

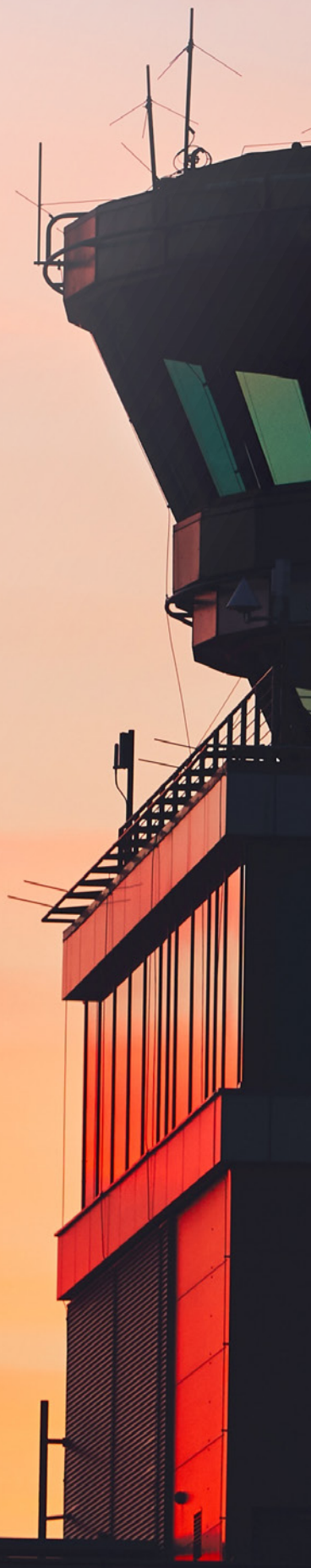


LGS

LATVIJAS **G**AISA **S**ATIKSME

ANNUAL REPORT

2018



Dear employees, partners and guests of LGS!



2018 in aviation has been a year of success and achievements. World economic growth has resulted in the development of our industry – people are travelling more frequently and the number of flights is increasing. The growth in the number of flights managed by the LGS has been very rapid – an increase of 23,500 flights or 8,7% more than in the previous year. We are among the leaders in Europe.

I am sure that this increase, which is higher than that of our neighbours, is due not only to the economic growth but also a result of a precise tariff policy and the high level of the services provided.

To continue our growth in 2019, we have to continue with the improvement of the working conditions for our employees and increasing their remuneration, as well as investing in the new ATC Tower project along with others to improve the quality and safety of our services.

I would like to thank all our employees as well as our clients and partners for all that has been done and achieved, and if we continue in the same way then 2019 will also be successful.

Yours sincerely,

Dāvids Tauriņš,
Chairman of the Board of the LGS

A handwritten signature in black ink, appearing to read 'D. Tauriņš', written on a light-colored rectangular background.

“LATVIJAS GAISA SATIKSME” (LGS)

The company was founded on 21 October 1991 and its core business is to provide air navigation services to all the air space users in the Riga Flight Region (FIR).

LGS optimizes use of the air space, providing effective and reliable air navigation services within its scope of responsibility, a high flight safety level being the task of highest priority. The basic principle of the company is to provide quality services for reasonable and competitive prices.

As an air navigation services provider LGS offers its clients air traffic management, communication, navigation and surveillance, meteorological and air navigation information (ATM, CNS, MET and AIN) services.

The company provides ATM services for the General Air Traffic (GAT) and other flights carried out according to the GAT regulations, as well as for military aviation.

Operating within the market economic environment, LGS is a client oriented company and provides all the users of the air space of the Republic of Latvia with services of equal quality in accordance with international standards. The main income of the company is air navigation charges for the services provided. LGS does not receive state budgetary payments and is one of the biggest tax payers in Latvia.

LGS operates in the industry of civil aviation and is the only air navigation services provider in Latvia. The LGS operations are supervised by the Ministry of Transport and flight safety is supervised by the Civil Aviation Agency (CAA).



BOARD OF THE “LATVIJAS GAISA SATIKSME”:



DĀVIDS TAURIŅŠ,
Chairman of the Board since 26 March 2010,
reappointed on 24 March 2016.



ELMĀRS ŠVĒDE,
Member of the Board since 26 May 2010, reappointed on
25 May 2016. Responsible for investment policy and the
Technical Department.



ILZE ALEKSANDROVIČA,
Member of the Board since 16 June 2012, reappointed on
16 June 2015. Responsible for the Development Department
in charge of the development plans and training process,
international co-operation and monitoring of the
development projects.



IVETA VIRSE,
Member of the Board since 24 March 2016. Responsible for
the Administrative Department.

COUNCIL OF THE “LATVIJAS GAISA SATIKSME”:

The council was established on 21 November 2016
by the decision of the Shareholders meeting:



DINS MERIRANDS,
CHAIRMAN OF THE COUNCIL



EDMUNDS BEĻSKIS,
MEMBER OF THE COUNCIL



ZINTA ZĀLĪTE-RUKMANE,
MEMBER OF THE COUNCIL

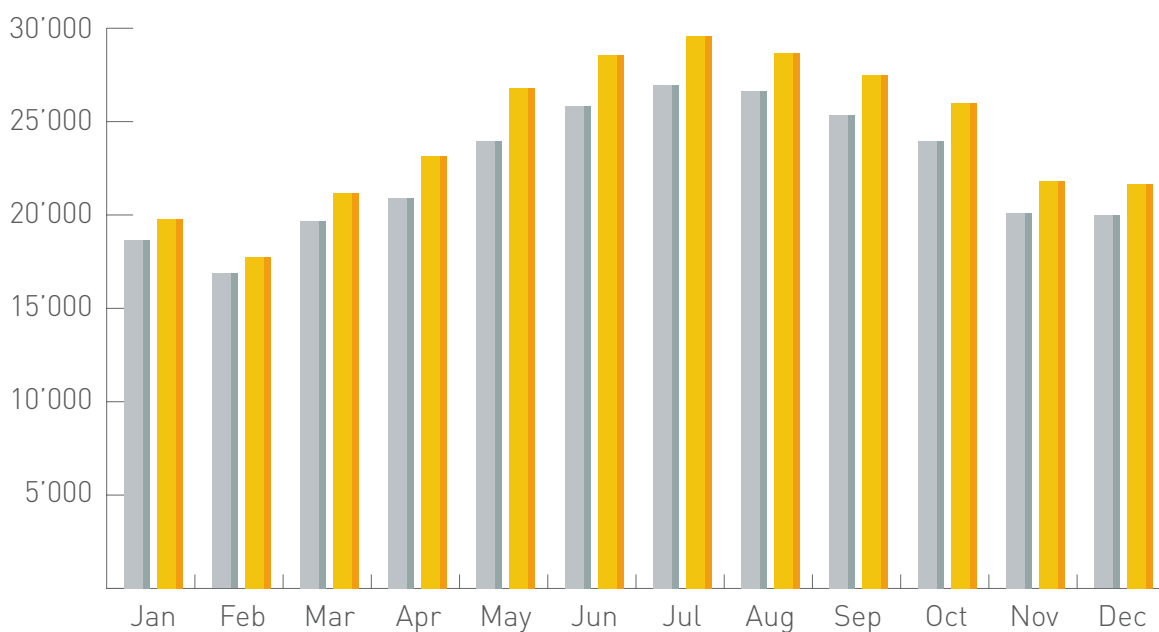
NUMBER OF FLIGHTS IN 2018

In 2018, 292,475 flights were operated within the Riga FIR and that is 23,508 more than in 2017. The total increase in the number of flights was 8,7% whilst the basic prognosis of EUROCONTROL was an increase of 5,5%.

En-route flights grew by 7,6%, whilst the increase in the number of flights to/from Riga increased by 11,7%:

- En-route: 209,247 (71,5% of the total number of flights);
- Flights to/from Riga: 83,228 (28,5% of the total number of flights).

Traffic flow in the Riga region ACC is of a seasonal character. In 2018 there were an average of 801 flights per day and the most intensive days were 25 May and 28 June when 1000 flights were registered.



LGS FINANCIAL RESULTS

In 2018, LGS income from the air navigation services was 29,810,393 EUR, which is 8,7% more than in 2017. As a result of the increased number of flights, LGS 12 month turnover in 2018 reached 30,208,288 EUR, which is 8,9% more than in the previous year.

In 2018, the total amount of operating costs was 27,116,751 EUR, which is 9,8 % more than in 2017. The increase in expenses was due to the growing demand of the services provided by the company.

In 2018, LGS audited net profit was 3,238,725 EUR after taxes. The net operating cash flow was 7,391,546 EUR (7,272,473 EUR in 2017), investment cash flow 5,518,994 EUR (5,221,968 EUR in 2017), in total ensuring a net cash flow for the reported period in the amount of 1,872,552 EUR.

As a result of economic activity, the value of LGS assets has increased by

10,4%, reaching 38,414,379 EUR by 31 December 2018.

In 2018, LGS unit rates have not changed substantially. Terminal charges increased from 98,73 EUR to 103,45 EUR per unit, while en-route charges increased insignificantly from 27,46 EUR to 27,47 EUR. These changes occurred after NEFAB Performance Plan for the Reference Period 2 (2015 – 2019) and COMMISSION IMPLEMENTING REGULATION (EU) No. 391/2013 of 3 May 2013 laying down a common charging scheme for air navigation services. LGS unit rates are competitive within the Baltic region.

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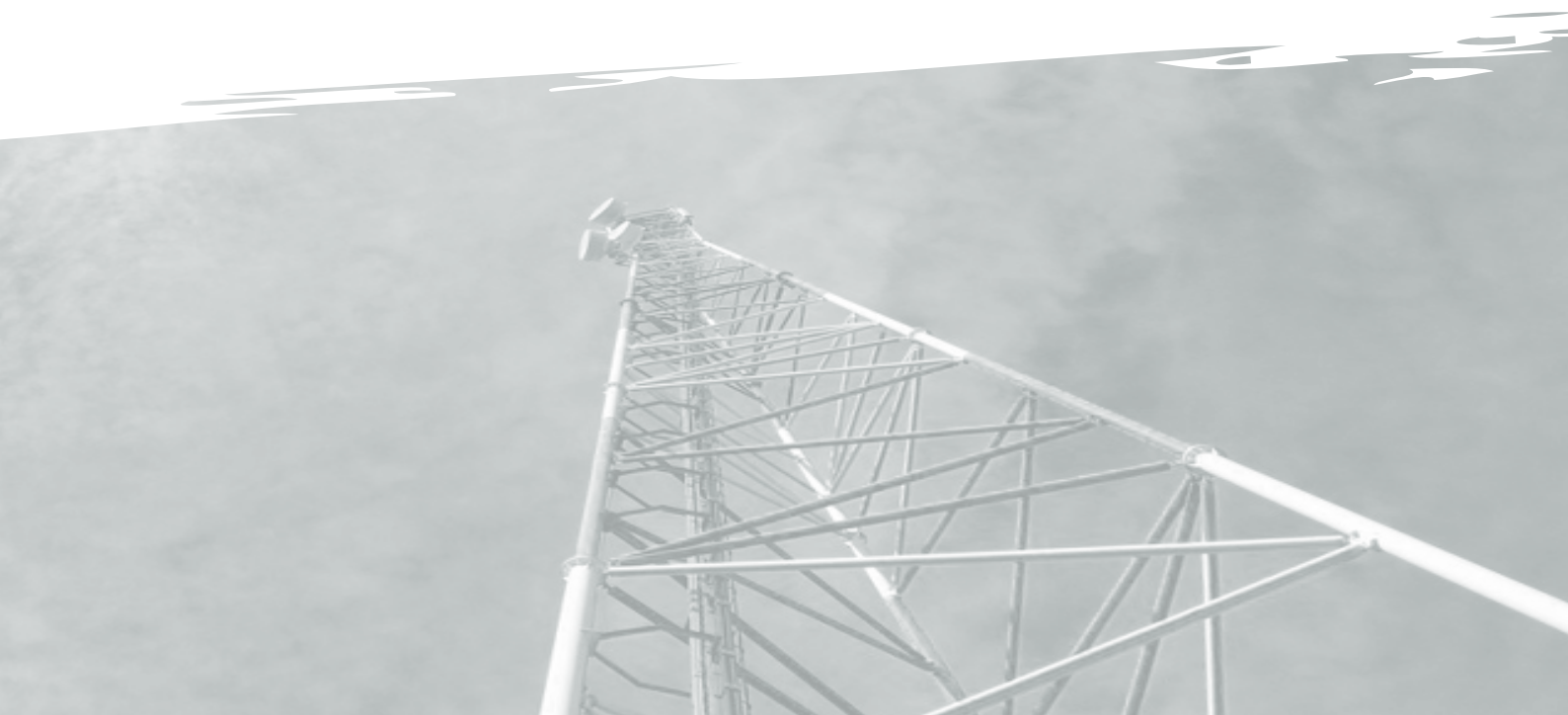
IMPROVEMENT OF THE LGS QUALITY SYSTEM

To ensure the quality of services provided by LGS the services and the processes for their provision are being constantly monitored. The LGS quality system is certified in compliance with the requirements of ISO 9001:2015. The external monitoring of quality system compliance with the standard requirements is provided by the certification company "Bureau Veritas Certification Latvia". In 2018 annual quality system auditing was provided and as a result no non-compliances were detected.

Internal control (monitoring) of the quality of the services provided by LGS is

carried out by control of aeronautical information publications as well as critical air traffic control systems accessibility.

To assess the quality of LGS services and to find out the needs of the clients and interested parties, LGS regularly meets with specialists of the national airline "AirBaltic" and airport "Riga", air space users, military structures, aeronautical information and data suppliers and receivers, discussing the most important questions concerning the provision of air navigation services.



AIR TRAFFIC SAFETY

In 2018, the LGS Safety Management System continued to timely react to flight safety occurrences, their investigation and identification of corrective activities, by taking preventive action in such areas as risk assessment, risk identification and mitigation prior to implementation of changes in the functional systems, and obtaining knowledge from the safety occurrences and providing this knowledge to the personnel of the company.

In 2018, LGS main goal in safety management was the improvement in occurrence reporting, analysis, key performance indicators and safety performance indicator monitoring, and support of NEFAB activities in safety management.

In 2018, 195 safety occurrences were reported and 72 of them were assessed, 32 occurrences were analyzed and 9 were investigated within the Safety Division in compliance with the procedure of safety occurrence investigation.

In 2018, the company carried out risk identification and mitigation related to changes in ATM systems and procedures and prepared 42 safety cases on assessment of system changes.

To guarantee safety of air navigation services the following activities have been carried out:

- Safety Survey of services provided by Air Traffic Management Department and Technical Department according to the company auditing plan;
- Analysis of statistics of service safety and preparation of quarterly safety performance reports;
- Safety statistics and safety performance reviews for company reports;
- Implementation of electronic reporting system for safety occurrences e-TOKAI;
- Daily, weekly and monthly reports on safety occurrences;
- Providing knowledge on safety and good practice obtained in seminars

In 2018 we continued to work in the NEFAB Safety Support Group (SSG) developing closer co-operation and harmonization of safety management systems for NEFAB level processes.



LGS INFRASTRUCTURE DEVELOPMENT

In 2018, LGS continued to improve CNS and MET services according to the implementation requirements of legislative acts and maintaining the high level of the provided services.

Work on the design of the new ATC Tower design was commenced and we continued with the improvement of ATC data processing systems.



SURVEILLANCE SERVICES

In 2018, in accordance with the investment plan we continued to work on two new investment projects.

In November 2018, SMR (*Surface Movement Radar*) for Riga aerodrome surveillance radar modernization project was completed in co-operation with the company "TERMA A/S". Within this project magnetrons were replaced with new solid transceiver devices and additional transceiver devices for both channels to implement the concept of double reservation. Thus, we have ensured 100% SMR transceiver devices reservation and improvement of the accessibility coefficient.

In co-operation with "THALES Air Systems S.A.S." we continued to work on the modernization of three "THALES" secondary surveillance radar software. The updated software will guarantee compliance of the surveillance devices with the newest ICAO requirements and

Commission Implementing Regulation (EU) 2017/373 of 1 March 2017 laying down common requirements for providers of air traffic management/air navigation services and other air traffic management network functions and their oversight, repealing Regulation (EC) No. 482/2008, Implementing Regulations (EU) No. 1034/2011, (EU) No. 1035/2011 and (EU) 2016/1377 and amending Regulation (EU) No 677/2011.

To improve the radar covering area and radar data accessibility in Riga FIR, in April 2018 operational use of the Palanga and Vilnius S-mode secondary surveillance radar data was commenced, integrating the data into the ATRACC (LGS ATM system) multi-following system. Data is received from Palanga and Vilnius radars locating aircraft positions, identification numbers, flight level, emergency identification codes and radar data in the enhanced Mode S regime.

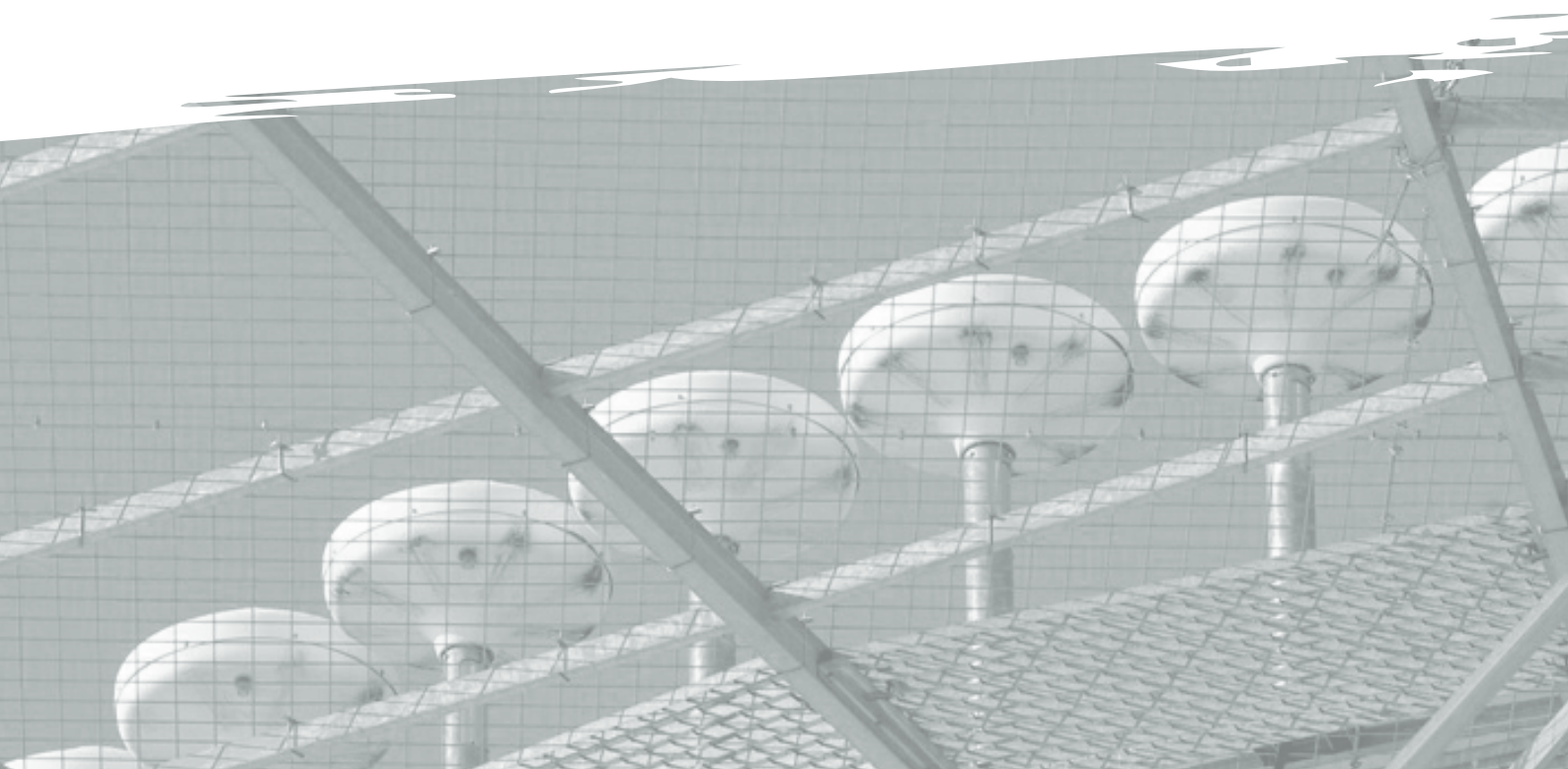


NAVIGATION SERVICES

In 2018, we continued with air navigation systems maintenance as well as carrying out service quality improvement activities. We continued to explore GNSS disturbance at Riga airport, and continued GPS and SBAS signal quality performance studies at Riga and Liepaja airports. Analysis of GPS/EGNOS signal quality parameters – accessibility, precision, continuity and integrity allows for the acquisition of trustworthy, precise data to be used for

PBN (Performance Based Navigation) implementation and exploitation.

In 2018, we completed the preparatory work for the VOR/DME network modernization project. Within the project there will be three new additional DME radio beacons, new DVOR/DME equipment in Riga and the old VOR/DME radio beacon in Daugavpils will be replaced with the DVOR/DME equipment from Riga.



COMMUNICATION SERVICES

In 2018, intensive work continued on digital data transmission service implementation in compliance with the Commission Regulation (EC) No. 29/2009 of 16 January 2009, laying down requirements on data link services for the single European sky. By developing digital data transmission infrastructure based on VDL (*Very High Frequency Data Link*) Mode 2 standard, communication will be ensured between the ATCO and pilot in digital format in the air space of Europe above the 285th flight level. The

aim of the requirement is to improve the safety of “air – ground” communication, to reduce the load on ATCOs and to free up frequency resources. In 2018, the ATN infrastructure was completed by installing equipment for data transmission services and the data transmission services implemented together with the necessary changes in air traffic management system. Full functionality for air traffic users will be available as soon as the certification process is completed.



METEOROLOGICAL SERVICES

The most substantial investment in aviation meteorological services within the reporting period was the purchase and installation of the wind measurement system in a 3D environment. The system provides measurements of wind direction and speed by height in take-off and landing trajectories, as well as automatically generates warnings of wind changes at low heights simplifying the aircraft take-off and landing procedures at Riga airport.

In 2018 active work took place on the optimization of aviation meteorological services. Modernization of the ATIS/VOLMET system software will continue to guarantee meteorological and aeronautical information compliance with the ICAO Annex 3 defining requirements for international aviation meteorological services. In November 2018, the system acceptance test (SAT) was successfully carried out. The ATIS/VOLMET system is a crucial meteorological tool, that conti-

nually generates information for aircraft en-route or those preparing to land or depart to/from Riga airport, providing current meteorological information on weather conditions in Riga and nearby aerodromes along with other important aeronautical information.

Modernization of MIDAS IV (AWOS – *Automated Weather Observing System*) in Riga aerodrome was carried out in 2018. The system manufactured and supplied by the Finnish company “Vaisala” provides continual real time meteorological information and is a fully integrated product joining meteorological sensors produced for aviation needs and applications for end-users and fully meets the requirements of international ICAO standards and recommendations. The MIDAS IV modernization project includes infrastructure construction work, and installation and integration of sensors and new software.



IMPROVEMENT OF AIR TRAFFIC DATA PROCESSING SYSTEMS

In May 2018, work was commenced on the next modernization stage of the ATRACC system. It will ensure compliance of the system's functionality to the requirements of regulations and users. Within this modernization stage by the end of 2020 we will improve information exchange between LGS and SJSC "International airport "Riga"" within the A-CDM project and support provided to PBN. To support implementation of the 2nd part of the FRA project, we will develop the air space management support system LARA and information exchange with ATRACC.

In 2018 work commenced on the surface movement guidance and control system (A-SMGCS) modernization project. A-SMGCS provides movement control within the aerodrome, and the informa-

tion provided by the system is crucial for LGS ATCOs, Riga airport services and aircraft crew. The most important change will be the possibility of information exchange among LGS, airport "Riga", airlines and airport operator systems providing A-CDM – a collective decision making process regarding the air traffic flow and capacity management in airports, based on collaboration of interested parties to decrease possible delays, improve predictability and optimize human resources. Work will continue on closer A-SMGCS integration with the ATM system ATRACC, and we will fully rework and update users interface as well as provide verification of the "Follow-the-Greens" concept for movement management on the territory of aerodrome using the runway lights system.



In 2018, modernization of ANOF – the data processing and exchange system continued. ANOF is a multi-modular system providing reception, processing and sending data crucial for ATM processes (flight plans, meteorological information and aeronautical information). The ANOF modernization plan envisages implementation of up to date and effective meteorological, aeronautical and other information in a way comfortable for ATCOs. The system will be supplemented with an option to process new types of meteorological information data and charts as well as there will be a new module allowing LGS clients to request access to meteorological information remotely using a public network. By implementing remote access to operative information resources it is crucial to guarantee the necessary safety levels. In the autumn of 2018, the system was verified and checked at the place of

manufacture. ANOF modernization will be completed in 2019.

In 2018, in collaboration with the Norwegian supplier “Indra Navia”, active work continued on the aerodrome manoeuvring area lucidity improvement project “Airport Enhanced Video Surveillance”. The main goal of the project is to supplement A-SMGCS with a video surveillance module for vehicles and aircraft within the manoeuvring area of the airport Riga. By installing day/night vision video cameras with changeable focusing distance, allowing the tracking of aircraft and vehicles, A-SMGCS will be supported with a “Digital Tower” function providing integrated identification of vehicles by supplementing the picture with an identifier. This new module will be integrated in A-SMGCS, to provide object identification and information on object location obtained from A-SMGCS.



MAINTENANCE OF THE SUPPORT INFRASTRUCTURE

In July 2018, an agreement was concluded on the development of an enterprise resources management system, providing for the supply, installation and integration into LGS IT system of the necessary equipment and software required to implement the system. This new system will ensure several interconnected functions: book-keeping and financial management, personnel registration and calculation of wages, air navigation services registration and calculation of charges, as well as an inventory of air navigation and other equipment, automatization of their maintenance and service process.



HUMAN RESOURCES

In 2018, LGS continued to carry out a personnel policy based on such core values as social responsibility, achievements and results, competence and pride in the company and envisages on-going maintenance and development of the personnel's professional competence, ensuring competitiveness of the company and dynamic long-term economic growth, as well as a wider social connection between the company's management and employees.

LGS has implemented and maintains competitive remuneration and a motivational system of additional payments based on qualification and effectivity indicators, along with a safe and up to date working environment, as well as a programme of social security and guaran-

ties.

In addition to the labour relation regulation defined by external and internal legislative acts, issues regarding the organisation of employment and social guarantees and health and safety at work are stipulated in the Collective Agreement of 2018, the aim of which is to create better working conditions for the employees.

At the end of the reporting period, LGS employed 351 employees. 80% of the LGS employees have obtained a higher education (1st or 2nd level higher professional education, bachelor, masters or doctorate degrees).

In 2018, the LGS personnel rotation coefficient was 0,1%, but personnel re-



TRAINING

LGS employees are provided with:

- Regular education and maintenance of qualification levels as defined by EUROCONTROL, ICAO, CAA, The World Meteorological Organization and the requirements of internal regulations for ATCOs, AFIS operators, information input operators, safety specialists and ATSEPs;
- Regular improvement of the level of knowledge of the English language.

As a recognised training organisation, LGS ensures the permanent maintenance of its certificate in compliance with the Commission Regulation (EU) 2015/340 of 20 February 2015 laying down technical requirements and administrative procedures relating to air traffic controllers' licenses and certificates pursuant to Regulation (EC) No. 216/2008 of the European Parliament and of the Council, amending Commission Implementing Regulation (EU) No. 923/2012 and repealing Commission Regulation (EU) No. 805/2011.

LGS provides ATCOs, simulator instructors and AFIS operators a non-stop training process, in order to maintain the qualification ratings and endorsements in accordance with the Regulation of the Cabinet of the Ministers of 16 November

2016 No. 730 „Certification of air traffic controllers, AFIS operators and training centres providing training for air traffic controllers and AFIS operators”.

LGS has developed certain requirements regarding the qualification and competence of the personnel providing the air traffic management services. Requirements for ATCOs simulator instructors, AFIS operators are defined in the Competence Schemes and training plans approved by the CAA.

Currently the ATSEP qualification is in accordance with the Commission Implementing Regulation (EU) No.1035/2011 which lays down common requirements for providers of air navigation services and meets the requirements of Regulation (EU) No. 2017/373. The technical exploitation of air navigation equipment is carried out by certified specialists who have graduated from educational establishments with an appropriate profile, have completed training courses or have been trained according to individual training plans or attended specific courses of practical training.

On 30 May 2018, an agreement for the training of 10 new ATCOs, as well as for basic and qualification training was concluded with the company “Air Navigation Services Finland Oy.”.

LGS TRAINING UNIT
MĀCĪBU VIENĪBA

MEMBERSHIP OF INTERNATIONAL ORGANIZATIONS

In 2018, LGS continued its co-operation with the ANSPs within the NEFAB. LGS chairman Dāvids Tauriņš continues to fulfill the responsibilities as CEO of the NEFAB ANSP Board. LGS employees are also entrusted with NEFAB financial control responsibilities. In October 2018, the "NEFAB Program Business Plan 2019" and NEFAB Program budget for 2019 were approved.

In 2018, LGS continued to co-operate within the Borealis Alliance to enhance business co-operation among North European ANSPs. In 2018, the Borealis FRA project was continued in order to reach full implementation of the FRA concept in all the air spaces controlled by the Borealis Alliance ANSPs by 2021.

In 2018, an LGS employee was entrusted with the duties of Borealis Banker.

LGS participates in the preparation of EUROCONTROL and CANSO member-state benchmarking.

LGS specialists are carrying out the duties of ICAO ATMGE (*Air Traffic Management Group East*) chairman, Air Navigation Information Management Group secretary, and RDGE (*Route Development group*) working group deputy manager. LGS is also represented in EUROCONTROL working groups at an expert level. LGS management regularly participates at high level CANSO meetings and conferences.



