Monitoring Report 2023

Poland

Third Reference Period (2020-2024)

Signatories

Monitoring report details	
Name	Poland
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NSA names	Name, title and signature of representative
Polish Civil Aviation Authority (CAA)	Acting President of Civil Aviation Authority Julian Rotter p.o. PREZESA Urzędu Lotnictwa Cywilnego Julian Rotter

Additional comments	

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SECTION 1: INTRODUCTION

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1.1 Scope

1.1.1 Background

Period covered by the monitoring report	01 Jan. 2023 - 31 Dec. 2023
NSAs responsible for drawing up the monitoring report	Polish Civil Aviation Authority acting as NSA
Adoption date of final performance plan (or, if not yet adopted, of the most recent draft performance plan)	06/05/2022
Additional comments	

1.1.2 ANSPs

Number of ANSPs	**5**

ANSP name	Polish Air Navigation Services Agency (PANSA)
Services	ANSP (ATS,CNS, AIS, SAR coordination)
Geographical scope	Flight Infromation Region Warszawa, all airports concerned

ANSP name	Institute of Meteorology and Water Management - National Research Institute (IMWM)
Services	METEO
Geographical scope	Flight Infromation Region Warszawa (excluding EPRA TMA and CTR/ATZ, EPSY TMA and CTR/ATZ, EPBY TMA and CTR/ATZ)

ANSP name	AIRPORT METEO (former Radom Meteo sp. z o.o.)
Services	METEO
Geographical scope	EPRA TMA and CTR

ANSP name	Warmia i Mazury sp. z o.o.
Services	ATS (AFIS), CNS (COM), METEO
Geographical scope	EPSY METEO: TMA, CTR and ATZ, AFIS: ATZ

ANSP name	Port Lotniczy Bydgoszcz S.A.
Services	ATS (AFIS), METEO
Geographical scope	EPBY METEO: TMA, CTR and ATZ, AFIS: ATZ

1.1.3 Other entities

Number of other entities	**2**

Entity name	Civil Aviation Authority of the Republic of Poland (NSA)
Domain of activity	Supervision

Entity name	EUROCONTROL
Domain of activity	Other/Network

1.1.4 Charging zones

En route:

Number of en route charging zones	**1**

En route charging zone	Poland

Terminal:

Number of terminal charging zones	**2**

Terminal charging zone	Poland zone 1
Terminal charging zone	Poland zone 2

1.1.5 Additional information

No changes were reported during 2023.

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1.2 List of Airports

1.2.1 Airports

Number of airports	**15**

Airport name	Lotnisko Chopina w Warszawie
ICAO code	EPWA
Charging zone	Poland zone 1

Airport name	Bydgoszcz
ICAO code	EPBY
Charging zone	Poland zone 2

Airport name	Gdańsk im. Lecha Wałęsy
ICAO code	EPGD
Charging zone	Poland zone 2

Airport name	Kraków-Balice
ICAO code	EPKK
Charging zone	Poland zone 2

Airport name	Katowice-Pyrzowice
ICAO code	EPKT
Charging zone	Poland zone 2

Airport name	Lublin
ICAO code	EPLB
Charging zone	Poland zone 2

Airport name	Łódź
ICAO code	EPLL
Charging zone	Poland zone 2

Airport name	Warszawa/Modlin
ICAO code	EPMO
Charging zone	Poland zone 2

Airport name	Poznań-Ławica
ICAO code	EPPO
Charging zone	Poland zone 2

Airport name	Lotnisko Warszawa-Radom
ICAO code	EPRA
Charging zone	Poland zone 2

Airport name	Rzeszów-Jasionka
ICAO code	EPRZ
Charging zone	Poland zone 2

Airport name	Szczecin-Goleniów
ICAO code	EPSC
Charging zone	Poland zone 2

Airport name	Olsztyn-Mazury
ICAO code	EPSY

Charging zone	Poland zone 2

Airport name	Wrocław-Strachowice
ICAO code	EPWR
Charging zone	Poland zone 2

Airport name	Zielona Góra-Babimost
ICAO code	EPZG
Charging zone	Poland zone 2

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1.3 Overview

1.3.1 Economic and operational context and impact on the provisions of ANS

Performance over 2023 was strongly impacted by the consequence of the military aggression of the Russian Federation on Ukraine, a war right behind Poland's eastern border. The resulting closure of the Ukrainian airspace and further restrictions imposed on traffic flows on east-western axis (as a consequence of sanctions and reciprocal actions) led to significant changes to traffic flows in the Polish airspace (including drop in overflights and increase in traffic on the north-southern axis along Poland's eastern border). Uncertainty regarding traffic evolution in FIR Warszawa was still visible in 2023. At the same time, a direct consequence of the war was significant increase in military activity (including NATO) in FIR Warszawa, what impacted airspace availability for civil traffic. All this had an impact on capacity and increased complexity. The environmental performance (HFE/KEA) was also determined by the geopolitical situation and closed airspace beyond Poland's eastern border. Details of the impact on capacity and environment KPIs are described in respective further chapters of the report.
Further consequences of the war were felt in the economic and financial area. Traffic recovery in FIR Warszawa after the pandemic was much slower than in other European regions. Historically, ca. 70-80% of PANSA revenues from en-route charges stemmed from overflights (flights performed with large aircraft on long routes along the west-east axis). With the huge drop in overflying traffic, the number of ER service units - and as a consequence the value of invoiced revenues from ER charges - was much lower than assumed in the adopted revised RP3 PP. This drop could not be compensated by recovering arriving/departing traffic (the pace of recovery was different at individual airports, with highest increase in EPRZ linked to the war in Ukraine). PANSA was able to implement solutions allowing it to mitigate the risk of negative effects of these developments on liquidity. At the same time PANSA had to maintain its operational abilities aimed at allowing it to effectively respond to traffic increase once the military conflict is over and traffic flows come back to their pre-war, shorter, routes. This necessitated continuation of actions aimed at increasing capacity in subsequent years.
Further challenges were linked to changing macroeconomic situation and financial market performance following the outbreak of the war, which were still felt in 2023 - high inflation, specific situation in Polish labour market (high wage pressure), increase in interest rates as compared to RP3 PP assumptions (directly impacting ANSPs cost of capital), all this put additional pressure on ANSPs costs.

1.3.2 NSA key observations and highlight per KPA

Please provide the key observations from the monitoring for each KPA :

Safety
Russian military aggression against Ukraine has not affected the safety levels of services provided by the ANSPs. In 2023 the ANSPs successfully implemented a set of measures to achieve goals established in the KPA SAFETY. The data indicate that safety remains a top priority without signalising that it has been affected by consequences caused by a current situation in beyond Poland's eastern border. The ANSPs' management systems prove the ability to be sufficiently robust and adequately efficient to manage the impact of the changed conditions.

Environment
In the KPA Environment – the en-route horizontal flight efficiency indicator (KEA) was below the target set for the year 2023. In Poland the value of KEA was achieved at the level 4,58 % with the planned target value at the level 1.65%. This situation was caused largely by external circumstances linked to geopolitical situation resulting mainly from the war in Ukraine. Airspace users were avoiding airspace of Ukraine. Additionally, a part of Polish airspace was restricted due to the military activity. It was also observed influence of the airspace users' preference for routes different than the shortest route.

Capacity
The results in the CAPACITY KPA at the end of 2023 year for Poland (PANSA) was 0,20 minutes/flight with a target of 0,12 minutes/flight. In terminal traffic the national target was 0.24 minutes/flight, while the actual result was 0.19 minutes/flight. The aggression of the Russian Federation against Ukraine has a significant impact on the air navigation services in Poland due to the introduction of a number of restrictions in FIR Warszawa. A direct consequence of this situation are significant delays in Polish airspace, especially the en route delays rate.

Cost-efficiency
In the area of cost-efficiency, in terms of route charges, the total nominal value of costs for 2023 was higher by 9,4% than planned. Total en route costs in real terms were lower by 5.6% compared to the planned ones, SU were by 25.7% lower than planned. AUC for 2023 was by 27.2% higher than DUC. Regarding terminal charges in Terminal Charges Zone 1, the total real nominal value of costs for 2023 was higher by 24.0% than planned. The total costs were by 4.9% higher than planned. The total number of SU-L in TCZ1 was by 2.3% higher than planned. AUC was by 2.5% higher than DUC. In terms of terminal charges in Terminal Charges Zone 2, the total real nominal value of costs for 2023 was 36.6% higher than planned. The total terminal costs in TCZ 2 were higher by 16.0% than planned. The total number of SU-L was by 23.7% higher than planned. AUC was by 6.2% lower than DUC.

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1.4 Traffic figures

1.4.1 En route

En route charging zone	Poland

Forecast values from the PP	2020	2021	2022	2023	2024
IFR movements (thousands)	377	461	752	863	920
IFR movements (yearly variation in %)		22%	63%	15%	7%
En route service units (thousands)	2 146	2 549	3 991	4 763	5 130
En route service units (yearly variation in %)		19%	57%	19%	8%

Actual values	2020	2021	2022	2023	2024
IFR movements (thousands)	377	473	627	697	
IFR movements (yearly variation in %)		26%	32%	11%	
En route service units (thousands)	2 146	2 586	3 129	3 537	
En route service units (yearly variation in %)		21%	21%	13%	

Differences	2020	2021	2022	2023	2024
IFR movements (thousands)	0	12	-125	-166	
IFR movements (in %)	0%	3%	-17%	-19%	
En route service units (thousands)	0	37	-862	-1 226	
En route service units (in %)	0%	1%	-22%	-26%	

1.4.2 Terminal

Terminal charging zone	Poland zone 1

Forecast values from the PP	2020	2021	2022	2023	2024
IFR departure movements (thousands)	40	52	81	87	92
IFR movements (yearly variation in %)		31%	56%	7%	6%
Terminal service units (thousands)	44	55	87	97	103
Terminal service units (yearly variation in %)		26%	59%	11%	7%

Actual values	2020	2021	2022	2023	2024
IFR departure movements (thousands)	40	47	72	83	
IFR movements (yearly variation in %)		18%	52%	15%	
Terminal service units (thousands)	44	53	83	99	
Terminal service units (yearly variation in %)		22%	56%	19%	

Differences	2020	2021	2022	2023	2024
IFR movements (thousands)	0	-5	-9	-4	
IFR movements (in %)	0%	-9%	-12%	-4%	
Terminal service units (thousands)	0	-2	-4	2	
Terminal service units (in %)	0%	-3%	-5%	2%	

Terminal charging zone	Poland zone 2

Forecast values from the PP	2020	2021	2022	2023	2024
IFR departure movements (thousands)	57	70	112	118	127
IFR movements (yearly variation in %)		22%	61%	6%	8%
Terminal service units (thousands)	62	76	124	131	142
Terminal service units (yearly variation in %)		22%	62%	6%	8%

Actual values	2020	2021	2022	2023	2024
IFR departure movements (thousands)	57	71	119	134	

IFR movements (yearly variation in %)		24%	68%	13%	
Terminal service units (thousands)	62	79	141	162	
Terminal service units (yearly variation in %)		26%	79%	15%	

Differences	**2020**	**2021**	**2022**	**2023**	**2024**
IFR departure movements (thousands)	0	1	7	16	
IFR departure movements (in %)	0%	2%	6%	13%	
Terminal service units (thousands)	0	2	17	31	
Terminal service units (in %)	0%	3%	14%	24%	

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1.5 Other general information

1.5.1 Cross-border cooperation initiatives

Despite difficulties resulting from unprovoked Russian invasion of Ukraine, PANSA continued cooperation with other ANSPs aiming at improving provision of ATM/ANS in the European Network.
The main streams of cross-border cooperation in 2023 included the following:
- agreements between PANSA and UkSATSE (Ukrainian State Air Traffic Service Enterprise) concerning exchange of radar data (located in Rzeszów in Poland and Lviv in Ukraine) are valid, however practical implementation is suspended due to the war;
- PANSA participated in selected work-stream topics in the Operational Excellence Program launched by the Network Manager;
- the cross-border contingency project, launched by Baltic FAB Council in December 2022, was elaborated with several initial meetings held. The work packages were set and divided among the participants. The project will be continued in 2024 and beyond;
- PANSA actively supported the 2023 Summer measures implemented through collaboration of ANSPs and the Network Manager;
- FRA expansion is ongoing, after successful implementation of cross-border FRA with Lithuania and Slovakia in 2022, implementation work is underway with Swedish and Czech partners. Currently project is in final phase with planned implementation in November 2024;
- PANSA continued cooperation with other ANSPs under iTEC Collaboration.

1.5.2 Description of the process and activities implemented by the NSA for the monitoring of performance

The fulfilment of the Polish Performance plan was regularly monitored by the NSA. The process of continuous oversight of all ANSPs was conducted based on the Regulation (EU) 2019/317) and Regulation 2017/373. The monitoring activities were including analysis of the ANSP's business and annual plans and their consistency with the Performance Plan for RP3. They were covering, among the others, the following areas:
- investment plan (CAPEX) execution,
- execution of planned costs,
- use of public funding, including EU funding,
- execution of employment plan,
- execution of staff training plan,
- ATCO productivity,
- implementation of major projects aimed at increasing capacity and enhancing flight efficiency,
- implementation of corrective measures in the safety area.

The monitoring of progress in achieving performance targets set in Performance Plan for RP3 was performed also by dedicated Polish NSA inspectors during routine inspections.

SECTION 2: PERFORMANCE

SECTION 2.1: SAFETY KPA

2 - PERFORMANCE AT LOCAL LEVEL

2.1 - Safety

2.1.1 - Key Performance Indicators

2.1.1.(a) - Safety KPI #1: Level of Effectiveness of Safety Management

Please populate the table. The overall score per EoSM component is defined as the lowest score from the questions within a given component. For example, if verified levels for the Safety Culture component for questions 1.1, 1.2 and 1.3 were C, C, A, then the overall score for the component is A.

Polish Air Navigation Services Agency (PANSA)

Effectiveness of Safety Management		2020	2021	2022	2023	2024
(a) safety policy and objectives	Values from PP	C	C	C	C	C
	Actual values	C	D	D	D	
(b) safety risk management	Values from PP	C	C	C	C	D
	Actual values	D	D	D	D	
(c) safety assurance	Values from PP	C	C	C	C	C
	Actual values	C	D	D	D	
(d) safety promotion	Values from PP	C	C	C	C	C
	Actual values	D	D	D	D	
(e) safety culture	Values from PP	C	C	C	C	C
	Actual values	D	D	D	D	

Assessment of the achieved level of actual performance
At the end of 2023 PANSA declared maintaining level D in all of the five EoSM areas (safety policy and objectives, safety risk management, safety assurance, safety promotion, safety culture). NSA collected evidence proving the EoSM maturity levels declared by PANSA and made no objections to the level D in all five areas.

Main measures put in place to achieve the safety performance targets
Over 2023 PANSA continued implementation of improvements initiated in RP2 and carried out over 2020-2022 and consequently implemented measures listed in internal "SMS development roadmap". The "SMS development roadmap" is subject to ongoing review, based on monitoring results. The measures implemented in 2023 included, among others: - conducting a review of the safety culture by the "Inżynieria BHP" company, - safety promotion initiatives through, among others: organization of workshops for LSE, inspectors and ATS staff as well as thematic publications, - updating the scope and execution of refreshing basic training in the Safety Management System in a stationary form and continuing e-learning training, for both, PANSA employees as well as external entities, - implementation and development of new functionalities of IT tools allowing improved effectiveness of SMS processes, - cooperation in the area of exchange of practices with international industry organizations (CANSO, EUROCONTROL), with national authorities and organizations (State Commission on Aircraft Accidents Investigation – PKBWL, NSA, Air Force, airports and airlines), e.g. as part of SMS working group meetings.

If the targets have not been achieved, please explain the underlying causes or circumstances that let to this situation.
N/A

Is the NSA aware of any circumstances that may cause the SAF performance targets not to be met, either this year or in future years in the reference period?	No

What, if any, remedial actions have been implemented or planned by the ANSP to address this?
N/A

What further measures does the NSA intend to undertake to remedy this situation?
N/A

Port Lotniczy Bydgoszcz S.A.

Effectiveness of Safety Management		2020	2021	2022	2023	2024
(a) safety policy and objectives	Values from PP	C	C	C	C	C
	Actual values	C	C	C	C	
(b) safety risk management	Values from PP	C	C	C	C	D
	Actual values	C	C	C	C	
(c) safety assurance	Values from PP	C	C	C	C	C
	Actual values	C	C	C	C	
(d) safety promotion	Values from PP	C	C	C	C	C
	Actual values	C	C	C	C	
(e) safety culture	Values from PP	C	C	C	C	C
	Actual values	C	C	C	C	

Assessment of the achieved level of actual performance
In 2023 Bydgoszcz Airport maintaned values from the last year in all five safety areas, assessing its advancement and progress in SMS development and maintenance at level C. The above levels reflect the assessment made by the NSA.

Main measures put in place to achieve the safety performance targets
In 2023 Bydgoszcz Airport (EPBY) continued implementation of measures aiming at maintaining declared safety levels. These measures are, among others: implementation and update of SMS related requirements, documents and procedures, compliant with national and international law, including development and maintenance of Safety Policy and Just Culture Policy, ensuring SMS training for all staff as well as contractors, regular organisation of Local Safety Meetings, development of safety management indicators, promotion of proactive attitude of employees regarding safety within the Organisation, conducting internal audits of the SMS and regular safety surveys, as well as gathering and using opinion surveys and observations of third parties to improve measurement of safety performance, sharing best practices and development of annual business plan containing information on safety related investements.

If the targets have not been achieved, please explain the underlying causes or circumstances that let to this situation.
The targets for 2023 have been achieved. However, in order to reach safety targets for RP3 the Organisation needs to upgrade its performance in one SA for 2024 – i.e. in safety risk management. The CAA PL takes the position that in order to reach level D in the safety risk management area Bydgoszcz Airport shall provide information supported by relevant evidence that its practices and processes are monitored and improved IAW effective review cycle including all essential indicators and goals. Bydgoszcz Airport has not provided the CAA neither with information nor evidence regarding using reactive, proactive and predictive methods/measures in the risk management process. The Local Safety Meeting tasks shall also include verification and monitoring of the effectiveness of the implemented corrective actions, monitoring the effectiveness of safety activities.

Is the NSA aware of any circumstances that may cause the SAF performance targets not to be met, either this year or in future years in the reference period?	No

What, if any, remedial actions have been implemented or planned by the ANSP to address this?
N/A

What further measures does the NSA intend to undertake to remedy this situation?
N/A

Warmia i Mazury sp. z o.o.

Effectiveness of Safety Management		2020	2021	2022	2023	2024
(a) safety policy and objectives	Values from PP	C	C	C	C	C
	Actual values	C	C	C	C	
(b) safety risk management	Values from PP	C	C	C	C	D
	Actual values	C	C	D	D	
(c) safety assurance	Values from PP	C	C	C	C	C
	Actual values	C	C	C	C	
(d) safety promotion	Values from PP	C	C	C	C	C
	Actual values	C	C	C	C	
(e) safety culture	Values from PP	C	C	C	C	C
	Actual values	C	C	C	C	

Assessment of the achieved level of actual performance
In 2023 Warmia i Mazury Airport maintained values from the last year in five safety areas. The above levels reflect the assessment made by the NSA.

Main measures put in place to achieve the safety performance targets
In 2023 Warmia i Mazury Airport (EPSY) took below measures aimed at maintaining the safety performance targets mentioned in the questionnaire the year before, for example: implementation of SMS related requirements, documents and procedures, compliant with national and international law, including development and maintenance of Safety Policy and Just Culture Policy, ensuring SMS training for all staff and contractors, appointing Safety Manager, Safety Committee and Safety Review Board, regular organisation of Local Safety Meetings, development of safety management indicators, promoting proactive attitude of the employees regarding safety across the organisation, conducting internal audits of the SMS and regular safety surveys, developing annual business plans containing information on safety related investements, sharing best practices, reviewing its SMS at least once per year, using reactive, proactive and predictive measures/methods in its risk management process etc.

If the targets have not been achieved, please explain the underlying causes or circumstances that let to this situation.
N/A

Is the NSA aware of any circumstances that may cause the SAF performance targets not to be met, either this year or in future years in the reference period?	No

What, if any, remedial actions have been implemented or planned by the ANSP to address this?
N/A

What further measures does the NSA intend to undertake to remedy this situation?
N/A

2.1.2 - Performance Indicators

2.1.2.(a) and (b) - Safety PI: rate of runway incursions and rate of separation minima infringements (Member State level)

Important note:
Please refer to the Supporting Guidance Material for the implementation and measurement of the safety key performance indicator (SKPI) and safety performance indicators (SPIs) for the Third Reference Period (RP3) - AMC3 Safety performance indicators (SPIs) for the monitoring of separation minima infringements (SMIs) and runway incursions (RIs) & GM5 Safety performance indicators (SPIs) for the monitoring of separation minima infringements (SMIs) and runway incursions (RIs). Only airports listed in the Performance Plan (mandatory & voluntary) and their corresponding IFR/ VFR movements should be used to derive the rate of runway incursions. At the State level, with safety impact refers to occurrences that have risk classified using the ERCS that appear in the Amber/ Red zones of the matrix.

Easy Access Rules for Safety (Key) Performance Indicators (S(K)PI) – Third Reference Period (RP3) | EASA (europa.eu)

Poland

Runway Incursions	2020	2021	2022	2023	2024
Total number of runway incursions with a safety impact	10	17	26	19	
Total number of IFR and VFR movements at the airports	194 403	238 124	382 479	432 535	
Rate of Runway Incursions at Airports Located in the Member State	0,00005	0,00007	0,00007	0,00004	

What initiatives were implemented or are planned that will improve this PI and how does the NSA intend on monitoring their effectiveness on performance?
Polish CAA urges PANSA to continue implementation of measures foreseen in RP3 PP.

Separation minima	2020	2021	2022	2023	2024
Total number of separation minima infringements with a safety impact that occurred in the airspace	21	15	39	34	
Total number of controlled flight hours within the airspace	217 134	267 414	355 901	386 507	
Rate of separation minima infringements within the airspace of all controlling air traffic services units in the Member State	0,00010	0,00006	0,00011	0,00009	

What initiatives were implemented or are planned that will improve this PI and how does the NSA intend to monitor their effectiveness?
N/A

2.1.2.(c) - Safety PI: rate of runway incursions (Airport level)

Important note:
Please refer to the Supporting Guidance Material for the implementation and measurement of the safety key performance indicator (SKPI) and safety performance indicators (SPIs) for the Third Reference Period (RP3) - AMC3 Safety performance indicators (SPIs) for the monitoring of separation minima infringements (SMIs) and runway incursions (RIs) & GM5 Safety performance indicators (SPIs) for the monitoring of separation minima infringements (SMIs) and runway incursions (RIs). Only IFR/VFR movements at airports listed in the Performance Plan should be used to derive the rate. At the airport level, with Safety Impact refers to occurrences with RAT ground severity of A, B and C.

Easy Access Rules for Safety (Key) Performance Indicators (S(K)PI) – Third Reference Period (RP3) | EASA (europa.eu)

EPBY (Bydgoszcz)	2020	2021	2022	2023	2024
Total number of runway incursions with any contribution from air traffic services or CNS services with a safety impact that occurred at the airport	1	1	2	1	
Total number of IFR and VFR movements at the airports	4 117	2 135	3 451	4 378	
Rate of Runway Incursions at the airport	0,00024	0,00047	0,00058	0,00023	

EPLB (Lublin)	2020	2021	2022	2023	2024
Total number of runway incursions with any contribution from air traffic services or CNS services with a safety impact that occurred at the airport	0	0	4	0	
Total number of IFR and VFR movements at the airports	1 684	1 825	3 549	3 166	
Rate of Runway Incursions at the airport	0,00000	0,00000	0,00113	0,00000	

EPSY (Olsztyn-Mazury)	2020	2021	2022	2023	2024
Total number of runway incursions with any contribution from air traffic services or CNS services with a safety impact that occurred at the airport	0	0	1	0	
Total number of IFR and VFR movements at the airports	1 023	505	1 414	1 710	
Rate of Runway Incursions at the airport	0,00000	0,00000	0,00071	0,00000	

EPWA (Lotnisko Chopina w Warszawie)	2020	2021	2022	2023	2024
Total number of runway incursions with any contribution from air traffic services or CNS services with a safety impact that occurred at the airport	4	3	6	9	
Total number of IFR and VFR movements at the airports	79 844	94 666	144 737	165 434	
Rate of Runway Incursions at the airport	0,00005	0,00003	0,00004	0,00005	

EPGD (Gdańsk im. Lecha Wałęsy)	2020	2021	2022	2023	2024
Total number of runway incursions with any contribution from air traffic services or CNS services with a safety impact that occurred at the airport	0	2	1	0	
Total number of IFR and VFR movements at the airports	21 607	25 444	40 870	45 350	
Rate of Runway Incursions at the airport	0,00000	0,00008	0,00002	0,00000	

EPKK (Kraków-Balice)	2020	2021	2022	2023	2024
Total number of runway incursions with any contribution from air traffic services or CNS services with a safety impact that occurred at the airport	2	3	2	2	
Total number of IFR and VFR movements at the airports	27 087	32 925	57 401	65 731	
Rate of Runway Incursions at the airport	0,00007	0,00009	0,00003	0,00003	

EPKT (Katowice-Pyrzowice)	2020	2021	2022	2023	2024
Total number of runway incursions with any contribution from air traffic services or CNS services with a safety impact that occurred at the airport	1	0	0	0	
Total number of IFR and VFR movements at the airports	17 318	24 570	36 734	41 383	
Rate of Runway Incursions at the airport	0,00006	0,00000	0,00000	0,00000	

EPLL (Łódź)	2020	2021	2022	2023	2024
Total number of runway incursions with any contribution from air traffic services or CNS services with a safety impact that occurred at the airport	0	3	2	0	
Total number of IFR and VFR movements at the airports	2 345	3 076	3 542	4 610	
Rate of Runway Incursions at the airport	0,00000	0,00098	0,00056	0,00000	

EPMO (Warszawa/Modlin)	2020	2021	2022	2023	2024
Total number of runway incursions with any contribution from air traffic services or CNS services with a safety impact that occurred at the airport	0	0	1	5	
Total number of IFR and VFR movements at the airports	8 614	13 085	21 254	21 508	
Rate of Runway Incursions at the airport	0,00000	0,00000	0,00005	0,00023	

EPPO (Poznań-Ławica)	2020	2021	2022	2023	2024
Total number of runway incursions with any contribution from air traffic services or CNS services with a safety impact that occurred at the airport	1	2	2	1	
Total number of IFR and VFR movements at the airports	10 833	13 847	22 684	25 290	
Rate of Runway Incursions at the airport	0,00009	0,00014	0,00009	0,00004	

EPRA (Lotnisko Warszawa-Radom)	2020	2021	2022	2023	2024
Total number of runway incursions with any contribution from air traffic services or CNS services with a safety impact that occurred at the airport	0	0	0	1	
Total number of IFR and VFR movements at the airports	1	0	0	1 053	
Rate of Runway Incursions at the airport	0,00000			0,00095	

EPRZ (Rzeszów-Jasionka)	2020	2021	2022	2023	2024

Total number of runway incursions with any contribution from air traffic services or CNS services with a safety impact that occurred at the airport	0	1	1	0	
Total number of IFR and VFR movements at the airports	4 011	4 268	14 340	15 144	
Rate of Runway Incursions at the airport	0,00000	0,00023	0,00007	0,00000	

EPSC (Szczecin-Goleniów)	2020	2021	2022	2023	2024
Total number of runway incursions with any contribution from air traffic services or CNS services with a safety impact that occurred at the airport	0	0	0	0	
Total number of IFR and VFR movements at the airports	3 236	3 243	5 074	5 357	
Rate of Runway Incursions at the airport	0,00000	0,00000	0,00000	0,00000	

EPWR (Wrocław-Strachowice)	2020	2021	2022	2023	2024
Total number of runway incursions with any contribution from air traffic services or CNS services with a safety impact that occurred at the airport	0	1	3	0	
Total number of IFR and VFR movements at the airports	13 661	17 399	26 388	31 249	
Rate of Runway Incursions at the airport	0,00000	0,00006	0,00011	0,00000	

EPZG (Zielona Góra-Babimost)	2020	2021	2022	2023	2024
Total number of runway incursions with any contribution from air traffic services or CNS services with a safety impact that occurred at the airport	0	0	1	0	
Total number of IFR and VFR movements at the airports	1 030	707	1 041	1 172	
Rate of Runway Incursions at the airport	0,00000	0,00000	0,00096	0,00000	

What initiatives were implemented or are planned that will improve this PI and how does the NSA intend to monitor their effectiveness?
N/A

2.1.2.(d) - Safety PI: rate of separation minima infringements (ANSP level)

Important note:
Please refer to the Supporting Guidance Material for the implementation and measurement of the safety key performance indicator (SKPI) and safety performance indicators (SPIs) for the Third Reference Period (RP3) - AMC3 Safety performance indicators (SPIs) for the monitoring of separation minima infringements (SMIs) and runway incursions (RIs) & GM5 Safety performance indicators (SPIs) for the monitoring of separation minima infringements (SMIs) and runway incursions (RIs).
When monitoring SMIs ensure that the following has been coded and reported:
— unambiguously identify the safety occurrences that are SMIs;
— when the SMI occurred at the arrival or departure at an airport, the location indicator of the airport where it took place;
— The ATS unit name, airspace type, class and FIR/UIR name;
— information on whether, in the judgement of the investigators of the occurrence, the ATS or CNS contributed to the SMI, either directly or indirectly or none, as appropriate;
— RAT ground severity associated to the SMI, as obtained by the application of the RAT methodology by the ANSP;
— ERCS risk grade associated to the SMI, as obtained by the application of the ERCS methodology by the State.

Easy Access Rules for Safety (Key) Performance Indicators (S(K)PI) – Third Reference Period (RP3) | EASA (europa.eu)

Polish Air Navigation Services Agency (PANSA)	2020	2021	2022	2023	2024
Total number of separation minima infringements with any contribution from air traffic services, or CNS services with a safety impact	8	15	39	34	
Total number of controlled flight hours within the airspace	217 134	267 414	355 901	386 507	
Rate of separation minima infringements within the airspace where the air navigation service provider provides air traffic services	0,00004	0,00006	0,00011	0,00009	

Port Lotniczy Bydgoszcz S.A.	2020	2021	2022	2023	2024
Total number of separation minima infringements with any contribution from air traffic services, or CNS services with a safety impact	0	0	0	0	
Total number of controlled flight hours within the airspace	0	0	0	0	
Rate of separation minima infringements within the airspace where the air navigation service provider provides air traffic services					

Warmia i Mazury sp. z o.o.	2020	2021	2022	2023	2024
Total number of separation minima infringements with any contribution from air traffic services, or CNS services with a safety impact	0	0	0	0	
Total number of controlled flight hours within the airspace	0	0	0	0	
Rate of separation minima infringements within the airspace where the air navigation service provider provides air traffic services					

What initiatives were implemented or are planned that will improve this PI and how does the NSA intend on monitoring their effectiveness on performance?
N/A

2.1.2.(e) - Safety PI: Application of automated safety data recording systems

Important note:
Please provide details of any automated safety data recording systems that have been implemented, including the use of the systems by the air navigation service provider, as a component of the safety risk management framework, for the purposes of gathering, storing and near-real time analyses of data related to, as a minimum, separation minima infringements and runway incursions
Please refer to the Supporting Material for the implementation and measurement of the safety key performance indicator (SKPI)
https://www.easa.europa.eu/document-library/easy-access-rules/easy-access-rules-safety-key-performance-indicators-skpi-third

Polish Air Navigation Services Agency (PANSA)	Type of automated safety data recording system:	None

(a) What safety data is captured by the automated safety data recording systems?
N/A

(b) How is the data captured used in support of the safety risk management framework?
N/A

(c) How are just-culture organisation principles applied in gathering and using the safety data recorded?
N/A

(d) How is the monitoring of data sources organised and how is it ensured that available data sources are utilised in a coherent way?
N/A

(e) How is the data combined to provide the explanatory power to understand the context that led to safety occurrences and anticipate emerging risks?
N/A

(f) How is the information from safety data analyses fed forward to risk assessment processes and to designers of future systems?
N/A

(g) How is the information disseminated inside and outside the organisation?
N/A

(h) Have obstacles of a technical, operational or cultural nature been identified that prevented the realisation of the full potential of a data-driven safety decision-making process? What are the main issues when using automated safety data recording systems?
N/A

Port Lotniczy Bydgoszcz S.A.	Type of automated safety data recording system:	None

(a) What safety data is captured by the automated safety data recording systems?
N/A

(b) How is the data captured used in support of the safety risk management framework?
N/A

(c) How are just-culture organisation principles applied in gathering and using the safety data recorded?
N/A

(d) How is the monitoring of data sources organised and how is it ensured that available data sources are utilised in a coherent way?
N/A

(e) How is the data combined to provide the explanatory power to understand the context that led to safety occurrences and anticipate emerging risks?
N/A

(f) How is the information from safety data analyses fed forward to risk assessment processes and to designers of future systems?
N/A

(g) How is the information disseminated inside and outside the organisation?
N/A

(h) Have obstacles of a technical, operational or cultural nature been identified that prevented the realisation of the full potential of a data-driven safety decision-making process? What are the main issues when using automated safety data recording systems?
N/A

Warmia i Mazury sp. z o.o.	Type of automated safety data recording system:	None

(a) What safety data is captured by the automated safety data recording systems?
N/A

(b) How is the data captured used in support of the safety risk management framework?
N/A

(c) How are just-culture organisation principles applied in gathering and using the safety data recorded?
N/A

(d) How is the monitoring of data sources organised and how is it ensured that available data sources are utilised in a coherent way?
N/A

(e) How is the data combined to provide the explanatory power to understand the context that led to safety occurrences and anticipate emerging risks?
N/A

(f) How is the information from safety data analyses fed forward to risk assessment processes and to designers of future systems?
N/A

(g) How is the information disseminated inside and outside the organisation?
N/A

(h) Have obstacles of a technical, operational or cultural nature been identified that prevented the realisation of the full potential of a data-driven safety decision-making process? What are the main issues when using automated safety data recording systems?
N/A

2.1.3 - Additional Safety Indicators

Number of additional Safety Indicators	0

SECTION 2.2: ENVIRONMENT KPA

2.2 - Environment

2.2.1 - Key Performance Indicators

2.2.1.(a) - Environment KPI #1: Horizontal en-route flight efficiency (KEA)

Poland	2020	2021	2022	2023	2024
Targets as shown in PP	1,85%	1,65%	1,65%	1,65%	1,65%
Actual values	1,67%	2,33%	4,79%	4,58%	
Difference	-0,18%	0,68%	3,14%	2,93%	

Assessment of the achieved level of actual performance in the environment KPA
The 2023 target, based on reference value for Poland established by the PRB in 2021, was not achieved. This situation was caused by external circumstances, beyond control of either ANSP (PANSA) or NSA (CAA Poland), which occurred after the establishment of Union-wide RP3 targets and related local reference values. Similar as in 2022, geopolitical situation had the strongest impact on 2023 results. This impact started to be visible already in 2021 - analysis of the monthly evolution of HFE indicator shows that it significantly increased after the incident with Ryanair flight diverted to Minsk in May 2021. This incident led to recommendations for EU operators to avoid Belarusian airspace, what has directly impacted the KEA indicator for Poland. The impact of the Belarusian situation was still visible over the first months of 2022. The same is valid for users from the Russian Federation avoiding airspace of Ukraine – a phenomenon visible already in RP2. The above situation was further exacerbated by 2022 developments. Since the end of February 2022 the HFE/KEA value was further impacted by the military aggression of the Russian Federation on Ukraine, having direct effect in the closure of Ukrainian airspace, as well as sanctions imposed by the European Union with reciprocal sanctions introduced by the Russian Federation consisting in closing Russian airspace for airspace users from European States. This led to significant changes in traffic flows in Central and Eastern Europe. The outbreak of the war had immediate, significant impact on the HFE indicator for the planned and actual route. The value of the indicator jumped from below 3% to above 5%. It further increased following the imposition of the sanctions mentioned above. Despite some decrease in the value of the indicator in 2023 (what can be attributed to a number of measures that PANSA undertaken after the war outbreak to limit the negative impact on the civil traffic), it remained well above the pre-war and pre-Belarusian reference values. Other factors influencing KEA indicator for Poland in 2023 were similar as in the preceding years and they included airspace users' preference for certain routes which are different than the shortest route, weather conditions (e.g. storms, visible especially over the summer season) or restricted airspace (also beyond Poland's borders). It needs to be underlined that for the traffic flows affected by the above factors the trajectory offered by PANSA inside Poland is as short as possible, the additional distance is coming from the overall trajectory inefficiency. What also needs to be borne in mind is the significant increase in military activity along Polish Eastern border. Although PANSA, in close cooperation with the military (including Polish Armed Forces and NATO) as well as with partners from ANSPs from neighbouring States, implements actions aimed at minimizing the negative impact of the conflict in Ukraine on civil aviation, it cannot be neglected that Poland is the frontline State and the impact of the war is specifically felt in the Polish airspace. In the nearest future there is no possibility to improve the KEA indicator in FIR Warszawa without eliminating the above mentioned external, geopolitical factors. The evolution of KEA in the Polish airspace over RP3 proves that this indicator is not suitable for measuring ANSPs' contribution to the environmental performance.

Has the ANSP implemented any major operational or structural changes (incl. any new fixed assets put into operation) during the calendar year impacting performance in this key performance area? Please outline the relevant changes and their estimated impact
FRA (POLFRA, from FL095, 24H) was implemented by PANSA in Warszawa FIR in February 2019 which was further expanded in one common cross-border FRA area with Lithuania named Baltic FRA. In the same step Polish-Slovakian boundary was opened for flight planning to allow cross-border FRA operations between Baltic FRA and SEEFRA. For information on measures implemented over 2020-2022 please see the respective Annual Monitoring Reports. Over 2023 PANSA continued implementation of improvements aimed also at offering the shortest possible routes to the airspace users, in line with provisions of ERNIP and adopted RP3 Performance Plan for Poland. RAD restrictions suspended in 2020,

following the outbreak of the pandemic and reduction of traffic, were still suspended over 2023 - more than 50 RAD restrictions remained suspended unblocking more than 200 traffic flows.

Projects implemented operationally over 2023 included:
- In 2023 PANSA revised flight planning restrictions implemented due to the war in Ukraine. It was decided to ease flight planning process for airspace users by lifting most of restrictions related to special military areas created to protect NATO flights in eastern part of Warszawa FIR. It was possible only by increasing the workload of Warszawa ACC ATCOs by handling more collisions between outings and active military areas tacticly,
- Reorganisation of ACC Warszawa sector configuration – first step of third layer implementation in South-Eastern part of the Polish airspace (implemented April 2023),
- Implementation of new sectorisation, airspace design and arrival/departure procedures for TMA Kraków.

Over 2023 PANSA was also working on the following projects to be operationally implemented 2024+:
- Cross border FRA with Sweden – between FAB DK-SE and Baltic FAB - (concept development and validation, planned implementation Q42024) – aimed at allowing more efficient flight planning,
- Cross border FRA with Czech Republic - between BALTIC FRA and SEE FRA (FRACZECH) - (concept development and validation, planned implementation Q42024) – aimed at allowing more efficient flight planning,
- LT-PL interface for Vilnius and Kaunas flights reorganisation – implementation of 3-point NAV system on common LT-PL boundary for Vilnius and Kaunas flights, aimed at improving the airspace structure, deconflicting EYKA/EYVI ARR and DEP flows, reducing ATCO workload in the area and offering shorter routing for arrivals to EYVI via EPWW from south direction (implemented May 2024).

Implementation of published flight efficiency plans (ERNIP)
See information above. Other initiatives foreseen in ERNIP not mentioned above: - FRA in TMAs (Warszawa TMA, Gdańsk TMA and Kraków TMA) – implementation date postponed due to reprioritisation, currently planned for 2025, - New TMA Rzeszów entry/exit points and new SIDs/STARs procedures connected to new points – implemented March 2024.

If the performance target for the calendar year was not met

Identification and analysis by the NSA of the underlying reasons or circumstances having led to the performance target not being achieved
As mentioned above, the non-achievement of the target in 2023 was caused by external circumstances, beyond control of either ANSP or NSA.

Recommendations to the ANSP to rectify the situation
Looking at the evolution of the HFE indicator in last years and considering the factors – purely external, mostly geopolitical – impacting this indicator only limited influence by PANSA or by Polish authorities can be done to improve the value of KEA indicator (as calculated today) in the current geopolitical circumstances. Neither the situation with Belarus following the forced landing in May 2021, nor the war in Ukraine and its impact on flights, were considered in the KEA RP3 reference values for Poland. It is clear that those reference values cannot be met not only as long as the military conflict in Ukraine lasts, but also as long as all the sanctions impacting traffic flows are in place and Ukrainian, Belarusian and Russian airspace is not unconditionally open for all GAT flights with similar reopening of EU airspace for Russian and Belarusian airspace users. It should be taken into account that as an outcome of the war in Ukraine, significantly increased NATO presence in the Polish airspace will last much longer than the active stage of the war in Ukraine. Thus currently implemented restrictions in the Polish airspace will be maintained even after cessation of combat operations in Ukraine. This means that this factor will still highly influence KEA value for Poland in RP3 and beyond, making it impossible to reach KEA reference values in the nearest future.

Remedial measures have been / will be taken by the ANSP?	No

If no measures will be taken by the ANSP, please explain why
As the deviation from the target is caused by factors beyond the control of PANSA, this situation cannot be rectified by measures taken by PANSA. However, as stated above, PANSA continues to implement measures foreseen in ERNIP and in the adopted RP3 PP.

Follow-up of the measures relating to previous calendar years

Remedial measures have been / will be taken by the ANSP?	No

Is the NSA aware of any significant risks which are likely to lead to performance targets not being achieved during the ongoing calendar year or during the following calendar years of the reference period?	Yes

What has been done by the ANSP in order to address the identified performance issues?
The performance issues (situation related to use of Belarusian airspace, the impact of war in Ukraine and related sanctions) are related directly to geopolitical situation and cannot be addressed by PANSA (are beyond control of PANSA or NSA). In the nearest future there is no possibility to improve the KEA indicator in FIR Warszawa without eliminating the above mentioned external, geopolitical factors. The evolution of KEA in the Polish airspace over RP3 proves that this indicator is not suitable for measuring ANSPs' contribution to the environmental performance.

What further measures does the NSA intend to undertake to remedy this situation?
Polish CAA urges PANSA to continue implementation of measures foreseen in RP3 PP.

Additional comments
The largest (negative) impact on 2024 results is linked to the war in Ukraine and related sanctions. This risk has already materialised over the first months of 2024. When analysing the monthly HFE evolution over 2022 it is clearly visible that the environmental indicators significantly deteriorated after the outbreak of the war. This is still the case over the past months of 2024. The war in Ukraine increases HFE value in FIR EPWW mainly due to: 1. Closed airspace over Ukraine and related sanctions, 2. Significantly increased number of NATO flights in eastern part of the Polish airspace. Significant portion of this part of the airspace is reserved for military flights (performed H24) thus unavailable for civil traffic. It is clear that the KEA target will not be met not only as long as the military conflict in Ukraine lasts, but also as long as all the sanctions impacting traffic flows are in place and Ukrainian, Belarusian and Russian airspace is not unconditionally open for all GAT flights with similar reopening of EU airspace for Russian and Belarusian airspace users and the increased military presence of NATO in the Polish airspace is visible.

Additional information related to Russia's war of aggression against Ukraine

Please describe any changes in traffic flows/patterns, and if/how those changes affected the Environment KPA.
As indicated above, large majority of the airspace behind Poland's eastern border is now significantly restricted by military (due to the war in Ukraine and related sanctions). Therefore, traffic flows over Poland changed very significantly as compared to the

situation when Union-wide targets and related reference values for RP3 were established. Flights that cannot operate over the Belarusian and Ukrainian airspace are performed via Polish airspace on the north-south axis with much extended trajectory. The same is valid for flights circumnavigating around the Kaliningrad airspace. Due to the formula of calculating the local KEA indicator value, the route extension beyond Polish airspace negatively impacts the KEA value for Poland (so called network component). Moreover, increased military activity in the Polish airspace, including larger NATO presence, impacts airspace availability – especially in the eastern part of the Polish airspace – also impacting the KEA indicator. Additionally some AOs chose to apply own additional buffer from Ukrainian airspace and perform flights in Polish airspace along longer routings than the shortest available which further increases KEA value for Poland.

Please describe what remedial actions have been taken to mitigate any possible impacts on the Environment KPA, related to Russia's war of aggression against Ukraine.
As indicated in Annual Monitoring Report for 2022 and also above, following the outbreak of the war, PANSA implemented solutions aimed at minimising the negative impact of the outbreak of the war on ENV performance, especially in the south-eastern part of the Polish airspace: level change of military areas, RAD and PTR to change EPRZ traffic profiles, new sector configurations in JKZR part since 17.06.2022, coordination with LZBB to unblock PODAN and KEFIR border points (above FL315), implementation of the 3rd layer of ACC Warszawa in sectors JR since 20.04.2023. In mid of 2023, lifting some of flight planning restrictions by shifting more responsibility to ACC ATCOs to handle routings and MIL areas collisions tactically in order to ease flight planning process for airspace users. However, considering the formula for the calculation of KEA and taking into consideration the geographical location of Poland, possible influence of PANSA on the value of KEA is almost none. As long as the Ukrainian airspace is closed and traffic flows restrictions are in place, KEA value for Poland will remain high.

2.2.2 - Performance Indicators

2.2.2.(a) - Environment PI #1: Horizontal en-route flight efficiency of last filed flight plan (KEP)

Poland	2020	2021	2022	2023	2024
Actual values	3,07%	3,69%	7,42%	6,79%	

What initiatives were implemented or are planned that will improve this PI and how does the NSA intend on monitoring their effectiveness on performance?
In February 2019 PANSA implemented FRA (POLFRA) in Warszawa FIR from FL95, H24 which was further expanded in one common cross-border FRA area with Lithuania named Baltic FRA. In the same step Polish-Slovakian boundary was opened for flight planning to allow cross-border FRA operations between Baltic FRA and SEEFRA. Changes implemented over 2020-2022 were listed in respective Performance monitoring reports and changes implemented in 2023 are listed in chapter 2.2.1.(a) of this report and include changes to the airspace as well as coordination between AMC and FMP. Further development of FRA is pursued, including cross border FRA operations with Lithuania (Baltic FAB project) and Slovakia which were already implemented in 2022, as well as other States - Sweden and Czech Republic (planned implementation in Q42024). Planned vertical split of Warszawa FIR into three layers (stage 1 implemented in 2023, subsequent stages to be implemented 2026+) is expected to reduce risk of negative impact of possible congestion in ACC sectors on KEP. Similarly, as KEA, KEP indicator is also influenced by the geopolitical factors, beyond control of PANSA. As indicated in chapter 2.2.1.(a) of this report, HFE indicators are expected to remain high over 2024 due to the military conflict in Ukraine and related sanctions.

2.2.2.(b) - Environment PI #2: Horizontal en-route flight efficiency of shortest constrained route (KES)

Poland	2020	2021	2022	2023	2024
Actual values	2,42%	2,79%	6,86%	6,49%	

What initiatives were implemented or are planned that will improve this PI and how does the NSA intend on monitoring their effectiveness on performance?
In February 2019 PANSA implemented FRA (POLFRA) in Warszawa FIR from FL95, H24 which was further expanded in one common cross-border FRA area with Lithuania named Baltic FRA. In the same step Polish-Slovakian boundary was opened for flight planning to allow cross-border FRA operations between Baltic FRA and SEEFRA. Changes implemented over 2020-2022 were listed in respective Performance monitoring reports and changes implemented in 2023 are listed in chapter 2.2.1.(a) of this report and include changes to the airspace as well as coordination between AMC and FMP. Further development of FRA is pursued, including cross border FRA operations with Lithuania (Baltic FAB project) and Slovakia which were already implemented in 2022, as well as other States - Sweden and Czech Republic (planned implementation in Q42024). Planned vertical split of Warszawa FIR into three layers (stage 1 implemented in 2023, subsequent stages to be implemented 2026+) is expected to reduce risk of negative impact of possible congestion in ACC sectors on KES. Similarly, as KEA, KES indicator is also influenced by the geopolitical factors, beyond control of PANSA. As indicated in chapter 2.2.1.(a) of this report, HFE indicators are expected to remain high over 2024 due to the military conflict in Ukraine and related sanctions.

2.2.2.(c) - Environment PI #3: Additional taxi-out time (>80K movements)

Important note:
If the data at airport level are not available, the field will show "N/A"

Poland *only airports > 80k movements (2016-18)*		2020	2021	2022	2023	2024
EPWA (Lotnisko Chopina w Warszawie)	Actual	1,99	2,11	2,28	2,59	

What initiatives were implemented or are planned that will improve this PI and how does the NSA intend on monitoring their effectiveness on performance?
2023 additional taxi-out time may be attributed to significant airside work in progress. Ongoing work on revalidating A-CDM may be a factor in reducing this index in near future. Planned initiatives include Traffic Complexity Tool (Fast time simulations) and A-SMGCS.

If the data at airport level are not available, please explain the reasons why data is missing and describe the measures planned to resolve the situation
N/A

2.2.2.(d) - Environment PI #4: Additional time in terminal airspace (>80K movements)

Important note:
If the data at airport level are not available, the field will show "N/A"

Poland *only airports > 80k movements (2016-18)*		2020	2021	2022	2023	2024
EPWA (Lotnisko Chopina w Warszawie)	Actual	1,21	1,05	1,27	1,19	

What initiatives were implemented or are planned that will improve this PI and how does the NSA intend on monitoring their effectiveness on performance?
For information on measures implemented over 2020-2022 please see the respective Annual Monitoring Reports. There are several changes in Warszawa TMA planned to reduce the additional time in that airspace. A change to the radar separation minimum from 5 NM to 3 NM in the TMA is planned as well as a partial implementation of RECAT-EU. Both of these changes are expected to allow to reduce the distance flown by the aircraft in the terminal airspace thus reducing the time. Moreover, sectorisation change of the Warszawa TMA is planned that is expected to bring further improvement. All of the above-mentioned changes are planned to be implemented early RP4.

If the data at airport level are not available, please explain the reasons why data is missing and describe the measures planned to resolve the situation
N/A

2.2.2.(e) - Environment PI #5: Share of arrivals applying continuous descent operation

Important note:
If the data at airport level are not available, the field will show "N/A"

Poland *all airports included in the SES PS*		2020	2021	2022	2023	2024
EPBY (Bydgoszcz)	Actual	0,43	0,42	0,39	0,37	
EPGD (Gdańsk im. Lecha Wałęsy)	Actual	0,58	0,49	0,51	0,48	
EPKK (Kraków-Balice)	Actual	0,53	0,45	0,45	0,45	
EPKT (Katowice-Pyrzowice)	Actual	0,49	0,46	0,39	0,38	
EPLB (Lublin)	Actual	0,36	0,39	0,37	0,40	
EPLL (Łódź)	Actual	0,42	0,35	0,34	0,32	
EPMO (Warszawa/Modlin)	Actual	0,66	0,61	0,55	0,60	
EPPO (Poznań-Ławica)	Actual	0,42	0,36	0,36	0,35	
EPRA (Lotnisko Warszawa-Radom)	Actual	n/a	n/a	n/a	0,22	
EPRZ (Rzeszów-Jasionka)	Actual	0,52	0,48	0,27	0,33	
EPSC (Szczecin-Goleniów)	Actual	0,53	0,58	0,51	0,52	
EPSY (Olsztyn-Mazury)	Actual	0,47	0,54	0,39	0,41	
EPWA (Lotnisko Chopina w Warszawie)	Actual	0,51	0,49	0,45	0,44	
EPWR (Wrocław-Strachowice)	Actual	0,43	0,40	0,35	0,32	
EPZG (Zielona Góra-Babimost)	Actual	0,68	0,61	0,63	0,37	

What initiatives were implemented or are planned that will improve this PI and how does the NSA intend on monitoring their effectiveness on performance?
For information on measures implemented over 2020-2022 please see the respective Annual Monitoring Reports. Planned reduction of the radar separation minimum in Warszawa TMA from 5 NM to 3 NM is expected to allow a greater number of operations to be performed as CDA. The change is planned to be implemented early RP4.

2.2.2.(f) - Environment PI #6: Effective use of reserved or segregated airspace (per ACC)

Poland	2020	2021	2022	2023	2024
Total number of hours allocated & notified to NM	176 507	174 077	187 451	174 860	
Total number of hours used	64 424	62 469	75 171	77 495	
Ratio	36%	36%	40%	44%	

What initiatives were implemented or are planned that will improve this PI and how does the NSA intend on monitoring their effectiveness on performance?
See description below for ACC.

Warsaw (EPWW ACC)	2020	2021	2022	2023	2024
Total number of hours allocated & notified to NM	176 507	174 077	187 451	174 860	
Total number of hours used	64 424	62 469	75 171	77 495	
Ratio	36%	36%	40%	44%	

What initiatives were implemented or are planned that will improve this PI and how does the NSA intend on monitoring their effectiveness on performance?
On strategic airspace management level, all significant exercises and permanent areas are evaluated and analysed taking into account historic civil traffic flows and civil traffic predictions. The impact, depending on the scale, is consulted with the key stakeholders including neighboring states, aerodrome operators, aircraft operators, ATS, military, EUROCONTROL NM. The lateral and vertical limits of the airspace elements published are designated considering the actual needs of users and nature of activities. All airspace elements shall be planned only for the time period necessary to perform the intended task. The user is obliged to specify precisely the period of activity of a selected element and all timely suspensions of activity between these periods. The locations of the activities are designed not to affect the main traffic flows, ATC routes, DCTs and FRA connectivity. Segmentation, time and level restrictions are imposed when needed to mitigate the impact in location in heavy traffic periods of the day. If possible class C TRA airspace is implemented to minimize the impact on civil routing. When the areas excess the set scale they are always divided into smaller modules/segments. Each of these segments is designed in order to fit particular activities without necessity to activate the whole area to perform specific assignments. The shape of these segments is always aligned with main civil traffic flows to minimize the horizontal flight inefficiency. Further measures include: - update of local ASM system/radar data added to visualize military activity in segregated areas. As a result, update of coordination procedures to reduce the time required to release segregated areas back to civil traffic. - implementation of closer cooperation between AMC Poland and FMP Warszawa in order to reduce as much as possible negative influence of segregated areas on civil traffic. Implementation of new coordination procedures (NPZ management) taking into account forecasted demand of civil traffic on segregated airspace allocation in time on the day of the operations. Annual review of the efficiency of airspace utilization is conducted.

2.2.2.(g) - Environment PI #7: Rate of planning via available airspace structures (per ACC)

Poland	2020	2021	2022	2023	2024
Number of aircraft filing flight plans via reserved or segregated airspace and CDRs	130 396	221 868	268 676	295 020	
Number of aircraft that could have planned through those airspace structures	216 861	269 735	332 309	361 305	
Ratio of planning via available airspace structures	60%	82%	81%	82%	

What initiatives were implemented or are planned that will improve this PI and how does the NSA intend on monitoring their effectiveness on performance?
See description below for ACC.

Warsaw (EPWW ACC)	2020	2021	2022	2023	2024
Number of aircraft filing flight plans via reserved or segregated airspace and CDRs	130 369	221 868	268 676	295 020	
Number of aircraft that could have planned through those airspace structures	216 861	269 735	332 309	361 305	
Ratio of planning via available airspace structures	60%	82%	81%	82%	

What initiatives were implemented or are planned that will improve this PI and how does the NSA intend on monitoring their effectiveness on performance?
The available flight planning options are constantly updated to allow Aircraft Operator (AO) to plan the most horizontally effective trajectory, even when the areas are active. Except ATS network and DCTs, the AOs have the possibility to plan in the Free Route Airspace environment (FRA). Implementation of cross-border free route airspace operations within Lithuanian and Polish airspace (BALTIC FRA) and the cross border operations between BALTIC FRA and South East Europe FRA were implemented in 1Q 2022 which could further increase the planning opportunities. It is planned to further expand cross-border options by implementation of cross-border FRA operations between Poland, Czechia and Sweden by the end of 2024. The lateral and vertical limits of the airspace elements published are designated considering the actual needs of users and nature of activities. All airspace elements shall be planned only for the time period necessary to perform the intended task. The user is obliged to specify precisely the period of activity of a selected element and all timely suspensions of activity between these periods. Segmentation, time and level restrictions are imposed when needed to mitigate the impact in location in heavy traffic periods of the day. If possible class C TRA airspace is implemented to minimize the impact on civil routing. Special procedures are prepared including dynamic change of level or segment and creation of new temporary routings for avoidance of military traffic. Further measures include: - update of local ASM system/radar data added to visualize military activity in segregated areas. As a result, update of coordination procedures to reduce the time required to release segregated areas back to civil traffic. - implementation of closer cooperation between AMC Poland and FMP Warszawa in order to reduce as much as possible negative influence of segregated areas on civil traffic. Implementation of new coordination procedures (NPZ management) taking into account forecasted demand of civil traffic on segregated airspace allocation in time on the day of the operations. Due to the war in Ukraine and significantly increased number of NATO flights in Polish airspace special procedures were implemented in order to easy flight planning process for AUs. For some areas FUA restrictions are dynamically managed and if possible are not activated on a given days.

2.2.2.(h) - Environment PI #8: Rate of using available airspace structures (per ACC)

Poland	2020	2021	2022	2023	2024
Number of aircraft flying via reserved or segregated airspace and CDRs	261 904	350 244	417 154	458 163	
Number of aircraft that could have planned through those airspace structures	216 861	269 735	332 309	361 305	
Ratio of using available airspace structures	121%	130%	126%	127%	

What initiatives were implemented or are planned that will improve this PI and how does the NSA intend on monitoring their effectiveness on performance?
See description below for ACC.

Warsaw (EPWW ACC)	2020	2021	2022	2023	2024
Number of aircraft flying via reserved or segregated airspace and CDRs	261 904	350 244	417 154	458 163	
Number of aircraft that could have planned through those airspace structures	216 861	269 735	332 309	361 305	
Ratio of using available airspace structures	121%	130%	126%	127%	

What initiatives were implemented or are planned that will improve this PI and how does the NSA intend on monitoring their effectiveness on performance?
The lateral and vertical limits of the airspace elements published are designated considering the actual needs of users and nature of activities. All airspace elements shall be planned only for the period necessary to perform the intended task. The user is obliged to specify precisely the period of activity of a selected element and all timely suspensions of activity between these periods. Segmentation, time and level restrictions are imposed when needed to mitigate the impact in location in heavy traffic periods of the day. If possible class C TRA airspace is implemented to minimize the impact on civil routing. Special procedures are prepared including dynamic change of level or area segment. Further measures include: - update of local ASM system/radar data added to visualize military activity in segregated areas. As a result, update of coordination procedures to reduce the time required to release segregated areas back to civil traffic. - implementation of closer cooperation between AMC Poland and FMP Warszawa in order to reduce as much as possible negative influence of segregated areas on civil traffic. Implementation of new coordination procedures (NPZ management) taking into account forecasted demand of civil traffic on segregated airspace allocation in time on the day of the operations.

2.2.3 - Additional Environment Indicators

Number of additional Environment Indicators	0

Does the Member State use internal metrics for measuring environmental performance that are not subject to Commission Implementing Regulation?	

SECTION 2.3: CAPACITY KPA

2.3 - Capacity

2.3.1 - Key Performance Indicators

2.3.1.(a) - Capacity KPI #1: En-route ATFM delay per flight

Poland (PANSA)	2020	2021	2022	2023	2024
Targets as shown in PP	0,30	0,07	0,12	0,12	0,12
Actual values	0,00	0,07	1,09	0,20	
Difference	-0,30	0,00	0,97	0,08	

Monitoring process
Evolution of capacity situation and delays is performed every day based on own PANSA OPS data as well as NM data. Monthly monitoring is implemented based on EUROCONTROL (ANS performance) data. The results in the CAPACITY KPA at the end of 2023 year for Poland (PANSA) was 0,20 minutes/flight with a target of 0,12 minutes/flight. The significant increase of delays in Polish airspace, especially the en route delays rate is a direct consequence of the Russian Federation against Ukraine. This situation continues since the beginning of the invasion in February 2022.

Capacity planning
Capacity planning over 2023 focused on mid to long-term planning based on STATFOR forecasts, NM data, PANSA simulations as well as short term planning (up to 8 weeks) under the NOP rolling planning initiative coordinated by the Network Manager. Capacity planning, was challenging due to higher than pre-RP3 uncertainty regarding traffic levels as well as military activity resulting from the geopolitical developments. Despite the war in Ukraine and challenges related thereto, PANSA continued implementing initiatives aimed at improving capacity in FIR Warszawa to meet challenges related to traffic increase after the crisis as well as potential changes in traffic flows. These included, among others, the following: - continuation of new ATCOs training (continued training process for trainees employed before the pandemic outbreak and trainees from recruitment processes started in 2022 (new ATCO course in 2022), as well as new recruitment process for ATCO started in 2023), - continued adaptation of the air traffic management system (Pegasus_21) to operational needs and modernisation of the ATM system as well as works – under international iTEC cooperation – on new ATM system to be implemented in the future, - use of tools supporting ATCOs and flow management optimisation (including use of Traffic Complexity Tool and NMP Flow), - continued investments in infrastructure (CNS) and technology allowing for optimisation of airspace structures and optimisation of coverage in the Polish airspace as well as supporting contingency, - implementation of the first stage of airspace three-layer vertical split (south-eastern part of the Polish airspace – JR sectors – operationally deployed in April 2023) and preparation for implementation of subsequent stages in RP4, - reorganisation of Kraków TMA – new sectors, new SID/STAR procedures (operationally deployed in 2023), - continued harmonisation of GAT and OAT traffic leading to implementation of EUROAT, - refreshment trainings for current ATCOs to maintain their competence, - continuation of flexible rostering, - evolving ACC sector configurations and management to cope with updated traffic forecasts, - continued FMP dynamic management and ATFCM techniques including STAM, - improvement of comprehensive airspace management. PANSA also actively contributed to the implementation of Summer 2023 NM measures aimed at limiting delays in the mostly congested parts of the Network. Plans for 2024 include continuation of the above listed initiatives, among others: - further works on reorganisation of ACC Warszawa sector configuration – three layer vertical division – further stages (planned

to be operationally deployed in RP4),
- continuation of training process for new ATCOs (including new recruitments), with initiatives supporting increased efficiency of the recruitment and training processes,
- adaptation of the air traffic management system to operational needs and modernisation of the ATM System,
- continued investments in infrastructure (CNS) and technology allowing for optimisation of airspace structures and optimisation of coverage in the Polish airspace as well as supporting resilience, scalability and flexibility of service provision,
- development of CPDLC operational use (logon-list).

ATCOs in OPS

Warsaw (EPWW ACC)	Plan values from the PP				
	2020	2021	2022	2023	2024
Number of additional ATCOs in OPS who have started working in the OPS room (FTEs)		5	10	6	5
Number of ATCOs in OPS who have stopped working in the OPS room (FTEs)		4	0	0	0
Number of ATCOs in OPS operational at year-end (FTEs)		173	183	189	194

	Actual values				
	2020	2021	2022	2023	2024
Number of additional ATCOs in OPS who have started working in the OPS room (FTEs)	1	5	13	9,0000	
Number of ATCOs in OPS who have stopped working in the OPS room (FTEs)	4	5	7	9,7833	
Number of ATCOs in OPS operational at year-end (FTEs)	172	172	178	177,2167	

	Differences				
	2020	2021	2022	2023	2024
Number of additional ATCOs in OPS who have started working in the OPS room (FTEs)		0	3	3	
Number of ATCOs in OPS who have stopped working in the OPS room (FTEs)		1	7	10	
Number of ATCOs in OPS operational at year-end (FTEs)		-2	-5	-12	

Additional comments
Number of additional ATCOs in OPS who have started working in the OPS room (FTEs): 9 consists of: 6 - new licenses, 3 - shifts to PRU1 (ATCOs in OPS) category from other PRU categories. Number of ATCOs in OPS who have stopped working in the OPS room (FTEs): 9,7833 consists of: 4 – termination of the contract, 5 – shifts from PRU1 (ATCOs in OPS) category to other PRU categories, 0,7833 – balance of increase and reduction of working time on the request of employee.

If the performance target for the calendar year was not met

Identification and analysis by the NSA of the underlying reasons or circumstances having led to the performance target not being achieved
The following elements impacted the en-route delay indicator over 2023 that resulted in not meeting the target: 1. Military aggression of the Russian Federation on Ukraine, 2. Reorganisation of Kraków TMA. On point 1 - the Russian aggression against Ukraine resulted in the introduction of restrictions in FIR Warszawa (specifically, along Poland's eastern border), impacting availability of the airspace for civil traffic. Much wider military activities are visible, also linked to increased number of NATO flights in eastern part of the Polish airspace. Significant portion of this part of the airspace is reserved for military flights (performed H24) thus unavailable for civil traffic. The limited capacity (caused directly by the political circumstances), coupled with increased demand in sectors group J (due to limited possibilities of planning through sector R, caused by NPZ), has an impact on delays in the Polish airspace. Moreover, unpredictability of certain military operations (including NATO ad hoc operations) results in difficulties for strategic planning of traffic flows, requiring implementation of tactical measures. The impact on delays can be especially visible during the period of higher traffic levels (when the traffic demand exceeds the available capacity in the parts of FIR Warszawa which were impacted by the restrictions). On point 2 – the airspace reorganisation was necessary following analysis of delays recorded in 2019 as well as due to significant increase in traffic in South-Eastern part of the Polish airspace (especially to/from EPRZ airport) following the outbreak of the war in Ukraine. The change in TMA boundaries, new sectorization and new SID/STAR procedures were aimed at improving the traffic flow management and increasing capacity of the Kraków TMA. However, during the implementation phase, temporary reduction of occupancy values had to be applied, what impacted the level of delays – this impact was especially visible over September-October 2023.

Recommendations to the ANSP to rectify the situation
Polish CAA recommends constant analysis of the situation by PANSA.

Remedial measures have been / will be taken by the ANSP?	Yes

Number of measures put in place	2

Title	Description	Timeline for implementation	Status
Improved sectorisation of ACC	*New sector configurations in JKZR part since 17.06.2022, implementation of first stage of three-layer vertical airspace split in April 2023.*	*2022-2023*	*Implemented*
Traffic flow management	*There are evaluations of traffic flows, carried out on regular basis in order to modify flows and move from congested areas to volumes of airspace where spare capacity can be found.*	*ongoing*	*Ongoing*

Follow-up of the measures relating to previous calendar years

Remedial measures have been / will be taken by the ANSP?	Yes

If yes, have those measures been effectively implemented?	Yes

What action has the NSA taken to check/monitor the implementation of those measures and what further actions (if any) are planned during the ongoing calendar year?
The situation has been deeply analysed in close cooperation with PANSA.

Is the NSA aware of any significant risks which are likely to lead to performance targets not being achieved during the ongoing calendar year or during the following calendar years of the reference period?	Yes

What has been done by the ANSP in order to address the identified performance issues?
Please see information provided above.

What further measures does the NSA intend to undertake to remedy this situation?
The situation will be deeply analysed with close cooperation with PANSA.

Additional comments
The war in Ukraine and related geopolitical situation is expected to impact capacity indicator for Poland also in 2024. Due to unpredictability of the situation (unpredictability related to further evolution of the conflict and of possible impact on Poland) as well as uncertainty regarding military activities in FIR Warszawa, it is difficult to assess the possible impact on 2024 capacity results.

Additional information related to Russia's war of aggression against Ukraine

Please describe any changes in traffic flows/patterns, and if/how those changes affected en route capacity performance.
The biggest impact on en-route capacity performance for Poland is linked with increased military activity and related limited capacity available to civil traffic. As indicated above, much wider military activities in the Polish airspace are visible, also linked to increased number of NATO flights in eastern part of the Polish airspace. Significant portion of this part of airspace is reserved for military flights (performed H24), thus unavailable for civil traffic. At the same time, following closure of Ukrainian airspace and very limited possible use of Belarusian airspace, additional traffic flows are observed on the north-southern axis along the eastern Poland's border. The combination of limited airspace available and traffic demand leads to increase in delays. Moreover, unpredictability of certain military operations (including NATO ad hoc operations) results in difficulties for strategic planning of traffic flows, requiring implementation of tactical measures. The impact can be especially visible during the period of higher traffic levels (when the traffic demand exceeds the available capacity in the parts of FIR Warszawa which were impacted by the restrictions).

Please indicate if any en route ATFM delays occurred in 2023 exclusively due to Russia's war of aggression against Ukraine. Please provide a monthly breakdown of such en route ATFM delays, per delay reason codes.

Following discussion with the Network Manager, since mid-March 2022 delays directly caused by the war in Ukraine have been marked as "O" (other) and thus also included in the data published by the Network Manager. Delays marked "O" are only related to the war in Ukraine and do not take into account other causes of delays. Certain delays marked "M" are also considered as related to the war in Ukraine. Over 2023, the delays coded "O" amounted to 2 635 minutes, while those coded "M" related to the war amounted to 569 minutes.

Below are the en-route delays over 2023 marked explicitly as related to the war in Ukraine:

Month	ER delays (minutes)	Delay reason
JAN	0	
FEB	0	
MAR	0	
APR	944	O - Other
MAY	113	O - Other
JUN	256	O - Other
JUL	1 113	O - Other, M - Airspace Management
AUG	0	
SEP	778	O - Other
OCT	0	
NOV	0	
DEC	0	
Total 2023	**3 204**	
O - Other	*2 635*	
M - Airspace Management	*569*	

Please describe what remedial actions have been taken to mitigate any possible impacts on en route capacity performance related to Russia's war of aggression against Ukraine.
As indicated in Annual Monitoring Report for 2022 and above: - PANSA implemented RAD measures and EU Restrictions that were aimed to reduce ATFCM delays within EPWW FIR sectors with limited capacity due to additional military activity. - PANSA also implemented solutions aimed at minimising this negative impact, especially in the south-eastern part of the Polish airspace: level change of military areas, RAD and PTR to change EPRZ traffic profiles, new sector configurations in JKZR part since 17.06.2022, coordination with LZBB to unblock PODAN and KEFIR border points (above FL315). - Further improvements in the sectorisation in the south-eastern part of the Polish airspace were made through introduction of three-layer vertical split (first stage implemented in April 2023).

2.3.1.(b) - Capacity KPI #2: Terminal and airport ANS ATFM arrival delay per flight

Important note:
If the data at airport level are not available, the field will show "N/A"

Poland		2020	2021	2022	2023	2024
National level *(all airports included in the SES PS)*	PP values	0,45	0,02	0,21	0,24	0,23
	Actual	0,02	0,00	0,04	0,19	
	Diff.	-0,43	-0,02	-0,17	-0,05	
Airport level	***EPBY (Bydgoszcz)***	PP values	0,00	0,00	0,00	0,00	0,00
		Actual	0,00	0,00	0,00	0,00	
	EPGD (Gdańsk im. Lecha Wałęsy)	PP values	0,00	0,00	0,00	0,00	0,00
		Actual	0,00	0,00	0,12	0,04	
	EPKK (Kraków-Balice)	PP values	0,06	0,02	0,04	0,25	0,23
		Actual	0,04	0,00	0,11	0,04	
	EPKT (Katowice-Pyrzowice)	PP values	0,02	0,00	0,02	0,16	0,11
		Actual	0,00	0,00	0,05	0,01	
	EPLB (Lublin)	PP values	0,00	0,00	0,00	0,00	0,00
		Actual	0,00	0,00	0,00	0,00	
	EPLL (Łódź)	PP values	0,00	0,00	0,00	0,00	0,00
		Actual	0,00	0,00	0,04	0,00	
	EPMO (Warszawa/Modlin)	PP values	0,24	0,00	0,37	0,34	0,31
		Actual	0,01	0,00	0,00	0,58	
	EPPO (Poznań-Ławica)	PP values	0,08	0,00	0,11	0,10	0,09
		Actual	0,00	0,01	0,00	0,03	
	EPRA (Lotnisko Warszawa-Radom)	PP values	0,00	0,00	0,00	0,00	0,00
		Actual	0,00	n/a	n/a	0,00	
	EPRZ (Rzeszów-Jasionka)	PP values	0,00	0,00	0,03	0,00	0,00
		Actual	0,00	0,00	0,04	0,19	
	EPSC (Szczecin-Goleniów)	PP values	0,00	0,00	0,00	0,00	0,00
		Actual	0,00	0,00	0,02	0,00	
	EPSY (Olsztyn-Mazury)	PP values	0,00	0,00	0,00	0,00	0,00
		Actual	0,00	0,00	0,00	0,00	
	EPWA (Lotnisko Chopina w Warszawie)	PP values	0,95	0,04	0,42	0,39	0,38
		Actual	0,04	0,00	0,02	0,36	
	EPWR (Wrocław-Strachowice)	PP values	0,00	0,03	0,00	0,00	0,00
		Actual	0,00	0,00	0,01	0,00	
	EPZG (Zielona Góra-Babimost)	PP values	0,00	0,00	0,00	0,00	0,00
		Actual	0,00	0,00	0,00	0,00	

Additional comments
The actual performance over 2023 was better than the target set in the adopted RP3 PP. Large majority of delays recorded in 2023 were linked to non-ATC reasons. Aerodrome-related delays accounted for 84% of the terminal delays and Weather conditions generated 6% of the terminal delays. ATC-related delays accounted for 10% of terminal delays in 2023.

Follow-up of the measures relating to previous calendar years

Remedial measures have been / will be taken by the ANSP?	No
Is the NSA aware of any significant risks which are likely to lead to performance targets not being achieved during the ongoing calendar year or during the following calendar years of the reference period?	No

Additional comments
N/A

Additional information related to Russia's war of aggression against Ukraine

Please describe any changes in traffic flows/patterns around airports, and if/how those changes affected terminal capacity performance.
The outbreak of the war in Ukraine impacted traffic to/from Rzeszów-Jasionka (EPRZ) airport, which became kind of a transportation hub for Ukraine. As a consequence, significant traffic increase at this airport, as compared to both previous years as well as the assumptions underlying the adopted RP3 PP, was observed. Moreover, military exercises are being organized at/around the airport and military operations are performed at the airport - causing also temporary closure of the airport.

Please indicate if any airport arrival ATFM delays occurred in 2023 exclusively due to Russia's war of aggression against Ukraine. Please provide a monthly breakdown of such airport arrival ATFM delays, per airports and delay reason codes.

Increased military activity, following the outbreak of the war, had some impact on delays in Rzeszów-Jasionka (EPRZ) airport over 2023.

Below are the airport arrival ATFM delays for Rzeszów-Jasionka (EPRZ) airport over 2023 related to the war in Ukraine:

Delays related to the war in UA	EPRZ (minutes)	Delay reason
JAN	0	
FEB	35	M - Airspace Management - AD
MAR	0	
APR	155	O - Other - AD
MAY	52	M - Airspace Management - AD
JUN	0	
JUL	215	M - Airspace Management - AD
AUG	148	M - Airspace Management - AD
SEP	286	M - Airspace Management - AD
OCT	229	M - Airspace Management - AD
NOV	209	M - Airspace Management - AD
DEC	0	
Total 2023	**1 329**	
O - Other - AD	*155*	
M - Airspace Management - AD	*1 174*	

Please describe what remedial actions have been taken to mitigate any possible impacts on terminal capacity performance related to Russia's war of aggression against Ukraine.
For measuring addition to the information provided above, see the measures implemented in 2022, provided in Annual Performance Monitoring Report for 2022.

2.3.2 - Performance Indicators

2.3.2.(a) - Capacity PI #1: Adherence to ATFM slots

Important note:
If the data at airport level are not available, the field will show "N/A"

Poland		2020	2021	2022	2023	2024
National level	Actual	95,3%	96,2%	96,5%	96,6%	
EPBY (Bydgoszcz)	Actual	94,0%	100,0%	97,0%	98,2%	
EPGD (Gdańsk im. Lecha Wałęsy)	Actual	93,3%	97,0%	96,6%	97,1%	
EPKK (Kraków-Balice)	Actual	95,9%	97,9%	97,5%	98,2%	
EPKT (Katowice-Pyrzowice)	Actual	89,6%	92,3%	92,1%	93,1%	
EPLB (Lublin)	Actual	91,7%	96,2%	98,1%	98,1%	
EPLL (Łódź)	Actual	100,0%	92,0%	95,6%	93,9%	
EPMO (Warszawa/Modlin)	Actual	96,4%	98,3%	98,1%	98,0%	
EPPO (Poznań-Ławica)	Actual	97,9%	97,3%	97,7%	96,8%	
EPRA (Lotnisko Warszawa-Radom)	Actual	n/a	n/a	n/a	97,8%	
EPRZ (Rzeszów-Jasionka)	Actual	93,3%	98,4%	97,3%	96,9%	
EPSC (Szczecin-Goleniów)	Actual	95,7%	100,0%	97,6%	94,5%	
EPSY (Olsztyn-Mazury)	Actual	88,9%	100,0%	97,9%	97,1%	
EPWA (Lotnisko Chopina w Warszawie)	Actual	97,5%	97,4%	97,1%	97,5%	
EPWR (Wrocław-Strachowice)	Actual	88,9%	92,1%	93,9%	92,8%	
EPZG (Zielona Góra-Babimost)	Actual	100,0%	100,0%	89,9%	93,2%	

Please provide background information on the actual performance: - If performance improved compared to previous years, please describe the measures that were implemented (if any), - If performance deteriorated compared to previous years, please explain the reasons which lead to the deterioration, and describe the improvement measures which are planned to improve performance. How does the NSA intend on monitoring their effectiveness on performance
Performance achieved in 2023 still may be influenced by consequences of COVID-19 pandemic and Russia's war of aggression against Ukraine and related traffic drop. It should not be compared to the first years of RP3 and the previous periods.

If the data at airport level are not available, please explain the reasons why data is missing and describe the measures planned to resolve the situation
Not applicable for 2023.

Additional comments
N/A

2.3.2.(b) - Capacity PI #2: Air traffic control pre-departure delay (>80k movements)

Important note:
If the data at airport level are not available, the field will show "N/A"

Poland *only airports > 80k movements (2016-18)*		2020	2021	2022	2023	2024
EPWA (Lotnisko Chopina w Warszawie)	Actual	n/a	0,59	0,60	0,61	

Please provide background information on the actual performance:
- If performance improved compared to previous years, please describe the measures that were implemented (if any),
- If performance deteriorated compared to previous years, please explain the reasons which lead to the deterioration, and describe the improvement measures which are planned to improve performance. How does the NSA intend on monitoring their effectiveness on performance

DCL implementation and subsequent implementation of Ground Planner position will improve pre-departure planning and is expected to improve pre-departure delays if caused by ATC.

If the data at airport level are not available, please explain the reasons why data is missing and describe the measures planned to resolve the situation

Not applicable for 2023.

Additional comments

N/A

2.3.2.(c) - Capacity PI #3: Average time of all cause departure delay per flight (>80K movements)

Important note:
If the data at airport level are not available, the field will show "N/A"

Poland *only airports > 80k movements (2016-18)*		2020	2021	2022	2023	2024
EPWA (Lotnisko Chopina w Warszawie)	Actual	9,32	12,61	21,26	17,53	

Please provide background information on the actual performance:
- If performance improved compared to previous years, please describe the measures that were implemented (if any),
- If performance deteriorated compared to previous years, please explain the reasons which lead to the deterioration, and describe the improvement measures which are planned to improve performance. How does the NSA intend on monitoring their effectiveness on performance

2023 performance may be attributed to significant airside work in progress. No significant actions were taken to improve this indicator in 2023. DCL/GND planner position and revalidation of A-CDM are short term actions that are aimed at improving overall performance (partially in 2024).

If the data at airport level are not available, please explain the reasons why data is missing and describe the measures planned to resolve the situation

N/A

Additional comments

N/A

2.3.3 - Additional Capacity Indicators

Number of additional Capacity Indicators	0

SECTION 2.4: COST-EFFICIENCY KPA

2.4 - Cost-efficiency

2.4.1 - Key Performance Indicators

List of En-Route Charging Zones and ETNA data references

	Reporting Tables ETNA Reference	Additional Information ETNA Reference
Poland	ep-ep-rp3.xlsx	ep-v0-rp3-june2024.docx

List of Terminal Charging Zones and ETNA data references

	Reporting Tables ETNA Reference	Additional Information ETNA Reference
Poland zone 1	ep-z1-v0-rp3-june2024.xlsx	ep-z1-v0-rp3-june2024.docx
Poland zone 2	ep-z2-v0-rp3-june2024.xlsx	ep-z2-v0-rp3-june2024.docx

2.4.1.(a) - Cost efficiency KPI: Determined unit cost (DUC) for en-route ANS

1. DUC for en route air navigation services

En route charging zone	RP3 revised cost-efficiency targets (determined 2020-2024)			
Poland	2020/2021 D	2022 D	2023 D	2024 D
Total en route costs in nominal terms (in national currency)	1 602 947 276	875 857 917	914 029 458	950 341 024
Total en route costs in real terms (in national currency at 2017 prices)	1 503 108 131	798 885 838	819 037 945	837 052 160
Total en route Service Units (TSU)	4 695 117	3 990 970	4 762 963	5 129 508
Real en route unit costs (in national currency at 2017 prices) - DUC	320,14	200,17	171,96	163,18

En route charging zone	RP3 actuals			
Poland	2020/2021 A	2022 A	2023 A	2024 A
Total en route costs in nominal terms (in national currency)	1 403 556 665	858 430 940	990 244 217	
Total en route costs in real terms (in national currency at 2017 prices)	1 315 377 467	721 225 326	763 483 878	
Total en route Service Units (TSU)	4 731 739	3 128 964	3 536 911	
Real en route unit costs (in national currency at 2017 prices)	277,99	230,50	215,86	

En route charging zone	Difference between actual and plan (in %)			
Poland	2020/2021	2022	2023	2024
Total en route costs in nominal terms (in national currency)	-12,4%	-2,0%	8,3%	
Total en route costs in real terms (in national currency at 2017 prices)	-12,5%	-9,7%	-6,8%	
Total en route Service Units (TSU)	0,8%	-21,6%	-25,7%	
Real en route unit costs (in national currency at 2017 prices)	-13,2%	15,2%	25,5%	

a) Assessment of actual performance (actual unit cost), including analysis of differences observed between the determined costs and the actual costs for the year

PANSA:

1. Staff costs - The actual staff costs are higher than determined. The difference is driven by a few factors, which are linked to changes to remuneration regulations following the COVID-19 pandemic outbreak as well as the situation on the labour market linked with macroeconomic developments (high inflation). New PANSA remuneration regulations were implemented at the turn of 2021/2022 and then in 2022 (additional annex following the negotiation process with social partners in 1H2022). They resulted in a change in the structure of remuneration costs (see explanation above related to 2022 actual staff costs). The difference between the actual costs and determined costs is mainly due to:

- additional staff costs driven by significant increase in inflation rates (much higher inflation than both, in the past and assumed in the RP3 PP); these costs reflect payments to employees in order to compensate the lack of inflation adjustment of salaries, as well as obligations of PANSA towards its employees (accrued costs) based on the current remuneration scheme reflecting inflation compensation payments calculated for 2022 and 2023 (to be financed from RP3 inflation adjustments and from the cash flow perspective taking into account the timing of recovery of the inflation adjustment); it should be noted that the additional costs related to increased inflation did not fully compensate the consequences for employees of entry into force of the so called "Polish Deal" (Polski Ład) – set of regulatory changes implemented in 2022 related to social security and taxation rules that changed the relationship between gross and net remuneration and in general resulted in lower net salaries for PANSA employees.
- as in 2022, the one-off cost connected with court cases with employees related to changes in the remuneration regulations representing part of the costs related to the unused budget of staff costs from 2021 (time shift of cost materialization from 2021 to 2022-2023, which was communicated to the airspace users during the consultation process in July 2022) .

The determined costs were established based on the previously applicable Remuneration Regulation scheme. Therefore, the implementation of the new regulation at the turn of 2021/2022 and the annex in 2022 resulted in a significant change in the structure of remuneration costs.

It should be noted that in real terms, actual 2023 staff costs are at similar level as determined costs.

2. Other operating costs - The total value of the actual other operating costs is lower than determined; however, in detail, there are positive and negative cost developments compared to the plan. The cost reductions are mainly related to lower training costs, outsourced IT services, rental expenses, consultancy, and maintenance costs. On the other hand, the negative effect on the actual cost refers to energy expenses driven by the significant growth in energy prices rising faster than the average inflation rate. The main reasons for the cost savings are as follows:

-training cost: the savings mainly correspond to the Aviation English language courses for ATCOs in OPS and OPS support employees (the program's resumption date was moved to subsequent years, and Aviation English was replaced temporarily by the General English program) and technical training (lower execution was linked to lower execution of investment plan). Generally, in 2023, only trainings required to ensure the continuity of PANSA's work were performed;

-outsourced IT services: savings mainly due to the limitations and postponed purchase of services supporting new projects. The deviation is also related to the change of classification of costs planned initially in other operating costs but finally in actual incurred as Capex;

change of classification of costs planned initially in other operating costs but finally in actual incurred as Capex;
-rental expenses: cost savings are mainly connected to the rent of transmission lines and data flow and rent of land for PANSA facilities, also partly related to delayed implementation of some investments;
-consultancy: mainly due to the postponed implementation of the support contract for the SESAR3 program;
-maintenance cost: mainly due to optimization in scope and several technical reviews.
3. Depreciation costs - Lower depreciation cost for this year is mainly due to the execution of the investment plan, which was lower than foreseen in the RP3 PP. Uncertainty due to global crises and the war in Ukraine led to postponing or reviewing some projects as compared to the initial RP3 PP assumptions (see also more detailed information in the Annual Monitoring Report for 2023). Execution of depreciation cost is also related to differences in the useful life of some assets as compared to standard periods assumed in plan, as indicated in explanation related to 2022 costs above. It should be noted that the actual depreciation presented in the charges' reporting tables of 2023 does not include the effects of implementing IFRS16—costs related to leasing are still disclosed under other operating costs.
4. Cost of capital - The cost of capital was slightly lower. This is a combined effect of:
-lower asset base (-13.5%, linked to lower than planned execution of the capital expenditures over the period 2021-2023),
-higher WACC rate (+0.7 p.p.) following a substantial increase in the annual interest rate on debt (+2.7 p.p.), reflecting changes in macroeconomic indicators leading to an increase in WIBOR reference rates on which PANSA debt financing is based.

IMWM:
The difference between the actual and planned costs of the en-route charges was 3.664.243 PLN and results from:
- higher other operating costs by 9,7%. The above-mentioned situation is mainly caused by an increase in inflation - the PSD accounted for an inflation of 2,53%, while the actual level of inflation in 2023, according to EUROSTAT data, was 10,90%. The above contributed to the growth of, inter alia, gas, energy, fuel prices and services;
- higher staff costs overall due to the increase in the minimum wage in 2023 according to the Remuneration statute of IMWM (In 2023 in Poland, the minimum gross remuneration is PLN 3,490 gross from January 1st and PLN 3,600 gross from July 1st. For comparison, in 2022 the minimum wage is PLN 3,010 gross). The difference also results from the inflationary pay rise for IMWM-PIB employees according to the Decision of the Director of IMWM-PIB of June 13th, 2023.
- lower depreciation costs resulting above all from the prolonged tender procedures. The implementation of part of the investments and thus the implementation of depreciation costs has been postponed to the first half of 2024.
- higher cost of capital by 31,7% resulting from the higher average interest rate on debt - planned at 1,4%, actual level 7,26%.

Airport Meteo
The 2023 en-route AUC for Airport Meteo (0.13 PLN2017) is below the target set for this year (0.22 PLN2017), therefore the target has been achieved. Airport Meteo has been forced to continue to lower its operational activity (especially to change the two-person shifts into one-person shifts) due to still not solved problem of distribution of the navigation charges. The actual level of TSU has helped to minimize the discrepancies between the AUC and DUC.

Warmia i Mazury:
WiM's AUC in 2023 was equal to 0.39 PLN2017 and was higher than DUC (0.33 PLN2017). WiM has not met its cost-efficiency target only due to the much lower levels of traffic than planned, as the actual total costs in real terms were equal to 1 392 kPLN2017 comparing to the 1 565 kPLN2017 determined. This happened as a consequence of the strict WiM's policy towards wage rises and acceptance for cost increase (though, in nominal terms, total IFR actual costs were equal to 1 938 kPLN comparing to 1 807 kPLN determined).

PL Bydgoszcz
The actual unit cost (AUC, 0.34 PLN) in 2023 was above the determined unit cost (DUC, 0.27 PLN), what was caused only by the SU drop due to the closure of the Ukrainian airspace, as the actual total costs in real terms (1 211 kPLN2017) were slightly below the determined (1 267 kPLN2017), due to some decreases in costs of materials and maintenance.

CAA PL
The actual values differ from planned as follows: staff costs +536kPLN (+8.55%); other operating costs (including EUROCONTROL costs) -9 042 kPLN (-15.74%); total costs -8 506 kPLN (-13.35%); unit cost +2.23 PLN (+16.68%).

b) Identification and analysis by the NSA of the underlying reasons or circumstances having led to the targets not being achieved

The 2023 target has not been met mainly due to the negative impact of the war in Ukraine on the ER traffic at FIR Warszawa. As a result of the war, traffic in the Polish airspace was significantly below the plan. The actual number of SU was 25,7% below the planned figure for 2023 included in the RP3 PP. The war in Ukraine is an external factor on which MS has no influence.

Additionally there were significant differences between actual data and general assumptions made in RP3 PP for 2023 regarding i.e. macroeconomic variables such as inflation rate (planned 2.53% vs. actual 10.90%), specific situation in Polish labour market (high wage pressure). The above factors had a significant impact on the targets.

c) Recommendations to the ANSP to rectify the situation

Not achieving the performance plan target was caused by the long term influence of war in Ukraine affecting traffic in Poland which is an external factor. NSA recommended to continue efforts related to the improvement of cost efficiency in order to ensure conditions for achieving the results close to set goals in this respect.

d) Remedial measures taken or planned to be taken by the ANSP	0

If no measures have been or will be taken by the ANSP, please explain why

As the target was not achieved due to external adverse factors outside NSA and ANSPs control (traffic drop resulting from war in Ukraine, inflation rate, high wage pressure, other macroeconomic factors), it is not possible to take any remedial measures.

2. Follow-up of the measures relating to previous calendar years

Were any remedial measures put in place relating to deviations from performance targets in previous calendar years?	No

3. Further observations

Is the NSA aware of any significant risks which are likely to lead to cost-efficiency performance targets not being achieved during the ongoing calendar year or during the following calendar years of the reference period?	Yes

What are those risks ?
The risks are similar to the ones observed in 2023 and are linked to on the one hand the lower en-route traffic (SU) vs. planned resulting from the war in Ukraine and related sanctions and on the other hand evolution of macroeconomic situation. Macroeconomic developments impact costs both, in nominal terms (generating pressure on cost increases, including wages) and in real terms (impacting the inflation index being the discount factor).

What has been done by the ANSP in order to address the identified performance issues?
The majority of identified risks are beyond the control of NSA and ANSPs. NSA constantly monitors both the traffic evolution and costs. The cost evolution is analysed taking into account the necessity to provide uninterrupted services and be prepared for possible traffic recovery after the war ends and sanctions are lifted. The situation on the labour market in Poland also has to be considered and social dialogue has to be respected. For contracted services and deliveries public procurement is being applied.

What further measures does the NSA intend to undertake to remedy this situation?
The situation that takes place is due to external factors, out of the NSAs control. NSA regularly monitors ANSP's financial results (quarterly, semi-annually and annually) and actively encourages cost control in all ANSPs, what will be continued. NSA cannot influence the development of the situation beyond the eastern border of Poland i.e. on war in Ukraine and other macroeconomic factors.

4. Major operational or structural changes

Has the ANSP implemented any major operational or structural changes (incl. any new fixed assets put into operation) during the calendar year enabling current or future cost-efficiency gains? Please outline the relevant changes and their estimated impact on performance.
No major operational or structural changes were implemented in 2023.

5. Verification of actual costs

Findings of the verification of actual costs by the NSA (in accordance with Art. 22(7), Art. 23 and Art. 28(7) of IR 2019/317), and where applicable identification of corrections applied to the reported actual costs as a result of this verification.
Due to the deadline for the submission of financial statements and annual report of activities by ANSPs, verification is ongoing. Up to now no inconsistency were found.

Has the NSA verified that the costs referring to non-ANS activities (U-space, drone detection, satellites,...) or ANS costs provided to third countries are presented separately in the ANSP accounts? If not, has the NSA verified that such costs are not included in the en-route cost base?

2.4.1.(b) - Cost efficiency KPI: Determined unit cost (DUC) for terminal ANS

1. DUC for terminal air navigation services

Terminal charging zone	RP3 revised cost-efficiency targets (determined 2020-2024)			
Poland zone 1	2020/2021 D	2022 D	2023 D	2024 D
Total terminal costs in nominal terms (in national currency)	81 799 669	48 871 242	50 173 711	52 624 872
Total terminal costs in real terms (in national currency at 2017 prices)	75 884 885	44 037 508	44 320 933	45 668 485
Total terminal Service Units (TNSUs)	98 511	87 356	96 630	103 108
Real terminal unit costs (in national currency at 2017 prices) - DUC	770,32	504,11	458,67	442,92

Terminal charging zone	RP3 actuals			
Poland zone 1	2020/2021 A	2022 A	2023 A	2024 A
Total terminal costs in nominal terms (in national currency)	67 720 764	51 673 666	62 204 167	
Total terminal costs in real terms (in national currency at 2017 prices)	62 687 919	42 256 612	46 493 067	
Total terminal Service Units (TNSUs)	96 933	83 357	98 874	
Real terminal unit costs (in national currency at 2017 prices)	646,71	506,93	470,23	

Terminal charging zone	Difference between actual and plan (in %)			
Poland zone 1	2020/2021	2022	2023	2024
Total terminal costs in nominal terms (in national currency)	-17,2%	5,7%	24,0%	
Total terminal costs in real terms (in national currency at 2017 prices)	-17,4%	-4,0%	4,9%	
Total terminal Service Units (TNSUs)	-1,6%	-4,6%	2,3%	
Real terminal unit costs (in national currency at 2017 prices)	-16,0%	0,6%	2,5%	

a) Assessment of actual performance (actual unit cost), including analysis of differences observed between the determined costs and the actual costs for the year

PANSA:

1. Staff costs - The actual staff costs are higher than determined. The difference is driven by a few factors, which are linked to changes to remuneration regulations following the COVID-19 pandemic outbreak as well as the situation on the labour market linked with macroeconomic developments (high inflation). New PANSA remuneration regulations were implemented at the turn of 2021/2022 and then in 2022 (additional annex following the negotiation process with social partners in 1H2022). They resulted in a change in the structure of remuneration costs (see explanation above related to 2022 actual staff costs). This led to increase in salaries for EPWA ATCOs as compared to the assumptions underlying the adopted RP3 PP. The difference between the actual costs and determined costs is mainly due to:

- additional staff costs driven by significant increase in inflation rates (much higher inflation than both, in the past and assumed in the RP3 PP); these costs reflect payments to employees in order to compensate the lack of inflation adjustment of salaries, as well as obligations of PANSA towards its employees (accrued costs) based on the current remuneration scheme reflecting inflation compensation payments calculated for 2022 and 2023 (to be financed from RP3 inflation adjustments and from the cash flow perspective taking into account the timing of recovery of the inflation adjustment); it should be noted that the additional costs related to increased inflation did not fully compensate the consequences for employees of entry into force of the so called "Polish Deal" (Polski Ład) – set of regulatory changes implemented in 2022 related to social security and taxation rules that changed the relationship between gross and net remuneration and in general resulted in lower net salaries for PANSA employees.
- as in 2022, the one-off cost connected with court cases with employees related to changes in the remuneration regulations representing part of the costs related to the unused budget of staff costs from 2021 (time shift of cost materialization from 2021 to 2022-2023, which was communicated to the airspace users during the consultation process in July 2022) .

The determined costs were established based on the previously applicable Remuneration Regulation scheme. Therefore, the implementation of the new regulation at the turn of 2021/2022 and the annex in 2022 resulted in a significant change in the structure of remuneration costs.

2. Other operating costs - The other operating costs are slightly lower than determined cost due to savings in other expenses (mainly related to lower training costs, outsourced IT services, rental expenses, consultancy, and maintenance costs). On the other side, there was a significant growth in energy expenses driven by increased energy prices rising faster than the average inflation rate, which contributed negatively to the development of other operating costs. The main reasons for the cost savings are as follows:

-training cost: the savings mainly correspond to the Aviation English language courses for ATCOs in OPS and OPS support employees (the program's resumption date was moved to subsequent years, and Aviation English was replaced temporarily by the General English program) and technical training (lower execution was linked to lower execution of investment plan). Generally, in 2023, only trainings required to ensure the continuity of PANSA's work were performed;

-outsourced IT services: savings mainly due to the limitations and postponed purchase of services supporting new projects. The deviation is also related to the change of classification of costs planned initially in other operating costs but finally in actual incurred as Capex;

-rental expenses: cost savings are mainly connected to the rent of transmission lines and data flow and rent of land for PANSA facilities, also partly related to delayed implementation of some investments;

-consultancy: mainly due to the postponed implementation of the support contract for the SESAR3 program;

-maintenance cost: mainly due to optimization in scope and several technical reviews.

3. Depreciation costs - The depreciation cost savings observed in 2022 are followed in 2023. The difference between actual and determined depreciation cost is mainly due to lower execution of the investment plans foreseen in the RP3 PP. Uncertainty due to the global crises and war in Ukraine led to postponing or reviewing some projects (see also more detailed information in the Annual Monitoring Report for 2023). Execution of depreciation cost is also related to differences in the useful life of some assets as compared to standard periods assumed in plan, as indicated in explanation related to 2022 costs above. It should be noted that the actual depreciation presented in the charges' reporting tables of 2023 does not include the effects of implementing IFRS16—costs related to leasing are still disclosed under other operating costs.

4. Cost of capital - There is a marginal difference in cost of capital – actual cost is slightly lower than determined. This is a combined effect of:

-lower asset base (-15.5%, linked to lower than planned execution of the capital expenditures over the period 2021-2023),

-higher WACC rate (+0.7 p.p.) following a substantial increase in the annual interest rate on debt (+2.7 p.p.), reflecting changes in macroeconomic indicators leading to an increase in WIBOR reference rates on which PANSA debt financing is based.

IMWM:

The difference between the actual and planned costs within the zone I terminal charges was PLN 81.691 and results from:

- higher other operating costs by 3,1%. The above-mentioned situation is mainly caused by an increase in inflation - the PSD accounted for an inflation of 2,53%, while the actual level of inflation in 2023, according to EUROSTAT data, was 10,90%. The above contributed to the growth of, inter alia, gas, energy, fuel prices and services;

- higher staff costs by 8,9% overall due to the increase in the minimum wage in 2023 according to the Remuneration statute of IMWM and from the inflationary pay rise for IMWM-PIB employees according to the Decision of the Director of IMWM-PIB of June 13th, 2023.

CAA PL:
The actual values differ from planned as follows: staff costs +384 kPLN (+47.8%); other operating costs +180 kPLN (+59.7%); costs +564 kPLN (+51%); unit cost +5.44 PLN (+47.6%).

b) Identification and analysis by the NSA of the underlying reasons or circumstances having led to the targets not being achieved
For Poland the 2023 AUC is higher than DUC (+2,5% deviation). The target was missed as a result of significantly more challenging macroeconomic situation than assumed in the RP3 PP. There were significant differences between actual data and general assumptions made in RP3 PP for 2023 regarding i.e. macroeconomic variables such as inflation rate (planned 2.53% vs. actual 10.90%), specific situation in Polish labour market (high wage pressure).

c) Recommendations to the ANSP to rectify the situation
NSA recommended to continue efforts related to cost control in order to ensure conditions for achieving the results close to goals set for cost efficiency.

d) Remedial measures taken or planned to be taken by the ANSP	0

If no measures have been or will be taken by the ANSP, please explain why
As the target was not achieved mainly due to external adverse factors outside NSA and ANSPs control (inflation rate, high wage pressure, other macroeconomic factors), the only remedial measures that can be taken concern cost control.

2. Follow-up of the measures relating to previous calendar years

Were any remedial measures put in place relating to deviations from performance targets in previous calendar years?	No

3. Further observations

Is the NSA aware of any significant risks which are likely to lead to cost-efficiency performance targets not being achieved during the ongoing calendar year or during the following calendar years of the reference period?	Yes

What are those risks ?
The risks are linked to the following factors: - increase in inflation rate - the impact of changes to inflation on cost-efficiency target are two-fold: on the one hand the inflation index used for discounting nominal costs and presenting the costs in real terms is higher, but at the same time nominal costs for various items (both for staff and for other operating items) increase; - high wage pressure; - increase in fuel and energy prices (beyond levels foreseen in the rev RP3 PP) - impacting other operating costs expressed in nominal terms; - huge increase in interest rates, directly impacting cost of debt financing and actual costs. The above factors are expected to impact results of 2024.

What has been done by the ANSP in order to address the identified performance issues?
The majority of identified risks are beyond the control of NSA and ANSPs. NSA constantly monitors both the traffic evolution and costs. The cost evolution is analysed taking into account the necessity to provide uninterrupted services and be prepared for possible traffic recovery after the war ends and sanctions are lifted. The situation on the labour market in Poland also has to be considered and social dialogue has to be respected. For contracted services and deliveries public procurement is being applied.

What further measures does the NSA intend to undertake to remedy this situation?
The situation that takes place is due to external factors, out of the NSAs control. NSA regularly monitors ANSP's financial results (quarterly, semi-annually and annually) and actively encourages cost control in all ANSPs, what will be continued. NSA cannot influence the development of the situation beyond the eastern border of Poland i.e. on war in Ukraine and other macroeconomic factors.

4. Major operational or structural changes

Has the ANSP implemented any major operational or structural changes (incl. any new fixed assets put into operation) during the calendar year enabling current or future cost-efficiency gains? Please outline the relevant changes and their estimated impact on performance.
No major operational or structural changes were implemented in 2023.

5. Verification of actual costs

Findings of the verification of actual costs by the NSA (in accordance with Art. 22(7), Art. 23 and Art. 28(7) of IR 2019/317), and where applicable identification of corrections applied to the reported actual costs as a result of this verification.
Due to the deadline for the submission of financial statements and annual report of activities by ANSPs, verification is ongoing. Up to now no inconsistency were found.

Has the NSA verified that the costs referring to non-ANS activities (U-space, drone detection, satellites,...) or ANS costs provided to third countries are presented separately in the ANSP accounts? If not, has the NSA verified that such costs are not included in the terminal cost base?

2.4.1.(b) - Cost efficiency KPI: Determined unit cost (DUC) for terminal ANS

1. DUC for terminal air navigation services

Terminal charging zone	RP3 revised cost-efficiency targets (determined 2020-2024)			
Poland zone 2	2020/2021 D	2022 D	2023 D	2024 D
Total terminal costs in nominal terms (in national currency)	260 288 740	149 058 558	150 166 336	149 863 037
Total terminal costs in real terms (in national currency at 2017 prices)	242 273 070	134 684 632	133 096 739	130 519 058
Total terminal Service Units (TNSUs)	138 720	123 910	131 402	141 942
Real terminal unit costs (in national currency at 2017 prices) - DUC	1 746,49	1 086,95	1 012,90	919,52

Terminal charging zone	RP3 actuals			
Poland zone 2	2020/2021 A	2022 A	2023 A	2024 A
Total terminal costs in nominal terms (in national currency)	222 651 309	166 037 344	204 590 882	
Total terminal costs in real terms (in national currency at 2017 prices)	206 748 553	136 962 975	154 328 280	
Total terminal Service Units (TNSUs)	141 160	140 929	162 481	
Real terminal unit costs (in national currency at 2017 prices)	1 464,64	971,86	949,82	

Terminal charging zone	Difference between actual and plan (in %)			
Poland zone 2	2020/2021	2022	2023	2024
Total terminal costs in nominal terms (in national currency)	-14,5%	11,4%	36,2%	
Total terminal costs in real terms (in national currency at 2017 prices)	-14,7%	1,7%	16,0%	
Total terminal Service Units (TNSUs)	1,8%	13,7%	23,7%	
Real terminal unit costs (in national currency at 2017 prices)	-16,1%	-10,6%	-6,2%	

a) Assessment of actual performance (actual unit cost), including analysis of differences observed between the determined costs and the actual costs for the year

For PANSA:

1. Staff costs - The actual staff costs are higher than determined. The difference is driven by a few factors, which are linked to changes to remuneration regulations following the COVID-19 pandemic outbreak, the situation on the labour market linked with macroeconomic developments (high inflation) as well as dynamic recovery of traffic at regional airports covered by the charging zone. The difference between the actual costs and determined costs is mainly associated with:

-additional staff costs driven by significant increase in inflation rates (much higher inflation than both, in the past and assumed in the RP3 PP); these costs reflect payments to employees in order to compensate the lack of inflation adjustment of salaries, as well as obligations of PANSA towards its employees (accrued costs) based on the current remuneration scheme reflecting inflation compensation payments calculated for 2022 and 2023 (to be financed from RP3 inflation adjustments and from the cash flow perspective taking into account the timing of recovery of the inflation adjustment); it should be noted that the additional costs related to increased inflation did not fully compensate the consequences for employees of entry into force of the so called "Polish Deal" (Polski Ład) – set of regulatory changes implemented in 2022 related to social security and taxation rules that changed the relationship between gross and net remuneration and in general resulted in lower net salaries for PANSA employees,

-changes to remuneration regulations entailed significant changes in the remuneration costs structure, significantly eliminating earlier high disproportions in ATCO remunerations in individual ATC units (leading to salary increases at some regional units – see information above for 2022),

-as in 2022, the one-off cost connected with court cases with employees related to changes in the remuneration regulations representing part of the costs related to the unused budget of staff costs from 2021 (time shift of cost materialization from 2021 to 2022-2023, which was communicated to the airspace users during the consultation process in July 2022),

-and other deviations compared to the plan, e.g., the additional payment for overtime connected with traffic increase above the levels planned In RP3 PP and the exceptional situation associated with Russia's war of aggression against Ukraine.

The determined costs were established based on the previously applicable Remuneration Regulation scheme. Therefore, the implementation of the new regulation at the turn of 2021/2022 resulted in a significant change in the structure of remuneration costs and as a consequence it caused significant deviations in respect to the determined costs.

2. Other operating costs - Other operating costs were higher than the determined cost. The main driver for the observed increase is the substantial increase in energy expenses, driven by the significant growth in energy prices rising faster than the average inflation rate. This was slightly compensated by savings in other services costs, mainly related to lower training expenses, IT outsourced services, rental, consultancy, and maintenance costs. Similarly as in 2022, the higher traffic in CZ2 resulted in a relatively higher than in CZ1 and in ER costs of ANS provision and led to a limited options for cost savings, to maintain the service at the required level.

3. Depreciation costs - The depreciation cost increase continued correspondingly to the prior year and resulted mainly from higher traffic in TNC - CZ2 than the forecast assumed in the adopted RP3 performance plan. Higher than planned traffic levels resulted in increased cost allocation to TNC - CZ2 related to using assets necessary to provide ANS. Traffic volumes and SU-L levels are important factors that influence the calculation and cost allocation process.

4. Cost of capital - The cost of capital increased due to:

- higher asset base (+16.7%) – similarly as in 2022, this stems mainly from higher fixed asset value. As in 2022, the reason for that is impact of changes in the traffic structure on cost allocation,
- increase of WACC rate (+0.7 p.p.) following a substantial increase in the annual interest rate on debt (+2.7 p.p.) reflecting changes in macroeconomic indicators leading to an increase in WIBOR reference rates on which PANSA debt financing is based.

IMWM:

The difference between the actual costs and the costs planned under the terminal charges, zone II, amounted to PLN 3.001.606 and results from:

- higher staff costs overall due to: plan revaluation, the increase in the minimum wage in 2023 according to the Remuneration statute of IMWM, the inflationary pay rise for IMWM-PIB employees according to the Decision of the Director of IMWM-PIB of June 13th, 2023.
- higher other operating costs by 14%. The above-mentioned situation is mainly caused by an increase in inflation - the PSD accounted for an inflation of 2,53%, while the actual level of inflation in 2023, according to EUROSTAT data, was 10,90%. The above contributed to the growth of, inter alia, gas, energy, fuel prices, services.
- lower depreciation costs resulting above all from the prolonged tender procedures. The implementation of part of the investments and thus the implementation of depreciation costs has been postponed to the first half of 2024.
- higher cost of capital costs by 47,7%, which results from the higher average interest rate on debt - planned at the level of 1,4%, actual level was 7,26%.

Airport Meteo:

The 2023 terminal AUC for Airport Meteo (4.15 PLN2017) is below the target set for this year (12.10 PLN2017), therefore the

target has been achieved. Airport Meteo has been forced to continue to lower its operational activity (especially to change the two-person shifts into one-person shifts) due to still not solved problem of distribution of the navigation charges. The actual level of TSU has deepened the discrepancies between the AUC and DUC.

Warmia i Mazury:
WiM's AUC in 2023 was equal to 13.50 PLN2017 and was lower than DUC (21.60 PLN2017). WiM has met its cost-efficiency target and the difference between AUC and DUC has been deepened by the much higher levels of traffic than planned. The actual total costs in real terms were equal to 2 194 kPLN2017 comparing to the 2 838 kPLN2017 determined. The difference has been a result of strict WiM's policy towards wage rises and acceptance for cost increase. WiM also had to introduce cost-cutting as hardly no funds has been received for performing the services in RP3 by the end of 2023 due to problems with distribution of navigation charges among ANSPs in Poland.

PL Bydgoszcz:
The actual unit cost (AUC, 11.81 PLN) in 2023 was below the determined unit cost (DUC, 19.63 PLN). This was mainly to the significantly higher levels of traffic than determined and higher than planned level of VFR traffic that caused the actual cost execution, in terms of both AFIS and MET, to be allocated outside the IFR cost bases. What is more, the overall (IFR+VFR) AFIS costs in real terms were significantly lower due to delay of TWR EPBY modernization investment.

CAA PL:
The actual values differ from planned as follows: staff costs +14 kPLN (+0.4%); other operating costs +109 kPLN (+8.5%); costs +123 kPLN (+2.6%); unit cost -6.13 PLN (-17.0%).

b) Identification and analysis by the NSA of the underlying reasons or circumstances having led to the targets not being achieved
The target was achieved due to observed faster recovery of traffic than assumed in the rev RP3 PP and efficient cost control in all ANSPs under the NSA supervision.

c) Recommendations to the ANSP to rectify the situation
No recommendations have been made to ANSP's as the target was achieved.

d) Remedial measures taken or planned to be taken by the ANSP	0

If no measures have been or will be taken by the ANSP, please explain why
The target has been achieved despite adverse external factors outside NSA and ANSPs control (traffic drop resulting from war in Ukraine, inflation rate, high wage pressure, other macroeconomic factors), therefore no measures are planned to be taken.

2. Follow-up of the measures relating to previous calendar years

Were any remedial measures put in place relating to deviations from performance targets in previous calendar years?	No

3. Further observations

Is the NSA aware of any significant risks which are likely to lead to cost-efficiency performance targets not being achieved during the ongoing calendar year or during the following calendar years of the reference period?	Yes

What are those risks ?

The risks are linked to the following factors:
- increase in inflation rate - the impact of changes to inflation on cost-efficiency target are two-fold: on the one hand the inflation index used for discounting nominal costs and presenting the costs in real terms is higher, but at the same time nominal costs for various items (both for staff and for other operating items) increase;
- high wage pressure;
- increase in fuel and energy prices (beyond levels foreseen in the rev RP3 PP) - impacting other operating costs expressed in nominal terms;
- huge increase in interest rates, directly impacting cost of debt financing and actual costs.
The above factors are expected to impact results of 2024.

What has been done by the ANSP in order to address the identified performance issues?
NSA constantly monitors both the traffic evolution and costs. The cost evolution is analysed taking into account the necessity to provide uninterrupted services and be prepared for possible traffic recovery after the war ends and sanctions are lifted. The situation on the labour market in Poland also has to be considered and social dialogue has to be respected. For contracted services and deliveries public procurement is being applied.

What further measures does the NSA intend to undertake to remedy this situation?
The situation that takes place is due to external factors, out of the NSAs control. NSA regularly monitors ANSP's financial results (quarterly, semi-annually and annually) and actively encourages cost control in all ANSPs, what will be continued. NSA cannot influence the development of the situation beyond the eastern border of Poland i.e. on war in Ukraine and other macroeconomic factors.

4. Major operational or structural changes

Has the ANSP implemented any major operational or structural changes (incl. any new fixed assets put into operation) during the calendar year enabling current or future cost-efficiency gains? Please outline the relevant changes and their estimated impact on performance.
No major operational or structural changes were implemented in 2023.

5. Verification of actual costs

Findings of the verification of actual costs by the NSA (in accordance with Art. 22(7), Art. 23 and Art. 28(7) of IR 2019/317), and where applicable identification of corrections applied to the reported actual costs as a result of this verification.
Due to the deadline for the submission of financial statements and annual report of activities by ANSPs, verification is ongoing. Up to now no inconsistency were found.

Has the NSA verified that the costs referring to non-ANS activities (U-space, drone detection, satellites,...) or ANS costs provided to third countries are presented separately in the ANSP accounts? If not, has the NSA verified that such costs are not included in the terminal cost base?

2.4.2.(a) - Cost efficiency PI: Actual unit cost incurred by users for en route ANS

En route charging zone				
Poland	2020/2021	2022	2023	2024
En route unit costs (in national currency) - DUC	341,41	219,46	191,90	185,27

Adjustments stemming from the year (in national currency)	2020/2021	2022	2023	2024
Inflation adjustment (Art. 26)	12 332 444	81 928 949	147 801 240	
Cost exempt from cost-sharing (Art. 28(4) to 28(6))	3 766 487	693 661	-6 684 391	
Traffic risk sharing adjustment (Art. 27(2) to 27(5))	0	133 671 167	173 426 347	
Traffic adjustement (Art. 27(8))	-1 484 042	21 307 351	26 101 564	
Financial incentives (Art. 11(3) and 11 (4))		n/a	-16 252 603	
Adjustment for modulation of charges (Art. 32(1))	0	0	0	
Difference in revenue from temporary application of unit rate (Art. 29(4) and 29(5))				
Cross-financing to (-) / from (+) other charging zone(s) (Art. 25(2)(j))	0	0	0	
Total other revenues (Art. 25(3))	-52 415 054	-28 415 884	-27 271 245	
Loss of revenue from application of a lower unit rate (Art. 29(6))	0	0	0	
Total adjustments stemming from year n (in nat. currency)	**-37 800 165**	**209 185 245**	**297 120 913**	

Actual service units	4 731 739	3 128 964	3 536 911	

Total adjustements per actual service unit (in nat. Currency)	-7,99	66,85	84,01	

Actual unit cost incurred by users (in nat. Currency)	333,42	286,31	275,91	

What initiatives were implemented or are planned that will improve this PI and how does the NSA intend on monitoring their effectiveness on performance?
Airport Meteo, Warmia i Mazury and PL Bydgoszcz have included only the automatically calculated mechanisms, concerning inflation and traffic. Values concerning cost-exempt from cost-sharing can be presented after preparation of the Cost-exempt report. No further actions are planned to improve this PI. This PI reflects adjustments foreseen by Regulation 2019/317 that are calculated automatically and cannot be modified. Therefore possibility for ANSPs or NSA to take initiatives aimed at improving this PI is very limited. PI does not use cross financing between charging zones and does not apply provision of Article 29(6). Modulation of charges is neither not used in RP3.

2.4.2.(b) - Cost efficiency PI: Actual unit cost incurred by users for terminal ANS

Terminal charging zone				
Poland zone 1	2020/2021	2022	2023	2024
Terminal unit costs (in national currency) - DUC	830,36	559,45	519,24	510,38

Adjustments stemming from the year (in national currency)	2020/2021	2022	2023	2024
Inflation adjustment (Art. 26)	815 870	5 145 019	9 106 580	
Cost exempt from cost-sharing (Art. 28(4) to 28(6))	217 469	286 265	307 848	
Traffic risk sharing adjustment (Art. 27(2) to 27(5))	0	831 461	-106 750	
Traffic adjustement (Art. 27(8))	87 526	128 239	-66 223	
Financial incentives (Art. 11(3) and 11 (4))		n/a	946 441	
Adjustment for modulation of charges (Art. 32(1))	0	0	0	
Difference in revenue from temporary application of unit rate (Art. 29(4) and 29(5))				
Cross-financing to (-) / from (+) other charging zone(s) (Art. 25(2)(j))	0	0	0	
Total other revenues (Art. 25(3))	-1 516 405	-1 063 010	-1 070 003	
Loss of revenue from application of a lower unit rate (Art. 29(6))	0	0	0	
Total adjustments stemming from year n (in nat. currency)	**-395 540**	**5 327 974**	**9 117 894**	

Actual service units	96 933	83 357	98 874	

Total adjustements per actual service unit (in nat. Currency)	-4,08	63,92	92,22	

Actual unit cost incurred by users (in nat. Currency)	826,28	623,36	611,45	

What initiatives were implemented or are planned that will improve this PI and how does the NSA intend on monitoring their effectiveness on performance?
General information presented in part for ER cost-efficiency.

2.4.2.(b) - Cost efficiency PI: Actual unit cost incurred by users for terminal ANS

Terminal charging zone				
Poland zone 2	2020/2021	2022	2023	2024
Terminal unit costs (in national currency) - DUC	1 876,36	1 202,96	1 142,80	1 055,80

Adjustments stemming from the year (in national currency)	2020/2021	2022	2023	2024
Inflation adjustment (Art. 26)	2 495 636	15 299 582	26 559 295	
Cost exempt from cost-sharing (Art. 28(4) to 28(6))	926 409	4 692 226	5 915 585	
Traffic risk sharing adjustment (Art. 27(2) to 27(5))	0	-11 489 446	-23 454 539	
Traffic adjustement (Art. 27(8))	-870 812	-3 568 468	-6 701 969	
Financial incentives (Art. 11(3) and 11 (4))		n/a	2 379 805	
Adjustment for modulation of charges (Art. 32(1))	0	0	0	
Difference in revenue from temporary application of unit rate (Art. 29(4) and 29(5))				
Cross-financing to (-) / from (+) other charging zone(s) (Art. 25(2)(j))	0	0	0	
Total other revenues (Art. 25(3))	-6 223 995	-4 031 855	-4 217 719	
Loss of revenue from application of a lower unit rate (Art. 29(6))	0	0	0	
Total adjustments stemming from year n (in nat. currency)	**-3 672 762**	**902 039**	**480 459**	

Actual service units	141 160	140 929	162 481	
Total adjustements per actual service unit (in nat. Currency)	-26,02	6,40	2,96	
Actual unit cost incurred by users (in nat. Currency)	1 850,34	1 209,36	1 145,76	

What initiatives were implemented or are planned that will improve this PI and how does the NSA intend on monitoring their effectiveness on performance?
Airport Meteo, Warmia i Mazury and PL Bydgoszcz have included only the automatically calculated mechanisms, concerning inflation and traffic. Values concerning cost-exempt from cost-sharing can be presented after preparation of the Cost-exempt report. No further actions are planned to improve this PI. General information presented in part for ER cost-efficiency.

2.4.3 - Additional Cost-Efficiency Indicators

Number of additional Cost-Efficiency Indicators	Click to select number of additional Indicators

SECTION 3: INCENTIVE SCHEMES

3 - INCENTIVE SCHEMES

3.1 - Environment

0

3.2 - Capacity

3.2.1 - Capacity (En-route)

ANSP #1	Polish Air Navigation Services Agency (PANSA)
Calendar year	2023

Pivot value for the calendar year (minutes of ATFM delay per flight)	0,12
Basis for the annual setting of pivot values	Modulated
If modulated: modulation mechanism of pivot values	A) Significant and unforeseen changes in traffic
	Pivot value modulated in accordance with the Network Operations Plan published in November n-1.

Dead band Δ (symmetric range)	fraction of min	0,12
Max bonus (≤2%)	*% of DC*	2,00%
Max penalty (≥ Max bonus)	*% of DC*	2,00%
Alert threshold (Δ Ref. value in fraction of min)	*fraction of min*	0,05
Total determined cost on which the incentives are calculated	*nominal/national currency*	812 630 100 PLN
Financial advantages / disadvantages	Dead band range	0,96-0,144
	Bonus sliding range	0,7-0,096
	Penalty sliding range	0,144-0,17

Verified actual value achieved for the calendar year (minutes of ATFM delay per flight)	0,20	
Methodology used to compute the actual value achieve, if modulated or any correction was made		
Financial incentive computed by the NSA (+bonus/-penalty)	*nominal/national currency*	-16 252 600
Automatically computed financial incentive value for verification purposes (+bonus/-penalty)	*nominal/national currency*	

3.2 - Capacity

3.2.2 - Capacity (Terminal)

State	Poland
Calendar year	2023

Pivot value for the calendar year (minutes of ATFM delay per flight)	0,05
Basis for the annual setting of pivot values	Modulated
If modulated: modulation mechanism of pivot values	B) Limited to CRSTMP delay causes
Additional comments on the definition of the pivot value for the calendar year	ATC related delays are at the level of 0,026 min/flight.

Dead band Δ	%	20
Bonus/penalty range (% of pivot value)	%	±50%
Max bonus (≤2%)	% of DC	2%
Max penalty (≥ Max bonus)	% of DC	2%
Total determined cost on which the incentives are calculated	nominal/national currency	59 221 400 PLN
Financial advantages / disadvantages	Dead band range	0,04-0,06
	Bonus sliding range	0,025-0,04
	Penalty sliding range	0,06-0,075

Verified actual value achieved for the calendar year (minutes of ATFM delay per flight)	0,026	
Methodology used to compute the actual value achieve, if modulated or any correction was made		
Financial incentive computed by the NSA (+bonus/-penalty)	nominal/national currency	3 325 400 PLN
Automatically computed financial incentive value for verification purposes (+bonus/-penalty)	nominal/national currency	

Explain how the bonus and penalties are going to be apportioned between the different terminal charging zones and ANSPs providing services in each of them	TCZ 1 - 946 400 PLN TCZ 2 - 2 379 000 PLN

3.3 - Additional Incentive Schemes

0

SECTION 4: INVESTMENTS

4 - INVESTMENTS

Polish Air Navigation Services Agency (PANSA)

Currency	PLN

Investment plan as per RP3 performance plan

Number of new major investments (PP)	12

#	Name of new major investment (i.e. above 5 M€ equivalent in national currency)	Total value of the asset (capex or contractual leasing value) (in national currency)	Value of the assets allocated to ANS in the scope of the PP (in national currency)	**Determined costs** of investment (i.e. depreciation, cost of capital and cost of leasing) (in national currency)					Lifecycle (Amortisation period in years)	Allocation (%)*		Planned date of entry into operation	**Actual costs** of investment (i.e. depreciation, cost of capital and cost of leasing) (in national currency)				
				2020	2021	2022	2023	2024		Enroute	Terminal		2020	2021	2022	2023	2024
1	*01440701_Campus*	722 261 693	167 859 621	243 422	275 706	511 449	1 801 404	5 735 184	40	93%	7%	after RP3	243 422	1 370 325	2 568 362	2 661 405	
2	*02440701_Communication_systems*	54 777 202	40 095 848	50 469	253 279	1 555 903	2 763 951	4 168 370	00/15/20	100%	0%	2024, after RP3	50 469	413 548	1 429 197	1 998 475	
3	*03440701_iTEC*	274 984 161	170 534 160	458 299	727 953	2 015 604	4 193 469	5 843 007	10	100%	0%	after RP3	458 299	5 736 339	9 001 205	10 718 082	
4	*06440701_VCS_system*	34 620 196	14 820 196	0	13 631	107 591	268 451	606 210	05/15	100%	0%	after RP3	0	65 779	156 784	134 884	
5	*21440701_ATM_OPS_Centre_Poznan*	92 335 659	4 447 011	2 041 113	2 773 247	5 056 443	5 082 500	5 065 357	07/20/40	100%	0%	2021, 2022	2 041 113	6 072 145	8 924 652	8 907 743	
6	*IP470701_U-Space_Program*	29 110 512	11 242 540	23 225	133 519	463 040	778 662	1 063 564	10	0%	100%	after RP3	23 225	287 705	70 569	126 137	
7	*IT170202_Tower_at_the_Central_Hub_Airport*	61 538 020	38 020	0	0	0	0	899	15/40	30%	70%	after RP3	0	0	0	0	
8	*IT430803_Radar_PSR/MSSR_Gdańsk*	24 966 688	24 960 773	150	429	103 763	683 668	2 289 011	15/20	100%	0%	2024	150	162	304	42 978	
9	*IT430900_Modernization_of_the_ATM_system_2*	101 011 895	34 821 458	115 698	536 262	2 605 840	3 820 586	3 743 463	10/15	88%	12%	2022	115 698	8 866 779	9 289 017	12 275 768	
10	*IT440732_MLAT_system_for_FIR_Warsaw*	35 950 119	22 683 430	0	1 494	75 903	365 687	1 748 413	10	90%	10%	after RP3	0	483 361	579 328	681 733	
11	*IR470209_CWP_TWR*	32 313 562	8 445 298	16 715	38 434	284 447	337 256	455 460	07/10/40	88%	12%	after RP3	16 715	260 836	374 495	426 562	
12	*IT430404_Server_Business_Infrastructure*	25 985 556	20 795 077	0	24 704	459 203	2 070 770	4 132 891	05	81%	19%	recurring	0	905 999	1 771 664	4 098 909	
Sub-total of **new major investments** above (1)		1 489 855 263	520 743 431	2 949 091	4 778 658	13 239 186	22 166 404	34 851 828					2 949 091	24 462 979	34 165 577	42 072 676	
Sub-total **other new investments** (2)		822 072 250	406 576 722	2 022 374	4 940 731	18 595 257	33 513 157	43 222 372					2 022 374	41 094 608	53 862 164	57 219 805	
Sub-total **existing investments** (3)				145 157 661	146 846 296	156 330 820	143 371 651	131 784 305					145 157 661	97 634 486	101 323 986	96 105 246	
Total new and existing investments (1) + (2) + (3)		2 311 927 513	927 320 153	150 129 125	156 565 685	188 165 264	199 051 212	209 858 505					150 129 125	163 192 073	189 351 728	195 397 728	

** The total % enroute+terminal should be equal to 100%.*

Has the ANSP made progress on the implementation of major investments in accordance with the schedule contained in the performance plan?	No

Please indicate what were the changes related to the planned schedule and for which major investments did those changes apply
In 2023 the global economy still faced the consequences of earlier stagnation of growth related to COVID-19 crisis and the ongoing war in Ukraine was felt. This had a significant impact also on the civil aviation sector. The war in Ukraine necessitated re-evaluation of PANSA priorities and investments plans, which took place in 2022 and has influence also on year 2023. Compared with other economic regions, Europe has been notably vulnerable to the economic consequences of Russia's invasion of Ukraine. This also impacted ability to execute some of the elements of the planned investments in line with earlier assumed schedules (delays or even failure to delivery and acceptance, lack of raw materials/materials, lack of staff on the side of contractors, lack of offers from companies to carry out investment, significant increase in prices, disruptions in commodity markets, logistic networks, supply chains). Supply chain disruptions together with increasing raw material prices were leading to significant increase in contractors prices. Changes were made to the value of projects as a result of fluctuations in the EUR/PLN exchange rate (not only for contracts in EUR). In addition, the Public Procurement Law was amended in October 2022 and obligatory price indexation was introduced for contracts lasting longer than 6 months and in consequence there is a possibility of price increase in contracts. In addition, a new Agency Strategy 2023+ was introduced in 2Q2023. The Strategy describes the main development directions and includes the modernisation of ATM systems and infrastructure, CNS infrastructure (modernisation and replacement), modernisation of the upper airspace, modernisation of the terminal airspace and the new tower system. Due to changing macroeconomic and geopolitical situation and new Strategy, taking into account all factors from 2022 which had influence on execution of the investments plan over the whole RP3, adjustments had to be made to a number of projects as compared to the initial plans underlying the RP3 PP developed in 2021. Some projects had to be postponed, for some the scope was changed, for some the value was updated (details are further provided below).

In case of changes to the implementation schedule, please analyze the related justifications provided by the ANSP for each major investment
The information presented below refers to the PANSA investment plan for major investments included in 2021 in the RP3 performance plan finally approved in May 2022. The uncertain economic situation requires constant monitoring and review of ongoing projects. Evolution of each of the projects over 2021-2022 was described in respective annual monitoring reports for those years. 1. 01440701_Campus – postponed, change of scope and value - In 2023, to mitigate significant increase of CAPEX resulting from price growth, the investment scope and schedule were a subject of further verification. In consequence implementation work did not start. Analyses were carried out to reduce the scope of works only to those identified as necessary and mandatory for ensuring continuity of PANSA basic operational goals; basically the project is expected to be limited to the construction of the new operating room with the necessary supporting infrastructure. Based on analyses mentioned above, further decision on investment scope will be made and it will require changes to both the schedule and the value of planned expenditures. The limitation of the investment only to some part previously planned is expected to result in the reduction of the total value compared to RP3 PP. The benefits identified in the RP3 PP in 2021 remain valid, though rescheduling will delay the expected benefits. 2. 02440701_Communication_systems - no change in scope, change of schedule - In June 2022, a contract for the implementation of active network infrastructure system equipment (supply, installation, configuration and implementation) at the ATC Centre in Poznań was signed (PAŻP/22-197/AZHU). Due to difficulties with the delivery of the equipment, the implementation was carried out in 2023. The contract has been completed. The benefits identified in RP3 PP remain valid. Change of the schedule (RP3 PP assumed delivery in 2021) postponed the deadlines for achieving the expected benefits. In July 2022, a contract for the implementation of transmit/receive radiolocation centre in Pęcice was signed (PAŻP/22-195/MRI). The contract is on schedule and the construction design has been delivered. In 2023, construction of the facility began. Due to the postponement of the estimated start date (from 2021 to 2022), the expected benefits will be achieved in 2024. The delay in implementation is the result of the lengthy tender process. 3. 03440701_ATM system with a simulator – change of schedule and scope - In 2023 works were executed according to the contract signed in 2020 (delivery, installation and implementation in Poznań ATC Center). In 2022 Amendment No.2 and No.3 to this contract were introduced to cover changes to the schedule and changes in the scope. The above modifications of scope affects the change in the method of individual elements implementation. In November 2023 the Amendment No. 4 to the contract was signed. It will enable the completion of the integration of the training and operational mission and inclusion in the contract of the implementation of additional system functionalities that were developed during the familiarization, operational and technical workshops and LabChecks. Consequently the contract's completion date had been modified to the 1st quarter of 2026. In December 2023, according to the updated schedule the P_21/iTEC SWB5 Early software was delivered and its preliminary acceptance tests were executed. The benefits identified in the RP3 PP remain valid, although due to postponed/reviewed schedule of implementation will be achieve later than initially planned. 4. 06440701_VCS_system – no change in scope, change of schedule - In 2023, based on received offers (documentation and price) the documents necessary for the announcement of the tender procedure for the main scope of the investment have been modified and updated. The delay in tender procedure affected the schedule of the investment. In December 2023 a new contract was signed (PAŻP/23-416/AZHU). The contract covers the upgrade of voice communication system (VCS) for APP and FIS in Poznań. The contract is scheduled for implementation in 2024. Due to the postponement of the expected project completion date, the expected benefits will be achieved in 2025. The operational benefits identified in RP3 PP remain valid. The change in schedule will postpone the dates for the expected benefits. 5. 21440701_ATM OPS Centre Poznań – change of schedule and scope - In May 2022, a contract for the construction of two fiber optic lines (PAŻP/22-192/MRI) was signed. Due to difficulties in finding a contractor and obtaining a consent for works at the airport ,the implementation has been delayed and postponed to 2023. Both lines were constructed in 2023. The contract has been completed. The benefits identified in the RP3 PP remain valid, though rescheduling delayed the expected benefits. 6. IP470701_UAV environment development (U-Space Programme) – change of schedule - In 2023, the implementation of Contract No. PAŻP/22-787/AZHU was behind project schedule. As part of the completed work, the Geozones module, integrated with PansaUTM, for requesting and managing geographic zones by authorized entities, was tested and proceeded to acceptance procedure. This module will be put into operational use in 2024. However, due to unsatisfactory work of the Contractor and its numerous issues in the project management process, resulting in further delays in project implementation, in December 2023 the Agency withdrew from the contract in the part concerning further PansaUTM system development. Tasks related to geozones module development were implemented, however with delays. In 2023 continuous technical support service for PansaUTM is being implemented under the existing contract. In addition, in 2023 the Agency developed and commissioned system for drone flights check-ins designed as PansaUTM supporting system, and conducted development works on a mobile application integrated with PansaUTM for drone flights' check-ins and coordinating flights in airspace, which will be commissioned in 2024. The benefits identified in the RP3 PP in 2021 remain valid, though rescheduling will delay the expected benefits. It should be noted that this investment task is only partly financed under the PP (the rest is financed via non-ANS sources). 7. IT170202_Tower at the Central Hub Airport – postponed, change to scope – In RP3 PP the first CAPEX were planned in 3Q2024. The task schedule for PANSA is closely correlated with the construction and planned operational opening date for Centralny Port Komunikacyjny. The dates

of execution of Centralny Port Komunikacyjny project are now under review and the results of this analysis will have an impact on PANSA investment plan. Following dicussion with the Centralny Port Komunikacyjny in 2022, the current scope of the project to be executed by PANSA was limited to cover only the tower equipment. Changes in the scope of investment will not reduce the benefits for users. The deadlines for achieving the expected benefits are subject to Centralny Port Komunikacyjny implementation schedule.

8. IT430803_Radar PSR/MSSR Gdańsk – no change to scope, changed schedule and value – In December 2022 the contract was signed (PAŻP/22-380/AZHU). The contract covers the construction of three radars - Gdansk, Katowice (an additional new major investment compared to RP3 PP) and Pułtusk. In 2023, the contract is on updated schedule (schedule change due to problems identified in 2022), with the construction design delivered, the building permit obtained and construction of the radar began. The delay in implementation is due to the protracted tender process and waiting for the building permit. The operational benefits identified in RP3 PP remain valid. The change in schedule will postpone the dates for the expected benefits which are now expected in 2025.

9. IT430900_Modernization_of_the_ATM_system_2 – change to scope and value - The scope of the RP3 PP was finalised in 2022. The benefits identified in the RP3 PP remain valid. Change of the schedule for the scope of investment covered by RP3 PP did not postpone achieving the expected benefits. In 2023 during the analysis of requirements from the technical, user and business side, a change occurred due to the identification of many hardware and software needs to continue supporting of PANSA operations in the next years and fulfil all the regulations in upcoming years. New additional functionalities have been identified supporting accelerated availability of contingency solutions. In December 2023 a new contract was signed (PAŻP/23-469/AZHU). The contract covers the upgrade ATM system (P_21) including delivery of new P_21 system components, software and hardwere and adaptation (installation and implementation) in existing ATM environment (operational, fallback, contingency Kraków, contingency Poznań, Contingency Gdańsk, simulator, test bench 1, test bench 2).

10. IT440732_MLAT system for FIR Warsaw – change of scope, schedule and value - As part of RP3 PP, the implementation of 3 stages was assumed: West, South and Centre. In 2022, there was a change in the schedule due to a delay in announcement of the tenders resulting from the prolonged competitive dialogue for Stage I West, which resulted in the extension of work on individual activities under Stage I West and changes in the scope of Stage II South. The contract for the WAM/ADS-B West stage was signed in April 2023 (PAZP/23-52/AZHU). The contract covers the supply, installation, configuration and implementation of the system, the development of a Preliminary System Safety Assessment. In 2023, the works were carried out according to the updated schedule and the designs with equipment were delivered and the installation started. The contract will be completed in 2024.

In 2023, the tender process for the revised scope of Stage II South was launched and will be continued in 2024. In RP3 PP starting the execution of Stage III Centre was planned for 2027. The financial scope of individual stages of the task has changed by about 15-20%, taking into account external market changes (changes in value due to inflation and euro exchange rate). Changes related to Stage I West and prolonging the tender procedure for Stage II South affect the schedule of the entire task. Schedule changes will delay the achievement of the expected benefits for the airspace users.

11. IR470209_CWP_TWR – change of scope, schedule and value – In 2023, due to the revision of the PANSA's Strategy for TWR services, especially changes in the approach to tower workstation systems, the scope of this investment was limited. Activities related to launching and conducting the tender process were carried out in 2023. Despite the changes, the operational benefits identified in RP3 PP remain valid. Changing of the schedule and scope will postpone the deadlines for achieving the expected benefits.

12. IT430404_Server_Business_Infrastructure – no change - The contracts have been signed (PAŻP/22-120/AZHU; PAŻP/22-121/AZHU) in April 2022. The scope of the RP3 PP was finalised in 2022. In 2023, additional equipment was purchased under the contracts (such possibility was predicted in the signed agreement between PANSA and the contractor as an "option"), including: 2 Dell MX7000 blade enclosures fully staffed with servers, 8 pcs each (i.e. a total of 16 servers), 2 switches SAN and 2 IBM FS7300 arrays. The equipment were installed in the server room in the Warsaw ATC Center. Operational use of fixed assets began in 2023. The benefits identified in RP3 PP remain valid. The schedule change due to using described in agreement the power of "option" should accelerate the achievement of the expected benefits.

RADAR Katowice - no change of scope, changed schedule and value – New major investment 2020-2021. In December 2022 the contract was signed (PAŻP/22-380/AZHU). The contract covers the construction of three radars - Gdansk, Katowice (an additional new major investment compared to RP3 PP) and Pułtusk. In 2023, the contract is on updated schedule (schedule change due to problems identified in 2022), with the construction design delivered, the building permit obtained and construction of the radar began. The delay in implementation is due to the protracted tender process and waiting for the building permit. The operational benefits identified in RP3 PP remain valid. The change in schedule will postpone the deadlines for achieving the expected benefits which are expected in 2025

Additional investments not foreseen as part of the performance plan and requested by the ANSP in accordance with Art. 28(4) of IR 2019/317.

Number of additional new major investments 2020-2021	1

#	Name of additional new major investment (i.e. above 5 M€ equivalent in national currency)	Total value of the asset (capex or contractual leasing value) (in national currency)	Value of the assets allocated to ANS in the scope of the PP (in national currency)	**Determined costs** of investment (i.e. depreciation, cost of capital and cost of leasing) (in national currency)					Lifecycle (Amortisation period in years)	Allocation (%)*		Date of entry into operation	**Actual costs** of investment (i.e. depreciation, cost of capital and cost of leasing) (in national currency)				
				2020	2021	2022	2023	2024		Enroute	Terminal		2020	2021	2022	2023	2024
1	*IT430804_Radar_PSR/MSSR_Katowice*	31 388 500	22 918 006			73 561	605 472	2 045 948	15/20	100%	0%	2024		4 374	8 198	62 934	
Sub-total of **additional new major investments** above (1)		31 388 500	22 918 006			73 561	605 472	2 045 948						4 374	8 198	62 934	

** The total % enroute+terminal should be equal to 100%.*

Number of additional new major investments 2022	0

Number of additional new major investments **2023**	0

#	Name of additional new major investment (i.e. above 5 M€ equivalent in national currency)	Total value of the asset (capex or contractual leasing value) (in national currency)	Value of the assets allocated to ANS in the scope of the PP (in national currency)	**Determined costs** of investment (i.e. depreciation, cost of capital and cost of leasing) (in national currency)					Lifecycle (Amortisation period in years)	Allocation (%)*		Date of entry into operation	**Actual costs** of investment (i.e. depreciation, cost of capital and cost of leasing) (in national currency)				
				2020	2021	2022	2023	2024		Enroute	Terminal		2020	2021	2022	2023	2024
Sub-total of **additional new major investments** above (1)		0	0					0								0	

** The total % enroute+terminal should be equal to 100%.*

Description and justification of the costs nature and benefits of additional other new investments in fixed assets planned over the reference period
The other investments (not listed under the major investments above) complement the new/major ones in the wider context of PANSA strategic plan, which aims at transforming PANSA so that it is ready for the challenges stemming from the Single European Sky development. They are dedicated to completing projects aiming to support the 4 KPAs (capacity, cost-efficiency, environment and safety) or to keep the business operations running/service continuity. There is also a number of investments that are related to replacement of equipment at life-end (often also upgrading the equipment), to infrastructure optimization, IT and rolling stock required to provide continuity of air navigation services. The other ongoing/planned investments include communication ground stations necessary for airspace developments aimed at capacity improvement, DVOR/DMEs, ILs/DMEs, TWR modernization, investments related to personnel safety level increase and telecom devices that is necessary to modernise existing infrastructure, investments related to cybersecurity, radars etc. The investment projects include implementation of functionalities foreseen by the Common Project One and ATM Master Plan. In 2023 PANSA executed some additional investments (non-major) not foreseen in the RP3 PP to be financed under the EU Performance and Charging Scheme that support the above directions, such as creation and modification of workplaces for Air Traffic Controllers. With regards to existing investments, they cover the depreciation costs and cost of capital related to projects developed before RP3. It should be indicated that following the changing external circumstance and in the view of approaching RP4, PANSA has verified its investment plan to reflect current operational needs, current market situation as well as needs in the 2029+ horizon. This led to some new investments, which were not foreseen in RP3 PP but their execution is needed taking into account future activity of PANSA.

4 - INVESTMENTS

Institute of Meteorology and Water Management - National Research Institute (IMWM)

Currency	PLN

Investment plan as per RP3 performance plan

Number of new major investments (PP)	0

#	Name of new major investment (i.e. above 5 M€ equivalent in national currency)	Total value of the asset (capex or contractual leasing value) (in national currency)	Value of the assets allocated to ANS in the scope of the PP (in national currency)	**Determined costs** of investment (i.e. depreciation, cost of capital and cost of leasing) (in national currency)					Lifecycle (Amortisation period in years)	Allocation (%)*		Planned date of entry into operation	**Actual costs** of investment (i.e. depreciation, cost of capital and cost of leasing) (in national currency)				
				2020	2021	2022	2023	2024		Enroute	Terminal		2020	2021	2022	2023	2024
Sub-total of **new major investments** above (1)		0	0	0	0	0	0	0					0	0	0	0	
Sub-total **other new investments** (2)		0	0	249	50 432	649 063	1 234 133	1 869 851					249	33 247	112 865	568 837	
Sub-total **existing investments** (3)				2 174 313	2 163 978	1 904 971	1 454 989	1 995 605					2 174 313	2 045 582	1 988 094	1 920 212	
Total new and existing investments (1) + (2) + (3)		0	0	2 174 563	2 214 411	2 554 034	2 689 121	3 865 456					2 174 563	2 078 829	2 100 959	2 489 049	

** The total % enroute+terminal should be equal to 100%.*

Has the ANSP made progress on the implementation of major investments in accordance with the schedule contained in the performance plan?	Click to select

Additional investments not foreseen as part of the performance plan and requested by the ANSP in accordance with Art. 28(4) of IR 2019/317.

Number of additional new major investments 2020-2021	0

Number of additional new major investments 2022	0

Number of additional new major investments **2023**	0

#	Name of additional new major investment (i.e. above 5 M€ equivalent in national currency)	Total value of the asset (capex or contractual leasing value) (in national currency)	Value of the assets allocated to ANS in the scope of the PP (in national currency)	**Determined costs** of investment (i.e. depreciation, cost of capital and cost of leasing) (in national currency)	Lifecycle (Amortisation period in years)	Allocation (%)*	Date of entry into operation	**Actual costs** of investment (i.e. depreciation, cost of capital and cost of leasing) (in national currency)

			2020	2021	2022	2023	2024		Enroute	Terminal		2020	2021	2022	2023	2024
Sub-total of **additional new major investments** above (1)	0	0					0								0	

** The total % enroute+terminal should be equal to 100%.*

Description and justification of the costs nature and benefits of additional other new investments in fixed assets planned over the reference period
IMWM wishes to maintain the standards and requirements set for European services also by allocating certain amount of money to new investments and implementing them. This concerns mainly the preparation for data transmission standards in appropriate, standardized formats, which in turn will unify products for air carriers. In 2023 we continued to modernize our 7 AWOS systems located at 7 polish airports. We carry out and monitor the need for modernizations not only to increase the safety of air operations in difficult weather conditions but also to increase the safety of meteorological services and its continuity. Purchase in 2023 of additional infrastructure /for example AWOS spare parts and or lightening detectors/ increased and will increase their reliability, which in a significant positive way affects the security and continuity of the meteorological service. Being involved in the development of new products dedicated to meteorological services for ATC services will result in better and faster decision making, which will significantly reduce the delays that result from suddenly changing weather conditions. As for long-term priorities, we want to better respond to the wishes of our primary audience, which are pilots. When it comes to commercial aviation, our goal is to further develop our services for civil aviation. We constantly try to improve the methods of our work to provide pilots with meteorological information in the most optimal and user-friendly form, while performing it in accordance with all the regulations. Even though during the past difficult time in 2020 where we all had to deal with SARS COV 2 pandemic and the reduction of the level of air traffic, IMWM tried to complete even some small investing plans. We are slowly getting back on our feet, which was noticeable already in 2022 when we managed to complete the investment consisting in replacing computer equipment. In 2023 we moved on and we managed to complete the following investment items: -Replenishment of the spare parts warehouse for AWOS (a cyclical investment necessary to implement meteorological services at 7 airports where the system is owned by IMWM); -Purchase of Mobile meteorological station and equipment for AWOS (mobile meteorological station will be used in the event of a complete AWOS equipment failure at Aeronautical Meteorological Station); -Modernization of MetConsole (complete modernization of the MetConsole software for AWOS systems, including configuration and launch on servers and hard clients, the so-called terminals, to the latest version. The modernization concerns the following airports: EPLL, EPSC, EPGD, EPWR, EPKT, EPRZ, EPKK); -MOLC Software – "Odbiór" (license for nsWEBPIB software for flight crew services, including service, implementation, training, and support) -Purchase of multifunctional device for MWO (the old device was worn out).

4 - INVESTMENTS

AIRPORT METEO

Currency	PLN

Investment plan as per RP3 performance plan

Number of new major investments (PP)	0

#	Name of new major investment (i.e. above 5 M€ equivalent in national currency)	Total value of the asset (capex or contractual leasing value) (in national currency)	Value of the assets allocated to ANS in the scope of the PP (in national currency)	**Determined costs** of investment (i.e. depreciation, cost of capital and cost of leasing) (in national currency)					Lifecycle (Amortisation period in years)	Allocation (%)*		Planned date of entry into operation	**Actual costs** of investment (i.e. depreciation, cost of capital and cost of leasing) (in national currency)				
				2020	2021	2022	2023	2024		Enroute	Terminal		2020	2021	2022	2023	2024
Sub-total of **new major investments** above (1)		0	0	0	0	0	0	0					0	0	0	0	
Sub-total **other new investments** (2)		915 000	915 000	0	0	0	160 476	166 838					0	0	0	16 137	
Sub-total **existing investments** (3)				72 456	51 248	28 185	0	0					72 456	51 226	28 340	0	
Total new and existing investments (1) + (2) + (3)		0	0	72 456	51 248	28 185	160 476	166 838					72 456	51 226	28 340	16 137	

** The total % enroute+terminal should be equal to 100%.*

Has the ANSP made progress on the implementation of major investments in accordance with the schedule contained in the performance plan?	Click to select

Additional investments not foreseen as part of the performance plan and requested by the ANSP in accordance with Art. 28(4) of IR 2019/317.

Number of additional new major investments 2020-2021	0

Number of additional new major investments 2022	0

Number of additional new major investments **2023**	0

#	Name of additional new major investment (i.e. above 5 M€ equivalent in national currency)	Total value of the asset (capex or contractual leasing value) (in national currency)	Value of the assets allocated to ANS in the scope of the PP (in national currency)	**Determined costs** of investment (i.e. depreciation, cost of capital and cost of leasing) (in national currency)	Lifecycle (Amortisation period in years)	Allocation (%)*	Date of entry into operation	**Actual costs** of investment (i.e. depreciation, cost of capital and cost of leasing) (in national currency)

				2020	2021	2022	2023	2024		Enroute	Terminal		2020	2021	2022	2023	2024
Sub-total of **additional new major investments** above (1)	0	0						0								0	

** The total % enroute+terminal should be equal to 100%.*

Description and justification of the costs nature and benefits of additional other new investments in fixed assets planned over the reference period
In 2023 Airport Meteo has completed new investments concerning especially minor appliances. The majority of CAPEX and therefore investment costs for RP3 (concerning AWOS upgrade) is currently being realized in 2024.

4 - INVESTMENTS

Warmia i Mazury sp. z o.o.	
Currency	PLN

Investment plan as per RP3 performance plan

Number of new major investments (PP)	0

#	Name of new major investment (i.e. above 5 M€ equivalent in national currency)	Total value of the asset (capex or contractual leasing value) (in national currency)	Value of the assets allocated to ANS in the scope of the PP (in national currency)	**Determined costs** of investment (i.e. depreciation, cost of capital and cost of leasing) (in national currency)					Lifecycle (Amortisation period in years)	Allocation (%)*		Planned date of entry into operation	**Actual costs** of investment (i.e. depreciation, cost of capital and cost of leasing) (in national currency)				
				2020	2021	2022	2023	2024		Enroute	Terminal		2020	2021	2022	2023	2024
	Sub-total of **new major investments** above (1)	0	0	0	0	0	0	0					0	0	0	0	
	Sub-total **other new investments** (2)	6 830 000	1 776 667	0	13 940	50 546	48 644	453 485					0	0	0	32 321	
	Sub-total **existing investments** (3)			214 533	213 470	223 928	212 156	211 832					214 533	189 911	179 242	170 925	
	Total new and existing investments (1) + (2) + (3)	0	0	214 533	227 410	274 474	260 800	665 317					214 533	189 911	179 242	203 246	

** The total % enroute+terminal should be equal to 100%.*

Has the ANSP made progress on the implementation of major investments in accordance with the schedule contained in the performance plan?	Click to select

Additional investments not foreseen as part of the performance plan and requested by the ANSP in accordance with Art. 28(4) of IR 2019/317.

Number of additional new major investments 2020-2021	0

Number of additional new major investments 2022	0

Number of additional new major investments **2023**	0

#	Name of additional new major investment (i.e. above 5 M€ equivalent in national currency)	Total value of the asset (capex or contractual leasing value) (in national currency)	Value of the assets allocated to ANS in the scope of the PP (in national currency)	**Determined costs** of investment (i.e. depreciation, cost of capital and cost of leasing) (in national currency)	Lifecycle (Amortisation period in years)	Allocation (%)*	Date of entry into operation	**Actual costs** of investment (i.e. depreciation, cost of capital and cost of leasing) (in national currency)

				2020	2021	2022	2023	2024		Enroute	Terminal		2020	2021	2022	2023	2024
Sub-total of **additional new major investments** above (1)		0	0					0								0	

** The total % enroute+terminal should be equal to 100%.*

Description and justification of the costs nature and benefits of additional other new investments in fixed assets planned over the reference period
The new significant investment in MET vehicle allows the weathermen to check the status of AWOS sensors and perform visual observations at the EPSY airport, what should improve the verifiability of forecasts, better quality of services and therefore safety of operations.

4 - INVESTMENTS

Port Lotniczy Bydgoszcz S.A.

Currency	PLN

Investment plan as per RP3 performance plan

Number of new major investments (PP)	0

#	Name of new major investment (i.e. above 5 M€ equivalent in national currency)	Total value of the asset (capex or contractual leasing value) (in national currency)	Value of the assets allocated to ANS in the scope of the PP (in national currency)	**Determined costs** of investment (i.e. depreciation, cost of capital and cost of leasing) (in national currency)					Lifecycle (Amortisation period in years)	Allocation (%)*		Planned date of entry into operation	**Actual costs** of investment (i.e. depreciation, cost of capital and cost of leasing) (in national currency)				
				2020	2021	2022	2023	2024		Enroute	Terminal		2020	2021	2022	2023	2024
Sub-total of **new major investments** above (1)		0	0	0	0	0	0	0					0	0	0	0	
Sub-total **other new investments** (2)		4 317 155	4 317 155	0	0	0	176 112	668 799					0	0	0	0	
Sub-total **existing investments** (3)				579 213	565 279	516 034	479 394	454 701					579 213	567 317	550 174	501 480	
Total new and existing investments (1) + (2) + (3)		0	0	579 213	565 279	516 034	655 507	1 123 500					579 213	567 317	550 174	501 480	

** The total % enroute+terminal should be equal to 100%.*

Has the ANSP made progress on the implementation of major investments in accordance with the schedule contained in the performance plan?	Click to select

Additional investments not foreseen as part of the performance plan and requested by the ANSP in accordance with Art. 28(4) of IR 2019/317.

Number of additional new major investments 2020-2021	0

Number of additional new major investments 2022	0

Number of additional new major investments **2023**	Click to select

#	Name of additional new major investment (i.e. above 5 M€ equivalent in national currency)	Total value of the asset (capex or contractual leasing value) (in national currency)	Value of the assets allocated to ANS in the scope of the PP (in national currency)	**Determined costs** of investment (i.e. depreciation, cost of capital and cost of leasing) (in national currency)	Lifecycle (Amortisation period in years)	Allocation (%)*	Date of entry into operation	**Actual costs** of investment (i.e. depreciation, cost of capital and cost of leasing) (in national currency)

			2020	2021	2022	2023	2024		Enroute	Terminal		2020	2021	2022	2023	2024
Sub-total of **additional new major investments** above (1)	0	0					0								0	

** The total % enroute+terminal should be equal to 100%.*

Description and justification of the costs nature and benefits of additional other new investments in fixed assets planned over the reference period
No other new significant investment has been introduced in 2023. PL Bydgoszcz continues to identify the investment costs from previously introduced assets and from current minor investments of a non-significant nature.

SECTION5: MILITARY DIMENSION OF THE PLAN

5 - MILITARY DIMENSION OF THE PLAN

Environment

Provide analysis and evaluate the scale of the impact of military dimension on the environment KPA. Please highlight the role of airspace design, procedures used in airspace reservation, interoperability of systems, information management, and specific local circumstances.
There are over 30 permanent military areas extending over FL95 in FIR EPWW that have the impact on civil traffic flows and thereby can influence the horizontal flight efficiency indicator. Additionally, in FIR EPWW recurring significant multinational NATO military exercises are held including: Anakonda, Astral Knight, AV-DET Rotation, Baltops, Defender, Dragon, Rammstein Guard, Tobruq Legacy. Due to large scale of those exercises there are aircraft stopovers and regroupings on military aerodromes in FIR EPWW that increase the load on ACC GAT and OAT Warszawa that might impact the route efficiency of civil aircrafts. Military aerodromes, including EPLK, EPKS, EPPW, EPMM, are located nearby the main civil aerodromes. There are agreed procedures and LoA signed between PANSA and the Military side describing the process of airspace management at pre-tactical and tactical level in order to optimise its use. The procedures are continuously updated according to the current needs of both the civilian and military sides. The local ASM system (CAT) automatically exchanges the data with the Network Manager system. ASM information is available in ATM system, additionally published on PANSA website.

What measures have been implemeted or planned to improve the situation?
On strategic airspace management level, all significant military exercises and permanent military areas are evaluated and analysed taking into account historic civil traffic flows and civil traffic predictions. The impact is consulted with the key stakeholders including neighbouring states, aerodrome operators, aircraft operators, ATS, the military, EUROCONTROL NM. The locations of the military activities are, whenever possible, designed to not affect the main traffic flows, ATC routes, DCTs and BALTIC FRA connectivity. Segmentation, time and level restrictions are imposed when needed to mitigate the impact in location in heavy traffic periods of the day. If possible class C TRA airspace is implemented to minimize the impact on civil routing. Military areas are always divided into smaller modules/segments. Each of these segments is designed in order to fit particular military activities without necessity to activate the whole area to perform specific military training assignments. The shape of these segments is always aligned with main civil traffic flows to minimize the horizontal flight inefficiency. Special procedures are prepared including dynamic change of level or segment and creation of new temporary routings for avoidance of military traffic. Special coordination points are prepared in advance to improve the cooperation between military aircrafts and ATC arriving/departing to/from military areas. The information flow is guaranteed by internal procedures and Supporting Self Check-in Documents System. Further measures include: -update of local ASM system/radar data added to visualize military activity in segregated areas. As a result update of coordination procedures to reduce the time required to release segregated areas back to civil traffic. - implementation of closer cooperation between AMC Poland and FMP Warszawa in order to reduce as much as possible negative influence of segregated areas on civil traffic. Implementation of new coordination procedures (NPZ management) taking into account forecasted demand of civil traffic on segregated airspace allocation in time on the day of the operations.

Capacity

Provide analysis and evaluate the scale of the impact of military dimension on the capacity KPA. Please highlight the role of airspace design, procedures used in airspace reservation, interoperability of systems, information management, and specific local circumstances.
On strategic airspace management level, all significant military exercises and permanent military areas are evaluated and analysed taking into account historic civil traffic flows and civil traffic predictions taking into account both entry count and

occupancy.
The locations of the military activities are, whenever possible, designed not to affect the main traffic flows, ATC routes, DCTs and BALTIC FAB connectivity and to have minimal or even no impact on capacity. Segmentation, time and level restrictions are imposed when needed to mitigate the impact in location in heavy traffic periods of the day. If possible, class C TRA airspace is implemented to minimize the impact on civil operations.
Further measures include:
- update of local ASM system/radar data added to visualize military activity in segregated areas. As a result, update of coordination procedures to reduce the time required to release segregated areas back to civil traffic.
- implementation of closer cooperation between AMC Poland and FMP Warszawa in order to reduce as much as possible negative influence of segregated areas on civil traffic. Implementation of new coordination procedures (NPZ management) taking into account forecasted demand of civil traffic on segregated airspace allocation in time on the day of the operations.

What measures have been implemeted or planned to improve the situation?
On strategic airspace management level, all significant military exercises and permanent military areas are evaluated and analysed taking into account historic civil traffic flows and civil traffic predictions taking into account both entry count and occupancy. The locations of the military activities are, whenever possible, designed not to affect the main traffic flows, ATC routes, DCTs and BALTIC FAB connectivity and to have minimal or even no impact on capacity. Segmentation, time and level restrictions are imposed when needed to mitigate the impact in location in heavy traffic periods of the day. If possible, class C TRA airspace is implemented to minimize the impact on civil operations. Further measures include: - update of local ASM system/radar data added to visualize military activity in segregated areas. As a result, update of coordination procedures to reduce the time required to release segregated areas back to civil traffic. - implementation of closer cooperation between AMC Poland and FMP Warszawa in order to reduce as much as possible negative influence of segregated areas on civil traffic. Implementation of new coordination procedures (NPZ management) taking into account forecasted demand of civil traffic on segregated airspace allocation in time on the day of the operations.

Cost-efficiency

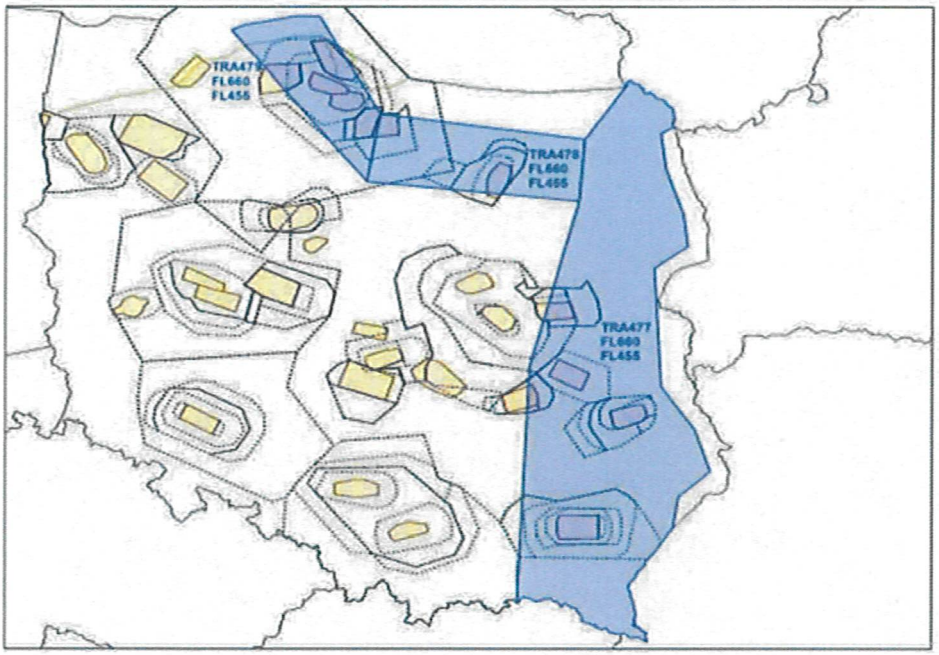
Provide analysis and evaluate the scale of the impact of military dimension on the cost-efficiency KPA. Please highlight what type of commercial/financial agreements exist between the ANSP(s) and the Military (if any).
No material impact of the military dimension on the cost-efficiency KPA has been noted. There are no commercial/financial agreements between PANSA and the Military - cooperation and agreements focus on operational issues. Further information on civil-military cooperation was provided in dedicated questionnaire submitted to the PRB in April 2022.

Additional information related to Russia's war of aggression against Ukraine

Please describe the changes in military operations directly related to Russia's war of aggression against Ukraine.
Since the beginning of Russia's war of aggression against Ukraine the level of military traffic in the Polish airspace has increased significantly. Since then, Polish and allied air forces are constantly active in both segregated military zones and controlled airspace. In the controlled airspace, military traffic stays for hours, according to the OAT flight plan and any other GAT traffic must be separated. Because of the operational needs of the military side, many segregated areas were created ad hoc, from day to day. Since the start of the war, the newly created zones were in constant change due to the need of fine tuning them to both military and civilian needs and rapidly changing situation in Ukraine. It should be noted that the military side reacts to the activities observed in the countries neighbouring Poland and defines its needs on a continuous basis, which serves to protect the borders of Poland, the EU and NATO.

Please describe if/how significant changes occurred in the definition/use of military airspaces.
In 2022 about 100 new military airspaces were created in FIR Warszawa only for military activities caused by war (not counting in exercises and other planned activities). Additionally, zones published in the AIP Poland are now in constant use, some of them are active almost 24/7 since beginning of the war.

Please describe if significant airspace blocks are/have been reserved for continuous military operations (i.e. being restricted from civilian traffic). Please describe the geographical location and volume of these airspace blocks (i.e. horizontal and vertical boundaries).
Whole FIR Warszawa is covered in a huge number of military zones active every day (the new ones and solid structures of the airspace). These zones are used not only for the defence of Poland, the EU's and NATO borders, but also for exercises aimed at maintaining competence and cooperation between allied forces at the highest level at the same time. The biggest concentration of them is near the border with Ukraine. The activity of the 6 largest zones (first restricted areas, then converted into TRA's), located on the eastern border and taking about third of Polish territory (see also the maps below) from FL195 to FL315 (can be activated on request up to FL 380) significantly limited civilian traffic throughout 2022 and 2023 both vertically and horizontally. It can also be assumed that after the end of the war in Ukraine, most of the zones will continue to be used to monitor the ended conflict. Some areas for UAV's were created as class C airspace to allow for passing civilian traffic through zones after coordination with the military. Number of lower airspaces where also limiting operations on airports (mainly EPRZ) for short periods of time. There are also areas introduced in higher airspace above FL315 up to FL365 along the Polish-Belarusian boundary, which could also influence traffic at cruising level. Additionally, areas located in the north-east part of Warszawa FIR influence the optimal vertical profile for Warsaw Chopin airport and Modlin airport departures and arrivals to/from the north and north-east direction forcing traffic to delay further climb or start the descent earlier to be clear with military areas when active. Since these areas are active very often, AOs must plan extra fuel in case the intermediate level off is needed. However, PANSA tries to ease AOs planning process and conducting operations in east part of Warszawa FIR as much as possible. For this purpose, PANSA dynamically manages RAD restrictions. Another important element is the need to accommodate not only Polish military assets in the airspace, but also those from allied countries belonging to the NATO alliance. Because of this, AAR missions (Air to Air Refueling) take place in the central and north part of Poland (to reduce aircraft movement across Europe and beyond) and this activity has got the impact on the access to the airspace for civilian traffic.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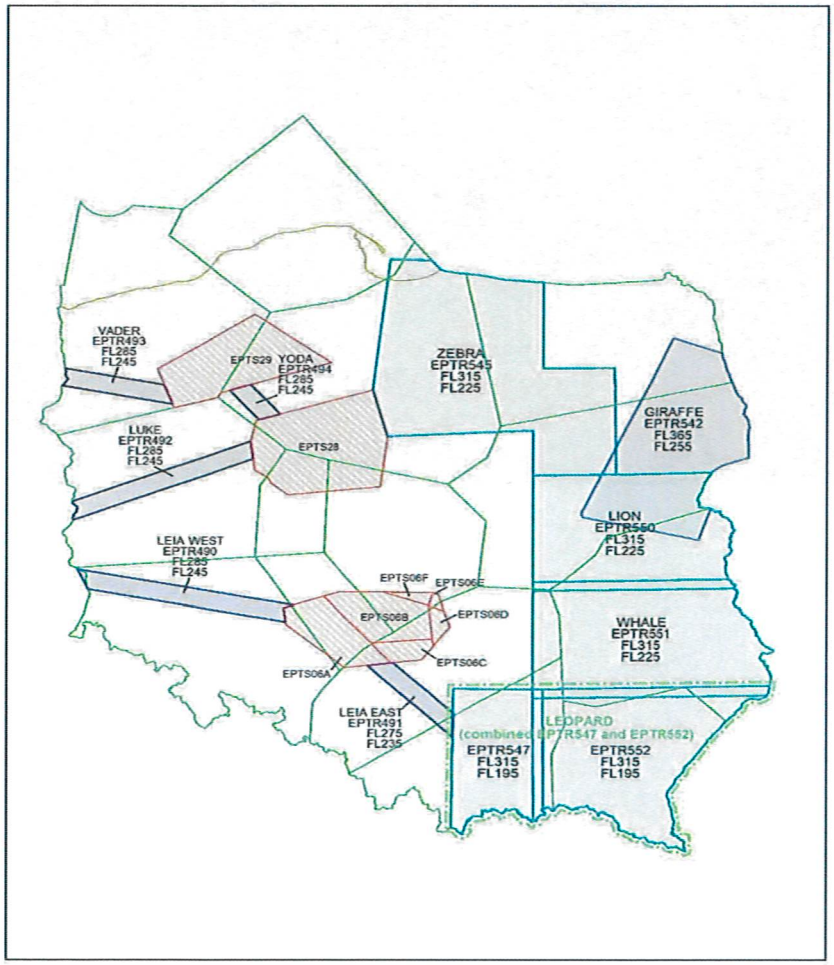
FL660
FL455


VADER
EPTR493
FL285
FL245
EPTS29
YODA
EPTR494
FL285
FL245
LUKE
EPTR492
FL285
FL245
EPTS28
ZEBRA
EPTR545
FL315
FL225
GIRAFFE
EPTR542
FL365
FL255
LION
EPTR550
FL315
FL225
LEIA WEST
EPTR490
FL285
FL245
EPTS06F
EPTS06E
EPTS06B
EPTS06D
EPTS06C
EPTS06A
WHALE
EPTR551
FL315
FL225
LEIA EAST
EPTR491
FL275
FL235
LEOPARD
(combined EPTR547 and EPTR552)
EPTR547
FL315
FL195
EPTR552
FL315
FL195

SECTION 6: ANNEXES

6 - ANNEXES

List of annexes