Monitoring Report 2024

Poland

Third Reference Period (2020-2024)

Signatories

Monitoring report details	
Name	Poland
Version number	Final version (2)
Date of issue	2025-08-07
Date of adoption	2025-08-07

NSA names	Name, title and signature of representative
Polish Civil Aviation Authority (CAA)	President of Civil Aviation Authority 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. 2024 - 31 Dec. 2024
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

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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

1 - INTRODUCTION

1.3 Overview

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

Similarly as in 2023, performance over 2024 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 new traffic flows on the north-southern axis along Poland's eastern border circumnavigating the closed airspace of Ukraine). At the same time a direct consequence of the war was significant increase in military activity (including NATO) in FIR Warszawa, still visible in 2024, 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 of the war and related developments on capacity and environment KPIs are described in respective further chapters of the report.
Further consequences of the war outbreak were felt in the economic and financial area and impacted 2024 results. 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 (in 2024 overflights in FIR Warszawa were still 38% below 2019 actuals), the number of ER service units was much lower than assumed in the adopted RP3 PP (based on pre-war EUROCONTROL traffic forecast). 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). In general the traffic at regional airports was higher than the forecasts. 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 (respective measures have been included in the RP4 PP developed in 2024).
Further challenges were linked to changed macroeconomic situation and financial market performance following the outbreak of the war, which were still felt in 2024 – higher than assumed in the RP3 PP inflation (actual cumulative inflation vs 2017 amounted to 46,7% vs 19,1% planned), specific situation in the Polish labour market (high wage pressure and low unemployment), increase in interest rates as compared to RP3 PP assumptions (directly impacting ANSPs cost of capital) - all this put additional pressure on ANSPs costs. PANSA continued to use debt financing for CAPEX.

1.3.2 NSA key observations and highlight per KPA

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

Safety
In 2024 the ANSPs successfully implemented a set of measures to achieve targets set in the KPA Safety area – both for the year 2024 and the whole RP3. The data indicate that safety remains a top priority without signalising that it has been affected by consequences caused by a current situation beyond Poland eastern border. The ANSPs' management systems prove the ability to be sufficiently robust and adequately efficient to manage the impact of the changed conditions. Taking the above into account it should be emphasised that all three ANSPs, covered by the performance scheme in the Safety area, have reached the targets set in the Safety area for the RP3.

Environment
The target set for the horizontal en-route flight efficiency indicator (KEA) in the KPA of Environment was not met. In 2024 in Poland the KEA indicator's archived value was more than two and half times greater, reaching 4,49%, than the target shown in the PP – 1,65%. Just like in 2023 KEA was strongly affected by the airspace closures right next to the polish border and the resulting changes in traffic flows. Moreover, the war in Ukraine implicated restrictions in significant part of the Polish airspace due to military activities, so on many occasions aircraft did not fly the shortest route possible. The mayor part of reasons for not achieving the environment target in 2024 may be defined as external, beyond the influence of ANSP. The Polish CAA and the biggest Polish ANSP – PANSA are aware of the situation. In the KPA of Environment in Poland no incentive scheme was established for 2024. No penalty is to be calculated for this year.

Capacity
The targets set in the KPA of Capacity, both en-route and terminal, were not met in 2024. En-route ATFM delay per flight indicator achieved value was 0,23 minutes/flight with the target – 0,12 minutes/flight, set in the PP. Similarly in terminal traffic the achieved value – 0,49 minutes/flight – was more than twice greater than the target set in the PP – 0,23 minutes/flight. As the incentive scheme is obligatory in the KPA od Capacity, taking into account the actual performance achieved in this area, maximum penalty will be imposed on PANSA in en-route as well as terminal capacity. As already explained for KPA of Environment, the Russian aggression against Ukraine strongly affects Polish airspace in terms of its availability, together with adverse weather conditions. Both factors are described in more details in the following parts of the Monitoring Report. However, ATC Staffing and Capacity, responsible for more than half of the en-route delays must also be addressed.

Cost-efficiency
In the area of cost-efficiency, in terms of route charges, the total nominal value of costs for 2024 was higher by 19,7% than planned. Total en route costs in real terms were higher by 1.6% compared to the planned ones, SU were by 25.4% lower than planned. AUC for 2024 was by 36.3% higher than DUC. Regarding terminal charges in Terminal Charges Zone 1, the total real nominal value of costs for 2024 was higher by 37.5% than planned. The total costs in real terms in TCZ1 were by 14.7% higher than planned. The total number of SU-L in TCZ1 was by 8.2% higher than planned. AUC was by 6.0% higher than DUC. In terms of terminal charges in Terminal Charges Zone 2, the total real nominal value of costs for 2024 was 56.8% higher than planned. The total terminal costs in real terms in TCZ 2 were higher by 31.6% than planned. The total number of SU-L was by 26.9% higher than planned. AUC was by 3.6% higher than DUC. The main driver of nominal costs was inflation and pressure on salaries (that is also attributable to the situation in Polish labor market). Below-forecast traffic in en-route charging zone was a direct result of the war in Ukraine and en-route traffic shifts beyond Polish airspace.

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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	758
IFR movements (yearly variation in %)		26%	32%	11%	9%
En route service units (thousands)	2 146	2 586	3 129	3 537	3 824
En route service units (yearly variation in %)		21%	21%	13%	8%

Differences	2020	2021	2022	2023	2024
IFR movements (thousands)	0	12	-125	-166	-162
IFR movements (in %)	0%	3%	-17%	-19%	-18%
En route service units (thousands)	0	37	-862	-1 226	-1 305
En route service units (in %)	0%	1%	-22%	-26%	-25%

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 dep. 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	91
IFR dep. movements (yearly variation in %)		18%	52%	15%	10%
Terminal service units (thousands)	44	53	83	99	112
Terminal service units (yearly variation in %)		22%	56%	19%	13%

Differences	2020	2021	2022	2023	2024
IFR departure movements (thousands)	0	-5	-9	-4	-1
IFR departure movements (in %)	0%	-9%	-12%	-4%	-1%
Terminal service units (thousands)	0	-2	-4	2	8
Terminal service units (in %)	0%	-3%	-5%	2%	8%

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 dep. 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	148
IFR dep. movements (yearly variation in %)		24%	68%	13%	10%
Terminal service units (thousands)	62	79	141	162	180
Terminal service units (yearly variation in %)		26%	79%	15%	11%

Differences	2020	2021	2022	2023	2024
IFR departure movements (thousands)	0	1	7	16	21
IFR departure movements (in %)	0%	2%	6%	13%	16%
Terminal service units (thousands)	0	2	17	31	38
Terminal service units (in %)	0%	3%	14%	24%	27%

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1.5 Other general information

1.5.1 Cross-border cooperation initiatives

The unprovoked Russian invasion of Ukraine continued to affect PANSA's possibilities for comprehensive cross-border cooperation. Despite this, PANSA continued cooperation with other ANSPs aiming at improving provision of ATM/ANS in the European Network.
The main streams of PANSA cross-border cooperation in 2024 included the following:
• FRA expansion - after successful implementation of cross-border FRA with Lithuania and Slovakia in 2022, cross-border FRA was expanded in November 2024 to encompass Czechia (SEEFRA) and Sweden (DK-SE FAB FRA);
• participation in selected work-stream topics in the Operational Excellence Program launched by the Network Manager;
• active support to the 2024 Summer measures implemented through collaboration of ANSPs and the Network Manager;
• information exchange with other ANSPs on GNSS jamming and spoofing, including meetings with: ICAO, EUROCONTROL, Oro Navigacija, LGS, DFS and regular meetings with Airspace Users;
• radar data exchange with Oro Navigacija (Vilnius and Gdańsk radars) and DFS (Neubrandenburg, Poznan, Szczecinek radars); in 2024 works were initiated on possible radar data exchange with ANS Czechia;
• cooperation in NAV cross border infrastructure sharing with Lithuania (DME coverage) initiated, regular meetings with Oro Navigacija;
• continued cooperation with other ANSPs under iTEC Collaboration;
• initiation of analysis of Baltic FAB future, in cooperation with other Polish stakeholders and Lithuanian partner Oro Navigacija - due to entry into force of Regulation (EU) 2024/2803 of the European Parliament and of the Council of 23 October 2024 on the implementation of the Single European Sky (recast), and specifically its Article 3 concerning functional airspace blocks - results are expected in 2025;
• 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. After reopening of Ukrainian airspace further possibilities for cross-border cooperation will likely appear, however the timing is beyond PANSA's control and detailed scope is not known yet. Any implementation will be worked out in close cooperation among interested parties (PANSA, neighbouring ANSPs, Network Manager and other stakeholders);
• participation in initiation of works on possible scenarios for traffic flows changes in case the war in Ukraine is coordinated with UkSATSE and Network Manager.

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

Monitoring of the ANSPs' (in scope of the PP) performance was conducted based on Regulation (EU) 2019/317 and Regulation 2017/373 in a regular manner. The NSA clearly defined the scope of data that ANSPs were obliged to submit at appointed intervals, covering (among others): planned costs and their execution, ATCO training and employment, major projects aimed at increasing capacity and enhancing flight efficiency, investments, effectiveness of safety management. Received data was analysed, questions (if necessary) were clarified.
Complementary monitoring of targets and performance was conducted during routine (planned or unplanned) inspections, carried out by NSA inspectors.

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	C
(b) safety risk management	Values from PP	C	C	C	C	D
	Actual values	D	D	D	D	D
(c) safety assurance	Values from PP	C	C	C	C	C
	Actual values	C	D	D	D	C
(d) safety promotion	Values from PP	C	C	C	C	C
	Actual values	D	D	D	D	C
(e) safety culture	Values from PP	C	C	C	C	C
	Actual values	D	D	D	D	C

Assessment of the achieved level of actual performance

At the end of 2024 actual safety performance was in line with the targets set. Evidence proving the EoSM maturity levels declared by PANSA in each of the areas was provided to the NSA.

At the end of RP3 PANSA presented a different self-assessment approach to its effectiveness of safety management than in earlier years the consequence of which was downgrade of levels from D to C in 16 out of 28 questions, defining the overall score in the components of: Safety Culture, Safety Policy and Objectives, Safety Assurance and Safety Promotion at level C. PANSA has maintained level D only in one component – in Safety Risk Management.

The Agency has justified the downgraded levels in four out of five components, as follows.

The process of developing answers to the 2024 EoSM questionnaire assumed obtaining partial responses from key organisational units of the Agency, including not only operational staff, but also HR and training, technology, finance, strategy and investment, communication etc. The next step was organisation of some internal workshop meetings where cross-questions have been asked in order to obtain objectified responses to the EoSM questionnaire. In the presented new attitude to EoSM self-assessment PANSA has stated that no information had been found that similar internal consultations with PANSA staff and/or top management had been found regarding the reported levels of EoSM for 2023. In PANSA's opinion, the responses in the EoSM questionnaires for 2023 and 2024 are therefore difficult to compare, since the methods based on which they have been developed internally were different. PANSA is of the opinion that the self-assessment of its EoSM for 2024 has been conducted in the most objective way possible.

The NSA have conducted the in-depth analysis of the answers provided, as well as of the collected evidence and requested PANSA to provide detailed explanations to some additional questions that have arisen in connection with the changes in the EoSM questionnaire levels. Representatives of the NSA and PANSA have also held a meeting during which they discussed PANSA's additional argumentation regarding the introduced changes. After receiving additional explanation in writing and during the mentioned meeting, the NSA accepted changed levels in mentioned four out of five components.

Main measures put in place to achieve the safety performance targets
Over 2024 PANSA continued implementation of measures listed in internal "SMS development roadmap" initiated during the previous years. At the end of 2024 the "SMS development roadmap" was replaced with „The SMS Strategy" and a comprehensive review of safety management maturity levels was carried out, based on EASA framework, which served as a basis for evaluating 2024 performance in terms of EoSM KPI and allowed for development of SMS improvement framework program for the RP4. The measures undertaken in 2024 included, among others: - development of safety culture based on conclusions and recommendations of reviews conducted in 2020 and 2023, - safety promotion initiatives through, among others: organisation of workshops for LSE and inspectors, organisation of "Safety Days" for ATS personnel, thematic publications and sharing of best practice reviews with Local Safety Experts and the SMS staff, - internal promotion of Safety Policy at PANSA via dedicated posters, - organisation of "Proactive Safety Management" workshop with top level experts for PANSA management and continued e-learning trainings for PANSA staff, - implementation and development of new functionalities of IT tools allowing improved effectiveness of SMS processes like TOKAI, as well as initiation of review and update of databases related to air traffic and safety occurrences and safety indicators, - review of contingency plans, including – where necessary – respective updates and tests, - quarterly reviews of best and/or new practices in Safety Management.

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	C
(b) safety risk management	Values from PP	C	C	C	C	D
	Actual values	C	C	C	C	D
(c) safety assurance	Values from PP	C	C	C	C	C
	Actual values	C	C	C	C	C
(d) safety promotion	Values from PP	C	C	C	C	C
	Actual values	C	C	C	C	C
(e) safety culture	Values from PP	C	C	C	C	C
	Actual values	C	C	C	C	C

Assessment of the achieved level of actual performance
In 2024 Bydgoszcz Airport (EPBY) managed to upgrade level from C to D in the safety risk management and in this way reached targets set for the final year of RP3.

Main measures put in place to achieve the safety performance targets
In 2024 Bydgoszcz Airport (EPBY) continued implementation of measures aiming not only at maintaining but also at improving declared safety levels, which were, among others: - 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, - 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. In addition to the above, in order to upgrade level from C to D in the safety risk management component and in consequence to reach the RP3 target in Safety area, Bydgoszcz Airport presented the CAA with evidence that it conducts periodic review of its approach to safety management in order to verify whether the safety policy and related procedures need an update as well as evidece (Report of the safety management audit) that it reviews the hazard identification and analysis process and verifies whether it has to be updated.

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

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	C
(b) safety risk management	Values from PP	C	C	C	C	D
	Actual values	C	C	D	D	D
(c) safety assurance	Values from PP	C	C	C	C	C
	Actual values	C	C	C	C	C
(d) safety promotion	Values from PP	C	C	C	C	C
	Actual values	C	C	C	C	C
(e) safety culture	Values from PP	C	C	C	C	C
	Actual values	C	C	C	C	C

Assessment of the achieved level of actual performance
In 2024 Warmia i Mazury Airport maintained values from the last year in five safety components. The above levels reflect the assessment made by the NSA.

Main measures put in place to achieve the safety performance targets
In 2024 Warmia i Mazury Airport (EPSY) took below measures aimed at maintaining the safety performance targets mentioned in the EoSM 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 the risk management process.

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	34
Total number of IFR and VFR movements at the airports	194 403	238 124	382 479	432 535	476 894
Rate of Runway Incursions at Airports Located in the Member State	0,00005	0,00007	0,00007	0,00004	0,00007

What initiatives were implemented or are planned that will improve this PI and how does the NSA intend on monitoring their effectiveness on performance?
Periodic Runway Safety Teams activity of PANSA, airports and airspace users are the main tool to control the RI performance.

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	61
Total number of controlled flight hours within the airspace	217 134	267 414	355 901	386 507	415 612
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	0,00015

What initiatives were implemented or are planned that will improve this PI and how does the NSA intend to monitor their effectiveness?
Risk analysis, occurrence investigations and safety reviews are used to control the SMI performance. The NSA monitors SPIs regularly (on yearly basis) at state level as an element of actions indicated in State Plan for Aviation Safety (SPAS). ANSPs report Separation Minima Infringements and RIs every quarter – as demanded in SPAS.

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	5
Total number of IFR and VFR movements at the airports	2 109	2 135	3 451	4 378	4 700
Rate of Runway Incursions at the airport	0,00047	0,00047	0,00058	0,00023	0,00106

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	0
Total number of IFR and VFR movements at the airports	1 684	1 825	3 549	3 166	3 496
Rate of Runway Incursions at the airport	0,00000	0,00000	0,00113	0,00000	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	0
Total number of IFR and VFR movements at the airports	1 023	934	1 414	1 710	1 118
Rate of Runway Incursions at the airport	0,00000	0,00000	0,00071	0,00000	0,00000

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	4
Total number of IFR and VFR movements at the airports	21 607	25 444	40 870	45 350	51 369
Rate of Runway Incursions at the airport	0,00000	0,00008	0,00002	0,00000	0,00008

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	0
Total number of IFR and VFR movements at the airports	27 087	32 925	57 401	65 731	76 235
Rate of Runway Incursions at the airport	0,00007	0,00009	0,00003	0,00003	0,00000

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	1
Total number of IFR and VFR movements at the airports	17 318	24 570	36 734	41 383	44 845
Rate of Runway Incursions at the airport	0,00006	0,00000	0,00000	0,00000	0,00002

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	2
Total number of IFR and VFR movements at the airports	2 345	3 076	3 542	4 610	5 113
Rate of Runway Incursions at the airport	0,00000	0,00098	0,00056	0,00000	0,00039

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	3
Total number of IFR and VFR movements at the airports	8 614	13 085	21 254	21 508	17 365
Rate of Runway Incursions at the airport	0,00000	0,00000	0,00005	0,00023	0,00017

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	6
Total number of IFR and VFR movements at the airports	10 833	13 847	22 684	25 290	30 425
Rate of Runway Incursions at the airport	0,00009	0,00014	0,00009	0,00004	0,00020

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	0
Total number of IFR and VFR movements at the airports	4 011	4 268	14 340	15 144	15 545
Rate of Runway Incursions at the airport	0,00000	0,00023	0,00007	0,00000	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	0
Total number of IFR and VFR movements at the airports	3 236	3 243	5 074	5 357	5 173
Rate of Runway Incursions at the airport	0,00000	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	0
Total number of IFR and VFR movements at the airports	13 661	17 399	26 388	31 249	36 363
Rate of Runway Incursions at the airport	0,00000	0,00006	0,00011	0,00000	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	1
Total number of IFR and VFR movements at the airports	1 030	707	1 041	1 172	1 217
Rate of Runway Incursions at the airport	0,00000	0,00000	0,00096	0,00000	0,00082

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	12
Total number of IFR and VFR movements at the airports	79 844	94 666	144 737	165 434	182 862
Rate of Runway Incursions at the airport	0,00005	0,00003	0,00004	0,00005	0,00007

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	0
Total number of IFR and VFR movements at the airports	1	0	0	1 053	1 068
Rate of Runway Incursions at the airport	0,00000			0,00095	0,00000

What initiatives were implemented or are planned that will improve this PI and how does the NSA intend to monitor their effectiveness?
Periodic Runway Safety Team activity of PANSA, airports and airspace users are the main tool to control the RI performance. Corrective actions are implemented when necessary and they cover awareness rising and trainings.

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	61
Total number of controlled flight hours within the airspace	217 134	267 414	355 901	386 507	415 612
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	0,00015

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	0
Total number of controlled flight hours within the airspace	0	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	0
Total number of controlled flight hours within the airspace	0	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%	4,49%
Difference	-0,18%	0,68%	3,14%	2,93%	2,84%

Assessment of the achieved level of actual performance in the environment KPA

The 2024 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 and 2023, geopolitical situation had the strongest impact on 2024 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 the 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 and 2024 (what can be partly attributed to a number of measures that PANSA has 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 2024 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, while the additional distance mostly comes from the overall trajectory inefficiency (so called inter-connectivity component, as visible in EUROCONTROL annual Performance Review Reports – Figure 5-13 in Performance Review Report 2024). 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 minimising 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 FIR Warszawa in February 2019 and was further expanded in 2022 to 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 2020-2023 please see the respective Annual Monitoring Reports. Over 2024 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. Majority of RAD restrictions suspended in 2020, following the outbreak of the pandemic and reduction of traffic, were still suspended over 2024 – ca. 50 RAD restrictions remained suspended unblocking ca. 200 traffic flows. Projects implemented operationally over 2024 included: - Cross border FRA operations with Sweden (currently available for DEP/ARR for/to Denmark and Sweden) – between FAB DK-SE and Baltic FAB – aimed at allowing more efficient flight planning – implemented in November 2024, - Cross border FRA with Czechia - between BALTIC FRA and SEE FRA (FRACZECH) – aimed at allowing more efficient flight planning - implemented in November 2024, - 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). A number of measures were also taken in 2024 to support the capacity performance (see chapter 2.3), which indirectly could also support environmental performance. Over 2024 PANSA was also working on the following projects to be operationally implemented 2025+: - Reorganisation of ACC Warszawa sector configuration – following the implementation of the first step of third layer implementation in South-Eastern part of the Polish airspace in April 2023, over 2024 preparatory works for the subsequent steps were ongoing. It is currently planned to implement third layer in all remaining Warszawa ACC sectors in Q3 2025 in one step, - Implementation of Dynamic RAD – aimed at supporting flexibility in RAD application, only when needed, depending on operational conditions, to enable more efficient flight trajectories to be filed by airspace users by shortening of time of applicability of unnecessary limitations/restrictions for airspace users (implemented in February 2025).

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 2026/2027, - New TMA Rzeszów entry/exit points and new SIDs/STARs procedures connected to new points – implemented March 2024 (this allowed shortening of planned and flown trajectories for departures and arrivals from/to Rzeszów airport (EPRZ) from south direction), - Cross-border FRA operations with Ukraine – project suspended due to the geopolitical situation.

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 2024 was caused mainly by external circumstances: weather conditions, geopolitical situation, airspace closures, restistriced access to airspace due to military activity, which are beyond control of either ANSP or NSA.

Recommendations to the ANSP to rectify the situation
Considering the evolution of the HFE indicator throughout the RP3 and taking into account external factors, mainly geopolitical, affecting this indicator, it should be stated that the influence of PANSA or Polish Authorities on the KEA indicator values is very limited. Neither the situation with Belarus after the forced landing in May 2021, nor the war in Ukraine and its impact on flights were included in the KEA RP3 reference values for Poland. Thus, it is obvious that the reference values specified at the beginning of RP3 cannot be met not only as long as the armed conflict in Ukraine continues, but also as long as all sanctions affecting traffic flows remain in force and the airspace of Ukraine, Belarus and Russia is not unconditionally open to all GAT flights with a similar reopening of EU airspace for users of Russian and Belarusian airspace. It should be taken into account that - as a result of the war in Ukraine - the significantly increased NATO presence in the Polish airspace will last much longer than the active phase of the war itself. Therefore, the currently introduced restrictions in Polish airspace will be maintained even after the end of combat operations in Ukraine. This means that this factor will continue to have a significant impact on the KEA value for Poland in RP4, preventing the achievement by the ANSP of KEA reference values in the near 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. The RP3 targets, based on reference values developed by the PRB, were set before the forced Ryanair landing in Minsk and the war in Ukraine – therefore were set based on completely different assumptions/circumstances, while (as described above) these changed external circumstances determine the deviation of actual performance from the target. Still, as stated above, PANSA continues to implement measures foreseen in ERNIP and in the adopted RP3 PP as well as in the RP4 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?
Planned measures to support the environmental area in RP4 have been listed in the RP4 PP for Poland. However, it needs to be stressed that the performance issues (situation related to use of Belarusian airspace, the impact of war in Ukraine and related sanctions) are linked directly to geopolitical situation and cannot be addressed by PANSA (are beyond control of PANSA). In the nearest future there is no possibility to improve the KEA indicator in FIR Warszawa without eliminating the above mentioned external, geopolitical factors that directly, negatively impact the indicator's value. There is a risk that – despite all the actions foreseen in the RP4 PP – KEA target will not be met in the subsequent years (RP4) – not only as long as the military conflict in Ukraine continues, 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. 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 RP4 PP.

Additional comments
Over the first months of 2025 the HFE indicator for Poland is slightly higher than the annual KEA target set for 2025 for PANSA (target: 4,51% versus average KEA in January-April period: 4,55%) and slightly higher than the result for respective period in 2024 (January-April 2024 average: 4,54% versus January-April 2025 average: 4,55%). What should be stressed is that this is not due to any changes introduced by PANSA and seems not to be connected with the capacity situation in FIR Warszawa. Still external factors, outside PANSA control, impact the indicator's values.

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.
The war in Ukraine increases HFE value in FIR Warszawa 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. As indicated above, large majority of the airspace behind Poland's eastern border is now significantly restricted by the military (due to the war in Ukraine and related sanctions). Therefore, traffic flows over Poland changed very significantly as compared to the situation when the RP3 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 or inter-connectivity 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. It is clear that the KEA target will not improve 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.

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 Reports for 2022 and 2023, 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 JR 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-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%	6,37%

What initiatives were implemented or are planned that will improve this PI and how does the NSA intend on monitoring their effectiveness on performance?
In February 2019 PANSA implemented FRA (POLFRA) in Warszawa FIR from FL95, H24 which was further expanded in 2022 to 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. In 2024 the cross-border FRA area was further expanded with Czechia and Sweden (DK-SE FAB). Changes implemented over 2020-2023 were listed in respective Performance monitoring reports and changes implemented in 2024 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 planned to be pursued in RP4, including cross border FRA operations with Germany and possibly – if the war ends – with Ukraine. Planned vertical split of Warszawa FIR into three layers (stage 1 implemented in 2023, subsequent stage planned to be implemented in 2025) 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 the subsequent years due to the military conflict in Ukraine and related sanctions. The NSA receives the list of planned changes in the ATM functional system on regular basis. Once a change is notified the relevant monitoring is implemented.

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%	6,01%

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 2022 to 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. In 2024 the cross-border FRA area was further expanded with Czechia and Sweden (DK-SE FAB). Changes implemented over 2020-2023 were listed in respective Performance monitoring reports and changes implemented in 2024 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 planned to be pursued in RP4, including cross border FRA operations with Germany and possibly – if the war ends – with Ukraine. Planned vertical split of Warszawa FIR into three layers (stage 1 implemented in 2023, subsequent stage planned to be implemented in 2025) 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 the subsequent years due to the military conflict in Ukraine and related sanctions. The NSA receives the list of planned changes in the ATM functional system on regular basis. Once a change is notified the relevant monitoring is implemented.

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	2,78

What initiatives were implemented or are planned that will improve this PI and how does the NSA intend on monitoring their effectiveness on performance?
PANSA continues to work with the airport authority on revalidation of A-CDM. GND planner position is planned to be implemented in 2026 in order to increase effectiveness of GND operations. The NSA receives the list of planned changes in the ATM functional system on regular basis. Once a change is notified the relevant monitoring is implemented.

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	1,33

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 2020-2023 please see the respective Annual Monitoring Reports. In 2024 RECAT-EU was partially implemented for departures and arrivals from/to EPWA. In JUL 2025 the radar separation minimum applicable in Warszawa TMA is planned to be changed from 5 NM to 3 NM, which shall allow for more efficient traffic flow through that airspace. Moreover, RRSM are to be implemented for EPWA in 2025, and that will reduce the additional time spent in the terminal airspace for that airport. Furthermore, more efficient coordination procedures are being validated for APP and TWR, including reduction of the spacing on final approach. The NSA receives the list of planned changes in the ATM functional system on regular basis. Once a change is notified the relevant monitoring is implemented.

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		2020	2021	2022	2023	2024
all airports included in the SES PS						
EPBY (Bydgoszcz)	Actual	0,43	0,42	0,39	0,37	0,38
EPGD (Gdańsk im. Lecha Wałęsy)	Actual	0,58	0,49	0,51	0,48	0,53
EPKK (Kraków-Balice)	Actual	0,53	0,45	0,45	0,45	0,45
EPKT (Katowice-Pyrzowice)	Actual	0,49	0,46	0,39	0,38	0,36
EPLB (Lublin)	Actual	0,36	0,39	0,37	0,40	0,43
EPLL (Łódź)	Actual	0,42	0,35	0,34	0,32	0,49
EPMO (Warszawa/Modlin)	Actual	0,66	0,61	0,55	0,60	0,62
EPPO (Poznań-Ławica)	Actual	0,42	0,36	0,36	0,35	0,35
EPRA (Lotnisko Warszawa-Radom)	Actual	n/a	n/a	n/a	0,22	0,22
EPRZ (Rzeszów-Jasionka)	Actual	0,52	0,48	0,27	0,33	0,34
EPSC (Szczecin-Goleniów)	Actual	0,53	0,58	0,51	0,52	0,53
EPSY (Olsztyn-Mazury)	Actual	0,47	0,54	0,39	0,41	0,41
EPWA (Lotnisko Chopina w Warszawie)	Actual	0,51	0,49	0,45	0,44	0,46
EPWR (Wrocław-Strachowice)	Actual	0,43	0,40	0,35	0,32	0,30
EPZG (Zielona Góra-Babimost)	Actual	0,68	0,61	0,63	0,37	0,35

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 2020-2023 please see the respective Annual Monitoring Reports.
RNAV procedures and airspace allowing continuous descent operations are available for all airports where PANSA provides ATS.
Additional analysis is planned to be conducted for TMA Kraków to see if any further improvements are possible with regard to CDAs.
Planned reduction of radar separation minimum in Warszawa TMA is expected to allow a greater percentage of arrivals to EPWA and EPMO to utilise the CDO. The change is planned to be implemented in JUL 2025.
Relevant monitoring will be conducted when necessary.

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	176 873
Total number of hours used	64 424	62 469	75 171	77 495	80 602
Ratio	36%	36%	40%	44%	46%

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	176 873
Total number of hours used	64 424	62 469	75 171	77 495	80 602
Ratio	36%	36%	40%	44%	46%

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 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 minimise 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 minimise 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 the negative influence of segregated areas on civil traffic as much as possible; - 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 utilisation 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	328 533
Number of aircraft that could have planned through those airspace structures	216 861	269 735	332 309	361 305	413 124
Ratio of planning via available airspace structures	60%	82%	81%	82%	80%

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	328 533
Number of aircraft that could have planned through those airspace structures	216 861	269 735	332 309	361 305	413 124
Ratio of planning via available airspace structures	60%	82%	81%	82%	80%

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. Second step of cross-border FRA operation between Poland, Czechia and Sweden was implemented in November 2024, further expanding benefits for AUs. 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 minimise 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 visualise 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 the negative impact of segregated areas on civil traffic as much as possible; - 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 ease 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	510 208
Number of aircraft that could have planned through those airspace structures	216 861	269 735	332 309	361 305	413 124
Ratio of using available airspace structures	121%	130%	126%	127%	123%

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	510 208
Number of aircraft that could have planned through those airspace structures	216 861	269 735	332 309	361 305	413 124
Ratio of using available airspace structures	121%	130%	126%	127%	123%

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 minimise 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 the negative influence of segregated areas on civil traffic as much as possible; - 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?	No

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	0,23
Difference	-0,30	0,00	0,97	0,08	0,11

Monitoring process
At PANSA evolution of capacity situation and delays is performed on daily basis using its own 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 2024 year for Poland (PANSA) was 0,23 minutes/flight with a target of 0,12 minutes/flight. The 2024 results were significantly impacted by the war in Ukraine and its consequences (21% of all 2024 en-route are attributed to the war – coded as "O") and by meteorological conditions (weather-related delays account for 20% of 2024 delays). However, ATC Capacity (32% of all 2024 en-route delays) and ATC Staffing (24% of all 2024 en-route delays) also play and essential role in the delay. The NSA monitored ATCO numbers and training in 2024 in a regular manner.

Capacity planning
Capacity planning over 2024 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 remained 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 the implementation of initiatives aimed at improving capacity in FIR Warszawa in order 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 2024, as well as new recruitment process for ATCO started in 2024 – in total (all ATCO units, ACC, APP and TWR) 88 candidates started the training process in 2024; a number of measures were implemented in the recruitment area (continuous recruitment, modified forms, internal organisational changes to optimise processes) and training area (simulator development, digitalisation of documents, improvements in trainers selection process) to support increased efficiency of the processes; - 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 as well as Arrival Manager for EPWA airport); - 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; - preparations for implementation of subsequent stages of airspace three-layer vertical split (planned implementation in Q3 2025); - sector capacity analysis based on new CAPAN (Capacity Analysis) studies, including both the verification of the capacity of existing sectors as well as those newly established as a result of the implementation of vertical split within the EPWW FIR (CAPAN planned in May 2025);

- preparation for Dynamic RAD implementation (implemented in February 2025);
- works on implementation of Radar Control in EPRZ TMA (implemented in January 2025);
- 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;
- post-ops analyses taking into account traffic levels, delays, sector configurations;
- traffic analyses under hypothetical scenarios assuming unblocking of Ukrainian and Belarussian airspace;
- improvement of comprehensive airspace management.

PANSA also actively contributed to the implementation of Summer 2024 NM/ANSPs measures aimed at limiting delays in the mostly congested parts of the Network (aimed to reduce network ATFM delays by removing traffic from congested areas). Following this contribution, 3.4k minutes of delays were reattributed from PANSA to another ANSP.

Further improvements are planned for RP4 as listed in the RP4 PP for Poland.

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	4
Number of ATCOs in OPS who have stopped working in the OPS room (FTEs)	4	5	7	10	8
Number of ATCOs in OPS operational at year-end (FTEs)	172	172	178	177	173

	Differences				
	2020	2021	2022	2023	2024
Number of additional ATCOs in OPS who have started working in the OPS room (FTEs)		0	3	3	-1
Number of ATCOs in OPS who have stopped working in the OPS room (FTEs)		1	7	10	8
Number of ATCOs in OPS operational at year-end (FTEs)		-2	-5	-12	-21

Additional comments
Number of additional ATCOs in OPS who have started working in the OPS room (FTEs): 4.25 consists of: 4 - new licenses, 0.25 - increase of working time on the requsts of employee. Number of ATCOs in OPS who have stopped working in the OPS room (FTEs): 8.30 consists of: 1 – termination of the contract, 7 – shifts from PRU1 (ATCOs in OPS) category to other PRU categories, 0.30 – 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
2024 results were significantly impacted by: 1. ATC Capacity - actual demand exceeded capacity available based on traffic predictions or capacity available in TMAs (especially for Warsaw TMA), which caused 32% of all en-route delays in FIR Warszawa in 2024. Due to Poland's location on the map the capacity planning was challenging. 2. ATC Staffing issues, which caused 24% of all en-route delays in 2024 and were clearly visible especially over May-June period. ATCO recruitment and trainig processes have been significantly modernised in 2024, however, as the training process in a long one, it will take same time till the results are clearly visible. Moreover, during the entire RP3 more ATCOs than planned, have stopped working in the OPS room. 3. Military aggression of the Russian Federation on Ukraine – this element was not factored in when the RP3 targets (based on reference values developed by the PRB/NM) were developed. The Russian aggression against Ukraine resulted in significant changes to traffic flows in FIR Warszawa, leading to increase of traffic in south-eastern sectors. Increased traffic levels are visible in certain periods of time due to flights circumnavigating around closed Ukrainian airspace (on the south-north axis). At the same time the war led to 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 the traffic flows circumnavigation around Ukrainian airspace and 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). Over 2024 the delays related to the war (code O) generated delay at 0.05 minute per flight (21% of all en-route delays generated in FIR Warszawa in 2024). Without them the result would be more advantageous (0,18 minute/flight), but still the target would not be met. 4. Weather conditions – these are becoming more severe, what has not been sufficiently factored in in the RP3 targets. Over 2024 the delays related to weather (code W) amounted to 0.05 minute per light (20% of all en-route delays generated in FIR Warszawa in 2024).

Recommendations to the ANSP to rectify the situation
Weather cincumstances as well as the effects of the war going on in Ukraine just beyond the Polish border are in most part out of ANSPs control. For those reasons it is difficult to suggest any further recommendations. What is recommended is to improve traffic flow management as well as to continue with the recruitment and training processes, as new ATCOs are needed, whilst their start of operational work requires time. At the same time discontinuation of operational work by a particular number of people must also be taken into account. Analysis of available ATCOs should be continued.

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

Number of measures put in place	3

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 – subsequent stage planned to be implemented in 2025.*	*2022-2025*	*Implemented (JKZR sectorization, first stage of three layer vertical split)* *Ongoing (subsequent stage on three-layer vertical split)*
Traffic flow management and development of sectorization	*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. Flexible use of ATFM regulations, including Dynamic RAD implementation and occupancy trial testing. Planned increase in the maximum number of sectors possible to be opened as well as flexible use of available sectors (over 2000 sector configurations possible to use).*	*ongoing*	*Ongoing* *Dynamic RAD - implemented*
Training of new ATCOs	*New ATCOs training aimed at increasing the number of ATCOs for ACC and APP, in line with the plan included in the RP4 PP*	*ongoing*	*Ongoing (continuation of courses initiated before 2024, 2 new courses initiated in 2024, further new courses planned 2025+)*

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?
Regarding the monitoring, when measures are implemented in the form of changes to ATM functional system, they are subject to oversight of changes process. Three layer vertical split in ACC has already been verified through oversight of changes process in 2025.

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?
Planned measures to support achievement of the capacity targets in RP4 have been listed in the RP4 PP for Poland. Moreover, PANSA cooperates with NM and other relevant stakeholders to develop scenarios in order to prepare for the possible reopening of airspace beyond Poland's eastern border (currently being closed or unavailable due to the war and sanctions).

What further measures does the NSA intend to undertake to remedy this situation?
Changes to airspace structure which may impact the capacity are also consulted on Airspace Management Committee, which comprises of representatives from MoI, MoD, Mo Internal Affiairs, CAA and PANSA. In case of changes, which could negatively impact the existing airspace structure, Committee shall issue negative opinion, e.g. regarding the establishment of new P or R areas.

Additional comments
As indicated in Annex Q to the RP4 PP, it should be noticed that due to the unstable geopolitical situation beyond Poland's eastern border, including the ongoing war in Ukraine, en-route delays generated on the "O" code may appear during the RP4 period. Their share in the total number of en-route delays, or the number of delays dedicated exclusively to non-ATC, is difficult to predict due to the inability to assess the intensity of military activity, especially in exceptional situations in terms of traffic volume, operational support capabilities and declared airspace capacity in a given period. It is also impossible to predict how the ongoing warfare and its monitoring will affect subsequent, possible changes in traffic flows in FIR EPWW, which may further complicate traffic management at the ACC level and negatively affect the level of en-route delays. The possible increase in delays caused by weather factors (code "W") should also be borne in mind. Attention to this tendency was also paid at the level of the entire network in the PRB report on the proposed EU-wide targets for the RP4 period (see chapter 6 of the report "Performance Review Body Advice on the Union-wide targets for RP4" from March 2024 – including statements such as: "Considering the increasing unpredictability of weather phenomena and their impact on capacity performance [...]", "The PRB understands that uncertainty around weather is increasing, as the occurrence and severity of weather phenomena affecting aviation in general"). Moreover, the RP4 delay results may be further impacted if the airspace beyond Poland's eastern border is reopened – both in the case of Ukraine (if the war is over) and in case of Belarus and Russia (if respective sanctions are lifted). This may lead to traffic flows changes and significant traffic increase in FIR Warszawa, having possible impact on delays (especially as the impact of such airspace reopening on traffic volumes and flows is for the time being not predictable).

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 2024 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). Certain delays marked "M" are also considered as related to the war in Ukraine. Over 2024, the delays coded "O" related to the war in Ukraine amounted to 36241 minutes, while those coded "M" related to the war amounted to 605 minutes.
Below in the table are the en-route delays over 2024 marked explicitly as related to the war in Ukraine.

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 Reports for 2022 and 2023:
- 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);
- Cooperation with LZBB FIR regarding tactical management of traffic, which increased effectiveness of Air Traffic Flow near Ukrainian border;
- Tactical use of Level Capping and Rerouting based on FMP-ATC coordination, which reduced traffic overflow in J sector.

Month	ER delays (minutes)*				Delay reason
	Code "O" (all minutes)	Code "M" (all minutes)	Code "O" (other than the war in the UA)**	**War in Ukraine**	
JAN	0	0		**0**	
FEB	0	93		**0**	Code "M" - Airspace Management
MAR	0	0		**0**	
APR	1 106	0		**1 106**	Code "O" - Other
MAY	2 669	0		**2 669**	Code "O" - Other
JUN	4 305	0		**4 305**	Code "O" - Other
JUL	12 152	0		**12 152**	Code "O" - Other
AUG	6 008	0		**6 008**	Code "O" - Other
SEP	5 619	605	171	**6 053**	Code "O" - Other, Code "M" - Airspace Management
OCT	1 423	0		**1 423**	Code "O" - Other
NOV	987	0		**987**	Code "O" - Other
DEC	2 143	0		**2 143**	Code "O" - Other
Total 2024	36 412	698	171	**36 846**	
Code "O" - Other				*36 241*	
Code "M" - Airspace Management				*605*	

* The value includes delay correction resulting from the post-operational delay verification process coordinated by the Network Manager

** 02.09.2024 (171 minutes): RWY blocked at EPWA causing problems in TMA

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	0,49
	Diff.	-0,43	-0,02	-0,17	-0,05	0,26

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	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	0,74
	EPKK (Kraków-Balice)	PP values	0,06	0,02	0,04	0,25	0,23
		Actual	0,04	0,00	0,11	0,04	0,49
	EPKT (Katowice-Pyrzowice)	PP values	0,02	0,00	0,02	0,16	0,11
		Actual	0,00	0,00	0,05	0,01	0,09
	EPLB (Lublin)	PP values	0,00	0,00	0,00	0,00	0,00
		Actual	0,00	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	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	0,00
	EPPO (Poznań-Ławica)	PP values	0,08	0,00	0,11	0,10	0,09
		Actual	0,00	0,01	0,00	0,03	0,00
	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	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	0,51
	EPSC (Szczecin-Goleniów)	PP values	0,00	0,00	0,00	0,00	0,00
		Actual	0,00	0,00	0,02	0,00	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	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	0,80
	EPWR (Wrocław-Strachowice)	PP values	0,00	0,03	0,00	0,00	0,00
		Actual	0,00	0,00	0,01	0,00	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	0,00

Additional comments
Large majority of 2024 terminal delays was generated by non-ATC causes. Non-ATC delay per flight in 2024 accounted for 0.38 minute (77% of all terminal delays in 2024), while ATC (CRSTMP) only for 0.11 minute. It should be noted that actual traffic (IFR MVS) at regional airports (terminal zone II) in 2024 was 15.5% higher than the forecast underlying the adopted RP3 PP.

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
Majority of 2024 terminal delays was generated by non-ATC causes. Non-ATC delay per flight in 2024 accounted for 0.38 minute (77% of all terminal delays in 2024), while ATC (CRSTMP) for 0.11 minute. The largest value of delay per flight is visible for EPWA, where it is caused almost fully by non-ATC reasons (runway maintenance over September-December, which is responsible for 88% of delays at this airport, generated in these months, and weather phenomena over Q4). Weather conditions were also responsible for 2024 delays in EPKK - 79% of delays on that airport. As regards ATC delays, these were visible in EPRZ and are responsible for 71% of all delays at this airport (due to the war in Ukraine – see further details below) and EPGD - staffing issues responsible for 98% of 2024 delays at this airport.

Recommendations to the ANSP to rectify the situation
The NSA monitored ATCO numbers on regular basis. As a result staffing organisational changes were impelmented. No further recommendations issued.

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

Measures put in place	1

Title / Airport(s)	Description	Timeline for implementation	Status
EPGD TWR	*Staffing organisational changes*	*June-July 2024*	*implemented*

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?
Planned measures to support achievement of the capacity targets in RP4 have been listed in the RP4 PP for Poland.

What further measures does the NSA intend to undertake to remedy this situation?
Monitoring of the ATCO training plans.

Additional comments
The target takes into account all delay causes – both ATC as well as non-ATC. As shown by the past years' data, terminal delays are significantly impacted by non-ATC elements that are beyond control of PANSA. This has been considered when defining the incentive scheme for RP4, however still due to this fact there is a significant risk that the actual delay indicator (based on all delay causes) might be different than the target. Another element that can influence the actual performance over the coming years is the level of traffic. The RP4 traffic forecast is, in principle, based on STATFOR predictions. Past years' experience has shown that – especially in the case of regional airports – actual traffic can develop more dynamically than forecasted, what could also impact the delay indicator.

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 2022 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.
Similar as in 2022 and 2023, increased military activity, following the outbreak of the war, had some impact on delays in Rzeszów-Jasionka (EPRZ) airport over 2024. Below are the airport arrival ATFM delays for Rzeszów-Jasionka (EPRZ) airport over 2024 related to the war in Ukraine - delays coded "O" in total relate to the war, while as regards those coded "M" significant part is also considered to be linked to the war.

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.
In 2024 the Approach Control Surveillance was introduced in CTA 09, where the responsibility for the provision of ATS services may be delegated from Rzeszów TWR to Kraków APP. CTA 09 limits are coincident with those of Rzeszów TMA.

Month	Airport arrival ATFM delays for Rzeszów-Jasionka (EPRZ) over 2024 related to the war in Ukraine TN delays (minutes)			Delay reason
	EPRZ: Code "O"	Code "O" (other than the war in the UA)*	EPRZ: Code "M"	
JAN	0		0	
FEB	0		128	Code "M" - Airspace Management
MAR	0		169	Code "M" - Airspace Management
APR	0		195	Code "M" - Airspace Management
MAY	125		49	Code "O" - Other, Code "M" - Airspace Management
JUN	13		497	Code "O" - Other, Code "M" - Airspace Management
JUL	0		479	Code "M" - Airspace Management
AUG	0	14	45	Code "M" - Airspace Management
SEP	10		222	Code "O" - Other, Code "M" - Airspace Management
OCT	135		397	Code "O" - Other, Code "M" - Airspace Management
NOV	0		145	Code "M" - Airspace Management
DEC	318		15	Code "O" - Other, Code "M" - Airspace Management
Total 2024	601	14	2 341	
Code "O" - O	*601*			
Code "M" - Airspace Management			*2 341*	

* 14.08.2024 (14 minutes): Air display training (EPWA)

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%	96,8%
EPBY (Bydgoszcz)	Actual	94,0%	100,0%	97,0%	98,2%	97,7%
EPGD (Gdańsk im. Lecha Wałęsy)	Actual	93,3%	97,0%	96,6%	97,1%	97,1%
EPKK (Kraków-Balice)	Actual	95,9%	97,9%	97,5%	98,2%	98,2%
EPKT (Katowice-Pyrzowice)	Actual	89,6%	92,3%	92,1%	93,1%	93,3%
EPLB (Lublin)	Actual	91,7%	96,2%	98,1%	98,1%	99,4%
EPLL (Łódź)	Actual	100,0%	92,0%	95,6%	93,9%	95,0%
EPMO (Warszawa/Modlin)	Actual	96,4%	98,3%	98,1%	98,0%	98,3%
EPPO (Poznań-Ławica)	Actual	97,9%	97,3%	97,7%	96,8%	97,0%
EPRA (Lotnisko Warszawa-Radom)	Actual	n/a	n/a	n/a	97,8%	98,3%
EPRZ (Rzeszów-Jasionka)	Actual	93,3%	98,4%	97,3%	96,9%	97,2%
EPSC (Szczecin-Goleniów)	Actual	95,7%	100,0%	97,6%	94,5%	97,9%
EPSY (Olsztyn-Mazury)	Actual	88,9%	100,0%	97,9%	97,1%	92,0%
EPWA (Lotnisko Chopina w Warszawie)	Actual	97,5%	97,4%	97,1%	97,5%	97,7%
EPWR (Wrocław-Strachowice)	Actual	88,9%	92,1%	93,9%	92,8%	94,4%
EPZG (Zielona Góra-Babimost)	Actual	100,0%	100,0%	89,9%	93,2%	97,8%

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

Regular ATFCM training for TWR ATCOs, reminding the personnel about the rules of procedure for allocated slot time and the related limitations of NM systems.

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 2024.

Additional comments

The conducted monitoring indicated that there were no airports in Poland where adherence to ATFM departure slots in year 2024 was less than 80%. The level of adherence to ATFM departure slots in 2024 was similar as in 2023 with the highest percentage value of departures outside ATFM window noted at Olsztyn-Mazury airport – EPSY (8%), but still definitely not exceeding the 20% limit value.

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	0,74

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

Higher pre-departure delay may be attributed to returning or, in some cases, exceeding pre-COVID traffic levels which in return increases apron and terminal congestion.
GND planner position is planned to be implemented in 2026 in order to increase effectiveness of GND operations.
The NSA receives the list of planned changes in ATM functional system on regular basis. Once the GND planner position is notified the relevant monitoring will be proceeded.

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 2024.

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	19,76

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

2024 performance may be attributed to significant airside work in progress. No significant actions were taken by PANSA to improve this indicator in 2024. Relevant monitoring will be implemented when necessary.

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 2024.

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	1.ep-v0-rp3-june2025.xlsx	1.ep-v0-rp3-june2025.docx

List of Terminal Charging Zones and ETNA data references

	Reporting Tables ETNA Reference	Additional Information ETNA Reference
Poland zone 1	2.ep-z1-v0-rp3-june2025.xlsx	2.ep-z1-v0-rp3-june2025.docx
Poland zone 2	3.ep-z2-v0-rp3-june2025.xlsx	3.ep-z2-v0-rp3-june2025.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	990 951 232	1 137 433 125
Total en route costs in real terms (in national currency at 2017 prices)	1 315 377 467	721 225 326	764 190 583	850 506 750
Total en route Service Units (TSU)	4 731 739	3 128 964	3 536 911	3 824 126
Real en route unit costs (in national currency at 2017 prices)	277,99	230,50	216,06	222,41

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%	8,4%	19,7%
Total en route costs in real terms (in national currency at 2017 prices)	-12,5%	-9,7%	-6,7%	1,6%
Total en route Service Units (TSU)	0,8%	-21,6%	-25,7%	-25,4%
Real en route unit costs (in national currency at 2017 prices)	-13,2%	15,2%	25,6%	36,3%

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 - 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 and low unemployment). The RP3 determined costs were established based on the previously applicable Remuneration Regulation (Regulation from 2010, applicable until 2021). 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). Further amendments were introduced in 2H 2024. They resulted in a change to the structure of remuneration costs (see explanation provided earlier related to 2022 actual staff costs). The difference between the actual costs and determined costs is mainly due to salary increases to maintain PANSA competitiveness, which followed from labour market developments in the Polish economy, and 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 additional costs reflect payments to employees in order to compensate the lack of inflation adjustment of salaries, based on the applicable remuneration scheme, reflecting inflation compensation payments calculated for 2022-2024 (financed from RP3 inflation adjustments under the Performance and Charging Scheme); it should be noted that the additional costs related to increased inflation did not fully compensate the consequences for PANSA employees of entry into force of the so called "Polish Deal" (Polski Ład) – set of regulatory changes implemented in Poland 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. It should be indicated that over 2020-2024 increase of the average monthly wage and salary in national economy was higher than cumulative inflation over the same period – cumulative inflation (according to EUROSTAT – in line with the reporting tables) over RP3 (2019=100) accounted for 42%, while the increase of the average monthly wage and salary in national economy (according to Statistics Poland) over the same period amounted to 66%.

2. Other operating costs - Actual 2024 other operating costs are higher than determined. The main reasons for higher execution of other operating costs are as follows:

- costs of materials consumption: higher costs are the result of increased minimum value of an asset (defined in PANSA internal accounting policy), as a result of which a number of items that were initially assumed to be executed as CAPEX in actual figures were disclosed as OPEX. The earlier applied value (1 kPLN) has not been updated for many years and – in the light of inflation and increase in prices of purchased items – did not correspond to the current reality, therefore had to be increased. The increase (up to 10 kPLN) was applied starting from January 1st 2024;

- energy costs: higher expenses driven by the significant growth in energy prices rising faster than the average inflation rate in previous years;
- repair services costs: higher costs caused mainly by unpredicted faults that required repair activities;
- technical support and software updates: higher costs are driven by the change in the minimum value of an asset described above, following which some costs assumed initially as CAPEX are disclosed as other operating costs, as well as execution of purchase to support new projects that were limited or postponed in the previous years;
- training costs: higher expenses mainly correspond to the execution of English language courses and other staff trainings, considering the fact that training activities over the previous years were limited;
- higher costs related to business trips: linked to intensified trainings mentioned above but also to other business trips.

2024 actual costs were impacted by higher than planned actual inflation from previous years and much higher than predicted increase in minimum wages (minimum wage increased from 2.8 kPLN per month in 2021 to 4.3 kPLN in 2024), impacting large part of external services costs.To some extent the increases described above were compensated by savings in other items - like tax costs (lower actual licenses costs and property taxes than determined), consultancy (limited scope of purchased services) and some rental expenses (partly related to delayed implementation of some investments pre-2024).

3. Depreciation costs - Lower depreciation cost for 2024 is mainly due to the execution of the investment plan over 2021-2023 and early 2024, which was lower than foreseen in the RP3 PP. Uncertainty due to global crisis 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 Reports for the RP3 period). It should be mentioned here that over 2024 PANSA intensified works on investment execution aiming at addressing – where possible – delays faced in the preceding years of RP3, thanks to which the level of CAPEX in 2024 was higher than the planned value for that year underlying the RP3 PP. Execution of depreciation cost in 2024 is also related to differences in the useful life of some assets as compared to standard periods assumed in plan (see also respective explanation for 2022). It should be noted that the depreciation costs presented in the charges' reporting tables (both actuals as well as determined) do not include the effects of implementing IFRS16—costs related to leasing are still disclosed under other operating costs, in line with EC and PRB guidance.

4. Cost of capital - Actual cost of capital is slightly higher than determined. This is a combined effect of:

- lower asset base (-14.5%, linked to lower than planned execution of the capital expenditures over the period 2021-2023),
- higher WACC rate (+0.8 p.p.) following a substantial increase in the annual interest rate on debt (+3.1 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 5.197.088 PLN and results from:
- higher other operating costs by 14,3%. The above situation is mainly caused by the increase in inflation. The plan took into account inflation at 2,5%, while the actual inflation level in 2024 according to EUROSTAT data was 3,7%. In addition, in the previous year, in 2023, inflation was significantly higher (10,9% compared to the planned 2,53%), which contributed to an increase in m.in prices of gas, energy, fuels and rental services. Prices in 2024 were a continuation of this trend.
- higher personnel costs resulting from the increase in salary costs as a result of the Decision of the Director of IMGW-PIB of 13 June 2023 on inflation increases for IMGW-PIB employees and the payment of an additional annual bonus in 2024 on the basis of the Decision of the Director of IMGW-PIB of 6 December 2024.
- lower depreciation costs resulting above all from the postponement in the time of purchase process. Some of the planned investments for 2024 have been implemented as current costs and some have been postponed to 2025.
- higher cost of capital by 17,8% resulting from a higher average interest rate on debt, which was planned at 1,4%. The actual interest rate was 6,5%.

Airport Meteo:
The 2024 en-route AUC for Airport Meteo (0.20 PLN2017) is slightly above the target set for this year (0.20 PLN2017). Costs in nominal and real terms were below determined values, yet the TSU drop was of such significant nature that has not allowed to reach the target.

Airport Meteo claims that in first half of 2024 it was forced to continue to lower its operational activity (especially to continue one-person shifts instead of initially planned two-person) due to still unsolved problem of distribution of the navigation charges. After reaching the agreement with PANSA and receiving the substantial amount of funds in July 2024, Airport Meteo has introduced two-person shifts and accelerated the postponed investments and other expenses, yet the final execution of costs was below the plan.

Warmia i Mazury:
WiM's AUC in 2024 was equal to 0.38 PLN2017 and was higher than DUC (0.30 PLN2017). The above means, that the cost-efficiency target has not been met. Yet, though the actual costs in nominal terms (2 084 kPLN) were above determined (1 812 kPLN), due to the significant levels of inflation noted by Poland in RP3, the actual costs in real terms (1 457 kPLN) were below the determined (1 533 kPLN). Poland has faced drop in TSU (-25.4%) especially due to the war in Ukraine and this was the main reason of the unachieving of the performance target by WiM in ER. In terms of types of costs, WiM has noted lower staff costs - the reason for that was the performance of majority of the duties by the personnel contracted on B2B agreements. The other operating costs were higher, due to the cause mentioned above and also higher costs of materials, third-party services, fees and taxes. Higher costs of depreciation and CoC were the result of the implementation of the additional assets.

PL Bydgoszcz:
The actual unit cost (AUC, 0.29 PLN) in 2024 was above the determined unit cost (DUC, 0.25 PLN), what was caused mainly by the TSU drop due to the closure of the Ukrainian airspace, as the actual total costs in real terms (1 122 kPLN2017) were below the determined (1 262 kPLN2017). Yet, the nominal costs (1 560 kPLN) were higher than determined (1 467 kPLN). The main reasons for that were the increase of the electricians' renumeration and indirect costs. In the same time, PL Bydgoszcz managed to find savings i.a. in the costs of accommodation for the MET personnel, materials, repairs, trainings and energetical services.

CAA PL
The actual values differ from planned as follows: staff costs +1 608 kPLN (+25.0%); other operating costs (including EUROCONTROL costs) -3 129 kPLN (-5.4%); total costs -1 521 kPLN (-2.4%); unit cost +3.87 PLN (+31.0%).

b) Identification and analysis by the NSA of the underlying reasons or circumstances having led to the targets not being achieved
The 2024 en-route target has not been met mainly due to the negative impact of the war in Ukraine on the ER traffic in FIR Warszawa. As a result of the war, the number of overflights in the Polish airspace was significantly reduced, impacting the number of service units. The actual number of SU was 25% below the forecasted figure for 2024 included in the RP3 PP, based on pre-war STATFOR forecast. The war in Ukraine is an external factor on which PANSA has no influence. Actual performance was also impacted by higher staff costs that stem directly from significant wage pressure following high inflation an labour market situation in Poland.

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
The target was not achieved due to external factors outside NSA and ANSPs control (significant reduction in the number of overflights - resulting directly from the war in Ukraine - negatively impacting the number of SU as well as evolution of macroeconomic factors - including inflation, interest rates and labour market situation – impacting costs). For this reason no remedial measures could be defined that would address these external developments. However, PL continued to closely monitor all these developments and their impact on costs related to ANS provision. Cost evolution, as well as evolution of the main elements underlying the costs (employment, investments etc.), is subject to ongoing internal monitoring and verification process.

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 ?
For the time being there are no clear indications that the cost-efficiency targets established for RP4 are at risk. However, there are potential risks that could impact the actual performance over the coming years (RP4) linked to uncertainty over evolution of the external factors that have a direct influence on performance – meaning traffic evolution (actual traffic expressed in service units vs. traffic forecast underlying the RP4 PP) and evolution of macroeconomic situation (including inflation). At this stage it is too early to predict to what extent and in what direction actual values may differ from the RP4 PP assumptions and, as a consequence, what their possible impact on meeting the targets could be.

What has been done by the ANSP in order to address the identified performance issues?
NSA and ANSPs closely monitors evolution of the external elements, including traffic and macroeconomic developments. Also actual cost evolution, as well as evolution of the main elements underlying the costs (employment, investments etc.), is subject to ongoing internal monitoring and verification process. PANSA takes part in the process – coordinated under NM arrangements - of developing scenarios for traffic flows changes in case the war in Ukraine is over and prepares itself for various scenarios. A number of measures were taken to support achieving the targets set for RP4 – these are listed in the RP4 PP, chapter 3.4.1.

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 2024.

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.
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?
non-ANS activities costs are presentat separetly.

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	72 344 210
Total terminal costs in real terms (in national currency at 2017 prices)	62 687 919	42 256 612	46 493 067	52 399 059
Total terminal Service Units (TNSUs)	96 933	83 357	98 874	111 579
Real terminal unit costs (in national currency at 2017 prices)	646,71	506,93	470,23	469,62

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%	37,5%
Total terminal costs in real terms (in national currency at 2017 prices)	-17,4%	-4,0%	4,9%	14,7%
Total terminal Service Units (TNSUs)	-1,6%	-4,6%	2,3%	8,2%
Real terminal unit costs (in national currency at 2017 prices)	-16,0%	0,6%	2,5%	6,0%

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 - 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 and low unemployment). The RP3 determined costs were established based on the previously applicable Remuneration Regulation (Regulation from 2010, applicable until 2021). 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). Further amendments were introduced in 2H 2024. They resulted in a change to the structure of remuneration costs (see explanation provided earlier 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 salary increases to maintain PANSA competitiveness, which followed from labour market developments in the Polish economy, and 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 additional costs reflect payments to employees in order to compensate the lack of inflation adjustment of salaries, based on the applicable remuneration scheme, reflecting inflation compensation payments calculated for 2022-2024 (financed from RP3 inflation adjustments under the Performance and Charging Scheme); it should be noted that the additional costs related to increased inflation did not fully compensate the consequences for PANSA 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. It should be indicated that over 2020-2024 increase of the average monthly wage and salary in national economy was higher than cumulative inflation over the same period – cumulative inflation (according to EUROSTAT – in line with the reporting tables) over RP3 (2019=100) accounted for 42%, while the increase of the average monthly wage and salary in national economy (according to Statistics Poland) over the same period amounted to 66%.

2. Other operating costs - The total value of the actual other operating costs is higher than determined. The main reasons for higher execution of other operating costs are as follows:

- costs of materials consumption: higher costs are the result of increased minimum value of an asset (defined in PANSA internal accounting policy), as a result of which a number of items that were initially assumed to be executed as CAPEX in actual figures were disclosed as OPEX. The earlier applied value (1 kPLN) has not been updated for many years and – in the light of inflation and increase in prices of purchased items – did not correspond to the current reality, therefore had to be increased. The increase (up to 10 kPLN) was applied starting from January 1st 2024;
- energy costs: higher expenses driven by the significant growth in energy prices rising faster than the average inflation rate in previous years;
- repair services costs: higher costs caused mainly by unpredicted faults that required repair activities;
- technical support and software updates: higher costs are driven by the change in the minimum value of an asset described above, following which some costs assumed initially as CAPEX are disclosed as other operating costs, as well as execution of purchase to support new projects that were limited or postponed in the previous years;
- training costs: higher expenses mainly correspond to the execution of English language courses and other staff trainings, considering the fact that training activities over the previous years were limited;
- higher costs related to business trips: linked to intensified trainings mentioned above but also to other business trips.

2024 actual costs were impacted by higher than planned actual inflation from previous years and much higher than predicted increase in minimum wages (minimum wage increased from 2.8 kPLN per month in 2021 to 4.3 kPLN in 2024), impacting large part of external services costs.
To some extent the increases described above were compensated by savings in other items - like tax costs (lower actual licenses costs and property taxes than determined), consultancy (limited scope of purchased services) and some rental expenses (partly related to delayed implementation of some investments pre-2024).
3. Depreciation costs - Lower depreciation cost for 2024 is mainly due to the execution of the investment plan over 2021-2023 and early 2024, which was lower than foreseen in the RP3 PP. Uncertainty due to global crisis 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 Reports for the RP3 period). It should be mentioned here that over 2024 PANSA intensified works on investment execution aiming at addressing – where possible – delays faced in the preceding years of RP3, thanks to which the level of CAPEX in 2024 was higher than the planned value for that year underlying the RP3 PP. Execution of depreciation cost in 2024 is also related to differences in the useful life of some assets as compared to standard periods assumed in plan (see also respective explanation for 2022). It should be noted that the depreciation costs presented in the charges' reporting tables (both actuals as well as determined) do not include the effects of implementing IFRS16—costs related to leasing are still disclosed under other operating costs, in line with EC and PRB guidance.
4. Cost of capital - Actual cost of capital is lower than determined. This is a combined effect of:
- lower asset base (-26.7%, linked to lower than planned execution over RP3 of the capital expenditures allocated to this charging zone),
- higher WACC rate (+0.8 p.p.) following a substantial increase in the annual interest rate on debt (+3.1 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 TNC1 charges was 42.319 PLN and results from:
- higher other operating costs by 1,4%. The above situation is mainly caused by the increase in inflation. The plan took into account inflation at 2,5%, while the actual inflation level in 2024 according to EUROSTAT data was 3,7%. In addition, in the previous year, in 2023, inflation was significantly higher (10,9% compared to the planned 2,53%), which contributed to an increase in m.in prices of gas, energy, fuels and rental services. Prices in 2024 are a continuation of this trend.
- higher personnel costs resulting from the increase in salary costs as a result of the Decision of the Director of IMGW-PIB of 13 June 2023 on inflation increases for IMGW-PIB employees and the payment of an additional annual bonus in 2024 on the basis of the Decision of the Director of IMGW-PIB of 6 December 2024.

CAA PL:
The actual values differ from planned as follows: staff costs +612 kPLN (+73.9%); other operating costs +389 kPLN (+125.8%); costs +1 001 kPLN (+88%); unit cost +8.13 PLN (+73.7%).

b) Identification and analysis by the NSA of the underlying reasons or circumstances having led to the targets not being achieved
Actual performance was impacted by higher staff costs that stem directly from significant wage pressure following high inflation and labour market situation in Poland as well as higher other operating costs driven by inflation.

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 ?
For the time being there are no indications that the cost-efficiency targets established for RP4 are at risk. However, there are potential risks that could impact the actual performance over the coming years (RP4) linked to uncertainty over evolution of the external factors that have a direct influence on performance – meaning traffic evolution (actual traffic expressed in service units vs. traffic forecast underlying the RP4 PP) and evolution of macroeconomic situation (including inflation). At this stage it is too early to predict to what extent and in what direction actual values may differ from the RP4 PP assumptions and as a consequence what their possible impact on meeting the targets could be.

What has been done by the ANSP in order to address the identified performance issues?
NSA and ANSPs closely monitors evolution of the external elements, including traffic and macroeconomic developments. Also actual cost evolution, as well as evolution of the main elements underlying the costs (employment, investments etc.), is subject to ongoing internal monitoring and verification process.

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 2024.

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.
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?
non-ANS activities costs are presentat separetly.

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	205 059 808	234 995 658
Total terminal costs in real terms (in national currency at 2017 prices)	206 748 553	136 962 975	154 659 754	171 710 203
Total terminal Service Units (TNSUs)	141 160	140 929	162 481	180 180
Real terminal unit costs (in national currency at 2017 prices)	1 464,64	971,86	951,86	952,99

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%	36,6%	56,8%
Total terminal costs in real terms (in national currency at 2017 prices)	-14,7%	1,7%	16,2%	31,6%
Total terminal Service Units (TNSUs)	1,8%	13,7%	23,7%	26,9%
Real terminal unit costs (in national currency at 2017 prices)	-16,1%	-10,6%	-6,0%	3,6%

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 - 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 and low unemployment). The RP3 determined costs were established based on the previously applicable Remuneration Regulation (Regulation from 2010, applicable until 2021). 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). Further amendments were introduced in 2H 2024. They resulted in a change to the structure of remuneration costs (see explanation provided earlier related to 2022 actual staff costs). The difference between the actual costs and determined costs is mainly due to salary increases to maintain PANSA competitiveness, which followed from labour market developments in the Polish economy, and 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 additional costs reflect payments to employees in order to compensate the lack of inflation adjustment of salaries, based on the applicable remuneration scheme, reflecting inflation compensation payments calculated for 2022-2024 (financed from RP3 inflation adjustments under the Performance and Charging Scheme); it should be noted that the additional costs related to increased inflation did not fully compensate the consequences for PANSA 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. It should be indicated that over 2020-2024 increase of the average monthly wage and salary in national economy was higher than cumulative inflation over the same period – cumulative inflation (according to EUROSTAT – in line with the reporting tables) over RP3 (2019=100) accounted for 42%, while the increase of the average monthly wage and salary in national economy (according to Statistics Poland) over the same period amounted to 66%. … Moreover, as already reported for 2022 and 2023 actual costs , the changes to remuneration regulations mentioned above entailed significant changes in the remuneration costs structure at PANSA, significantly eliminating earlier high disproportions in ATCO remunerations in individual ATC units, leading to salary increases at some regional units and thereby impacting staff costs execution in TNC-CZ2. 2024 actual staff costs in TNC-CZ2 were also impacted by additional payment for overtime in regional units connected with terminal traffic increase in TNC-CZ2 above the levels planned in RP3 PP.

2. Other operating costs - The total value of the actual other operating costs is higher than determined. The main reasons for higher execution of other operating costs are as follows:

- costs of materials consumption: higher costs are the result of increased minimum value of an asset (defined in PANSA internal accounting policy), as a result of which a number of items that were initially assumed to be executed as CAPEX in actual figures were disclosed as OPEX. The earlier applied value (1 kPLN) has not been updated for many years and – in the light of inflation and increase in prices of purchased items – did not correspond to the current reality, therefore had to be increased. The increase (up to 10 kPLN) was applied starting from January 1st 2024;
- energy costs: higher expenses driven by the significant growth in energy prices rising faster than the average inflation rate in previous years;
- repair services costs: higher costs caused mainly by unpredicted faults that required repair activities;
- technical support and software updates: higher costs are driven by the change in the minimum value of an asset described above, following which some costs assumed initially as CAPEX are disclosed as other operating costs, as well as execution of purchase to support new projects that were limited or postponed in the previous years;
- training costs: higher expenses mainly correspond to the execution of English language courses and other staff trainings, considering the fact that training activities over the previous years were limited;
- higher costs related to business trips: linked to intensified trainings mentioned above but also to other business trips.

2024 actual costs were impacted by higher than planned actual inflation from previous years and much higher than predicted increase in minimum wages (minimum wage increased from 2.8 kPLN per month in 2021 to 4.3 kPLN in 2024), impacting large part of external services costs.

To some extent the increases described above were compensated by savings in other items - like tax costs (lower actual licenses costs and property taxes than determined), consultancy (limited scope of purchased services) and some rental expenses (partly related to delayed implementation of some investments pre-2024).

Similarly as in 2022 and 2023, the higher traffic in CZ2 resulted in a relatively higher than in CZ1 and in ER costs of ANS provision to maintain the service at the required level.

3. Depreciation costs – the reason for higher depreciation cost is the same as over 2022-2023. Higher value of this cost item results mainly from changed traffic structure as compared to RP3 PP assumptions, with traffic in TNC - CZ2 being significantly higher than the forecast while ER traffic significantly lower. This traffic structure change resulted in increased cost allocation to TNC - CZ2 related to assets necessary to provide ANS due to the use of so called "dynamic allocation keys" in PANSA cost allocation process. The values of those "dynamic" keys are recalculated every year based on annual values of certain parameters (in this case traffic structure).

4. Cost of capital - Actual cost of capital is higher than determined. Similarly as over 2022-2023, this is the effect of:

- higher asset base (+29.6%) – similarly as in 2022 and 2023, this stems mainly from higher fixed asset value. As in the preceding years, the reason for that is the change in the traffic structure and its impact on cost allocation (see also explanation for depreciation above),
- higher WACC rate (+0.8 p.p.) following a substantial increase in the annual interest rate on debt (+3.1 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 3.863.403 PLN and results from:

- higher other operating costs by 23,4%. The above situation is mainly caused by the increase in inflation. The plan took into account inflation at 2,5%, while the actual inflation level in 2024 according to EUROSTAT data was 3,7%. In addition, in the previous year, in 2023, inflation was significantly higher (10,9% compared to the planned 2,53%), which contributed to an increase in m.in prices of gas, energy, fuels and rental services. Prices in 2024 were a continuation of this trend.
- higher personnel costs resulting from the increase in salary costs as a result of the Decision of the Director of IMGW-PIB of 13 June 2023 on inflation increases for IMGW-PIB employees and the payment of an additional annual bonus in 2024 on the basis of the Decision of the Director of IMGW-PIB of 6 December 2024.
- lower depreciation costs resulting above all from the postponement in the time of purchase process. Some of the planned investments for 2024 have been implemented as current costs and some have been postponed to 2025.
- higher cost of capital by 29,4% resulting from a higher average interest rate on debt, which was planned at 1,4%. The actual interest rate was 6,5%.

Airport Meteo:

The 2024 TNC2 AUC for Airport Meteo (6.16 PLN2017) is slightly above the target set for this year (10.59 PLN2017), therefore the target has been achieved. Costs in nominal and real terms were also below determined values, yet the TSU hike was of such significant nature that has mostly influenced the difference between AUC and DUC.

Airport Meteo claims that in first half of 2024 it was forced to continue to lower its operational activity (especially to continue one-person shifts instead of initially planned two-person) due to still unsolved problem of distribution of the navigation charges. After reaching the agreement with PANSA and receiving the substantial amount of funds in July 2024, Airport Meteo has introduced two-person shifts and accelerated the postponed investments and other expenses, yet the final execution of costs was below the plan.

Warmia i Mazury:
WiM's AUC in 2024 was equal to 16.11 PLN2017 and was lower than DUC (23.34 PLN2017). The above means, that the cost-efficiency target has been met. The above means, that the cost-efficiency target has not been met. Yet, though the actual costs in nominal terms (4 119 kPLN) were above determined (3 827 kPLN), due to the significant levels of inflation noted by Poland in RP3, the actual costs in real terms (2 902 kPLN) were below the determined (3 313 kPLN). Poland has faced increase in TSU (+26.9%) which allowed WiM to increase the level of performance of the cost-efficiency target in TNC. In terms of types of costs, WiM has noted lower staff costs - the reason for that was the performance of majority of the duties by the personnel contracted on B2B agreements. The other operating costs were higher, due to the cause mentioned above and also higher costs of materials, third-party services, fees and taxes. In case of depreciation and CoC, higher costs than determined were noted for the MET services, yet for the AFIS+COM, the actual values were below determined.

PL Bydgoszcz:
The actual unit cost (AUC, 12.22 PLN) in 2024 was below the determined unit cost (DUC, 22.83 PLN), what was caused mainly by the significant increase of TSU (+26.9%). The actual total costs in real terms (2 201 kPLN2017) were below the determined (3 241 kPLN2017), which was especially influenced by the execution of AFIS costs. The nominal costs (3 071 kPLN) were also lower than determined (3 673 kPLN). The main reasons for that was the lack of implementation of the main investment (TWR EPBY modernization), resulting in significant drop in depreciation and cost of capital. What is more, in case of MET, PL Bydgoszcz noted the increase of the electricians' renumeration and indirect costs. In the same time, PL Bydgoszcz managed to find savings i.a. in the costs of accommodation for the MET personnel, materials, repairs, trainings and energetical services. In case of AFIS, the other operating costs were higher than planned due to the greater amount of traffic at EPBY airport handled by the AFIS than expected and therefore the necessity to have 2 AFISOs on a shift. At the same time, PL Bydgoszcz managed to find savings in AFIS personnel accommodation and costs that were linked to the modernization of TWR EPBY. What is more, the costs allocated to handling of the VFR flights were higher than planned (both in MET and AFIS), what resulted in AUC decrease.

CAA PL:
The actual values differ from planned as follows: staff costs +664 kPLN (+18.7%); other operating costs +716 kPLN (+54.2%); costs +1 380 kPLN (+28.4%); unit cost +0.38 PLN (+1.1%).

b) Identification and analysis by the NSA of the underlying reasons or circumstances having led to the targets not being achieved
Actual performance was impacted by higher costs that stem directly from significant wage pressure following high inflation and labour market situation in Poland (impacting staff costs), increase in prices driven by inflation and by changed traffic structure as compared to RP3 PP assumptions (lower ER traffic due to the war in Ukraine coupled with higher traffic in TCZ2) that impacted allocation of certain cost items between the charging zones.

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
The cost evolution derives from the need to ensure service continuity, in the light of increasing terminal traffic. However, NSA and ANSPs closely monitors its costs evolution, as well as evolution of the main elements underlying the costs (employment, investments etc.) to ensure economic efficiency of its operations.

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 ?
For the time being there are no indications that the cost-efficiency targets established for RP4 are at risk. However, there are potential risks that could impact the actual performance over the coming years (RP4) linked to uncertainty over evolution of the external factors that have a direct influence on performance – meaning traffic evolution (actual traffic expressed in service units vs. traffic forecast underlying the RP4 PP) and evolution of macroeconomic situation (including inflation). At this stage it is too early to predict to what extent and in what direction actual values may differ from the RP4 PP assumptions and as a consequence what their possible impact on meeting the targets could be.

What has been done by the ANSP in order to address the identified performance issues?
NSA and ANSPs closely monitors evolution of the external elements, including traffic and macroeconomic developments. Also actual cost evolution, as well as evolution of the main elements underlying the costs (employment, investments etc.), is subject to ongoing internal monitoring and verification process. A number of measures were taken by PANSA to support achieving the targets set for RP4 – these are listed in the RP4 PP, chapter 3.4.2.

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 2024.

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.
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?
non-ANS activities costs are presentat separetly.

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	163 301 603
Cost exempt from cost-sharing (Art. 28(4) to 28(6))	3 766 487	693 661	-16 025 191	-6 229 281
Traffic risk sharing adjustment (Art. 27(2) to 27(5))	0	133 671 167	173 426 347	178 305 074
Traffic adjustment (Art. 27(8))	-1 484 042	21 307 351	26 101 564	26 269 280
Financial incentives (Art. 11(3) and 11 (4))			-16 252 603	-16 942 315
Adjustment for modulation of charges (Art. 32(1))	0	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	0
Total other revenues (Art. 25(3))	-52 415 054	-28 415 884	-27 271 245	-30 256 687
Loss of revenue from application of a lower unit rate (Art. 29(6))	0	0	0	0
Total adjustments stemming from year n (in nat. currency)	**-37 800 165**	**209 185 245**	**287 780 112**	**314 447 674**

Actual service units	4 731 739	3 128 964	3 536 911	3 824 126
Total adjustments per actual service unit (in nat. Currency)	-7,99	66,85	81,36	82,23
Actual unit cost incurred by users (in nat. Currency)	333,42	286,31	273,27	267,50

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 value of this indicator derives directly from adjustment mechanisms defined in the EU Performance and Charging Regulation. Over RP3 Poland did not apply modulation of charges or the provisions of article 29(6). There is a single ER charging zone in Poland, therefore cross-financing between charging zones is not applicable.

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	10 027 369
Cost exempt from cost-sharing (Art. 28(4) to 28(6))	217 469	286 265	307 848	-91 149
Traffic risk sharing adjustment (Art. 27(2) to 27(5))	0	831 461	-106 750	-2 162 033
Traffic adjustement (Art. 27(8))	87 526	128 239	-66 223	-240 522
Financial incentives (Art. 11(3) and 11 (4))			946 441	-993 940
Adjustment for modulation of charges (Art. 32(1))	0	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	0
Total other revenues (Art. 25(3))	-1 516 405	-1 063 010	-1 070 003	-812 826
Loss of revenue from application of a lower unit rate (Art. 29(6))	0	0	0	0
Total adjustments stemming from year n (in nat. currency)	**-395 540**	**5 327 974**	**9 117 894**	**5 726 899**

Actual service units	96 933	83 357	98 874	111 579
Total adjustements per actual service unit (in nat. Currency)	-4,08	63,92	92,22	51,33
Actual unit cost incurred by users (in nat. Currency)	826,28	623,36	611,45	561,71

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 value of this indicator derives directly from adjustment mechanisms defined in the EU Performance and Charging Regulation. Over RP3 Poland did not apply modulation of charges, cross-financing between terminal charging zones or the provisions of article 29(6).

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	27 883 613
Cost exempt from cost-sharing (Art. 28(4) to 28(6))	926 409	4 692 226	5 672 188	-7 766 882
Traffic risk sharing adjustment (Art. 27(2) to 27(5))	0	-11 489 446	-23 454 539	-27 046 450
Traffic adjustement (Art. 27(8))	-870 812	-3 568 468	-6 701 969	-8 045 494
Financial incentives (Art. 11(3) and 11 (4))			2 379 805	-2 317 577
Adjustment for modulation of charges (Art. 32(1))	0	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	0
Total other revenues (Art. 25(3))	-6 223 995	-4 031 855	-4 217 719	-4 175 477
Loss of revenue from application of a lower unit rate (Art. 29(6))	0	0	0	0
Total adjustments stemming from year n (in nat. currency)	**-3 672 762**	**902 039**	**237 062**	**-21 468 267**

Actual service units	141 160	140 929	162 481	180 180
Total adjustements per actual service unit (in nat. Currency)	-26,02	6,40	1,46	-119,15
Actual unit cost incurred by users (in nat. Currency)	1 850,34	1 209,36	1 144,26	936,65

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 value of this indicator derives directly from adjustment mechanisms defined in the EU Performance and Charging Regulation. Over RP3 Poland did not apply modulation of charges, cross-financing between terminal charging zones or the provisions of article 29(6).

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	2024

Pivot value for the calendar year (minutes of ATFM delay per flight)	0,13
Basis for the annual setting of pivot values	Modulated
If modulated: modulation mechanism of pivot values	A) Significant and unforeseen changes in traffic
Additional comments on the definition of the pivot value for the calendar year	Pivot value modulated in accordance with the Network Operations Plan.

Dead band Δ (symmetric range)	%	20,00%
Max bonus (≤2%)	*% of DC*	2,00%
Max penalty (≥ Max bonus)	*% of DC*	2,00%
Alert threshold (Δ Ref. value)	*fraction of min*	0,05
Total determined cost on which the incentives are calculated	*nominal/national currency*	847 115 726,48 PLN
Financial advantages / disadvantages	Dead band range	[0,104 - 0,156]
	Bonus sliding range	[0,08 - 0,104]
	Penalty sliding range	[0,156 - 0,18]

Verified actual value achieved for the calendar year (minutes of ATFM delay per flight)	0,23	
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*	-16 942 314,530 PLN
Automatically computed financial incentive value for verification purposes (+bonus/-penalty)	*nominal/national currency*	-16 942 314,53 PLN

3.2 - Capacity

3.2.2 - Capacity (Terminal)

State	Poland
Calendar year	2024

Pivot value for the calendar year (minutes of ATFM delay per flight)	0,04
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	

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*	165 575 875,47 PLN
Financial advantages / disadvantages	Dead band range	[0,032 - 0,048]
	Bonus sliding range	[0,02 - 0,032]
	Penalty sliding range	[0,048 - 0,06]

Verified actual value achieved for the calendar year (minutes of ATFM delay per flight)	0,11	
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*	-3 311 517,51 PLN
Automatically computed financial incentive value for verification purposes (+bonus/-penalty)	*nominal/national currency*	-3 311 517,51 PLN

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	TCZ1: 993 940,03 TCZ2: 2 317 577,48

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	3 414 845
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	4 468 415
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	10 644 441	12 083 202
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	632 763
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	8 872 414
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	480 139
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	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	602 736
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	13 371 877
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	961 157
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	468 539
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	5 523 032
	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	41 999 035	50 879 121
	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	57 984 846	60 126 652
	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	95 413 846	97 061 300
	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	208 067 072

** 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
The consequences of COVID-19 crisis and the war in Ukraine that were felt in the years preceding 2024 (please see annual monitoring reports for 2021-2023) had an impact on progress of investments execution by PANSA in 2024. The war in Ukraine necessitated re-evaluation of PANSA priorities and investments plans. Compared with other 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 from RP3 PP (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 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) and market conditions. Also the obligatory price indexation for contracts lasting longer than 6 months, introduced by amendment of the Public Procurement Law in October 2022, resulted in price increase in contracts. Despite those developments, in 2024 PANSA intensified execution of investments, aiming at addressing – where possible – delays faced in the preceding years of RP3. This was done not only to fulfil commitments made during RP3 planning, but also to prepare for the new regulatory perspective (RP4). A comprehensive review of the investment plan was made over 2024 to adjust the scope and schedule to the current needs and abilities, considering expected operational developments in the coming years as well as the regulatory environment and technology development directions stemming from the EU policy. Due to the factors described above, which had influence on execution of the investment plan over the whole RP3, adjustments were 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 required constant monitoring and, where needed, reviews of ongoing projects. Evolution of each of the projects over 2021-2023 was described in respective annual monitoring reports for those years. 1. 01440701_Campus – change of scope, schedule and value - In 2024 the investment scope and schedule were subject to further verification, also as part of RP4 preparations. In consequence implementation work did not start and a final decision was made that the scope of works will be limited to the construction of the new OPS room with the necessary supporting infrastructure to be located near the current headquarter of PANSA. In October 2024, a preliminary land purchase agreement was signed by PANSA with Polish Airport S.A. The change of scope of the Campus investment is the result of earlier decisions regarding construction of the ATM OPS Centre in Poznań and non-execution of the Campus in Reguły as initially planned. The schedule and the value of planned expenditures were updated accordingly (reduction of the total value compared to RP3 PP – current value can be found in the RP4 PP). The operational benefits identified in the RP3 PP in 2021 remain valid, though rescheduling (directly linked to iTEC current schedule) will delay the expected benefits. 2. 02440701_Communication_systems - no change in scope, change of schedule -The implementation of active network infrastructure system equipment at the ATM OPS Centre in Poznań has been completed. The benefits identified in RP3 PP remain valid, but materialisation of benefits is delayed – these are expected to fully materialise once the back-up function of the OPS Centre in Poznań is fully available (currently planned within the RP4 timeframe). The implementation of transmit/receive radiolocation centre in Pęcice is in the final phase. The construction and installation works have been delivered in 2024, only the permission to use is required. Due to the postponement of the estimated start date (from 2021 to 2022), the expected benefits will be achieved in 2025. The delay in implementation is the result of the lengthy tender process. Communication systems for new OPS room will be delivered after 2029, in line with the current schedule of the Campus project. 3. 03440701_ATM system with a simulator – change of schedule and scope - In 2024 works were executed according to the contract signed in 2020 (delivery, installation and implementation in Poznań ATC Center) with amendments signed in 2022 and 2023 (amendments caused changes to the schedule and changes in the scope specification – including development of PANSA's own virtualization platform and introduction of additional intermediate versions of the P21/iTEC system, i.e. SWB5 Early and SWB6 Early). Modifications of scope affect the change in the implementation of individual elements and will enable to implement additional system functionalities that were developed during the familiarization, operational and technical workshops and LabChecks. In 2024 SAT1/ SAT1A tests were conducted for the acceptance of the SWB5 version of the system and in addition, the P_21/iTEC elements integrated with the joint ATM system of the iTEC Cooperation as part of the iSNEX Cycle1 Definition Phase have been verified. In 3Q2024 the Amendment No. 5 to the contract was signed. According to this Amendment the implementation of iSNEX Definition Phase Extension was carried out. In 2024 integration of operational mission P_21/iTEC in Poznań has begun. In July 2024 PANSA, under the iTEC Cooperation, approved the launch of iSNEX build phase Cycle#1 and then in December 2024 the contract with INDRA was signed for the phased implementation with planned date of delivery in Poznań in 1Q 2027. The benefits identified in the RP3 PP remain valid, although due to postponed/reviewed schedule of the project implementation will be achieve later than initially planned. 4. 06440701_VCS_system – no change in scope, change of schedule - The new contract signed in December 2023 for the upgrade of voice communication system (VCS) for APP and FIS in Poznań was under execution in 2024 and the final delivery was done in July 2024. In 2024 the tender was launched for delivery to the ATM OPS Centre in Poznań. In December 2024 the contract was signed. The delay in tender procedure affected the schedule of the investment. The operational benefits identified in RP3 PP remain valid. Due to the postponement of the expected project completion date, the expected benefits will be achieved later than initially planned – these are expected to fully materialise once the back-up function of the OPS Centre in Poznań is fully available (currently planned within the RP4 timeframe). 5. 21440701_ATM OPS Centre Poznań – change of schedule and scope - The investment has been completed in 2023 with delay. The benefits identified in the RP3 PP remain valid, though rescheduling delayed the expected benefits – these are expected to fully materialise once the back-up function of the OPS Centre in Poznań is fully available (currently planned within the RP4 timeframe).

6. IP470701_UAV environment development (U-Space Programme) – change of schedule - In 2024, the signed contracts were under implementation. The Geozones module, integrated with PansaUTM, for requesting and managing geographic zones by authorized entities was finally delivered in July 2024.
In 2024 PANSA conducted development works on a mobile application integrated with PansaUTM for drone flights' check-ins and coordinating flights in airspace (DroneTower), which was commissioned in April 2024.
In addition, in August 2024 the Agency signed a contract for the supply of infrastructure for the tracking of drones with technical support. In 2024 new version of PansaUTM system (version 2.0) has been developed – dATS ANSP and SupUTM ANSP modules. Works in 2024 included the creation of first elements, analytical work and consultations.
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, scope modified and adjusted to new external assumptions. In RP3 PP the first CAPEX were planned in 3Q2024, assuming that PANSA would be responsible for construction of the TWR building. Following discussion with Centralny Port Komunikacyjny (CPK) authorities, under the current assumptions the building is to be built by CPK, with PANSA installing necessary systems and related infrastructure. The task schedule for PANSA is closely correlated with the construction and planned operational opening date for CPK (in 2024 the CPK project was rescheduled and the currently planes opening date is 2032). The PANSA investment project is to be implemented by the Agency after 2029 in the limited scope that covers 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 CPK implementation schedule.
8. IT430803_Radar PSR/MSSR Gdańsk – no change to scope, changed schedule and value – In December 2022 the contract covering the construction of three radars - Gdańsk, Katowice (an additional new major investment compared to RP3 PP) and Pułtusk was signed. In 2023 and 2024, the contract was on updated schedule (schedule change due to difficulties identified in 2022), with the construction design delivered, the building permit obtained and the radars built (construction and installation works). 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.
9. IT430900_Modernization_of_the_ATM_system_2 – scope and value modified - The scope foreseen under the RP3 PP was finalised in 2022. The benefits identified in the RP3 PP remain valid. Experience related to cross-border FRA implementation as well as changed environment following the outbreak of the war in Ukraine necessitated extension of the project scope, including both software and hardware elements. New additional functionalities have been identified supporting accelerated availability of contingency solutions as well as improved cybersecurity. In December 2023 a new contract was signed with delivery dates until 2026. The contract covers the upgrade ATM system (P_21) including delivery of new P_21 system components, software and hardware and adaptation (installation and implementation) in existing ATM environment (operational, fallback, contingency Kraków, contingency Poznań, Contingency Gdańsk, simulator, test bench 1, test bench 2) and was under implementation in 2024. Further contracts are planned to be signed 2026-2029, under which the P_21 system will be maintained as the main system until the new operating system (iTEC/iSNEX) is delivered and under which new functionalities will be implemented (including those required by EU regulations – CP1).
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 Stage I West covers the supply, installation, configuration and implementation of the system, the development of a Preliminary System Safety Assessment and was completed in July 2024 (operational implementation).
In 2023, the tender process for the revised scope of Stage II South was launched and in October 2024 has been completed. In consequence the preliminary draft of the contract has been developed. In RP3 PP the start of the operation of Stage III Centre was planned for 2027. 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, and then in 2024, due to the decision of construction of new Tower for EPWA, the scope of this investment was changed. The tender process was launched in 2024. In October 2024 the contact for the purchase and installation of consoles with cabling for 4 locations was signed (Szczecin, Gdańsk, Wrocław, Łódź). The contract is under implementation with planned date of final implementation for 2025. The operational benefits identified in RP3 PP remain valid. Changing of the schedule and scope will postpone achievement the expected benefits.
12. IT430404_Server_Business_Infrastructure – no change - The contracts were signed (PAŻP/22-120/AZHU; PAŻP/22-121/AZHU) in April 2022. The scope of the RP3 PP was finalised in 2022 with purchase of additional equipment under the contracts in 2023 (such possibility was foreseen in the signed agreement between PANSA and the contractor as an "option"). No more activities were carried out in 2024. 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.
13. RADAR Katowice - no change of scope, changed schedule and value – New major investment 2020-2021. In December 2022 the contract covering the construction of three radars - Gdańsk, Katowice (an additional new major investment compared to RP3 PP) and Pułtusk was signed. In 2023 and 2024, the contract was on updated schedule (schedule change due to difficulties identified in 2022), with the construction design delivered, the building permit obtained and the radar built (construction and installation works). 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 achievement of 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	62 992	577 340
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	62 992	577 340

** 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

Number of additional new major investments **2024**	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

** 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 objectives, 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, investments related to software development (flow management systems, Integrated Aeronautical System, System Digital NOTAM), new financial-accounting system, TWR modernization, investments related to cybersecurity, radars etc. The investment projects include implementation of functionalities foreseen by the Common Project One and ATM Master Plan. In 2024 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, With regards to existing investments, they cover the depreciation costs and cost of capital related to projects developed before RP3 (including those elements of the investments that were foreseen to be continued over RP3 which were executed before RP3). It should be indicated that following the changing external circumstance and for the purpose of RP4, PANSA has verified its investment plan to reflect current operational needs, current market situation as well as needs in the 2029+ horizon.

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	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	1 119 843
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	1 815 668
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	2 935 510

** 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

Number of additional new major investments **2024**	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

** 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 maintains the standards and requirements set for European services also by allocating a certain amount of money to new investments and their implementation. This concerns mainly the preparation for data transmission standards in appropriate, standardised formats which constantly aims at unifying products for air carriers. In 2024 IMWM continued its main and priority investment that is modernisation of 7 AWOS systems located at 7 polish airports. The Institute carries out and monitors the need for AWOS modernisation 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. After installing new servers and workstations in 2024, the second stage of the investment task was carried out, that is modernisation of the MetConsole application, including configuration and launch on servers and terminals to the latest version. The application is responsible for data acquisition (data collection modules), their processing and graphical presentation, as well as sending alarms and other data to external systems. The modernisation of the systems was reported to the Civil Aviation Authority, which issued decisions to change the entries in the Register of Aerodrome Ground Equipment for the AWOS IMWM - PIB systems. Additionally, in the fall of 2024 an assessment of the technical condition of AWOS systems at airports in Krakow and Katowice was carried out. Assessments were carried out in terms of the possibility of continuing the use of the systems and extending their operational period for another 10 years. In a continuous system, also in 2024, the Institute replenishes the stock of spare parts/sensors for AWOS. As part of the implementation of investment tasks, funds are secured for periodic retrofitting of the warehouse. Such planning will increase their reliability, which in a significant positive way affects the security and continuity of the meteorological service. In 2024 IMWM purchased new software for Aeronautical Meteorological Stations that is the license for nsWEBPIB software for flight crew services, including service, implementation, training, and support. By the end of 2024 nsWEBPIB was launched operationally at all airports. Additionally, as a finalisation of the 2023 investment plan IMWM in 2024 implemented mobile meteorological equipment allowing for detailed measurements in any location. The measuring equipment of the Mobile Meteorological Station can be placed anywhere in any place for which measurements are required. In 2024 IMWM decreased depreciation and capital costs due to changes in its investment plan for 2024. Some of the investments were classified as current costs through tenders, including computer equipment and workstations, space on an external server which were purchased in 2024. Some of the investments were postponed to 2025 due to prolonged tender procedures, including: replacement of UPS at airports, software for forecasters, fiber optic cable for Aeronautical Meteorological Stations. One investment was cancelled due to a significant price increase (purchase of LIDAR systems).

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	0
Sub-total **other new investments** (2)		915 000	915 000	0	0	0	160 476	166 838					0	0	0	16 137	216 614
Sub-total **existing investments** (3)				72 456	51 248	28 185	0	0					72 456	51 226	28 340	0	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	216 614

** 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

Number of additional new major investments **2024**	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

** 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
Airport Meteo claims that due to problems with distribution of navigation charges in RP4, Airport Meteo was able to execute significant CAPEX only in 2024. After receiving the funds, Airport Meteo managed to accelerate some postponed investment and even accelerate some initially planned for RP4, i.e.: Office equipment for Aerodrome Meteorological Office, IT Equipment, Service car for AWOS at EPRA maintenance, Company car for moving at the EPRA airport restricted areas, Arrays and network equipment.

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	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	132 624
Sub-total **existing investments** (3)				214 533	213 470	223 928	212 156	211 832					214 533	189 911	179 242	170 925	249 475
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	382 099

** 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

Number of additional new major investments **2024**	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

** 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
Warmia i Mazury informes that has introduced new investments in IT equipment and new meteorogical software that allows to perform analysis and visualization of the synoptic material. Apart from that, the additional MET investment costs are stemming from the new vehicle purchased in 2023. On top of that, in 2024 Warmia i Mazury has invested in several green investments, such as solar panels, which part is allocated to the ANS. Due to problems with navigation charges distribution system (reported to the EC as an official complaint) that was solved only by the end of 2024H1, Warmia i Mazury has not managed to realise all initially planned investments for RP3 (especially concerning AFIS and COM) , but the process is ongoing and is planned to be implemented in RP4.

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	0
Sub-total **other new investments** (2)		4 317 155	4 317 155	0	0	0	176 112	668 799					0	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	487 726
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	487 726

** 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

Number of additional new major investments **2024**	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

** 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 major investment was introduced in 2024. 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 Warszawa that might impact the route efficiency of civil aircraft. 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 aimed at optimisation of its use. The procedures are continuously updated according to the current needs of both the civil 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.
At the same time, the military's need to conduct training, which is not subject to the same coordination as exercises, may have a significant impact on delays in civil aviation. The change in the Polish Aviation Law act in 2025 regarding RPAS should have a positive impact on the fluidity of air traffic.

What measures have been implemented or planned to improve the situation?

On strategic airspace management level, all significant military exercises and permanent military areas are evaluated and analysed considering 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 to reduce the negative influence of segregated areas on civil traffic as much as possible;
- implementation of new coordination procedures (NPZ management) considering 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.
There are over 30 permanent military areas extending over FL95 in FIR EPWW that have an impact on civil traffic flows and available airspace for civil traffic, which however by the end of 2021 had only minor impact on declared occupancy values without the need for ATFCM measures. Additionally, in FIR EPWW recurring significant multinational 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 and airspace capacity. 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 civil 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 implemented 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 new functionalities, that were implemented in the local ASM system (CAT) supporting CDM process between FMP and AMC. They allow to manage dynamically the new ASM solutions, under A-FUA Concept: “Non standard Planning Zones” and “ASM scenarios”. These were aimed at reduction (to the possible extent) of the restrictive influence of segregated areas on civil traffic.

Cost-efficiency

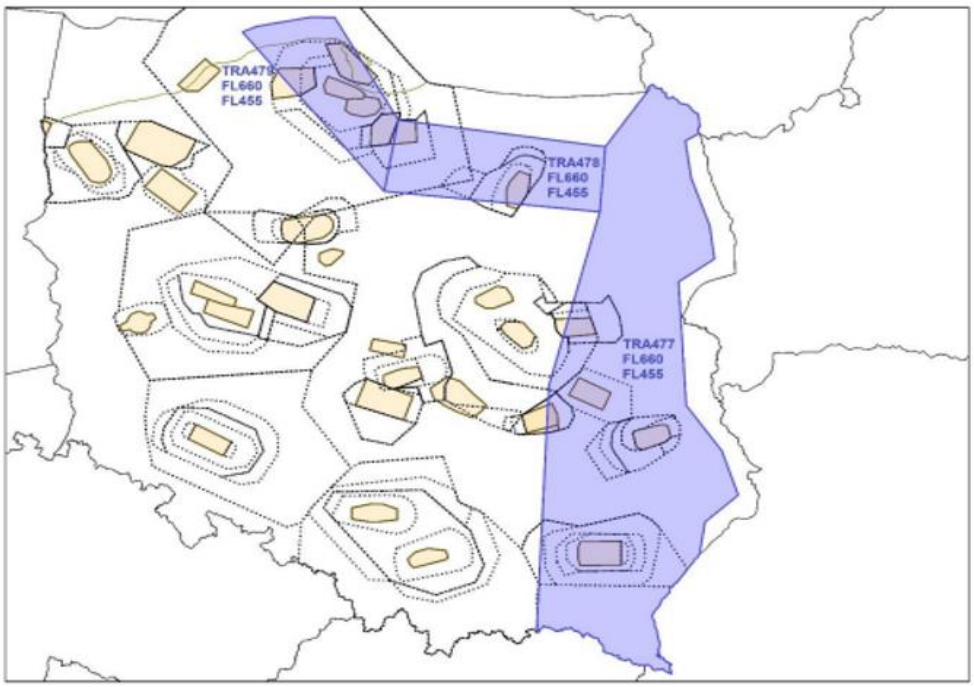
Provide analysis and evaluate the scale of the impact of military dimension on the cost-efficiency KPA. Please highlight what type of commercial/financial agreements exist between the ANSP(s) and the Military (if any).
No material impact of the military dimension on the cost-efficiency KPA has been noted. 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 their fine tuning to both military and civil 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 the 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 the 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 those zone 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 one third of Polish territory (see also the maps below) from FL195 to FL315 (can be activated on request up to FL 380) significantly limited civil traffic throughout 2022-2024 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 the civil traffic to pass through zones after coordination with the military. Number of lower airspaces restrictions 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 FIR Warszawa 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 FIR Warszawa 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 impacts the access to the airspace for civil traffic.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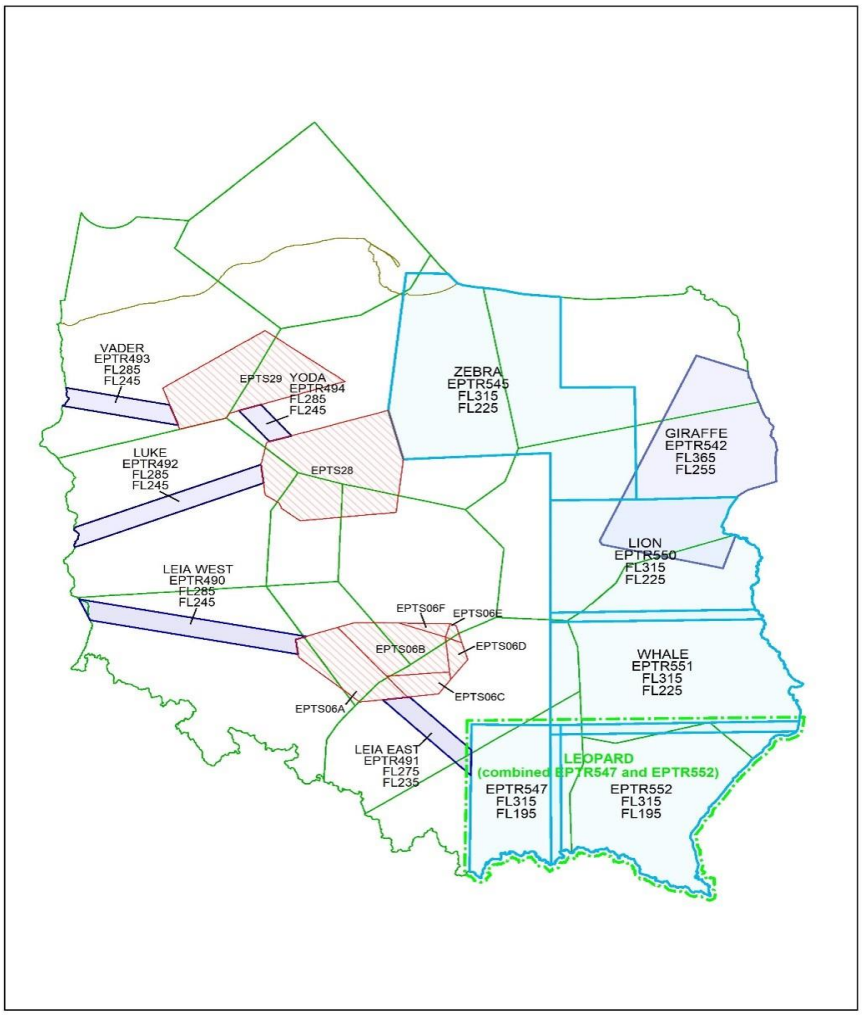
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SECTION 6: ANNEXES