parts with a size of up to 3500 mm.

The sheet working equipment allows performing various die-stamping and bending operations resulting in production of finished parts from a sheet to a high precision and one hundred percent repeatability; and the electrical discharge equipment manufactured by Mitsubishi Company (Japan) allows manufacturing tooling necessary for production.

The laser cutting unit allows producing parts of any configuration from various materials up to 25 mm in thickness to a high precision and a high volume production capability.

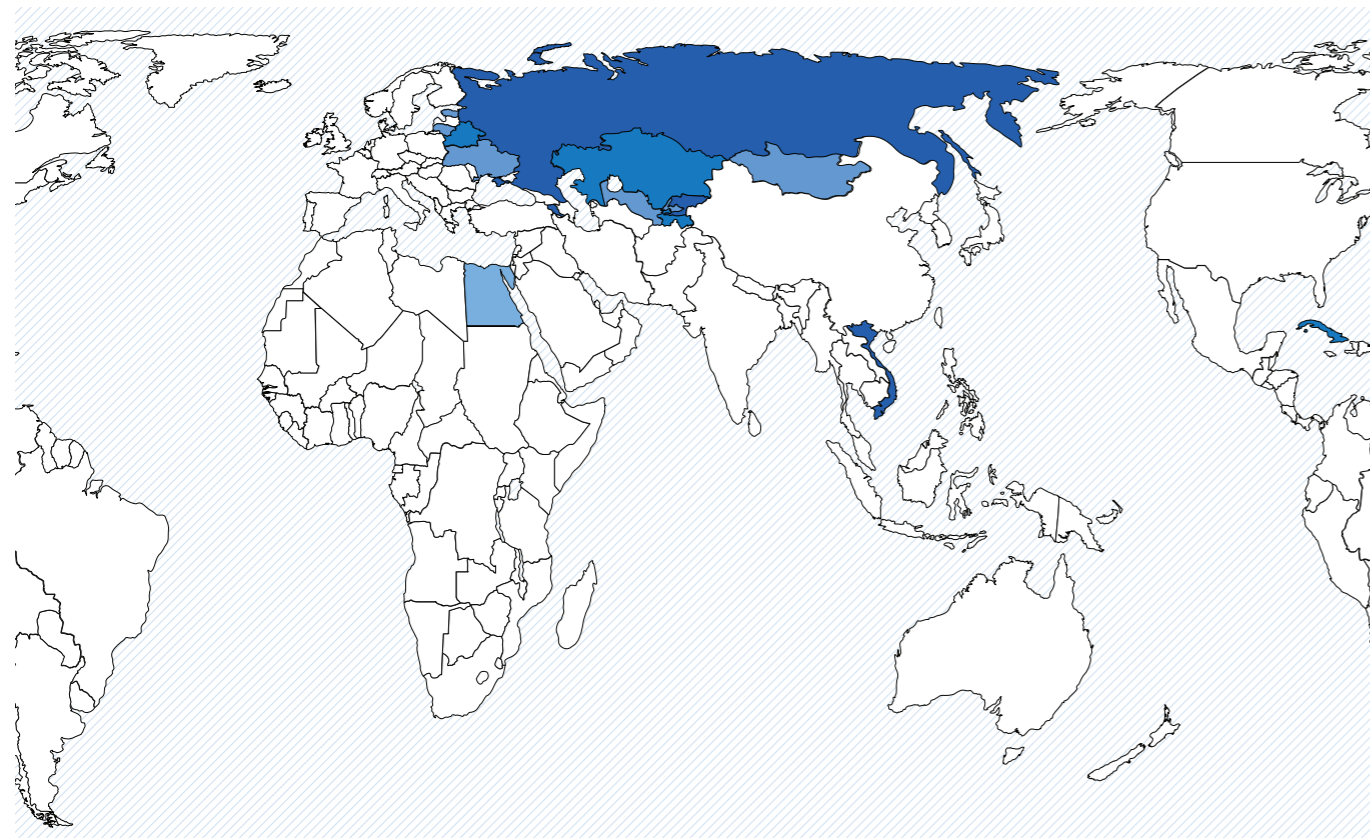
The enterprise provides all kinds of welding. The mounting of welded structures is performed on assembly and mounting tables, guaranteeing a high quality of welding works. The implementation of a robotic system completed with a robot provides the welding of three dimensional metal frame structures using MIG/MAG and TIG methods in automatic programmable modes.

On the shop floor, a powder coating line providing high reliability and quality of coating of long length (up to 6,5 m) metal frameworks with the pre-phosphating of the surface is usefully employed. The external coating of cabinets and shelters is performed in a paint and drying chamber.

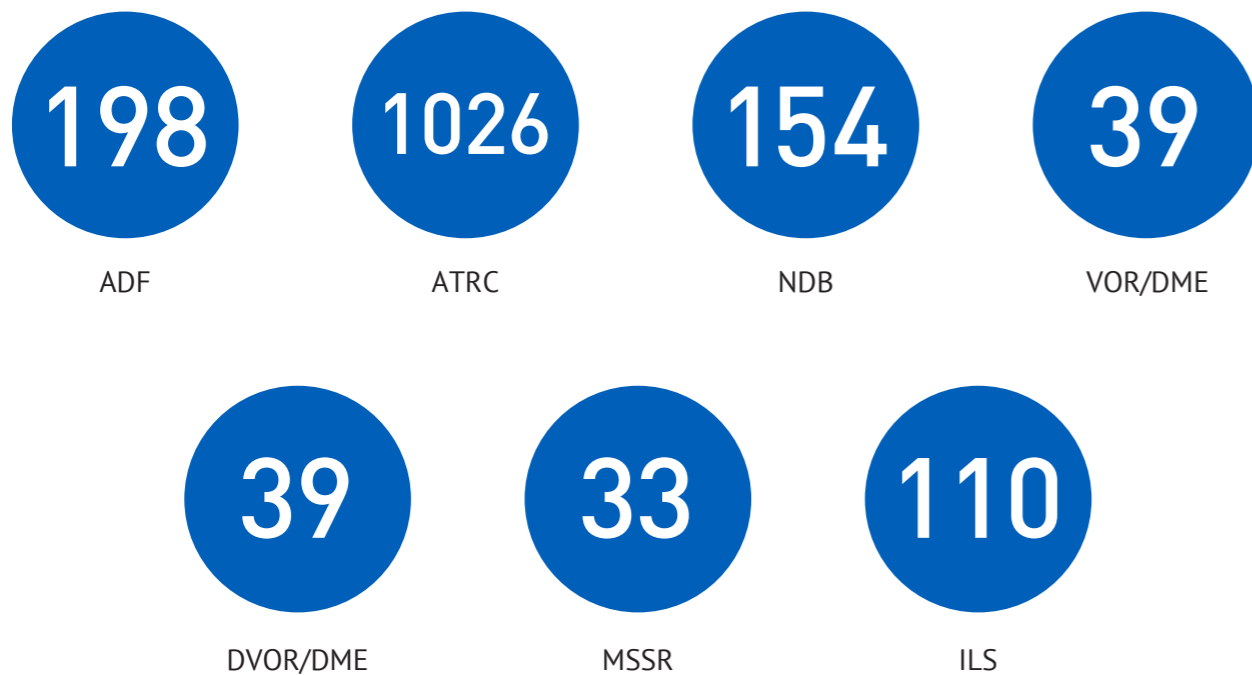
The Company has mastered a technology of the production of parts from radio-transparent materials, which enables to basically improve the antenna system configuration and reduce the manufacturing costs.

A plating shop consisting of three automated lines providing all kinds of protective and decorative galvanic coatings necessary in the manufacture of avionics is planned to be put in service.

Map of products implementation



Our products



AIR TRAFFIC CONTROL SYSTEM

- ATC system «GALAXY»
- Controller Working Position «ORION»

COMMUNICATION SYSTEMS

- Series 2000. Multi-channel VHF and VHF/UHF radio communication equipment
- VHF and UHF antennas
- TRS 200. VHF and UHF Automated transmitting and receiving communication centre (ATRC)
- Data transmitting equipment (ACARS/VDL2)
- ATN/ACARS equipment

NAVIGATION AND LANDING SYSTEMS

- The automatic direction finder DF 2000
- DME 2700
- DVOR 2000
- ILS 2700
- VOR/DME
- RMP-200
- Krona-M. Mono-pulse Secondary Surveillance Radar (MSSR)
- NDB
- AMI 2700. Approach (APP) Terminal Area (TMA) Primary Surveillance Radar Antenna Subsystem

SMF PRODUCT FAMILY

- SMF/PAPI – photometric system for PAPI lights
- SMF/M – mobile photometric measuring system



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