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Annual Report





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SELECTED PERFORMANCE INDICATORS	2017	2018	2019
Number of en-route flights (000)	776	854	912
Number of controlled IFR flight hours (000)	443	486	512
Number of airport movements (000)	386	429	444
Average en-route ATFM delay(min./flight)	0,11	0,25	0,12
Employment (in persons)	1 896	1 919	1 979
Employment – ATCO in OPS	548	570	583
Total sales revenues in (000) PLN	934 105	989 417	951 294
Revenue from en-route navigation services in (000) PLN	784 237	838 453	798 019
Revenue from terminal navigation services in (000) PLN	128 244	128 137	130 823
Profit on sales in (000) PLN	110 977	115 963	18 445
Net profit in (000) PLN	101 626	108 506	6 792

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Ladies and gentlemen,



I am pleased to present the Annual Report of the Polish Air Navigation Services Agency for 2019, presenting the Agency's activities and achievements during this year.

The year 2019 has proved that civil aviation in the world, Europe and Poland has not stopped evolving, and the number of air operations has been gradually increasing. While European air traffic in 2019 increased by 0.8% compared to 2018 and was the smallest increase since 2013, in Poland, nearly 600 air traffic controllers of the Agency handled 912,000 IFR operations - almost 5% more than in the previous year. On the other hand, the Flight Information Service Officers (FIS) supervised nearly 260 thousand air operations performed within General Aviation. At the same time, the flight delay rate in Poland amounted to only 0.12 minutes per flight, with the European average of 1.6 minutes per flight.

One of the first successes of the 2019 was the implementation of Free Route Airspace, a functionality called in FIR Warszawa - POLFRA, in line with the European SESAR Pilot Common Project (PCP), which is part of the Single European Sky. On February 28, 2019, the Polish Air Navigation Services Agency made it possible to plan flights in accordance with the FRA rules, above FL095 (2,896 m), nearly three years before the deadline set by the EU regulation.

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Janusz Janiszewski Acting President of the Polish Air Navigation Services Agency

Thanks to decisions made in previous years, the Polish Air Navigation Services Agency strengthened its business relations by offering its systems and services. In 2019, the Agency participated in the World ATM Congress for the first time as an exhibitor. Throughout the congress, visitors to the PANSA exhibition could see how our proprietary systems work. The flagship PansaUTM - the concept of unmanned aerial vehicle management - was also presented. Another project was also demonstrated with the aim to improve the predictability of runway conditions and thus safety.

2019 is a year of a number of research and development initiatives, Either PANSA own projects or and co-created with national and foreign partners. The aforementioned PansaUTM - the digitized concept of UAV flight coordination and digital management of applications and permits for airspace flights, reached already in 2019, the level of maturity required by the EU only in 2021. The new system will include: e-registration, e-identification, flight planning (dFPL - drone Flight Plan), tracking them in real time and two-way nonverbal communication between air traffic services and UAV operator.

Another important step is the development of Electronic Flight progrEss Strips (EFES), a digital system of electronic flight progress strips, providing useful flight information and reducing the load on air traffic controllers. Thanks to the new generation system, tower ATCOs will have greater situational awareness, which translates into safety and better efficiency of air traffic management.

Beforementioned safety and efficiency was also confirmed with the launch of a new aerodrome control tower in Katowice. The International Air Traffic Controllers Day was an occasion to officially inaugurate the latest PANSA investment. It is currently the tallest facility of this type in the country (46 m), with the highest located operating room (41 m).

Our actions to date prove that we are a modern institution, ready to meet the reality of today's market of modern air navigation services, and due to the geographical location of our country, we are a bridge connecting Europe and the East.

2019 was a very good year for the Polish Air Navigation Services Agency, however, at the time of publication of this document, we are in a huge crisis caused by the coronavirus pandemic and our organization, like the entire aviation industry, is facing huge challenges.

The dynamic situation in aviation requires us to face challenges such as rapid changes in air traffic dependent on the development of the epidemiological situation and adapt to them, using the latest technologies and developing a new model of PANSA operation, with the focus on the digitization of services.

I am convinced that the measures we have taken will ensure that the objectives set will be achieved and that the following years will only be successful for the Agency.

Organisational structure

Organisational structure of the Polish Air Navigation Services Agency as of 31 December 2019

PRESIDENT (CEO)

- President's Office;
- Strategy and International Affairs;
- Acquisitions;
- Safety and Security;
- ATC Training Centre;
- Project Management.

VICE PRESIDENT AIR NAVIGATION

- ATM Operations;
- IT and CNS.

VICE PRESIDENT FINANCE AND ADMINISTRATION (CFO)

- Finance and Accounting;
- Chief Accountant;
- Administration.



PANSA

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Providing safe and seamless air traffic by means of effective management of airspace.

Vision

- An organisation with a strong position on international market of air navigation service providers;
- An innovative organisation investing in knowledge and development;
- An organisation being a bridge between the West and the East of Europe within the area of providing air navigation services.



Implementation of Pansa strategy



Implementation of Pansa strategy

Key performance areas:







OPERATIONAL AND TECHNICAL OBJECTIVES

- ATM system development;
- ATFCM/ASM functions development;
- Ensuring the ANS continuity;
- TWR systems development;
- Unmanned air traffic management systems (UAS) development.

EXTERNAL RELATIONS

- Stakeholders;
- Partnerships;
- Air Navigation Services Providers;
- Institutional governance;
- Business environment.

BUSINESS OBJECTIVES

Business objectives represent the set of actions and initiatives aimed at strengthening the position of an organisation in its local and international environment, including the growth of financial safety through diversification of revenues:

Objectives

- Polish Air Navigation Services Agency as one of the key European ANSPs;
- Business to Business (B2B) services provision;
- Development of R&D projects;
- Building a strong international position of the Agency.





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January Changes in the regulations related to the UAV (Unmanned Aerial Vehicles)

Entering into force the changes in the regulations governing the use of drones in Polish air space. New provisions mean a great change that allows inter alia to make BVLOS flights up to 120 km beyond the assigned zones within only 7 days of the date of flight notification, and in automatic modes. Changes in the regulations will support the conditions for the development of the UAV sector and will be also a next step towards the integration of unmanned and manned aviation.

February Free Route Airspace successfully deployed in Poland!

Free Route Airspace, the functionality called in FIR Warszawa – POLFRA, was deployed in accordance with the Pilot Common Project (PCP) framework, falling within the Single European Sky initiative. The Polish Air Navigation Services Agency has made it possible to plan the flights in accordance with the FRA rules almost three years ahead of deadline determined by the EU regulation on PCP, i.e. on 1.01.2022. On 28 February 2019 the POLFRA came into force and effect round-the-clock in the FIR Warszawa above FL095 (2896 m) excluding the TMA (airport controlled zone).

March World ATM Congress 2019

The Polish Air Navigation Services Agency participated for the first time in the event held in Madrid as the exhibitor. In the official opening of the PANSA exhibition on World ATM Congress 2019, Janusz Janiszewski, the President of PANSA, was accompanied by: Henrik Hololei, General Director of DG Move (European Commission) and the Ambassador of Poland in Spain Mrs Marzenna Adamczyk. The opening ceremony was also an introduction to a great event - the debate organized together with our Lithuanian partner, Oro Navigacija, as part of the Baltic FAB on the role of the East-Central Europe in the management of air traffic. The panel was attended by outstanding international experts of aviation market, including Dr Christine Berg from the European Commission and the President of Oro Navigacija, Mindaugas Gustys as well as the Ministry of Infrastructure and institutions and companies such as: IATA, WizzAir and Romatsa.

About PansaUTM at the JARUS Plenary Session in Katowice

In 2019, the Plenary Session of JARUS (Joint Authorities for Rulemaking on Unmanned Systems) - an international group of regulators in the field of unmanned aerial vehicles - was convened for the first time in Poland in Katowice. The PansaUTM unmanned aerial vehicle (UAV) operation management system was presented and Polish activities as regards the implementation of the U-Space concept and UAV flight coordination in Poland were presented, including the regulations and operational experience of the Polish Air Navigation Services Agency.

May New PANSA radars

The network of transmitters and antennas located all over the country is constantly developing. The CNS infrastructure is adapted to the current demand and current solutions, changing along with the development of technology. Four new MSSR (Monopulse Secondary Surveillance Radar) Mode S radars were installed and commissioned. These are modern, two-channel devices with a range of up to 200NM, providing the extended Mode S secondary radar information. The total value of these four investment projects amounted to 37.55 million PLN net, of which the EU co-financing is 26.1 million PLN.

June PANSA launches IWB

PANSA launched a system that allows airspace users to submit flight plans by e-mail, among other things. IWB (Integrated Web Briefing) is a service that integrates an access to aviation data and information necessary to prepare and schedule a flight. The system creating a database of planned movements and a fleet of aircrafts also provides a preview of maps, a separate presentation of objects, structures or navigation aids. Thanks to data provided directly by PANSA, the IWB provides an ongoing preview of the zone occupancy with real-time updates and a preview of planned activities within the entire flight zone.

July Baltic FAB meeting

The representatives of PANSA and Oro Navigacija discussed the participation in research and development projects, cooperation in the field of technology and the development of air traffic control systems. They also conducted an analysis of the ATM development directions arising from the SESAR JU "Airspace Architecture Study" and the "Wise Persons Group" report - related to the future of the Single European Sky.







August Conference "DRONES - LAW, TECHNOLOGY, SERVICES" Katowice

The International Congress Centre in Katowice held a conference "Drones - Law, Technology, Services", gathering representatives of the government, local governments, scientists, uniformed services and entrepreneurs operating in the unmanned aerial vehicle (UAV) sector. The event was an opportunity to conduct thematic workshops to discuss new ways of using drones and standards. The event was an opportunity to summarize the first year of functioning of the Central European Drone Demonstrator (CEDD), implemented as part of the Żwirko i Wigura SOR Program. The creation of the demonstrator was initiated by: The Metropolis of Upper Silesia and Zagłębie, the Civil Aviation Authority and the Polish Air Navigation Services Agency. PANSA presented the PansaUTM concept, which allows ensuring safety of operations performed with the use of UAVs.

September Digital European Sky

In Brussels, representatives of the most important European aviation institutions, incl. Janusz Janiszewski, PANSA President, as a representative of the B4 Consortium, signed the "Joint Declaration on the Future of the Single European Sky". The declaration was signed as part of a high-level conference on the future of the Single European Sky, organized by the European Commission and the Finnish Presidency. The signed document contains a list of specific ventures that must be undertaken for the final deployment of the SES concept.

PansaUTM maturity

The PansaUTM is a digitized concept of UAV flight coordination and digital management of applications and permissions for flights in the airspace. The PansaUTM system has already reached the level of maturity in 2019 which would be required by the EU in 2021. The tested functionalities included, among others, e-registration, e-identification, flight planning (dFPL - drone Flight Plan) and their real-time tracking, two-way non-verbal communication between air traffic services and UAV operator, etc.

October New aerodrome control tower in Katowice

The airport control tower in Katowice is the highest (46 m) facility for this purpose in Poland, with the highest located operating room (41 m). The facility is equipped with modern systems ensuring safety and support for higher traffic in the airspace. The new tower constitutes an element of infrastructural changes adapted to the changing operational needs of airport control services.

November SESAR Open Day - about innovations in Gdańsk

During the SESAR Open Day in Gdańsk, entities involved in research and development projects being implemented as part of the SESAR presented the level of advancement of the works under way. PANSA and THALES Land & Air Systems together with their partners presented the results of work on the Alternative Ground Surveillance (AGS). THALES LAS and PANSA, together with partners: Edisoft, WASKO S.A. will continue to develop the prototype in Gdańsk, where together with the Airport the conditions for research and development works have been created.

December Representative of Poland became the Chairman of the A6

The President of the Polish Air Navigation Services Agency, Janusz Janiszewski, took over the chairmanship of the A6 alliance - an alliance of the largest European air navigation institutions, including Germany, France, Great Britain, Spain and Italy. During his one-year term as the Chairman of the A6 Steering Council, Janusz Janiszewski will work out common stance of the A6 alliance and represent the Group at high-level meetings. He will also directly affect shaping decisions related to the development of the air traffic management industry in Europe.

PansaUTM production testing

The last phase of tests started before the deployment of the PansaUTM system, consisting in simultaneous implementation of activities previously carried out by the operators of unmanned aerial vehicles (UAV) and PANSA services in an analogue way and implementing the same tasks in a digital way, using the PansaUTM system modules.





The Polish Air Navigation Services Agency is a state legal entity responsible for air traffic management in FIR Warszawa. The Agency is the only institution in the country providing air navigation services, which provides air traffic control services in FIR Warszawa.

Air traffic control takes place on three levels:

- area control area control service provides service in controlled areas (CTA), including airways (AWY). It is performed by Area Control Centre Warszawa using surveillance radars;
- approach control approach control service provides service for departing and arriving controlled flights in terminal controlled areas (TMA). There are four radar approach control units: Warszawa, Gdańsk, Kraków, Poznań – these units are responsible for providing services using surveillance equipment;
- airport control Aerodrome control service provides service for aerodrome traffic in control zones (CTR). There are 15 aerodrome control units established.

PANSA also provides flight information services (FIS) in uncontrolled airspace. The flight information authority handles traffic in an airspace characterized by a significant diversity of aircrafts and its users with diversified level of skills and experience. The flight information authority is a real buffer for violations of the controlled airspace and at the same time plays an important role in shaping the correct habits of pilots. FIS works with search and rescue services (SAR) as regards the alert services.





Operational activity Airspace management

Within the framework of the "Polish Airspace 2010+" program, airspace with free route planning, the so-called Free Route Airspace (POLFRA) was deployed with the aim of enabling air operators to perform flights in the variant most appropriate for their preferred trajectory, and thus the most convenient in terms of time and the most cost effective. The solutions adopted within the scope of POLFRA take into account the FLOW aspects and capacity of individual ACC sectors. The project was carried out in cooperation with the representatives of EUROCONTROL.

In 2019, works on the vertical split of the airspace were continued.

The project was deployed to change the airspace structures in south-eastern Poland by creating the ACC GAT EPWW Z LOW IK LOW sectors, changing the boundaries of ACC GAT EPWW J LOW IR LOW sectors and changing the names of ACC GAT EPWW J HIGH I ACC GAT EPWW R HIGH sectors, which allowed:

- A effective management of the air traffic flow with the use of new ATFCM configurations and measures, in the form of level capping and re-routing, easing the load of individual sectors;
- B dividing the current ACC GAT EPWW J LOW and ACC GAT EPWW R LOW elementary sectors, thus reducing the number of aircrafts on controllers' communication;
- C reducing the number of hot spots in sectors;
- D adjusting sector boundaries to planned and actual trajectories;
- **E** reducing the complexity of air traffic in sectors.

The cooperation with the Lithuanian ANSP (Oro Navigacija) was continued and the cooperation with the Slovak ANSP (LPS) was initiated in terms of deployment of the FRA cross-border project. Within the scope of cooperation with Oro Navigacija, the project to implement the Baltic FRA cross-border space project was officially launched as part of cooperation with the Baltic FAB. A dozen projects to change the structure of the FIR EPWW airspace were implemented, both within the scope of controlled and uncontrolled space (CTR, MCTR, TMA, MTMA, AWY, TSA, TRA, MRT). Several dozen supplements regarding the separation of airspace for their needs, taking into account minimizing their impact on air traffic and providing ATS services were published within the scope of securing military exercises, competitions and air shows. In May 2019, four radar centres were commissioned in the area of Tarnobrzeg, Rzeszów, Łomża and Szczecinek, which improved the radiolocation coverage of the Polish airspace.



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En-route ATFM delays

The en-route ATFM delay indicator in Polish airspace reached in 2019 the value of 0.12 min/flight, while the EU-wide target was set at the level of 0.23 min/flight for this year. This indicator includes delays related to the redirection to Polish airspace of additional operations arising from the "enhanced NM Summer 2019 measures" project, coordinated by the Network Manager (NM). Without taking into account the NM activities, the ATFM delay indicator in Polish airspace amounted to 0.19 min/flight.

ATC-generated delays accounted for 92.6% of all en-route delays. A detailed analysis that allowed to determine the causes of delays, indicates that the value of en-route ATFM delay indicator in 2019 was affected by factors such as:

- structure and intensity of air traffic flows Capacity;
- shortage of operational personnel (air traffic controllers) - Staffing;
- weather conditions Weather;
- others (Accident/Incident, ATC Equipment, Airspace Management, Aerodrome Capacity and Special Event).

Reasons for en-route ATFM delays at EPWA

Source: EUROCONTROL/PRU, PANSA





The value of en-route ATFM delay indicator better than the target set under PSD RP2, as well as better than the 2018 implementation (0.25 min/ flight), was mainly affected by the operational situation at FIR Warszawa. Increase in the number of movements in 2019 evolved to a level of 4.7%. In 2019, during the period of the most intense air traffic, i.e. from June to August, the dynamics of traffic was lower more than double the dynamics in 2018. Achieving the indicated value of delay indicator was also affected by activities to optimize the management of airspace and its structure, as well as the optimization of using the resources. The most important measures undertaken aimed at achieving the goal within the discussed area include:

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- 1 Flexible work schedule of air traffic services, responding to the complexity of air traffic and weekly demand including weekends;
- 2 Increase in the number of air traffic controllers and flexible staff planning during peak hours;
- 3 Effective operational support response, including FMP, to traffic disruptions within the so-called core area, tactical delay reduction, close collaboration with airspace users;
- 4 Extended opening hours of 11 sectors and an increase in the number of sectors opened (up to 12, and in special cases even up to 13);
- 5 Split of sectors in the lower airspace in the south-eastern part of FIR Warszawa;
- 6 Deployment of 5 NM separation;
- 7 Deployment of POLFRA.

PANSA was actively participating in the initiative aimed at minimizing delays within the entire European network. Due to apparent restrictions in the capacity of airspace of some countries, for the Summer 2019 season, the Network Manager, in cooperation with ANSP, introduced measures aimed at reducing the load of the most congested parts of the European network's airspace (the so-called enhanced NM Summer 2019 Measures - eNM S19 Measures), consisting in particular in redirecting part of air traffic flows. According to estimates provided by the Network Manager, the Agency, within the scope of its participation in this initiative, by handling additional movements arising from eNM S19 Measures, contributed to reducing delays in the European network at the level of between 150K and 200K minutes.



Airport ATFM delays

Airport ATFM delays in 2019 were generated at EPBY, EPKT, EPKK, EPPO, EPMO and EPWA airports, including ATC related delays exclusively for EPKT, EPKK, EPMO and EPWA airports. The value of airport ATFM delay indicator for Poland was higher than the set annual target, reaching the value of 0.39 min/ arr. in the analysed period (the annual target was 0.04 min/ arr.). The largest airport ATFM delays in 2019 were recorded at airports serving the agglomeration of Warsaw. Delays were primarily caused by the renovation of the runway at EPWA airport, which enforced the operation on only one runway, as well as the increase in air traffic - well above the forecasts for PSD RP2 - in a situation of simultaneous exhaustion of EPWA airport capacity, a significant number of ATFCM regulations in other EU countries causing unexpected traffic congestion in arrivals to EPWA beyond the declared capacity of EPWA airport as well as unfavourable weather conditions and structural and technical conditioning of TMA Warszawa.

Reasons for airport ATFM delays in EPWA

Source: EUROCONTROL/PRU, PANSA







Number of en-route flights at FIR Warszawa increased by over 40K compared to 2018. 912,455 movements were handled. Thus, Poland has maintained its position among the 10 fastest growing air transport markets in Europe in terms of the number of flight movements and its growth.

Largest terminal traffic flows, not including domestic flights, include mainly European routes (the top ten did not include any single destination from the outside of Europe). Germany opens the list of the most popular destinations, followed by Great Britain. Compared to 2018, the highest air traffic volume was recorded in traffic flows between Poland and Turkey (43.1%), Ukraine (28.7%), Greece (33.2%) and Austria (20.9%).









Number of IFR flights in individual months of 2018 and 2019

Source: EUROCONTROL/PRU, PANSA

Number of en-route flights and ATFM delays in 2009-2019 Source: EUROCONTROL/PRU, PANSA





Terminal traffic volume in 2018-2019 at individual airports

Source: EUROCONTROL/PRU, PANSA



Source: EUROCONTROL/PRU, PANSA







Number of en-route service units in individual months of 2019 and the dynamics of changes as compared to 2018

Source: EUROCONTROL/PRU, PANSA











Share of individual types of aircraft in the number of flights in 2019 (TOP10)

Source: PANSA

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Implementation of performance plan (RP2)





Air traffic

En-route air traffic

The number of en-route movements performed in Polish airspace in the last few years has been systematically growing, except for 2015, which recorded a decrease of -0.3% compared to 2014. Over the years 2015-2019, the number of movements increased by 30.5%, while comparing the data for 2014, an increase of 30% was recorded.





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CATEGORY	2015	2016	2017	2018	2019	CATEGORY	2015	2016	2017	2018	2019
Number of en-route flights (IFR)	699 454	754 702	792 720	871 791	912 455	En-route ATFM delays (min/flight)	0.18	0.39	0.11	0.25	0.12
% increase in the number of flights compared to previous year	-0.30%	7.90%	5.00%	10.00%	4.70%	target for a given year (min/flight)	0.26	0.23	0.23	0.23	0.23

Thanks to the actions taken by PANSA, the number of delays was systematically decreasing, despite the constantly growing air traffic. In the past five years, the value of the en-route delay indicator amounted to 0.22 min./flight. This value is lower than the KPA target for Poland, set at the level of 0.26 min/flight for 2015, and 0.23 min/flight for the years 2016-19, respectively.



Number of en-route flights and ATFM delays in 2015-2019

Source: PANSA

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Air traffic at most Polish airports has been growing from year to year. During the second reference period, terminal traffic increased by 40%. At the end of 2019 nearly 63,000 more arrivals were registered than in 2014, out of which 96% of all new airport movements were handled at the largest Polish airports.

Half of the new traffic generated in the years 2015-2019 was related to TMA Warszawa (Warsaw Chopin Airport (EPWA), Warsaw/Modlin Airport (EPMO)), in this 44% is the share of the EPWA airport.



CATEGORY	2015	2016	2017	2018	2019
Number of airport movements Poland (arrivals, IFR), including:	164 371	177 216	193 103	214 268	221 911
EPWA (arrivals, IFR)	70 016	76 842	85 456	93 558	97 062
Other airports (arrivals, IFR)	94 355	100 374	107 647	120 710	124 849
% increase in the number of airport movements compared to previous year	5.37%	7.81%	8.96%	10.96%	3.57%



In the years 2015-19, the airport ATFM delay indicator for Poland was 0.23 min/arr., including for EPWA 0.50 min/arr., and 0.03 min/arr. for other airports. The value of the airport ATFM delay indicator for Poland in 2019 amounted to 0.39 min/arr. (the annual target was 0.04 min/arr.) and was 0.07 min/arr. higher than in 2018 (0.32 min/arr.). The result worse than in 2018 was mainly due to the modernization of runways at the EPWA airport carried out in the period from March to June and in October 2019. Also delays generated by ATC (0.08 min/arr.) affected the size of delays. Delays generated at the EPWA airport had a huge impact on the total airport ATFM delays, amounting to 94%, of which delays caused by ATC accounted for 22%. In the "other airports" category, in 2019 the airport ATFM delay indicator amounted to 0.02 min/arr. (the annual reference value for this category is 0.00 min/arr.) and was 0.02 min/arr. lower than in 2018.



CATEGORY	2015	2016	2017	2018	2019
Airport ATFM delays Poland (min/arr.) including:	0.04	0.21	0.14	0.32	0.39
EPWA (min/arr.)	0.03	0.48	0.31	0.68	0.86
Other airports (min/arr.)	0.05	0.01	0.01	0.04	0.02
Target for a given year (min/arr.)	0.04	0.04	0.04	0.04	0.04



Number of airport movements and ATFM delays in the years 2015-2019

Source: PANSA

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Environmental protection

The environmental impact of air transport within the framework of performance efficiency scheme is monitored through the horizontal flight efficiency indicator, which corresponds to the difference between the length of the en-route part of the last filed flight plan trajectory and the corresponding portion of the great circle distance.

The target that was set at the BALTIC FAB level amounted to 1.36% for 2019 and has not been achieved. Its performance evolved to a level of 1.85%.

The value of the indicator depends largely on the traffic situation in FIR, including decisions made by airspace users aimed at optimizing their costs, i.e. selection of the cheapest route, and not necessarily the shortest one.

Horizontal flight efficiency indicator - HFE (Baltic FAB), 2015-2019

Source: PANSA





Cost-efficiency

A much higher increase in flights throughout the RP2 period is seen as compared to the SU



CATEGORY	2015	2016	2017	2018	2019
En-route service units (SU)	3 880 013	4 174 735	4 290 520	4 666 097	4 971 806
Planned value for a given year	4 362 840	4 544 000	4 299 929	4 419 000	4 560 000
Difference	-11.07%	-8.13%	-0.22%	5.59%	9.03%



In the years 2014-19, a faster increase in en-route flights (30.1%) was observed than in en-route service units (26.5%). However, since the second half of 2019, this trend has changed, i.e. the dynamics of the SU is higher than the dynamics of flights. This situation was largely affected by additional flights as part of traffic flows shifted to FIR Warszawa due to the NM initiative ("eNM/S19"). A large part of these movements is performed by means of heavy aircraft, which translates into the size of the SU.



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The number of SU-L in individual years of the second reference period was significantly higher compared to values planned in the Performance Plan (PP). The good results are due to high increases in the number of airport movements, mainly due to low-cost transport and long-haul routes operated mainly from to Warsaw Chopin Airport by wide-body aircraft.



CATEGORY	2015	2016	2017	2018	2019
Terminal service units Poland (SU-L), including:	166 155	182 241	204 425	234 431	246 281
EPWA (SU-L)	70 718	78 789	90 729	101 889	107 857
Other airports (SU-L)	95 437	103 452	113 696	132 542	138 424
Planned value for a given year	159 800	170 574	182 449	194 101	205 744
Difference	3.98%	6.84%	12.05%	20.78%	19.70%

Terminal service units in the years 2015-2019

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Source: PANSA







In RP2, for the area of cost-efficiency, also Determined Unit Cost (DUC) targets were set for en-route air navigation services and for terminal (airport) services.

Implementation of RP2 cost-efficiency targets (2015-19)¹

Source: PANSA

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PP I	RP2		2015	2016	2017	2018	2019
En routo cost officiency	PP RP2		115.89	113.22	152.36	151.72	134.62
Lin oute cost-enciency	Performance		126.57*	123.72*	147.27	141.01	129.14
	EPWA	PP RP2	602.82	577.57	454.61	430.01	392.78
Torminal cost officiancy		Performance	591.36	556.59	348.41	346.04	330.62
	Other	PP RP2	602.82	577.57	615.22	577.13	555.65
		Performance	591.36	556.59	543.96	545.66	578.36*

*target not achieved





At the end of 2019, the safety management effectiveness indicator (EoSM) in PANSA reached the level D within all five management areas (increases were recorded in all areas).

As part of the performance scheme, the level of Just Culture is expressed through a qualitative indicator. The Plan is missing the level of target to be achieved within this area expressed as value. The monitoring tool is a questionnaire prepared by the EASA. The Polish Air Navigation Services Agency in terms of applying the severity classification based on the risk analysis tool (RAT) methodology reached the level corresponding to the target set for 2019 already in 2018.

Level of safety management effectiveness (EoSM) in the years 2015-2019

Source: PANSA









PANSA's mission is to ensure safe and smooth flow of air traffic through effective airspace management. We are working to make it a dominant role in all areas of air traffic management and the provision of air services. Our employees are monitoring safety issues on an ongoing basis and assessing the related risks.

For the constant improvement of the safety management system, periodic tests of its maturity are carried out at PANSA (based on the EASA, CANSO and EUROCONTROL guidelines). The results of these tests make it possible to identify areas for improvement. This approach is of key importance for the development and deployment of new methods, tools and flow of information.

In our daily work as regards the SMS, we use tools that allow for quick and proactive identification of safety problems. We also place great emphasis on disseminating knowledge and building common awareness in terms of safety management in the aviation environment. Our approach to safety management is diverse and includes among other things:

- 1 promoting a comprehensive understanding of all dimensions of safety;
- 2 learning from incidents and accidents;
- 3 promoting the Just Culture principle (searching for causes and not the guilty of what has happened);
- 4 sharing data and best practice for the benefit of airspace users and the entire aviation community.





In 2019, out of the five safety management objectives, including: policy and objectives, risk management, ensuring safety, promoting safety and safety culture, four recorded an increase in results in the a.m. maturity test. As part of the monitoring of aviation incidents, PANSA applies the RAT (Risk Analysis Tool) method of assessing the severity of incidents, commonly adopted in Europe. According to ATM PANSA reports, no air accidents involving ATC units in which people would die were recorded in 2019. At the same time, a 10% increase in the number of reported incidents compared to the previous year was recorded, with a 19% increase in the total number of air movements. In 2019, 2,281 incidents were reported as compared to 2,071 in 2018, which may indicate the rise of culture of reporting in PANSA.

The results of investigating the reported incidents showed that in 2019 there were:

- 1 2 aviation incidents with the severity class "A" (serious incident involving ATS units);
- 2 33 aviation incidents with severity class "B" (main incident involving ATS units);
- **3** 90 aviation incidents with the severity class "C" (significant incident involving ATS units).
- In 2019, also a change in the frequency of individual types of events was recorded:
- 1 Runway incursion increase by 1.17% (SPI RI/10,000 ops);
- 2 Airspace Violation decrease by 37.19% (SPI Als/100,000 ops);
- 3 Violation of separation minima a decrease by 4.78% (SPI SMI/100,000 ops).
- In 2019, 819 technical incidents were registered during air traffic management (ATM), which, compared to 1,054 in 2018, accounts for a decrease of 22%, and these include:
- 1 air incident with the severity class "AA";
- 2 1 air incident with the severity class "A";
- 3 1 incident with the severity class "B;
- [4] 3 incidents with the severity class "C".

Thanks to cooperation with our partners within the CANSO and EUROCONTROL we share our specialist knowledge and experience to assist in deploying the single European safety regulatory framework. Thus, we are contributing to a safer evolution of the European sky.



ARCC Aeronautical Rescue

In accordance with the Convention on International Civil Aviation and the Agreement between the Government of the Republic of Poland and the Government of the Republic of Lithuania on cooperation in maritime and aeronautical search and rescue operations, a meeting of representatives of the ASAR services from Lithuania and Poland was held in Vilnius in 2019, with the aim of exchanging experiences on the provision of ASAR service in both countries. In Lithuania, search and rescue activities are coordinated by the aeronautical search and rescue coordination centre, which is a part of the Lithuanian ANSP.

In 2019 in Doha, during the 33rd Session of the Cospas-Sarsat Joint Committee (JC-33) discussions on issues related to the operational and technical development of individual elements making up the Cospas-Sarsat system were held. ARCC located in PANSA performs the function of SPOC - Search and Rescue Point of Contact, so it is the main element operatively cooperating with the Cospas-Sarsat system.

Within the framework of the RENEGADE/SAREX-19 exercise, two episodes with the participation of PANSA coordinators took place. They were aimed at checking in practice the operation of all elements of the SAR service in Poland. One of the main assumptions was to verify the ARCC operational capabilities and cooperation with other services such as the State Fire Service, the Police, the Tatra Volunteer Rescue Service, the Polish Red Cross, and the Territorial Defence Force.

In 2019, ARCC staff coordinated: 34 actions with the use of ASAR resources, including medical transport (13), search actions (14), actions for non-aircraft accidents (1), LZPR training actions - Aeronautical Search and Rescue Teams (6), NZPR training actions - On-ground Search and Rescue Team. Also 157 Cospas-Sarsat system messages were coordinated, as well as 1,585 tests of emergency transmitters.





Infrastructure, communication, navigation and surveillance





The investments in the CNS infrastructure in Poland are a response to challenges arising from the growing air traffic in the Polish sky. Its development and its proper technical condition is a priority action, as it affects directly and indirectly the ability of achieving goals, which entails not only improvement of quality and safety of air traffic, but also increases the capacity and throughput of Polish airspace, thus increasing the efficiency of airspace management.

Within the COM domain, expansion was continued of radiocommunication network aimed at enabling the flexible management of the airspace sectoral configuration. It will provide the basis for the future introduction of the next, third layer of airspace sectorization. As part of the investment in the COM infrastructure, construction was completed and a permit for the use of 9 radiocommunication sites was obtained. PANSA's involvement in the development of the communication domain also had an international dimension.

In 2019, PANSA actively participated in works related to migration of ground-ground connections between the ANSP to the new pan-European data transmission network called NewPENS. NewPENS access point in PANSA was launched. In addition, most of connections to be transferred were migrated during the entire year.

In the NAV domain, activities aimed at ensuring the optimal coverage by navigation signal were carried out, through installation of new devices and modernization of existing ones. These activities translate into improving the RNAV 1 radio navigation coverage in individual TMAs, and ensuring a high degree of redundancy of the radio navigation signal in the terminal and en-route space. They also allow to optimize the flight procedures in use. As part of the investment in the NAV infrastructure, 2 DVOR/DME were deployed for operational use and the construction of 2 DME location beacons was started. Also the ILS DME system at Gdańsk Airport was adapted to support Category III movements, which will be deployed in the nearest future.

Investments in the SUR domain allow ensuring the continuity of radar coverage for the ACC, allow for multiplication of coverage at low altitudes, successive increase of mode S coverage and future deployment of the ADS-B technology. In May 2019, four MSSR mode S radar centres were put to use in the vicinity of Tarnobrzeg, Rzeszów, Łomża and Szczecinek.



Infrastructure, communication, avigation and surveillance

In October 2019, a new 46-meter aerodrome control tower was launched - the highest in Poland - at the airport in Katowice.

Main investment projects implemented in 2019

Source: PANSA

PROJECT NAME	DOMAIN	CAPEX 2019 (in PLN million)		
Pegasus ATM system and supporting systems	ATM	16.3		
Air traffic control towers	Buildings / TWR	18.3		
Emergency infrastructure	ATM	104.4		
Radiocommunication sites	СОМ	18.2		
Radar systems	SUR	5.5		

Capital expenditure on the modernization and construction of modern CNS/ATM and facility infrastructure incurred by PANSA in 2019 increased by over PLN 40 million compared to 2018. In relation to the Investment Plan for the years 2019-2024, the investment plan implementation degree in financial terms amounted to 81.86%.





2019



One of the most important strategic goals of the Polish Air Navigation Services Agency is caring about the natural environment. In 2019, the Agency was deploying methods to limit the negative impact of flights on the environment, and thus, strived to achieve the lowest possible value of the environmental indicator, covered by the target set in PSD RP2.

Activities in the area of environmental protection are multi-layered and have already brought tangible results. In order to reduce noise and CO₂ emissions, A-CDM deployed locally at the Chopin Airport in Warsaw was used. The Free Route Airspace (FRA) operational concept operating since February 28, 2019, allows to plan a flight route through our airspace, directly between the defined navigation points located on the FIR boundary, without the need to use the existing route network.

It is estimated that during the entire 2019, for 870,220 movements at FIR EPWW, the savings from the use of FRA could have amounted to:

- in terms of shortening the operation: 6,608,451 NM;
- in terms of operation time reduction: 939,837 minutes;
- in terms of fuel consumption reduction: 23,929,397 kg;
- in terms of harmful substances emission reduction: 75,599,927 kg CO₂ and 207,277kg NO_x.

In 2019, activities to allow aircraft pilots to use CDA/CCO techniques were continued:

- in EPWA: 40,903 CDO landings were completed, which accounts for 42.38% of all movements. Reduction of fuel consumption by 1,883 tons and CO₂ emissions by 5,931 tons;
- in EPKK: 15,449 CDO landings were completed, which accounts for 49.38% of all movements. Reduction of fuel consumption by 711 tons and CO₂ emissions by 2,240 tons;
- in EPGD: 11,547 CDA landings were completed, which accounts for 51.68% of all movements. Reduction of fuel consumption by 532 tons and CO₂ emissions by 1,674 tons.

Thanks to actions aimed at shortening the length of arrivals and departures to/from Polish airports, the following results were achieved::

- for EPWA: average shortening of movements by 34.5 NM, reduction of fuel consumption by 7 403 tons and CO₂ emissions by 23 320 tons;
- for EPKK: average shortening of movements by 30.3 NM, reduction of fuel consumption by 1,959 tons and CO₂ emissions by 6,170 tons;
- for EPKT: average shortening of movements by 23.6 NM, reduction of fuel consumption by 886 tons and CO₂ emissions by 2,790 tons;
- for EPPO: average shortening of movements by 9.4 NM, reduction of fuel consumption by 167 tons and CO₂ emissions by 525 tons.





CENTER



The Polish Air Navigation Services Agency is the only institution in Poland that prepares civil air traffic controllers (ATC), staff and candidates for work in air traffic services (ATS), and trains staff in the aeronautical sector. The main task of the ATC Training Centre "OSPA" of the Polish Air Navigation Services Agency is conducting professional training for candidates for air traffic controllers and air information service informers, dedicated to work in air traffic services, as well as refresher training and those aimed at retaining competences of both a.m. professional groups. The OSPA simulators allow to conduct practical training that perfectly reflects the operating environment, equipment and the ATM Pegasus_21 system. The centre is also at a disposal of a modern simulator - the aerodrome control tower (TWR) with 360-degree imaging and four airport control towers with 120-degree imaging. In 2019, OSPA completed the trainings planned for licensed personnel and with qualifications certificates in 98.9%.

With the aim of improving the quality of training courses conducted at OSPA, the following activities were carried out:

- modernization of the BEST simulator software;
- 4 independent TWR stations were launched;
- TWR stations were additionally fitted with the EFES system;
- lecture halls and language laboratory were fitted with a Multimedia Didactic System.

In June 2019, OSPA was the organizer of the BEST World Simulator Users' Conference, attended by representatives of 35 countries. The involvement of OJT instructors in the training process makes the entire KRL training process is completed in 20-22 months on average, which is one of the shortest duration in Europe. Polish air traffic controllers are among the most productive as compared to the Central Europe comparison group and achieve a productivity index above the average of the countries included in EUROCONTROL.



Human { resources

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Human ///

The Polish Air Navigation Services Agency was awarded in the 9th edition of the "Trustworthy Employer" Competition.

The main objective of the Competition is to promote among the employers responsible employment and social policy in line with European standards.

The Competition was organized under the honorary patronage of, among others, the Ministry of Family, Labour and Social Policy, the Ministry of Energy and the Ministry of Investment and Development.

PANSA won in the "Safety" category. The victory was ensured by the Just Culture Policy - policy of fair treatment, developed jointly with community representation. PANSA is the first aeronautical institution in Poland to introduce the a.m. policy. The objective of Just Culture is to build a space of employees' trust and encourage people to report safety-related incidents so that one can directly respond to situations that may affect safety.

Pracodawca Godny Zaufania

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IX EDYCIA KONKURSU O TYTUŁ "PRACODAWCA GODNY ZAUFANIA" TYTUŁ "PRACODAWCA GODNY ZAUFANIA" w kategorii Bezpieczeństwo Otrzymuje

Polska Agencja Żeglugi Powietrzne Warszawa, 10 patrizie







Educational structure of **PANSA staff** (as of December 31, 2019) 📝

Source: PANSA





Employment in full-time jobs and in persons as of December 31, 2019 compared to the employment as of December 31, 2018

Source: PANSA

		EMPLOYMENT			EMPLO		
	PRU CATEGORY	IN FTE DIFFER		DIFFERENCE	IN PERSONS		DIFFERENCE
		31.12.2018	31.12.2019		31.12.2018	31.12.2019	
		1	2	3 (2-1)	4	5	6 (5-4)
1	ATCO in OPS	569.5	583.13	13.63	579	591	12
2	ATCO on Other Duties	31.63	30	-1.63	32	30	-2
3	Ab Initio Trainee Controller	58	93	35	58	93	35
4	On-the-Job Training (OJT)	28.75	42.63	13.88	29	43	14
5	ATC assistants	54	48.5	-5.5	54	49	-5
6	OPS support non-ATCOs	317.35	306.45	-10.9	319	309	-10
7A	Technical support staff for operational maintenance, monitoring and control	343	329	-14	343	329	-14
7B	Technical support staff for planning & development	44.83	51.63	6.8	47	54	7
8	Administration, e.g. - accounting, - human resources, etc.	367.85	369.15	1.3	372	373	1
9	Staff for ancillary services, e.g. - MET, - AIS, - SAR	104.25	107.25	3	105	108	3
	TOTAL	1,919.16	1,960.73	41.58	1,938	1979	41

Strenghtening of PANSA national and international position

2019

The international cooperation of the Polish Air Navigation Services Agency is multi-layered. Our partners are both equivalent institutions from other countries within the framework of bilateral operational cooperation, as well as global associations - CANSO, ICAO, NATO, and also European institutions: the European Commission, EASA, EUROCONTROL, SESAR JU, SESAR DM and grassroots associations of air navigation agencies such as the prestigious A6 Alliance, B4 Consortium, Gate One Platform.



PANSA at WAC 2019

In 2019 PANSA participated for the first time as an exhibitor at World ATM Congress 2019, which is the world's largest air traffic management industry event. This was the beginning of activities resulting from the Agency's new strategy focusing on commercialisation of developed solutions. In the official opening of the Polish exhibition at the World ATM Congress 2019, PANSA President Janusz Janiszewski was accompanied by: Director General DG Move (European Comission) Henrik Hololei, Ambassador of Poland in the Kingdom of Spain Marzenna Adamczyk, President of Polish Civil Aviation Authority (ULC) Piotr Samson and Plenipotentiary of the Minister of Infrastructure for the UAV Małgorzata Darowska. Ambassador Adamczyk emphasised that the presence of Polish companies and organisations at the Congress in the Spanish capital, which is one of the most important congress centres in Europe, is a good idea to show up on a European scale.

The ribbon cutting ceremony was also an introduction to the big event - the debate on the role of Central and Eastern Europe in air traffic management, organized together with our Baltic FAB Lithuanian partner Oro Navigacija. The discussion panel was attended by excellent, international aviation industry experts, including PhD Christine Berg representing European Commission, Oro Navigacija President Mindaugas Gustys, representatives of Polish Ministry of Infrastructure, as well as institutions and companies such as IATA, WizzAir and Romatsa.

During the course of the Congress, panels and presentations on unmanned aerial vehicles traffic management, runways safety, airspace management and innovative NaviHub concept were organized at the PANSA's exposition. Projects developed under the SESAR program - Single European Sky ATM Research - were also demonstrated.

Thanks to the simulators, visitors were also able to familiarise themselves with the operation of projects developed in cooperation as well as proprietary PANSA systems: PANDORA, PANSA UTM, CAT, and RWYCC. Specialists and experts have presented the performance of all products and services offered by the Agency. A part of exhibition was also the exhibition on the occasion of the centenary of the Polish Aero Club.

The PANSA's business-oriented attitude presented by the active promotion of own products and services was appreciated in the media coverage. The Agency's participation in WAC2019 was also a platform for number of significant meetings and discussions with the leading aviation industry experts.

2019

NHADON NHADON



Research and development

PANSA strongly emphasizes its presence in European research and development projects. After the completion of works performed as part of the Wave 1, the Agency will proceed to implementing the next stage of work in the SESAR 2020 Program, as the so-called Active contributor.

PANSA continued in 2019 its activities, covering in particular:

- implementation of Research and Innovation Actions (RIA). i.e. tasks assigned to PANSA in individual grant agreements of the H2020-SESAR-2015-2 and H2020-SESAR-2019-1 SIU competitions;
- continuation of activities as part of internal research and development projects to achieve the goals of SESAR 2020 Solutions;
- cooperation with PANSA's partners (local and foreign) in the SESAR 2020 Program, on the basis of signed Cooperation Agreements, within the scope of joint implementation of RIA tasks in individual SESAR 2020 Solutions;
- joint actions with partners as part of project consortia on the basis of partnerships established in individual SESAR 2020 projects;
- o preparation to implementing the commissioned research and development works, within the scope of own competences, for the benefit of third parties.

All the works performed by the Agency in individual SESAR 2020 Solutions are performed in the formula of research and development projects, including:

- research (simulations, exercises, studies, analyses) and development activities (introducing changes and improvements to processes and products);
- creating products that are relevant for R&D works in the form of documents/records/reports to documents (deliverable) arising from the ATM concept validation methodology (E-OCVM³): SPR⁴ - INTEROP⁵ /OSED⁶, TS⁷ - IRS⁸, CBA⁹, and arising from implementation teaching methods in SESAR 2020¹⁰ VALP¹¹, AN¹², VALR¹³ Programs;
- supporting the development of Agency's strategic areas by financing development tasks in PANSA programs by means of the Horizon 2020 instrument;
- xpanding the catalogue of Agency's services with commissioned R&D works.
- European Operational Concept Validation Methodology Operational, Safety and Performance Requirements Standard Interoperability Standard
- **Operational Service and Environment Definition**

- Technical Specification
- Interface Requirements Specification
- Cost-Benefit Analysis
- SESAR Execution Framework
- ¹¹ Validation Plan
- ¹² Availability Note
- ¹³ Validation Report



PANSA also performed tasks within the scope of project roles assigned to the Agency in individual SESAR 2020 Solutions, including the SESAR Solution leader in SESAR Solutions 2020 (Wave 1: PJ.02-06 and PJ.06-02, Wave 2 PJ.02-W2-25).

Parallel to implementing the RIA tasks in the SESAR 2020 Wave 1 projects and the Wave 2 launched on December 1, 2019, where the Agency became a participant in 8 Industrial Research (IR) projects and 2 Transversal (TA) projects in Wave 2 of the SESAR 2020 Program, PANSA, along with other members of the SESAR Joint Undertaking and the Agency's partners, was actively participating in the process of preparing Proposals for the new Horizon 2020 projects covering:

- Innovation Action (IA) and Research and Innovation Action (RIA) projects;
- process of defining the projects of the SESAR 2020 Wave 3 Program, to be launched, in accordance with SPD 2019-2021, in January 2021.

PANSA also continued the function of chairing the B4 Strategy Team. As a result of efforts undertaken in 2019, the Agency submitted offers for a number of projects of the exploratory research nature. As a result of the assessment made, the Agency will implement one of the projects as a co-operator of Indra Sistemas, at the same time meeting PANSA's need for deliverables that can be used in the ATM system in the future.





SESAR Deployment

In 2019 PANSA continued its participation in the SESAR program deployment process, both as the Implementing Partner and the founding member of the SESAR Deployment Alliance (SDA).¹⁴

As the Implementing Partner, PANSA continued the implementation of deployment projects that had started in previous years with the use of EU co-financing under the calls for proposals for project funding, i.e. CEF Transport Calls for Proposals.

As the member of the SDA, Agency's representatives participated in the governing bodies of this institution: SDA General Meeting (General Meeting of Members, GMoM), and at the beginning of 2019, PANSA's representative was appointed the chairman of the SDA Board of Directors. While participating in the a.m. SDA management bodies, Agency's representatives had direct access to financial and organizational issues of the SDM, thus having and exercising a real influence on the functioning of this institution.

In addition, in 2019, in order to perform the ongoing SDM tasks arising from the Commission Implementing Regulation (EU) No 409/2013, PANSA dedicated two of its employees to perform the functions of ANSPs Liaison Officer and Performance Expert.

In 2019, PANSA participated in works of the Stakeholders Consultation Platform (SCP) under the aegis of the SDM, taking part in the SESAR Deployment Program consultations. While participating in the SCP, PANSA represented the ANSPs of the Baltic FAB.

¹⁴ In December 2014, based on the Commission Implementing Regulation (EU) No. 409/2013, the SESAR Deployment Alliance consortium was established. From January 2018, the consortium was transformed into an entity with legal personality, SESAR Deployment Alliance (Association Internationale Sans But Lucratif (AISBL)).



AR



Projects associated with the implementation of the SESAR/PCP

Program co-financed from EU funds under the CEF Transport Call for Proposals, in which PANSA participates as a leader or as a contributor.

Source: PANSA

Project name	CEF	Planned project budget (in Euro)	Granted amount of funding (in Euro)
1st part of the upgrade of the P_21 PEGASUS system to SESAR functionalities - Test and Validation Platform (project completed)	CEF2014	6 600 000	3 300 000
LAN network upgrade	CEF2015	2 009 500	1 708 075
The ECG Communication System upgrade	CEF2015	1 567 500	1 332 375
ATM System Upgrade towards Free Route Airspace (project completed)	CEF2016	5 880 000	2 528 400
iTEC Tests, Validation and Planning	CEF2016	1 716 360	738 035
Implementation of Data Link Service for the ATM in FIR Warsaw (project completed)	CEF2016	5 247 102	2 256 254
Deploy SWIM Governance	CEF2016	90 400	38 872
NewPENS Stakeholders contribution for the procurement and deployment of NewPENS	CEF2016	145 900	62 737
DLS Implementation Project - Path 2	CEF2016	148 805	63 986
General Call - DLS Implementation Project - Path 1 "Ground" stakeholders (project completed)	CEF2016	142 501	61 275
European Deployment Roadmap for Flight Object Interoperability (project completed)	CEF2016	25 000	10 750
Local traffic complexity management	CEF2017	1 694 000	847 000
SWIM Common PKI and policies & procedures for establishing a trust framework	CEF2017	101 515	50 758
IP1 DLS European Target Solution assessment	CEF2017	139 600	69 800
IOP Foundation – new proposal (under evaluation)	CEF2019	-	-
SUM		25 508 183	13 068 316



A6 Group

The Agency continued in 2019 its participation in all three types of activities of the A6 Alliance, bringing together the largest European providers of air navigation services (among others from Germany, Great Britain, France, Spain, Italy), i.e.:

- coordination of work in the SESAR Joint Undertaking between the ANSPs;
- coordination of work in the SESAR Deployment Manager structures between the ANSPs;
- common actions within the sphere of European aviation policy/changes to the European ATM system.

In 2019, PANSA was the leader of two consortia and was coordinating them both internally and on the forum of the A6 Strategy Board:

- PHRC (with HungaroControl and ROMATSA) for the needs of SESAR Deployment Manager;
- B4 (with ANS Czech Republic, Slovak LPS and Lithuanian Oro Navigacija) for the needs of SESAR Joint Undertaking.

In 2019, a representative of PANSA performed the duties of the A6 Strategy Board's Chairman, coordinating the issues of A6 activities, inter alia in the area of changes taking place in European aviation policy and legislation.

The Agency was also actively participating in creating the "Joint stakeholders declaration on the Future of SES", which was signed by representatives of 21 European aeronautical institutions in September 2019.

At the end of 2019, the President of PANSA was elected chairman of the A6 Steering Board, the most important governing body of the alliance, taking over his duties from the ENAV.





Baltic FAB

PANSA was actively participating in internal meetings of the Baltic FAB (Functional Airspace Block), created by Poland with Lithuania, and on the InterFAB forum, which is a platform for exchanging experiences between all European airspace blocks.

As part of the activity within the Baltic FAB, the following events were organized:

- meeting of the Baltic FAB Management Board in Vilnius in June 2019, where the status of work was summarized and the directions of actions for the coming years and the scope of activity on the interFAB forum were set up;
- three meetings of the presidents of PANSA and Oro Navigacija (in January, July and November) to discuss joint operational, technological and R&D projects, as well as current operational issues. Additionally, the meeting in November in Vilnius allowed the Agency's representatives to get acquainted with the iTEC system newly deployed in Oro Navigacija.

As part of interFAB in 2019, the following was held:

- two Communication Workshop meetings, organized in January by FABEC and in September by Danube FAB. These meetings were aimed at exchanging experiences on the issue of FABs' public relations, their image and defining the directions of joint initiatives;
- two Performance Workshop meetings, organized in January in Rome by BLUEMED FAB and in October by BalticFAB in Vilnius. These meetings were devoted to exchanging experiences in the field of effectiveness of the ATM network as well as objectives and plans for the third reference period (RP3);
- The seminar devoted to the role of fragmentation in managing the European air traffic, organized by FABCE and FABEC in May.





GATE ONE

PANSA continued in 2019 its activity within the framework of the GATE ONE platform, aimed at exchanging opinions and coordinating issues of strategic importance at the regional level, as well as representing common stance in relevant European forums.

The GATE ONE activities were focused, among others, on updating the agreement between members and the Terms of Reference of management bodies and on the analysis of the most important, from the point of view of our region, initiatives and proposals, including the Airspace Architecture Study.



PANSA continued in 2019 its cooperation with other ANSPs in CANSO structures, implementing tasks assigned to individual work and task groups, aimed at developing and presenting a common stance of ANSPs towards the most important topics and challenges that were set for the ATM community in 2019. PANSA's representatives also participated in meetings organized within the framework of CANSO's cooperation with other organizations and institutions.

Works within the framework of CANSO Europe focused, inter alia, on such issues as:

- preparation of assumptions and joint development of CANSO Europe Vision 2035 as well as translating these assumptions into relevant actions;
- participation in preparing the Wise Persons Group Report and resulting recommendations;
- participation in developing the Airspace Architecture Study Transition Plan;
- active support of air traffic management network functions through a significant contribution to NM summer measures;
- involvement in developing new Summer Measures for 2020;
- participation in discussions on future shape of Single European Sky, which resulted in the signing of a joint declaration on the future shape of the SES (Joint stakeholders declaration on the Future of the SES);
- participation in promoting the Social Dialogue at the European level in cooperation with the European Social Partners and the European Commission, through commencing the work on the Human & Social Dimension Roadmap, among others;
- participation in crating the European Sustainable Aviation Roadmap, devoted to environmental issues.

PANSA was actively utilising the CANSO forum when formulating and providing its own opinions as regards draft legal acts on civil aviation.

CANSO



Cooperation with countries from the outside of the EU

Within the scope of bilateral contacts at the operational level, PANSA actively cooperates with institutions providing air navigation services, aimed at optimizing the flow of air traffic within the region, among other things. As part of these contacts:

- a meeting was held in February 2019 in Kiev, with UkSATSE, the Ukrainian ANSP, regarding issues of airspace management, technical matters and exchange of good practices;
- meetings were held in March and December 2019, with the Russian ANSP, FSUE State ATM Corporation, aimed at improving the prediction of air traffic from the territory of the Russian Federation.

iTEC consortium

PANSA continued its activity in 2019 as part of the iTEC Collaboration industrial consortium on the basis of partnership agreements for the joint development of the ATM system, entered into in 2017 with DFS, NATS, ENAIRE, LVNL, Avinor and Oro Navigacija. Further agreements on the production and deployment of IOP were developed and signed.

Acting within the framework of the iTEC DFS System Group (DSG), PANSA initiated the conclusion by DSG of an agreement to conduct an efficiency study of the entire iTEC Collaboration.









UTM System and U-Space Program

PansaUTM is a concept of digital coordination of flights of unmanned aerial vehicles and management of applications and approvals for flights in Polish airspace. It is composed of PANSA's proprietary operational solutions and a systemic part provided by technological partners - HAWK-E Sp. z o.o. and DroneRadar Sp. z o.o.

The functionalities included in the system meet the basic needs as regards the implementation of the UAV flight coordination process and the management of flight applications and approval. In 2019, PANSA carried out the process of accreditation of the PansaUTM system in version 1.1, and testing as well as training process aimed at operational deployment of this tool in TWR and FIS bodies was performed.

The activities related to system accreditation in version 1.2 started in parallel - aimed at introducing an additional function of automatic approvals that will allow regulating the workload of operational staff. Both tasks were implemented on the basis of an agreement between PANSA and the system provider - HAWK-E.

The PansaUTM system has numerous functionalities:

- management of basic information required for flight coordination;
- functionalities related to the preparation of the UAV operator to the mission;
- functionalities to support tactical UAV flights.





Unmanned Aerial Vehicles (UAVs)

In 2019, 1,527 UAV flight conditions within the operator's line of sight (VLOS) in CTR zones were issued. Within the scope of UAV BVLOS flights with a limit of 25 kg and AGL (Above Ground Level) altitude of up to 120m, procedures for handling this type of flights (also H24 (24h/day) in the case of operational flights) were introduced and 234 navigation messages with BVLOS flight regions were coordinated and published.

24 regions of BVLOS flights made as continuous movements were introduced to the AIP Polska aeronautical publication. In order to secure BVLOS flights failing to meet the requirements described in the regulation, 13 temporary TRA zones and 7 R or EA/ROL zones (Exercise Area/ Flight Limitation Zone) were published. New simplified procedures for UAV VLOS flights were additionally developed and introduced in all nine CTRs.





COMMON AIRSPACE



The CAT system allows for the acceptance and verification of structure reservations, and also streamlines the process of creating and publishing the Airspace Use Plan (AUP) - one of the key aeronautical documents used by users of the Polish sky. The CAT system allows for efficient management of structures in accordance with the AFUA concept (Advanced Flexible Use of Airspace), at the pre-tactical level and in real time - their activation, deactivation or change of altitude parameters. The CAT system works closely with the Network Manager - the European air traffic management system, and thanks to the B2B Web Services connection, it automatically shares all information regarding the activity of structures included in AUP.

The CAT system greatly facilitates the work of airspace managers and users. Thanks to a modern, generally accessible web interface called Collaboration Human Machine Interface, anyone using the PANSA website can see all current and planned structures, even in the long run, in the form of a chart, and obtain information about them. It is a safe, comprehensive, flexible, consistent solution, open to data exchange with other systems, used operationally by air traffic services (ATS): air traffic controllers (ATC), and flight information service (FIS), and since 2005 by the AMC PANSA. The CAT system has been used by the Polish Air Force since 2008.



PANDORA

PANDORA is a system designed for displaying aeronautical information such as: maps, meteorological data, frequencies, photographs and aircraft technical data, among others. The PANDORA system supports air traffic controllers and other operational staff. The PANDORA system provides information in real time, thanks to its own internal database, while giving an opportunity to work with other systems and utilizing their external sources of information. The PANDORA as a system designed and used by an airspace manager is a (cyber)safe and modular solution for civil and military airspace managers. The PANDORA system's architecture allows for its full or partial deployment, in accordance with current and future requirements and needs of users. The PANDORA system can be adapted in terms of language and changing requirements (e.g. of the SESAR Program). At the same time, the PANDORA system is consistent with the existing data protection regulations (e.g. GDPR) and compatible with the existing ATM solutions used by civil and military entities in charge of airspace and air traffic management (e.g. CAT system for real-time airspace structures management and PansaUTM system for coordination of unmanned aerial vehicles (UAV) and digital management of requests and approvals for flights in the sky).





A-CDM TERMINUS

Developed together with the Chopin Airport in Warsaw, the A-CDM TERMINUS system is a CDM system developed by PANSA as an airspace management entity, which is a (cyber)safe and modular solution also for other stakeholders. The architecture of the TERMINUS generator allows for its full deployment as an A-CDM system or partial deployment in the form of the Advanced ATC Tower system, in accordance with current and future requirements and needs of users, and also for the adaptation to functioning at airports with any configuration of the manoeuvring field. At the same time, the A-CDM TERMINUS system is compatible with existing ATM solutions used by civil and military entities in charge of airspace and air traffic management (e.g. the EFES electronic flight progress strips system, the AMAN system for aircraft arrival management in approach control, the PANDORA system for displaying aeronautical information, or the CAT system for managing airspace structures in real time).

The A-CDM TERMINUS system allows planning and managing the traffic situation at the airport well in advance. The A-CDM as a concept and the TERMINUS as a TSAT time generator (Target Startup Approval Time - engine start-up time) allow forecasting and flow of information regarding aircraft servicing within the area of airport (landing, completion of ground handling, take-off). Close cooperation of all partners supported by this information contributes to the improvement of the whole process, and thus translates into operational, financial and environmental gains.

The A-CDM system signifies the cooperation of key partners in air movements within the airport. It covers such stages as ground handling and joint forecasting, planning and determining the optimal and precise times for starting aircraft engines. The TSAT is transferred to the Network Manager B2B Web Services - European air traffic management system, to which the A-CDM TERMINUS system is connected. Entering correct data regarding the actual and forecasted traffic situation improves the proper management and regulation of air traffic flow on directions leading to and from the airport. The A-CDM TERMINUS system is a safe, comprehensive, flexible, consistent and open solution that has been deployed at the largest Polish Airport - Chopin Airport in Warsaw.



The Polish Air Navigation Services Agency has many years of experience and knowledge of how important for the safe management of air traffic is to precisely process the air traffic data included, among others, in flight plans. Currently, air traffic management systems operate on the basis of data from multiple sources, both civil and military. Moreover, this data must be processed and completed without errors and delays. In order to meet these criteria, PANSA is in the process of developing the proprietary TRAFFIC system (TRack Adviser for Flight Information Concerns).

TRAFFIC

The TRAFFIC system will be responsible for processing and validating operational data contained in flight plans before sending them to air traffic management systems. The process mentioned will be carried out in both the pre-tactical and tactical flight plan processing phases.

The TRAFFIC system is a solution to allow PANSA meeting the challenges generated by the growing air traffic in a smooth and user-friendly manner. At the same time, the TRAFFIC system is compatible with the existing ATM solutions used by entities in charge of airspace and air traffic management (e.g. the CAT system for real-time airspace structure management).





Aeronautical Inspection

PANSA is responsible for the proper operation of approximately 150 ground-based air traffic safety devices and the validation of instrumental aeronautical procedures in Poland. The Aeronautical Inspection operating in PANSA has been performing control and measurement flights since 1963. The PANSA Aeronautical Inspection uses Beechcraft King Air 350 and L-410 UVP-E 15 "Turbolet" control and measurement planes, which are equipped with AD-AFIS-130 systems that analyse in real time. As the only one in Poland, it checks the emerging and already existing instrumental flight procedures - conventional and area navigation (RNAV) based on the DME-DME radio range finder and global satellite navigation systems (GNSS)

The scope of services provided as part of the Aeronautical Inspection includes:

- 1 Control and measurements of ground-based radio navigation systems;
- 2 Control and measurements of satellite radio navigation systems:
- a non-precision approach procedures (NPAs) as part of the support system based on additional functionality of on-board equipment (ABAS);
- b augmentation system based on additional satellite signals (SBAS);
- c validation of flight procedures according to instrument indications;
- 3 Control and measurements of surveillance systems.

Aeronautical Publications

One of the bodies of the Polish Air Navigation Services Agency is the Aeronautical Information Service (AIS). The AIS Polska is responsible for providing aeronautical data and information required to ensure safety, regularity and efficiency of air navigation in FIR Warszawa. To this end, the AIS Polska prepares aeronautical information products, which include:

- Aeronautical Information Publication (AIP), including AIP Amendments and Supplements;
- Aeronautical Information Circular (AIC);
- Aeronautical maps;
- NOTAM messages;
- Digital data sets.

In 2019, 9,235 copies of the ICAO Polish Aviation Chart 1 were sold, in 1:500,000 scale, available in three paper and one digital versions (DVD or SFTP). The Integrated Web Briefing (IWB) software for flight planning and sharing aeronautical information was deployed operationally, thus meeting the requirements of 15 ICAO / PANS-AIM (EU 2017/373 PART-AIS) for the Air Traffic Services Reporting Office. The safety of airspace users depends on the work of the Aeronautical Information Management Service, the management of aeronautical information in digital form based on the AIXM data exchange model (Aeronautical Information Exchange Model) and the quality of these services.



The Polish Air Navigation Services Agency has at its disposal variety of data resources

RADAR DATA



by providing surveillance service, PANSA conducts ongoing monitoring of aircraft traffic within the Polish airspace. Based on the information recorded by surveillance systems, hyperbolic systems, aircraft information dependent systems and data from flight plans entered into them, air traffic services have a complete picture of traffic situation in the Polish sky.

METEO DATA



PANSA is the owner and operator of an automatic meteorological parameters measurement system at Warsaw Chopin Airport, which records such parameters as: RVR, cloud base altitude, wind, pressure, and temperature. The Agency also has the archived weather data that can be used, for example, for the purpose of climate research.



AERONAUTICAL DATA

PANSA is able to generate data and statistics regarding flights performed within Polish airspace and at national airports.





Consulting services provided by PANSA are customized for Clients and conducted by experienced specialists with many years of experience from working in the Agency and other aeronautical institutions. The catalogue of consulting services is constantly expanding so as to successfully fulfil the tasks and achieve the goals set by our customers.

We currently offer consulting services in the following areas, among others:

- airspace design;
- design, validation and operational maintenance of instrument flight procedures;
- drone workshops (UAV);
- integration and management of unmanned aerial vehicles (UAV);
- anti-drone systems law and technology, etc.





2019

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Basis for preparation of the financial statements

The Agency, in accordance with the Act of 8 December 2006 on the Polish Air Navigation Services Agency (Journal of Laws of 2017, item 1967 as amended), prepares financial statements for statutory purposes in accordance with IFRS as approved by the EU.

Measurement currency and financial statement currency

The measurement currency of the Agency and the reporting currency is the Polish zloty (PLN), and all values, unless otherwise indicated, are presented in thousands of Polish zlotys ('000 PLN).

Principles of financial management

The Agency, in accordance with the PANSA Act, conducts independent financial management, taking into account EU law, international agreements and EUROCONTROL provisions regarding the air navigation charges system, including the principles of determining and collecting charges and issuing invoices by CRCO.

Pursuant to the Act of 8 December 2006 on the Polish Air Navigation Services Agency (Journal of Laws of 2017, item 1967 as amended), the Agency's net loss for the financial year is covered by the reserve fund. If the net loss is higher than the reserve fund, the part of the loss not covered by the reserve fund is covered by the initial fund. Whereas the Agency's net profit for the financial year is allocated to the reserve fund or other funds created on the basis of separate provisions.

Operating expenses are covered from generated revenues. The sources of revenues are: revenues from navigation services provided, interest on bank deposits, earmarked subsidy from the state budget, other revenues including funds obtained as non-returnable assistance.

The main source of generated sales revenue is revenue from navigation activities, including fees charged for providing air navigation services (Commission Implementing Regulation (EU) No 391/2013 of 3 May 2013 laying down a common charging scheme for air navigation services). The amount of revenues achieved from the provision of navigation services (en route and terminal) depends on the level of unit rates determined annually used for fees for navigation services (unit rate).

The basic figures, on which the calculations of sale revenues of air navigation services provided by the Agency are based, are:

- the number of en route operations, the weight of aircraft and the length of the route flight over the territory of Poland, as the basic determinants for the number of service units (SU) calculated in en route traffic navigations and navigations for take-offs and landings;
- the number and weight of aircraft landing at "controlled" Polish airports as the basic figures for the number of service units (SU-L) in terminal services;
- the effects of settlement of carry-over mechanisms;
- the further distribution of navigation revenues is determined by the type of fee charged depending on the type of navigation service provided.



Inflation

The average annual inflation in 2019, according to EUROSTAT data from March 2020, was 2,1% (in 2018 inflation was at the level of 1,2%). The largest impact on the consumer price index had the increase in prices related to housing and transport.

Planned vs Actual inflation rates





Traffic by services

On the aviation market in Poland, 2019 brought a lower pace of growth than in previous years. However there were still continuation of positive trends in terms of the number of passengers and the number of air operations. Once again, better results than European and world markets were recorded, where a clear downturn was visible due to the deterioration of the general economic situation. A strong increase in air operations in Poland was recorded in regular and charter traffic while in charter traffic, significant drops were already visible.







Unit rates for air navigation services

The average amount of en route unit rate in 2019 in selected EUROCONTROL member states was EUR 44,11. The Polish unit rate for en route navigation services was settled to EUR 40,87.



² Administrative fee added to the national rate by the Central Route Charges Office EUROCONTROL (CRCO) due to the operation of the multilateral en route charge system



For the purposes of benchmarking, PRB has divided European ANSPs into groups. PANSA was assigned to Central Europe, a group of countries operating in similar economic conditions and a similar operational environment. Members of the Group are Croatia, the Czech Republic, Slovakia, Slovenia, Hungary and Poland. In 2019, the unit rate of the en route navigation services, including the PSD RP2 revision, was EUR 40,87 with the group average of EUR 43,87.

En-route Unit Rate 2019 (EUR)







The en route unit rate is used to calculate revenue from transit flights and revenue from navigation for take-offs and landings (arrivals). The revenues for en-route services (in controlled area) is a result of unit rate and service units (SU) and adjustments as a result of EU Regulations regarding to navigation charges. The unit rate of the en route charges was approved in the amount of PLN 175.02 and was effective from January 1 to December 31, 2019. The unit rate of the route charges is increased by the CRCO administration fee, which was PLN 0,60 in 2019 (0,14 EUR).

The unit rate for terminal services is used to calculate the revenues from terminal navigation. The revenues for terminal services is a result of unit rate and service units (SU-L) and adjustments as a result of EU Regulations regarding to navigation charges.

In 2019, there were two charging zones for terminal navigation services including:

- zone I Warsaw (PLN 397,18);
- zone II the remaining 14 airports (PLN 777,20).

Navigation unit rates (PLN)

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Report on PANSA's financial activities Statement of comprehensive income

Statement of comprehensive income	For the year ended 31.12.2019	For the year ended 31.12.2018
Sales revenues	951 294	989 417
Operating expenses	932 849	873 454
Profit on sales	18 445	115 963
Other operating revenues	32 325	30 846
including: EU grants and donations from the state budget	27 549	25 792
Other operating expenses	39 042	15 789
Operating profit	11 728	131 021
Financial revenues	6 385	6 950
Financial expenses	5 650	5
Gross profit	12 463	137 966
Income tax expense	5 672	29 460
Net profit	6 792	108 506
Items of other comprehensive income	0	0
Total net comprehensive income	6 792	108 506

Sales Revenue

Revenues obtained from en route charges for flights performed in the Polish airspace are calculated, invoiced and charged in euro on behalf of PANSA by CRCO, the EUROCONTROL organizational unit. The terminal charges for navigation service is calculated in PLN and charged by PANSA.

Sales revenues	For the year ended 31.12.2019	For the year ended 31.12.2018	
Navigation services including:	943 522	982 250	
En-route navigation, including:	798 019	838 453	
Balance of carry-overs	-68 363	-6 337	
Terminal navigation, including	130 823	128 137	
Balance of carry-overs	-16 514	-19 007	
Grant for exempted flights	14 680	15 661	
Non-navigational services including:	7 759	7 144	
Measurements of meteorological parameters	1 712	1 721	
Radar data	2 134	2 134	
Sale of materials	13	24	
Total	951 294	989 417	



The analysis of the PANSA's revenues structure shows that the dominant share in total revenues was sales revenues, which in 2019 amounted to PLN 951 294 thousand. The source of revenues generated at this level were primarily the navigation services provided by the Agency, including en route navigation and terminal navigation. In 2019, revenues from the sale of navigation services accounted for 95% of the total revenues generated by the Agency.



TNC invoiced sales by airports







Total costs

The total costs incurred by PANSA in 2019 was PLN 977 541 thousand. Operating expenses in 2019 increased by PLN 59 395 thousand compared to the previous year. The highest increases occurred in employee costs (increase of PLN 30 089 thousand) due to PANSA's involvement in the implementation of strategic tasks in 2019 and depreciation (increase of PLN 19 998 thousand), due to the continuing growing trend of investment implementation and the high level of fixed assets transferred for use and due to implementation of IFRS 16 Lease in 2019. An analysis of the costs structure from PANSA's operations shows that operating costs, which in the twelve months of 2019 amounted to PLN 932 849 thousand, had a dominant share in total costs.







PANSA's involvement in the implementation of strategic tasks in 2019 caused needs to ensure the proper organization of human resources and required appropriate financial commitment. The costs of salaries and benefits for employees in 2019 were determined based on the Remuneration Regulations for Employees of the Polish Air Navigation Services Agency from February 17, 2010, as amended.



S.89





Operating expenses by service

Pursuant to Commission Implementing Regulation (EU) No 391/2013 of 3 May 2013 laying down a common charging scheme for air navigation services, the costs of providing air navigation services are recognized broken down into: staff costs, other operating costs, depreciation, cost of capital (off-balance sheet item) and exceptional costs.

Personnel costs (excluding training costs) are included in staff costs. Other operating costs include the following categories of costs by type: consumption of materials and energy, external services, taxes and charges, other expenses, training in employee costs and other operational expenses.

Specifcation compliant with the "Regulation"	Constituent items	En-route	TNC
Staff	Total, including	530 338	93 164
	Operating expenses	527 589	92 682
	Other operating expenses	2 749	482
Other operating costs	Total, including	114 797	19 684
	Operating expenses	87 692	15 312
	Other operating expenses and financial costs	30 834	5 014
	Adjustment due to net revenues from other services	853	149
	Other operating revenues and financial revenues	-4 582	-790
Depreciaton	Operating expenses	89 719	15 301
Cost of capital		15 603	6 326
Exceptonal items		0	0
Total costs		750 456	134 475



Statement of financial position

PANSA's balance sheet total as at December 31, 2019 amounted to PLN 2 010 794 thousand.

Statement of Financial position as at	31.12.2019	31.12.2018	
Non-current assets	1 324 850	1 166 498	
Intangible fixed assets	205 255	197 401	
Property, plant and equipment	998 635	911 074	
Right-of-use assets IFRS 16	50 469	0	
Long-term receivables	135	219	
Deferred tax assets	68 645	53 528	
Long-term assets due to adjustments for carry-overs	798	3 140	
Other accurals	913	1 137	
Current assets	685 944	636 245	
Inventories	141	201	
Trade and other receivables	193 293	193 504	
Income tax receivables	5 820	4 442	
Short-term assets due to adjustments for carry-overs	3 281	9 011	
Short-term prepayments	3 273	2 930	
Cash and cash equivalents	477 712	423 982	
Assets available for sale	2 423	2 175	
Total Assets	2 010 794	1 802 743	





Statement of Financial position as at	31.12.2019	31.12.2018
Equity, including:	1 021 429	1 014 637
Statutory fund	475 022	475 022
Reserve fund	539 615	431 539
Retained earnings	0	-429
Profit/(loss) for the financial year	6 792	108 506
Long-term liabilities	727 159	557 226
Long-term provisions	309 029	267 566
Long-term liabilities due to adjustments for carry-overs	100 099	55 629
Other long-term accruals	266 358	233 194
Other long-term liabilities	837	837
Liabilities due to IFRS 16	50 836	0
Short-term liabilities	262 207	230 880
Short-term provisions	18 496	15 850
Trade and other liabilities	127 919	135 138
Short-term liabilities due to adjustments for carry-overs	58 134	26 993
Other short-term accruals	57 657	52 898
Liabilities due to IFRS 16	0	0
Total Liabilities	2 010 794	1 802 743



PPE and Intangible assets



Non-current assets

Non-current assets as at December 31, 2019 constituted 65.9% of the total balance sheet, while the remaining 34.1% constituted current assets. An analysis of the structure of the assets owned by the Polish Air Navigation Services Agency in 2019 shows that the Agency had tangible fixed assets (PPE) for a total amount of PLN 998 635 thousand, which mainly consisted of technical equipment and machinery, buildings and structures, land (including rights to perpetual usufruct of land) and tangible fixed assets under construction. The growing value of these components is the result of intensification in the implementation of investment tasks in 2019.



Expenditures on modernization and construction of modern CNS / ATM and facility infrastructure incurred by PANSA in 2019 amounted to PLN 204,5 million. The highest value of investment outlays was incurred for the implementation of tasks in the Capacity area, which primarily concerned the implementation of investments in the field of air traffic management systems.





Due to the long time horizon of implemented investment tasks, a significant increase in fixed assets under construction is visible. At the end of 2019, the Agency had tangible fixed assets for a total amount of PLN 998 635 thousand, which mainly consisted of technical equipment and machinery, buildings and structures, land (including rights to perpetual usufruct of land) and assets under construction.

Property, Plant and Equipment	For the year ended 31.12.2019	For the year ended 31.12.2018
Land & Perpetual usufruct of land	160 193	162 076
Buildings and constructions	269 834	261 222
Machinery and equipment	373 301	350 269
Assets under constructions	151 445	95 374
Vehicles & Other	43 862	42 133
Total	998 635	911 074





Cash was the most significant item of current assets in 2019. Cash and cash equivalents as at 31/12/2019 amounted to PLN 477 712 thousand.

Trade and other receivables

The Agency makes a write-off for uncollectible receivables, overdue in line with the principle that a write-off is made 100% for bad debts. For overdue receivables, the write-off is made in 50% for overdue receivables in the range of 91-180 days and in 100% for overdue receivables over 181 days.

Trade and other receivables	31.12.2019	31.12.2018
Trade receivables (gross)	179 720	181 354
Receivables impairment allowances	-23 934	-20 717
Trade receivables (net), including:	155 786	160 637
Due within 12 months	155 786	160 637
Receivables from other taxes, subsidies, duties, social security and other benefits	33 053	27 985
Other receivables	3 807	4 049
Receivables from Social Security Benefit Fund	647	832
Other receivables	37 507	32 867
Trade receivables and other receivables	193 293	193 504



Equity and liabilities

The analysis of sources of financing assets shows that the Agency's own funds in the amount of PLN 1 021 429 thousand constitute 50.8% of total liabilities, while the remaining 49.2% are long-term liabilities and short-term liabilities in the total amount of PLN 989 365 thousand.

Statement of changes in equity

Statement of changes in equity	Statutory fund	Reserve fund	Retained earnings	Net profit	Total
As at 31 December 2018	475 022	431 539	108 077	0	1 014 637
Distribution of prior year profit		108 077	-108 077		0
Retained earnings					0
Profit/(loss) for the year				6 792	6 792
As at 31 December 2019	475 022	539 615	0	6 792	1 021 429



Statement of Cash Flows

The net cash flow from PANSA's operating activities in 2019 amounted to PLN 202 673 thousand. Cash flows from operating activities are cash flows from the basic, statutory activity of PANSA and are directly related to the services rendered. These flows include cash inflows from sales, expenses related to the costs of purchasing materials and raw materials, wages, rents, etc. The positive balance of cash flows in the area of operating activity proves the Agency's ability to generate cash for basic operating activities.

Operating cash flows provide cash necessary for the investment. In connection with the ongoing investment processes, in 2019 net expenditure on the acquisition of intangible assets and property, plant and equipment amounted to PLN 213 011 thousand. Negative flows in this area at such a high level testify to PANSA's intensive investment activities aimed at increasing the value of fixed assets.

Net cash flow from financing activities in the analyzed period was positive and amounted to PLN 65 573 thousand, which is mainly the effect of revenues from EU subsidies (PLN 67 494 thousand).





Statement of Cash flows	For the year ended 31.12.2019	For the year ended 31.12.2018	
Cash flow from operating activities			
Profit before tax	12 463	137 966	
Total adjustments	190 210	52 625	
Depreciation and amortisation including:	111 712	91 714	
Depreciation and amortisation IFRS 16	5 252	0	
Foreign exchange profit/(loss)	1 506	840	
Interest, net	-2 964	-3 848	
Loss on investing activities	-136	2 041	
Change in provisions	44 109	23 761	
Change in inventories	59	55	
Change in receivables	294	-14 160	
Change in liabilities	3 805	-18 831	
Change in accruals	-2 142	1 841	
Change in adjustments for carry-overs	83 681	23 840	
Income tax (paid)	-22 166	-28 896	
Other adjustments	-27 549	-25 732	
et cash flows from operating activities 202 673		190 591	
Disposal of tangible and intangible assets	2 501	422	
Acquisition of PPE and intangible assets	-215 512	-180 910	
Net cash flows from investing activities	from investing activities -213 011		
Cash flows from financing activities			
Interest received	5 187	3 853	
Interest paid	-2 223	-5	
Change in liabilities due to IFRS 16	-4 885	0	
Other financial proceeds (donations)	67 494	51 590	
Net cash flows from financing activities 65 573		55 438	
Net increase in cash and cash equivalents	55 236	65 542	
Effect of exchange rates changes	-1 506	-840	
Balance sheet change in cash and cash equivalents	53 730	64 702	
Cash and cash equivalents, at the beginning of the period	423 982	359 496	
Cash and cash equivalents, at the end of the period, including:	477 712	423 982	
Restricted cash	7 802	7 658	



PKF

Accountants & business advisers

TRANSLATION

This occurrent is a free translation of the independent auditors' report issued in Polish in electronic format. Terminology current in

INDEPENDENT AUDITOR'S REPORT ON THE ANNUAL FINANCIAL STATEMENTS

For Minister of Infrastructure

Report on the audit of the financial statements

Obinion on the financial statements

We have audited the accompanying annual financial statements of Polish Air Navigation Services Agency with its registered office in Warsaw at Wieżowa 8 Street, hereinafter referred to as the 'Agency', for the financial year from ' January 2019 to 3' December 2019, which comprise the statement of financial position as of 31 Depember 2019, the profit and loss account, the statement of comprehensive ncome, the statement of changes in equity and the statement of cash flows for the financial year then and related notes. no uding significant accounting principles (policies) and other explanatory hotes.

The financial statements have been prepared in an electronic format as a file entitled SPRAWOZDANIE FINANSOWE 2019 PAZP Lodf, and have peer signed with at electronic signature by the Fresident of Agency on 26 may 2020.

The annual financial statements have been prepared in accordance with applicable financial reporting framework of International Accounting Standards, International Financial Reporting Standards and related interpretations published as a Commission Regulation, hereinafter referred to as 1 FRS EU1.

In our opinion, the accompanying annual financial statements of Polish Air Navigation Services Agency:

- give true and fair view of the financial position of the Agency. as of 31 December 2019, and of its financial performance and its cash flows for the financial year then ended in accordance with IFRS EU and applied accounting principles (policies).
- comply in all material respects, as to the form and content. the Accounting Act of 29 September 1994 (Journal of Laws) of 2019, tem 351 as amended), hereinafter referred to as the "Accounting Act", IFRS EU as well as with provisions of the Agency's articles of association that affect its content,
- have been prepared, in all material respects, based on the properly kept accounting records in accordance with the provisions of Chapter 2 of the Accounting Act.

In preparing financial statements, the President of the Agency is responsible for assessing the Agendy's ability to continue as a going concern, disclosing, as applicable, matters related to Basis for Opinion

We conclusted our audit of the financial statements in accordance with the National Standards on Auditing being International Standards on Auditing as adopted in Poland by the National Chamber of Statutory Auditors, herenatter referred to as "National Standards on Auditing", applicable to audit of financial statements prepared for the periods ended on 31 December 2019, and the Act of 11 May 2017 on Statutory Auditors, Audit Firms and the Public Oversight (Journal of Laws of 2019, item 1421, as amended), here nation referred to as the Act on Statutory Auditors',

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Our responsibilities under those standards are further described in the "Statutory Auditor's Responsibilities for the Audit of the Financial Statements" section of our report.

We are independent of the Agency in accordance with the International Code of Ethios of Professional Appointants (including the international Independence Standards rereinafter referred to as the 'IFAC Code', adopted by a resolution of the National Champer of Statutory Auditors and the requirements of independence specified in the Aption Statutory Auditors. We have also fulfilled our other ethical responsibilities required by the Action Statutory Auditors and IFAC Code.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion

Responsibilities of the President of the Adendy

The President of the Agency is responsible for the precaration of the annual financial statements that give true and fair view accordance with IFAS EU, their compliance with applicable aws and regulations and the Agency's articles of association. as well as for keeping the accounting records in accordance with the Accounting Act.

The President of the Agency is also responsible for such nternal control as management deems necessary to enable the preparation of financial statements that are free from material. nisstatement, whether que to fraud or erro

going concernand using the going concern basis of accounting riess management wither intends to liquidate the Agency of to gease operations, or has no realistic a ternative put to do sp.

PKF Consult Spółka z ograniczoną odpowiedzialnością Sp. k. 6 Orzycka Street, Apt. 1B | 02-695 Warsaw | Poland | www.pkfpoland.pl District Court for the City of Warsaw, 13th Economic Department no KRS 579479 NIP 521-052-77-10 | REGON 010143080 | Audit firm nr 477

TRANSLATION

Under the Accounting Act. President of the Agency is obliged to ensure that the annual financial statements meet the requirements of the Accounting Ast.

Statutory Auditor's Responsibilities for the Audit of the Financial Statement

Our objectives are to obtain reasonable assurance as to whether the financial statements as a whole are free from material misaratement, whether due to fraud or error, and to ssue an independent auditor sireport that includes our opinion. Reasonable assurance is a high level of assurance, but is not a quarantee that an audit conducted in accordance with the above mentioned standards will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material 1, individually or in the aggregate, they could reasonably be expected to influence the economic degisions of users taken on the basis of these financial statemacts

While carrying out the audit, in compliance with the National Standards on Aud ting:

- we exercise professional judgment and maintain professional skept cism and
- dentify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform august procedures responsive to those risks. and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud or other requianties is higher than for one resulting from error, as fraud may hyplive collusion, forgery, intentional omissions. misrepresentations, or the override of internal control and may relate to any area of law and requiations into only the one that directly impacts the financial statements
- obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose. of expressing an opinion on the effectiveness of the Agency's internal control.
- evaluate the appropriateness of accounting principles too diesi used and the reasonableness of accounting estimates and related disclosures made by the Agency's Management;
- conclude on the appropriateness of use by the Agency's President of the Agency of the going concern basis while applying the adopted accounting principles (policies) and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Agenoy's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our audit report to the related disclosures in the financial statements or, if such disclosures are inadequate to modify our opinion about the financial statements. Our conclusions are based on the audit evidence obtained up to the date of our sudit report. However, future events on conditions may cause the Agency to cease to continue as a deine concern.



Our audit does not involve any assurance on the future viability of the Agency hor the efficiency hor effectiveness with which the President of the Agency has conducted or will conduct the atfairs of the Agency.

Under the Apt on Statutory Aud tors, we are also required to express in the audit report an opinion on whether financial statements comply as to their form and content, with applicable laws as well as the Agency's articles of association and whether they have been prepared based on the property kept accounting records. We report on these matters based on the work uncertaken in the pourse of the audit

Report on Other Legal and Regulatory Requirements

Other information than the financial statements

Other information include financial and non-financial information other than the financial statements and our report. Other information comprise of the management report for the year ended 31 December 2019 r.

The management report for 2019 has been prepared in electronic format as a file titled SPRAWOZDANIE Z DZIAŁALNOSCI PAZP za 2019.pdf and has been signed with qualified electronic signatures by the President of Polish Air. Navigation Services Agency on 26 may 2020.

Our opmon on financial statements does not cover the other information and, except to the extent otherwise explicitly stated h Report on Other Legal and Regulatory Requirements below. we do not express any form of assurance conclusion thereor. Furthermore, scope of our work related to the other information conducted in the course of our sudit and related assurance condusion is only as we describe below

Responsibilities of President of the Agency

The President of the Agency siresponsible for preparation of the management report in compliance with the law. The President of the Agency is required to ensure that the management report. complies with the Accounting Act.

Responsibilities of the Statutory Auditor

Under the Act on Statutory Aud fors we are required to express an opinion on whether the management report has been prepared in accordance with the Accounting Act and whether it is consistent with the information included in the financial statements.

Furthermore, we are also required to state, whether up the light. of the knowledge of the Agency and its environment obtained during the course of the audit, we have not identified material missfatements in the management report, and report on these misstatements i noted.

We have read the management report. We considered whether It displayes the information required by these laws and whether the information included therein is consistent with the

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nformation included in the financial statements. Reading the management report we also considered whether in the ight of our knowledge and understancing of the Agency and its environment. I does not understanding misstatements.

Obinion on the management report

In our apirion, based on the work undertaken in the course of the audit of the annual financia statements the accompanying management report of Polish Air Navigation Services Agency for the financial year ended on 31 December 2019:

 has been prepared in accordance with Article 49 of the Accounting Act,

Qualified electronic signature on the Polish original

Cezary Bakiewicz Statutory Auditor no. 12 232

Key Statutory Auditor conducting the audit on bens f of FKF Consult Societa z ograniszoną odpowiedzialnością. So. k. trie audit firm number 477

ul. Orzycka Bilok, 1B 02-695 Warszawa

Warsaw, May 261 2020

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 the information presented therein is consistent with the information in the auguted financial statements

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In the light of the knowledge of the Agency and its environment obtained during the course of the audit, we have not identified material misatatements in the management report. ****************





Polish Air Navigation Services Agency

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