



TECHNOLÓGIAI ÉS IPARI
MINISZTERIUM

LÉGINAVIGÁCIÓS ÉS REPÜLŐTÉRI HATÓSÁGI FŐOSZTÁLY

Tárgy: Hirdetmény

Az 549/2004/EK európai parlamenti és tanácsi rendelet értelmében Magyarország által benyújtott teljesítményterv-tervezetben foglalt teljesítménycélok és a harmadik referencia-időszakra vonatkozó uniós szintű teljesítménycélok közötti összhangról szóló (EU) 2022/775 Bizottsági Határozat (2022. április 13.) 1. cikkének értelmében a Magyarország által benyújtott teljesítményterv-tervezetben foglalt teljesítménycélok összhangban állnak az (EU) 2021/891 végrehajtási határozatban a harmadik referencia-időszakra meghatározott uniós szintű teljesítménycélokkal.

Az egységes európai égboltra vonatkozó teljesítmény- és díjszámítási rendszer létrehozásáról, valamint a 390/2013/EU és a 391/2013/EU végrehajtási rendelet hatályon kívül helyezéséről szóló (EU) 2019/317 Bizottsági Végrehajtási Rendelet (2019. február 11.) 16. cikk (a) bekezdése alapján, Magyarország a benyújtott teljesítményterv-tervezetet változtatás nélkül elfogadja és az elfogadott teljesítménytervet közzéteszi. Az (EU) 2022/775 Bizottsági Határozat „Általános Megfontolások” szakaszában szereplő bizonyos pontokra angol nyelven tesz közzé választ.

A légiközlekedési hatóság honlapján közzétett fő teljesítményterv dokumentumon kívül a kiegészítő táblázatokat csak külön kérésre és csak angol nyelven küldi meg a légiközlekedési hatóság a betekinteni szándékozók részére.

Kérjük, hogy erre vonatkozó kéréseiket az LRFO@tim.gov.hu illetve a gyorgy.valentin.omajnikov@tim.gov.hu e-mail címre küldjék, megjelölve a kérelmező nevét, beosztását, szervezetét, e-mail címét és telefonszámát.



MINISTRY OF TECHNOLOGY
AND INDUSTRY

ANS & ADR SUPERVISORY DEPARTMENT

Subject: Announcement

Pursuant to Article 1 of Commission Decision (EU) 2022/775 (13 April 2022) on the consistency of the performance targets contained in the draft performance plan submitted by Hungary pursuant to Regulation (EC) No 549/2004 of the European Parliament and of the Council with the Union-wide performance targets for the third reference period, the performance targets contained in the draft performance plan submitted by Hungary are consistent with the Union-wide performance targets for the third reference period set out in Implementing Decision (EU) 2021/891.

Based on Article 16 (a) of Commission Implementing Regulation (EU) 2019/317 (11 February 2019) laying down a performance and charging scheme in the single European sky and repealing Implementing Regulations (EU) No 390/2013 and (EU) No 391/2013 Hungary adopts the draft performance plan without changes and publishes the adopted performance plan. Hungary replies to some of the points raised in "General Considerations" of Commission Decision (EU) 2022/775 as per below:

The Hungarian authorities carefully considered the additional remarks of the European Commission regarding the terminal cost-efficiency target and the incentive scheme on capacity contained in its decision on the consistency of the Hungarian Performance plan with the union-wide performance targets.

After analysing the comments of the European Commission, the Hungarian State concluded that:

a) for terminal cost-efficiency

- the Hungarian terminal cost-efficiency target differs from the en-route target in RP3 mainly due to a proportionally more significant effect of the new capital expenditure items, first and foremost due to the implementation of the (partially EU funded) mirTWR project,
- accordingly, the cost base increasing effects of the capacity enhancing projects on terminal depreciation and cost of capital (233%-393% compared to 2019) is significantly larger than the ones on en-route (54% compared to 2019), leading inevitably to a different cost-efficiency KPI evolution;

- similarly, compared to RP2, the less impressive cost-efficiency target evolution is due to the different traffic situation and the effects of the CAPEX program, as described above,
- lastly it has to be taken also into account, that the effect of the above on terminal unit rate evolution is more favourable due to the large amount of EU funds successfully obtained by HungaroControl, which will offset part of the CAPEX related unit rate increase;

b) for the incentive scheme on capacity

- the Hungarian authorities reiterate their assessment, that under the extraordinary circumstances for RP3, namely
 - o the effective length of the reference period (2022-2024) is significantly shorter than in normal cases, and
 - o the effective length of the reference period is shorter than the time needed for new ATCO recruitment, and
 - o the special situation on traffic, where unexpected traffic evolution can arise first of all due to the pandemic or geopolitical tensions,

an ANSP is not in a position to effectively react to other than planned capacity requirements.

Consequently, the Hungarian NSA considers an eventual 0,5% penalty already as a material impact on the revenues of the ANSP.

Furthermore, the current geopolitical tension, and its effect on traffic routings proves, that in a short time period serious changes may occur on capacity needs, which fall outside of the responsibility of any actor. However, an appropriate incentive scheme should effectively incentivise the actors for the required behaviour, and not punish them for consequences outside of their authority. The Hungarian NSA considers this point as a further reason, for not altering the originally proposed incentive scheme.

In addition to the main Performance Plan document, which is published on Civil Aviation Authority website, additional tables will be sent only by request. Please forward your requests to LRFO@tim.gov.hu and to gyorgy.valentin.omainikov@tim.gov.hu indicating the name, position, organization, e-mail and telephone number of the requestor.

Performance Plan Hungary

Third Reference Period (2020-2024)

Status: Draft performance plan containing revised RP3
targets (Art. 3 of IR 2020/1627 & Art. 12 of IR
Date of issue: 21.02.2022

Table of Content

1 INTRODUCTION

- 1.1 THE SITUATION
- 1.2 TRAFFIC FORECASTS
- 1.3 STAKEHOLDER CONSULTATION
- 1.4 LIST OF AIRPORTS SUBJECT TO THE PERFORMANCE AND CHARGING REGULATION
- 1.5 SERVICES UNDER MARKET CONDITIONS
- 1.6 FAB PROCESS
- 1.7 SIMPLIFIED CHARGING SCHEME

2 INVESTMENTS

3 PERFORMANCE TARGETS AT LOCAL LEVEL

- 3.1 SAFETY TARGETS
 - 3.1.1 *Safety KPI #1: Level of Effectiveness of Safety Management achieved by ANSPs*
- 3.2 ENVIRONMENT TARGETS
 - 3.2.1 *Environment KPI #1: Horizontal en route flight efficiency (KEA)*
- 3.3 CAPACITY TARGETS
 - 3.3.1 *Capacity KPI #1: En route ATFM delay per flight*
 - 3.3.2 *Capacity KPI #2: Terminal and airport ANS ATFM arrival delay per flight*
- 3.4 COST-EFFICIENCY TARGETS
 - 3.4.1 *Cost efficiency KPI #1: Determined unit cost (DUC) for en route ANS*
 - 3.4.2 *Cost efficiency KPI #2: Determined unit cost (DUC) for terminal ANS*
 - 3.4.3 *Pension assumptions*
 - 3.4.4 *Interest rate assumptions for loans financing the provision of air navigation services*
 - 3.4.5 *Restructuring costs*
 - 3.4.6 *Additional determined costs related to measures necessary to achieve the en route capacity targets*
- 3.5 ADDITIONAL KPIS / TARGETS
- 3.6 INTERDEPENDENCIES AND TRADE-OFFS

4 CROSS-BORDER INITIATIVES AND SESAR IMPLEMENTATION

- 4.1 CROSS-BORDER INITIATIVES AND SYNERGIES
 - 4.1.1 *Planned or implemented cross-border initiatives at the level of ANSPs*
 - 4.1.2 *Investment synergies achieved at FAB level or through other cross-border initiatives*
- 4.2 DEPLOYMENT OF SESAR COMMON PROJECT
 - 4.2.1 *Common Project One (CP1)*
- 4.3 CHANGE MANAGEMENT

5 TRAFFIC RISK SHARING ARRANGEMENTS AND INCENTIVE SCHEMES

- 5.1 TRAFFIC RISK SHARING PARAMETERS
- 5.2 CAPACITY INCENTIVE SCHEMES
 - 5.2.1 *Capacity incentive scheme - Enroute*
 - 5.2.2 *Capacity incentive scheme - Terminal*
- 5.3 OPTIONAL INCENTIVES

6 IMPLEMENTATION OF THE PERFORMANCE PLAN

- 6.1 MONITORING OF THE IMPLEMENTATION PLAN
- 6.2 NON-COMPLIANCE WITH TARGETS DURING THE REFERENCE PERIOD

7 ANNEXES



- ANNEX A. REPORTING TABLES & ADDITIONAL INFORMATION (EN-ROUTE)
- ANNEX B. REPORTING TABLES & ADDITIONAL INFORMATION (TERMINAL)
- ANNEX C. CONSULTATION
- ANNEX D. LOCAL TRAFFIC FORECASTS
- ANNEX E. INVESTMENTS

ANNEX F. BASELINE VALUES (COST-EFFICIENCY)
ANNEX G. PARAMETERS FOR THE TRAFFIC RISK SHARING
ANNEX H. RESTRUCTURING MEASURES AND COSTS
ANNEX I. PARAMETERS FOR THE MANDATORY CAPACITY INCENTIVES
ANNEX J. OPTIONAL KPIS AND TARGETS
ANNEX K. OPTIONAL INCENTIVE SCHEMES
ANNEX L. JUSTIFICATION FOR SIMPLIFIED CHARGING SCHEME
ANNEX M. COST ALLOCATION
ANNEX N. CROSS-BORDER INITIATIVES
ANNEX O. JUSTIFICATIONS FOR THE LOCAL SAFETY TARGETS
ANNEX P. JUSTIFICATIONS FOR THE LOCAL ENVIRONMENT TARGETS
ANNEX Q. JUSTIFICATIONS FOR THE LOCAL CAPACITY TARGETS
ANNEX R. JUSTIFICATIONS FOR THE LOCAL COST-EFFICIENCY TARGETS
ANNEX S. INTERDEPENDENCIES
ANNEX T. OTHER MATERIAL
ANNEX U. VERIFICATION BY THE NSA OF THE COMPLIANCE OF THE COST BASE
ANNEX Z. CORRECTIVE MEASURES*
** Only as per Article 15(6) of the Regulation*

Signatories

Performance plan details	
State name	Hungary
Status of the Performance Plan	Draft performance plan containing revised RP3 targets (Art. 3 of IR 2020/1627 & Art. 12 of IR 2019/317)
Date of issue	21.02.2022
Date of adoption of Draft Performance Plan	
Date of adoption of Final Performance Plan	

We hereby confirm that the present performance plan is consistent with the scope of Regulation (EU) No 2019/317 pursuant to Article 1 of Regulation (EU) No 2019/317 and Article 7 of Regulation (EC) No 549/2004.

Name, title and signature of representative	
Prof. Dr. László PALKOVICS Minister of Innovation and Technology	 
Additional comments	

Document change record		
Version	Date	Reason for change
Hungary_1	17.08.2021	First draft for consultation with stakeholders
Hungary_1.1	01.10.2021	Results of the stakeholder consultation
Hungary_1.2	10.02.2022	After discussion with PRB
Hungary_1.3	21.02.2022	Modification related to Search and Rescue Costs

SECTION 1: INTRODUCTION

1.1 The situation

- 1.1.1 - List of ANSPs and geographical coverage of services
- 1.1.2 - Other entities in the scope of the Performance and Charging Regulation as per Article 1(2) last para.
- 1.1.3 - Charging zones (see also 1.4-List of Airports)
- 1.1.4 - Other general information relevant to the plan

1.2 - Traffic Forecasts

- 1.2.1 - En route
- 1.2.2 - Terminal

1.3 - Stakeholder consultation

- 1.3.1 - Overall outcome of the consultation of stakeholders on the performance plan
- 1.3.2 - Specific consultation requirements of ANSPs and airspace users on the performance plan
- 1.3.3 - Consultation of stakeholder groups on the performance plan

1.4 - List of airports subject to the performance and charging Regulation

- 1.4.1 - Airports as per Article 1(3) (IFR movements \geq 80 000)
- 1.4.2 - Other airports added on a voluntary basis as per Article 1(4)

1.5 - Services under market conditions

1.6 - Process followed to develop and adopt a FAB Performance Plan

1.7 - Establishment and application of a simplified charging scheme

- 1.7.1 - Scope of the simplified charging scheme
- 1.7.2 - Conditions for the application of the simplified charging scheme

Annexes of relevance to this section

- ANNEX C. CONSULTATION
- ANNEX D. LOCAL TRAFFIC FORECASTS
- ANNEX L. JUSTIFICATION FOR SIMPLIFIED CHARGING SCHEME

1 - INTRODUCTION

1.1 - The situation

NSA(s) responsible for drawing up the Performance Plan	Hungarian National Supervisory Authority Ministry for Innovation and Technology ANS & ADR Supervisory Department
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1.1.1 - List of ANSPs and geographical coverage and services

Number of ANSPs	2	
ANSP name	Services	Geographical scope
HungaroControl	ATM (including ATC, FIS, FMP, AMC), AIS, CNS, MET,	Budapest FIR
Hungarian Meteorological Service (Országos Meteorológiai Szolgálat)	MET	Budapest FIR

Cross-border arrangements for the provision of ANS services

Number CB arrangements where ANSPs provide services in an other State	3
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ANSPs providing services in the FIR of another State	
ANSP Name	Description and scope of the cross-border arrangement
HungaroControl	ATC in the Austrian airspace
HungaroControl	ATC in the Slovakian airspace
HungaroControl	ATC in the Airspace over Kosovo

Number CB arrangements where ANSPs from another State provide services in the State	2
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ANSPs established in another Member State providing services in one or more of the State's FIRs	
ANSP Name	Description and scope of the cross-border arrangement
Austro Control	ATC in the Hungarian airspace
LPS Slovakia	ATC in the Hungarian airspace

1.1.2 - Other entities in the scope of the Performance and Charging Regulation as per Article 1(2) last para.

Number of other entities	2
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Entity name	Domain of activity	Rationale for inclusion in the Performance Plan
Hungarian NSA	NSA	Determined cost of NSA is included in the cost base chargeable to Airspace users. NSA is responsible for Performance plan development, target setting, oversight of ANSPs, other functions as required by the regulation.
EUROCONTROL	NM, CRCO	Determined cost of EUROCONTROL is included in the cost base as it is chargeable to Airspace users.

1.1.3 - Charging zones (see also 1.4-List of Airports)

En-route	Number of en-route charging zones	1
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En-route charging zone 1	Hungary
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Terminal	Number of terminal charging zones	1
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Terminal charging zone 1	Hungary - TCZ
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1.1.4 - Other general information relevant to the plan

The revised draft RP3 Performance Plan reflects the situation caused by the COVID-19 pandemic and at the same time it aims to ensure that the quality of services will be maintained when traffic recovers.

Relevant local circumstances with high significance for performance target setting and updated view on the impact of the COVID-19 crisis on the operational and financial situation of ANSPs covered in the performance plan

The COVID-19 pandemic had a severe impact on both the operational and financial situation of Hungarocontrol. In 2020, Hungary had a year-on-year traffic drop of 57% in en-route IFR movements and a 61% drop in terminal movements.

In order to stabilize the financial situation, Hungarocontrol has introduced significant cost cutting measures representing an overall -10% reduction in ENR compared to 2019 actual costs, and several measures were implemented in 2021 as well. The aim was to achieve significant savings while keeping the ability to manage 2019-level traffic volumes without causing delays in the future.

The drop in traffic resulted in a significantly decreased cash in-flow, thus Hungarocontrol faced cash-flow problems and had to seek external financing (overdraft facilities, and CAPEX loan).

Regarding 2020 a positive development was, that provisions on doubtful debts turned out to be much less than projected in the 2020 December forecast.

Hungarocontrol implemented various cost cutting measures. These include the obvious items such as travel and events, but other items as well, such as Hungarocontrol stopped temporarily the recruitment and the training of ATCOs to reflect to the situation. Trainings were stopped in 2020-2021 and will resume in 2022 in order to be able to provide the requested capacity when traffic returns to the 2019 level. As for staff costs, remuneration of employee's was restructured in order to reflect the covid-situation, e.g. by linking certain benefits to the actual traffic situation (resulting in cut of fringe benefits, performance related payments). (Note that the negotiations with the ATCO's on wages and benefits are still on-going at the moment).

Investments were kept on-going and due to the general postponements in the industry, suppliers had spare capacity and our projects were delivered on time. The underlying decision was to keep the projects that are important either from the regulatory point of view, or are necessary to ensure capacity in the future.

Additional comments

1.2 - Traffic Forecasts

1.2.1 - En route

En route Charging zone 1

Hungary

En route traffic forecast

Local forecast

Local Forecast	2017A	2018A	2019A	2020A	2021	2022	2023	2024	CAGR 2019-2024
IFR movements (thousands)	822	904	892	381	491	713	855	945	1,2%
IFR movements (yearly variation in %)		10,0%	-1,3%	-57,3%	28,8%	45,1%	19,9%	10,6%	
En route service units (thousands)	2 973	3 236	3 162	1 423	1 727	2 419	2 881	3 182	0,1%
En route service units (yearly variation in %)		8,8%	-2,3%	-55,0%	21,3%	40,1%	19,1%	10,4%	

Specific local factors justifying not using the STATFOR base forecasts

(provide justification below or refer to Annex D for more detailed explanation)

In line with 317/2019/EU ANNEX II. 1.2, justification of the deviation from STATFOR base scenario: STATFOR base scenario consequently underestimated the Hungarian traffic in the past. It is also visible in 2021 that the recovery of the North-West/South-East axis is more robust than that of the whole SES RP3 area.

According to the situation assessment of the Network manager, Hungarian ENR traffic experiences a strong summer season. The assumption of the NM is that although charter will reduce in September and business has not really started yet (this is obvious from the reduced traffic on Tuesdays, Wednesdays and Thursdays), network carriers will eventually start operation when transatlantic restrictions are lifted. Based on its assessment, Network Manager have decided to use sc1 data for Hungary in the subsequent Network Operations Plan. Therefore, Hungary is going to apply the STATFOR sc1 (high) scenario as it is considered more realistic for 2022-2024 than the base scenario.

For the year 2021 Hungary applies the actual data. Latest information available on Eurocontrol's ETNA portal and the PRU dashboard. Total SU data from the AS files is calculated by summing chargeable and exempted SUs where the flight month is in 2021.

NOTE: Section 1.3 (Stakeholder Consultation) should include details on the consultation with airspace users' representatives and ANSPs concerned on the rationale for not using the STATFOR base forecasts.

1.2.2 - Terminal

Terminal Charging zone 1

Hungary - TCZ

Terminal traffic forecast

Local forecast

Local forecast	2017A	2018A	2019A	2020A	2021	2022	2023	2024	CAGR 2019-2024
IFR movements (thousands)	51,1	57,2	61,1	23,9	27,3	43,0	52,7	62,1	0,3%
IFR movements (yearly variation in %)		12,1%	6,8%	-60,9%	14,5%	57,3%	22,5%	18,0%	
Terminal service units (thousands)	63,9	73,2	79,8	31,1	34,8	57,2	69,0	81,7	0,5%
Terminal service units (yearly variation in %)		14,5%	9,1%	-61,1%	11,9%	64,3%	20,7%	18,4%	

Specific local factors justifying not using the STATFOR base forecasts

(provide justification below or refer to Annex D for more detailed explanation)

Hungary is going to apply the STATFOR sc2 (base) scenario in the years 2022-2024. For the year 2021 Hungary applies the actual data. Latest information available on Eurocontrol's ETNA portal. Total SU data from the AS files is calculated by summing chargeable and exempted SUs where the flight month is in 2021. Number of movements is derived from ETNA files as well.

(NB: the choice of the "Local forecast" instead of "STATFOR Base forecast May 2021" in the selection (cell C111) is a technicality)

NOTE: Section 1.3 (Stakeholder Consultation) should include details on the consultation with airspace users' representatives and ANSPs concerned on the rationale for not using the STATFOR base forecasts.

1.3 - Stakeholder consultation

1.3.1 - Overall outcome of the consultation of stakeholders on the performance plan

Description of main points raised by stakeholders and explanation of how they were taken into account in developing the performance plan
<p>Airspace users support the proposed targets in safety, environment and capacity.</p> <p>Airspace users are sceptical about the ENR traffic forecast (sc1), although it is consistent with the capacity planning requests of the NM, which was emphasized by the ANSP.</p> <p>Users had concerns regarding cost-efficiency. They asked about more justification of the drivers of the cost increase (mainly staff cost increase, evolution of ATCO numbers in 2024 vs 2019), which were explained by the ANSP in detail.</p> <p>The ANSP also draw the attention to the fact, that its unit rates are one of the lowest, while it is continuously providing high quality service. Users can benefit from this above-average performance for decades, which was underlined by the relative position of Hungary not just to the EU average, but also to its comparator group members.</p> <p>The representative of the ATCO's Union was urging the modulation of the capacity incentive scheme. IATA is concerned about the symmetric nature of the capacity incentive scheme, but the ANSP agrees with a capacity scheme, that is not penalising consequences out of the responsibility (in this case the unexpected traffic evolution) of the ANSP.</p> <p>Airspace users were questioning the timing of the re-introduction of the early retirement scheme, and had questions on possible further cost cutting measures. The ANSP has pointed to the fact, that users had not to cover early retirement related costs for the whole RP2, nor for the first two years of RP3, which lead to significant savings on their side, and the reimbursement of cost exempt will lower unit rates in the following years, while for many other ANSP's the cost of more generous retirement schemes (eg. defined benefit, retirement age between 55-60 etc.) are accepted. Furthermore the ANSP emphasized, that the negative effects on the health of employees working under similar conditions (like ATCO's) and the decline of cognitive abilities with advancing age posing safety-relevant risk to ATCO performance are confirmed by many studies, references for such are included in the performance plan. Based on this, the re-introduction is necessary. The ANSP also mentioned, that many discussions were held with the participation of EC/DG MOVE, and plans are drafted according to information received during those meetings.</p> <p>They questioned the related costs of drone detection included in the ATM Backup investment, where the ANSP confirmed, that this investment is essential for securing the safety of the ATM, thus the legal obligation set under the EU framework, and sharing of related costs would not be in line with responsibilities defined for different entities in Hungary, since detection is the task of the ANSP.</p> <p>In terms of the proposed cost of capital, airspace users recon that the "net current asset base" should not include under-recoveries. Also a WACC of maximum 4,4% was requested based on the maximum traffic risk of ANSPs. The ANSP on the other side raised its concerns on a possible inadequate application of the 4,4% approach for States with relatively high risk free rates and relatively low cost-bases, that could lead to discriminatively low level of cost of capital, which would be in contradiction with the provisions of the Performance regulation. The ANSP also pointed to the fact, that risk borne is not only related to traffic, but to many other factors (such as cost evolution, FX etc.) Furthermore the ANSP claimed, that the applied methodology is following the legislation by setting the applicable level of cost of capital in line with risk borne, and it is consistent with the methodology set by Steer Davies Gleave, done for the EC.</p> <p>As a general remark, airspace users expect Hungary to go over and beyond what regulation requests. IATA expects Hungary to comply with the expected cost cutting measures on an annual level - a request, which is made at every consultation, irrespective of the exact situation of the country in question. The ANSP stressed, that a one-size-fits-all approach is not appropriate, and relative position, and the achieved level of cost-efficiency shall be duly taken into account. The ANSP also emphasized, that during the pandemic Hungary was able to react to the requests of the users and the EC, by saving significantly not just to its previously submitted RP3 plans, but also to 2019, exceeding notably the EU wide targets. The ANSP advocated, these already achieved results to duly consider, when assessing the plan.</p> <p>Speaking about the possible ways of building capacity, the representative of the union made a complaint against EC/PRB that they force a strategy on ANSPs by which investment in technology is propagated against the investment in ATCOs in an imbalanced way.</p> <p>IATA asked for further information on the actual 2020-2021 investments.</p> <p>The considerations of the stakeholders were investigated.</p>

1.3.2 - Specific consultation requirements of ANSPs and airspace users on the performance plan

Topic of consultation	Applicable	Results of consultation
Where applicable, decision to diverge from the STATFOR base forecast	Yes	The topic was discussed thoroughly, Hungary will submit its Performance Plan with sc1 in ENR in consistency with the NM capacity planning profile.
Charging policy	Yes	No change envisaged.
Maximum financial advantages and disadvantages for the mandatory incentive scheme on capacity	Yes	Users wanted asymmetric scheme, with higher (1%) penalty, but the Hungarian NSA doesn't consider it appropriate and adequate for effectively 3 years or less, where unexpected traffic evolution may be the potential reason for divergence from the target.
Where applicable, decision to modulate performance targets for the purpose of pivot values to be used for the mandatory incentive scheme on capacity	Yes	The union urged modulation of the capacity incentive scheme (specifically modulation to exclude weather-related delay from the calculation). In line with the proposed incentive scheme, that is rather focusing on minimising the effects of the scheme, this request was not accepted at this point. However, in case the incentive scheme needs adjustment later, this aspect will be investigated again.
Symmetric range ("dead band") for the purpose of the mandatory incentive scheme on capacity	Yes	IATA urges Hungary to consider the introduction of an asymmetric scheme. On the contrary, for the coming three years Hungary rather aims at minimising unintended effects symmetrically, thus the incentive scheme stays.
Establishment or modification of charging zones	No	
Establishment of determined costs included in the cost base for charges	Yes	See other sections. Hungary considers the draft plan as in full compliance with EU targets, taking local circumstances into account. If no one-size-fits-all approach is followed, then the plan addresses relevant capacity issues, provides the necessary financial basis, and supports the achievement of EU goals. Consequently, no change is initiated after the consultation.
Where applicable, values of the modulated parameters for the traffic risk sharing mechanism	No	
Where applicable, decision to apply the simplified charging scheme	No	
New and existing investments, and in particular new major investments, including their expected benefits	Yes	Further information was requested on 2020-2021 actual investments. Additional information provided below.

1.3.3 - Consultation of stakeholder groups on the performance plan

#1 - ANSPs	
Stakeholder group composition	HungaroControl
Dates of main meetings / correspondence	07/09/2021
Main issues discussed	RP2 traffic/ delay situation and consequences. RP3 traffic forecast (and deviation from STATFOR sc2 scenario in ENR). Safety, Environment and Capacity targets. Staff planning (number of ATCOs). Capacity incentive schemes (maximum financial advantages and disadvantages and dead band). Cost-efficiency targets - justification for the deviation from EU-wide targets. Baseline value and adjustments to the baseline (traffic and cost). Cost of capital calculation. Investments (specifically capacity-building and drones). Local circumstances (comparator group, FX deterioration, capacity issues in RP2, early retirement scheme).
Actions agreed upon	More information needed on capex deployed
Points of disagreement and reasons	The NSA and the ANSP were in agreement regarding the discussed points of the performance plan
Final outcome of the consultation	No change currently
Additional comments	

#2 - Airspace Users	
Stakeholder group composition	IATA, Wizzair, LH Group
Dates of main meetings / correspondence	07/09/2021
Main issues discussed	RP2 traffic/ delay situation and consequences. RP3 traffic forecast (and deviation from STATFOR sc2 scenario in ENR). Safety, Environment and Capacity targets. Staff planning (number of ATCOs). Capacity incentive schemes (maximum financial advantages and disadvantages and dead band). Cost-efficiency targets - justification for the deviation from EU-wide targets. Baseline value and adjustments to the baseline (traffic and cost). Cost of capital calculation. Investments (specifically capacity-building and drones). Local circumstances (comparator group, FX deterioration, capacity issues in RP2, early retirement scheme).

Actions agreed upon	The only requested information/justification is incorporated in the Performance Plan, please see additional comments section. Comments in writing were invited to be submitted till the end of the week of the consultation.
Points of disagreement and reasons	<p>Traffic forecast - AUs requested the use of SC2 traffic scenario in line with the legislative recommendation. Hungary demonstrated the application of SC1 scenario with the actual traffic figures (higher actual in recent months than SC1) and the recommendation of the NM. Users considered the NM forecasts as not appropriate for planning.</p> <p>Incentive scheme - IATA urged Hungary to consider the introduction of an asymmetric scheme (no bonus). Hungary is convinced that on this short run (3 years) any possible delay should only be due to significant traffic change or unexpected event, for which ANSPs cannot react in the short term. Consequently any effect of the incentive scheme shall be limited to the minimum extent possible.</p> <p>Cost-efficiency targets - AUs requested decreasing trend and compliance with the EU trend. Although Hungary has presented, that the Hungarian target - taking into account the consistency criteria (Annex IV. 317/2019) - is in line with the EU wide target, IATA formulated its request irrespective of past performance and already achieved level of cost-efficiency. Airspace users were concerned about the reintroduction of early retirement scheme. HungaroControl proved the necessity of the reintroduction of early retirement scheme with several examples in Europe and studies attached to the performance plan (Annex R), and the significant savings due to a temporary suspension of such a scheme was also pointed at.</p> <p>Users questioned the related costs of drone detection included in the ATM Backup investment, where the ANSP confirmed, that this investment is essential for securing the safety of the ATM, thus the legal obligation set under the EU framework, and sharing of related costs would not be in line with responsibilities defined for different entities in Hungary, since detection is the task of the ANSP.</p> <p>Cost of capital - AUs requested the use of lower interest rate. It was however clarified, that HungaroControl applies optimal capital structure (60% Debt), and applied interest rate is also in line with SDG recommendations, in order to only charge the effective cost of capital. Interest rates for overdraft facilities cannot be used for cost of capital calculation, the link to short term interest rates cannot be accepted accordingly. AU's asked to apply the 4,4% limit of traffic risk sharing on the cost of capital calculation. It was explained in detail, that for countries with relatively higher risk free rate and especially low cost bases the approach is inadequate. Moreover, ANSPs not only bear the risk of traffic, but also other risk types.</p>
Final outcome of the consultation	Airspace users support the proposed targets in safety, environment and capacity. They had concerns regarding cost-efficiency, however they acknowledged the outstanding performance of Hungary in recent years.

Additional comments				
Details about 2020/2021 main investments (requested by Airspace users):				
Investments above 1 Bn HUF (in million HUF)	2020	2021	2020+2021	
Maintenance	2 871	1 023	3 893	
Hardware replacement	1 257	624	1 882	
mITWR	0	1 936	1 936	
Network equipment	387	771	1 158	
No additional comment in writing submitted till the deadline set by the NSA.				

#3 - Professional staff representative bodies	
Stakeholder group composition	CONTROL MUSZ
Dates of main meetings / correspondence	07/09/2021
Main issues discussed	ATCO union requested the exclusion of weather related delays from the incentive scheme. In general the representative of the union questioned the composition of capacity related measures, which - although in line with the EC/PRB recommendation - is heavily capex focused, their view is that more emphasis should be put on available HR (ATCO), their training and restructuring of airspace. In case of Capex, even if they are in line with the ATM Master Plan, or relevant regulations, they are not sufficient to build up the capacity needed, without corresponding HR resources.
Actions agreed upon	
Points of disagreement and reasons	The union urged modulation of the capacity incentive scheme (specifically modulation to exclude weather-related delay from the calculation). In line with the proposed incentive scheme, that is rather focusing on minimising the effects of the scheme, this request was not accepted at this point. However, in case the incentive scheme needs adjustment later, this aspect will be investigated again.
Final outcome of the consultation	No change currently.
Additional comments	

#4 - Airport operators	
Stakeholder group composition	BUD Airport
Dates of main meetings / correspondence	07/09/2021
Main issues discussed	No remarks.
Actions agreed upon	No remarks.
Points of disagreement and reasons	No remarks.
Final outcome of the consultation	No remarks.
Additional comments	

#5 - Airport coordinator	
Stakeholder group composition	
Dates of main meetings / correspondence	
Main issues discussed	
Actions agreed upon	
Points of disagreement and reasons	
Final outcome of the consultation	
Additional comments	

#6 - Other (specify)	
Stakeholder group composition	Croatia Control (neighbouring ANSP), Croatian NSA, PRB, EC, ECTL (PRU)
Dates of main meetings / correspondence	07/09/2021
Main issues discussed	No remarks.
Actions agreed upon	No remarks.

Points of disagreement and reasons	No remarks.
Final outcome of the consultation	No remarks.
Additional comments	

1.4 - List of airports subject to the performance and charging Regulation

1.4.1 - Airports as per Article 1(3) (IFR movements \geq 80 000)

ICAO code	Airport name	Charging Zone	IFR air transport movements			
			2016	2017	2018	Average
LHBP	Budapest/Ferihegy	Hungary - TCZ	95 743	102 266	114 474	104 161

1.4.2 Other airports added on a voluntary basis as per Article 1(4)

Number of airports	0		
ICAO code	Airport name	Charging Zone	Additional information

Additional comments

1.5 - Services under market conditions

Number of services under market conditions	0
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1.6 - Process followed to develop and adopt a FAB Performance Plan

Description of the process
Not applicable

1.7 - Establishment and application of a simplified charging scheme

Is the State intending to establish and apply a simplified charging scheme for any charging zone/ANSP?	No
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SECTION 2: INVESTMENTS

2.1 - Investments - HungaroControl

- 2.1.1 - Summary of investments
- 2.1.2 - Detail of new major investments
- 2.1.3 - Other new and existing investments

2.2 - Investments - Hungarian Meteorological Service (Országos Meteorológiai Szolgálat)

- 2.2.1 - Summary of investments
- 2.2.2 - Detail of new major investments
- 2.2.3 - Other new and existing investments

Annexes of relevance to this section

ANNEX E. INVESTMENTS

NOTE: The requirements as per Annex II, 2.2.(c) are addressed in item 4.1.2

2.1 – Investments - HungaroControl

2.1.1 - Summary of investments

Number of new major investments		6										
#	Name of new major investment (i.e. above 5 ME)	Total value of the asset (capex or contractual leasing value)	Value of the assets allocated to ANS in the scope of the PP	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
				2020	2021	2022	2023	2024		Enroute	Terminal	
1	New MATIAS system (ANSIII, ANSI, TTF), new simulator	63 273 827	21 273 827	16 278 663	42 212 257	53 513 765	53 513 765	301 235 525	7	86%	14%	2026.12.31
2	mirTWR	25 690 444	25 689 194	28 101	39 487 691	316 246 098	1 608 944 887	2 128 227 990	15	0%	100%	2021.09.30
3	MATIAS system Build 12	16 727 531	9 935 820	164 641 017	888 629 588	1 220 999 956	1 159 336 663	1 099 951 704	7	86%	14%	2021.04.26
4	MATIAS Build 13 ANS I HW Replacement PCP, new TWR interface	9 894 000	9 894 000	0	1 974 412	130 157 141	627 242 866	720 946 611	7	86%	14%	2023.03.31
5	Drone passive scout system	9 487 190	9 487 111	5 838	20 939	13 583 255	135 618 449	341 126 181	15	0%	100%	2023.04.30
6	ATM Backup System Build 1	6 640 155	6 640 155	4 349 019	18 231 258	74 224 518	255 268 808	494 376 334	7	86%	14%	2023.08.31
	Sub-total of new major investments above (1)	131 713 146	82 920 107	185 302 627	990 556 145	1 808 724 734	3 839 925 438	5 085 864 345				
	Sub-total other new investments (2)	59 874 618	63 754 092	411 545 729	1 278 387 629	2 337 021 487	3 160 744 920	3 750 462 967		74%	26%	
	Sub-total existing investments (3)			6 768 512 006	5 188 369 657	5 532 196 611	4 197 978 077	3 620 904 773		82%	19%	
	Total new and existing investments (1) + (2) + (3)	191 587 764	146 674 199	7 365 360 362	7 457 913 430	9 677 942 832	11 198 648 435	12 457 232 085				

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

2.1.2 - Detail of new major investments

NOTE: Section 1.3 (Stakeholder Consultation) should include details on the consultation with airspace users' representatives on new major investments.

Name of new major investment 1	New MATIAS system (ANSIII, ANSI, TTF), new simulator	
	Total value of the asset	63 273 827 EUR
Description of the asset	<p>The new MATIAS system fulfills the remaining PCP regulations with the new FDP and HMI capabilities. By this development the system will be able to exchange flight information during the pre-tactical and tactical phases by ATC systems and Network Manager using the yellow SWIM Profile. Also the required services will be implemented to support the exchange of flight information using the blue SWIM Profile.</p> <p>The new FDP will be designed to process the air derived flight data provided through ADS-C EPP service. This includes potential interface with the datalink system to access to the aircraft flight data. New Trajectory Prediction sub-system will also be developed to integrate such additional information.</p> <p>Air Ground communication capability will need to be upgraded to allow an increased capacity for new foreseen exchanges.</p> <p>A new MATIAS system will also have contingency, test and simulator capabilities and HungaroControl plans to use that in the KFOR (Kosovo) Sector as well.</p>	

<p>The investment is mandated by a SES Regulation (i.e. PCP/CPJ/Interoperability)? Ref. to the Regulation and, if funded through Union assistance programmes, ref. to the relevant grant agreement(s).</p>	<p>Yes</p>	<p>Family 5.5.1 – Upgrade / Implement Cooperative Network Information Exchange System / Service Family 5.6.1 – Upgrade/Implement Flight Information Exchange System/Service supported by Yellow Profile Family 5.6.2 – Upgrade/Implement Flight Information Exchange System/ Service supported by Blue Profile Family 6.1.1 – ATN B1 based services in ATSP domain Family 6.1.2 – ATN B2 based services in ATSP domain Family 6.1.3 – A/G and G/G Multi Frequency DL Network in defined European Service Areas</p>																																																
<p>Specify links to the PCP/CPJ/Interoperability Regulations (add the sub-AF number(s) under each relevant box)</p>	<p>AF1</p>	<table border="1"> <thead> <tr> <th>AF2</th> <th>AF3</th> <th>AF4</th> <th>AF5</th> <th>AF6</th> <th>Interoperability</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td></td> <td>5.5.1</td> <td>6.1.1</td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td>5.6.1</td> <td>6.1.2</td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td>5.6.2</td> <td>6.1.3</td> <td></td> </tr> </tbody> </table>	AF2	AF3	AF4	AF5	AF6	Interoperability				5.5.1	6.1.1					5.6.1	6.1.2					5.6.2	6.1.3																									
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<p>Benefits for airspace users and results of the consultation of airspace users' representatives</p>	<p>It will improve the civil-military coordination giving greater flexibility according to the airspace users' needs, ensuring a close and efficient working relationship between NM, FMP and airspace users. Trajectory based operations (TBO) and network context flight- and flow-centric operations will be supported in such as sectorless operations. This development will back up the airspace users to fly their preferred trajectory – satisfying their business needs – and to perform continuous descent and climb, generating environmental benefits both in terms of emissions and noise. It will enable the dynamically adjusted airspace configuration in response to capacity and demand needs. The required SWIM infrastructure components will be deployed supporting SWIM information exchanges using the SWIM TI Profiles in accordance with SWIM principles in the role of either service provider or service consumer. Trajectory information sharing will be possible on ANSP, NM and airspace users and ground/ground dissemination of the trajectory information through flight object exchange.</p>	<p>Yes</p>																																																
<p>Joint investment / partnership investment in ATM systems</p>	<p>No</p>	<p>Yes</p>																																																
<p>If investment in ATM system, type?</p>	<p>New system</p>	<p>PCP</p>																																																
<p>If investment in ATM system, Reference to European ATM Master Plan / PCP</p>	<p>Family 5.5.1 – Upgrade / Implement Cooperative Network Information Exchange System / Service Family 5.6.1 – Upgrade/Implement Flight Information Exchange System/Service supported by Yellow Profile Family 5.6.2 – Upgrade/Implement Flight Information Exchange System/ Service supported by Blue Profile</p>	<p>PCP</p>																																																
<p>Name of new major investment 2</p>	<p>mirTWR</p>	<p>Total value of the asset</p>																																																
<p>Description of the asset</p>	<p>The main objective of the asset is to implement and synchronize necessary infrastructure – via software upgrades and/or installations of the current ATM system - that will result in an operational and state-of-the-art integrated tower ATM system. Implementation of a new operational and contingency TWR system, as an upgrade of HungaroControl's existing A-SMGCS system and remote tower video system.</p>	<p>25 690 444 EUR</p>																																																
<p>The investment is mandated by a SES Regulation (i.e. PCP/CPJ/Interoperability)? Ref. to the Regulation and, if funded through Union assistance programmes, ref. to the relevant grant agreement(s).</p>	<p>Yes</p>	<p>REGULATION (EU) 2018/1139 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL COMMISSION IMPLEMENTING REGULATION (EU) 2017/373 GRANT AGREEMENT UNDER THE CONNECTING EUROPE FACILITY (CEF) - TRANSPORT SECTOR AGREEMENT No INEA/CEF/TRAN/M2017/1619346</p>																																																
<p>Specify links to the PCP/CPJ/Interoperability Regulations (add the sub-AF number(s) under each relevant box)</p>	<p>AF1</p>	<table border="1"> <thead> <tr> <th>AF2</th> <th>AF3</th> <th>AF4</th> <th>AF5</th> <th>AF6</th> <th>Interoperability</th> </tr> </thead> <tbody> <tr> <td>2.1.1</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>2.1.2</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>2.1.3</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>2.2.1</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>2.3.1</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>2.4.1</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>2.5.1</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>	AF2	AF3	AF4	AF5	AF6	Interoperability	2.1.1						2.1.2						2.1.3						2.2.1						2.3.1						2.4.1						2.5.1					
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<p>The system will help to deliver improvements in environmental sustainability, principally by reducing engine run time (per flight) and by optimising taxiing efficiency calculating about the ground movements, arrival and departure traffic, and the given ATC clearances at the same time. These operational improvements will also lead to reductions in:</p> <ul style="list-style-type: none"> • Noise emissions (disturbance); • Fuel use (finite resource); • CO2 emission (climate change); • Oxides of Nitrogen (NOx), particles, unburnt hydro-carbon emissions (air quality); • Associated mitigation costs such as noise insulation or compensation; • The likelihood or severity of environmental constraints; • The external, societal costs such as health, amenity etc. <p>CAPACITY ENHANCEMENT ASPECTS (description requested by airspace users): Upgraded interfaces: Enhanced interfaces allow for a higher level of data and information exchange with other systems, which increases capacity and increases security through the availability of more complex information. Also, the upgraded interfaces the interfaces allow the system to support simultaneous ATS service for multiple airports.</p>	<p>Joint investment / partnership investment in ATM systems</p> <p>If investment in ATM system, type?</p> <p>If investment in ATM system, Reference to European ATM Master Plan / PCP</p>	<p>No</p> <p>Yes</p> <p>Overhaul of existing System</p> <p>PCP</p> <p>S-AF2.1.1 Initial DMAN; S-AF2.1.2 Electronic Flight Strips (EFS); S-AF2.1.3 Basic A-CDM; S-AF2.2.1 Departure Management Integrating Surface Management Constraints; S-AF2.3.1 Time Based Separation (TBS); S-AF2.4.1 A-SMGCS Routing and Planning Functions</p> <p>S-AF2.5.1 Airport Safety Nets associated with A-SMGCS (Level 2)</p>												
<p>Name of new major investment 3</p>	<p>MATIAS system Build 12</p>	<p>Total value of the asset</p> <p>16 727 531 EUR</p>												
<p>Description of the asset</p>	<p>The main aim of the asset is to further develop the Hungarian ATS system (MATIAS) in order to fulfill the requirements of the Pilot-Common-Project Regulation AF3 and AF4 requirements.</p> <p>This implementation Project aims to upgrade HungaroControl ATM system, to:</p> <ul style="list-style-type: none"> - ASM Management of real time airspace data: Adapt ATM systems to exchange airspace reservation (ARES) messages containing real time (tactical) activation status of predefined airspace structures with local ASM support systems and to display airspace status data at the CWP. - Management of Dynamic Airspace Configurations: Basic system improvements supporting the management of dynamic airspace configuration - Interface ATM systems to NM systems: Upgrade the ATM system with the capability to receive and process EFPL information via FF-ICE/1 and develop the associated procedures. <p>Also important part of the asset is the replacement of the current hardware of the MATIAS system in Budapest ATS center.</p>	<p>REGULATION (EU) 2018/1139 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL COMMISSION IMPLEMENTING REGULATION (EU) 2017/373 COMMISSION IMPLEMENTING REGULATION (EU) No 716/2014</p>												
<p>The investment is mandated by a SES Regulation (i.e. PCP/CP1/Interoperability)? Ref. to the Regulation and, if funded through Union assistance programmes, ref. to the relevant grant agreement.</p>	<p>Yes</p>	<p>AF1</p> <table border="1"> <tr> <td>AF2</td> <td>AF3</td> <td>AF4</td> <td>AF5</td> <td>AF6</td> <td>Interoperability</td> </tr> <tr> <td></td> <td>3.1.2 3.1.4</td> <td>4.2.3</td> <td></td> <td></td> <td></td> </tr> </table>	AF2	AF3	AF4	AF5	AF6	Interoperability		3.1.2 3.1.4	4.2.3			
AF2	AF3	AF4	AF5	AF6	Interoperability									
	3.1.2 3.1.4	4.2.3												
<p>Specify links to the PCP/CP1/Interoperability Regulations (add the sub-AF number(s) under each relevant box)</p>														

<p>The positive contributions of this Implementation Project to Capacity (traffic management and congestion/reduction in delays), Safety, Cost Efficiency, Security and Resilience:</p> <ul style="list-style-type: none"> • Better usage of available airspace volumes with reduced complexity will lead to higher capacity. Short-term opportunities are effectively and efficiently managed. Overall increase of airspace capacity through optimised utilisation of airspace configurations and scenarios. • Flight Efficiency in Time, that trajectories are expected to be more efficient due to procedures and processes accommodating short-term changes. Larger selection of airspace configurations/scenarios available to allow for more robust planning. • Flight Efficiency in Fuel are direct positive impact thanks to shorter and more direct routes whenever possible, which will lead to an optimized fuel usage of the AU. In addition, increased robustness on the overall allocation of airspace will lead to a more appropriate fuel loading of airspace users. • The application of the data / information sharing concept among all involved stakeholders will lead to an increased robustness and predictability of the FAB CE managed airspace. • Safety increase by representing the same information for all the airspace users and ATM service providers <p>Benefits for airspace users and results of the consultation of airspace users' representatives</p> <p>CAPACITY ENHANCEMENT ASPECTS (description requested by airspace users): HW replacement > Continuous capability to maintain the same level of service SWIM FF-ICE new FPL FIXM Format > reference: NM (Network Manager) 22.5.0 – NOP/62B > Flight Information Exchanging Model (FIXM) Operational Data Description v 4.0.0. Security Enhancements > reference: Commission Implementing Regulation (EU) 2017/373> ATM/ANS.OR.D.010 Security management and Regulation (EU) 2018/1139 Annex VIII. Essential requirements for ATM/ANS and air traffic controllers 3. Systems and constituents AGATE – MSTS analysis tool (radar data processing) > reference: Commission Implementing Regulation 1207/2011 The rest of 12 functional upgrade elements: upgrade the level of safety and increase the capacity of the ATCO by performing a higher level of support the controller in terms of provision of essential information, warning, providing enhanced support of certain human working procedures. A new universal interface is also being made available, allowing direct connection and supply of data to other ATM systems, and large amounts of ATM data can be obtained through that for analysis, enabling research and development efforts to further capacity increase</p>	<p>No</p> <p>Yes</p> <p>Overhaul of existing system</p> <p>PCP</p> <p>• All the relevant data integrated into ATM Systems. Interoperability with the Network Manager system and with other ASM systems as described in the family 3.1.2</p> <p>• Upgrade ATM system for dynamic sectorisation as required in the family 3.1.4</p> <p>• Upgrade ATM system in order to generate messages to NM and for NM to receive and process, and distribute as required in the family 4.2.3 (including FSA, CPR, AFP, APL, ACH messages) and EPPL from Airspace Users.</p>	<p>Total value of the asset</p> <p>9 894 000 EUR</p>
<p>Name of new major investment 4</p>	<p>IMATIAS Build 13 ANS I HW replacement PCP, new TWR interface</p>	<p>One of the purposes is the replacement of the current hardware and upgrade the software of the Business continuity center. New TWR interface will be implemented to the integrated TWR system (see point Investment 4) There will be basic implementation of SWIM yellow profile and further enhancement is planned in the functionality in relation of the PCP Family 3.2.1. (Upgrade of ATM systems to support DCT & Free Route) and Family 2.3.1. (Time Based Separation).</p>
<p>Description of the asset</p>	<p>Yes</p> <p>COMMISSION IMPLEMENTING REGULATION (EU) No 716/2014 PCP: Family 3.2.1. Upgrade of ATM systems to support DCT & Free Route</p>	<p>AF1 AF2 AF3 AF4 AF5 AF6 Interoperability</p>
<p>THE INVESTMENT IS MANAGED BY A CBS REGULATOR (I.E. PCP/CP1/Interoperability)? Ref. to the Regulation and, if funded through Union assistance programmes, ref. to the relevant state assessment.</p>	<p>Yes</p>	

Specify links to the PCP/CP1/Interoperability Regulations (add the sub-AF number(s) under each relevant box)	3.2.1	COMMISSION IMPLEMENTING REGULATION (EU) No 716/2014
Benefits for airspace users and results of the consultation of airspace users' representatives	Continuous capability to maintain the same level of service in case of disaster in the current OPS room, while the main purpose is to have an upgraded simulator supporting to maintain the ATCO training capacity, thus resulting higher number of ATCOs. CAPACITY ENHANCEMENT ASPECTS (description requested by airspace users): HW change in the current Contingency Centre to have an upgraded simulator supporting to maintain the envisaged ATCO training capacity (especially important taking into account the increased level of planned trainees), thus resulting higher number of ATCOs and higher level of active ATCOs competency resulting higher level of safety and increase the capacity. Capability to exchange ATM data with the upgraded A-SMGCS, therefore increase the capacity of ACC and the Budapest airport TWR ATC service by the	
Joint investment / partnership investment in ATM systems	No Yes	
If investment in ATM system, type?	Overhaul of existing system	
If investment in ATM system, Reference to European ATM Master Plan / PCP	Family 2.3.1. Time Based Separation (TBS) Family 3.2.1. Upgrade of ATM systems to support DCT & Free Route	

Name of new major investment 5	Drone passive scout system	Total value of the asset	9 487 100 EUR								
Description of the asset	<p>In accordance with the strategic goals of HungaroControl Pte. Ltd. Co. this investment makes the recognition of drone traffic possible within the airspace with the further development of air traffic service procedures and technological background.</p> <p>As a result of the procurement, after the realization of all the development phases, the company will be able to display the cooperative and wrongdoer drones within the airspace covered by the technology.</p> <p>With the spread of unmanned aerial vehicles (often called drones) and because of the vicinity of Budapest Liszt Ferenc International Airport to Budapest, departing and arriving aircrafts experience an increasing amount of risk due to intentional or unintentional drone usage.</p> <p>In accordance with the regulations of the European Union and the national regulation plan, a so-called no drone zone will be selected within the airspace of the airport. Furthermore, these regulations allow flying of drones with certain conditions outside the no drone zone. However, air traffic controllers will not have any direct information on cooperative or non-cooperative drones without this development. Due to this issue, it is possible that drones will violate the secure airspaces. To sum up, this upcoming risk makes the surveillance and display of the drones necessary, so that the safe and secure management of airspaces can be done by HungaroControl.</p>										
The investment is mandated by a SES Regulation (i.e. PCP/CP1/Interoperability)?	No										
Level of impact of the investment	<table border="1"> <tr> <td>Network</td> <td>Low</td> </tr> <tr> <td>Local</td> <td>Significant</td> </tr> <tr> <td>Non-performance</td> <td>Low</td> </tr> </table>			Network	Low	Local	Significant	Non-performance	Low		
Network	Low										
Local	Significant										
Non-performance	Low										
Quantitative impact per KPA	<table border="1"> <tr> <td>Safety</td> <td>Significant</td> </tr> <tr> <td>Environment</td> <td>Medium</td> </tr> <tr> <td>Capacity</td> <td>Medium</td> </tr> <tr> <td>Cost Efficiency</td> <td>Low</td> </tr> </table>			Safety	Significant	Environment	Medium	Capacity	Medium	Cost Efficiency	Low
Safety	Significant										
Environment	Medium										
Capacity	Medium										
Cost Efficiency	Low										

<p>Results of the consultation of airspace users' representatives</p>	<p>The positive contributions of this implementation Project to : - Safety enhancement by representing and providing information on the increased intentional or unintentional drone usage in the vicinity of Budapest Liszt Ferenc International Airport - Implementing a surveillance system specialized for drones as a fundamental step in keeping the departing and arriving aircrafts safety on the same level while the drone traffic is increasing.</p>	<p>Joint investment / partnership investment in ATM systems If investment in ATM system, type? If investment in ATM system, Reference to European</p>	<p>No Yes New system Click to select</p>	<p>Total value of the asset</p>	<p>6 640 155 EUR</p>
<p>Name of new major investment 6</p>	<p>ATM Backup System Build 1</p>	<p>Currently there is an old legacy home-developed ATM backup system in operation in Budapest ATS centre. Any further development is impossible for that. Therefore the aim of the asset is to develop and implement a new ATM backup system to ensure continuous capability to maintain the unchanged level of safety of ATC-service provision during the evacuation of the airspace in case of major failure of the main ATM system. Further very important aims of the new ATM Backup system to display the drone operations for the air traffic controllers and to provide actual operational ATC information for the ATC during the normal regular operation. The new ATM Backup system will also have new contingency, test and simulator capabilities and HungaroControl plans to use that in the KFOR (Kosovo) Sector as well.</p>	<p>AF1</p>	<p>AF2 AF3 AF4 AF5 AF6</p>	<p>Interoperability</p>
<p>Description of the asset</p>	<p>The ATM Backup system is necessary for compliance with the following regulations: Regulation (EC) No 552/2004 Of The European Parliament And Of The Council > Annex II Essential Requirements/ Part A: General requirements/ 1. Seamless operation 3. Safety (according to this regulation "Air traffic management systems shall be designed, built, maintained and operated [...] in such a way to ensure the seamless operation of the EATMN at all times and for all phases of flight." And "Systems shall be designed, built, maintained and operated (...) in such a way that the tasks assigned to the control staff are compatible with human capabilities, in both the normal and degraded modes of operation, and are consistent with required safety levels." and Regulation (EU) 2018/1139 Annex VIII. Essential requirements for ATM/ANS and air traffic controllers 3. Systems and constituents (according to this regulation "Systems and constituents, considered collectively, separately and in relation to each other, shall be designed in such a way that an inverse relationship exists between the probability that any failure can result in a total system failure and the severity of its effect on the safety of services."</p>	<p>Yes</p>	<p>AF1</p>	<p>AF2 AF3 AF4 AF5 AF6</p>	<p>Interoperability</p>
<p>The investment is mandated by a SES Regulation (i.e. PCP/CPJ/interoperability)? Ref: to the Regulation and, if funded through Union assistance programmes, ref. to the relevant grant agreement.)</p>	<p>The ATM Backup system will be implemented in line with the following regulations: COMMISSION REGULATION (EC) No 633/2007 COMMISSION REGULATION (EC) No 1032/2006</p>	<p>Yes</p>	<p>AF1</p>	<p>AF2 AF3 AF4 AF5 AF6</p>	<p>Interoperability</p>

<p>Specify links to the PCP/CP/Interoperability Regulations (add the sub-AF number(s) under each relevant box)</p>	<p>COMMISSION REGULATION (EC) No 633/2007 COMMISSION REGULATION (EC) No 1032/2006 COMMISSION REGULATION (EC) No 1033/2006 COMMISSION IMPLEMENTING REGULATION (EU) No 1206/2011 COMMISSION IMPLEMENTING REGULATION (EU) No 1079/2012 COMMISSION IMPLEMENTING REGULATION (EU) No 1207/2011</p>
<p>Continuous capability to maintain the unchanged level of safety of ATC service provision during the evacuation of the airspace in case of major failure of the main ATM system. In view of the foregoing regulations, HungaroControl's decision is to ensure that a complete failure of the main ATM system does not, or to a minimum, affect the safety of the air traffic control service provision. This means that, since a very advanced main ATM system supports the provision of air traffic control services at a high level, its failure during heavy traffic may have a very serious impact on the level of air traffic safety. HungaroControl has made the decision to satisfy the above written requirements by installing an ATM Backup system that runs simultaneously with the main ATM system and, in the event of a failure it is able to support the air traffic control service provision without any decrease of the required level of safety. During normal operation the ATM Backup system displays drones for the ATC and provides actual operational ATC information. The ATM Backup system will be in operation in the ATM service provision in Budapest FIR and in the KFOR (Kosovo) sector as well. CAPACITY ENHANCEMENT ASPECTS (description requested by airspace users): Implementing new ATM Backup system is fundamental step in case of further capacity increase and keeping the safety on the same level while the traffic is increasing. It is not possible to increase the air traffic control capacity supported by a main ATM system without ensuring that there is a system in place to handle traffic safely in the event of a major failure of the main ATM system.</p>	<p>Benefits for airspace users and results of the consultation of airspace users' representatives</p>
<p>Joint investment / partnership investment in ATM systems</p>	<p>No Yes</p>
<p>If investment in ATM system, type?</p>	<p>New system</p>
<p>If investment in ATM system, Reference to European ATM Master Plan / PCP</p>	<p>Master Plan (non-PCP) AOM21.2 Free Route Airspace AOM21.1 Direct Routing ATC2.8 Ground Based Safety Nets (partly) ATC2.9 Short Term Conflict Alert (STCA) for TMAS ATC12.1 Automated Support for Conflict Detection; Resolution Support Information and Conformance Monitoring ITY-COTR Basic OLDI Function ITY-FMTP Common Flight Message Transfer Protocol (FMTP) ITY-ACID Aircraft Identification ITY AGVCS2 8.33 KHz air-ground voice channel spacing below F195</p>

2.1.3 - Other new and existing investments

2.1.3.1 - Overall description and justification of the costs nature and benefits of other new and existing investments in fixed assets planned over the reference period

Other new and existing investments have a cost effect (depreciation and cost of capital) in the reference period. Part of these investments are required by regulation, part of them are SESAR-related, a third category is where investments are necessary for the ongoing business (such as furnitures and fixtures, building- and IT-related investments, extension or renewal of existing buildings and machinery -including CNS equipment). A number of projects in Other new and existing investment category contribute to capacity-enhancement as well. Other investments in general are instrumental in providing business continuity. Procurement of new assets is regulated by company policy to ensure cost-effectiveness.

2.1.3.2 - Details of the main other new investments in fixed assets planned over the reference period

Number of new other investments	3
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#	Name of investment	Total value of the asset (capex or contractual leasing value)	Value of the assets allocated to ANS in the scope of the PP	Determined costs of investment (i.e. depreciation, cost of capital and cost of leasing) (in national currency)				Description
				2020	2021	2022	2023	
1	Püspökladány en-route radar replacement	2 550 000	2 550 000		645 109	6 128 533	38 555 314	The purpose of the investment is to maintain a high level of service in accordance with the regulations by carrying out the necessary replacements due to operational lifetime expiration. The two en-route radars operated by HungaroControl (Körishegy and Püspökladány) have been in operation since 2007, as they reach the end of their useful lifetime, and even taking into account safe over-operation, they will have to be replaced in 2024. The aerial inspection task arising in connection with radar replacement means the use of a calibration flight service, during which the newly commissioned systems are calibrated. The radar replacement schedule is designed to replace only one en-route radar at a time, without compromising operational safety and continuity.
2	Körishegy en-route radar replacement	2 550 000	2 550 000		645 109	28 707 339	113 736 409	

3	X - ANS3 HW replacement - Frequentis	3 328 610	3 327 003	18 325 397	139 314 636	200 103 629	191 184 525	182 594 964	Replacement and upgrade of the software and hardware of the air traffic control, ground-to-ground and ground-to-air voice communication centre, the voice recording system and the emergency radio and emergency telephone system of HungaroControl Zrt. This system shall be used for communication between the different units of air traffic control and between air traffic controllers and aircraft crews. The migration to a new state-of-the-art guidance system is essential as the previous system reaches the end of its useful life and will allow the replacement of the previous analogue connections with native IP-based connections.
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2.2 - Investments - Hungarian Meteorological Service (Országos Meteorológiai Szolgálat)

2.2.1 - Summary of investments

Number of new major investments		1												
#	Name of new major investment (i.e. above 5 M€)	Total value of the asset (capex or contractual leasing value)	Value of the assets allocated to ANS in the scope of the PP	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	
				2020	2021	2022	2023	2024	Enroute		Terminal			
1														
	Sub-total of new major investments above (1)	0	0	0	0	0	0	0	0	0				
	Sub-total other new investments (2)	933 777	933 777	1 779 000	3 357 000	51 084 000	57 042 000	57 211 000						
	Sub-total existing investments (3)			123 213 000	176 563 000	179 474 000	179 146 000	184 776 000						
	Total new and existing investments (1) + (2) + (3)	933 777	933 777	124 992 000	179 920 000	230 558 000	236 188 000	241 987 000						

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

2.2.2 - Detail of new major investments

NOTE: Section 1.3 (Stakeholder Consultation) should include details on the consultation with airspace users' representatives on new major investments.

Name of new major investment 1	Total value of the asset	0 000 €
Description of the asset	There's no investment above 5 M€.	
The investment is mandated by a SES Regulation (i.e. PCP/CPJ/Interoperability)?	Click to select	
Specify links to the PCP/CPJ/Interoperability Regulations (add the sub-AF number(s) under each relevant box)	AF1	AF2 AF3 AF4 AF5 AF6 Interoperability
Level of impact of the investment	Network Local	
Quantitative impact per RPA	Non-performance Safety Environment Capacity Cost Efficiency	
Benefits for airspace users and results of the consultation of airspace users' representatives		
Joint investment / partnership	Click to select	
Investment in ATM systems	Click to select	

If investment in ATM system, type?	Click to select
If investment in ATM system, Reference to European ATM Master Plan / PCP	Click to select

2.2.3 - Other new and existing investments

2.2.3.1 - Overall description and justification of the costs nature and benefits of other new and existing investments in fixed assets planned over the reference period

From 1 January 2022, HMS will take over all aeronautical meteorological activities of HungaroControl and all related material resources, rights and obligations necessary for the operation of Budapest Liszt Ferenc International Airport and the provision of air traffic services in Hungarian airspace. The airport meteorological station and other equipment necessary for the aeronautical meteorological service are purchased by OMSZ within the framework of the public procurement procedure, the depreciation of the aeronautical meteorological equipment is included in the OMSZ's costs. Spare meteorological sensors and IT tools also required for the high-level operation of the meteorological measurement will be procured at the expense of the annual investment framework. Net estimated value of meteorological measuring systems is 287,000,000 HUF contains AWOS (automatic meteorological measurement system), SODAR / RASS (wind radar), Aero Weather (meteorological data processing and display system).

2.2.3.2 - Details of the main other new investments in fixed assets planned over the reference period

Number of new other investments: 2

#	Name of investment	Total value of the asset (capex or contractual leasing value)	Value of the assets allocated to ANS in the scope of the PP	Determined costs of investment (i.e. depreciation, cost of capital and cost of leasing) (in national currency)					Description
				2020	2021	2022	2023	2024	
1	Procurement of airport meteorological station	795 234	795 234	0	0	46 023 000	50 328 000	48 893 000	Airport meteorological station and other equipment necessary for the aeronautical meteorological service
2	Procurement of spare parts	138 543	138 543	1 779 000	3 357 000	5 061 000	6 714 000	8 318 000	Spare parts (IT, meteorological sensors) for the operation

SECTION 3: PERFORMANCE TARGETS AND MEASURES FOR THEIR ACHIEVEMENT

3.1 - Safety targets

- 3.1.1 - Safety KPI #1: Level of Effectiveness of Safety Management achieved by ANSPs

3.2 - Environment targets

- 3.2.1 - Environment KPI #1: Horizontal en route flight efficiency (KEA)

3.3 - Capacity targets

- 3.3.1 - Capacity KPI #1: En route ATFM delay per flight
- 3.3.2 - Capacity KPI #2: Terminal and airport ANS ATFM arrival delay per flight

3.4 - Cost efficiency targets

- 3.4.1 - Cost efficiency KPI #1: Determined unit cost (DUC) for en route ANS
En Route Charging Zone #x
- 3.4.2 - Cost efficiency KPI #2: Determined unit cost (DUC) for terminal ANS
Terminal Charging Zone #x
- 3.4.3 - Pension assumptions
- 3.4.4 - Interest rate assumptions for loans financing the provision of air navigation services
- 3.4.5 - Restructuring costs
- 3.4.6 - Additional determined costs related to measures necessary to achieve the en route capacity targets

3.5 - Additional KPIs / Targets

3.6 - Description of KPAs interdependencies and trade-offs including the assumptions used to assess those trade-offs

- 3.6.1 - Interdependencies and trade-offs between safety and other KPAs
- 3.6.2 - Interdependencies and trade-offs between capacity and environment
- 3.6.3 - Interdependencies and trade-offs between cost-efficiency and capacity
- 3.6.4 - Other interdependencies and trade-offs

Annexes of relevance to this section

- ANNEX A. REPORTING TABLES & ADDITIONAL INFORMATION (EN-ROUTE)
- ANNEX B. REPORTING TABLES & ADDITIONAL INFORMATION (TERMINAL)
- ANNEX F. BASELINE VALUES (COST-EFFICIENCY)
- ANNEX H. RESTRUCTURING MEASURES AND COSTS
- ANNEX M. COST ALLOCATION
- ANNEX J. OPTIONAL KPIs AND TARGETS
- ANNEX O. JUSTIFICATIONS FOR THE LOCAL SAFETY TARGETS
- ANNEX P. JUSTIFICATIONS FOR THE LOCAL ENVIRONMENT TARGETS
- ANNEX Q. JUSTIFICATIONS FOR THE LOCAL CAPACITY TARGETS
- ANNEX R. JUSTIFICATIONS FOR THE LOCAL COST-EFFICIENCY TARGETS
- ANNEX U. VERIFICATION BY THE NSA OF THE COMPLIANCE OF THE COST BASE

SECTION 3.1: SAFETY KPA

3.1 - Safety targets

- 3.1.1 - Safety KPI #1: Level of Effectiveness of Safety Management achieved by ANSPs
 - a) Safety national performance targets
 - b) Detailed justifications in case of inconsistency between local and Union-wide safety targets
 - c) Main measures put in place to achieve the safety performance targets

Annexes of relevance to this section

ANNEX O. JUSTIFICATIONS FOR THE LOCAL SAFETY TARGETS

3 - PERFORMANCE TARGETS AT LOCAL LEVEL

3.1 - Safety targets

3.1.1 - Safety KPI #1: Level of Effectiveness of Safety Management achieved by ANSPs

a) Safety performance targets

Number of Air Traffic Service Providers		1					
Hungarocontrol		2020A	2020	2021	2022	2023	2024
	Safety policy and objectives	Actual	Target	Target	Target	Target	Target
	Safety risk management	D	C	C	C	D	D
	Safety assurance	D	C	C	C	C	C
	Safety promotion	D	C	C	C	C	C
	Safety culture	C	C	C	C	C	C
	Additional comments						

b) Detailed justifications in case of inconsistency between local and Union-wide safety targets

The revised targets correspond to the Commission Implementing Decision (EU) 2019/903 of 29 May 2019. At the same time, we are aiming at sustaining our maturity levels achieved above the targets to the extent which is reasonably possible.

* Refer to Annex O, if necessary.

c) Main measures put in place to achieve the safety performance targets

HungaroControl performs its IV. Safety Program (2020-2024) which assures the maintenance of current state of its SMS and covers developments in Technology, HF related issues, Compliance and Performance Monitoring, Cyber and Data safety, Safety II application and in Just and Safety Culture. The fourth Programme supports the achievements of RP3 targets and contains 70 actions such as inter alia: implementation of a new ATM system; implementation of an electronic AIP editor system; implementation of sector complexity tool for planning the workload distribution when manning the ATC sectors; development and implementation of a new sectorisation scheme for en-route regarding the traffic flow changes; development of new simulation exercises for annual refresher and contingency trainings for ATCOs; implementation of a new automated rostering support system; continuous improvement of the cyber security activities; implementation of SWIM concept with the necessary technical and data protection measures according to the ATM Masterplan; improvement of surveillance by installing ADS-B receivers for a higher accuracy of target detection aiming at WAM in the TMA of LHBP; implementation of radio direction finder system for the better situational awareness of ATCOs; changing the controllers working consoles for more ergonomic ones, implementation of Fatigue Risk Management System for ATC staff. Regarding the SMS operation regular awareness trainings will continue, and new electronic record keeping system will be implemented for monitoring the validity of different licences issued by the authorities for HungaroControl operations. The electronic safety information hub (Safety Terminal) will be upgraded for mobile access. National cooperation with GA and MIL and international cooperation at FAB, EUROCONTROL or CANSO level will continue.

* Refer to Annex O, if necessary.

SECTION 3.2: ENVIRONMENT KPA

3.2 - Environment targets

- 3.2.1 - Environment KPI #1: Horizontal en route flight efficiency (KEA)
 - a) Environment national performance targets
 - b) Detailed justifications in case of inconsistency between national targets and national reference values
 - c) Main measures put in place to achieve the environment performance targets

Annexes of relevance to this section

ANNEX P. JUSTIFICATIONS FOR THE LOCAL ENVIRONMENT TARGETS

3.2 - Environment targets

3.2.1 - Environment KPI #1: Horizontal en route flight efficiency (KEA)

a) National environment performance targets

	2020A	2020	2021	2022	2023	2024
National reference values	1,51%	n/a	1,50%	1,49%	1,49%	1,49%

	2020	2021	2022	2023	2024
National targets	Target 1,45%	Target 1,50%	Target 1,49%	Target 1,49%	Target 1,49%

b) Detailed justifications in case of inconsistency between national targets and national reference values

Due to the fact that HungaroControl has introduced the free route system 7 years before the deadline and since then has been working very actively at regional level to expand the cross border free route system there is no inconsistency between national targets and national reference values.

It is worth noting that in the future HungaroControl will have very limited possibilities for additional improvement of the horizontal en-route flight efficiency.

This is basically because flight planning mostly depend on other factors which are outside of any ANSP's control.

Such a factors are (e.g.):

- Airspace users' operational decision using the "flight plan optimisation principle", when deciding the actual trajectories of an individual flight,
- Airspace availability along the planned trajectory, taking into account the active military exercise areas,
- Weather, especially the upper wind conditions,
- Possible NM measures resulting in mandatory re-routings and avoidance of congested area in EU/EUROCONTROL airspaces,
- Crisis situations on the external borders of CFMU area.

** Refer to Annex P, if necessary.*

c) Main measures put in place to achieve the environment performance targets

HungaroControl successfully implemented 24/7 Free Route Operations in the Hungarian airspace (FL095 – FL660) on the 5th of February 2015. Since that Hungary participated in the following cross border FRA initiatives:

- Cross border night FRA with Romania in August 2015,
- Cross border night FRA extended towards Bulgarian airspace in 2017 (SEEN FRA),
- Slovakia joined SEEN FRA in 2018,
- SEEN FRA turned into SEE FRA (FRA in H24) in November 2019 with participation of 3 founding states,
- Slovakia joined SEE FRA in January 2021,

According to the plans listed also in the European Route Network Improvement Plan (ERNIP) – Part 2 ARN Version 2021 – 2030 document, further expansion of SEE FRA is expected in 2022.

With this step Moldova, and the entire Baltic FRA, including the Poland and Lithuania will become part of a large free route system, starting from the Black-sea up to the Baltic-sea.

The next steps will be the merge of the two large FRA areas (SECSI FRA and SEE FRA) but this step is planned only after 2025.

** Refer to Annex P, if necessary.*

SECTION 3.3: CAPACITY KPA

3.3 - Capacity targets

3.3.1 - Capacity KPI #1: En route ATFM delay per flight

- a) Capacity national performance targets
- b) Detailed justifications in case of inconsistency between national targets and national reference values
- c) Main measures put in place to achieve the target for en-route ATFM delay per flight
- d) ATCO planning

3.3.2 - Capacity KPI #2: Terminal and airport ANS ATFM arrival delay per flight

- a) Capacity national performance targets
- b) Contribution to the improvement of the European ATM network performance
- c) Main measures put in place to achieve the target for terminal and airport ANS ATFM arrival delay per flight

Annexes of relevance to this section

ANNEX Q. JUSTIFICATIONS FOR THE LOCAL CAPACITY TARGETS

3.3 - Capacity targets

3.3.1 - Capacity KPI #1: En route ATFM delay per flight

a) National capacity performance targets

	2020A	2020	2021	2022	2023	2024
National reference values	0,00	n/a	0,06	0,11	0,11	0,11

	2020	2021	2022	2023	2024
National targets	0,90	0,06	0,11	0,11	0,11

b) Detailed justifications in case of inconsistency between national targets and national reference values

There is no inconsistency between national reference values and National targets.

* Refer to Annex Q, if necessary.

c) Main measures put in place to achieve the target for en-route ATFM delay per flight

In the Key Performance Area of Capacity, the forecasted reduced traffic levels in years 2022 and 2023 builds a good basis for Hungary to meet the local targets consistent with the NM's reference values. The performance plan includes the key projects to continue capacity increases to make sure that in 2024, when traffic is forecasted to go above the 2019 level, HungaroControl will be able to handle the traffic without significant ATFM delays despite the further increase of traffic complexity.

There are some main measures put in place to achieve the target for en-route ATFM delay per flight for RP3 and beyond.

The most important project is the "Budapest ACC re-organisation" project, which is also listed in the European Route Network Improvement Plan (ERNIP) – Part 2 ARN Version 2021 – 2030 document.

The main goal of the project is to redesign the sectorization on the East part of the country, in order to better meet the increasing demand as a consequence of the enhancement of cross border free route system, called SEE FRA.

As a result of the "Budapest ACC re-organisation" project Budapest ACC's capacity and flexibility will increase by adding more possibilities for modular sector configurations.

It is also anticipated that an additional capacity will be gained from the Budapest TMA optimisation project which had been completed before COVID-19 pandemic, by reducing the complexity in the lower airspace of the ACC sectors.

Another important contributor to the capacity improvement is the staffing. In this respect HungaroControl is planning to implement two important measures. The seasonal, weekly and daily fluctuations of traffic at Budapest ACC are very significant, therefore the adjustment of the duty rostering of air traffic controllers to the traffic demand has a high priority.

The highest peaks in traffic occur at midday during summer weekends, when traffic demand more than doubles compared to the winter period and this requires proper allocation/adjustment of ATCO resources.

By this adjustment the daily available number of ATCOs will track the variation in traffic, both seasonally and within a day or week.

The second important measure is the training programme of new ATCOs, which will continue after the COVID-19 pandemic and as a result of the increased training efficiency the success rate is improving.

It is unrealistic to increase capacity without modern, state of the art ATM system components

The upgrade of the following ATM System elements will contribute directly to the safety and capacity improvements for the years of RP3:

- continuous upgrade of the MATIAS ATM system, which includes the implementation of Radio Direction Finder function,
- implementation of Complexity tool,
- implementation of direct connection of the LARA ASM tool to MATIAS ATM system,
- implementation of the improved flow and capacity management techniques, like STAM Phase 1 and 2.

* Refer to Annex Q, if necessary.

d) ATCO planning

	Actual			Planning			
	2018	2019	2020	2021	2022	2023	2024
Budapest (LHCC ACC)							
Number of additional ATCOs in OPS planned to start working in the OPS room (FTEs)	4	5	0	13	13	0	6
Number of ATCOs in OPS planned to stop working in the OPS room (FTEs)	5	6	5	3	5	3	3
Number of ATCOs in OPS planned to be operational at year-end (FTEs)	107	106	101	111	119	116	119

Additional comments

*It is worth mentioning that HungaroControl is responsible for air traffic control in the upper airspace of Kosovo (over FL205), according to the agreement between the Government of Hungary and NATO.
This task is performed by the same ACC licensed ATCO personnel who provide ATS services in the sectors of Budapest ACC.
On this basis, the KFOR sector should be considered as an additional sector operating H24 in Budapest ACC.*

3.3.2 - Capacity KPI #2: Terminal and airport ANS ATFM arrival delay per flight

a) National capacity performance targets

	2020A	2020	2021	2022	2023	2024
	Actual	Target	Target	Target	Target	Target
National targets	0,08	0,05	0,05	0,05	0,05	0,05
Additional comments						
Airport level	LHBP-Budapest/Ferihegy					
	Airport contribution to national targets					
	0,08	0,05	0,05	0,05	0,05	0,05

b) Contribution to the improvement of the European ATM network performance

HungaroControl has fully implemented the A-CDM with Budapest Airport which is highly contributing to the airport operations efficiency and to the European ATM network performance. In addition, airport operations are planned to be integrated with Network strategic planning and day to day operations by the implementation of Departure Planning Information message (DPI).

* Refer to Annex Q, if necessary.

c) Main measures put in place to achieve the target for terminal and airport ANS ATFM arrival delay per flight

Optimization of Budapest Terminal Airspace has been completed in January 2020. The new airspace concept, the enhanced civil-military cooperation and the redesigned SIDs and STARs will have positive effects on traffic management already in the first years of RP3. Within the scope of the optimization of Budapest Terminal Airspace project HungaroControl has reorganized the entire TMA airspace and its procedures in order to meet AUs needs, to enhance compliance with environmental aspects and to increase terminal capacity.

* Refer to Annex Q, if necessary.

SECTION 3.4: COST-EFFICIENCY KPA

3.4 - Cost efficiency targets

- 3.4.1 - Cost efficiency KPI #1: Determined unit cost (DUC) for en route ANS
 - En Route Charging Zone #x
 - a) RP3 revised cost-efficiency performance targets (IR 2020/1627)
 - b) Information on the baseline values for the determined costs and the determined unit costs
 - c) Detailed justifications for the adjustments to the baseline values
 - d) Where a deviation from the Union-wide performance targets is observed, please indicate if the NSA considers those deviations to be necessary and proportionate
 - e) Main measures put in place to achieve the targets for determined unit cost (DUC) for en route ANS
 - f) Findings of the verification by the NSA (under Art. 22(7) of IR 2019/317) of the compliance of the cost base for charges with the requirements of Article 15(2) of Reg. 550/2004 and Article 22 of IR 2019/317, and where applicable identification of
- 3.4.2 - Cost efficiency KPI #2: Determined unit cost (DUC) for terminal ANS
 - Terminal Charging Zone #x
 - a) RP3 revised cost-efficiency performance targets (IR 2020/1627)
 - b) Information on the baseline values for the determined costs and the determined unit costs
 - c) Detailed justifications for the adjustments to the baseline values
 - d) Main measures put in place to achieve the targets for determined unit cost (DUC) for terminal ANS
 - e) Findings of the verification by the NSA (under Art. 22(7) of IR 2019/317) of the compliance of the cost base for charges with the requirements of Article 15(2) of Reg. 550/2004 and Article 22 of IR 2019/317, and where applicable identification of
- 3.4.3 - Pension assumptions
 - 3.4.3.1 Total pension costs
 - 3.4.3.2 Assumptions for the "State" pension scheme
 - 3.4.3.3 Assumptions for the occupational "Defined contributions" pension scheme
 - 3.4.3.4 Assumptions for the occupational "Defined benefits" pension scheme
- 3.4.4 - Interest rate assumptions for loans financing the provision of air navigation services
- 3.4.5 - Restructuring costs
 - 3.4.5.1 Restructuring costs from previous reference periods to be recovered in RP3
 - 3.4.5.2 Restructuring costs planned for RP3
- 3.4.6 - Additional determined costs related to measures necessary to achieve the en route capacity targets
 - a) Overall description of the measures necessary to achieve the en-route capacity targets for RP3, which induce additional costs
 - b) Detailed information on the additional costs of measures necessary to achieve the capacity targets for RP3
 - c) Detailed information on the additional costs of measures necessary to achieve the capacity targets for RP3 by nature by ANSP
 - d) Demonstration that the deviation from the Union-wide targets is exclusively due to the additional determined costs related to measures necessary to achieve the performance targets in capacity

Annexes of relevance to this section

- ANNEX A. REPORTING TABLES & ADDITIONAL INFORMATION (EN-ROUTE)
- ANNEX B. REPORTING TABLES & ADDITIONAL INFORMATION (TERMINAL)
- ANNEX F. BASELINE VALUES (COST-EFFICIENCY)
- ANNEX H. RESTRUCTURING MEASURES AND COSTS
- ANNEX M. COST ALLOCATION
- ANNEX R. JUSTIFICATIONS FOR THE LOCAL COST-EFFICIENCY TARGETS
- ANNEX U. VERIFICATION BY THE NSA OF THE COMPLIANCE OF THE COST BASE

NOTE: The following requirements as per Annex II, 3.3 are addressed in the Annexes A and B:

- Point 3.3 (d) on cost-allocation;
- Point 3.3 (e) on the return on equity and cost of capital;

- Point 3.3 (f) on assumptions for pension costs and interest on debt for other entities, inflation forecast and adjustments beyond IFRS;
- Point 3.3 (g) on adjustments to the unit rates carried over from previous reference periods;
- Point 3.3 (h) on costs exempt from cost-sharing;
- Point 3.3 (k) reporting tables and additional informations.

3.4 - Cost efficiency targets

3.4.1 - Cost efficiency KPI #1: Determined unit cost (DUC) for en route ANS

En Route Charging Zone #1 - Hungary

a) RP3 revised cost-efficiency performance targets (IR 2020/1627)

En route charging zone Name of the CZ	Baseline 2014		Baseline 2019		RP3 revised cost-efficiency targets (determined 2020-2024)				2024 D vs. 2014 B	2024 D vs. 2019 B
	2014 B	2014 A	2019 B	2019 A	2020/2021 D	2022 D	2023 D	2024 D		
Total en route costs in nominal terms (in national currency)	25 085 926 998		32 092 923 833		60 211 941 787	38 458 992 221	39 239 032 047	40 877 334 912	62.9%	27.4%
Total en route costs in real terms (in national currency at 2017 prices)	25 631 483 369		30 623 645 351		55 522 028 094	34 177 552 178	34 118 483 949	34 826 054 863	35.9%	13.7%
Total en route costs in real terms (in EUR2017) ¹	82 951 664		99 107 894		179 687 009	110 609 471	110 418 307	112 708 232	35.9%	13.7%
YoY variation					81.3%	-36.4%	-0.2%	2.1%		
Total en route Service Units (TSU)	2 151 094		3 123 971		3 149 705	2 419 349	2 881 187	3 181 615	47.9%	1.8%
YoY variation					0.8%	-23.2%	19.1%	10.4%		
Real en route unit costs (in national currency at 2017 prices)	11 915,56		9 802,79		17 627,69	14 126,76	11 841,82	10 946,03	-8,1%	11,7%
Real en route unit costs (in EUR2017) ¹	38,56		31,72		57,05	45,72	38,32	35,42	-8,1%	11,7%
YoY variation					79,8%	-19,9%	-16,2%	-7,6%		

National currency

HUF

¹ Average exchange rate 2017 (1 EUR=)

308,993

b) Information on the baseline values for the determined costs and the determined unit costs

En route charging zone Name of the CZ	Baseline 2014		Baseline 2019		Actuals 2014		Actuals 2019		2014 Baseline adjustments	2019 Baseline adjustments
	2014 B	2014 A	2019 B	2019 A	2014 A	2019 A	2019 A	2019 A		
Total en route costs in nominal terms (in national currency)	25 085 926 998		32 092 923 833		25 085 926 998	31 519 742 783			0	573 181 050
Total en route costs in real terms (in national currency at 2017 prices)	25 631 483 369		30 623 645 351		25 631 483 369	30 084 934 268			0	538 711 083
Total en route costs in real terms (in EUR2017) ¹	82 951 664		99 107 894		82 951 664	97 364 452			0	1 743 441
Total en route Service Units (TSU)	2 151 094		3 123 971		2 407 742	3 161 594			-256 648	-37 623

c) Detailed justifications for the adjustments to the baseline values

c.1) Adjustments to the 2014 baseline value for the determined costs

Number of adjustments	0
-----------------------	---

c.2) Adjustments to the 2014 service units

Impact of transition to actual route flow	Coefficient MZ/M3	Source	Service units
	-1,19%	CRCO correction factor May 2019 (on 12 months)	-28 652

Other adjustment to the 2014 service units

Yes

Impact of crisis in Ukraine correction

Yes

Description and justification of the adjustment

Service units

-227 996

Due to the Ukrainian crises and the tragedy of the Malaysia Airlines MH17 flight international air traffic started to avoid the Ukrainian airspace from Q3 2014. Because of these events the Hungarian traffic increased significantly (+20-25% on annual basis, thus more than 10% in the second half of 2014) in the second half of the year while naturally a corresponding cost increase cannot be observed yet in 2014. This effect clearly distorts the baseline DUC. Adjusted service unit figure is in line with the last STATFOR forecast for the full year of 2014, i.e. 2013 September STATFOR baseline value.

Total adjustments to the 2014 service units -256 648

c.3) Adjustments to the 2019 baseline value for the determined costs

Adjustment #1	Entity name	Entity type	Nature	Costs nominal NC	Costs real NC	Costs EUR2017
Early retirement scheme correction	HungaroControl	ANSP	Staff	573 181 050	538 711 083	1 743 441
Description and justification of the adjustment						
<p>The cost of state early retirement scheme was part of the RP2 cost base, but since the scheme was terminated by law at the end of 2014 (thus after the submission of RP2 plans), the corresponding costs were classified as cost exempt, and will be reimbursed to users consequently. As a result, at the end of RP2, in the actual costs of 2019, no related costs were included. Although the statutory early retirement scheme was abolished generally in Hungary, the need for such a scheme in the ANS business still existed, and it was more the case compared to other ANSP's (especially with defined benefit schemes). Based on studies referred in Annex R there is an increased safety hazard related to the ageing of ATCOs, consequently financially incentivising ATCOs to retire early is a cost efficiency - safety trade-off where safety shall prevail. In Hungary ATCOs are generally not entitled to any kind of pension from the State before the official age of retirement any more, therefore a private solution is needed.</p> <p>However, after consultation with EC, the planned costs for the early retirement scheme in RP2 were not possible to be used (transformed) for an occupational pension scheme, so there was no way to finance the reintroduction of the scheme as part of the Hungarian cost base before RP3.</p> <p>Consequently, instead of the statutory early retirement scheme, an occupational early retirement scheme, with the same magnitude on costs, will be re-introduced in RP3. That means, the decrease of costs in RP2 due to the elimination of the statutory early retirement scheme was of temporary nature from which airspace users benefit for several years). Moreover, as part of the measures after the outbreak of the pandemic, the reintroduction of the scheme was postponed for another years.</p> <p>Since the comparison of RP2 and RP3 costs – thus the trend for RP3 – would be distorted if the effect of this temporary cost reduction would not be adjusted for, the baseline value calculation for 2019 was extended for taking into account the costs of the early retirement scheme as well (as this the case in the baseline in 2014).</p> <p>The amount used as baseline correction is 13% early retirement contribution on the wages and salaries of ATCOs related to an route service provision in 2019. The determined tax base on which the 13% contribution would have been applied was 4 409 085 HUF for 2019, resulting 573 181 THUF planned early retirement cost.</p>						
				Costs nominal NC	Costs real NC	Costs EUR2017
				573 181 050		

c.4) Adjustments to the 2019 service units

Impact of transition to actual route flown	Coefficient MZ/M3	Source	Service units
	-1,19%	CRCO correction factor May 2019 (on 12 months)	-37 623
Other adjustment to the 2019 service units			No
Total adjustments to the 2019 service units			-37 623

d) Description and justification of the consistency between local and Union-wide cost-efficiency targets

Taking into account costs related to capacity improvement, local cost-efficiency targets are consistent with the union wide targets (please see details under 3.4.6. point). Moreover, the Hungarian cost-efficiency target's consistency is further supported by other factors, first of all by the significant advantage the Hungarian DUC shows compared to it's Comparator Group's average (by 22%).

Relevant factors for the assessment of consistency:

- Capacity related costs (data on sheet 3.4.6. point d) As further detailed in sheet 3.4.6. two types of capacity increasing costs were identified, one related to the increase in the number of ATCOs, and one related to the improvement of technology contributing to the productivity of the provided service. Without these capacity related costs, the sum of real en-route DC of Hungary would be 145,15 bn HUF, which is lower than the Hungarian real en-route DC expected by the EC (147,2 bn HUF). Moreover without these capacity related costs, the Hungarian DUC value would be lower than the Hungarian DUC based on the Union-wide trend in each year of RP3.
- Comparator group average As prescribed by the Performance regulation Annex IV the comparison of the baseline value for the determined unit cost with the corresponding average value of the comparator group should be taken into account. By this it is possible to refine the union-wide general cost-efficiency target from a one-size-fits-all approach, to a more tailor-made approach, where already achieved relative local efficiency advantages can be duly taken into account. Based on the baseline value (2019 actual figures) the Hungarian DUC is 22% lower than the comparator group's average (which is otherwise among the lowest comparator group's averages in the EU). This significant difference shows, that Hungary is considerably ahead in terms of cost efficiency compared to its comparators, and this difference should be duly acknowledged in the national target setting process. Otherwise Hungary would suffer from its relatively better performance from the past, if we have to deliver the same order of magnitude in cost efficiency improvement.
- Cumulative approach (data on sheet 3.4.6. point d) When assessing RP3 performance, and especially under the current, pandemic influenced circumstances, already delivered (2020/2021) performance - that is well above, what is required by the approved union-wide cost-efficiency targets - shall be duly acknowledged. In our view, countries, which have responded to the challenges of the pandemic by appropriate measures, have a solid basis for an assessment, that takes into account this overperformance for the remaining years of the RP.

The real DC and DUC value of Hungary is lower than the Union-wide target in 2020&2021, while it is higher in the last years of RP3. Since the carry overs stemming from the unit rate differences of 2020&2021 are reimbursed partially in 2023 and 2024, this means, that users will directly benefit from this overperformance in 2020&2021 already in the coming years. Furthermore - as described in 3.4.6. point - the sum of real en-route DC of Hungary (158,1 bn HUF) is higher than it would be if the real en-route DC of each year were 3%, 6%, 4%, 3% lower than the value of 2019 respectively (147,2 bn HUF), but the difference is lower than the sum of real capacity related costs (12,95 bn HUF). The Hungarian average DUC for RP3 (14-594) is lower than it would be if DUC values were based on the Union-wide trend (15 620).

- Exchange rate A further factor for the assessment of the Hungarian performance is, that the exchange rate in the last years for the Hungarian Forint has deteriorated against the EUR by significantly more, than it would

* Refer to Annex R, if necessary.

c) Where a deviation from the Union-wide performance targets is observed, please indicate if the NSA considers those deviations to be necessary and proportionate under:

Additional costs of measures necessary to achieve the capacity targets for RP3 Restructuring costs planned for RP3	Yes	No

f) Main measures put in place to achieve the targets for determined unit cost (DUC) for en route ANS

Due to savings during the pandemic, in 2020 and 2021 a significant decrease can be observed compared to the initial draft performance plan. Due to the traffic decrease planned headcount increase was stopped, and non-ATCO headcount was frozen. Staff costs are in line with current (significantly reduced compared to plan) trade union agreements. Negotiations with trade unions still ongoing, especially for ATCO's to link benefits to a higher degree to traffic evolution. Concerning the operating costs several measures were introduced to respond to the financial effects of the COVID-19 pandemic (cost cuts in training, advisory services, travel, communication, IT, R&D, liability insurance, property management, support services, local taxes). Although, as detailed in the Reporting tables, parallel to the recovery of traffic costs will return to their previous levels till 2024, however costs are planned to be well below those levels previously forecasted for the last years of RP3.

The implemented measures generally didn't influence CAPEX programs, which - with additional changes due to useful life differences compared to plan, and price increases due FX effect - led to higher depreciation.

The cost of capital of 2020 does not contain any market risk premium for return on equity, since full cost coverage is assumed, and due to the partly mitigated risk, also in 2021 the market risk premium is only 50% of the value applicable in the remaining years of RP3. Based on optimal capital structure assumption, cost of capital is calculated taking into account debt and equity costs.

* Refer to Annex R, if necessary.

g) Findings of the verification by the NSA (under Art. 22(7) of IR 2019/317) of the compliance of the cost base for charges with the requirements of Article 15(2) of Reg. 550/2004 and Article 22 of IR 2019/317, and where applicable identification of corrections applied to the cost base as a result of this verification

NSA verifies the revised determined data regularly by auditing financial accounts, financial statements complying with the requirement of IR 2019/317.

* Refer to Annex U, if necessary.

3.4.2 - Cost efficiency KPI #2: Determined unit cost (DUC) for terminal ANS

Terminal Charging Zone #1 - Hungary - TCZ

a) RP3 revised cost-efficiency performance targets (IR 2020/1627)

Terminal charging zone Name of the CZ	Baseline 2019		RP3 revised cost-efficiency targets (determined 2020-2024)				2024 D vs. 2019 B
	2019 B	2020/2021 D	2022 D	2023 D	2024 D	2024 D	
Total terminal costs in nominal terms (in national currency)	5 734 804 061	10 979 085 246	7 574 897 694	8 784 670 551	9 722 701 447	69,5%	
Total terminal costs in real terms (in national currency at 2017 prices)	5 451 237 935	10 058 978 132	6 691 445 503	7 741 099 280	8 469 413 653	55,4%	
Total terminal costs in real terms (in EUR2017) ¹	17 641 946	32 554 065	21 655 654	25 052 669	27 409 727	55,4%	
YoY variation		84,5%	-33,5%	15,7%	9,4%		
Total terminal Service Units (TNSU)	79 925	65 896	57 181	69 033	81 748	2,3%	
YoY variation		-17,6%	-13,2%	20,7%	18,4%		
Real terminal unit costs (in national currency at 2017 prices)	68 204,55	152 650,22	117 022,91	112 135,67	103 603,43	51,9%	
Real terminal unit costs (in EUR2017) ¹	220,73	494,02	378,72	362,91	335,29	51,9%	
YoY variation		123,8%	-23,3%	-4,2%	-7,6%		

National currency	HUF
¹ Average exchange rate 2017 (1 EUR=)	308,993

b) Information on the baseline values for the determined costs and the determined unit costs

Terminal charging zone Name of the CZ	Baseline 2019	Actuals 2019	2019 Baseline adjustments
	2019 B	2019 A	
Total terminal costs in nominal terms (in national currency)	5 734 804 061	5 527 882 541	206 921 520
Total terminal costs in real terms (in national currency at 2017 prices)	5 451 237 935	5 256 760 264	194 477 672
Total terminal costs in real terms (in EUR2017) ¹	17 641 946	17 012 555	629 392
Total terminal Service Units (TNSU)	79 925	79 925	0

c) Detailed justifications for the adjustments to the baseline values

						Number of adjustments	
						1	
Adjustment #1	Entity name	Entity type	Nature	Costs nominal NC	Costs real NC	Costs EUR2017	
Early retirement scheme correction	HungaroControl	ANSP	Staff	206 921 520	194 477 672	629 392	
Description and justification of the adjustment							
See En route part.							

Total adjustments to the 2019 baseline value for the determined costs	Costs nominal NC	Costs real NC	Costs EUR2017
	206 921 520	194 477 672	629 392

c.2) Adjustments to the 2019 service units

Adjustment to the 2014 service units	No
	No

d) Description and justification of the contribution of the local targets to the performance of the European ATM network

Due to the high rate of common costs the value of terminal DUC depends on the magnitude of en route costs. The overall intention to increase capacity has a significant impact on the value of terminal DUC as well, the CAGR of RP3 would be 7 percentage point lower if the capacity increasing costs were not taken into account. Also, the change in exchange rate has a similar impact on the terminal as on the en-route part.

Impact of capacity related measures on local cost efficiency target (000 national currency)	2019	2020	2021	2022	2023	2024	Total	Average
Additional costs of capacity related measures								
Staff	119 439	219 271	697 642	1 683 858	2 488 425	5 208 635		
Other operating costs	19 668	17 585	43 028	56 409	183 727	191 721		
Depreciation	70 722	8 358	174 542	86 627	191 721	1 570 468		
Cost of capital	0	101 394	192 541	1 050 971	542 509	125,5		
Inflation index (2017)	29 049	91 934	287 531	489 851	121,9	82		
Total en route Service Units	110,0	31	33	57	69	82		
Real terminal costs	5 451 238	4 859 542	5 199 436	6 691 446	7 741 099	8 469 414	32 960 937	
Real terminal unit costs	68 205	156 611	156 611	117 023	112 136	103 603	129 197	
YoY variation		130%	0%	-25%	-4%	-8%	8,7%	
Real additional costs of capacity related measures	111 210	216 083	664 441	1 658 203	2 412 020	5 061 957		
Real terminal costs without the additional cost of capacity related measures	4 748 332	4 983 353	6 027 004	6 082 897	6 057 393	27 898 980		
Real terminal unit costs without the additional cost of capacity related measures	68 205	151 515	105 403	88 115	74 098	114 129		
YoY variation	122%	0%	-30%	-16%	-16%	1,7%		

* Refer to Annex R, if necessary.

e) Main measures put in place to achieve the targets for determined unit cost (DUC) for terminal ANS

See under en-route part.

* Refer to Annex R, if necessary.

f) Findings of the verification by the NSA (under Art. 22(7) of IR 2019/317) of the compliance of the cost base for charges with the requirements of Article 15(2) of Reg. 550/2004 and Article 22 of IR 2019/317, and where applicable identification of corrections applied to the cost base as a result of this verification

NSA verifies the revised determined data regularly by auditing financial accounts, financial statements complying with the requirement of IR 2019/317.

* Refer to Annex U, if necessary.

3.4.3 - Pension assumptions

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3.4.3.1 Total pension costs (in nominal terms in '000 national currency)

Pension costs	2020D	2021D	2020/2021D	2022D	2023D	2024D
Total pension costs	3 114 758	3 069 765	6 184 522	4 259 498	4 375 389	4 535 349
En-route activity	2 557 493	2 498 493	5 055 986	3 412 581	3 488 244	3 646 064
Terminal activity	557 265	571 272	1 128 536	846 917	887 144	889 285
Other activities			-			

3.4.3.2 Assumptions for the "State" pension scheme (in nominal terms in '000 national currency)

Are there different contribution rates for different staff categories? If yes, how many? No

<Staff category name>	2020D	2021D	2020/2021D	2022D	2023D	2024D
Total pensionable payroll to which this scheme applies			-			
Employer % contribution rate to this scheme						
Total pension costs in respect of this scheme	2 335 769	2 267 528	4 603 298	2 581 004	2 651 692	2 769 048
Number of employees the employer contributes for in this scheme	782	738		737	751	759

<Staff category name>	2020D	2021D	2020/2021D	2022D	2023D	2024D
Total pensionable payroll to which this scheme applies			-			
Employer % contribution rate to this scheme						
Total pension costs in respect of this scheme						
Number of employees the employer contributes for in this scheme						

<Staff category name>	2020D	2021D	2020/2021D	2022D	2023D	2024D
Total pensionable payroll to which this scheme applies			-			
Employer % contribution rate to this scheme						
Total pension costs in respect of this scheme						
Number of employees the employer contributes for in this scheme						

<Staff category name>	2020D	2021D	2020/2021D	2022D	2023D	2024D
Total pensionable payroll to which this scheme applies			-			
Employer % contribution rate to this scheme						
Total pension costs in respect of this scheme						
Number of employees the employer contributes for in this scheme						

<Staff category name>	2020D	2021D	2020/2021D	2022D	2023D	2024D
Total pensionable payroll to which this scheme applies			-			
Employer % contribution rate to this scheme						
Total pension costs in respect of this scheme						
Number of employees the employer contributes for in this scheme						

Description on the relevant national pension regulations and pension accounting regulations on which the assumptions are based, as well as information whether changes of those regulations are to be expected during RP3
 Social contribution tax on income wages and certain fringe benefits:
 - From 01/01/2020 to 06/30/2020: 17,5%
 - From 01/07/2020 to 30/06/2022: 15,5%
 - From 07/01/2022: 15%
 State early retirement scheme was terminated in 2014, no reintroduction is foreseen.
 For further information please see Annex C.

Description of the assumptions underlying the calculations of pension costs comprised in the determined costs
 Social contribution tax on income wages and certain fringe benefits:
 - From 01/01/2020 to 06/30/2020: 17,5%
 - From 01/07/2020 to 30/06/2022: 15,5%
 - From 07/01/2022: 15%
 In line with the governmental intention any savings stemming from social security reduction during RP3 shall be used for wage increase.

Describe the actions taken ex-ante to manage the cost-risk (cost increase) associated with this item, as well as the actions taken to limit the impact of the unforeseen change on the costs to be passed on to airspace users
 Depends on legislation, no effective way to influence or mitigate.

3.4.3.3 Assumptions for the occupational "Defined contributions" pension scheme (in nominal terms in '000 national currency)

Are there different contribution rates for different staff categories? If yes, how many? Yes-2

<Staff category name>	2020D	2021D	2020/2021D	2022D	2023D	2024D
Total pensionable payroll to which this scheme applies			-			
Employer % contribution rate to this scheme						
Total pension costs in respect of this scheme	421 900	555 427	977 327	1 427 640	1 466 051	1 510 546
Number of employees the employer contributes for in this scheme	191	197		214	206	210

<Staff category name>	2020D	2021D	2020/2021D	2022D	2023D	2024D
Total pensionable payroll to which this scheme applies			-			
Employer % contribution rate to this scheme						
Total pension costs in respect of this scheme	357 088	246 809	603 898	250 854	257 646	255 754
Number of employees the employer contributes for in this scheme	581	532		515	536	540

Description on the relevant national pension regulations and pension accounting regulations on which the assumptions are based, as well as information whether changes of those regulations are to be expected during RP3
 No change is expected.

Description of the assumptions underlying the calculations of pension costs comprised in the determined costs
 Contributions for ATCO
 -contribution_A1 - 9,3% of yearly base salary
 -contribution_A2 - 3,7% of yearly base salary and 327 845 Ft fix amount increased by yearly inflation rate
 -contribution_A3 - 444 500 Ft fix amount increased by yearly inflation rate
 -contribution_A4 - 13% of yearly wage cost
 Contribution for non-ATCO
 -contribution_nA1 - from 437 100 Ft to 897 000 Ft fix amount based on the employment length increased by yearly inflation rate

Describe the actions taken ex-ante to manage the cost-risk (cost increase) associated with this item, as well as the actions taken to limit the impact of the unforeseen change on the costs to be passed on to airspace users
 The "Defined contribution"-nature of the scheme generally mitigates unforeseen risks, consequently it is mainly dependent on headcount evolution.

3.4.3.4 Assumptions for the occupational "Defined benefits" pension scheme (in nominal terms in '000 national currency)

Does the ANSP assume liability for meeting future obligations for the occupational "Defined benefits" scheme? No
 Is the occupational "Defined benefits" pension scheme funded? No

	2020D	2021D	2020/2021D	2022D	2023D	2024D
Total pensionable payroll to which this scheme applies			-			
Employer % contribution rate to this scheme						
Total pension costs in respect of this scheme			-			
Number of employees the employer contributes for in this scheme						

Description on the relevant national pension regulations and pension accounting regulations on which the assumptions are based, as well as information whether changes of those regulations are to be expected during RP3

Description of the assumptions underlying the calculations of pension costs comprised in the determined costs

Where, in the Reporting Tables, some occupational "defined benefits" costs (e.g. interest expense related to pensions) are reported in other cost item(s) than staff costs, the cost item(s) should be indicated here below along with corresponding explanations.

Describe the actions taken ex-ante to manage the cost-risk (cost increase) associated with this item, as well as the actions taken to limit the impact of the unforeseen change on the costs to be passed on to airspace users

3.4.4 - Interest rate assumptions for loans financing the provision of air navigation services

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Select number of loans 3

Interest rate assumptions for loans financing the provision of air navigation services
(Amounts in nominal terms in '000 national currency)

Loan #1	2020D	2021D	2020/2021D	2022D	2023D	2024D
Description	Overdraft bank loan facility / 8 billion HUF / current contracting period January 2023/ variable, 1-month BUBOR + 0,45% p.a. Exact use (those arising interest) is dependent on traffic variations, and other cash-flow effects, main purpose is to guarantee everyday liquidity (consequently reporting and eventual balance is not appropriate). Moreover, cost of capital calculation is based on optimum capital structure, thus it is independent from eventual fluctuations.					
Remaining balance	0	na		na	na	na
Interest rate %		1,67%		2,64%	3,16%	3,20%
Interest amount		na	na	na	na	na
Loan #2	2020D	2021D	2020/2021D	2022D	2023D	2024D
Description	Overdraft bank loan facility / 2 billion HUF / current contracting period January 2023/ variable, 1-month BUBOR + 0,35% p.a. Exact use (those arising interest) is dependent on traffic variations, and other cash-flow effects, main purpose is to guarantee everyday liquidity (consequently reporting and eventual balance is not appropriate). Moreover, cost of capital calculation is based on optimum capital structure, thus it is independent from eventual fluctuations.					
Remaining balance	0	na		na	na	na
Interest rate %		1,57%		2,54%	3,06%	3,10%
Interest amount		na	na	na	na	na
Loan #3	2020D	2021D	2020/2021D	2022D	2023D	2024D
Description	Bank CAPEX term loan facility / 25 billion HUF / under procurement, expected contract date Autumn 2021 / expected maturity date 31.12.2025 / non-binding indications on interest rate: 3%-4,5% p.a.					
Remaining balance	0	-		25 000 000	25 000 000	25 000 000
Interest rate %		4,00%		4,00%	4,00%	4,00%
Interest amount		-	-	1 000 000	1 000 000	1 000 000
Other loans	2020D	2021D	2020/2021D	2022D	2023D	2024D
Description						
Remaining balance						
Average weighted interest rate %						
Interest amount						
Total loans	2020D	2021D	2020/2021D	2022D	2023D	2024D
Total remaining balance	-	-		25 000 000	25 000 000	25 000 000
Average weighted interest rate %				4,00%	4,00%	4,00%
Interest amount				1 000 000	1 000 000	1 000 000

3.4.5 - Restructuring costs

3.4.5.1 Restructuring costs from previous reference periods to be recovered in RP3

Restructuring costs from previous reference periods approved by the European Commission?	Select
If yes, number of charging zones concerned	Select

**Restructuring costs from previous reference periods to be recovered in RP3
(nominal terms in '000 national currency)**

Restructuring costs recovery plan from previous RPs	2020D	2021D	2020/2021D	2022D	2023D	2024D
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Additional comments

3.4.5.2 Restructuring costs planned for RP3

Restructuring costs foreseen for RP3?	Select
If yes, number of charging zones concerned	1

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a) Overall description of the restructuring measures planned for RP3

b) Where applicable, information on how the restructuring measures make use of shared services, ATM data services and/or how the measures contribute to infrastructure rationalisation

c) Detailed information on the restructuring measures planned for RP3

Number of restructuring measures	Select
----------------------------------	--------

Total restructuring costs by measures ('000 national currency)	2020D	2021D	2020/2021D	2022D	2023D	2024D
	-	-	-	-	-	-

d) Detailed information on the restructuring costs by nature by charging zone

**Restructuring costs planned for RP3 by nature and by charging zone
(nominal terms in '000 national currency)**

Click to select	2020D	2021D	2020/2021D	2022D	2023D	2024D
Staff			-			
of which, pension costs			-			
Other operating costs			-			
Depreciation			-			
Cost of capital			-			
Exceptional items			-			
Total restructuring costs	-	-	-	-	-	-

Total restructuring costs by charging zone ('000 national currency)	2020D	2021D	2020/2021D	2022D	2023D	2024D
	-	-	-	-	-	-

Additional comments

3.4.6 - Additional determined costs related to measures necessary to achieve the en route capacity targets

Additional costs of measures necessary to achieve the capacity targets for RP3?	Select
If yes, number of en route charging zones concerned	1

HungaroControl

a) Overall description of the measures necessary to achieve the en-route capacity targets for RP3, which induce additional costs

The measures necessary to achieve the en-route capacity targets are: - changes in airspace architecture (in which case no additional cost was identified); - increase the number of ATCOs in OPS; - timely implementation of investments that have a significant and direct impact on the increase of capacity

b) Detailed information on the additional costs of measures necessary to achieve the capacity targets for RP3

Number of capacity measures, which induce additional costs	2
--	---

Measure #1	2020D	2021D	2020/2021D	2022D	2023D	2024D
Associated additional costs (nominal terms in '000 national currency)	882 041	356 766	1 238 808	1 608 970	1 654 264	1 880 427
Description and justification of the additional determined costs of the measure						
The sum of ATCO training and personnel cost of students and beginner ATCOs in each year of RP3. For further details about the change in the number of en-route ATCOs, please see sheet 3.3.1. point d) where the number of ATCOs in OPS is planned to be increased from 106 FTE of 2019 to 119 FTE by the end of RP3. The number of ATCOs in 2019 was not sufficient to handle the excessive amount of traffic, therefore in order to solve the future capacity constrains the training of additional new ATCOs is a priority.						

Measure #2	2020D	2021D	2020/2021D	2022D	2023D	2024D
Associated additional costs (nominal terms in '000 national currency)	179 894	995 046	1 174 940	1 583 887	2 208 985	2 680 846
Description and justification of the additional determined costs of the measure						
There is a number of investments contributing to the increased efficiency of air traffic control, resulting an increase in productivity and capacity. For the list of capacity increasing investments and the description about the way they contribute to capacity please see Annex R.						

Total additional costs of measures ('000 national currency)	2020D	2021D	2020/2021D	2022D	2023D	2024D
	1 061 935	1 351 813	2 413 748	3 192 857	3 863 249	4 561 273

c) Detailed information on the additional costs of measures necessary to achieve the capacity targets for RP3 by nature by ANSP

Additional costs of measures necessary to achieve the capacity targets for RP3 (nominal terms in '000 national currency)						
Hungary	2020D	2021D	2020/2021D	2022D	2023D	2024D
Staff	185 993	328 905	514 898	1 022 029	1 134 380	1 386 987
of which, pension costs		16 446	16 446	41 899	44 409	60 145
Other operating costs	696 048	27 861	723 909	586 942	519 884	493 440
Depreciation			-			
Cost of capital			-			
Exceptional items			-			
Total additional costs of measures	882 041	356 766	1 238 808	1 608 970	1 654 264	1 880 427
Hungary	2020D	2021D	2020/2021D	2022D	2023D	2024D
Staff			-			
of which, pension costs			-			
Other operating costs			-		69 785	93 047
Depreciation	0	617 688	617 688	950 332	1 414 927	1 711 210
Cost of capital	179 894	377 358	557 252	633 554	724 273	876 589
Exceptional items			-			
Total additional costs of measures	179 894	995 046	1 174 940	1 583 887	2 208 985	2 680 846
Total additional costs of measures ('000 national currency)	1 061 935	1 351 813	2 413 748	3 192 857	3 863 249	4 561 273

Additional comments
Related to the first measure (increase the number of ATCOs in OPS) the personnel cost of students and beginner ATCOs is on line Staff, while the cost of ATCO training is on line Other operating costs.
Related to the second measure (capacity related investments) the total cost of depreciation and the total cost of capital of these investments are registered on the appropriate lines.

d) Demonstration that the deviation from the Union-wide targets is exclusively due to the additional determined costs related to measures necessary to achieve the performance targets in capacity

The deviation from the Union-wide targets is exclusively due to the additional determined costs related to measures necessary to achieve the performance targets in capacity.

Impact of capacity related measures on local cost efficiency target ('000 national currency)	2019	2020	2021	2022	2023	2024	Total	Average
Additional costs of capacity related measures		1 061 935	1 351 813	3 192 857	3 863 249	4 561 273	14 031 128	
Staff		185 993	328 905	1 022 029	1 134 380	1 386 987		
Other operating costs		696 048	27 861	586 942	589 669	586 488		
Depreciation		0	617 688	950 332	1 414 927	1 711 210		
Cost of capital		179 894	377 358	633 554	724 273	876 589		
Inflation index (2017)		110,0	114,0	118,0	121,9	125,5		
Total en route Service Units		1 423	1 637	2 419	2 881	3 182		
Real en route costs	30 610 500	27 153 408	28 241 105	34 062 959	33 979 754	34 663 930	158 101 157	
Real en route unit costs	9 799	18 102	18 102	14 079	11 794	10 895		14 594
YoY variation		84,7%	0,0%	-22,2%	-16,2%	-7,6%		2,14%
Real additional costs of capacity related measures		981 632	1 307 973	2 947 328	3 554 022	4 159 665	12 950 619	
Real en route costs without the additional cost of capacity related measures		26 171 776	26 933 132	31 115 631	30 425 733	30 504 265	145 150 538	
Real en route unit costs without the additional cost of capacity related measures	9 799	17 354	17 354	12 861	10 560	9 588		13 543
YoY variation		77,1%	0,0%	-25,9%	-17,9%	-9,2%		-0,43%
Real en route unit costs according to Union-wide target trend	9 799	21 567	21 567	13 264	11 513	10 189		15 620
YoY variation		120,1%	0,0%	-38,5%	-13,2%	-11,5%		0,78%
Real en route costs according to the savings expected by EC	30 610 500	29 692 185	29 692 185	28 773 870	29 386 080	29 692 185	147 236 507	
Real cost savings expected by EC compared to 2019		-3%	-3%	-6%	-4%	-3%		

SECTION 3.5: ADDITIONAL KPIS / TARGETS

3.5 Additional KPIS / Targets

Annexes of relevance to this section

ANNEX J. OPTIONAL KPIS AND TARGETS

SECTION 3.6: DESCRIPTION OF KPAs INTERDEPENDENCIES AND TRADE-OFFS INCLUDING THE ASSUMPTIONS USED TO ASSESS THOSE TRADE-OFFS

3.6 - Description of KPAs interdependencies and trade-offs including the assumptions used to assess those trade-offs

- 3.6.1 - Interdependencies and trade-offs between safety and other KPAs
- 3.6.2 - Interdependencies and trade-offs between capacity and environment
- 3.6.3 - Interdependencies and trade-offs between cost-efficiency and capacity
- 3.6.4 - Other interdependencies and trade-offs

3.6 - Description of KPAs interdependencies and trade-offs including the assumptions used to assess those trade-offs

3.6.1 - Interdependencies and trade-offs between safety and other KPAs

a) Do the measures to reach the targets in the different KPAs require changes in the ANSP functional system that have safety implications? If yes, which mitigation measures are put in place?
In case the functional system is affected by any change including those induced by other KPA targets a standard risk assessment and mitigation procedure will be applied in due course. The mitigation measures may vary case by case and the most reasonable ones will be applied. For instance: to achieve the capacity target while the traffic is increasing requires changes in the functional system where not only the technical element but the Human and Procedural parts are affected. The risk to Human Performance can be managed e.g. by the means of FRMS. The risks induced by the Procedural changes can be handled by trainings and simulations, and the risk emerging from the Equipment can be mitigated by good design criteria and thorough testing and acceptance procedures. The above mentioned measures are the outcomes of the adequate safety assessment procedures we apply.

b) What are the main assumptions used to assess the interdependencies between safety and other KPAs?
According to ANSP's Safety Policy - we have to provide safe services and fulfill legal obligations. As a principle Safety has priority over other aspects.

c) What metrics, other than those indicators described in the Regulation, are you monitoring during RP3 to ensure targets in the KPAs of capacity, environment, and cost-efficiency are not degrading safety?
We have implemented an aggregated safety performance monitoring scheme based on the severity of occurrences - internal safety target. The values of the aggregated safety performance are monitored monthly, in case of adverse trends remedial actions are identified and implemented.

d) Do targets allow trade-offs in operational decision making to managing resource shortfalls in order to preserve safety performance? Do targets restrict the release of staff for safety activities, such as training?
For instance in case of staff shortage to fulfill e.g. capacity targets generate a serious dilemma for the management, however according to our answer in question b) there will be no compromise in safety.

e) Has the State reviewed the ANSP financial and personnel resources that are needed to support safe ATC service provision through safety promotion, safety improvement, safety assurance and safety risk management after changes introduced to achieve targets in other KPAs? Please, explain.
NSA regularly checks the ANSP in regard of personnel and financial resources and also considers the changes implemented by the ANSP in order to achieve other KPA targets. Annual audits cover this issue.

3.6.2 - Interdependencies and trade-offs between capacity and environment

We believe that the implementation of the merged SEE FRA and BALTIC FRA, which is a joint cross-border free route initiative of Bulgaria, Romania, Hungary, Slovakia and Poland and Lithuania will bring huge benefit for the airspace users. This will reduce the fuel burn, and also the emission, while we will be able to maintain the same level of capacity.
It is obvious from the above mentioned that the introduction of this huge free route airspace stretching from the Black Sea to the Baltic Sea, will bring significant environmental benefits however, to keep the level of offered capacity in a more complex airspace needs extra efforts.

3.6.3 - Interdependencies and trade-offs between cost-efficiency and capacity

In our view, the necessary capacity can be provided only in case if all following factors are present at the same time. These factors are Staff, Technology and Airspace structure. Two of them (Staff and Technology) requires significant investments, which can effect the cost efficiency of the ANSPs (please see 3.4.6. point), while the development of suitable airspace structure requires less additional financial resources. HungaroControl, the Hungarian ANSP operates one of the most advanced ATM system in Europe.
We expect to be able to ensure the required capacity in the reorganized Budapest ACC sectors, and the improved rostering and appropriate ATCO staffing.

3.6.4 - Other interdependencies and trade-offs

As mentioned previously, Hungarocontrol plans to implement an occupational early retirement scheme for ATCO's in RP3. The overall purpose is to minimise safety risk associated with the ageing of ATCO's. Various studies and researches point out the increased safety hazards related to the ageing of ATCOs (referred in Annex R). However, in Hungary ATCOs (as other employees) are generally not entitled to any kind of pension from the State before the official age of retirement, therefore a corporate solution is necessary. The scheme will provide a financial coverage for ATCOs for the time period from when they stop working to the statutory retirement age (currently 65 in Hungary). The related costs are included in the Determined Cost. In this case there is an interdependency and a trade-off between the KPAs of cost efficiency and safety, where

SECTION 4: CROSS-BORDER INITIATIVES AND SESAR IMPLEMENTATION

4.1 - Cross-border initiatives and synergies

- 4.1.1 - Planned or implemented cross-border initiatives at the level of ANSPs
- 4.1.2 - Investment synergies achieved at FAB level or through other cross-border initiatives

4.2 - Deployment of SESAR Common Projects

4.3 - Change management

Annexes of relevance to this section

ANNEX N. CROSS-BORDER INITIATIVES

4.1 - Cross-border initiatives and synergies

4.1.1 - Planned or implemented cross-border initiatives at the level of ANSPs

Number of cross-border initiatives	1																		
Initiative #1																			
Name	Cross border resectorization project																		
Description	In cooperation with the Network manager FABCE member states have launched a cross border resectorization project.																		
Expected performance benefits	<p>NM statement the final goal is to create an optimized cross-border sector plan involving not only the FABCE members states, but also the adjacent FABs (DANUBE and BALTIC) plus non-FAB states like Serbia and North-Macedonia.</p> <p>Based on NM calculations the concrete potential benefits on the SEEFRA enlargement towards Moldova and the Baltir FRA is as follows:</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="6">Scenario Economy (Potential gains/losses)</th> </tr> <tr> <th>Total impacted flights</th> <th>Length (NM)</th> <th>Time (min)</th> <th>Fuel (kg)</th> <th>CO2 (kg)</th> <th>NOx (kg)</th> </tr> </thead> <tbody> <tr> <td>710</td> <td>-1844,940</td> <td>-247,868</td> <td>-8680,557</td> <td>-27414,960</td> <td>-105,918</td> </tr> </tbody> </table> <p>These are savings on a daily level.</p>	Scenario Economy (Potential gains/losses)						Total impacted flights	Length (NM)	Time (min)	Fuel (kg)	CO2 (kg)	NOx (kg)	710	-1844,940	-247,868	-8680,557	-27414,960	-105,918
Scenario Economy (Potential gains/losses)																			
Total impacted flights	Length (NM)	Time (min)	Fuel (kg)	CO2 (kg)	NOx (kg)														
710	-1844,940	-247,868	-8680,557	-27414,960	-105,918														

Additional comments	
<p>There are several cross border free route enhancement projects are listed in the European Route Network Improvement Plan Part 2 document related to SEE FRA which will impact the overflying traffic over Hungary.</p> <p>These are the followings:</p> <ol style="list-style-type: none"> 1.) Project ID: 91.014 / 26.010 To expand SEE FRA by merging with FRA MOLDOVA Implementation date: 24 FEB 2022 2.) Project ID: 101.026 To implement H24 cross-border FRA operation between BALTIC FRA (Warszawa FIR) and SEE FRA (Bratislava FIR) Implementation date: 24 FEB 2022 3.) Project ID: 102.037 To implement cross-border FRA operation between SEE FRA, BALTIC FRA and FRA UKRAINE Implementation date: Proposed for spring 2024 4.) Project ID: 102.017 To implement cross-border FRA operation between SEE FRA and FRACZECH Implementation date: Proposed for 2026 5.) Project ID: 102.019 To implement cross-border FRA operation between SEE FRA and SECSI FRA Implementation date: Proposed for winter 2029/2030 <p>These improvements will clearly result in significant savings for airlines, with reduced flight path length, shorter flight times, lower fuel consumption and lower emissions.</p> <p>Exact figures on the savings mentioned above can be obtained from Eurocontrol NM experts (who we have contacted, but unfortunately didn't receive response in time for the update).</p>	

4.1.2 - Investment synergies achieved at FAB level or through other cross-border initiatives

<p>Details of synergies in terms of common infrastructure and common procurement</p> <p>FAB CE has launched several activities that positively impact on synergies in the region, mainly in the area of CNS. These projects and activities are driven by the FAB CE Strategy in line with European ATM policies and the implementation of PCP. FABCE Aviation Services, Ltd., was founded as a FAB CE outsourcing platform for ATM/CNS infrastructure. Already completed projects inter alia:</p> <p>A common procurement of FAB CE CNS covering an upgrade of the cross-border telecommunications network (X-bone) hardware. FAB CE ANSPs purchased CISCO routers based on a common specification and tender to benefit from lower procurement costs and economies of scale.</p> <p>Surveillance infrastructure optimisation project developed processes for surveillance infrastructure planning, surveillance maintenance planning, maintenance of SUR database and sharing the specifications.</p> <p>NAVAID optimisation project was launched to improve interoperability and data-sharing by optimisation of navigational aid (NAVAID) infrastructure, and also to reduce duplication and unnecessary complexity. The project will meet the accuracy, integrity and continuity requirements for proposed operations in FAB CE airspace by aligning NAVAID operating and acquisition policies among the FAB CE ANSPs, reducing procurement, implementation, operational and maintenance costs.</p> <p>Future projects with the participation of HungaroControl that have been recently initiated include: SSR monitoring; Coordinated ADS-B deployment; VoIP coordinated testing and implementation.</p>
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4.2 - Deployment of SESAR Common Projects

4.2.1 - Common Project One (CP1)

CP1 ATM Functionality (CP1-AF) / Sub functionality (CP1-s-AF)	Recent and expected progress
CP1-AF1 - Extended AMAN and Integrated AMAN/DMAN in High-Density TMAs	
CP1-s-AF1.1 AMAN extended to en-route airspace	N/A
CP1-s-AF1.2 AMAN/DMAN Integration	N/A
CP1-AF2 - Airport Integration and Throughput	
CP1-s-AF2.1 DMAN synchronised with predeparture sequencing	N/A
CP1-s-AF2.2.1 Initial airport operations plan (IAOP)	N/A
CP1-s-AF2.2.2 Airport operations plan (AOP)	N/A
CP1-s-AF2.3 Airport safety nets	N/A
CP1-AF3 - Flexible Airspace Management and Free Route Airspace	
CP1-s-AF3.1 Airspace management and advanced flexible use of airspace	Implemented
CP1-s-AF3.2 Free route airspace	Implemented
CP1-AF4 - Network Collaborative Management	
CP1-s-AF4.1 Enhanced short-term ATFCM measures	Implemented
CP1-s-AF4.2 Collaborative NOP	Family 4.2.1. Interactive Rolling NOP Ongoing (planned date: 31.12.2023.): HungaroControl is analysing the local benefits of this objective and has not yet finally decided on a project management/implementation plan to implement it. Interaction in terms of LARA is completed. Utilization of further tools allowing interaction with NOP is in progress. Family 4.2.2 – Initial AOP/NOP Information Sharing: N/A
CP1-s-AF4.3 Automated support for traffic complexity assessment	HungaroControl has the intention to procure Local Traffic Management tool as a system or as a service planned to be used operationally by July 2024. The current traffic volume is not sufficient to set the complexity tool correctly and additionally the procurement postponed due to the present budgetary constraints.
CP1-s-AF4.4 AOP/NOP integration	N/A
CP1-AF5 - SWIM	
CP1-s-AF5.1 Common infrastructure components	Implemented
CP1-s-AF5.2 SWIM yellow profile technical infrastructure and specifications	Family 5.2.1. Planned (31.12.2025.): HungaroControl has not yet defined a project management/implementation plan for this Objective with assigned financial and human resources but has the intention to implement it. The development of SWIM services is closely followed. HungaroControl is consuming various NM services offered on B2B, like LARA or EAD, concerning Aeronautical and Network information, a first step towards full implementation.

CP1-s-AF5.3 Aeronautical information exchange	Family 5.3.1. Ongoing (planned date: 31.12.2025.): Local AIM system is able to exchange AIXM 5.1 data, service depends on the implementation of eEAD. Regarding the ASM system, HungaroControl use Eurocontrol's LARA system, so if it becomes SWIM compliant, we will have nothing more to do with it.
CP1-s-AF5.4 Meteorological information exchange	N/A
CP1-s-AF5.5 Cooperative network information exchange	Family 5.5.1. Ongoing (planned date: 31.12.2025.): HungaroControl is using nCONNECT for the ATFCM system, but it will not be available any time soon, we are currently examining which of the SWIM Compliant NM services that will take its place and in the future would be suitable for us as well.
CP1-s-AF5.6 Flight information exchange (yellow profile)	Family 5.6.1. Ongoing (planned date: 31.12.2025.): HungaroControl's ATM system (MATIAS) with the latest Build, has been able to receive and process the FIXM 4.0 format, which is currently being tested with NM.
CP1-AF6 - Initial Trajectory Information Sharing	
CP1-s-AF6.1 Initial air-ground trajectory information sharing	Planned (31.12.2027.)
CP1-s-AF6.2 Network Manager trajectory information enhancement	N/A
CP1-s-AF6.3 Initial trajectory information sharing ground distribution	Planned (31.12.2027.)

4.3 - Change management

Change management practices and transition plans for the entry into service of major airspace changes or for ATM system improvements, aimed at minimising any negative impact on the network performance

From safety point of view, in accordance with the requirements of EU Regulation 2017/373, every change impacting the functional system is handled as follows. According to internal safety assessment and notification of competent authority procedure (VRSZ) each declaration of change shall be filled and sent to Directorate of Safety and Quality Management and Internal Audit (RMBI). This declaration serves as input to the competent authority. The safety assessment process is to demonstrate the safety aspects of a change and that the change is acceptably safe. The safety assessment procedure consists of scope definition, safety planning, system description, hazard/potential hazard identification, determination of safety criteria, risk analysis and evaluation, change verification, specification of monitoring criteria, and safety monitoring. All changes affecting the functional system shall fulfill the basic criteria from safety aspect which means the functional system has to be at least as safe as it was before the change. Two types of safety assessment procedures are distinguished depending on the result of hazard identification in terms of harmful effect. If no hazard is identified (which could induce a harmful effect), the simplified procedure should be followed, to show that the basic criteria are met. The safety assessment process of a change is organised by a designated person from the concerning field (safety coordinator) who is responsible for documentation (safety case) as well and supported by safety experts. Safety coordinators are professionals trained to perform this special safety task. Safety case shall be submitted to RMBI for review (safety opinion). The safety opinion concerns the compliance of the process and the result of the assessments. The decision to implementation could be exclusively made with approval by the competent authority and without contradictory safety opinion.

Major airspace changes are expected as a result of the FABCE cross-border sector optimization project launched in cooperation with NM and which will be extended towards the adjacent FABs (DANUBE and BALTIC). Before the implementation of the results of this large scale project proper implementation plan will be developed.

As part of this assessment we will check the impact of the cross-border sector optimization from technological and human point of view. Also the legal and financial impact shall be analysed.

The technological analysis will include whether the existing surveillance and radio coverage can support these kind of operation, or there will be a need for additional technological solutions, like radar data exchange with the neighbouring ANSPs, or new radio sites shall be added.

The ATM system capabilities supporting the cross-border ATC service provision also shall be assessed in order to have sufficient time for the necessary updates to be implemented. The environmental database of the ATM system should be modified accordingly, using the data received from the adjacent ANSPs.

As part of the human impact we have to assess the need and the scale of the theoretical and practical (simulation) training of related staff.

Relevant theoretical training material shall be created for the related ATCO staff, and also new simulation training exercises shall be written which

SECTION 5: TRAFFIC RISK SHARING ARRANGEMENTS AND INCENTIVE SCHEMES

5.1 - Traffic risk sharing parameters

- 5.1.1 Traffic risk sharing - En route charging zones
- 5.1.2 Traffic risk sharing - Terminal charging zones

5.2 - Capacity incentive schemes

- 5.2.1 - Capacity incentive scheme - Enroute
 - 5.2.1.1 Parameters for the calculation of financial advantages or disadvantages - Enroute
 - 5.2.1.2 Rationale and justification - Enroute
- 5.2.2 - Capacity incentive scheme - Terminal
 - 5.2.2.1 Parameters for the calculation of financial advantages or disadvantages - Terminal
 - 5.2.2.2 Rationale and justification - Terminal

5.3 - Optional incentives

Annexes of relevance to this section

- ANNEX G. PARAMETERS FOR THE TRAFFIC RISK SHARING
- ANNEX I. PARAMETERS FOR THE MANDATORY CAPACITY INCENTIVES
- ANNEX K. OPTIONAL INCENTIVE SCHEMES

5.1 - Traffic risk sharing

5.1.1 Traffic risk sharing - En route charging zones

Hungary			Traffic risk-sharing parameters adapted?		no	
			Service units lower than plan		Service units higher than plan	
	Dead band	Risk sharing band	% loss to be recovered	Max. charged if SUs 10% < plan	% additional revenue returned	Min. returned if SUs 10% > plan
Standard parameters	±2,00%	±10,0%	70,0%	5,6%	70,0%	5,6%

5.1.2 Traffic risk sharing - Terminal charging zones

Hungary - TCZ			Traffic risk-sharing parameters adapted?		no	
			Service units lower than plan		Service units higher than plan	
	Dead band	Risk sharing band	% loss to be recovered	Max. charged if SUs 10% < plan	% additional revenue returned	Min. returned if SUs 10% > plan
Standard parameters	±2,00%	±10,0%	70,0%	5,6%	70,0%	5,6%

5.2 - Capacity incentive schemes

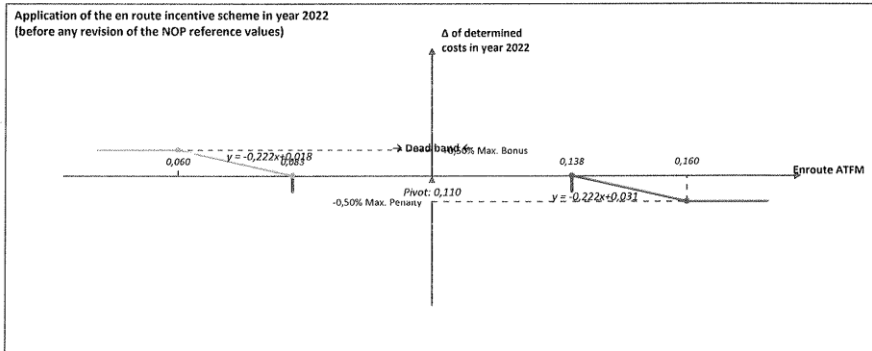
5.2.1 - Capacity incentive scheme - Enroute

5.2.1.1 Parameters for the calculation of financial advantages or disadvantages - Enroute

Enroute	Expressed in	Value
Dead band Δ	%	±25,0%
Max bonus (±2%)	% of DC	0,50%
Max penalty (± Max bonus)	% of DC	0,50%
The pivot values for RP3 are	fixed	

HungaroControl

	2020	2021	2022	2023	2024
NOP reference values (mins of ATFM delay per flight)			0,11	0,11	0,11
Alert threshold (Δ Ref. value in fraction of min)			±0,050	±0,050	±0,050
Performance Plan targets (mins of ATFM delay per flight)			0,11	0,11	0,11
Pivot values for RP3 (mins of ATFM delay per flight)			0,11	0,11	0,11
Financial advantages / disadvantages	Dead band range		[0,083-0,138]	[0,083-0,138]	[0,083-0,138]
	Bonus sliding range		[0,06-0,083]	[0,06-0,083]	[0,06-0,083]
	Penalty sliding range		[0,138-0,16]	[0,138-0,16]	[0,138-0,16]



5.2.1.2 Rationale and justification - Enroute

If the pivot values are different than the values in the NOP, explain rationale for the difference and method of calculation**
n/a

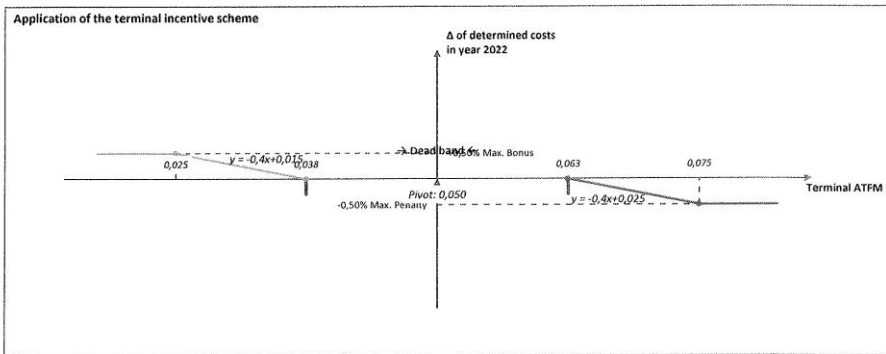
** Refer to Annex I, if necessary.

5.2.2 - Capacity incentive scheme - Terminal

5.2.2.1 Parameters for the calculation of financial advantages or disadvantages - Terminal

Terminal	Expressed in	Value
Dead band Δ	%	$\pm 25,0\%$
Bonus/penalty range (% of pivot value)	%	$\pm 50\%$
Max bonus	% of DC	0,50%
Max penalty	% of DC	0,50%
The pivot values for RP3 are	fixed	

	2020	2021	2022	2023	2024
Performance Plan targets (mins of ATFM delay per flight)			0,05	0,05	0,05
Bonus/penalty range Δ (in fraction of min)			$\pm 0,025$	$\pm 0,025$	$\pm 0,025$
Pivot values for RP3 (mins of ATFM delay per flight)			0,05	0,05	0,05
Financial advantages / disadvantages	Dead band range		[0,038-0,063]	[0,038-0,063]	[0,038-0,063]
	Bonus sliding range		[0,025-0,038]	[0,025-0,038]	[0,025-0,038]
	Penalty sliding range		[0,063-0,075]	[0,063-0,075]	[0,063-0,075]



5.2.2.2 Rationale and justification - Terminal

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**

HungaroControl provides terminal services solely at Budapest Airport therefore there is no need to apportion the bonus or penalty.

** Refer to Annex I, if necessary.

SECTION 6: IMPLEMENTATION OF THE PERFORMANCE PLAN

6.1 Monitoring of the implementation plan

6.2 Non-compliance with targets during the reference period

6 - IMPLEMENTATION OF THE PERFORMANCE PLAN

6.1 Monitoring of the implementation plan

Description of the processes put in place by the NSA to monitor the implementation of the Performance Plan including the yearly monitoring of all KPIs and PIs defined in Annex I of the Regulation and a description of the data sources
The NSA Hungary (CAA's ANS&ADR Supervisory Department acting as CA/NSA of Hungary, on behalf and for Minister of Innovation and Technology) is the authority responsible for monitoring the performance targets at national and European level within the scope of the Performance plan. There shall be established processes for continuous oversight of all areas within the scope of the Performance plan of Hungary for RP3. These processes contain procedures for data collection, data assessment and data validation. The monitoring at national level includes ANSP ¹ annual reports, uncontrollable costs, reaching of alert thresholds (in accordance with Article 18, Reg. (EU) 2019/317) and other obligatory requirements determined within Annex VI, Reg. (EU) 2019/317 and other relevant legislation. The monitoring of progress in achieving performance targets set in Reg. (EU) 2019/317 shall be performed by dedicated NSA inspectors. The monitoring itself will be performed on a quarterly basis, the mechanisms and procedures shall be established properly.

6.2 Non-compliance with targets during the reference period

Description of the processes put in place and measures to be applied by the NSA to address the situation where targets are not reached during the reference period
In case that any target is not met at national level, the NSA shall identify potential issues, apply corrective measures designed to rectify the situation and subsequently inform the European Commission in accordance with Art. 37, Reg. (EU) 2019/317. Based on all the inputs from NSAs (SAF KPA), ANSPs (CEF KPA) with cooperation with Network Manager (CAP and ENV KPA), NSA will monitor regularly all these data and react if it is required, to keep achieving the target set.

7 - ANNEXES

ANNEX A. REPORTING TABLES & ADDITIONAL INFORMATION (EN-ROUTE)
ANNEX A.x - En route Charging Zone #x
ANNEX B. REPORTING TABLES & ADDITIONAL INFORMATION (TERMINAL)
ANNEX B.x - Terminal Charging Zone #x
ANNEX C. CONSULTATION
ANNEX D. LOCAL TRAFFIC FORECASTS
ANNEX E. INVESTMENTS
ANNEX F. BASELINE VALUES (COST-EFFICIENCY)
ANNEX G. PARAMETERS FOR THE TRAFFIC RISK SHARING
ANNEX H. RESTRUCTURING MEASURES AND COSTS
ANNEX I. PARAMETERS FOR THE MANDATORY CAPACITY INCENTIVES
ANNEX J. OPTIONAL KPIs AND TARGETS
ANNEX K. OPTIONAL INCENTIVE SCHEMES
ANNEX L. JUSTIFICATION FOR SIMPLIFIED CHARGING SCHEME
ANNEX M. COST ALLOCATION
ANNEX N. CROSS-BORDER INITIATIVES
ANNEX O. JUSTIFICATIONS FOR THE LOCAL SAFETY TARGETS
ANNEX P. JUSTIFICATIONS FOR THE LOCAL ENVIRONMENT TARGETS
ANNEX Q. JUSTIFICATIONS FOR THE LOCAL CAPACITY TARGETS
ANNEX R. JUSTIFICATIONS FOR THE LOCAL COST-EFFICIENCY TARGETS
ANNEX S. INTERDEPENDENCIES
ANNEX T. OTHER MATERIAL
ANNEX U. VERIFICATION BY THE NSA OF THE COMPLIANCE OF THE COST BASE
ANNEX Z. CORRECTIVE MEASURES*
** Only as per Article 15(6) of the Regulation*

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ANNEX T - List of changes

Number of finding	Topic	Name of sheet in Template	Section	Section title	Nature of correction
1.	Updated 2021 traffic	1.2. Traffic forecast	1.2.1.	En route	For the year 2021 Hungary applies the actual data. Latest information available on Eurocontrol's ETNA portal and the PRU dashboard. Total SU data from the AS files is calculated by summing chargeable and exempted SUs where the flight month is in 2021. Number of movements downloaded from the PRU Dashboard.
2.	Updated 2021 traffic	1.2. Traffic forecast	1.2.2.	Terminal	For the year 2021 Hungary applies the actual data. Latest information available on Eurocontrol's ETNA portal and the PRU dashboard. Total SU data from the AS files is calculated by summing chargeable and exempted SUs where the flight month is in 2021. Number of movements is derived from ETNA files as well. (NB: the choice of the "Local forecast" instead of "STATFOR Base forecast May 2021" in the selection (cell C111) is a technicality)
3.	Updated 2021 traffic	Reporting Tables T1	5.	Cost-efficiency KPI - Determined/Actual Unit Cost (in real terms)	For the year 2021 Hungary applies the actual data in L68 cells of T1 sheets for both en route and terminal.
4.	Real WACC parameters (i.e. gearing, interest rate, Roe)	Reporting Tables T1 ANSP	3.	Complementary information (in nominal terms)	PRB requested data for the calculation of real Return on Equity presented in the RT. The data are provided in T1 ANSP sheet K42:R44 cells for both en route and terminal. The gearing is based on the proportion of short term and long term debt to equity in the balance sheet of HCL used for the PP. The cost of debt is the weighted average of the interest rates of the available credit facilities of HCL as of February 2022. Based on the interest rates of these facilities the actual cost of debt is in the range of 2,13% and 4,75%, the weighted average is 3,44%.
5.	Details regarding the 2019 baseline adjustment	3.4.1. ENT-CZ 1	3.4.1. b 3.4.1. c. 3)	Information on the baseline values for the determined costs and the determined unit costs Adjustments to the 2019 baseline value for the determined costs	The cost of early retirement scheme, which was applied as an en route baseline correction for 2019, was equal to the exempted cost related to this item, which contained 25mHUF traffic related impact as well. Since the baseline adjustment should not contain this traffic related element, we have corrected this amount, and so the baseline value decreased by this amount is given in cells E30:E32. Consequently, also the value of baseline correction is modified in G111. The impact of this change is not significant on the trend of DUC (0,02pp increase in CAGR). Further details of early retirement cost calculation (tax base, rate of contribution) is to be found in the description in line 113 and in the cost exempt report of Hungary for 2019.
6.	Details regarding the 2019 baseline adjustment	Reporting Tables RP3 PP revised sheet	a)	RP3 revised cost-efficiency performance targets (IR 2020/1627)	En route Reporting Tables are also modified according to the modification of baseline correction in the PP. The following cells have been changed: E33, E9:E10, E27:E30, I27:I30.
7.	Technical modification related to the allocation of other revenues	Reporting Tables T3 ANSP & T3 MET		Revenues received from Union assistance programmes in 2020-2021 Revenues from commercial	The en route and terminal reporting tables have been modified. In sheet T3 ANSP and T3 MET lines 121, 139,140 and 143 were modified according to the request of EUROCONTROL. The modifications do not change the total amounts of other revenues forecasted, just the allocation between RP2 and RP3 and the reimbursement among the years. Further details are in the additional information.
8.	Technical modification related to the EUR value of DUC	3.4.1. ENT-CZ 1	3.4.1. a.	Cost efficiency KPI #1: Determined unit cost (DUC) for en route ANS	There was a slight difference in the terminal EUR DUC value between the Performance Plan and the Reporting tables because of the difference in decimal places of the exchange rate in sheet 3.4.1. The exchange rate was modified to be in line with the value of the Reporting Tables. Also, formulas calculating the En-route EUR value were inserted to the Table.

9.		Technical modification related to the order of investment descriptions	2.1. Investments_ANSP #1	2.1.2.	Detail of new major investments	Following the submission of the updated Performance Plan of Hungary, we discovered that on sheet „2.1 Investments_ANSP#1. In point 2.1.2 – Detail of new major investments”, we mixed up the descriptions with the listed major investments. This is due to a previous modification of the summary table when the major investments were ranked by amount, while the position of the descriptions was unfortunately not modified accordingly. PRB was informed about this issue on 29 November 2021. Now the investments are in the correct order.
10.	Modification related to Search and Rescue costs	3.4.1. ENT-CZ 1	3.4.1. a. 3.4.1. b.	RP3 revised cost-efficiency performance targets (IR 2020/1627) Information on the baseline values for the determined costs and the determined unit costs	Since the organisation in charge of S&R is a competent authority, their cost is not subject of inflation adjustment. Therefor the real determined cost values were modified (baseline as well).	
11.	Modification related to Search and Rescue costs	ENR Reporting Tables	T1 ANSP, T2 ANSP, T3 ANSP, T1 NSA SAR, T2 NSA SAR, T3 NSA SAR, RP3 PP revised	Since the organisation in charge of S&R is a competent authority, their cost is not subject of inflation adjustment or traffic risk sharing in RP3. New sheets were inserted for NSA SAR.		

