SERBIA AND MONTENEGRO
AIR TRAFFIC SERVICES
SMATSA LLC BELGRADE

ANNUAL REPORT
2020

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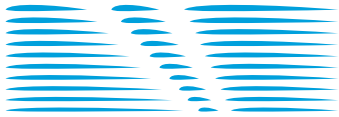

ANNUAL REPORT

2020

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Foreword by the CEO

It was quite difficult to write a foreword for the 2020 Annual Report. This foreword is different from all the previous ones. In this report for 2020, we cannot boast of a record number of serviced aircrafts or a historical record in the number of flights in one day, as well as in the number of flights in peak hours. 2020 was marked by the biggest crisis in civil aviation ever.

The crisis caused by the COVID-19 virus pandemic has led to a drop in traffic and revenue of about 60% compared to 2019.

Providing necessary financial liquidity and the provision of current assets to cover all the operational SMATSA's costs, as well as the preservation of the employees' health and standard, were the main issues of operations last year. A number of measures have been taken to preserve the company's financial stability and streamline operations in a pandemic, which include reducing operating costs, reducing procurement, selling non-business assets, and providing secondary sources of liquidity. State support was extremely important, because it enabled the postponement of the payment of certain obligations.

Even in a such difficult circumstances, we managed to maintain the quality of services provided to both civilian and military users, with the required level of safety, efficiency and regularity of traffic flow.

New business circumstances also imposed a revision of SMATSA's business plans.

The SMATSA Upgrade of System for Air Navigation (SUSAN) Program has been partially changed and the deadlines for the implementation of certain projects have been postponed. Because of the circumstances, certain projects had to be abandoned. Nevertheless, the most significant modernization projects were implemented even in such difficult conditions.

The construction of the annex to the Air Traffic Control Center and the ATC tower at the Nikola Tesla Airport in Belgrade and the construction of the Besna kobila radar station have begun. Activities were continued on the project of upgrading with expansion of the main flight data processing system "FAMUS TopSky-ATC". The project of installation of new ground based radio navigation systems at the airports of Niš, Kraljevo, Batajnica, Belgrade has been completed. The project of establishing the SMATSA IP communication network has been brought to its final phase, and activities on the development of project and supporting documents for other relevant projects planned by the SUSAN Program have been intensified.

SMATSA has not given up on continuing recruitment of younger age groups for the operational staff positions and started training new candidates of the 49th national class of air traffic controlers. At the same time, the continuity of improving the knowledge and competence of operational executive staff within the framework of international standards and regulatory requirements of the founding states of SMATSA was maintained.

Cooperation with the competent institutions, regulatory, and supervisory bodies throughout 2020 was maintained at high level.

Competences, commitment, experience, and professionalism of employees and management enabled us to achieve significant business goals in 2020, maintain quality and be recognized and acknowledged as a provider of quality services and is a significant and desirable partner for cooperation at all levels.

I especially emphasize the support of the SMATSA management bodies, which largely enabled SMATSA's business and operations to be maintained at the required level.

The period ahead of us, on the one hand, offers hope for the recovery of civil air traffic, and on the other hand, poses even greater challenges. We are aware that we must prepare for the post-pandemic period and, in that sense, reshape our business strategy, in order to make better use of new opportunities and respond to the risks and challenges that this time will bring.

I thank everyone for their engagement during 2020 and I am sure that we will work together to respond to the demands of this crisis period.

Predrag Jovanović

CEO, Serbia and Montenegro Air Traffic Services SMATSA LLC Belgrade

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About the Serbia and Monte-negro 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 area of responsibility 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 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; and
4. MET – Aeronautical Meteorological Services.

Area of responsibility of SMATSA includes airspace above:

1. Republic of Serbia;
2. Montenegro;
3. International waters in the Adriatic Sea and
4. Bosnia and Herzegovina above the narrow strip in the immediate vicinity of the border with the Republic of Serbia and Montenegro.

Figure 1.
The territory above which SMATSA provides air navigation services

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 2020 in numbers

3.1 Traffic data in the airspace of SMATSA's area of responsibility

The unprecedented crisis, caused by the COVID-19 virus pandemic, which spread across the whole world during the year, brought uncertainty in many aspects of life, especially in the air transport sector, which in the period from March to June 2020 faced a decline in the number of flights of about 90% compared to the previous year. The outbreak of the pandemic brought the closing of international airports across Europe and the closing of borders, the landing of airlines, as well as the restriction and cancellation of travel in general.

In the airspace of SMATSA's area of responsibility, in 2020 a decrease in the number of flights of 56% was recorded as compared to the previous year. It is still not possible to accurately predict the recovery period of the air traffic, i.e. the moment when the number of flights will return to the level before the pandemic, although there are predictions of certain institutions such as ACI, IATA, ICAO, Eurocontrol. Recovery is expected to be slow and it will depend on many factors that cannot be accurately assessed at this time, such as: lifting restrictions and opening state borders, changes in supply (capacity of airlines, possible bankruptcies, fleet reductions, etc.) and demand (increased fear of flying and getting infected, reduced business travel, etc.), socio-economic factors, purchasing power, possible recession. It is generally estimated that the number of flights from 2019 will be reached only in the period between 2023 and 2025, and maybe even later.

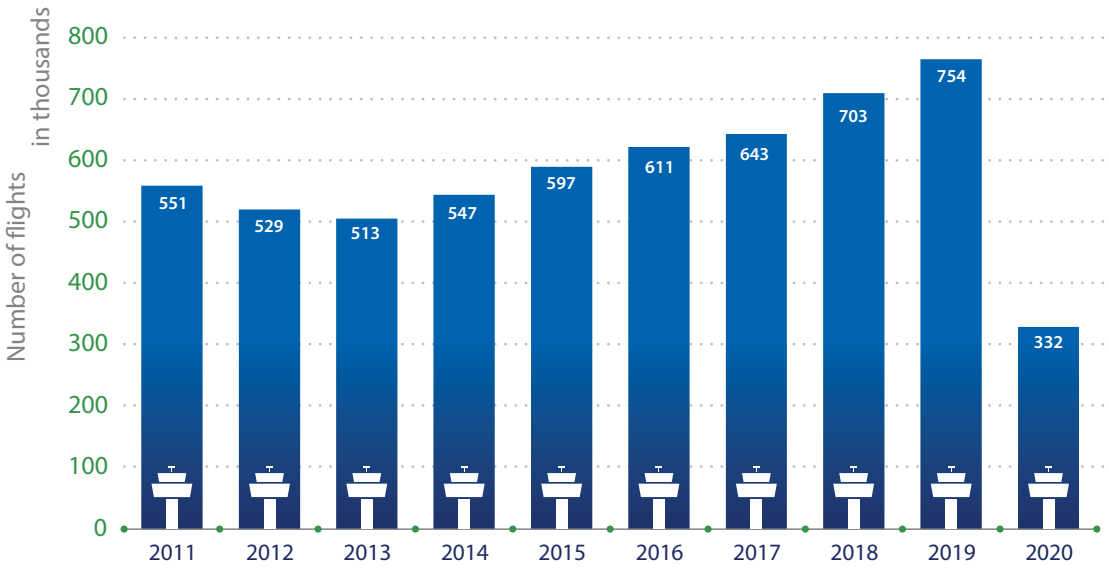


Figure 2.
Total number of IFR flights in the period from 2011 to 2020

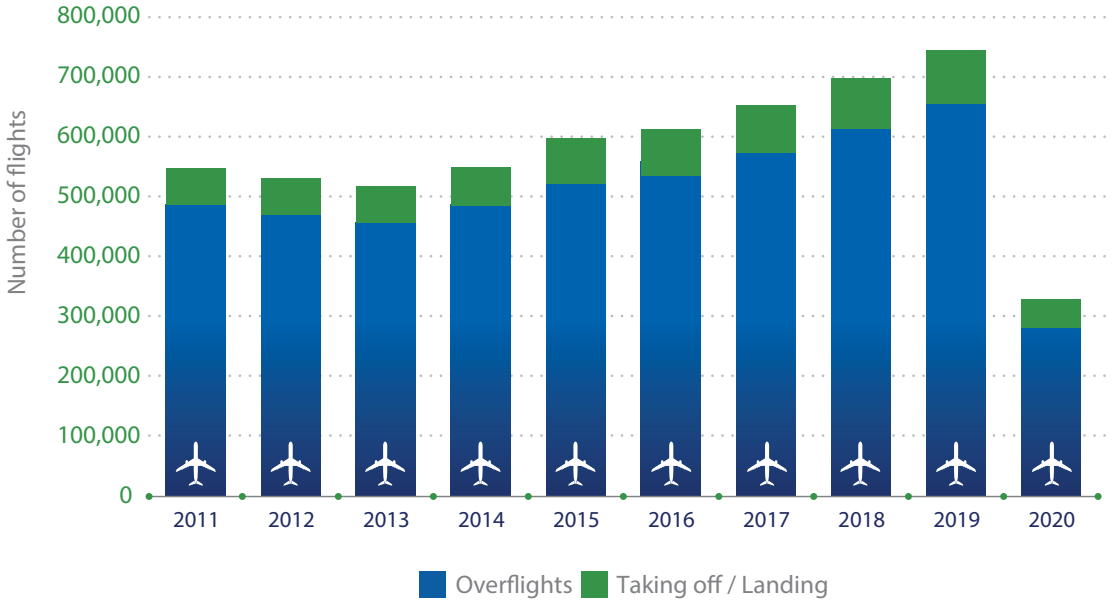


Figure 3.
Number of IFR overflights and taking off/landing in the period from 2011 to 2020

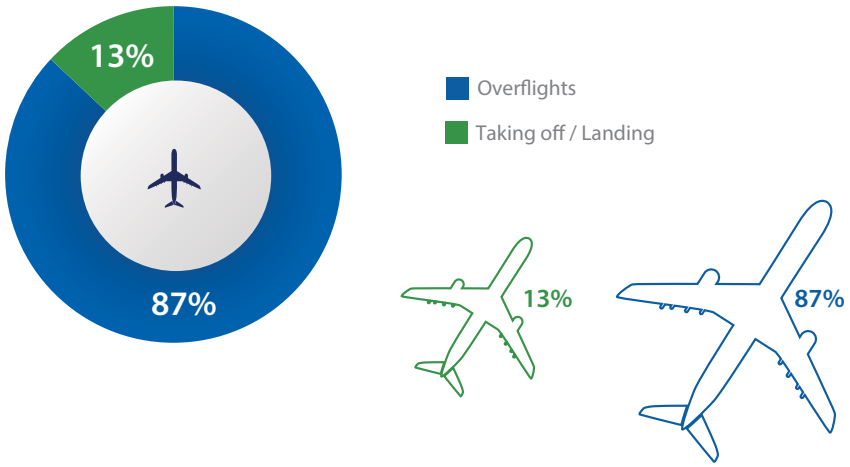


Figure 4.
Distribution of IFR flights in 2020

Figure 5.
Peak day and peak hour in the period from 2011 to 2020

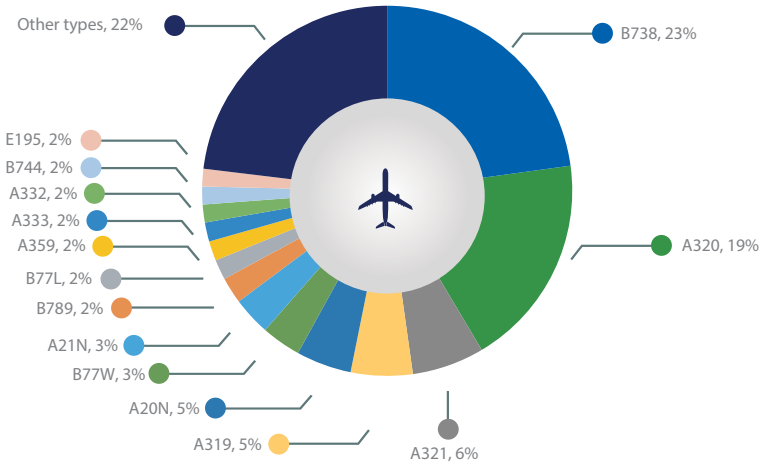


Figure 6.
Breakdown of respective aircraft types shares in 2020

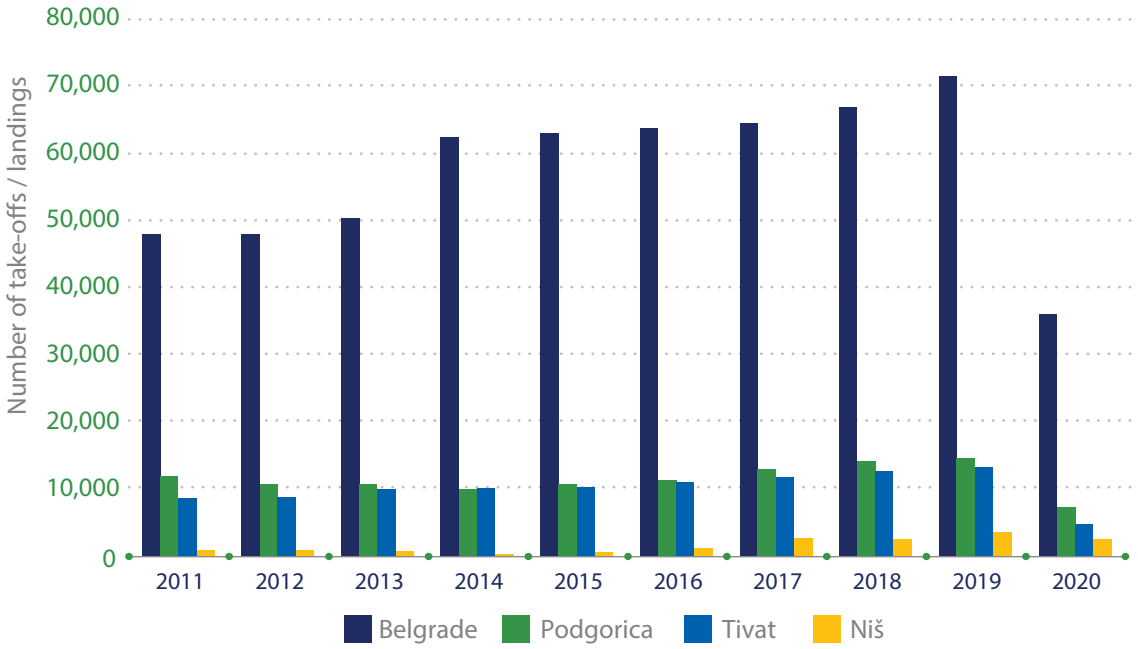


Figure 7.
Number of IFR take-offs and landings at airports in the period from 2011 to 2020

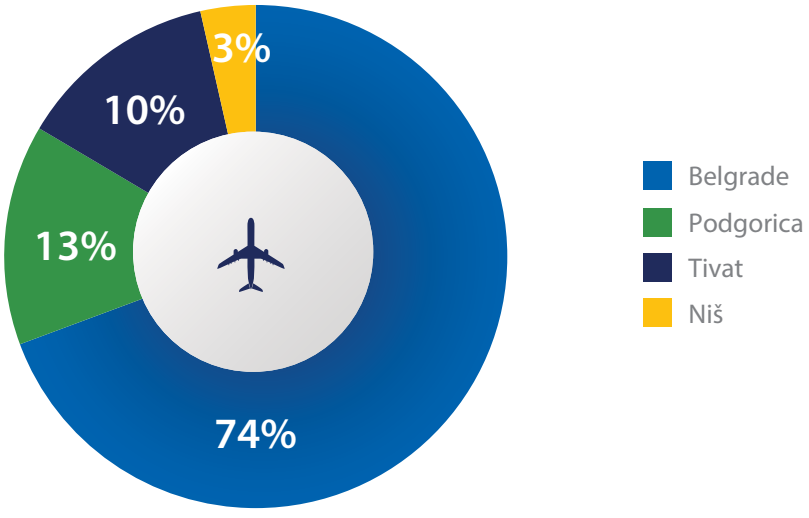


Figure 8.
Traffic distribution per airports in 2020

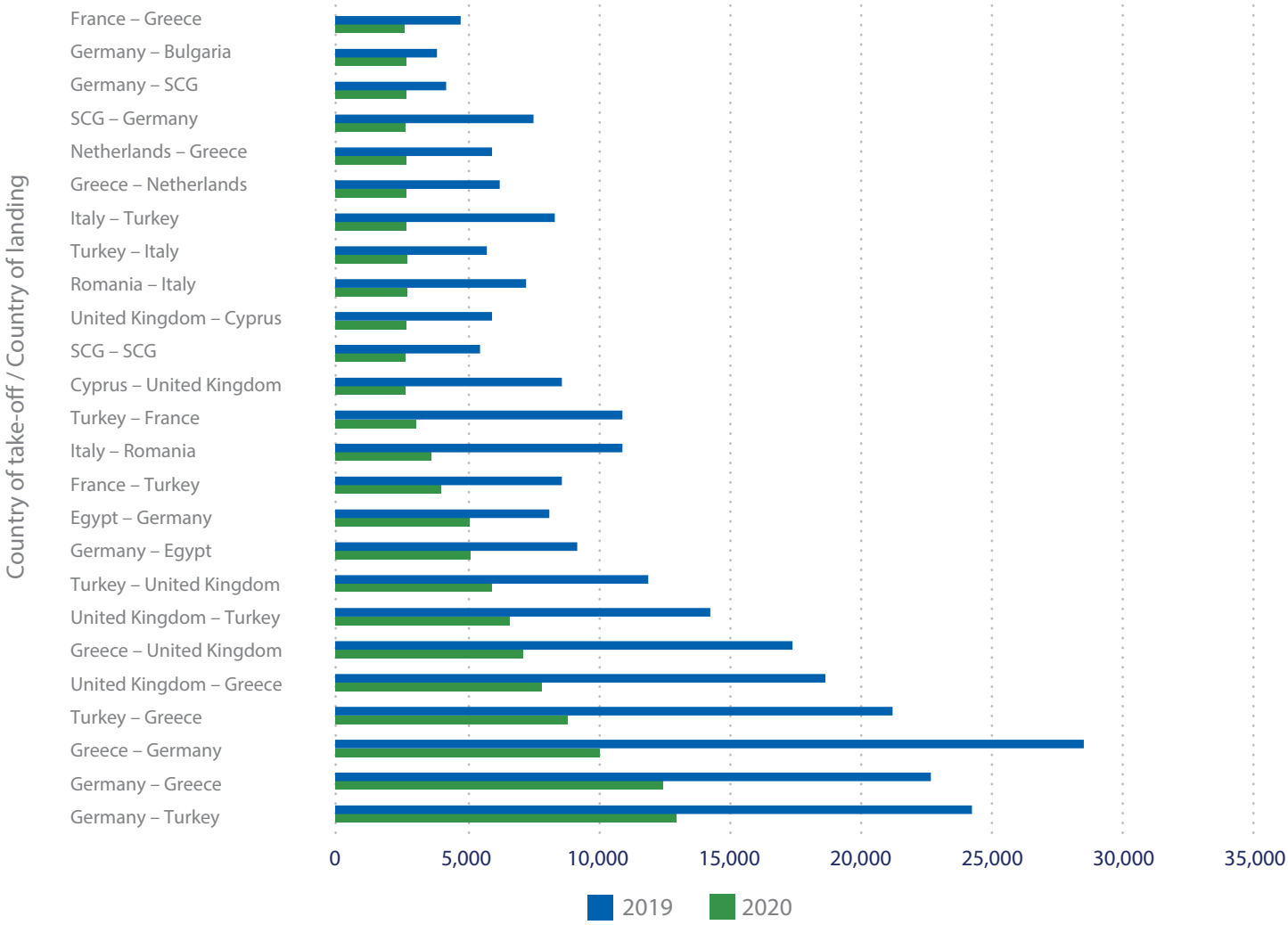
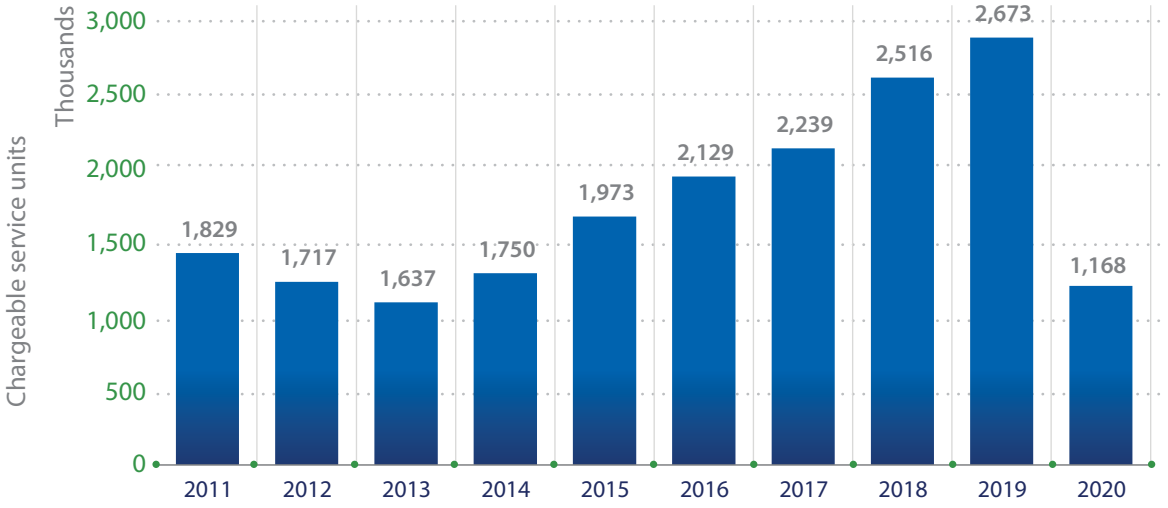


Figure 9.
Number of IFR flights in the airspace of SMATSA's area of responsibility per country of take-off/landing in 2019 and 2020[1]

[1] The picture shows the first 25 pairs of countries.



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Number of service units in the period from 2011 to 2020

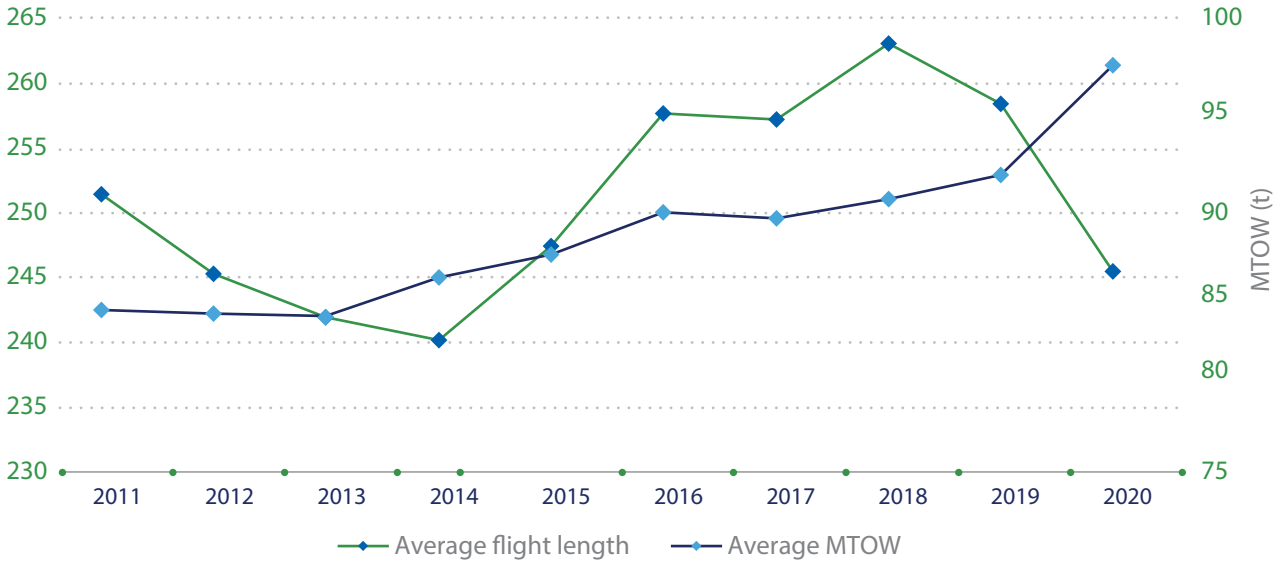


Figure 11.
The average flight length and average MTOW[2] in FIR Belgrade in the period from 2011 to 2020

[2] Maximum takeoff weight

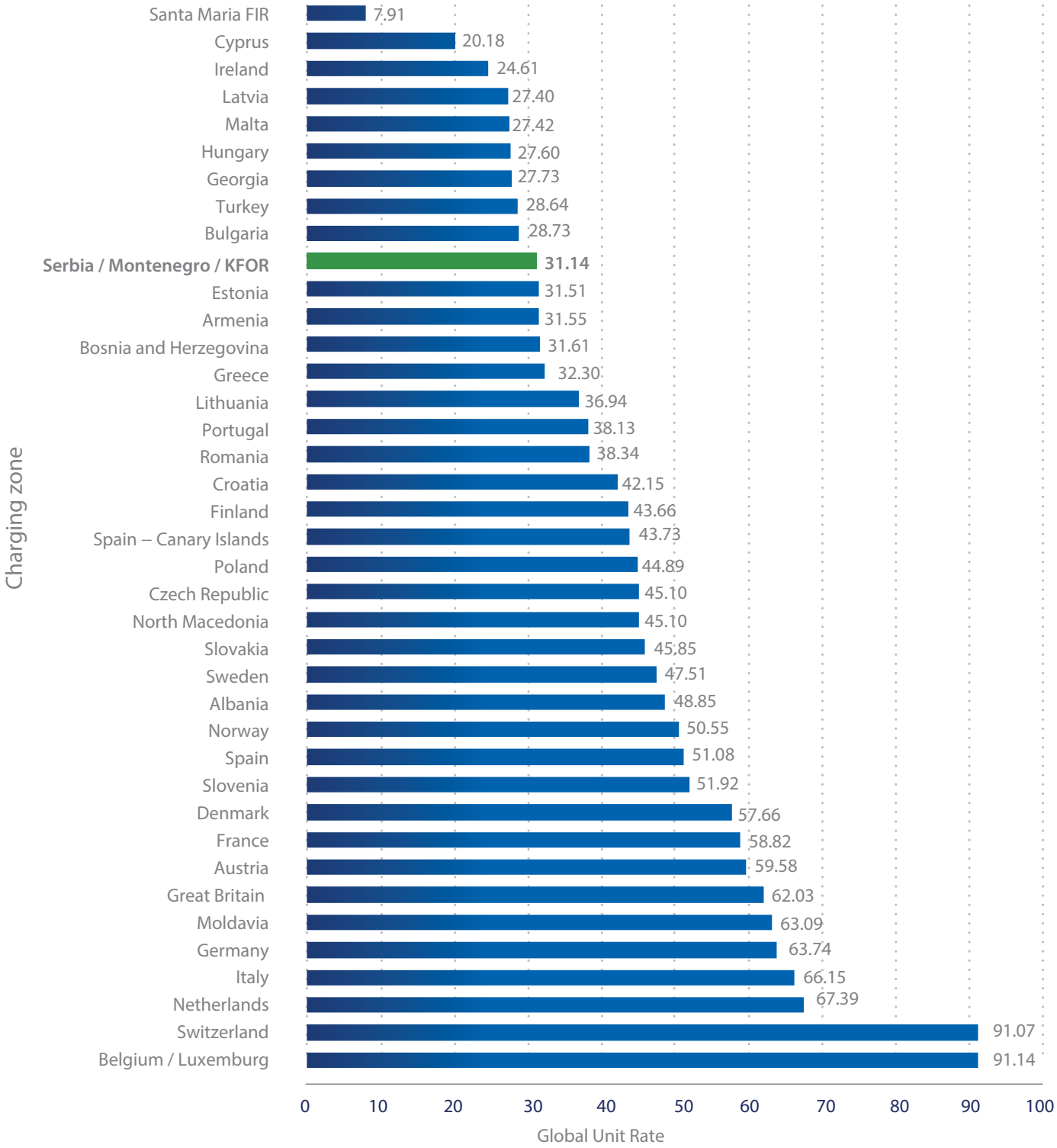


Figure 12.
Global Unit Rate in 2020

3.2 Turnover and employee structure in 2020

Having in mind the rationalization of costs and business optimization due to the uncertainty regarding the stabilization of air traffic due to the crisis caused by the COVID-19 pandemic, in 2020 there were no significant employee fluctuations. Therefore, the structure of employees remained at the level of previous years.

The share of women in the total number of employees is about 30%, while the share of men is about 70%.

When it comes to the qualification structure of employees, over 60% of employees are licensed air traffic control officers and employees with faculty degree.

The majority of employees are in the age group between 40 and 50, and over 60% 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 2020, according to gender, qualification groups, and age structure.

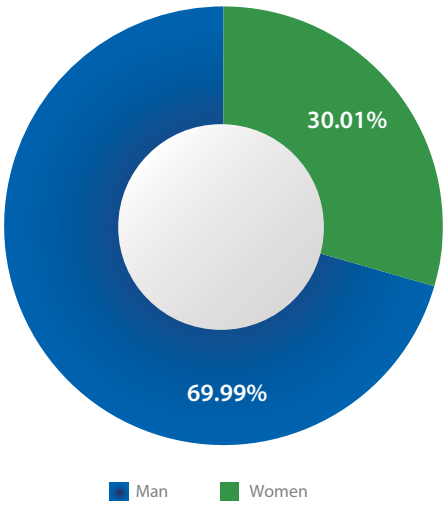


Figure 13.
Structure of employees according to gender

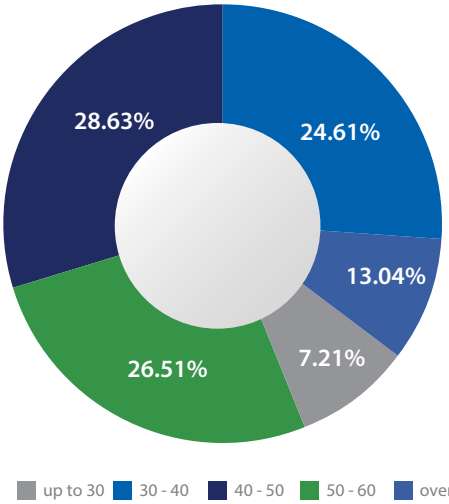


Figure 14.
Age structure of employees

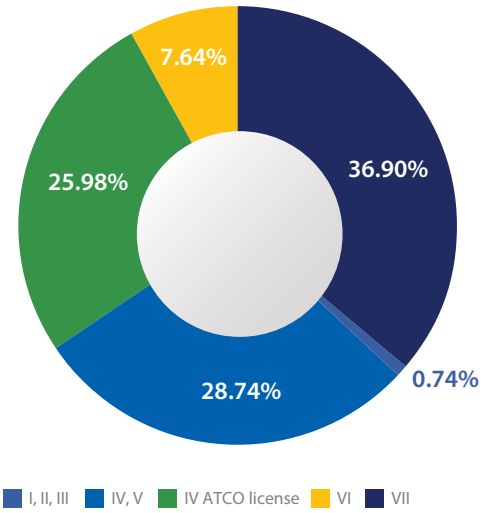


Figure 15.
Structure of employees by qualifications

04

Important business results in 2020

4.1 Improvement of Air Navigation Management

In 2020, SMATSA implemented a number of activities that contribute to further improvement of the quality of air navigation services provided.

Investing in the 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

In 2020, SMATSA implemented for the first time the PBN (Performance-based navigation) procedures for instrumental approach based on EGNOS service, which enabled precise approach to the LPV minimum (within the RNP APCH navigation specification). The procedures were implemented at both runways (12/30) at Belgrade Airport, runway 36 at Podgorica Airport, and runway 29 at Niš Airport.

The implementation of these procedures was made possible by the signing of EGNOS Working Agreements with the European Satellite Service Provider (ESSP) for airports in the Republic of Serbia and State of Montenegro.

The greatest importance of LPV procedures based on EGNOS service is to enable precise approach to operating minima equivalent to ILS CAT I procedures (up to 200 ft). This is achieved by increasing the accuracy of the satellite signal, which this service offers without investing in ground-based infrastructure.

At the invitation of EUROCONTROL Network Manager (NM), SMATSA joined the work of the FAB CE ATF Group. The aim of the group is to work together with the providers of FAB CE initiative member states and associated providers from the countries of the region (Serbia, Montenegro, Romania, Bulgaria, Poland, Lithuania), to provide favorable conditions for harmonized airspace reorganization and service provision at the regional level. The set goals are in line with the adopted European Aviation Development Strategy, the principles of which are presented in the Airspace Architecture Study (AAS).

The reorganization of airspace within SMATSA's are of responsibility is considered under Scenarios 2D and 2C. Scenario 2D envisages the accession of two more countries (Albania and Northern Macedonia) to the existing SECSI FRA initiative, by 2025. Scenario 2C implies the successful implementation of the previous scenario, as well as extensions along the entire northern and eastern borders of the SECSI FRA area. The beginning of activities within this scenario is planned after 2025.

At the end of last year, the PBN transition plans came into force, which were developed by SMATSA in accordance with the requirements from the regulations – PBN IR 2018/1048. According to this regulation, by 2030, all ANS / ATM providers are obliged to implement PBN instrument flight procedures at airports, within their area of competence, which will be the primary way of performing flight operations.

It is planned to gradually withdraw from the use of conventional procedures, which after the defined deadline, will mostly be used only in case of unavailability of satellite navigation as the so-called contingency procedure.

The PBN transition plans for the Republic of Serbia and State of Montenegro have been harmonized with EUROCONTROL NM and a new cycle of stakeholder consultations is expected in the coming period.

4.1.2 Improvement of equipment, system and infrastructure

SMATSA continuously refining activities and projects aimed at implementing new technologies, systems, and equipment, as well as improving facilities and infrastructure, all in order to raise the level of service quality, improve safety and meet traffic requirements, as well as technological standards required of service providers at the Pan-European level. The projects are comprehensive, high-tech, complex and time-consuming, so the activities that need to be implemented in order to successfully implement them cover a period of several consecutive years. Therefore, in a business report, which covers a period of one year, only a segmental insight into the activities is gained and partial results of the realization of the complete goal are noted, which otherwise has a multi-year character in terms of duration.

At the end of 2018, the implementation of the concession agreement at Nikola Tesla Airport (NTA) has started. As a result of airport development plans, as well as SMATSA projects that are directly related to NTA, SMATSA and the concessionaire BELGRADE AIRPORT llc Belgrade, have performed permanent coordination in order to harmonize various issues of interest: implementation of new systems and construction of new facilities and infrastructure, protection or relocation of existing infrastructure, procedures during the implementation of works at Nikola Tesla Airport and the like. In addition, in 2020, cooperation began on the harmonization of technical solutions for monitoring the management of the lights marking system that will be installed in of he new ATC Belgrade tower and for sending radar data for the purpose of Noise Monitoring system that the concessionaire is obliged to implement at Belgrade Airport.

In accordance with the Agreement on connection to the NewPENS network, in the course of 2020 the first services on this infrastructure were realized:

1. In March 2020, Network Manager services that were previously implemented using the PENS network were migrated to the NewPENS network;
2. In December 2020, services were activated that will enable connection with other ATCs via this network, thus SMATSA joined a group of several dozen other ATCs in Europe, which realized mutual coordination in this way through the former PENS network.

4.1.3 Improvement of AIS services

Delivering aeronautical information necessary for the safe, regular, and expedited air navigation is 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.

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

The year 2020 was the time of endeavoring to improve the quality of aviation data by initiating concurrence on signing draft agreements on the delivery and publication of aviation data between AIS and the following data sources: Air Force and Air Defense of the Republic of Serbia, as a source of data for MIL AIP Serbia and Batajnica Airport operator; Air Force and Air Defense of Montenegro, as a source of data for the future development of MIL AIP Montenegro; and the Montenegro Civil Aviation Agency, as the source of data and the competent aviation authority that approves the publication of data.

In November 2020, two webinars were organized by Eurocontrol.

In the period from 10 to 11 December, representatives of SMATSA, took part in the workshop Transition to AIXM 5.1 in EAD Workshop (webex). The workshop was organized by EUROCONTROL. In addition to EUROCONTROL representatives, workshop was attended by representatives of ANSPs using EAD (European AIS Database), the aviation industry, and the consulting companies.

At the webinar held at the end of November 2020 entitled "Regulation (EU) No 2017/373 as amended by Regulation 2020/469 and Regulation 2020/1177 – Part-AIS" organized by Eurocontrol, an overview of the requirements of Regulation 2017/373 that are applied to aeronautical information service providers (AIS), as well as to all regulatory parties, to work on the implementation of these requirements focusing on achieving compliance by 27th of January 2022.

Representatives of SMATSA on 18 December 2020, participated in the webinar "AIM Webinar – A year in AIM: 2020 Review (2 Hours of AIM news, eAIP, AIXM Datasets, Training, and QMS" organized by the Scottish company Managed-AIS, which upgraded SW Frame Maker to SW FrameAPS, and which AIS/SMATSA uses to create electronic AIP (eAIP).

This presentation provided an overview of the most significant developments in the field of aeronautical information management (AIM) during 2020. Participation in this webinar contributed to the improvement of the partnership between this and our company, given the constant cooperation during the development of eAIP in the form of support through the EAD system (European AIS Database).

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 2020, once again, 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.

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

Implementation of policies, appropriate regulations, 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.

4.2.1 Implementation of Regulation (EU) 2017/373 (requirements for the provision of ATM/ANS services and functions)

At the level of SMATSA, a Working Group for the implementation of Regulation (EU) 2017/373 was formed, as well as a Team for Coordination of Activities with CAD and CAA on the implementation of these regulations, managed by the Head of Department QMC.00.

In the course of 2020, several meetings of the Working Group and meetings of CAD/CAA/SMATSA were held (mostly online after March) and activities were carried out on the implementation of this regulation, primarily in terms of reviewing new/amended requirements, as well as redefining existing and drafting new documents, in order to comply with the systemic regulatory requirements of Annex III – Part ATM/ANS and Annex IV – Part ATS.

In order to certify the services provided by SMATSA in line with the Regulation 2017/373, in the course of 2020 the Working Group endeavored to develop a set of documents for the certification of SMATSA, which should be implemented by 01/04/2021, so that SMATSA may receive a certificate for ATM (ATS, ASM, ATFM), CNS, MET, AIS, ASD services.

On that occasion, new documents were prepared in line with the requirements of 2017/373 and the old documents that still meet the requirements of 1035/2011 were revised, such as:

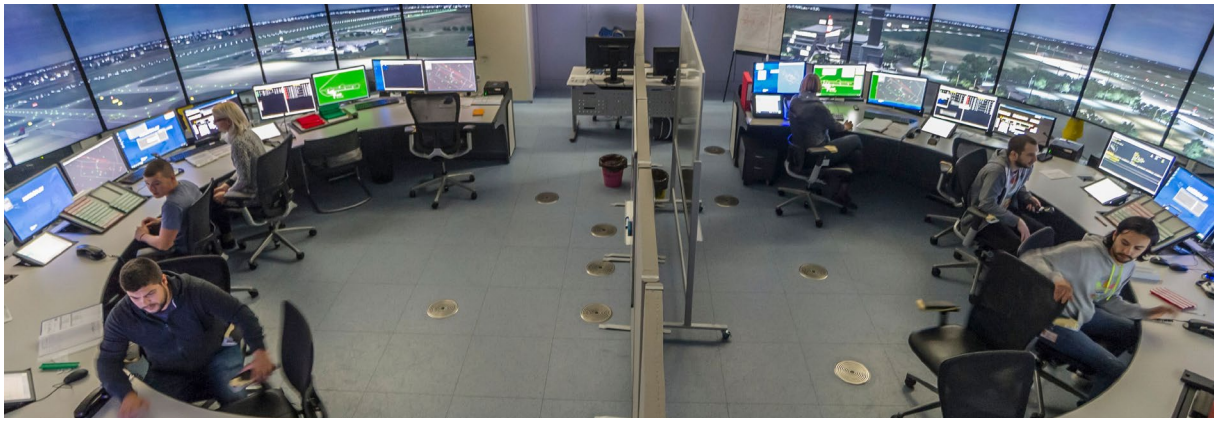
- MS.PROC.003 – Functional system change management
- SAF.UPU.003 – Development of safety rationale for changes in the functional system (existing document revised in line with the requirements of 2017/373)
- SAF.MAN.001 – Safety Management Handbook (existing document revised in line with the requirements of 2017/373)
- CM.PROC.001 – Compliance monitoring
- SAF.PROC.012 – Safety risk management
- HUM.PROC.015 – Stress management in critical situations involving air traffic control officers (existing document in line with the requirements of 2015/340 and revised in line with the requirements of 2017/373)
- HUM.PROC.002 – Monitoring the abuse of psychoactive substances and the use of drugs (existing document revised in line with the requirements of 2015/340 and revised in line with the requirements of 2017/373).

4.2.2 Initial certification by EASA related to ATO/FSTD

In the course of 2020, the EASA certification process was launched for the Approved Training Organisation (ATO) for pilots and for Flight Simulator Training Device (FSTD). In January 2020, an inspection was performed by EASA representatives regarding FSTD certification. Based on the findings of the EASA Report, all measures were implemented and sent to EASA for approval. In the course of March 2020, a confirmation was received from EASA regarding the acceptance of all implemented measures, as well as a notification on the assessment of the simulator for May 2020, which was moved to May 2021 due to the pandemic caused by COVID-19.

QMC staff (ATO Compliance Monitoring Manager and MO/CAMO – FSTD Compliance Monitoring Manager), in cooperation with ATO SAA staff, prepared the necessary documents (handbooks) to meet the requirements of EU Regulation 1178/2011 (Aircrew), for the purpose of EASA certification of ATO i.e. FSTD.

Full EASA certification of ATO and FSTD is expected to be completed in 2021.



4.3 Development of competitive commercial services

4.3.1 Airborne GRNS calibration

Thanks to modern equipment and professional personnel, SMATSA possesses all the necessary resources for providing the airborne ground based radio navigation systems (GRNS) calibrating, 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 2020, regular and extraordinary airborne calibrations and validations of the procedures were performed based on the concluded contracts.

The annual calibration plan by assets was achieved 105%. A total of 275 calibrations were realized, of which 261 calibrations according to the annual plan and 14 extraordinary calibrations. Of the total number of calibrations (275), 140 were realized based on contracts with external users.

4.3.2 ANS Personnel Training Center

ANS Personnel Training Center is an authorized center for training and skills improvement of Air Traffic Control Officers, Air Traffic Safety Electronics Personnel (ATSEP), and Aeronautical Meteorological Personnel (AMP). Training programs are in line with the requirements of ESARR, national and international regulations, as well as with ICAO standards.

The ANS Personnel 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 2020 in accordance with the Training Plan in the ANS Personnel Training Center are shown in the following table.

Table 1. The realization of training within the ANS Personnel Training Center in 2020

Name of training	Number of trainings	Number of trainees
Development Training	1	12
Development Training Refresher	7	68
ATCO Initial Training	2	33
Unit Training	2	4
Continuation Training	36	135
ATSEP Training	1	3
MET Training	1	4
Other trainings - Training for Serbian Armed Forces Officers to work in the Department for Control, Protection, and Allocation of Airspace - Aviation English (AVE) language training for trainees of the 49th Class of ATC - Preparation and assessment through TEA test	20	70
Total trainings / trainees	**70**	**329**

4.3.2.1 Trainings in operating air traffic control units

Apart from the trainings that were carried out at the ANS Personnel Training Center, in the course of 2020, training was also carried out in the operating units, as presented in the table.

Table 2. Trainings in operating air traffic control units in 2020

Name of training	Degree of realization and details
Training for acquiring competencies ASSE (ATC Belgrade)	3 candidates, performance 100%
Training for acquiring competencies OJTI (ATC Belgrade)	12 candidates were planned, wasn't implemented
Training for Flow Management Position – FMP (as needed) (ATC Belgrade)	1 candidate, performance 100%
Training for Flight Plan Processing Specialist position – (as needed) (ATC Belgrade)	5 candidates, performance 100%
Training for Serbian Armed Forces Officers to work in the Department for Control, Protection, and Allocation of Airspace (ATC Belgrade)	1 candidate, performance 100%
Training for acquiring competencies ADI/TWR and APP LYNI (ATC Niš)	2 candidates, performance 100%
Training for acquiring competencies ASSE (ATC Niš)	3 candidates, performance 100%
Training for confirming competencies APP LYVR (ATC Vršac)	1 candidate, performance 100%
Training for acquiring competencies ADI-TWR and APP (ATC Kraljevo)	9 candidates, performance 100%
Training for acquiring competencies ADI-TWR and APP (ATC Kraljevo)	10 candidates, performance 100%
Training for acquiring competencies ADI-TWR LYPG (ATC Podgorica)	10 candidates, performance 100%
Training for acquiring competencies APS-TCL LYPG (ATC Podgorica)	8 candidates, performance 100%
Training for Shift Manager Position in ATC Podgorica	1 candidate, performance 100%
Training for acquiring competencies ADI/TWR and APP LYTV (ATC Tivat)	6 candidates, performance 100%

4.3.3 SMATSA Aviation Academy

The SMATSA Aviation Academy, in the regular and supplementary trainings in 2020, realized a total of 3,601 theoretical classes, which is 83% compared to the planned number of classes. 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 2020 was 4,224 hours for 52 candidates, which is 51% less than the planned number. The difference in the realized and planned flight time was due to was due to the cancellation of an Indian group of students, the significant impact of epidemiological measures, the absence of candidates and instructors due to health problems, unfavorable weather conditions, as well as irregular attendance of flight training by candidates.

Courses for groups “QUEBEC 19” and “ROMEO 19” were not realized in the planned time due to temporary interruption of classes and lower pace of classes, also due to the epidemiological situation.

4.3.4 Development of competitive commercial services in air navigation

The process of harmonization of operations with SES II+ regulations has been significantly slowed down due to the impact of the Covid-19 pandemic on business processes, as well as due to the publication of proposals for new SESII++ regulations that are in the public debate in the EU and whose implementation is expected in the future.

During 2020, as in previous years, SMATSA worked on the implementation of activities for adjustment to the certification requirements for PANS-OPS by the aviation authorities. Through the joint work of the representatives of CAD and SMATSA, in July 2019, the Rulebook on instrument flight procedures was adopted, within which, based on the previously amended Air Transport Law, certification of PANS-OPS service provided by SMATSA was enabled.

In the first half of 2020, SMATSA received the issuance of the certificate by CAD.

4.4 Improving social responsibility and protecting the environment

During 2020, a regular annual inspection of the quality management system (QMS) and the environmental management system (EMS) was conducted by the Team of Auditors of the certification company Societe Generale de Surveillance (SGS) from Belgrade. This activity included an integrated annual inspection of QMS and EMS systems in order to maintain the validity of the issued ISO 9001:2015 QMS and ISO 14001:2015 EMS certificates.

Several significant activities related to environmental protection were the highlights of 2020. First of all, in order to implement the action plan of a balanced approach to noise management, based on a study prepared by the Belgrade Airport (BA), an initiative was launched to form an environmental committee that will bring together stakeholder representatives at the BA complex, including SMATSA. In addition, activities related to the initiative aimed at reducing carbon dioxide emissions continued, thanks to the application of the CDO continual approach procedures, as well as the application of direct routes in the SECSI FRA common airspace.

4.5 Improvement of safety management system

The activities that marked 2020 in the field of Security Management System relate to the engagement of SMATSA experts in the EVAIR project at the EUROCONTROL headquarters in Brussels through the Secondment Program, based on the contract signed in 2019. The project includes the following activities:

- collecting ATM events,
- entering data into EVAIR databases,
- statistical data processing,
- preparation of material for EVAIR Safety Bulletins, using specific event analysis tools — TOKAI, INCAS, ASMIT.

4.6 Improving the organizational performance and resource management system

The year 2020 was marked by the realization of the project of the electronic registry office and document management system, as well as the first phase of the development of the SMATSA new information system.

Also, significant progress has been made in establishing the internal software solution needed to automate and improve the quality and efficiency of the strategic planning process. Specifically, during 2020, testing of the internal software solution for strategic planning at the level of the entire SMATSA was successfully conducted. The testing phase involved harmonizing the needs and capabilities of all users of the internal application and resulted in minor changes.

4.7 Improvement and development of human potential

Due to the outbreak of the COVID-19 pandemic, the realization of many activities has been postponed until 2021.

The adoption of several Rulebooks amending and supplementing the Rulebook on Organization and Systemization of Operations at 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.

In the first quarter of 2020, the first survey of employee job satisfaction was conducted through surveys, as monitoring, statistical analysis and reporting on employee satisfaction at the level of SMATSA.

In addition, a stress management procedure has been implemented and activities have begun to establish a burnout management system. Based on evaluations of the implementation of procedures and programs based on previous years, new versions of stress management procedures in critical situations have been prepared. A new version of this procedure applies to pilots, and the procedure related to Air Traffic Control Officers is in the process of harmonization.

In 2020, a fatigue management procedure was developed for the Air Traffic Control Officers, which described the process of introducing measures for recognizing and eliminating of fatigue at the workplace.

The activity of defining the manner of realization of employee mobility by jobs / OU has been completed.

Certain procedures related to defining the methodology for collecting data on errors in the work environment, identifying the sources, causes and most common types of errors in the work environment, developing procedures for managing errors in the work environment, as well as implementing the methodology for analyzing collected data have been moved to next year.

4.8 Business performance indicators

4.8.1 Operational Compliance with SES Performance Scheme

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.

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, which is used to evaluate:

1. Efficiency of the safety management system;
2. Level of use of the RAT methodology and
3. Level of implementation of the culture of equity 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 regulation in the legal system that is expected in the upcoming period.

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

Table 3. Targeted and Accomplished Values of SMS indicators as requested by the CAD for 2020		
Group of SMS Indicators		**Accomplished safety level**
I.1.	SMS Effectiveness	1. Managing safety policy and safety goals; **D** 2. Safety risk management; **D** 3. Safety guarantees; **D** 4. Safety enhancement; **B** 5. Safety culture. **B** Signed summary report for the 2020 SoE in SMS Measurement – 22/02/2021
I.2.	Application of RAT Methodology	1. Infringement of safe aircraft separation: 1. RAT A1; ASL75P 07/01/2020 2. RAT B4; ASL10P/DLH2CP 04/03/2020 3. RAT A1; T7-BEN 17/02/2020 4. RAT C4; SWT1276/ MGX200 28/01/2020 5. 5. RAT B1; VV/YU-DNV 25/09/2020
I.3.	Application of Just Culture (Safety Culture)	**D** Signed summary report for the 2020 SoE in SMS Measurement – 22/02/2021

Table 4. Target and Accomplished Values of SMS indicators as requested by the CAA for 2020

Effectiveness of the SMS system of the air navigation service provider (SMS indicator group)		Acceptable level of security	Fulfilled/not fulfilled acceptable level of security
SI.1	SMS Effectiveness	1. Managing safety policy and safety goals; **D** 2. Safety risk management; **D** 3. Safety guarantees; **D** 4. Safety enhancement; **B** 5. Safety culture. **B**	FULFILLED FOR 2019 (for 2020 it is compiled in 2021) NO PRESCRIBED COMPARATIVE VALUES
SI.2	Application of RAT Methodology	1. Infringement of safe aircraft separation: - RAT B2 -RAT A4 100% (applied RAT for the ATM events for which the application was submitted)	NO PRESCRIBED COMPARATIVE VALUES FOR 2020
SI.3	Application of Just Culture	**D**	NO PRESCRIBED COMPARATIVE VALUES FOR 2020

The assessment of the effectiveness of the safety management system is performed based on safety indicators prescribed at the national level by the aviation authorities (CAD and CAA). The analysis of safety indicators is performed annually, and the results for 2020 are presented in the tables below.

Table 5. Target and Accomplished Values of safety indicators as requested by the CAD for 2020

	Group of *ATM* indicators for the monitoring of particular types of events	**Accomplished and *Acceptable* safety level**
I.8	Number of *RWY/TWY Incursion ATM-influenced*	(1 RWY) YU-HPZ 22.07.2020. (2 TWY) D-MRMX 22.10.2020. TC-STO 23.10.2020. 5
I.9	Number of *RWY Excursion ATM-influenced*	(0) 5
I.10	Number of *Separation Minima Infringement and Inadequate separation ATM-influenced* and in the area of responsibilityof ATCC Belgrade (ACC+TER)	(2) ASL10P/DLH2CP 04.03.2020. VV/YU-DNV 25.09.2020. 15
I.11	Number of *Separation Minima Infringement and Inadequate separation, ATM-influenced* and in the area of responsibilityof Aerodrome Air Traffic Controls	(0) 10
I.12	Number of *Airspace infringement, ATM-influenced*	(0) 15
I.13	Other ATM-influenced events of category C and above (such as *Missed approach /go-around/ Rejected T/O, etc.*)	(1) ASL78E/ASL70W 18.09.2020. 25
	Group of CNS indicators (*ATM* specific events)	**Accomplished and *Acceptable* safety level**
I.14	Number of DPS outages (*TopSky system*)	0 breakdowns per year, on average *<8 events (breakdowns) per year*
I.15	Total duration of SSR radar stations shutdown	value of the indicator is 2.33 minutes *<500 minutes per year*
I.16	Total duration of PSR radar stations shutdown	value of the indicator is 76.03 minutes *<2000 minutes per year*
I.17	*MTBO* – Mean Time Between Outages *LLZ ILS 12 (CAT III)*	No outages – MTBO[h]= / *>4,500 hours per year*
I.18	*MTBO* – Mean Time Between Outages *LLZ ILS 30 (CAT I)*	No outages – MTBO[h]= / *>1,500 hours per year*
I.19	Number of losses or degradation of one or more *operating frequencies*	on average 5.33 interruptions of services on an annual basis *<50 events per year*
	Group of *ASM-ATFCM* capacity indicators	**Accomplished and *Acceptable* safety level**
I.20	*FUA* – Percentage of utilization of required airspace allocations (Percentage of utilized requirements for airspace allocation in relation to their total number)	70.30% *Values are not prescribed, instead trend is followed.*
I.21	*Average Delay per IFR Movement at* FIR Belgrade generated by ATM	0.00068 minutes per IFR flight *<0.1 minutes / IFR flight*

Table 6. Target and Accomplished Values of safety indicators as requested by the CAA for 2020

Events with direct ATM participation (Group of ATM indicators)		**Accomplished**	**fulfilled/not fulfilled acceptable level of safety**
SI.4	*Number of ATM caused Accidents*	0 ATM caused Accidents	0.0029
SI.5	*Number of ATM caused Serious Incidents*	One (1) ATM caused Serious Incidents	2
SI.6	*Number of ATM caused Major Incidents*	Zero (0) ATM caused *Major Incidents*	29
ATM specific events (Group of CNS indicators)		**Accomplished**	**fulfilled/not fulfilled acceptable level of safety**
SI.7	Availability of communication function	4 service losses per year	FULFILLED
SI.8	Availability of control function of *SSR* radar stations operation	Koviona – no interruptions Murtenica – no interruptions Koševac – no interruptions Srpska Gora – no interruptions	FULFILLED
SI.9	Availability of control function of *PSR* radar stations operation	Koviona 0.52 minutes Murtenica 45.07 minutes Srpska Gora 49.3 minutes	FULFILLED
SI.10	Availability of data processing and distribution functions	0 breakdowns	FULFILLED
SI.11	Availability of navigation function LOC 36 (CAT I) on LYPG	no outages – MTBO[h]= /	FULFILLED
SI.12	Availability of navigation function LOC TIV	no outages – MTBO[h]= /	FULFILLED
SI.13	Availability of energy systems	There was no complete interruption of the power supply of operating devices	FULFILLED
SI.14	Endangering safety of the ATM system	Laser interference – 1	MONITORED

4.8.1.2 Cost Efficiency

The unit rate for the "Serbia-Montenegro-KFOR" charging zone for 2020 was approved and adopted at the EUROCONTROL's Enlarged Committee session in November 2019. The Decision of the Enlarged Committee No. 19/161, dated 28 November 2019 (Appendix No. 2), determined the amount of the unit rate at 30.01 EUR (National Unit Rate) and 31.14 EUR (Global Unit Rate), including EUROCONTROL Administrative Unit Rate.

Monthly adjusted unit rates in 2019 and 2020 for the "Serbia-Montenegro-KFOR" charging zone are shown in a graph below in Figure 16.

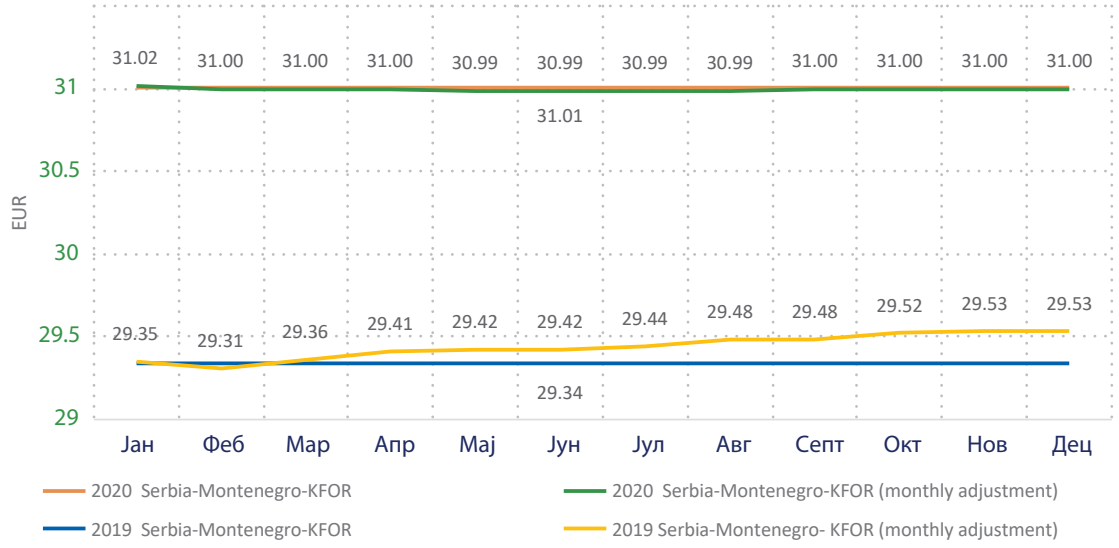


Figure 16.
Unit rates for the "Serbia-Montenegro-KFOR" charging zone in 2019 and 2020

The determined value of the unit rate, which belonged exclusively to SMATSA, amounted to approximately EUR 24.66 EUR. The movement of the value of the unit rate, which belongs to SMATSA on a monthly basis, in 2019 and 2020, is presented in Figure 16.

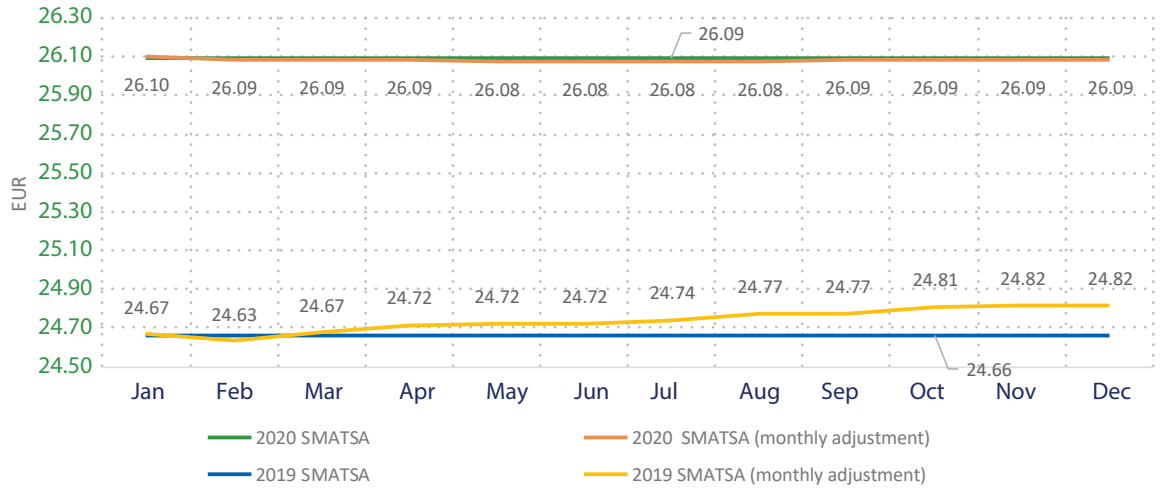


Figure 17.
The unit rate for SMATSA in 2019 and 2020

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 ANS 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 2020 is listed in the following table.

Table 7. Capacity Indicators in 2020[3]

Capacity indicator	Acceptable value	Accomplished value
Average delay time per IFR flight at FIR Belgrade generated by ATM	<0.1 minutes / IFR flight	0.08 minutes / IFR flight

Figure 18.
Average delay time per IFR flight at FIR Belgrade generated by ATM in the period from 2015 to 2020

[3] Source of data: *European ANS Performance Data Portal (http://ansperformance.eu/).*

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. The achieved values of the aforementioned indicators are monitored based on EUROCONTROL – Performance Review Unit (PRU).

The target values of the indicators are defined in the following manner:

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

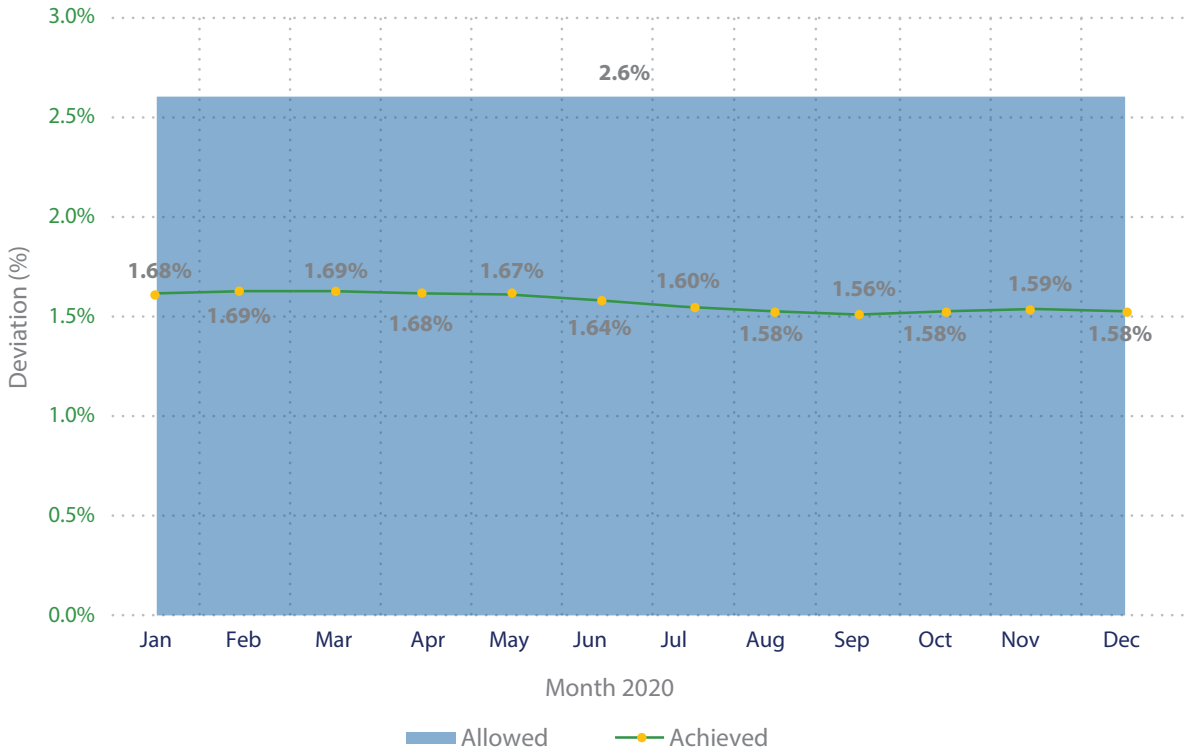


Figure 19.
KEA – Key performance Environment indicator based on actual trajectory in relation to the long-circuit route in Serbia and Montenegro in 2020[4]

[4] Source of data: *European ANS Performance Data Portal (http://ansperformance.eu/).*

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

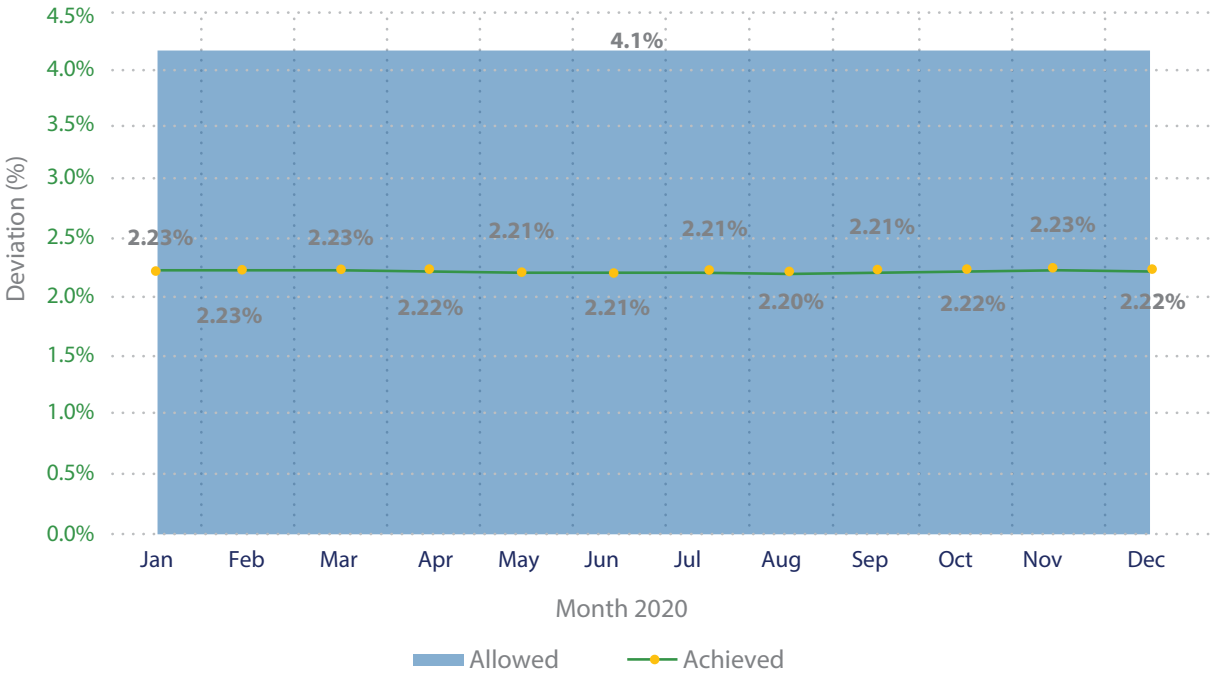


Figure 20.
KEP – Key performance Environment indicator based on last filed flight plan in Serbia and Montenegro in 2020[5]

[5] Source of data: *European ANS Performance Data Portal (http://ansperformance.eu/).*

4.8.2 Indicators of the quality of services provided

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 2020 are presented in a table in the meeting of the Management Systems Committee (QMS).

Table 8. Analysis of the fulfillment of quality goals for 2020

Service	Target	Planned	Realized	Details
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 2020, the average delay per one IFR flight generated by SMATSA amounted to 0.00068 min (222 minutes divided by 326,324 flights). The largest part of total delay for the whole year was influenced by ATM (Airspace Management).
	Percentage of aircrafts taking off from SMATSA's area of responsibility 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 – extract presented in Annex 7), in 2020, a value of 91.4% aircrafts taking off from the area of responsibilityof SMATSA llc 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 2020, it was found that a total of 363 events were reported, of which 12 required further analysis by department SAF.00. In the same period, there were 4 aircraft accidents, none with ATM participation. There was one event involving ATM that belongs to the category of serious incidents in 2020.

Table 8. Analysis of the fulfillment of quality goals for 2020

Service	Target	Planned	Realized	Details
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, of the 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 Annexes, due to the application of individual and group redundancy of CNS devices and systems during 2020, 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 92.1%, for LYBE 92.5%, for LYVR 87.6%,for LYKV 92.8%, for LYNI 92.5%, for LYUZ 90.4%, for LYPG 96.0%, for LYTV 95.2%, or average for all airports 92.4%, 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.

Table 8. Analysis of the fulfillment of quality goals for 2020

Service	Target	Planned	Realized	Details
TRE	Number of classes of theoretical instruction fulfilled for the current year, for each enrolled group of candidates in the ANS Personnel Training Canter	100%	YES	Theoretical training hours have been carried out in accordance with the appropriate Training Decisions.
	Number of classes of practical training fulfilled for the current year, for each enrolled group of candidates in the ANS Staff Training Canter	100%	YES	Practical training classes have been implemented in accordance with the appropriate Training Decisions.

Table 8. Analysis of the fulfillment of quality goals for 2020

Service	Target	Planned	Realized	Details
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%	NO	The target has not been realized, target achievement is 83%. Planned: 4328 classes, realized: 3601 classes. Less classes than planned were realized due to the absence of candidates from India and the unfavorable epidemiological situation.
	Meeting the planned deadlines for completing theoretical training for the current year at the SMATSA Aviation Academy	100%	NO	Completion deadlines for groups QUEBEC 19 and ROMEO 19 could not be met. Classes for the QUEBEC 19 and ROMEO 19 groups ended in September and October, respectively, instead of June, due to the unfavorable epidemiological situation.
	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 51%. Planned number of flight hours: 8151, realized number of flight hours: 4167. Failure in fulfillment occurred due to cancellation of the Indian group of students, significant influence of epidemiological measures, absence of candidates and instructors due to health problems, 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%	NO	The deadlines for all enrolled groups were met for all candidates who were regular in flight training.

Table 8. Analysis of the fulfillment of quality goals for 2020

Service	Target	Planned	Realized	Details
CAL	Realization of annual calibration plan	100%	YES	Annual calibration plan by assets has been realized 105%. A total of 275 calibrations were realized, of which 261 calibrations according to the annual plan and 14 extraordinary calibrations. Out of the total number of calibrations (275), 140 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	100%	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 2020, this target was achieved because there were no malfunctions outside the scope of periodicals on aircrafts. The analysis does not include the Cessna 310 YU-BLM aircraft, which was not airworthy throughout 2020, and whose airworthiness is not planned to be restored, due to economic difficulties caused by the pandemic.

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 9. Additional indicators/Performance Indicators in 2020

Indicators	Target value for 2020	Realized
STO 01 – Improvement of ANS management		
Number of overloads reported by air traffic control officers	< 20 per year	0
Observance of slots at Belgrade Airport (LYBE)	> 83%	90.73%
Observance of slots at Tivat Airport (LYTV)	> 83%	100%
Observance of slots at Podgorica Airport (LYPG)	> 83%	98,08%
Observance of slots at the Airport Niš (LYNI)	> 83%	92,31%
Air quality data score	> 0.77	0.778
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 air traffic control representatives in the environment	> 2	6
Number of projects within centralized services	> 2	N/A
STO 04 – Enhancing social responsibility and environmental protection		
The percentage of waste that is handed over for some form of reuse or recycling compared to the total amount of waste	60%	95%
STO 06 – Improving the organizational performance and resource management system		
Realization of investment plan	>80%	74.3%
STO 07 – Improvement and development of human potential		
Average number of days per year per employee spent at conferences or creative workshops	> 1.5	N/A
Average number of days in the year spent in training for operational posts (expressed per person)	> 3	N/A

05

Information technology management systems

5.1 Information technology

In 2020, in the field of information technology, a number of activities were performed aimed at improving existing systems, services, and applications, as well as developing new ones, thus contributing to the process and task automation, protection of data and corporate network and the simplification of everyday activities and operations.

As recommended by the competent authorities of the Republic of Serbia, in order to prevent the spread of the COVID-19 virus, employees were able to hold meetings and consultations without physical interaction, as well as work from home by upgrading the web, audio, and video conferencing system and upgrading the remote access system.

In order to detect anomalies in the behavior of ICT systems, a system for active CyberSec monitoring of corporate information systems (SOC) has been installed and improved. The system has been upgraded several times during the year with new anomaly signatures, as well as new event-based parsers.

With the introduction of redundancy, at the beginning of the year, the hosting for the domain smatsa.rs was improved, and during the year, the development of the new website and application services SMATSA was monitored by an external contractor.

Within the development of the information system (ECM), in cooperation with the contractor, the system was improved, developed, validated and verified with a special emphasis on the functionality of the electronic registry office. In the part of the information system for planning and monitoring the implementation, support was provided related to the information infrastructure.

During the year, representatives of SMATSA participated in meetings and workshops organized by Eurocontrol, within the SWIM PKI project.

To support the business processes of SMATSA, the work on existing applications continued or new applications were developed:

- Business Planning application – a number of new functionalities were added to the web application during the year (automatic generation of payments for selected parameters, automatic generation of multiple reports, contract items, incidental costs, copying, and searching items).

- Flight Message application – the application has been upgraded to allow automatic insertion of NM files into the database in order to compare and validate with local data used as a source for submission to CRCO for the purpose of invoicing and charging route fees. In addition, the service “Completeness check” was created, which represents the automation of the process of recording and validation of flights that are not invoiced by CRCO.
- Training Assessment application – through the application, the development of which is still ongoing, it is possible to automate the completion of forms in which students assess training.
- Application for continuous training recording and monitoring – the application enables the display of knowledge levels, time of expiration of English authorizations for air traffic control officers, and records of continuous training.

06

Consultation with Service Users

6.1 Air traffic management – ATM

In the year marked by the pandemic caused by the COVID-19 virus, the consequent restrictions on movement and travel led to a huge drop in the number of aircraft operations. The decrease in traffic demand led to the disappearance of all problems related to the capacity of the ATM system, so the reports of service users (IATA, A4E, AIRE) on the last summer season were inevitably missing.

On the other hand, SMATSA had a number of activities and meetings with military service users, as well as with Air Serbia representatives who presented their problems related to flight planning during periods of intensive military flying. At these meetings, it was agreed that all users of services, as well as SMATSA itself will take steps and measures within their competences in order to improve the current situation.

The first set of improvements in the field of airspace allocation came into force on 31 December 2020, while other improvements are planned for the beginning of spring 2021.

In December 2020, a regular consultation process was conducted with other users of services / functions in the field of ATM (sports and amateur flying, commercial aviation, legal and natural persons, army, police, etc.), sending emails to interested parties with a link to the questionnaire on satisfaction with provided ATM services / functions during 2020.

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 2019 - September 2020, covered 464 NOTAMs. A total of 12 errors were found, which is 1 error 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 (statistically speaking by quarters, there were no errors in NOTAMs last month). An average of 1.00 error per month seems acceptable.

2. **User complaints**

   In accordance with valid legislation, the user complaints analysis was completed conclusive with 31 December 2020. In 2020, only one complaint was received regarding an error the i.e. the ambiguity in the published aeronautical information.

   The complaint did not pertain to endangering safety on that occasion, or to the existence of any systemic problem or objection of a higher frequency.

   A smaller number of realized complaints than the target value can be an indicator of an improved processing procedure as well as the quality of aeronautical information services.

3. **Customer satisfaction questionnaire**

   AIS checks customer satisfaction regularly by sending standardized questionnaires. When it comes to 2020, 11 filled out questionnaires on user satisfaction were received. Of these, 9 respondents rated our service as – excellent, 1 rated it as – good, and 1 rated it as – satisfactory.

6.3 Aeronautical Meteorological Service – MET

In the course of 2020, no comments and complaints from users on the provision of MET services were received by mail.

By inspecting the completed forms of the user impression books and analyzing the completed questionnaires, it was noted that all the comments expressed customer satisfaction with MET services. In addition, the users assessed their cooperation with meteorological staff as excellent.

In December 2020, a regular consultation process was conducted with other users of MET services (sports and amateur flying, commercial aviation, legal and natural persons, army, police, etc.), by sending an email to stakeholders with a link to the web Questionnaire Form on the quality of MET services.

6.4 SMATSA Aviation Academy

User satisfaction survey in 2020 was carried out through a questionnaire after the completion of the training. The results of the survey of 26 candidates enrolled in pilots training are presented in the following table.

Table 10. Results of the Pilot Training User Satisfaction Survey within SMATSA Aviation Academy in 2020				
Domain	**Not satisfied**	**Neutral**	**Satisfied**	**Very satisfied**
Knowledge before arriving at the Academy	27%	15%	35%	23%
Knowledge after graduating from the Academy	0%	0%	35%	65%
Theoretical instructors	4%	8%	38%	50%
Teaching and learning aids	4%	8%	35%	54%
Textbooks	12%	12%	44%	32%
Flying skills acquired	0%	0%	36%	64%
Flight instructors	0%	0%	35%	65%
Flight training organization	8%	19%	23%	50%
Daily organization	15%	23%	23%	38%
Briefings and debriefings	0%	4%	46%	50%
General assessment of the overall training	0%	0%	50%	50%

6.5 Airborne GRNS calibration

In the course of 2020, the GRNS calibration was realized in the conditions of the COVID-19 pandemic, so in all cases, the coordination of activities in the realization of the airborne calibration was extremely important. Despite such conditions, all planned activities in 2020 have been fully implemented.

The user satisfaction with the provided calibration services by SMATSA is established by a survey, which in 2020 included four respondents from foreign clients of the airborne GRNS calibration services from the following countries in the region: Hungary, Slovenia, Bosnia and Herzegovina, and Northern Macedonia. The questions were answered by the respondents who are directly in charge of proper functioning and the quality of work of all GRNS and the respondents in charge of coordination in the implementation of airborne calibration.

The average rating of the quality of the airborne calibration service is 4.95.

The following table shows the results of the survey.

Table 11. Results of the User Satisfaction Survey on airborne GRNS calibration service in 2020

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	4,75
Response to additional requests	5,0

Based on the numerical assessments given in the table and respective comments of four respondents, one may conclude that the Calibration Service has performed airborne calibration services for the foreign client in a professional and quality fashion.

07

Financial statements

7.1 Income Statement

Table 12. Income Statement for the period 1 January - 31 December 2020 (in 000 RSD)

	Elements (in 000 RSD)	2019	Revised 2020 Plan	2020	Realization / Plan	2020/2019
I	**Operating income**	**10,061,059**	**5,386,559**	**4,375,538**	**-18.77%**	**-56.51%**
	Income from sale	9,730,895	5,187,596	4,145,648	-20.09%	-57.40%
	Domestic market	450,161	288,266	196,318	-31.90%	-56.39%
	Foreign market	9,280,734	4,899,330	3,949,330	-19.39%	-57.45%
	Other operating income	330,164	198,963	229,890	15.54%	-30.37%
II	**Operating costs**	**9,884,803**	**8,769,646**	**8,817,318**	**0.54%**	**-10.80%**
	Costs of material	86,553	25,828	60,635	134.77%	-29.94%
	Fuel and energy	152,781	117,659	140,239	19.19%	-8.21%
	Wages	6,219,892	6,048,600	5,765,175	-4.69%	-7.31%
	Costs of production services	1,395,287	488,576	847,911	73.55%	-39.23%
	Depreciation	1,163,282	1,470,965	1,243,963	-15.43%	6.94%
	Provisions	91,386	85,000	83,245	-2.06%	-8.91%
	Non-production costs	775,622	533,018	676,150	26.85%	-12.82%
III	**Operating profit**	**176,256**	**-3,383,086**	**-4,441,780**	**31.29%**	**-2620.07%**
	EBITDA	**1,339,538**	**-1,912,121**	**-3,197,817**		
		13.31%	-35.50%	-73.08%		
	Effect of financial revenues and expenditures	-10,649	-55,986	-59,813		
	Effect of other revenues and expenditures	51,356	178,100	51,117		
IV	**Profit before tax**	**216,963**	**-3,260,972**	**-4,450,476**		
	Gain/loss from discontinued operation	-72,957	-16,000	10,220		
	Tax	40,638		17,999		
V	**Net profit**	**103,368**	**-3,276,972**	**-4,422,257**	**134.95%**	**-4278.17%**

After the outbreak of the COVID-19 virus pandemic, air traffic in Europe and the world recorded a striking decline, which also contributed to a dramatic drop in revenue. Taking into account the overall situation, SMATSA had to revise and implement Amendment I of the Financial Plan for 2020 (FIN.01-376/1 of 16 July 2020), which was adopted by the decision at the Company's Assembly Meeting (OU/SD-395/5 of 29 July 2020).

Due to a worsening situation with the virus in most European countries, the expected level of traffic did not materialize, so the realized revenues were lower by about 18.8% compared to the forecasted figure in the amended Financial plan for 2020. Annual revenues in 2020 were lower by 56.5% compared to 2019, which further speaks of the scale of the crisis and the impact of the COVID-19 pandemic on air traffic.

Due to a significant decrease in revenue, expectedly, the year ended with an operating loss of 4,441,780 thousand's RSD, i.e. a net loss of 4,422,257 thousands RSD.

Realization of costs of wages, wage compensations, and other personal expenditures were 95.3% of the planned value of that category in the amended Financial Plan for 2020, i.e. it is by 7.3% lower compared to the previous year. The value of pay rates based on which the salaries of employees are calculated has been reduced by 20% starting from the payment of October salaries.

In the position of costs of production services, a drop, which is slightly exceeding 39.2%, was recorded as compared to 2019, which is a result primarily of the exemption from paying for the lease of state property.

Realization of depreciation costs is 6.9% higher compared to the value in 2019. Given that the investment cycle maintained the same pace during the pandemic, there was an activation of certain investments, which resulted in an increase in this cost category.

Realization of non-production costs in 2020 is lower by 12.8% compared to 2019, primarily due to the smaller amount of contribution to Eurocontrol in 2020.

The realization of costs of material in 2020 is about 30% lower than in 2019.

7.2 Balance Sheet

Table 13. Balance Sheet on 31 December 2020 (in 000 RSD)

	Assets (in 000 RSD)	2016	2017	2018	2019	2020
Fixed assets		**12,920,482**	**14,241,070**	**14,967,560**	**15,850,968**	**16,959,726**
I	Intangible assets	83,035	90,120	90,966	112,868	84,545
II	Property, plant and equipment	12,837,447	14,150,950	14,876,594	15,738,100	16,875,181
III	Long term financial investments	-	-	-	-	-
Long-term receivables		-	-	-	-	-
Working assets		**4,466,488**	**3,840,375**	**3,108,257**	**3,369,062**	**2,747,661**
I	Inventory	163,013	179,077	177,095	156,878	114,850
II	Receivables	1,429,641	1,483,012	1,362,005	1,659,235	1,208,021
III	Other receivables	161,758	20,088	14,962	219,234	85,723
IV	Short-term financial placement	-	-	-	-	-
V	Cash	2,629,516	1,969,208	1,427,318	1,169,259	1,157,483
VI	Value added tax	57,177	147,005	56,783	44,156	31,729
VII	Prepayments and accrued income	25,383	41,985	70,094	120,300	149,855
Total assets		**17,386,970**	**18,081,445**	**18,075,817**	**19,220,030**	**19,707,387**
Off-balance sheet assets		716,454	885,440	837,082	878,755	2,206,026

	Liabilities (in 000 RSD)	2016	2017	2018	2019	2020
Capital		**12,783,828**	**14,148,794**	**14,148,874**	**14,258,882**	**9,899,696**
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	2,869,560	3,431,245	3,418,341	3,385,720	3,344,279
IV	Retained profit	7,514,952	8,362,953	8,408,630	8,548,244	4,171,940
V	Non-realized gains/losses	18,452	-26,268	-58,961	-55,946	2,613
Long-term provisions and liabilities		**2,197,094**	**1,693,535**	**2,207,996**	**2,901,531**	**6,822,850**
I	Long-term provisions	743,857	818,786	916,198	935,665	789,563
II	Long-term liabilities	1,453,237	874,749	1,291,798	1,965,866	6,033,287

Table 13. Balance Sheet on 31 December 2020 (in 000 RSD)					
Liabilities (in 000 RSD)	**2016**	**2017**	**2018**	**2019**	**2020**
Deferred tax liabilities	**534,195**	**598,471**	**589,101**	**588,749**	**566,238**
Short-term liabilities	**1,871,853**	**1,640,645**	**1,129,846**	**1,470,868**	**2,418,603**
Short-term financial liabilities	820,956	483,653	430,982	204,739	39,684
Received advances	167,954	210,592	141,051	136,040	118,777
Liabilities from operation	337,304	471,995	502,897	592,253	1,138,348
Other short-term liabilities	533,444	430,925	15,279	482,101	1,087,434
Liabilities based on VAT, other public revenues	6,513	40,427	34,667	24,878	5,576
Accruals and deferred income	5,682	3,053	4,970	30,857	28,784
Total liabilities	**17,386,970**	**18,081,445**	**18,075,817**	**19,220,030**	**19,707,387**
Off-balance sheet liabilities	716,454	885,440	837,082	974,419	2,206,026

Fixed assets in 2020 amounted to 16,959,726 thousands RSD, which is about 6.5% more than in 2019, mostly based on the realization of previously initiated investments.

Receivables from sales amount to 1,208,021 thousands RSD and participate with 44% in the structure of total current assets.

Cash at the end of the period amounted to 1,157,483 thousands RSD and mostly related to drawn and unspent funds from bank loans.

In the position of long-term liabilities, in 2020 SMATSA recorded the amount of 6,033,287 thousands RSD on the basis of long-term loans from the EIB and EBRD, as well as liquidity loans, which SMATSA was forced to obtain in order to maintain liquidity and continue to regularly settle its obligations to suppliers. In the position of short-term financial liabilities, the amount of 39,684 thousands RSD was recorded, which refers to the repayment of a long-term EIB loan from 2005, which matures within one year in the above amount.

Total capital decreased in 2020 compared to the previous year, due to the registration of net loss.

7.3 Statement of Cash Flows

Table 14. Statement of Cash Flows for the period 1 January – 31 December 2020 (in 000 RSD)

Item	Current year	Previous year
A. CASH FLOWS FROM OPERATING ACTIVITIES	**5,150,920**	**10,338,691**
I. Cash flow from operating activities (1 to 3)		
1. Sale and advances received	4,548,472	9,530,578
2. Received interests from operating activities	723	36,541
3. Other inflows from operating activities	601,725	771,572
II. Cash outflows from operating activities (1 to 5)	**6,894,328**	**8,913,715**
1. Payments to suppliers and advances made	1,424,584	2,862,282
2. Wages, wage compensations and other personal expenditures	5,329,563	5,789,105
3. Paid interests	51,019	41,548
4. Profit tax	89,162	220,780
5. Outflows based on other public revenues		1,424,976
III. Net cash inflow from operating activities (I-II)		
IV. Net cash outflow from operating activities (II-I)	**1,743,408**	
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 assets, 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)	**2,209,824**	**2,141,264**
1. Purchase of shares and stakes (net outflows)		
2. Purchase of intangible assets, buildings, plants, equipment and biological assets	2,209,824	2,141,264
3. Other financial placements (net inflows)		
III. Net cash inflow from investment activity (I-II)		
IV. Net cash outflow from investment activity (II-I)	**2,209,824**	**2,141,264**

Table 14. Statement of Cash Flows for the period 1 January – 31 December 2020 (in 000 RSD)		
Item	**Current year**	**Previous year**
C. CASH FLOWS FROM FINANCING ACTIVITIES	**4,146,195**	**925,964**
I. Cash inflows from financing activities (1 to 5)		
1. Increase of original capital		
2. Long-term credits (net inflows)	4,146,195	925,964
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)	**204,739**	**467,709**
1. Redemption of own shares and stakes		
2. Long-term credits (outflows)	204,739	467,709
3. Short-term credits (outflows)		
4. Other liabilities (outflows)		
5. Financial leasing		
6. Paid dividends		
III. Net cash inflow from financial activity (I - II)	**3,941,456**	**458,255**
IV. Net cash outflow from financing activity (II-I)		
D. TOTAL CASH INFLOW (3001 + 3013 + 3025)	**9,297,115**	**11,264,655**
E. TOTAL CASH OUTFLOW (3005 + 3019 + 3031)	**9,308,891**	**11,522,688**
F. NET CASH INFLOW (3040 – 3041)		
G. NET CASH OUTFLOW (3041 – 3040)	11,776	258,033
H. CASH AT BEGINNING OF THE ACCOUNTING PERIOD	1,169,259	1,427,318
I. POSITIVE EXCHANGE RATE DIFFERENTIALS BASED ON CASH CONVERSION		
J. NEGATIVE EXCHANGE RATE DIFFERENTIALS BASED ON CASH CONVERSION		26
K. CASH AT THE END OF THE ACCOUNTING PERIOD	**1,157,483**	**1,169,259**
(3042 – 3043 + 3044 + 3045 – 3046)		

7.4 Ratio indicators

Table 15. Liquidity indicators – recommended, realized, and target values			
Liquidity indicators	**Recommended value**	**Realized in 2019**	**Realized in 2020**
General liquidity ratio (Current assets / Short-term liabilities)	>2	2,29	1,14

Table 16. Financial security indicators – recommended, realized and target values			
Indicators of financial security	**Recommended value**	**Realized in 2019**	**Realized in 2020**
Indebtedness ratio (Long-term liabilities + short-term liabilities) / total assets (%)	the lower percentage of borrowed assets the better	17,88%	42,89%
Debt ratio (EBRD) Total liabilities / Total capital	<1	0,15	0,61
Debt ratio (EIB) (Long-term liabilities + short-term financial liabilities - Cash equivalents and cash) / EBITDA	<3.5	0,76	-1,54

8 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
ARTAS	ATM Surveillance Tracker And Server
ASD	Air Situation Display
ATC	Air Traffic Control
ATCC	Air Traffic Control Center
ATFM	Air Traffic Flow Management
ATM	Air Traffic Management
ATO	Approval Training Organisation
ATS	Air Traffic Services
ATSEP	Air Traffic Safety Electronics Personnel
BANM	Balkan Aviation Normalization Meeting

BSO	Basic Strategic Objective
C-ATCC	Contingency Air Traffic Control Center
CAL	Calibration
CAT	Category
CIMACT	Civil Military ATM Co-ordination Tool
CNS	Communication, Navigation and Surveillance
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
EE	Electric energy
EIB	European Investment Bank
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
EUROCON-TROL	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
FSTD	Flight Simulation Training Device
GMC	Ground Movement Control
GRNS	Ground-based Radio Navigation Systems
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
LNAV	Lateral Navigation
LPV	Localizer Performance with Vertical guidance
LSSIP	Local Single Sky Implementation
LYBE	Belgrade Airport
LYKV	Kraljevo Airport
LYNI	Niš Airport
LYPG	Podgorica Airport
LYTV	Tivat Airport
LYUZ	Užice Airport
LYVR	Vršac Airport
MCC	Multi Crew Coordination

MET	Aeronautical Meteorological Services
MIL AIP	Military Aeronautical Information Publication
MO	Maintenance Organisation
MTBO	Mean Time Between Outages
MTOW	Maximum take of weight
NATO	North Atlantic Treaty Organisation
NDB	NonDirectional radio Beacon
NM	Network Manager
NMOC	Network Manager Operations Centre
NOTAM	A Notice to Airmen
OJ	
OJTI	On the job Training Instructor
PANS-OPS	Procedures for Air Navigation Services – Aircraft OPerationS
PBN	Performance-based navigation
PPL	Private Pilot Licence
PreOJT	Pre-On the Job Training
PSR	Primary Surveillance Radar
QMS	Quality Management System
RAT	Risk Analysis Tool
RNP	Required navigation performance
RP	Reference Period
RS	Radar station
RW	Runway
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
SSR	Secondary Surveillance Radar

STO	Strategic Objective
SUSAN	SMATSA Upgrade of System for Air Navigation
TAF	Aerodrome forecast
TAR	Terminal Area Radar
TER	Sector for terminal and aerodrome air traffic controls
TC	Telecommunications
TCC	Telecommunications center
TMA	Terminal Area
TRE	ANS Staff 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
AKL	Aerodrome Air Traffic Controls
ACB	Montenegro Civil Aviation Agency
DCB	Civil Aviation Directorate of the Republic of Serbia

9 Table, scheme, and figure index

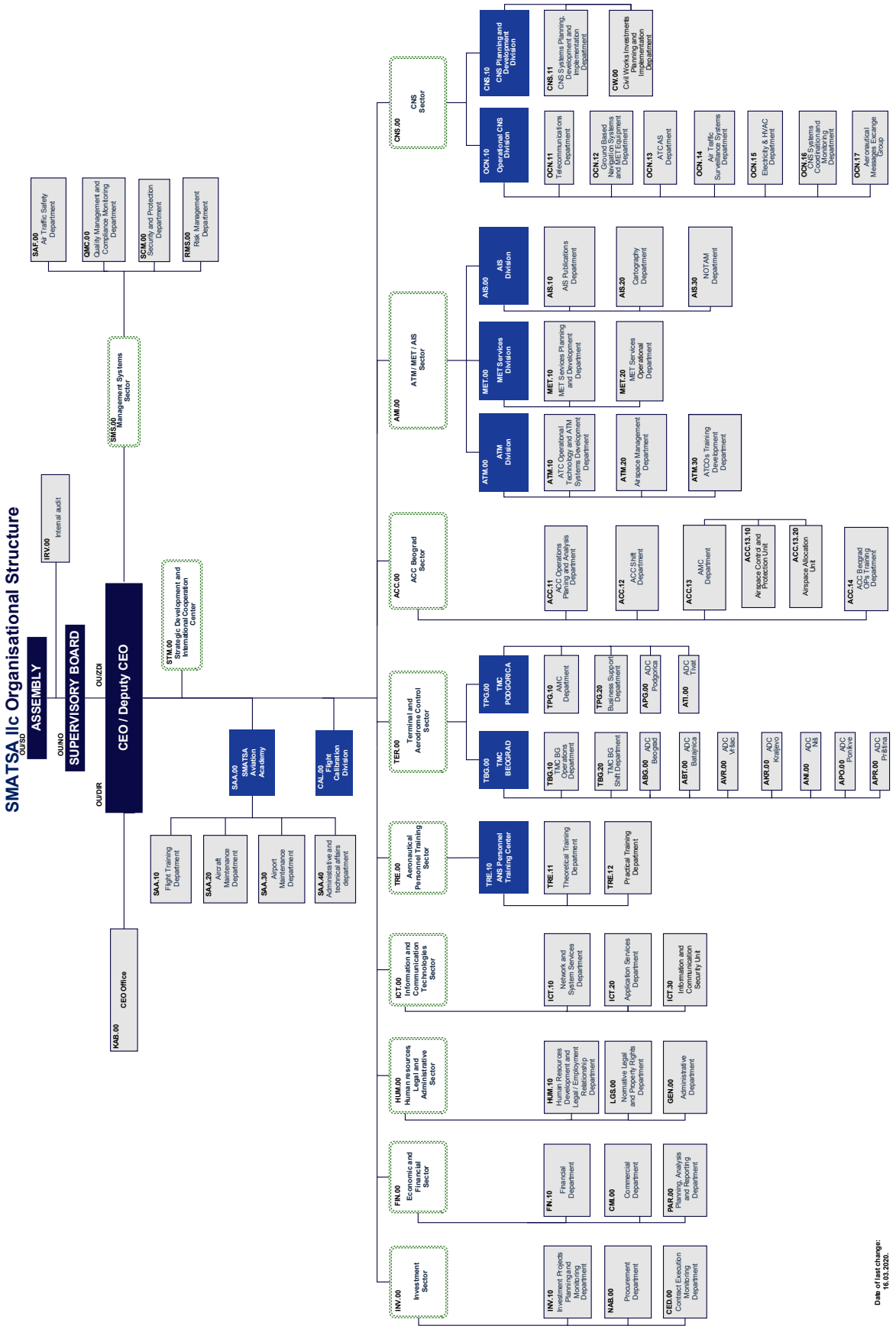
9.1 Table index

9.2 Figure index

10 Appendices

No.	**Title of Appendix**	No. of pages of Appendix
1.	Organizational structure of SMATSA	1
2.	Decision of the EUROCONTROL's Enlarged Committee No. 19/161 of 28/11/2019	2

10.1 Appendix 1 – Organizational Structure of SMATSA



10.2 Appendix 2 – Decision of the EUROCONTROL's Enlarged

EUROPEAN ORGANISATION FOR THE SAFETY OF AIR NAVIGATION

EUROCONTROL

- Decisions of the enlarged Commission -

DECISION No. 19/161

relating to the determination of the unit rates for the period of application commencing 1 January 2020

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 2020.

Done at Brussels on 28 November 2019,

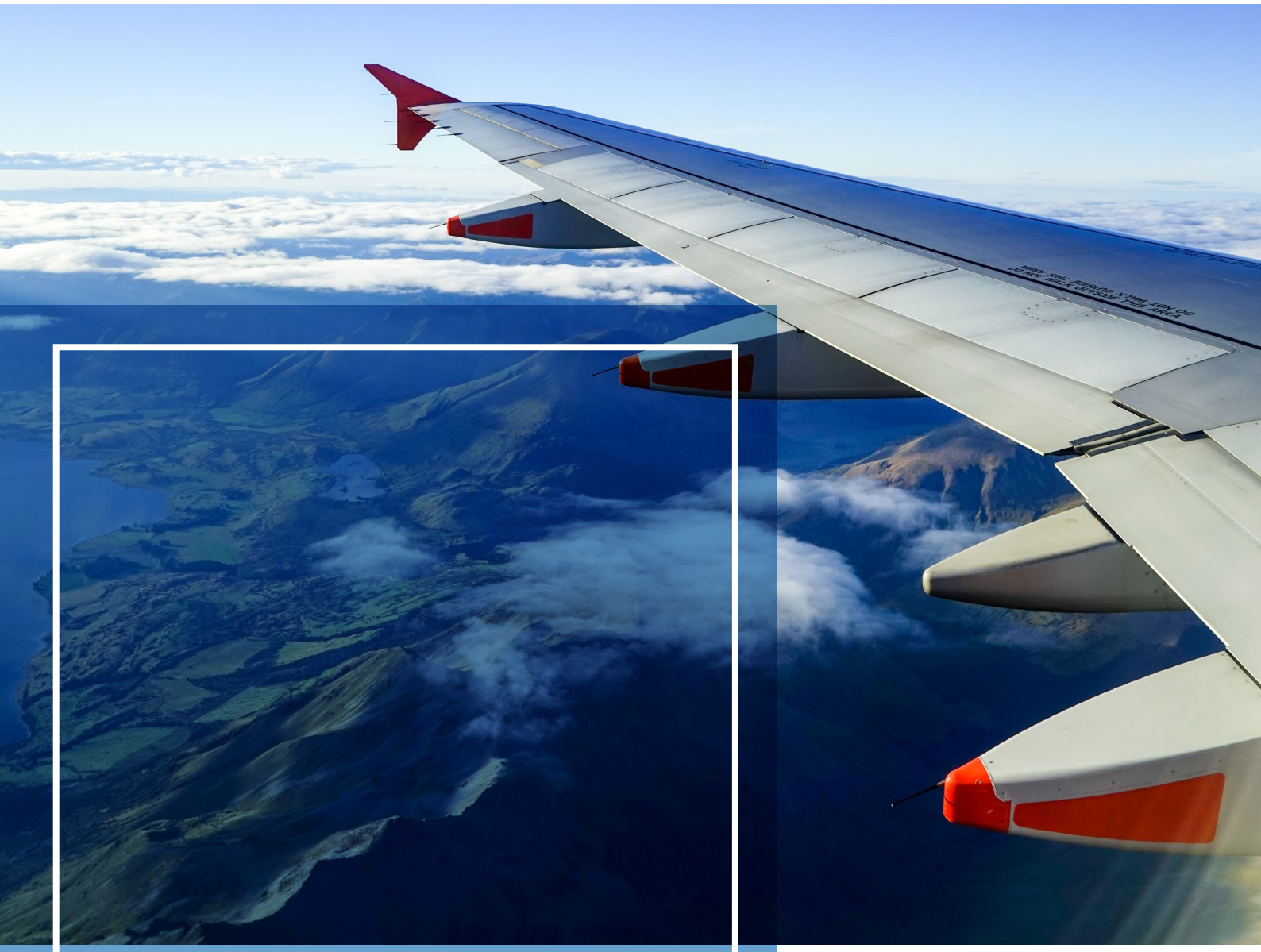
Tatevik Revazyan
President of the Commission

Unit rates applicable from 1 January 2020

ZONE	Global unit rate euro	Exchange rate applied 1 euro =	
Belgium/Luxembourg *	91.14	-/-	
Germany *	63.74	-/-	
France *	58.82	-/-	
United Kingdom	62.03	0.890824	GBP
Netherlands *	67.39	-/-	
Ireland *	24.61	-/-	
Switzerland	91.07	1.09026	CHF
Portugal Lisboa *	38.13	-/-	
Austria *	59.58	-/-	
Spain Continental *	51.08	-/-	
Spain Canary *	43.73	-/-	
Portugal Santa Maria *	7.91	-/-	
Greece *	32.30	-/-	
Turkey	28.64	6.27890	TRY
Malta *	27.42	-/-	
Italy *	66.15	-/-	
Cyprus *	20.18	-/-	
Hungary	27.60	332.203	HUF
Norway	50.55	9.91639	NOK
Denmark	57.66	7.46210	DKK
Slovenia *	51.92	-/-	
Romania	38.34	4.73630	RON
Czech Republic	45.10	25.8424	CZK
Sweden	47.51	10.6865	SEK
Slovakia *	45.85	-/-	
Croatia	42.15	7.39803	HRK
Bulgaria	28.73	1.95524	BGN
North Macedonia	45.10	61.0371	MKD
Moldova	63.09	19.4005	MDL
Finland *	43.66	-/-	
Albania	48.57	121.084	ALL
Bosnia and Herzegovina	31.61	1.95365	BAM
Serbia/Montenegro/KFOR	31.14	117.458	RSD
Lithuania *	36.94	-/-	LTL
Poland	44.89	4.35175	PLN
Armenia	31.55	523.024	AMD
Latvia *	27.40	-/-	
Georgia	27.73	3.24476	GEL
Estonia *	31.51	-/-	

** : State participating in the EMU.*

Name of organization:
Serbia and Montenegro Air Traffic Services
SMATSA LLC, Belgrade
Head office:
Trg Nikole Pašića 10, 11000 Belgrade
Republic of Serbia, p.f. 640
Identification number:
17520407
TAX ID:
103170161
Phone:
+381 11 3218 123
Fax:
+381 11 3240 456
Email:
kl@smatsa.rs
Internet address:
www.smatsa.rs



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