

SERBIA AND MONTENEGRO
AIR TRAFFIC SERVICES

SMATSA LLC BELGRADE



ANNUAL REPORT
2019







ANNUAL REPORT

2019



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Foreword by the CEO



For the Serbia and Montenegro Air Traffic Services SMATSA LLC, 2019 was quite complex and full of challenges across of all business segments: the most intensive traffic season so far, while the continuation of comprehensive modernization and the changes in SMATSA's internal organization are only a few things to emphasize.

For the first time, we have handled more than 750,000 IFR flights of civil aircrafts. We have recorded several historical results in the number of flights per day, as well as in the number of flights per hour. We handled this volume of traffic with a high level of safety and efficiency, generating minimum delay by SMATSA.

In addition, we handled a large number of military flights and general aviation in the airspace under the jurisdiction of SMATSA.

The operational implementation of the cross-border South East Common Sky Initiative Free Route Airspace (SECSI FRA) Project, which SMATSA developed with air navigation service providers from Austria, Slovenia, Bosnia and Herzegovina, and Croatia, has been successfully continued.

The project received the "Single European Sky 2019" award, which was presented to SMATSA and the project partners on a special ceremony at the World ATM Congress that was held in March of 2019 in Madrid.

In 2019, the implementation of the most important projects of the SUSAN Modernization Program has started.

In December 2019, a contract was signed for the construction of the annex to the Air Traffic Control Center and the Control Tower at Nikola Tesla Belgrade Airport. This is the most complex project within the SUSAN Modernization Program.

The first and most important part of the second phase of modernization and improvement of the main system for the processing of flight data has been successfully realized, renewing the computer systems of regional, approach and airport air traffic control in Belgrade and Podgorica and the system was expanded to include airport air traffic control in Batajnica, Kraljevo, Niš, and Tivat. The improved system has been operational since May 15, 2019 and the project has been implemented with minimal impact on traffic flows and traffic flow measures that were coordinated with the EUROCONTROL. The remaining activities of this project follow the construction of the annex of the Air Traffic Control Center and the Control Tower at the Nikola Tesla Airport in Belgrade.

The first of a total of three phases of the SMATSA IP communication network project has been completed. There are also 9 new radio relay links from the first phase of the IP radio relay network project in operation.

The new DVOR at the TMA Kraljevo location and the new VDF devices at the TMA Batajnica and TMA Niš locations have replaced devices over 30 years old.

In 2019, a new organization was fully operational, increasing the efficiency of certain business processes, so that a record execution of investments from own funds was realized, as well as the execution of the procurement plan.

The process of certification of the SMATSA, as an air navigation service provider, by the European Aviation Safety Agency (EASA), has been successfully completed. The issuance of the EASA certificate is the best confirmation that SMATSA meets the high regulatory requirements applicable in the countries of the European Union.

The EASA certification process has been launched in the part of pilot training at the SMATSA Aviation Academy in Vršac.

In 2019, financial consolidation of SMATSA and rationalization of costs continued in certain business segments.

As a socially responsible company, through its donation program, SMATSA has helped healthcare organizations and local governments throughout Serbia, including Kosovo and Metohija, with equipment and financial resources.

Such relationship with the State and the society whose resources we manage, remains one of the principles of our business.

In 2019, in accordance with the adopted human resources plan, a very demanding procedure for selecting candidates for training for air traffic controllers was conducted. After a long period of time, the concept of "self-financing classes" was abandoned and a competition for the "national class" was publicized. Out of almost 2000 candidates, a total of 84 candidates passed all stages of selection, which guarantees that the best ones have been selected.

In addition, a recruitment competition has been publicized for the admission of 19 candidates such as engineers to work in the aviation and technical segment, meteorologists and experts with educational background in the economic and legal fields.

All this was achieved thanks to the engagement of competent, experienced and dedicated SMATSA employees, the management, and the support of management bodies.

I would like to thank everyone for their engagement and I am convinced that we will work together to overcome the serious challenges that lie ahead.


Predrag Jovanović

CEO, Serbia and Montenegro Air Traffic Services SMATSA Ilc Belgrade

1.1 Highlights of 2019

Following activities were the main highlights in 2019:

1. Within the World Air Traffic Management Congress, which was held in Madrid from 12-14 March, SMATSA received the European Commission's "Single European Sky 2019" award. The network performance award was delivered to the partners in the South East Common Sky Initiative Free Route Airspace (SECSI FRA) Project, which was put into operational use on 1 February 2018.

In addition, SMATSA received a special recognition from the European Satellite Service Provider (ESSP) in connection with the signing of two EGNOS working agreements (EWA), as the first step towards the implementation of accession procedures based on EGNOS service in the Republic of Serbia and Montenegro.

2. On 26 March 2019, a competition was announced for the admission of 46 candidates for training to obtain an air traffic controller (ATCO) license and appropriate endorsements for the needs of various organizational units of air traffic control.





3. From 2-5 April 2019, SMATSA hosted the 55th ATCEUC (Air Traffic Controllers European Unions Coordination) meeting, which brought together representatives of air traffic controllers' unions from all over Europe.
4. At the headquarters of the European Union Aviation Safety Agency (EASA), on 11 April, the SMATSA CEO, Predrag Jovanović, with associates, received a certificate confirming that SMATSA meets the highest European standards and may provide air navigation services in the airspace of EU member states.
5. On 14 May 2019, the first phase of the project of modernization and improvement of the Flight Data Processing System, which is part of the SUSAN Upgrade Program, was completed. The realization of this modernization project renewed the computer systems of the existing units of regional, approach, and airport air traffic control in Belgrade and Podgorica, and the system was expanded to include airport air traffic control in Batajnica, Kraljevo, Niš, and Tivat. The project was implemented in cooperation with the equipment manufacturer Thales, with minimum impact on traffic flows and traffic flow measures implemented in coordination with Eurocontrol.
6. On 5 December 2019, the change of the area of jurisdiction of the air traffic control units of SMATSA came into force. The change of jurisdiction is a consequence of the implementation of the BHATM Phase 2 project, whereby the BHANSA national service provider took over the jurisdiction over the airspace of Bosnia and Herzegovina.
7. On 24 December 2019, a contract was signed in the building of the Government of the Republic of Serbia on the construction of the annex to the existing Air Traffic Control Center (ATCC) building with a new Air Traffic Control (ATC) tower at the Nikola Tesla Airport in Belgrade.

The project is implemented within the Air Traffic Control Modernization and Upgrade Program in Serbia and Montenegro, which is financed in part by the European Bank for Reconstruction and Development and the European Investment Bank.

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About the Serbia and Montenegro Air Traffic Services

2.1 Organization profile

The Serbia and Montenegro Air Traffic Services SMATSA LLC Belgrade (SMATSA) provides air navigation services in the airspace of its competent jurisdiction and performs other related activities directly and indirectly in support of providing these services.

The founders of SMATSA are the governments of the Republic of Serbia and the state of Montenegro.

After the conclusion of the Agreement on cooperation in the field of air traffic between the Republic of Serbia and the state of Montenegro, in 2012, the agreement signed by both governments confirmed the continuity of the existence of a joint air navigation service provider – SMATSA.

SMATSA operates in full compliance with national and international regulations and international agreements. In addition, SMATSA participates in the work of the most important international aviation organizations and represents the Republic of Serbia and the state of Montenegro in the best manner possible.

2.2 Air Navigation Services (ANS)

The main activity of SMATSA is the provision of air navigation services (ANS) which includes:

1. ATS – Air Traffic Services;
2. CNS – Communication, Navigation and Surveillance;
3. AIS – Aeronautical Information Services;
4. MET – Aeronautical Meteorological Services.

Area of jurisdiction of SMATSA includes airspace above:

1. Republic of Serbia;
2. Montenegro;
3. International waters in the Adriatic Sea;
4. Eastern part of Bosnia and Herzegovina, above flight level 325.

Services in this part of the airspace were provided until 4 December 2019, after which BHANSA took over the responsibility for providing services.

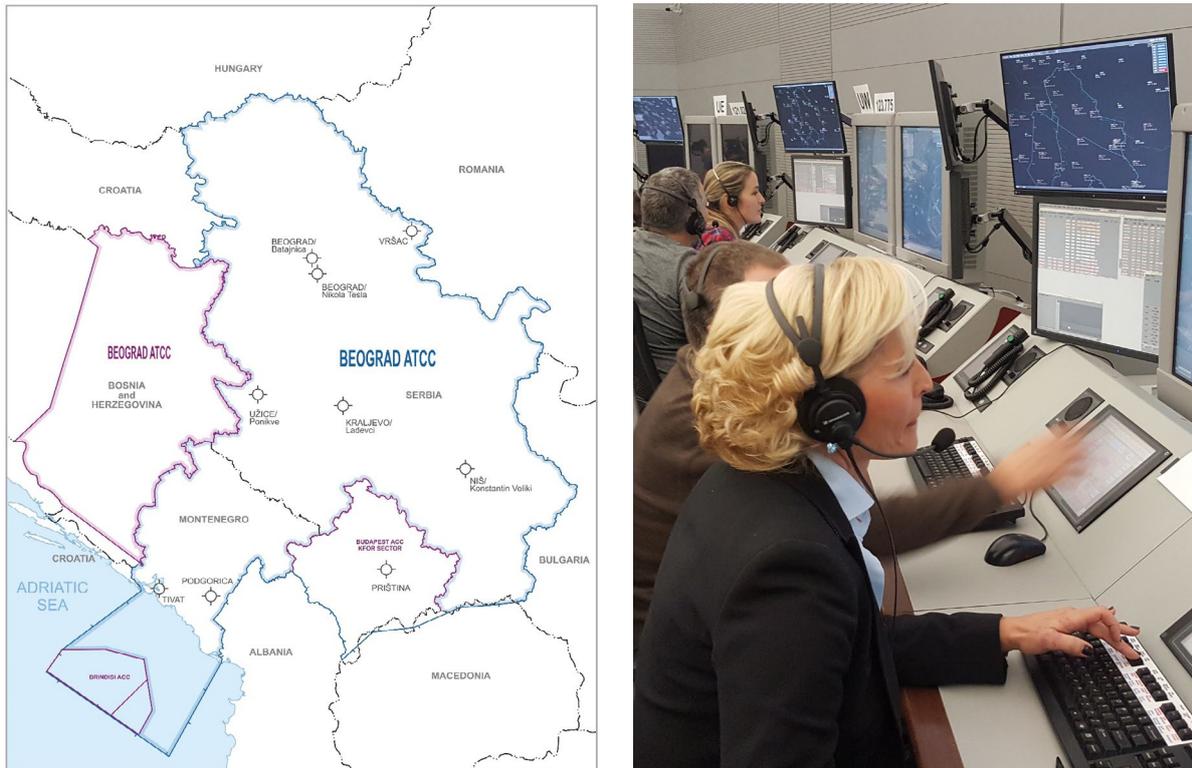


Figure 1.
The territory above which SMATSA provided air navigation services in 2019

2.3 Additional services

In addition to air navigation services, SMATSA also provides the following services:

1. Training of ANS personnel and pilots;
2. Airborne GRNS calibration and
3. Aircraft maintenance.



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Overview of 2019 in numbers

3.1 Traffic data in the airspace of the jurisdiction of SMATSA



Figure 2. Number of flights in the period from 2010 to 2019

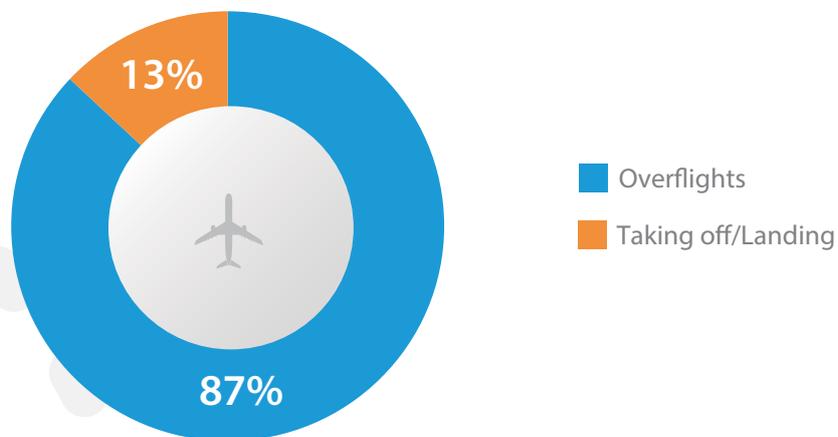


Figure 3. Distribution of flights in 2019

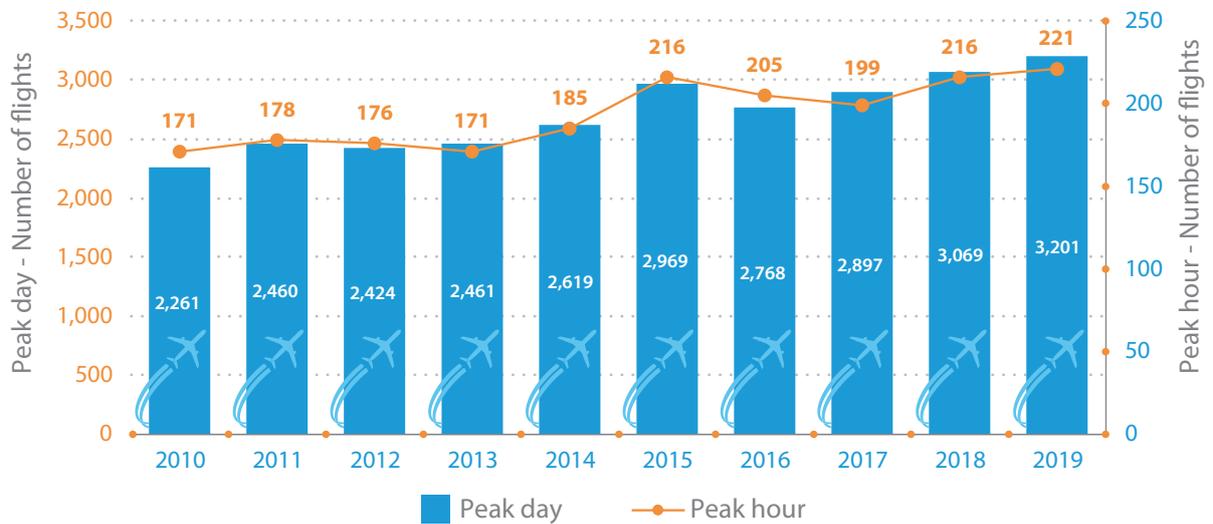


Figure 4. Peak day and peak hour in the period from 2010 to 2019

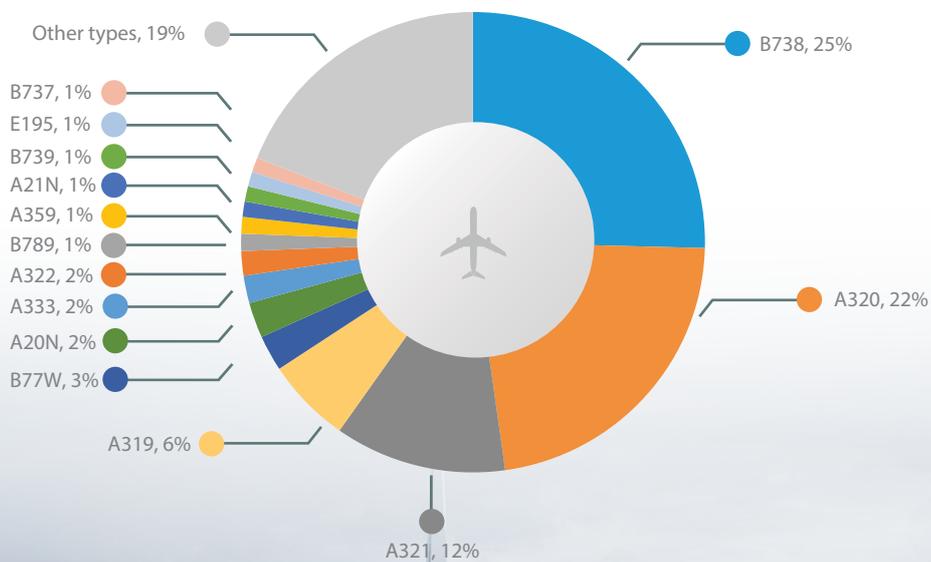


Figure 4. Participation of individual aircraft types in 2019



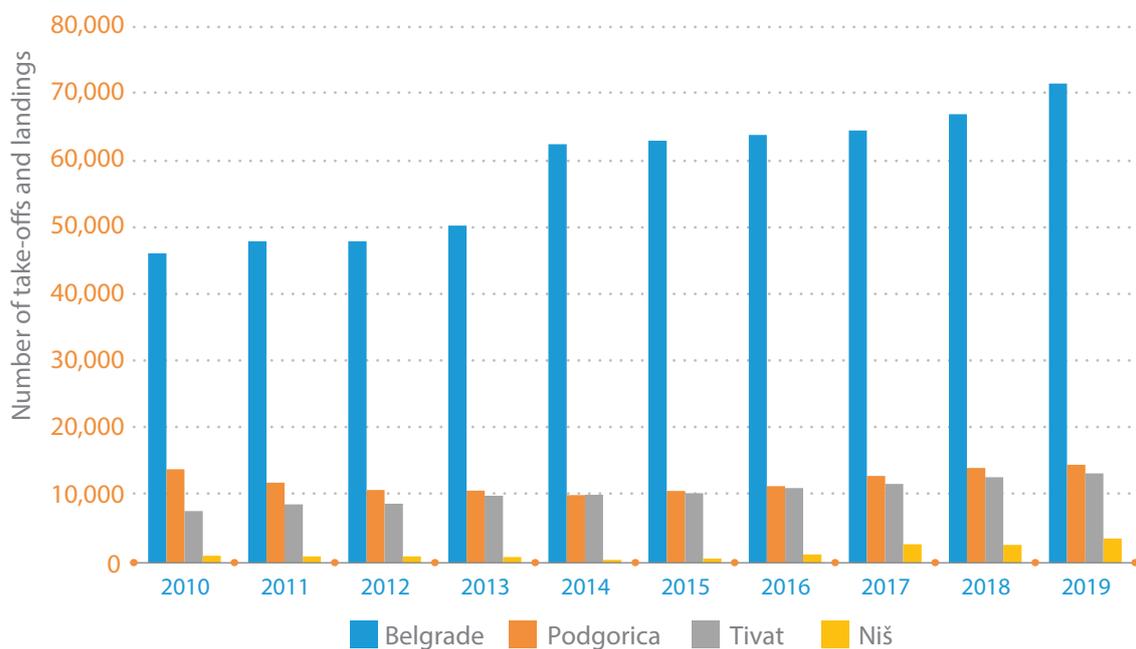


Figure 6. Number of take-offs and landings at airports in the period from 2010 to 2019

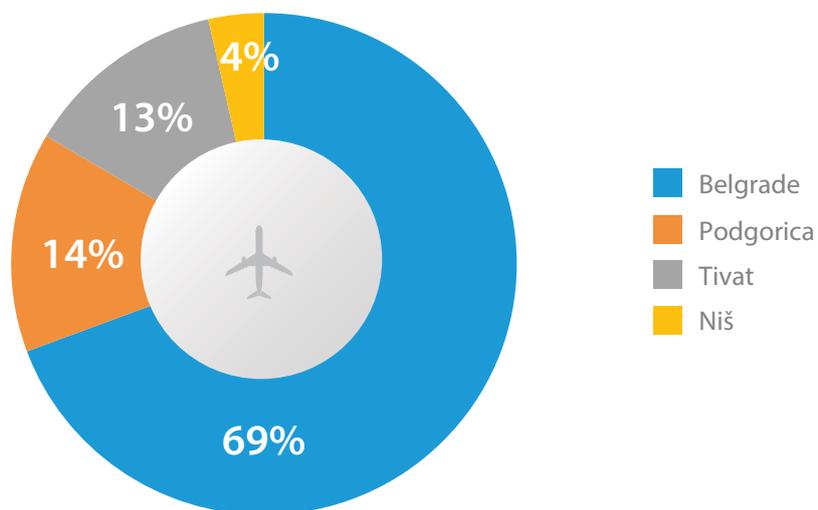


Figure 7. Traffic distribution per airports in 2019

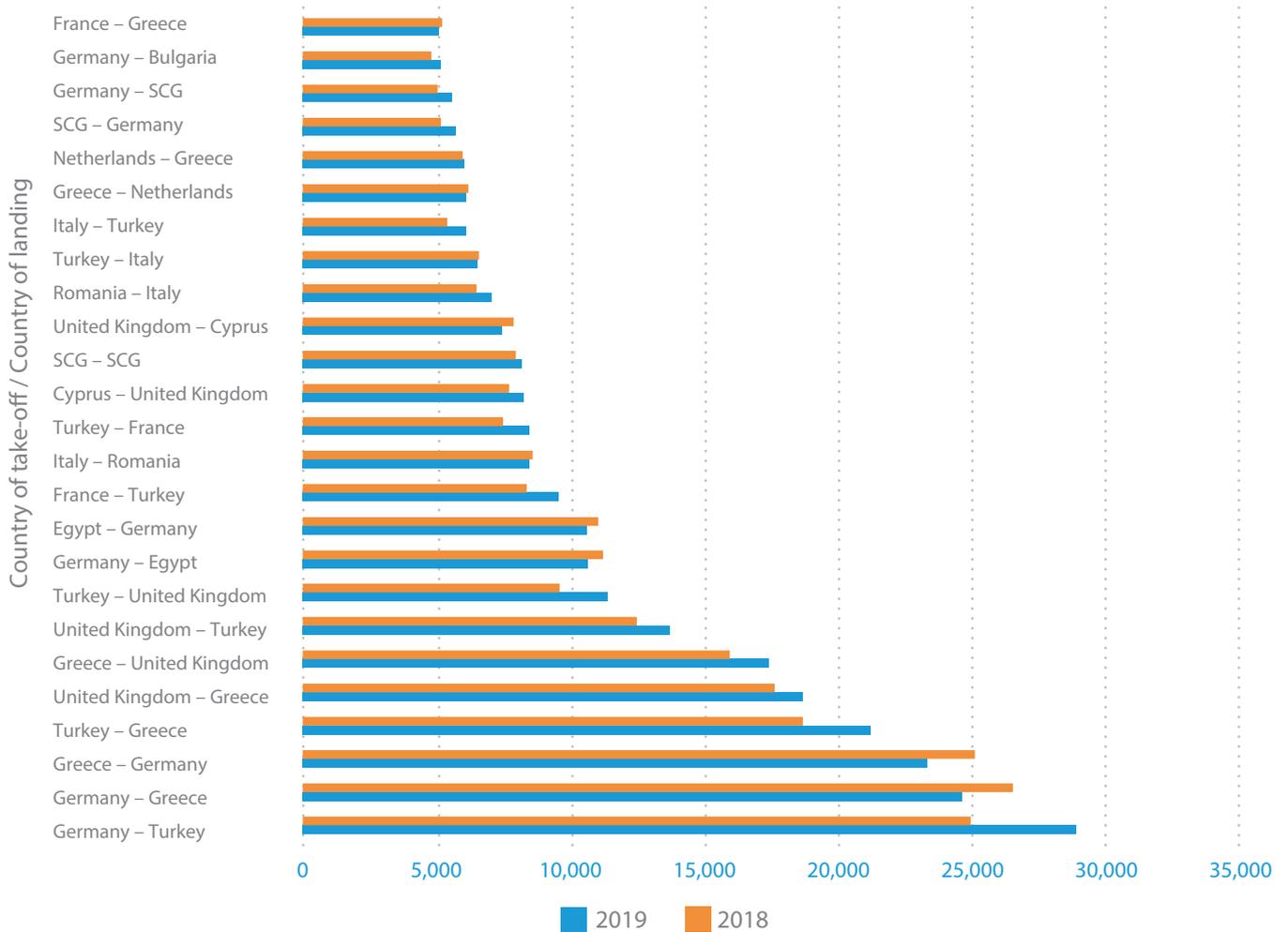


Figure 8. Number of flights in the airspace of SMATSA's jurisdiction per country of take-off/landing in 2018 and 2019¹

¹ The picture shows the first 25 pairs of countries



Figure 9. Number of service units in the period from 2010 to 2019

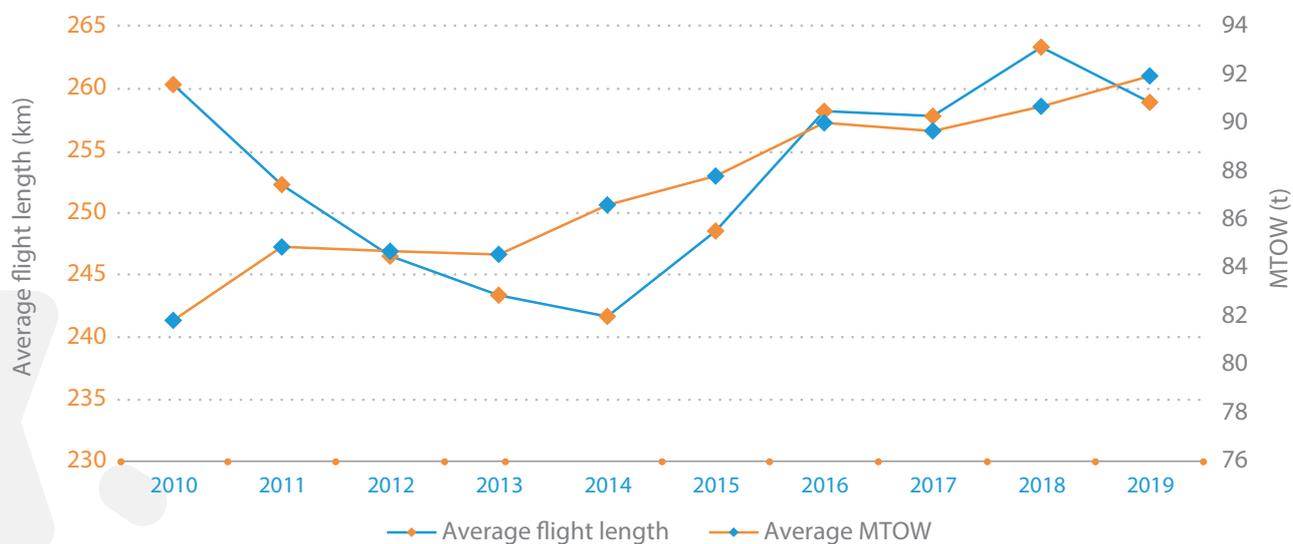


Figure 10. The average length of the flight and average MTOW in FIR Belgrade in the period from 2010 to 2019

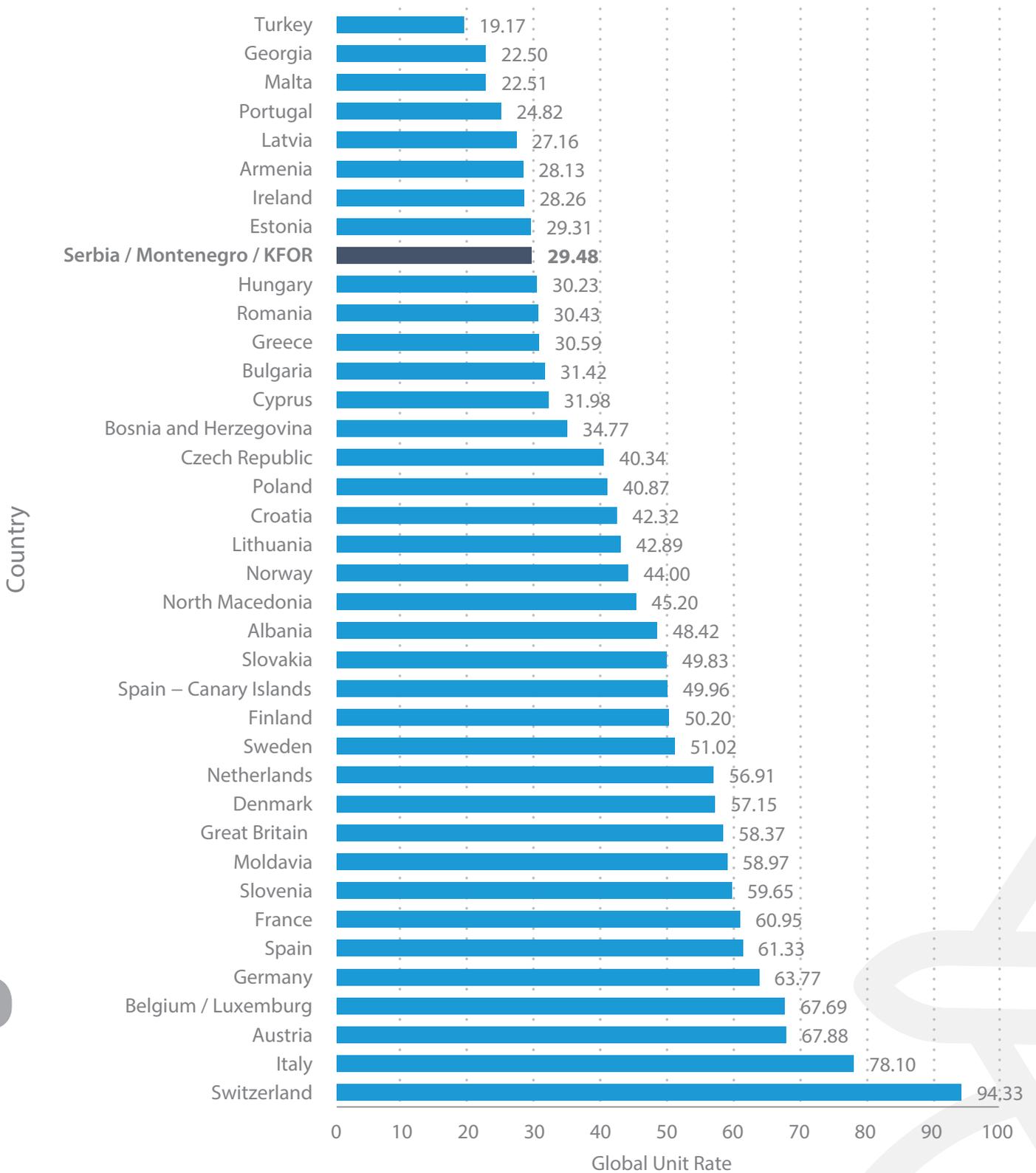


Figure 11. Unit rates in 2019 (EUR)

3.2 Turnover and employee structure in 2019

Employee turnover in 2019 affected the average number of employees to remain within the planned limits, although the number of new hire and the number of departures were slightly higher than the planned number.

Table 1. Turnover of employees in 2019 by months													
Turnover	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	Total
New hire (+)	6	3	9	1	2	5	4	6	3	1	0	2	42
Departures (-)	0	1	0	3	2	2	3	2	3	2	1	5	24

As in the previous years, the percentage participation of women in the total number of employees is about 30%, while the participation of men is about 70%.

When it comes to the qualification structure of employees, about 65% of employees are licensed air traffic controllers and employees with seventh degree of education.

The majority of employees are in the age group between 40 and 50, and almost 65% of employees are in the age group of up to 50 years of age.

The following figures show the structure of employees at the end of 2019, according to gender, qualification groups, and age structure.

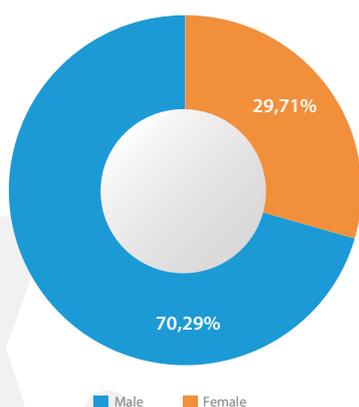


Figure 12. Structure of employees according to gender

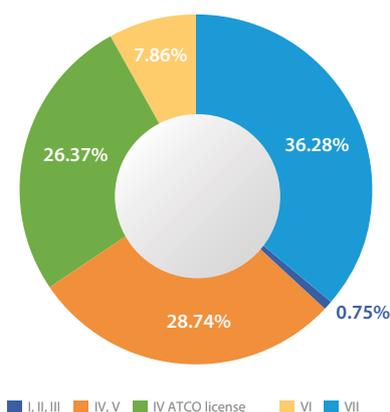


Figure 13. Structure of employees according to qualification groups

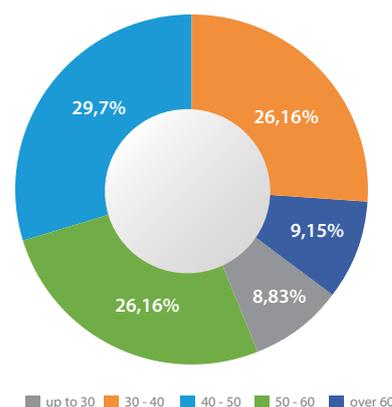


Figure 14. Age structure of employees

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Important business results in 2019

Business results achieved in comparison to the goals defined in the Strategic Business Plan 2019-2023 and the Annual Plan for 2019 are presented below in relation to the strategic areas.

4.1 Improvement of Air Navigation Management

In 2019, SMATSA implemented a number of activities that contributed to the improvement of the quality of the air navigation services provided.

Continuous improvement of the air navigation service system and the realization of planned activities in the areas of ATM, CNS, MET and AIS contributed significantly to the safety, regularity and efficiency of the top-level air traffic flow, optimization of flow management and air traffic capacity.

4.1.1 Improvements in the field of ATM

Phase I of modernization and improvement of the Flight Data Processing System Project, as a part of the SUSAN Program (SUSAN – SMATSA Upgrade of System for Air Navigation), was completed in 2019.

The realization of this project renewed the computer systems of the existing units of regional, approach and traffic control TMA Belgrade and Podgorica, and the system was expanded to include air traffic control in TMA Batajnica, Kraljevo, Niš, and Tivat. The project was implemented in cooperation with the equipment manufacturer Thales, with minimum impact on traffic flows and traffic flow measures implemented in coordination with Eurocontrol.

In addition, in December 2019, activities have started on the construction of the annex to the Air Traffic Control Center (ATCC) and the new Control Tower at the Nikola Tesla Belgrade Airport, which is one of the most significant projects within the SUSAN Program.

As part of the improvement of instrument flight procedures, that is, meeting the requirements of Resolution A37-11 of the ICAO Assembly, in June 2019, SMATSA implemented for the first time the PBN (Performance-based navigation) procedures for instrument arrivals, approaches, and departures at the Morava Airport in Kraljevo, for both runways (13/31).

Arrival procedures (STAR) and departure (SID) are part of the RNP1 navigation specification, while in the approach phase the RNP APCH specification is implemented, which enables lateral approach to LNAV minimum and approach with vertical guidance to LNAV / VNAV minimum.

In early December 2019, as part of the implementation of the BHATM Phase 2 project, whereby the BHANSA national service provider took over the jurisdiction over the airspace of Bosnia and Herzegovina, changes in the area of jurisdiction of the air traffic control units of SMATSA came into force.

4.1.2 Improvement of equipment, system and infrastructure

SMATSA continuously carried out activities and projects aimed at implementing new technologies, systems and equipment, as well as improving facilities and infrastructure, all in order to elevate the level of service quality, improve safety and meet traffic requirements, not to mention technological standards required of service providers to meet at the Pan-European level. The projects are comprehensive, high-tech, complex and time-consuming, so the activities needed to be implemented in order to successfully finish them, cover a period of several consecutive years. Therefore, the Annual Report, which covers a period of one year, gives only a partial insight into activities and results of the realization of the complete goal, which is otherwise a part of a multi-year process.

In the course of 2019, as a result of the implementation of the development plans at Nikola Tesla Airport, as well as the SMATSA projects that are in direct connection with Nikola Tesla Airport, the SMATSA and the concessionaire BELGRADE AIRPORT llc Belgrade, performed permanent coordination in order to harmonize projects and activities such as: implementation of new systems, protection or relocation of existing infrastructure, as well as the application of technological procedures during the implementation of numerous works at Nikola Tesla Airport.

At the end of 2019, the SMATSA signed a contract with the company "Energoprojekt visokogradnja" for the construction of an annex to the ATCC building and a new control tower at the Nikola Tesla Airport in Belgrade. The value of the contract is 17.5 million euros, and it is part of the SMATSA Upgrade of System for Air Navigation – SUSAN Program. The investment program is financed by the European Bank for Reconstruction and Development, the European Investment Bank, and the SMATSA.

In the course of 2019, the installation and acceptance of DVOR at the location at Kraljevo Airport was completed, as well as the VDF system at Niš and Batajnica locations. The first phase of procurement and implementation of the SMATSA

IP network for the relay of air traffic control services and equipment in the field of electricity (UPS, DC, DEA) at the planned locations within the system, has been successfully completed.

Nevertheless, in 2019, there were some deviations in meeting the deadlines for the implementation of certain activities due to external factors, in the following cases:

1. Regarding the preparation of technical documents for the needs of Terminal Area Radar (TAR Belgrade) and supply infrastructure, the annexes to the contract changed the deadline for the preparation of technical documents, so that the total deadline for completion of the aforementioned activity is 589 days, in other words, the deadline is 1 September 2020. The reason for the extension of the total deadline is the unsuccessful procurement procedure for the acquisition of radar systems, since the designer needs data on the radar system that will be installed in the facility in order to complete the technical documents for the construction permit and obtain approvals for fire protection measures.
2. Regarding the implementation of activities for the construction of facilities and supply infrastructure for the installation of radar system (PSR + SSR) at a suitable location to cover the southeastern area of jurisdiction the ATCC Belgrade, in 2019 a decision was made to suspend the procurement of works on the construction of radar station Besna Kobila No. SUS-RSBK-2018. Given that, it was determined that the only one received bid contained defects, it was not possible to determine the actual content of the bid and the offered price, which is higher than the comparable market value. The procurement procedure was re-initiated, and on 5 December 2019, the EIB's consent to the tender documents was obtained. The international public invitation for the submission of bids was published in the Official Journal of the EU on 17 December 2019, and on 20 December 2019 in the Official Gazette of the RS.

4.1.3 Improvement of AIS services

The provision of aeronautical information necessary for the safe, regular, and expedited air navigation are provided via Aeronautical Information Services (AIS) in order to meet the need for uniformity and consistency in the provision of aeronautical information / data required for operational use by international civil aviation.

Aeronautical information processes are in line with international standards and recommended practices contained in the common requirements of the Single European Sky.

In 2019, agreements on delivery and publication of aviation data were signed between AIS and the following data sources: Public Company Airports of Montenegro SC as the operator of Podgorica and Tivat airports; Public Company Airports of Serbia as the operator of Kraljevo / Morava Airport and SMATSA Aviation Academy as the operator of Vršac Airport.

In the month of May, representatives of SMATSA took part in the workshop "Control of obstacles in the TMA vicinity of the airport". The workshop was organized by the Civil Aviation Agency in Podgorica, under the auspices of TAIEX, Technical Assistance and Information Exchange instrument of the European Commission.

Organized by SMATSA, and based on the request of the Belgrade / Nikola Tesla Airport Operator, a workshop was held in November at the Belgrade Airport premises in order to educate about rights and obligations in accordance with the Agreement on Mutual Cooperation and regulations currently in force. The aim of the workshop was to present the basic services and methods of publishing, through theory and practical examples giving the colleagues general information about the work of the Aeronautical Information Service at SMATSA.

December 2019, was all about the participation in the 2nd international workshop dedicated to the new ICAO SNOWTAM form, that is, the implementation of the Global Reporting Format (GRF) assessment and reporting system, organized by the ICAO EUR/NAT regional office. The workshop, held in Frankfurt, was attended by representatives of 28 countries, 7 international organizations, 1 airline and 1 aircraft manufacturer.

The aim of the workshop was to provide comprehensive information on the future application of the new global format for reporting and assessing the condition of runway surfaces.

4.1.4 Improvement of MET services

In order to improve the safety, regularity, and expeditiousness of air navigation, SMATSA provides aeronautical meteorological services in accordance with national and international standards and regulations.

In 2019, same as the last year, the representatives of SMATSA took part in the regional project eGAFOR, together with 7 air navigation service providers and industrial partner. The purpose of the project is to create the eGAFOR product, and subsequently other products that will meet one of the basic requirements of the users, and that is the harmonization of products at the borders of FIR.

The project of replacing application software for forecast workstations with hardware will significantly improve the work of MET forecasters and replace old software. This provides advanced features and the ability to more easily analyze meteorological data, as well as compare forecasts obtained from multiple numerical models.

In the course of 2019, representatives of SMATSA participated in several international meetings such as Meteorological Group Meetings within the ICAO European Air Navigation Planning Group (EANPG) and AVAC (Aviation Advisory Committee) meetings within EUMETNET, the competent body for all MET projects at European level, including those related to SESAR.



4.2 Improvement of cooperation with relevant organizations, regulatory bodies and state bodies

Implementation of appropriate regulations, policies and technological solutions of importance for the business of SMATSA are carried out continuously. Strengthening partnerships and enhancing cooperation with relevant organizations and service users of SMATSA is a process that requires constant improvement.

Coordination of activities together with colleagues from the CAA and collection of evidence were carried out during the ICAO standardization verification check in Montenegro in January 2019 and the EASA standardization inspection, also in Montenegro, in July 2019.

At the level of SMATSA, a Working Group was formed for the application of Commission Implementing Regulation (EU) 2017/373 laying down common requirements for providers of air traffic management/air navigation services, as well as a Team for the coordination of activities with CAD and CAA on the implementation of these regulations. The first meetings were held, which primarily refer to the consideration of the differences between the current and the new regulations (Gap analysis) and the review of the system requirements for the management system.

4.3 Development of competitive commercial services

4.3.1 GRNS calibration from the air

Thanks to modern equipment and professional personnel, SMATSA possesses all the necessary resources for providing ground radio navigation systems (GRNS) calibrating from the air, checking the flight procedures, as well as providing a test service related to the selection of the location for setting up a new GRNS. For this purpose, the modern Hawker Beechcraft King Air 350 aircraft with built-in calibration equipment (AD-AFIS-260) is used by SMATSA for its own needs, but it also provides services to external users.

Service provision is performed in accordance with the requirements and recommendations defined in the documents of the International Civil Aviation Organization (ICAO) – Annex 10, Annex 14 and Doc 8071.

In 2019, regular and extraordinary calibrations and airborne validation procedures were performed based on the concluded contracts. A total of 440 hours of flight time took place, out of which 250 hours were abroad, while 190 hours of calibration were realized in Serbia and Montenegro.

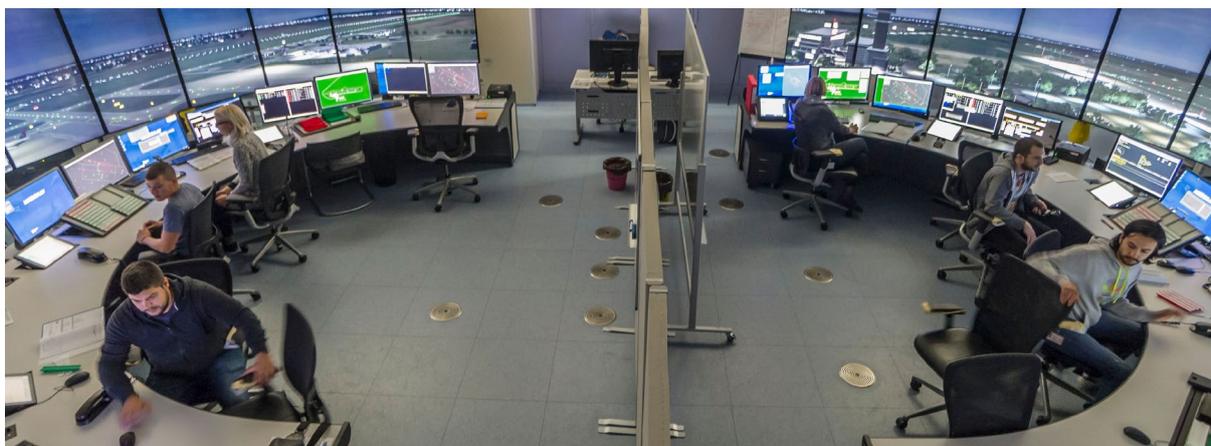
4.3.2 ANS Staff Training Center

ANS Staff Training Center is an authorized center for training and improvement of air traffic controllers, aeronautical technical and aviation meteorological staff. Training programs are in line with the requirements of ESARR, national and international regulations, as well as with ICAO standards.

The ANS Staff Training Center provides training for its own needs, while also providing training services to external users, both to organizations and to individuals.

The most important trainings realized in 2019 in accordance with the Training Plan in the ANS Staff Training Center are shown in the following table:

Table 2. The realization of training within the ANS Staff Training Center in 2019		
Name of training	Number of trainings	Number of trainees
Initial Training for air traffic controllers	8	38
Unit Training	13	37
Continuation & Development Refresher Training	32	183
ATSEP Training	5	43
MET Training	2	7
Other trainings Training of pseudo-pilots; Practical training for Aviation Academy students; ARO Instructors Workshop; Flight Crew Security Training	5	86
Development Training	5	26



4.3.2.1 Trainings in operating air traffic control units

Apart from the trainings that were carried out at the ANS Staff Training Center, during 2019, training was also carried out in the operating units, as presented in the table. In addition, in the course of 2019, in all operational units, a large number of continuous refresher trainings and trainings for the use of new systems such as TopSky were conducted.

Table 3. Trainings in operating air traffic control units in 2019

Name of training	Degree of realization and clarification
Training for acquiring competencies ASSE (ATC Belgrade)	3 candidates, performance 100%
Training for acquiring competencies OJTI (ATC Belgrade)	2 candidates, performance 100%
Training for acquiring competencies ADI/TWR and APP LYNI (ATC Niš)	2 candidates, performance 100%
Training for acquiring competencies OJTI (ATC Niš)	1 candidate, performance 100%
Training for acquiring competencies APP LYVR (ATC Vršac)	2 candidates, performance 100%
Training for acquiring competencies ADI-TWR LYVR (ATC Vršac)	2 candidates, performance 100%
Training for acquiring competencies OJTI (ATC Kraljevo)	1 candidate, performance 100%
Training for acquiring competencies ASSE (ATC Podgorica)	1 candidate, performance 100%
Training for acquiring competencies ADI/TWR and APP LYTV (ATC Tivat)	2 candidates, performance 100%

4.3.3 SMATSA Aviation Academy

The SMATSA Aviation Academy, in the regular and supplementary trainings in 2019, realized 4.621 classes of theoretical lessons, which is 25% more than the planned number of hours. The courses that affected the additional effect are: the PPL course, MCC courses, MEP courses, CPL (A) modular course, IR course, as well as additional classes.

The realized number of hours of flight time in 2019 was 4.958 hours and 30 minutes, which is 21% less than the plan. The difference in the realized and planned flight time was due to unfavorable meteorological conditions, as well as due to irregular attendance of flight training by candidates.

The training service was also provided to candidates from the following companies: CARPATAIR, AIRSERBIA and AIRPINK.

In 2019, aircraft maintenance contracts were signed with new customers throughout the year, specifically with NTS Belgrade for Mooney M20J, YU-BTP, Lulian Nicolae Lascu for Piper PA34-200T, I-KRNL and Elgra Vision Belgrade for Piper PA34-200T, YU-SPK.

Representatives of SMATSA participated in the international search and rescue exercise in real conditions (SAREX 38-19) organized by the Civil Aviation Directorate of the Republic of Serbia.

In September 2019, an application was submitted to the European Aviation Safety Agency (EASA), which started the process of certification of the SMATSA Aviation Academy before that regulatory body.

In addition, 2019 was marked by the signing of Letters of Intent with partners from India on the education of candidates from India and partners from China on the education of candidates from China.

A decision was made to renew the capacities to accommodate candidates in training (hotel).

4.3.4 Development of competitive commercial services in air navigation

In March 2019, SMATSA received the award of the European Commission "Single European Sky 2019" as a confirmation of successful cooperation and implementation of the multinational project for the establishment of the South East Common Sky Initiative (SECSI), which was released on 1 February 2018.

The implementation of the SECSI FRA initiative in the common airspace of five air navigation service providers in six Southeast European countries has contributed to significant savings for airspace users.

In 2019, SMATSA continued its successful cooperation within the Gate One initiative, in which, as an associate member, it contributes to the development of the technological aspect of the Single European Sky policy.

SMATSA's participation in PCP projects within SESAR2020 through the Thales Group Consortium enabled SMATSA representatives to participate in the validation of PJ10-02 (Toulouse), as well as in technical consultations within the PJ24 project (Lisbon).



4.4 Improvement of corporate social responsibility and protecting the environment

At the end of May 2019, according to the requirements of the ISO 9001:2015 standard, the recertification of the quality management system (QMS) was performed, while in accordance with ISO 14001:2015, the recertification of the environmental management system (EMS) was performed.

After a successful recertification integrated verification, the validity of the ISO 9001:2015 and ISO 14001:2015 certificates was confirmed at the locations of SMATSA Training Center (QMS), SMATSA Headquarters, ATCC Belgrade, ATC Batajnica and the SMATSA Aviation Academy Vršac.

In April 2019, the work was carried out on activities related to compliance with legal requirements in the field of ionizing radiation and reporting of "Mark V" radar to the Serbian Radiation and Nuclear Safety and Security Directorate. Landing radars "Mark V" are used at military airports at locations in ATC Kraljevo and ATC Batajnica.

Two landing radars "Mark V" are in use, that contain within the equipment the closed sources of ionizing radiation. Given that both radars are in use, according to legal requirements, the measuring of the equivalent radiation dose in the environment of the device was performed and the "Protection Program Against Ionizing Radiation" was developed. Based on the report on the performed measuring, it was confirmed that the ambient dose equivalent of ionizing radiation is slightly above the natural background, on the basis of which it is concluded that both landing radars may be safely used.

In order to protect the environment, a check was also performed, specifically a dosimetric control of ionizing radiation of a certain part of the surface at the Niš Airport, which is suspected to have been contaminated during the bombing of the airport in 1999. Based on the conducted measurement of the strength of the ambient dose equivalent of ionizing radiation, it was determined that there is no increased radioactivity – contamination.

Together with colleagues from Belgrade Airport, a cooperation has been established on the issue of joint activities in the field of environment with activities on monitoring air quality and noise at the airport complex. SMATSA will submit data on flight plans and other data on the basis of which a preliminary noise analysis will be performed, according to which noise limits, noise indices will be determined and an action plan will be established in order to have a balanced noise management approach. In addition, two air quality measurements were performed lasting for 24 hours each in summer and winter. The results showed that the concentrations of pollutants do not exceed the prescribed limit values.

At the end of 2019, the first measuring of non-ionizing radiation were made at the locations in Montenegro.



4.5 Improvement of Safety Management System

The development of the Safety Management System in SMATSA continued in 2019, in accordance with the requirements and recommendations of domestic and international legislation and recognized and accepted good practices of other ANSPs.

The activities of SMATSA in this domain that marked the previous year, important for the air traffic safety system, are as follows:

1. Engagement of SMATSA experts on the EVAIR project at the EUROCONTROL headquarters in Brussels through the Secondment program. The project includes the following activities:
 - o collecting ATM events,
 - o entering data into EVAIR databases,
 - o statistical data processing,
 - o preparation of material for EVAIR Safety Bulletins, using specific event analysis tools – TOKAI, INCAS, ASMIT.

Upon their return from Eurocontrol, the employees apply the acquired knowledge in the daily activities of the Safety Management System Department.

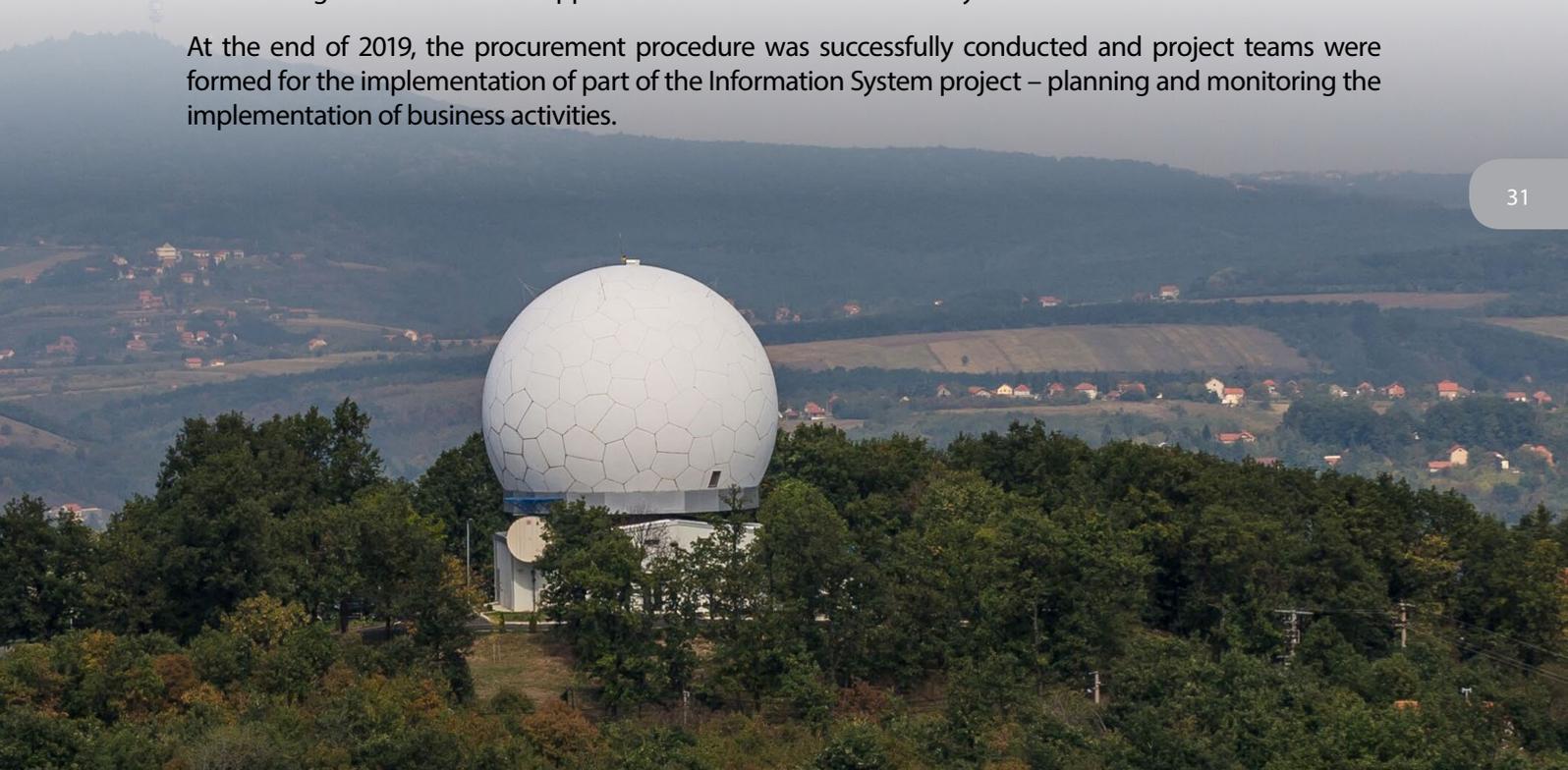
2. As part of the work on the implementation of EU regulations 2017/373, a working group was formed to propose ways to implement regulations and harmonize activities in the organization in order to obtain certificates for services ATM (ATS, ASM, ATFM), CNS, MET, AIS, ASD.

4.6 Improvement of the performance of the Organization and Resource Management System

In order to improve the success of the organization and resource management system, the development and implementation of integral parts of the future Information System of SMATSA continued.

In 2019, the realization of the electronic registry office project and the document management system was completed, while the commissioning is planned for 2020. Also, activities have started on the development of the application solution design and data model for Asset Management. At the same time, the implementation has begun of the central integration process (CIP), that is, the integration services for the exchange of data between applications within the Information System.

At the end of 2019, the procurement procedure was successfully conducted and project teams were formed for the implementation of part of the Information System project – planning and monitoring the implementation of business activities.



4.7 Improvement and development of Human Potential

The adoption of several Rulebooks amending and supplementing the Rulebook on Organization and Systematization of Operations in the Serbia and Montenegro Air Traffic Services SMATSA Belgrade and regarding the improvement of job descriptions of certain organizational units, created preconditions for achieving the goals defined by the business strategy.

The basic elements of the system of data collection, monitoring, and reporting on employee satisfaction at the level of SMATSA were established in 2019.

In addition, a stress management procedure has been implemented and activities have begun to establish a burnout management system.

4.8 Business Performance Indicators

4.8.1 Operation Compliant with SES Objectives

4.8.1.1 Safety

Assessment and monitoring of the level of safety in the SMATSA system is based on monitoring the safety indicators in different parts of the system.

Monitoring of the status of the safety management system of the air navigation service provider is based on the monitoring of the safety indicators (SMS indicators) defined in the Performance Schemes in the second reference period, which are evaluated:

1. The efficiency of the safety management system;
2. The level of use of the RAT methodology and
3. The level of implementation of the culture of justice and trust (Just Culture).

Given that the regulation related to the Performance Scheme is not yet binding for the Republic of Serbia and for Montenegro, the SMS indicators are monitored voluntarily in order to prepare for the implementation of the legislation in the legal system that is expected in the upcoming period.

Monitoring of the security indicators by SMATSA is carried out for the purpose an annual analysis of the EASA assessment of the status, which is performed through standardized questionnaires. Subsequently, based on these results, SMATSA takes appropriate corrective measures.





Table 4. Targeted and Accomplished Values of SMS Indicators as requested by the CAD for 2019

Group of SMS Indicators		Accomplished safety level
I.1.	<i>SMS Effectiveness</i>	1. Managing security policy and security goals: D 2. Security risk management: D 3. Security guarantees: D 4. Security enhancement : D 5. Security culture: B
I.2.	<i>Application of RAT Methodology</i>	1. Infringement of safe aircraft separation: 1. RAT E3 2. RAT A2 3. RAT B2 4. RAT C1 5. RAT C4 2. Unauthorized entry to runway: 1. RAT A3
I.3.	<i>Application Just Culture</i>	B

Table 5. Targeted and Accomplished Values of SMS indicators as requested by the CAA for 2019

Effectiveness of the SMS system of the air navigation service provider (SMS indicator group)		Acceptable level of security	Fulfilled/not fulfilled
SI.1	<i>SMS Effectiveness</i>	FULFILLED FOR 2018 (for 2019, is performed in 2020) NO PRESCRIBED COMPARATIVE VALUES	1. Managing security policy and security goals: D 2. Security risk management: D 3. Security guarantees: D 4. Security enhancement: D 5. Security culture: B
SI.2	Application of RAT Methodology	NO PRESCRIBED COMPARATIVE VALUES FOR 2019	1. Infringement of safe aircraft separation: RAT A2/B2 2. Unauthorized entry to runway: There were no reported events (100% applied RAT for the events for which the application was submitted)
SI.3	Application Just Culture	NO PRESCRIBED COMPARATIVE VALUES FOR 2019	B

In addition, the assessment of the effectiveness of the security management system is performed based on security indicators prescribed at the national level by the aviation authorities (CAD and CAA). The analysis of security indicators is performed annually, and the results for 2019 are presented in the table.

Table 6. Targeted and Accomplished Values of safety indicators as requested by the CAD for 2019

Group of ATM indicators (events with direct ATM participation)		Acceptable level of safety	Accomplished values
I.4	ATM caused Accidents	0,00409	0 ATM caused Accidents
I.5	ATM caused Serious Incidents	4	2 ATM caused Serious Incidents
I.6	ATM caused Major Incidents	40	5 ATM caused Major Incidents
Group of CNS indicators (ATM specific/special emergency events)		Acceptable level of safety	Accomplished values
I.7	Number of DPS outages	<8 events (break-downs) per year	0.66 break-downs per year, on average
I.8	Total duration of SSR radar stations shutdown	<500 minutes per year	value of the indicator is 3,37 minutes
I.9	Total duration of PSR radar stations shutdown	<2,000 minutes per year	value of the indicator is 69,55 minutes
I.10	MTBO- Mean Time Between Outages LOC ILS 12 (CAT III)	>4,500 hours per year	No outages –MTBO[h]=/
I.11	MTBO- Mean Time Between Outages LOC ILS 30 (CAT I)	>1,500 hours per year	No outages –MTBO[h]=/
I.12	Number of losses or degradation of one or more operating frequencies	<50 events per year	on average 8 interruptions of services on an annual basis
Group of targeted indicators		Acceptable level of safety	Accomplished values
I.15	Collisions related (MID-AIR, on the ground between acf/ vehicle/ person/obstruction)	The movement is monitored in relation to the last years' value	Three-year average 0
I.16	Separation related (Separation minima infringement, Inadequate separation)		Three-year average 5,67
I.17	Runway related (Runway excursion, Runway Incursion where avoiding action was necessary/ not necessary)		Three-year average 3,00

I.18	Aircraft deviations related (Acf deviation from ATC clearance, Acf deviation from applicable ATM regulation, Acf deviations from applicable published ATM procedures, Deviations from aircraft ATM-related equipment carriage and operations, as mandated in applicable regulation(s))	The movement is monitored in relation to the last years' value	Three-year average 18,00
I.19	Altitude related (Level Bust LB, Controlled Flights Into Terrain/CFIT, Near Controlled Flight Into Terrain/CFIT)		Three-year average 1,00
I.20	Unauthorised penetration of airspace related		Three-year average 22,33
I.21	Communication related (Prolonged Loss of Communication/PLOC, inadequate usage of phraseology, language issues)		Three-year average 8,67
I.22	Loss of control in flight related (MET conditions, Wake turbulence...)		0
I.23	Other (Other services within ANSP, like AIS, SEC and other)		191
			<p>SEC laser interference – 14</p> <p>15/04/2019 – theft of a accumulator battery and 250l of fuel from the VOR / DME SMI generator storage facility.</p> <p>27/09/2019 – Attempted breaking and entering in the RF building “DU”, which damaged the door of the building.</p> <p>07/10/2019 – the container in which the NDB VRA was housed was broken, nothing was stolen. Destroyed lock on the door, two padlocks and damaged barbed wire.</p> <p>03/12/2019 – damage to the fence of the radio Beacon “BT” without signs of attempting to enter the protected zone.</p>

Table 7. Targeted and Accomplished Values of security indicators as requested by the CAA for 2019

Events with direct ATM participation (Group of ATM indicators)		Acceptable level of security	Accomplished values (fulfilled/not fulfilled acceptable level of security)
SI.4	ATM caused Accidents	0,00409	0 ATM caused Accidents
SI.5	ATM caused Serious Incidents	4	0 caused Serious Incidents
SI.6	ATM caused Major Incidents	40	2 ATM caused Major Incidents
ATM specific/special emergency events (Group of CNS indicators)		Acceptable level of safety	Accomplished values (fulfilled/ not fulfilled acceptable level of security)
SI.7	Availability of communication function	< 50 service losses per year	FULFILLED 10 service losses per year
SI.8	Availability of control function of SSR radar stations operation	<500 minutes per year	FULFILLED (Koviona: no interruptions Murtenica: 20,65 minutes Koševac: no interruptions Srpska Gora: no interruptions)
SI.9	Availability of control function of PSR radar stations operation	<2,000 minutes per year	FULFILLED (Koviona:100,01 minutes Murtenica:154,63 minutes Srpska Gora: no interruptions)
SI.10	Availability of data processing and distribution functions	< 8 outages per year	FULFILLED 0 outages
SI.11	Availability of navigation function LOC 36 (CAT I) on LYPG	>1,500 hours per year	FULFILLED no outages – MTBO[h]= /
SI.12	Availability of navigation function LOC TIV	>1,500 hours per year	FULFILLED no outages – MTBO[h]= /
SI.13	Availability of energy systems	>0,9999% per year	FULFILLED (There was no complete interruption of the power supply of operating devices)
SI.14	Endangering safety of the ATM system	acceptable values are not determined	MONITORED Laser interference - 7

4.8.1.2 Cost Efficiency

The unit rate for the “Serbia – Montenegro – KFOR” charging zone for 2019 was approved and adopted at the EUROCONTROL’s Enlarged Committee session in November 2018. The Decision of the Enlarged Committee No. 153, dated 29 November 2018 (Appendix No. 2), determined the amount of the unit rate at 29.34 EUR (National Unit Rate) and 29.48 EUR (Global Unit Rate), including EUROCONTROL Administrative Unit Rate. Monthly adjusted unit rates in 2018 and 2019 for the “Serbia – Montenegro – KFOR” charging zone are shown below in Figure 15.

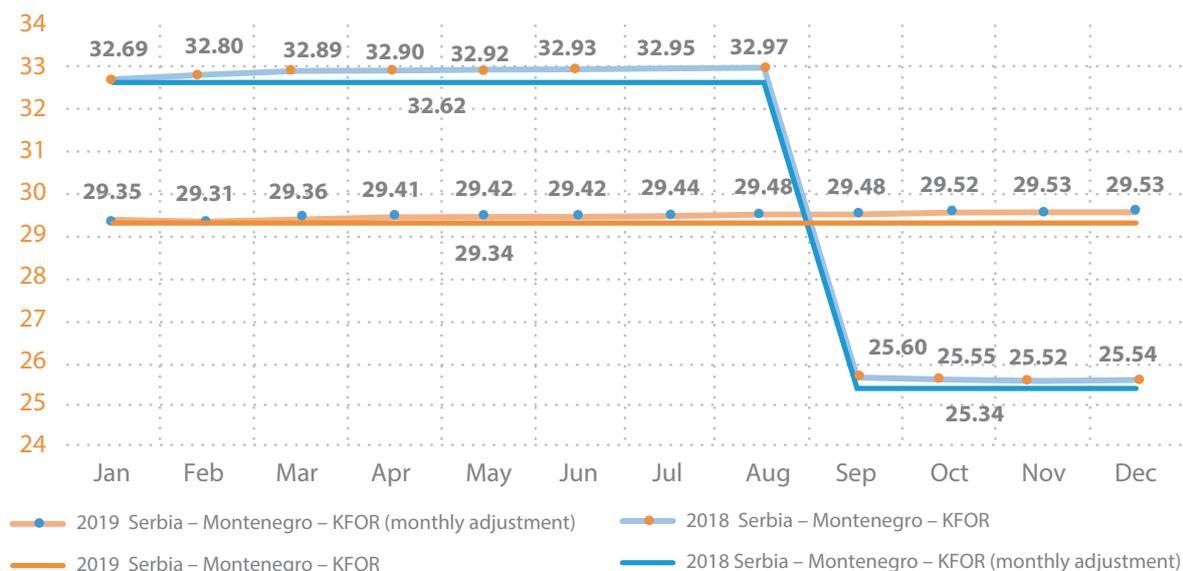


Figure 15. Unit rates for the “Serbia – Montenegro – KFOR” charging zone in 2018 and 2019

The determined value of the unit rate, which belonged exclusively to SMATSA, amounted to approximately EUR 22.51 EUR. The movement of the value of the unit rate, which belongs to SMATSA on a monthly basis, in 2018 and 2019, is presented in Figure 16.

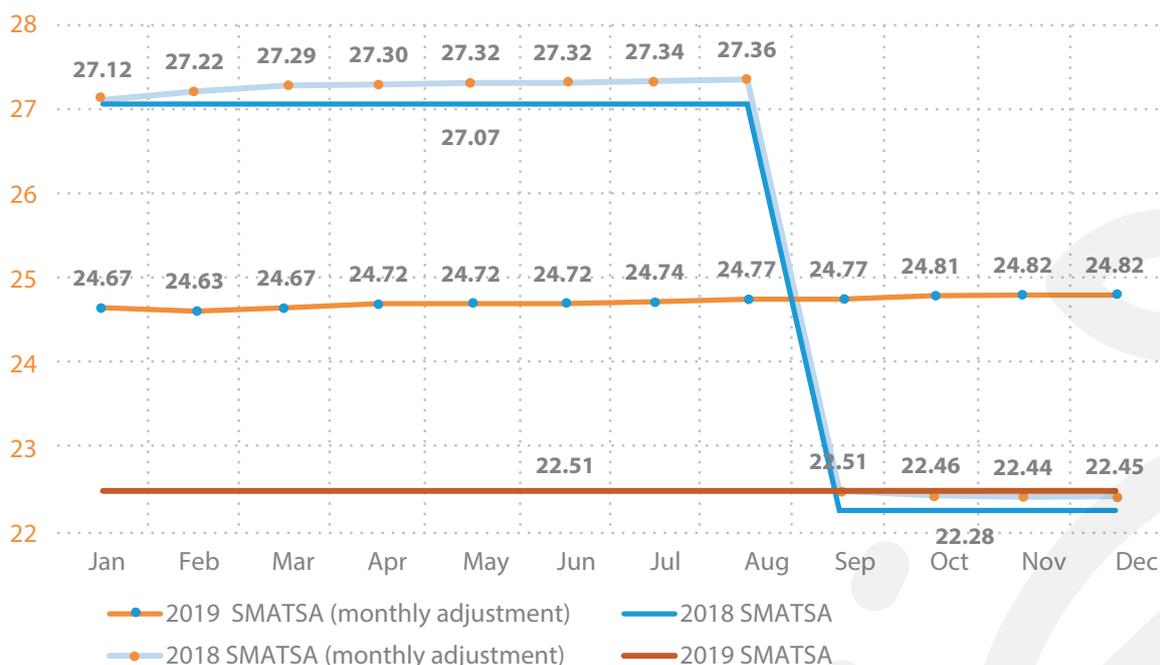


Figure 16. The unit rate for SMATSA in 2018 and 2019

4.8.1.3 Capacity

The capacity indicator assesses the efficiency of service provision in the area of responsibility of ANS providers. Efficiency is assessed based on the average delay time per IFR flight at FIR Belgrade generated by ATM. The indicator includes all IFR flights at FIR Belgrade, for which the delay generated by the work of the air navigation service provider is determined. The value of the indicator is calculated from the data on delays and the total number of flights. The indicator is expressed as an absolute value and is monitored on an annual basis.

Capacity indicators and their acceptable values have been defined at the national level by the aviation authorities of the Republic of Serbia in the document of the Civil Aviation Directorate of the Republic of Serbia, "Air Navigation in the Republic of Serbia, safety and capacity indicators and acceptable safety levels until 2020".

The acceptable and accomplished value of the capacity indicator for 2019 is listed in the following table.

Capacity indicator	Acceptable value	Accomplished value
Average delay time per IFR flight at FIR Belgrade generated by ATM	<0.1 minute / IFR flight	0,08 minute / IFR flight

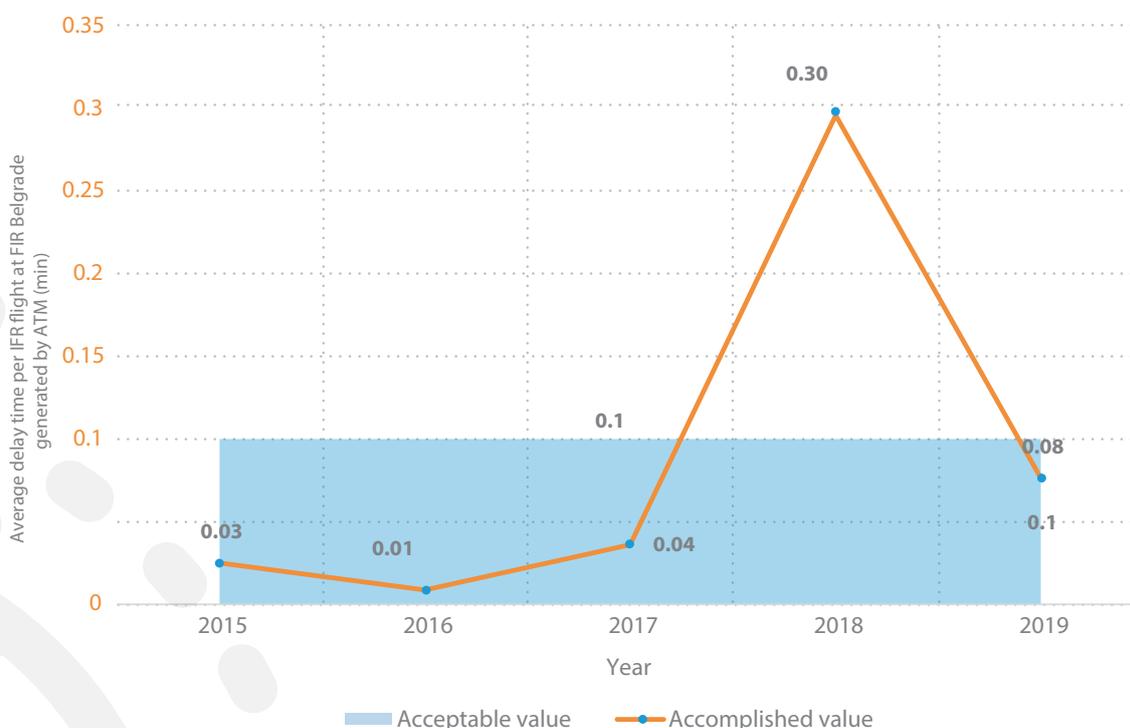


Figure 17. Average delay time per IFR flight at FIR Belgrade generated by ATM in the period 2015 to 2019

4.8.1.4 Environmental protection

The assessment of the level of environmental protection is based on the average efficiency of the horizontal flight, indicator recognized in the regulations concerning the Performance Scheme under the Single European Sky regulation. In the second reference period (2015-2019), the target values of the indicators are defined in the following manner:

1. Key performance Environment indicator based on Actual trajectory. The average efficiency of the horizontal flight by 2019 is the deviation of the actual trajectory of 2.6% in relation to the long-circuit route.

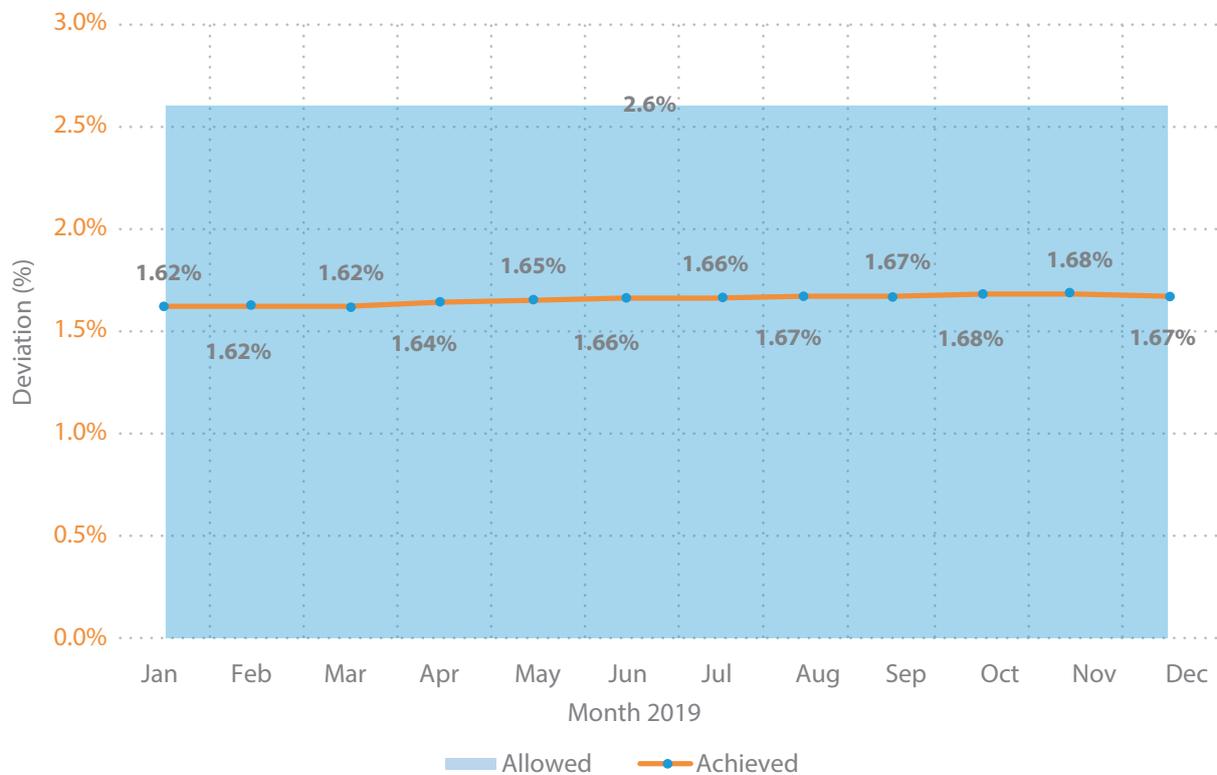


Figure 18. KEA – Key performance Environment indicator based on actual trajectory in relation to the long-circuit route in Serbia and Montenegro in 2019³

³ Source of data: European ANS Performance Data Portal (<http://ansperformance.eu/>).

2. KEP – Key performance Environment indicator based on last filed flight plan. The average efficiency of the horizontal flight by 2019 is the deviation of the last delivered trajectory of 4.1% in relation to the long-circuit route.

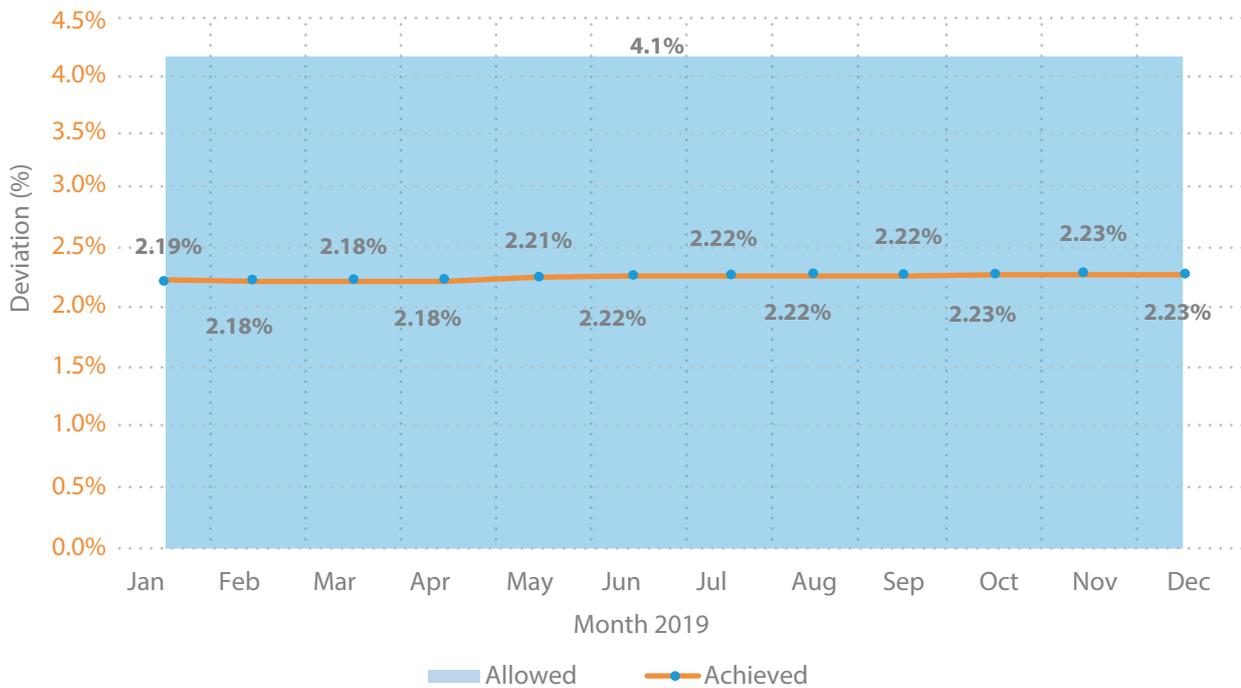


Figure 19. KEP – Key performance Environment indicator based on Actual trajectory in Serbia and Montenegro in 2019⁴

The values of KEA and KEP indicators for Serbia and Montenegro for 2019 are within the permitted values prescribed by the regulations.



⁴ Source of data: European ANS Performance Data Portal (<http://ansperformance.eu/>).

4.8.2 Indicators of the quality of provided services

The analysis of the quality objectives of SMATSA is carried out on an annual basis. The results of the analysis of the fulfilment of the quality objectives for 2019, as set out at the review of the quality management system (QMS) in the regular meeting of the Quality Committee, are presented in the following table.

Table 9. Analysis of the fulfillment of quality goals for 2019

Service	Target	Planned	Realized	Note
ATM	Average delay per IFR flight generated by SMATSA annually	Less than 0.095 minutes	YES	According to the source of the EUROCONTROL NMOC Database (Traffic and Delay per Country) in 2019, the average delay per one IFR flight generated by SMATSA amounted to 0,076 min (58,316 minutes divided by 764,655 flights). The largest part (67.53%) of total delay for the whole year was influenced by the weather conditions.
	Percentage of aircrafts taking off from the area of jurisdiction of SMATSA within the time tolerance of the issued slot	Higher than 83%	YES	According to the source of the EUROCONTROL NMOC database (Daily Slot Adherence to ATFM Slots per ADEP), in 2019, a value of 91.72% aircrafts taking off from the area of jurisdiction of SMATSA within the time tolerance of the issued slot, is achieved annually.
	The number of serious incidents, which were determined by an analysis as being caused by the ATM	Less than 5	YES	By inspecting the event database, which is kept in SAF.00 for 2019, it was found that a total of 650 events were reported, of which 23 required further analysis by department SAF.00. In the same period, there were 3 aircraft accidents, none with ATM participation. There were two events involving ATM that belong to the category of serious incidents in 2019.

Table 9. Analysis of the fulfillment of quality goals for 2019

Service	Target	Planned	Realized	Note
CNS	System availability of technical devices and systems within the competence of SMATSA directly affecting the provision of services	$A(t) = 99,9\%$	YES	The procedure Monitoring the condition of technical devices, systems and services, CNS.PROC.009, defines the total availability (when the calculation takes into account failures, planned outages and external factors) and system availability (when only failures are taken into account in the calculation). Despite the exceptions (individual deviations) from the desired system availability values for the systems under the jurisdiction of SMATSA, listed in the appendices, due to the application of individual and group redundancy of CNS devices and systems during 2019, it can be considered that the quality goal from the CNS domain has been met for all devices, systems and services that directly affect the provision of the services..
MET	Terminal Aerodrome Forecast (TAF) accuracy	According to ICAO Annex 3, Attachment B	YES	Results of the analysis of the Terminal Aerodrome Forecast (TAF): for LYBT 94.5%, for LYBE 94.8%, for LYVR 92.6%, for LYKV 95.7%, for LYNI 96.4%, for LYUZ 90.3%, for LYPG 96.9%, for LYTV 96.0%, or average for all airports 94.7%, thus achieving the desired operational accuracy provided in ICAO Annex 3, Attachment B.
AIS	Data Quality Assessment (Q)	Higher than 0.77	YES	Evaluation of quality is performed on a sample of 100 data. Average rating for this sample is 0.778.
TRE	Number of classes of theoretical instruction fulfilled for the current year, for each enrolled group of candidates in the ANS Staff Training Center	100%	YES	Theoretical training hours have been carried out in accordance with the appropriate Training Decisions.
	The number of classes of practical training fulfilled for the current year for each enrolled group of candidates in the ANS Staff Training Center	100%	YES	Practical training classes have been implemented in accordance with the appropriate Training Decisions

Table 9. Analysis of the fulfillment of quality goals for 2019

Service	Target	Planned	Realized	Note
ATO	Percentage of realized classes of theoretical lessons in relation to the planned number of hours for the current year, for each enrolled group of candidates in the SMATSA Aviation Academy	100%	YES	The target has been realized 124%. Planned: 3698 classes, realized: 4621 classes. More classes than planned were realized due to unplanned courses: PPL course, MCC courses, MEP courses, CPL (A) modular course, IR course, as well as additional lectures.
	Meeting the planned deadlines for completing theoretical training for the current year at the SMATSA Aviation Academy	100%	YES	The deadline for all enrolled groups was met. All groups completed theoretical classes within planned deadlines: MIKE 18, NOVEMBER 18, OSCAR 18, FI 18, PPL 18, CPL 18, IR 18.
	Percentage of realized flight time in relation to the planned number of flight hours for the current year, for each enrolled group of candidates in the SMATSA Aviation Academy	100%	NO	Target was not reached. The percentage of realized flight hours is 80%. Planned number of flight hours: 6204, realized number of flight hours: 4958. Failure in fulfillment occurred due to unfavorable weather conditions, as well as due to irregular attendance of flight training by candidates.
	Meeting the planned deadlines for completing flight instruction for the current year at the SMATSA Aviation Academy	100%	YES	The deadlines for all enrolled groups were met for all candidates who were regular in flight training.

Table 9. Analysis of the fulfillment of quality goals for 2019

Service	Target	Planned	Realized	Note
CAL	Realization of annual calibration plan	100%	YES	Annual calibration plan by assets has been realized 120%. A total of 311 calibrations were realized, of which 258 calibrations according to the annual plan and 53 extraordinary calibrations. Out of the total number of calibrations (311), 160 were realized according to contracts with external users.
MO	Fulfillment of work norms expressed in percentages in relation to the norms prescribed by the aircraft manufacturer	Higher than 97%	YES	The fulfillment of work norms was 100%. The target was achieved due to better organization of work in accordance with the norms prescribed by aircraft manufacturers.
	Maximum Down Time due to technical malfunctioning of aircraft used by SMATSA Aviation Academy on annual level	Less than 120 business days	YES	Total Down Time due to technical malfunctioning of aircraft used by SMATSA Aviation Academy was 0 business days. In 2019, this target was achieved because there were no malfunctions outside the scope of periodicals on aircrafts.

4.8.3 Additional Performance Indicators

In addition to the performance indicators covered by European and domestic regulations, i.e. quality objectives, SMATSA monitors the performance of operations of certain areas based on internally determined business indicators. The values of additional indicators in relation to the set goals are shown in the following table.

Table 10. Additional indicators/Performance Indicators in 2019		
Indicators	Target value for 2019	Realized
STO 01 – Improvement of air navigation management		
Number of overloads reported by flight controllers	< 20 per year	0
Respect of slots at Belgrade Airport (LYBE)	> 83%	88,8%
Respect of slots at Tivat Airport (LYTV)	> 83%	96,3%
Respect of slots at Podgorica Airport (LYPG)	> 83%	97,4%
Respect of slots at the Airport Niš (LYNI)	> 83%	97,8%
Air quality data score	> 0,77	0,78
Number of complaints from AIS users	< 13 per year	1
STO 03 – Development of competitive commercial services		
Number of projects related to SESAR.	> 1	4
Number of meetings held per year with flight control representatives in the environment	> 2	6
Number of projects within centralized services	> 2	N/A
STO 04 – Enhancing corporate social responsibility and environmental protection		
The percentage of waste that is handed over for some form of reuse or recycling in relation to the total amount of waste	60%	95%
STO 06 – Improving the performance of the organization and resource management system		
Realization of procurement plan	>80%	
STO 07 – Improvement and development of human potential		
Average number of days per year per employee spent at conferences or creative workshops	> 1,5	
Average number of days in the year spent on training for operational posts (expressed per person)	> 3	

05



Information Technology Management Systems

5.1 Information Technology

In the sphere of information technology in 2019, a large number of activities have been implemented, which have contributed to the process of automation, protection of data and corporate network, and the simplification of everyday activities and operations

The activities continued on the implementation of a comprehensive integrated information system, that is, the development of its integral parts (electronic registry office and document management system, central integration process, planning management and monitoring of business implementation and asset management).

The change in organization and systematization, which came into force at the end of 2018, conditioned the adaptation of applications used for administrative purposes by operational air traffic control services (application for creating a monthly schedule and effects, applications for creating a daily schedule used by the shift manager, applications for learning and verification of unread INFO documents and forms).

Based on the users' requests, the frequency display of the active sectors of the adjacent flight controls at the control positions of the TopSky-ATC system was redesigned. In addition, new functionalities have been developed within various application services that are used to support the business processes of SMATSA, namely:

- records of events within the application service for monitoring telecommunication services;
- work with maps, automatic generation of purchase orders for the next year and invoicing within the application service for registration of users of AIS publications;
- separation of TMA and ATCC reports, reporting on diverted flights and development of the reporting part in the web application "Reporting of organizational units of ATC";
- integration of diverted flight data and functions of comparing local data with Network Manager data in the application for data preparation for the purposes of calculation, invoicing and collection of route fees (Flight Messages);

When it comes to new application solutions, a service has been developed for the needs of recording spare parts and consumables, as well as a new solution for recording activities and their participants in ATCs.

In 2019, some other activities in this field were implemented: the connection of the administrative network to the SMATSA IP network, improvement and migration of telecom / internet lines, improvement of the e-mail system and the system for external document exchange.

In order to protect data and the corporate network during 2019, the following activities were carried out:

1. Development of a system for anti-phishing campaigns for the purpose of releasing occasional phishing emails, in order to raise employee's awareness of potential cyber-attacks via Phishing emails;
2. Replacing CORE device for advanced protection;
3. Implementation of a device for advanced protection of web applications by RADWARE;
4. Creating copies of all data from SMATSA on virtual files at the Headquarters and Management offices and ATCC locations on a daily basis.

In accordance with the change in the methodology for calculating route fees, which will be based , as of 01/01/2020, on the actual flight path, an adequate change was made to the calculation of service units, performed on the basis of Billing log files from the DPS system. At the same time, the migration of the database of realized flights to the technologies Postgres 12 and MSOL Express 2019 on Linux created opportunities for improving the process of reporting on traffic and revenues.



06



Consultation with Service Users

6.1 Air Traffic Management – ATM

In 2019, a series of meetings were held with representatives of Belgrade Airport (VINCI) on the occasion of preparation and coordination of activities on the implementation of the concession agreement at Belgrade Airport. In addition to the representatives of VINCI, the meetings were also attended by representatives of the Ministry of Construction, Transport and Infrastructure, Civil Aviation Directorate, Air Serbia and others.

Consultations with users regarding instrument flight procedures are held on a regular basis. In the course of 2019, information was exchanged on many issues, with both airlines which are direct users and with organizations that perform redistribution of aviation data (Jeppesen, NAVBLUE, Lido).

6.2 Aeronautical Information Service – AIS

User satisfaction survey analysis is performed on the basis of quarterly reports on the quality of data from INO, SDO and PAMS applications of the European AIS database, user complaints, and on the basis of User Satisfaction Questionnaire.

1. INO module of the European AIS database

The analysis of published NOTAM, which is made by the EAD quarterly in the period October 2018 – September 2019, covered 478 NOTAMs. Three errors were found, which is 0.25 errors per month. The cause of these errors is human error, not inadequate procedure. Following the analysis, every three months a conversation with the agents of the NOTAM Bureau is conducted, particularly indicating the errors made, in order to avoid repeating such errors. The trend of errors made varies, but the average of 0.25 errors per month seems acceptable.

2. User complaints

In accordance with the valid procedure, the complaint analysis was completed conclusive with 31 December 2019. In 2019, only one complaint was received regarding the provision of aeronautical information services. No objection was related to security threats due to errors in the provision of aeronautical information services (one complaint relates to incomplete and the other one to untimely information). The analysis did not determine the existence of any systemic problem or objection of a higher frequency.

3. Customer satisfaction questionnaire

AIS checks customer satisfaction regularly by sending standardized questionnaires. When it comes to 2019, 13 filled out questionnaires on user satisfaction were received. Of these, 10 respondents rated our service with the rating – excellent, 2 with the rating – good, and 1 with the rating – satisfactory. In addition, the individual requests of the users are regularly responded to.

6.3 Aeronautical Meteorological Service – MET

In 2019, formal meetings were held with users in the Republic of Serbia and Montenegro, as follows:

- with LLF product users to introduce them to the future eGAFOR product and,
- with representatives of airport users in order to define, both regular and occasional, MET services for the needs of airport users.

6.4 SMATSA Aviation Academy

User satisfaction survey in 2019 was carried out through a questionnaire after the completion of the training. The results of the polling sample of 23 candidates for pilots training are presented in the following table.

Table 11. Results of the Pilot Training User Satisfaction Survey within SMATSA Aviation Academy in 2019				
Domain	Not satisfied	Neutral	Satisfied	Very satisfied
Knowledge before arriving at the Academy	7	12	8	9
Knowledge after completion of the Academy	0	0	8	28
Theoretical instructors	1	3	16	16
Teaching and learning aids	2	8	14	12
Textbooks	5	9	15	7
Flying skills acquired	0	3	9	24
Flight instructors	1	1	8	26
Flight training organization	4	9	11	12
Daily organization	2	8	16	10
Briefings and debriefings	0	2	14	20
General assessment of the entire training	1	1	17	17

6.5 Calibration of GRNS from the air

User satisfaction survey regarding calibration of GRNS from the air is carried out on the basis of data obtained from the survey, which was filled out by 8 users from Latvia, Hungary, Slovenia, Bosnia and Herzegovina and North Macedonia in 2019. Based on the survey data, the average rating of the quality of the calibration of GRNS from the air is 5.00 for 2019.

Table 12. Results of the User Satisfaction Survey on calibration of GRNS from the air in 2019

Activity	Average rating
Degree of coordination of activities before, during, and after the calibration of GRNS	5,0
Quality of crew communication with the technical staff on the ground during the calibration of GRNS	5,0
Quality, completeness, and timeliness of reports on calibration of GRNS	5,0
Coordination of planned and realized activities	5,0
Response to additional requests	5,0

Based on the ratings obtained from the survey, it can be concluded that the calibration services of GRNS from the air for foreign contracting authority were performed very professionally and with high quality in 2019.



07



Financial Statements

The financial statements of SMATSA contain information on the financial position, profitability, changes in equity and cash flows of SMATSA.

The Financial Statements for 2019 are presented below, which include the income statement, balance sheet and cash flow statement.

A comparison of the results with the previous year is presented, as well as with the plan for 2019 in order to monitor the trend of business indicators and the implementation of established plans.

7.1 Income Statement

Table 13. Income Statement for the period 1 January – 31 December 2018 (in 000 RSD)					
Elements	2018	2019	2019 Plan	Realization / Plan	2019/2018
I Operating revenues	9,664,818	10,061,059	10,176,426	-1.13%	4.10%
Income from sale	9,316,494	9,730,895	9,911,623	-1.82%	4.45%
Domestic market	364,251	450,161	455,177	-1.10%	23.59%
Foreign market	8,952,243	9,280,734	9,456,446	-1.86%	3.67%
Other operating income	348,324	330,164	264,803	24.68%	-5.21%
II Operating costs	9,245,732	9,884,803	10,147,560	-2.59%	6.91%
Costs of material	66,323	86,553	81,666	5.98%	30.50%
Fuel and energy	143,663	152,781	159,381	-4.14%	6.35%
Costs of salaries, fringe benefits and other personal expenses	5,998,004	6,219,892	6,292,039	-1.15%	3.70%
Costs of production services	1,106,801	1,395,287	1,359,860	2.61%	26.06%
Depreciation costs	1,071,073	1,163,282	1,250,000	-6.94%	8.61%
Long-term provisions	128,620	91,386	50,000	82.77%	-28.95%
Non-production costs	731,248	775,622	954,614	-18.75%	6.07%
III Operating profit	419,086	176,256	28,866	510.60%	-57.94%
IV EBITDA	1,490,159	1,339,538	1,278,866		
% EBITDA	15.42%	13.31%	12.57%		
VI Effect of financial revenues and expenditures	-34,956	-10,649	19,517		
VII Effect of other revenues and expenditures	-67,277	51,356	196,332		
VIII Profit from regular operation before tax	316,853	216,963	244,715		
IX Net loss of discontinued operation, correction of errors, etc.	-72,127	-72,957	-		
X Tax expenditure	212,748	40,638	90,000		
XI Net profit	31,978	103,368	154,715	-33.19%	223.25%



In 2019, operating revenues are at the level of the planned values, while the realization of operating revenues in 2019 is by 4.10% higher compared to 2018.

Compared to 2018, in 2019 there was a reduction of the EBITDA margin – Earnings before interest, taxes, depreciation and amortization from 15.42% to a bit more than 13%, which is above the planned value of 12.5%.

The year ended with the operating profit of RSD 176,256 thousand RSD. On the one hand, the result is significantly better than the planned one, and on the other hand, the operating profit in 2019 was 57,94% lower than the figure in the previous year, due to an increase in operating expenditure, primarily wage costs of salaries, fringe benefits and other personal expenses and cost of production services. Net profit increased in 2019 compared to 2018, primarily due to a decrease in tax expenditure for the period in 2019.

Observed by categories, almost 99% of the planned income in the domestic market were realized, and the realized income in this category is 23,6% higher than the one in the previous year. This is a result of a higher participation of domestic companies in the terminal than expected. The income from sale on foreign market in 2019 is a bit lower than the planned one, while in comparison with 2018, it is higher by around 3,7%.

Realization of costs of salaries, fringe benefits and other personal expenses amounts to almost 99% of the planned value of that category in the Financial plan for 2019. It is by 3,7% higher compared to the previous year.

Realization non-production costs is a bit more than 93% of the planned value. It is also by 8,61% higher than the value in 2018, primarily due to the activation of investments such as TopSky ATC system and IP communication network in 2019.

Realization of intangible costs in 2019 is about 81,25% of the planned value. It is also by 6,07% higher than in 2018, primarily due to the higher payment of the contribution to Eurocontrol in 2019 than in 2018 and higher payment costs.

Realization of costs of material in 2019 exceeded the planned value by almost 6%. It is also by 30.5% higher than in 2018, which is primarily due to the procurement of the spare parts for the navigation system and IP communication network.

Realization of costs of production services is 2.61% higher than the planned value.

7.2 Balance Sheet

Table 14. Balance Sheet on 31 December 2018 (in 000 RSD)

Assets	2015	2016	2017	2018	2019
Fixed assets	12,329,351	12,920,482	14,241,070	14,967,560	15,850,968
I Intangible assets	27,775	83,035	90,120	90,966	112,868
II Property, plants and equipment	12,301,576	12,837,447	14,150,950	14,876,594	15,738,100
III Long-term financial placement	–	–	–	–	–
Long-term receivables	–	–	–	–	–
Working capital	5,105,927	4,466,488	3,840,375	3,108,257	3,369,062
I Inventory	146,275	163,013	179,077	177,095	156,878
II Receivables from sales	1,001,567	1,429,641	1,483,012	1,362,005	1,659,235
III Claims from specific deals and other claims	203,083	161,758	20,088	14,962	219,234
IV Short-term financial placement	–	–	–	–	–
V Cash	3,638,462	2,629,516	1,969,208	1,427,318	1,169,259
VI Value added tax	68,887	57,177	147,005	56,783	44,156
VII Prepayments and accrued income	47,653	25,383	41,985	70,094	120,300
Total assets	17,435,278	17,386,970	18,081,445	18,075,817	19,220,030
Off-balance sheet assets	204,934	716,454	885,440	837,082	974,419
Liabilities	2015	2016	2017	2018	2019
Capital	12,226,886	12,783,828	14,148,794	14,148,874	14,258,882
I Original capital	1,873,820	1,873,820	1,873,820	1,873,820	1,873,820
II Reserves	507,044	507,044	507,044	507,044	507,044
III Revaluation reserves	3,179,315	2,869,560	3,431,245	3,418,341	3,385,720
IV Retained profit	6,653,575	7,514,952	8,362,953	8,408,630	8,548,244
V Non-realized gains/losses based on securities and other components of other comprehensive income	13,132	18,452	-26,268	-58,961	-55,946
Long-term provisions and liabilities	2,943,325	2,197,094	1,693,535	2,207,996	2,901,531
I Long-term provisions	692,151	743,857	818,786	916,198	935,665
II Long-term liabilities	2,251,174	1,453,237	874,749	1,291,798	1,965,866
Deferred tax liabilities	565,197	534,195	598,471	589,101	588,749
Short-term liabilities	1,699,870	1,871,853	1,640,645	1,129,846	1,470,868
Short-term financial liabilities	1,201,618	820,956	483,653	430,982	204,739

Table 14. Balance Sheet on 31 December 2018 (in 000 RSD)

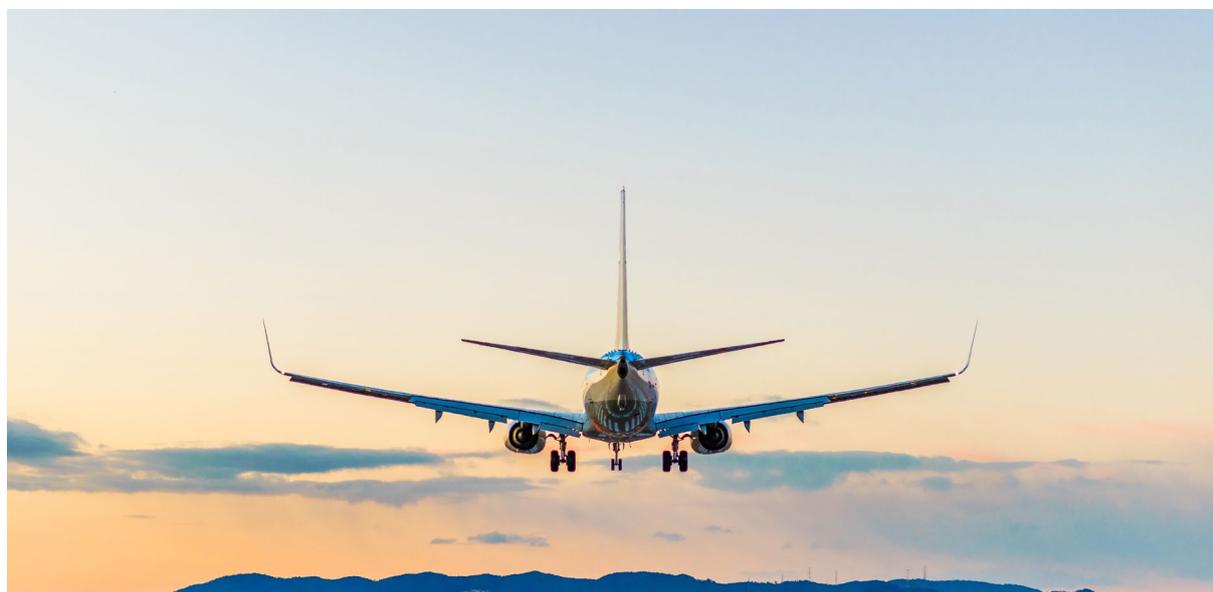
Liabilities	2015	2016	2017	2018	2019
Received advances	113,980	167,954	210,592	141,051	136,040
Liabilities from operation	315,185	337,304	471,995	502,897	592,253
Other short-term liabilities	22,742	533,444	430,925	15,279	482,101
Liabilities based on VAT, other public revenues	30,845	6,513	40,427	34,667	24,878
Accruals and deferred income	15,500	5,682	3,053	4,970	30,857
Total liabilities	17,435,278	17,386,970	18,081,445	18,075,817	19,220,030
Off-balance sheet liabilities	204,934	716,454	885,440	837,082	974,419

Fixed assets in 2019 were higher by almost 6% than in 2018, mostly based on investment in the improvement of the TopSky ATC system, construction of electrical energy plants and power transforming stations and other investments.

In the structure of working capital, account receivables and cash make up almost 84%.

Total capital increased in 2019 compared to 2018, due to an increase in retained profit. Retained profit for the current year amounted to 139,614 thousand RSD, while in 2018 it amounted to 45,677 thousand RSD.

In the position of long-term liabilities, in 2019 SMATSA recorded the amount of 1,965,866 thousand RSD on the basis of long-term loans from the EIB and EBRD, while the position of short-term financial liabilities recorded repayment of the EIB loan installment from 2005 in the amount of 204,739 thousand dinars.



7.3 Cash Flow Report

Table 15. Cash Flow Report for the period 1 January – 31 December 2018 (in 000 RSD)

Item	Current year	Previous year
A. CASH FLOWS FROM OPERATING ACTIVITIES		
	10,338,691	10,241,126
I. Cash flow from operating activities (1 to 3)		
1. Sale and advances received	9,530,578	9,422,937
2. Received interests from operating activities	36,541	4,561
3. Other inflows from operating activities	771,572	813,628
II. Cash outflows from operating activities (1 to 5)	8,913,715	9,356,268
1. Payments to suppliers and advances made	2,862,282	2,507,750
2. Wages, wage compensations and other personal expenditures	5,789,105	6,577,568
3. Paid interests	41,548	47,014
4. Profit tax	220,780	223,936
5. Outflows based on other public revenues		
III. Net cash inflow from operating activities (I-II)	1,424,976	884,858
IV. Net cash outflow from operating activities (II-I)		
B. CASH FLOWS FROM FINANCING ACTIVITIES		
I. Cash inflows from investment activities (1 to 5)	-	-
1. Sale of shares and stakes (net inflows)		
2. Sale of intangible, buildings, plants, equipment and biological assets		
3. Other financial placement (net inflows)		
4. Interest received from investment activity		
5. Received dividends		
II. Cash outflows from investment activity (1 to 3)	2,141,264	1,794,060
1. Purchase of shares and stakes (net outflows)		
2. Purchase of intangible assets, buildings, plants, equipment and biological assets	2,141,264	1,794,060
3. Other financial placements (net inflows)		
III. Net cash inflow from investment activity (I-II)		
IV. Net cash outflow from investment activity (II-I)	2,141,264	1,794,060

Table 15. Cash Flow Report for the period 1 January – 31 December 2018 (in 000 RSD)

Item	Current year	Previous year
V. CASH FLOWS FROM FINANCING ACTIVITIES	925,964	887,406
I. Cash inflows from financing activities (1 to 5)		
1. Increase of original capital		
2. Long-term credits (net inflows)	925,964	887,406
3. Short-term credits (net inflows)		
4. Other long-term liabilities		
5. Other short-term liabilities		
II. Cash outflows from financing activities (1 to 6)	467,709	519,621
1. Redemption of own shares and stakes		
2. Long-term credits (outflows)	467,709	519,621
3. Short-term credits (outflows)		
4. Other liabilities (outflows)		
5. Financial leasing		
6. Paid dividends		
III. Net cash inflow from financial activity (I - II)	458,255	367,785
IV. Net cash outflow from financing activity (II-I)		
G. TOTAL CASH INFLOW (3001 + 3013 + 3025)	11,264,655	11,128,532
D. TOTAL CASH OUTFLOW (3005 + 3019 + 3031)	11,522,688	11,669,949
Đ. NET CASH INFLOW (3040 – 3041)		
E. NET CASH OUTFLOW (3041 – 3040)	258,033	541,417
Ž. CASH AT BEGINNING OF THE ACCOUNTING PERIOD	1,427,318	1,969,208
Z. EXCHANGE RATE GAINS BASED ON CASH CONVERSION		
I. EXCHANGE RATE LOSSES BASED ON CASH CONVERSION	26	473
J. CASH AT THE END OF THE ACCOUNTING PERIOD	1,169,259	1,427,318

7.4 Ratio indicators

Table 16. Liquidity indicator – recommended, realized and target values

Liquidity indicator	Recommended value	Realized in 2018	Realized in 2019	Target value in the Financial Plan for 2019
General liquidity ratio (Current assets / Short-term liabilities)	>2	2,75	2,29	1,88

General liquidity ratio (current liquidity ratio) is the ability of a company to use the total available current assets to settle its short-term liabilities (in the period of one year). If a company has the results of the general liquidity ratio over 2, it means that it has a good ability of servicing short-term liabilities. General liquidity ratio also shows the amount of RSD of current assets that covers the RSD amount of short-term liabilities.

In 2018, the general liquidity ratio for SMATSA was 2.75, and in 2019 it decreased to 2.29, i.e. every single dinar of short-term liabilities in 2019 was covered by 2.29 dinars of current assets.

Table 17. Financial security indicators – recommended, realized and target values

Indicators of financial security	Recommended value	Realized in 2018	Realized in 2019	Target value in the Financial plan for 2019
Indebtedness ratio (Long-term liabilities + short-term liabilities) / total assets (%)	the lower percentage of borrowed assets the better	13,4%	17,88%	25,79%
Debt ratio (EBRD) Total liabilities / Total equity	<1	0,12	0,15	/
Debt ratio (EIB) (Long-term liabilities + short-term financial liabilities - Cash equivalents and cash) / EBITDA	<3.5	0,20	0,75	/

When it comes to the indebtedness ratio, a smaller percentage of borrowed funds shows that a smaller part of the funds was financed from borrowed sources of financing. In case of indebtedness ratio, in 2018, the borrowed funds make 13.4% of the total sources of funds, while that percentage is increased in the following year so in 2019 it is 17.88%, which means that the indebtedness has increased.

EBRD debt ratio compares the total liabilities of the company with the total equity. The level of indebtedness shows the relative share of loans in the financing of the company. The value determined by the Loan Agreement between SMATSA and the EBRD, implies that the value of the ratio should not exceed 1. In the case of SMATSA, in 2018 this parameter was 0.12, while in 2019 it was 0.15. The debt ratio of the EIB shows how many years it takes for a company to settle its financial liabilities if net debt and EBITDA are kept constant (not more than 3.50).

Table 18. Profitability indicators – recommended, realized and target values

Profitability indicators	Recommended value	Realized in 2018	Realized in 2019	Target value in the Financial plan for 2019
Operating margin (Operating profit / Operating revenues)	the higher the rate the better	4,34%	1,75%	/
Net profit margin (Net profit / Operating revenues)	the higher the rate the better	0,33%	1,03%	/

Operating margin excludes the effects of financial and other revenues and expenditures on operations and in 2018 amounts to 4,34%, while in 2019 it is 1,75%.

Net profit margin contains the data on which part of each dinar of the net sale revenues remains to the owners after settlement of all financial liabilities. The net profit margin in 2019 is higher than in 2018.



08 Marks and abbreviations

ACC	Area Control Center
ACS	Area Control Surveillance
ADI	Aerodrome Control Instrument
AFIS	Aerodrome Flight Information Services
AIP	Aeronautical Information Publication
AIR	Air Control
AIRAC	Aeronautical Information Regulation And Control
AIS	Aeronautical Information Services
AMHS	Aeronautical Message Handling System
ANS	Air Navigation Services
ANSP	Air Navigation Services Provider
APCH	Approach
APV	Approach procedure with vertical guidance
APP	Approach Control
ARO	Air Traffic Services Reporting Office
ARTAS	ATM Surveillance Tracker And Server
ASD	Air Situation Display
ASMT	Automatic safety monitoring tool
ATC	Air Traffic Control
ATCEUC	Air Traffic Controllers European Union Coordination
ATFM	Air Traffic Flow Management
ATM	Air Traffic Management
ATO	Approval Training Organization
ATS	Air Traffic Services
ATSEP	Air Traffic Safety Electronics Personnel
AVAC	Aviation Advisory Committee
BANM	Balkan Aviation Normalization Meeting
BHANSA	Bosnia and Herzegovina Air Navigation Services Agency
BHATM	Bosnia and Herzegovina Air Traffic Management Project

BSO	Basic Strategic Objective
C-ATCC	Contingency Air Traffic Control Center
CAL	Calibration
CAT	Category
CIMACT	Civil Military ATM Co-ordination Tool
CIP	Central Integration Process
CNS	Communication , Navigation and Surveillance
COOPANS	An international partnership between the air navigation service providers of Austria, Croatia, Denmark, Ireland and Sweden
DC	Direct Current
DCT	Direct (in relation to flight plan clearances and type of approach)
DEA	Direct Electronic Access
DME	Distance Measuring Equipment
DPS	Data Processing System
DVOR	Doppler VOR
EAD	European AIS Database
EASA	European Aviation Safety Agency
EBRD	European Bank for Reconstruction and Development
EBITDA	Earnings before interest, taxes, depreciation and amortization
EDS	European Directory Service
EGAFOR	Electronic General Aviation Forecast
EGNOS	European Geostationary Navigation Overlay Service
EMS	Environmental Management System
ENV	Environment
ESARR	Eurocontrol Safety Regulatory Requirements
EU	European Union
EUR	Euro
EUROCONTROL	European Agency for the Safety of Air Navigation
ESSP	European Satellite Service Provider
EVAIR	EUROCONTROL voluntary ATM incident reporting

EWA	EGNOS Working Agreement
FAMUS	Future ATM Modernization and Upgrade System
FIR	Flight Information Region
FL	Flight level
FRA	Free Route Airspace
GMC	Ground Movement Control
HUM	Human Resources
ICAO	International Civil Aviation Organization
IFR	Instrument flight rules
ILS	Instrument Landing System
INO	International NOTAM Operations
IP	Internet Protocol
ISO	International Organization for Standardization
LARA	Local and sub-Regional Airspace Management Support System
LDAP	Directory Access Protocol
LNAV	Lateral Navigation
LPV	Localizer Performance with Vertical guidance
LSSIP	Local Single Sky Implementation
LYBE	Belgrade Airport
LYKV	Kraljevo Airport
LYNI	Nis Airport
LYPG	Podgorica Airport
LYTV	Tivat Airport
LYUZ	Uzice Airport
LYVR	Vrsac Airport
MCC	Multi Crew Coordination
MET	Aeronautical Meteorological Services
MIL AIP	Military Aeronautical Information Publication
MO	Maintenance Organization
MTBO	Mean Time Between Outages
MTOW	Maximum take of weight

NATO	North Atlantic Treaty Organization
NDB	NonDirectional radio Beacon
NM	Network Manager
NMOC	Network Manager Operations Centre
NOTAM	A Notice to Airmen
OJTI	On the job Training Instructor
PANS-OPS	Procedures for Air Navigation Services – Aircraft OPERations
PBN	Performance-based navigation
PPL	Private Pilot License
PreOJT	Pre - On the Job Training
PSR	Primary Surveillance Radar
QMS	Quality Management System
RAT	Risk Analysis Tool
RNP	Required navigation performance
RNPAPCH	Required navigation performance Approach
RP	Reference Period
SARP(S)	Standards and recommended practices ICAO
SEAFRA	South East Axis Free Route Airspace
SECSI FRA	South East Common Sky Initiative Free Route Airspace
SES	Single European Sky
SESAR	Single European Sky ATM Research
SMATSA	Serbia and Montenegro Air Traffic Services SMATSA
SMS	Safety Management System
SNOWTAM	Special series NOTAM notifying the presence or removal of hazardous conditions due to snow, ice, slush or standing water associated with snow, slush and ice on the movement area, by means of a specific format
SSR	Secondary Surveillance Radar

STAR	Standard Instrument Arrival
SID	Standard Instrument Departure
STO	Strategic Objective
SUSAN	SMATSA Upgrade of System for Air Navigation
TAF	Aerodrome forecast
TAR	Terminal Area Radar
TER	Terminal and Aerodrome Control Sector
TMA	Terminal Area
TRE	Aeronautical Personnel Training Sector
TWR	Tower
UHF	Ultra-High Frequency
UPS	Uninterruptible power supply
VDF	Variable frequency drive
VHF	Very High Frequency
VOR	Very High Frequency Omni-directional Range
VNAV	Vertical Navigation
ANT	Nikola Tesla Airport
ATC	Aerodrome Air Traffic Controls
MCAA	Montenegro Civil Aviation Agency
CAD	Civil Aviation Directorate of the Republic of Serbia
EE	Electric energy
EIB	European Investment Bank
GRNS	Ground radio navigation systems
OU	Organizational unit
RWY	Runway
RS	Radar station
TC	Telecommunications
TCC	Telecommunications center
ATCC	Air Traffic Control Center

09 Table, scheme, and figure index

9.1 Table index

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10 Appendices

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10.2 Appendix 2 - Decision of the EUROCONTROL's Enlarged Committee No. 153 of 29/11/2018

EUROPEAN ORGANISATION FOR THE SAFETY OF AIR NAVIGATION

EUROCONTROL

- Decisions of the enlarged Commission -

DECISION No. 153

relating to the determination of the unit rates for the period of application commencing 1 January 2019

THE ENLARGED COMMISSION,

Having regard to the EUROCONTROL International Convention relating to Co-operation for the Safety of Air Navigation amended at Brussels on 12 February 1981 and in particular Article 5 thereof;

Having regard to the Multilateral Agreement relating to Route Charges dated 12 February 1981, and in particular Articles 3.2(e) and 6.1(a) thereof;

On the proposal of the enlarged Committee and the Provisional Council,

HEREBY TAKES THE FOLLOWING DECISION:

Sole Article

The unit rates annexed to the present decision are approved and shall enter into force on 1 January 2019.

Done at Brussels on 29 November 2018,



Mirjana ČIZMAROV
President of the Commission

Unit rates applicable from 1 January 2019

ZONE	Global unit rate euro	Exchange rate applied 1 euro =	
Belgium/Luxembourg *	67.69	-/-	
Germany *	63.77	-/-	
France *	60.95	-/-	
United Kingdom	58.37	0.892945	GBP
Netherlands *	56.91	-/-	
Ireland *	28.26	-/-	
Switzerland	94.33	1.12888	CHF
Portugal Lisboa *	24.82	-/-	
Austria *	67.88	-/-	
Spain Continental *	61.33	-/-	
Spain Canary *	49.96	-/-	
Portugal Santa Maria *	9.67	-/-	
Greece *	30.59	-/-	
Turkey	19.17	7.35673	TRY
Malta *	22.51	-/-	
Italy *	78.10	-/-	
Cyprus *	31.98	-/-	
Hungary	30.23	324.513	HUF
Norway	44.00	9.61178	NOK
Denmark	57.15	7.45738	DKK
Slovenia *	59.65	-/-	
Romania	30.43	4.64165	RON
Czech Republic	40.34	25.6039	CZK
Sweden	51.02	10.4276	SEK
Slovakia *	49.83	-/-	
Croatia	42.32	7.42711	HRK
Bulgaria	31.42	1.95550	BGN
The Former Yugoslav Republic of Macedonia	45.20	61.2630	MKD
Moldova	58.97	19.5380	MDL
Finland *	50.02	-/-	
Albania	48.42	126.150	ALL
Bosnia and Herzegovina	34.77	1.95074	BAM
Serbia/Montenegro/KFOR	29.48	118.185	RSD
Lithuania *	42.89	-/-	
Poland	40.87	4.29686	PLN
Armenia	28.13	562.598	AMD
Latvia *	27.16	-/-	
Georgia	22.50	3.02412	GEL
Estonia *	29.31	-/-	

*: State participating in the EMU.





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