

# Performance Plan

# Netherlands

Third Reference Period (2020-2024)

Status: Draft revised performance plan containing  
revised RP3 targets (Art. 3 of IR 2020/1627 &  
Date of issue: 11-11-2022



## Signatories

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

I 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

Netherlands	
Henri van Faassen, Directeur Luchtvaart, Ministry for Infrastructure and Water Management	

Additional comments	IMPORTANT: This file has been extracted from the consolidated FABEC performance plan. The original file contained many formulas and links to automatically insert or calculate information. Although significant care has been taken in developing the extracted file, some of the links and formulas in this document may no longer work because they refer to other documents. In a number of critical areas, identified broken links have been fixed. However, should any data appear missing, inconsistent or contradictory, please contact Fredrik Eriksson, fredrik.eriksson@minienw.nl.
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### Document change record

Version	Date	Reason for change
1.0	3-11-2022	Initial version of plan as extracted from version 2.1 of the FABEC performance plan
1.1	11-22-2022	Minor updates following initial PRB feedback



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*\* Only as per Article 15(6) of the Regulation*

## SECTION 1: INTRODUCTION

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### **1.1 The situation**

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## 1 - INTRODUCTION

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### 1.1 - The situation

NSA responsible for drawing up the Performance Plan	NSA The Netherlands
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#### 1.1.1 - List of ANSPs and geographical coverage and services

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Number of ANSPs	3		
#	ANSP name	Services	Geographical scope
1	LVNL	ATM	The Netherlands
2	MUAC	ATM	Belgium, Luxembourg, The Netherlands, Germany (North-West)
3	Royal Netherlands Meteorological Institute (KNMI)	MET	The Netherlands



**Cross-border arrangements for the provision of ANS services**

Number CB arrangements where ANSPs provide services in an other State	2
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**ANSPs providing services in the FIR of another State**

ANSP Name	Description and scope of the cross-border arrangement
1 LVNL	ATS, FIS, alerting service for Belgium (Skeyes) ATS, FIS, alerting service for Germany (DFS) ATS, FIS, alerting service for Great Britain (NATS)
2 MUAC	ATS, FIS, alerting services in Belgium, Germany and Luxembourg TS, FIS, alerting services for Denmark ATS, FIS, alerting service for France

Number CB arrangements where ANSPs from another State provide services in the State	1
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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
1 NATS	ATS, FIS, alerting service, ASM in NL airspace (MUAC)

### 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	
Entity name	Domain of activity	Rationale for inclusion in the Performance Plan
NSA The Netherlands	Competent authority	Determined costs incurred in relation to the provision of air navigation services in accordance with the article 22(1) of Commission implementing regulation (EU)
Eurocontrol		Determined costs incurred in relation to the provision of air navigation services in accordance with the article 22(1) of Commission implementing regulation (EU) 2019/317

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

<b>En-route</b>	Number of en-route charging zones	1
En-route charging zone 1	Netherlands	
<b>Terminal</b>	Number of terminal charging zones	1
Terminal charging zone 1	Netherlands - TCZ	

### 1.1.4 - Other general information relevant to the plan

Much of the content of this plan was initially developed in the context of the FABEC performance plan. As a result, some steps, such as consultation of safety, capacity and environment targets, were performed at FABEC level, and are presented as such.

Additionally, existing FABEC processes and coordination will remain an important part of performance management and monitoring for the Netherlands, and therefore this plan continues to rely on such processes in a number of areas.

Where this plan relates to MUAC, in some instances overall MUAC information is provided rather than information that is specific to the Netherlands, for example in the presentation of the investment plan. Relevant cases are clearly indicated with a textbox. NSAs will coordinate oversight accordingly, to avoid duplications or omissions.

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 affects performance and performance planning in a number of ways :

-> **Practical issues**

- **Financial impact**
- **Staff issues (protection, rostering,...)**
- **System implementation**
  - \* distancing constraints and remote working requirements affect practical elements of development, testing, validation and training
  - \* travel constraints limit presence and delivery by international suppliers
- **ATCO training and availability**
  - \* distancing constraints limit training capacity
  - \* increased pressure on simulators for training as well as currency
  - \* lack of high load traffic levels in OJT
  - \* working requirements following vaccination

-> **Uncertainty and data availability**

- **Ongoing pandemic**
- **Uncertainty and variability in traffic recovery**
- **short term volatility in traffic demand**

Further information is provided either directly in the individual chapters of this performance plan when relevant. It has also been presented and discussed in detail during consultation meetings and is reflected in the consultation material provided in Annex C.

Additional comments
A summary is provided in <i>Annex T</i>

## 1.2 - Traffic Forecasts

### 1.2.1 - En route

#### En route Charging zone 1

Netherlands

#### En route traffic forecast

Local forecast

Local Forecast	2017A	2018A	2019A	2020A	2021	2022	2023	2024	CAGR 2019-2024
IFR movements (thousands)	1.287	1.329	1.332	596	644	1.084	1.244	1.321	-0,2%
IFR movements (yearly variation in %)		3,2%	0,2%	-55,3%	8,1%	68,3%	14,8%	6,2%	
En route service units (thousands)	3.223	3.392	3.381	1.480	1.515	2.593	3.081	3.294	-0,5%
En route service units (yearly variation in %)		5,3%	-0,3%	-56,2%	2,4%	71,2%	18,8%	6,9%	

**Specific local factors justifying not using the STATFOR base forecasts  
(provide justification below or refer to Annex D for more detailed explanation)**

The Netherlands will apply the STATFOR base scenario of October 2021 for all years except 2022. In our understanding, STATFOR assumes a step-by-step continuation of the current recovery of air traffic, without significant setbacks due to a recurrences of increasing infections leading to new travel restrictions and/or reduced passenger confidence. Although recent development of traffic volume has shown the resilience of air travel, the Netherlands sees a significant risk of a temporary setback, in particular in the short term. Increasing infections in many States show that COVID-19 is not yet gone, and still poses a risk, in particular in 2022. The Netherlands therefore considers it appropriate to take this into account in the traffic forecast. Following consultation of stakeholders (see details in sheet 1.3.6 and relevant Annexes), a scenario is used which provides a balance between STATFOR assumptions and our identification of the risk of potential setbacks.

Due to the lack of detailed visibility of STATFOR assumptions, and the short time available under EU regulations to prepare, consult and decide on the revised forecast, our forecast has necessarily been based on general assumptions only.

*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

Netherlands - TCZ

### 2 Terminal traffic forecast

Local forecast

Local Forecast	2017A	2018A	2019A	2020A	2021	2022	2023	2024	CAGR
									2019-2024
IFR movements (thousands)	290,4	295,1	293,2	131,7	161	219	263	281	-0,8%
IFR movements (yearly variation in %)		1,6%	-0,7%	-55,1%	22,2%	36,0%	20,1%	6,8%	
Terminal service units (thousands)	406,1	412,9	412,0	210,7	244,0	313,3	376,0	401,0	-0,5%
Terminal service units (yearly variation in %)		1,7%	-0,2%	-48,9%	15,8%	28,4%	20,0%	6,6%	

#### Specific local factors justifying not using the STATFOR base forecasts (provide justification below or refer to Annex D for more detailed explanation)

The Netherlands will apply the STATFOR base scenario of October 2021 for all years except 2022. In our understanding, STATFOR assumes a step-by-step continuation of the current recovery of air traffic, without significant setbacks due to a recurrences of increasing infections leading to new travel restrictions and/or reduced passenger confidence. Although recent development of traffic volume has shown the resilience of air travel, the Netherlands sees a significant risk of a temporary setback, in particular in the short term. Increasing infections in many States show that COVID-19 is not yet gone, and still poses a risk, in particular in 2022. The Netherlands therefore considers it appropriate to take this into account in the traffic forecast. Following consultation of stakeholders (see details in sheet 1.3.6 and relevant Annexes), a scenario is used which provides a balance between STATFOR assumptions and our identification of the risk of potential setbacks.

Due to the lack of detailed visibility of STATFOR assumptions, and the short time available under EU regulations to prepare, consult and decide on the revised forecast, our forecast has necessarily been based on general assumptions only.

IFR movements are estimated based on service unit evolution, since no data on IFR movements was provided by STATFOR in its October forecast.

*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 - FABEC 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
<b>Note: elements below were consulted at FABEC level and are therefore presented here in that context.</b>
<b>SAFETY:</b> airspace users fully support the targets set, but more transparency by NSA and ANSP is needed, in terms of information on the different ANSP targets.
<b>ENVIRONMENT:</b> the proposed KEA target in line with the reference value is strongly supported. ANSPs have to build an efficient airspace by reducing complexities. Moreover, greater focus should be put on improving vertical flight efficiency to reduce CO2 emissions.
<b>CAPACITY:</b> the targets, which are in line with the reference values, are supported. Mitigation measures shall be identified and planned to manage volatility, staff availability, rostering, training, new ATC system implementation.
<b>INCENTIVE SCHEME:</b> airspace users strongly advocated for a penalty-only scheme. The CRSTMP limitation is not supported. Furthermore, only the achievement of ANSP targets would drive the changes required by airspace users.
Although stakeholders commented on the challenging nature of the targets, the targets in the areas of safety, environment and capacity are in line with EU-wide targets, as well as the incentive scheme is consistent with EU Regulation 2019/317 laying down a performance and charging scheme in the single European sky. Therefore, the Netherlands decided not to alter the proposed targets and incentive scheme.

#### 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	Select	Not discussed at FABEC consultation; part of national level consultations.
Charging policy	Yes	Not discussed at FABEC consultation; part of national level consultations.
Maximum financial advantages and disadvantages for the mandatory incentive scheme on capacity	Yes	The en route incentive scheme uses a symmetrical maximum amount of bonus and penalty corresponding to 0,5% of the determined costs.  Airspace User representatives strongly advocated for a penalty-only scheme. No bonus should be awarded unless there would be a significant improvement in CAP performance.
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 en route incentive scheme will apply one point of the modulation mechanism as referred to the Annex XIII of the regulation IR (EU) 2019/317 to limit the scope of incentives to cover only CRSTMP delay causes.  Airspace User representatives did not support the limitation of the scope to cover only CRSTMP delay causes.
Symmetric range ("dead band") for the purpose of the mandatory incentive scheme on capacity	Yes	The en route incentive scheme is elaborated with a dead band around the pivot value in recognition of the volatile nature of performance at current delay levels. Only penalising does not serve the purpose of improving performance.  Airspace User representatives did not agree such a symmetric approach. They consider that only a penalty scheme should be developed to manage performance.
Establishment or modification of charging zones	Select	Not discussed at FABEC consultation; part of national level consultations.
Establishment of determined costs included in the cost base for charges	Yes	Not discussed at FABEC consultation; part of national level consultations.
Where applicable, values of the modulated parameters for the traffic risk sharing mechanism	Select	Not discussed at FABEC consultation; part of national level consultations.
Where applicable, decision to apply the simplified charging scheme	Select	Not discussed at FABEC consultation; part of national level consultations.
New and existing investments, and in particular new major investments, including their expected benefits	Yes	Not discussed at FABEC consultation; part of national level consultations.

**1.3.3 - Consultation of stakeholder groups on the performance plan**

<b>#1 - ANSPs</b>	
Stakeholder group composition	FABEC ATSPs (ANA Luxembourg, DFS, DSNA, LVNL, MUAC, skeyes and Skyguide)
Dates of main meetings / correspondence	General FABEC stakeholder consultation meeting, 2 September
Main issues discussed	See minutes of the meeting
Actions agreed upon	See minutes of the meeting
Points of disagreement and reasons	See minutes of the meeting
Final outcome of the consultation	See minutes of the meeting
Additional comments	

<b>#2 - Airspace Users</b>	
Stakeholder group composition	Air France, DLH, Ryanair, SWISS, Easyjet, Tuifly, IATA, A4E, ERAA
Dates of main meetings / correspondence	General FABEC stakeholder consultation meeting, 2 September
Main issues discussed	See minutes of the meeting
Actions agreed upon	See minutes of the meeting
Points of disagreement and reasons	See minutes of the meeting
Final outcome of the consultation	See minutes of the meeting
Additional comments	

<b>#3 - Professional staff representative bodies</b>	
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	

<b>#4 - Airport operators</b>	
Stakeholder group composition	ACI was invited to the FABEC stakeholder consultation meeting as representative body for the airports. No representative attended.
Dates of main meetings / correspondence	General FABEC stakeholder consultation meeting, 2 September
Main issues discussed	See minutes of the meeting
Actions agreed upon	See minutes of the meeting
Points of disagreement and reasons	See minutes of the meeting
Final outcome of the consultation	See minutes of the meeting

Additional comments	
Not consulted by the NSA; consultation of staff is considered the responsibility of the ANSPs.	

<b>#5 - Airport coordinator</b>	
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	

<b>#6 - Other (specify)</b>	
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	

## 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>Similar to 2019, the Netherlands intentionally organised its consultation meeting on the national elements of the FABEC performance plan at an early stage, to ensure there would be sufficient time available to take stakeholder comments into account in the further development of the plan. Stakeholders were informed that written comments would be welcome following the meeting.</p> <p>The main focus of stakeholders was on the overall level of costs, with airspace users expressing concerns about the fact that proposed cost efficiency targets were not in line with EU-wide targets and calling on State and service providers to further reduce costs. Although the proposed targets already represent a reduction in overall costs of €145m (8,2%) compared to the previous plan, State and NSA indicated that they are well aware of the concerns of the airspace users, and would continue to push the ANSPs to maintain focus on any potential savings, but State and NSA also clearly indicated at the meeting that care should be taken to ensure significant further savings do not undermine future service provision, with relevant negative consequences for airspace users. Efforts to further reduce costs following the meeting led to an additional savings of €11m. Unfortunately, for the Netherlands the savings made by MUAC were partly outbalanced by an update in the cost sharing keys based on latest available operational information, leading to overall cost reduction of €7m.</p> <p>State and users disagreed on the validity of the performance plan submitted in 2019, and of the subsequent negative assessment of that plan by EC/PRB, as a reference for identification of savings.</p>
<p>Some specific issues raised (either during the meeting or in writing afterwards) are listed below. See minutes of the meeting (Annex C) for further issues raised and responses provided.</p> <ul style="list-style-type: none"> <li>- Users asked a number of questions regarding the eligibility or correctness of certain cost elements. These questions are addressed under questions g and f (for en route and terminal respectively) of the section of this document on cost efficiency targets for the Netherlands.</li> <li>- Users expressed their preference for an asymmetric incentive scheme for terminal capacity and indicated their disagreement with an incentive scheme based on CRSTMP delay codes only. This point is addressed in the relevant section below.</li> <li>- Users expressed concerns on the feasibility of the ambitious LVNL project portfolio. This portfolio has been reviewed in relation to feasibility, also taking into account the practical impacts of COVID (distancing requirements, remote working conditions, etc), and a revised planning has been included in this performance plan.</li> </ul> <p>No specific actions were agreed during the meeting, and no points of disagreement were explicitly noted. As a result, no actions or points of disagreement were noted in the minutes of the meeting. All attendees were provided with an opportunity to comment on these minutes, but no comments were received.</p>
<p><b>ADDITION FOR SUBMISSION NOVEMBER 2021</b></p> <p>In early November 2021, the Netherlands consulted stakeholders, via a written procedure, on the adaptation of traffic forecasts. Relevant documentation is included in Annex C.</p> <p>The Netherlands proposed traffic scenarios which deviated from the October STATFOR base forecast in 2022 but with an intermediate step in 2023 would be in line in STATFOR base by 2024. Airspace users highlighted their support for using the STATFOR base forecast for all years of RP3, and provided clear supporting arguments.</p> <p>In response to AU arguments, the Netherlands has further adapted its traffic forecasts, which are now between the scenario proposed in the consultation, and the October STATFOR base scenario. The Netherlands still believes there is reason to assume significant risk of temporary setbacks in air traffic recovery during 2022.</p> <p>In response to specific comments from AU, the Netherlands would also like to state the following:</p> <ul style="list-style-type: none"> <li>- AU objected to the argument that recent increases in daily new infections in the Netherlands should be used as an argument for a more cautious traffic scenario. We would like to clarify that in our opinion these recent increases are merely evidence that the virus has not yet disappeared and a risk of recurrence - not just in the Netherlands but throughout Europe and globally - still clearly exists.</li> <li>- AU stated that traffic in Dutch airspace was mostly dependent on overflights and therefore increasing infections at a national level are not relevant for the en route traffic scenario. We would like to point out that in 2019 there were approximately 1.3 million flights in Dutch airspace, and 600 thousand movements at Dutch airports, suggesting nearly half of all flights in the airspace move to or from a Dutch airport, making national effects non-negligible.</li> </ul>

### 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 - for some FAB Member States	The Netherlands will apply a deviation from STATFOR for 2022, see sheet 1.2 for details. Following consultation, and based on AU feedback, this deviation was reduced to only apply for 2022, and the deviation for 2022 was reduced compared to the proposal that was shared for consultation.
Charging policy	Yes	<p>Airspace users requested to be consulted on the recovery of lost ANS revenues for 2020 and 2021. Whereas the Netherlands intend to apply an appropriate consultation process on this topic, it is not considered an RP3 issue but a national policy decision which is outside the scope of the consultation on the performance plan.</p> <p>Equally, airspace users called on the State to contribute to financing ANS provision in order to reduce unit rates. Although comments were noted, and the Netherlands is aware of the financial impact of ANS costs on airspace users, this is also considered a national policy issue, and not within the scope of the RP3 plan. The Netherlands furthermore noted that it had already provided significant financial support to the aviation industry in response to the impact of the COVID-19 pandemic.</p> <p>No comments were made on relevant aspects of charging policy.</p>



Maximum financial advantages and disadvantages for the mandatory incentive scheme on capacity	Yes	<p>Only the incentive scheme for terminal capacity performance was discussed at national level. The incentive scheme for en route capacity was discussed at FABEC level.</p> <p>Users expressed a preference for a non-symmetric incentive scheme and proposed a maximum penalty of 1% and a maximum bonus of 0,5%. The Netherlands considers a symmetric distribution of bonus and penalty to be the fairest format for an incentive scheme, and therefore has not changes its proposal based on stakeholder feedback.</p>
Where applicable, decision to modulate performance targets for the purpose of pivot values to be used for the mandatory incentive scheme on capacity	Yes	<p>Users request an incentive scheme based on all causes of delay, not CRSTMP-only. The Netherlands appreciates the issue: ANSPs deliver their performance in terms of CRSTMP-related delays, but users experience all causes of delay. This makes it difficult to define a scheme within the current rules that is fair to both parties. However, since this incentive scheme is part of a performance scheme for ANS provision, we consider it inappropriate to penalise the ANSP for delays that are outside their scope, but equally we do not support awarding a bonus when the performance level is the result of delay causes outside the ANSP scope. We therefore maintain a scheme based on CRSTMP codes only.</p>
Symmetric range ("dead band") for the purpose of the mandatory incentive scheme on capacity	Yes	<p>No comments made by stakeholders.</p>
Establishment or modification of charging zones	No	<p>Not applicable.</p>
Establishment of determined costs included in the cost base for charges	Yes	<p>See general description of main points, above.</p>
Where applicable, values of the modulated parameters for the traffic risk sharing mechanism	No	<p>Not applicable.</p>
Where applicable, decision to apply the simplified charging scheme	No	<p>Not applicable.</p>
New and existing investments, and in particular new major investments, including their expected benefits	Yes	<p>Users did not comment on specific investments, but noted the need for clear views on benefits, and expressed concerns on the high ambition level and feasibility for the LVNL project portfolio, which was subsequently revised in order to improve overall feasibility, also taking into account practical effects of COVID.</p>

### 1.3.3 - Consultation of stakeholder groups on the performance plan

<b>#1 - ANSPs</b>	
Stakeholder group composition	LVNL, MUAC, KNMI
Dates of main meetings / correspondence	National stakeholder consultation meeting 2 July
Main issues discussed	Discussion of all national elements of the FABEC performance plan
Actions agreed upon	See minutes of the meeting (Annex C).
Points of disagreement and reasons	See minutes of the meeting.
Final outcome of the consultation	See minutes of the meeting.

Additional comments

<b>#2 - Airspace Users</b>	
Stakeholder group composition	IATA, KLM, Lufthansa, easyJet, Ryanair
Dates of main meetings / correspondence	National stakeholder consultation meeting 2 July
Main issues discussed	Discussion of all national elements of the FABEC performance plan
Actions agreed upon	See minutes of the meeting.
Points of disagreement and reasons	See minutes of the meeting.
Final outcome of the consultation	See minutes of the meeting.

Additional comments
<p>Invitations for the national stakeholder consultation meeting were sent to the ten largest airline customers in each of the two charging zones in Dutch airspace, as well as relevant national and international representative bodies (including GA).</p> <p>Following the meeting, written inputs were received from IATA, Lufthansa and easyJet (see Annex C). Given the high number of consultation meetings attended by the user representatives, the impression exists that in some cases user feedback included comments that did not relate to the situation in the Netherlands, or issues presented by the Netherlands were misunderstood. Whereas the feedback from users is highly appreciated, it is therefore equally necessary to scrutinise this feedback to ensure correct interpretation.</p>

<b>#3 - Professional staff representative bodies</b>	
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
Not consulted by the NSA; consultation of staff is considered the responsibility of the ANSPs.

<b>#4 - Airport operators</b>	
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
Schiphol Group, as the main airport operator in the Netherlands, was invited to the general stakeholder consultation meeting, but was unable to attend.

<b>#5 - Airport coordinator</b>	
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
The airport coordinator was not consulted.

<b>#6 - Other (specify)</b>	
Stakeholder group composition	Ministry of Defence
Dates of main meetings / correspondence	National stakeholder consultation meeting 2 July
Main issues discussed	Discussion of all national elements of the FABEC performance plan
Actions agreed upon	See minutes of the meeting.
Points of disagreement and reasons	See minutes of the meeting.
Final outcome of the consultation	See minutes of the meeting.

Additional comments
Ministry of Defence attended the consultation meeting as observer, partly in relation to the planned integration of civil and military service providers during RP3.

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

### 1.4.1 - Airports as per Article 1(3) (IFR movements ≥ 80 000)

ICAO code	Airport name	Charging Zone	IFR air transport movements			
			2016	2017	2018	Average
1 EHAM	Amsterdam Schiphol	Netherlands-TMZ	490.436	508.299	511.321	503.352

Additional comments

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

#### e) Netherlands

Number of airports	3		
ICAO code	Airport name	Charging Zone	Additional information
1 EHRD	Rotterdam	Netherlands-TMZ	
2 EHGG	Groningen Eelde	Netherlands-TMZ	
3 EHBK	Maastricht - Aachen	Netherlands-TMZ	

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

How many Member States in the FAB intend to apply a simplified charging scheme?	0
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## SECTION 2: INVESTMENTS

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### **2.x - Investments**

- 2.x.1 - Summary of investments
- 2.x.2 - Detail of new major investments
- 2.x.3 - Other new and existing investments

2.1 - Investments - LVNL

2.3 - Investments - Royal Netherlands Meteorological Institute (KNMI)

### **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 - LVNL

### 2.1.1 - Summary of investments

Number of new major investments	8
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#	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	Centralised Approach and remote tower Beek and Eelde	13.603.000	13.602.652	0	3.317	26.409	31.401	608.209	8-20	50%	50%	2024
2	Common voice communication system (VCS)	18.194.000	12.275.396	0	5.101	305.794	723.708	703.933	15	54%	46%	2022
3	Expansion facilities/ Polaris	50.411.000	5.040.699	16.944	22.836	22.836	22.836	22.836	40	90%	10%	2019-2024
4	LVNL office and sustainability	56.380.000	29.677.757	28.793	214.371	486.108	559.640	894.647	10-40	90%	10%	2020-2024
5	Maintenance investments	129.691.754	84.101.576	1.150.406	678.370	1.246.604	3.182.061	4.489.988	3-20	69%	31%	2020-2024
6	Replacement of AAA by iCAS and SESAR Deployment of Trajectory Based Operations	128.959.036	75.177.895	1.092.887	43.417	49.159	87.095	7.465.185	20	100%		2023
7	System Wide Information Management (SWIM)	23.231.492	14.095.561	581.706	56.117	76.082	342.542	770.416	8	54%	46%	2020-2024
8	Tower system	23.048.143	14.003.187	1.259.616	29.940	236.843	223.844	201.927	8-20		100%	2020-2024
Sub-total of <b>new major investments</b> above (1)		443.518.425	247.974.724	4.130.351	1.053.468	2.449.837	5.173.127	15.157.141				
Sub-total <b>other new investments</b> (2)		40.678.031	32.580.864	46.223	285.130	1.412.876	2.619.768	2.926.427		69%	31%	
Sub-total <b>existing investments</b> (3)				19.196.114	20.843.842	19.368.376	18.442.080	18.188.000		69%	31%	
<b>Total new and existing investments</b> (1) + (2) + (3)		484.196.456	280.555.588	23.372.688	22.182.440	23.231.089	26.234.974	36.271.568				

\* 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	Centralised Approach and remote tower Beek and Eelde	Total value of the asset	13.603.000 €
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Description of the asset	<p>The aim of the project is to relocate the provision of the Air Traffic Control Services (ATS) of two airports in the Netherlands, Maastricht Aachen Airport and Groningen Airport Eelde, by creating a Remote Tower Center (RTC) at Schiphol's facilities and deploying Remote Towers in the two relocated airports and centralise approach at Schiphol's facilities. The local maintenance organization at the two airports is going to be integrated into the Schiphol maintenance organization.</p> <p>This means that the tower controller will control the airport on another location by (amongst other information) camera's that are installed on the airport which gives him the visual information about the runways, the movement area and the airspace. It is a requirement that the system must be able to support multiple remote tower operations in the future. By centralising the approach controllers of the two airports at Schiphol a situation is reached in which all approach controllers work at one location (Schiphol) and on one air traffic control system.</p> <p>The project will contribute to the re-design of the Dutch airspace , increasing the harmonisation and improving the civil-military cooperation between Air Traffic Control the Netherlands (LVNL) and Royal Netherlands Air Force Command (RNLAf) since the Dutch military controllers are already established in Schiphol's area. Moreover, it will optimise the efficiency of the Air Traffic Control Service at the two concerned airports.</p>	
The investment is mandated by a SES Regulation (i.e. PCP/CP1/Interoperability)?	No	
Level of impact of the investment	Network	No impact expected
	Local	Centralized approach is an enabler for, and will contribute to, the Dutch airspace redesign (it lead to more possibilities to design the Dutch airspace) and the harmonisation, improved cooperation and integration of Dutch civil and military services.
	Non-performance	
Quantitative impact per KPA	Safety	No impact expected or better
	Environment	No impact expected
	Capacity	No impact expected or better
	Cost Efficiency	The project will optimise the efficiency of the Air Traffic Control Service at the two concerned airports EHBK and EHGG. After commissioning the remote tower technology is scalable to more civil or military towers so more efficiency can be reached. This will most likely increase when the multiple tower concept is implemented.
Results of the consultation of airspace users' representatives	<p>No specific comments were made during the consultation meeting regarding individual investments. Some concerns were raised on the feasibility of the overall investment programme, and the performance plan is based on a revised overall planning.</p> <p>In response to an airspace user question, the airports within the scope of this investment were clarified.</p>	
Joint investment / partnership	No	
Investment in ATM systems	Yes	
If investment in ATM system, type?	New system	
If investment in ATM system, Reference to European ATM Master Plan / PCP	Master Plan (non-PCP)	<p>AOP14 – Remote Tower Services</p> <p>The remote tower concept enables air traffic control services (ATS) and aerodrome flight information services (AFIS) to be provided at aerodromes where such services are either currently unavailable, or where it is difficult or too expensive to implement and staff a conventional manned facility.</p> <p>This Objective proposes to remotely provide ATC services and AFIS for one aerodrome handling low to medium traffic volumes or two low-density aerodromes. The basic configuration, which does not include augmentation features, is considered suitable for ATC and AFIS provision at low density airfields. However, the level and flexibility of service provision can be enhanced through the use of augmentation technology, such as an ATC surveillance display, surveillance and visual tracking, infra-red cameras etc.</p> <p>Cost Efficiency: Cost reduction for ATS by optimisation of ATCOs. Remote ATS facilities will be cheaper to maintain, able to operate for longer periods and enable lower staffing costs. It will also significantly reduce the requirement to maintain tower buildings and infrastructure.</p>

↑↑

Name of new major investment 2	<i>Common voice communication system (VCS)</i>		Total value of the asset	<b>18.194.000 €</b>
Description of the asset	<p>The activity aims to deploy a Voice over Internet Protocol (VoIP) based Voice Communication System (VCS) for civil and military Air Traffic Control below flight level 245, in the Netherlands.</p> <p>The activity concerns an extension and upgrade of the current VCS. VoIP will be added to increase interoperability. The common VCS is a shared communication system with LVNL's military partner. It enables LVNL to have a three-lane voice communication system. This means that if the first lane VCS gets disabled, two more independent lanes still exist to handle a full traffic load. It also brings new functionalities. Communications between air traffic controllers across borders nowadays run via telephone connections, but the telecom networks will not support the old digital (E1) and analogue lines in the future. In addition, today it is not easily possible for an air traffic controller in one country to optionally access the radio infrastructure of another country. Only VoIP technology provides the prerequisites for such functions. Furthermore, this technology offers the means of introducing additional performance features that make communications between air traffic controllers and pilots easier and more secure. To implement this technology voice services will have to be fully IP (Internet Protocol)-based and run over an IP network infrastructure and the voice communication systems must be interoperable.</p>			
The investment is mandated by a SES Regulation (i.e. PCP/CP1/Interoperability)?	No			
Level of impact of the investment	Network	Increased sustainability of ATS services, if the first lane VCS gets disabled (in case of a failure of other reason), two more independent lanes (VCS) still exist to handle a full traffic load. This will prevent air traffic control from having to completely reduce air traffic in the Netherlands to zero, thus preventing serious disruption of the network operation and delay.		
	Local	Increased sustainability of ATS services, if the first lane VCS gets disabled (in case of a failure of other reason), two more independent lanes (VCS) still exist to handle a full traffic load. This will prevent air traffic control from having to completely reduce air traffic in the Netherlands to zero, thus preventing serious disruption of the operation and delay.		
	Non-performance			
Quantitative impact per KPA	Safety	The three lane system is more stable, with a lower risk of overall VCS failure.		
	Environment	No impact expected		
	Capacity	The three lane system will prevent air traffic control from having to completely reduce air traffic in the Netherlands to zero in case of a failure of one of the VCS systems, thus preventing serious disruption of the operation and delay.		
	Cost Efficiency	By VoIP reduced costs by enabling flexible and dynamic use of ANSP resources, leading to long term savings.		
Results of the consultation of airspace users' representatives	No specific comments were made during the consultation meeting regarding individual investments. Some concerns were raised on the feasibility of the overall investment programme, and the performance plan is based on a revised overall planning.			
Joint investment / partnership	Yes	Partner Military Air Traffic Control. Following a joint process with the military has allowed a more cost efficient procurement process.		
Investment in ATM systems	Yes			
If investment in ATM system, type?	New system	Extension to a three-lane voice communication system shared with LVNL's military partner and using the Voice over Internet Protocol (VoIP)		

If investment in ATM system, Reference to European ATM Master Plan / PCP	Master Plan (non-PCP)	European ATM masterplan COM11.1 – Voice over Internet Protocol (VoIP) in En-Route This Implementation Objective aims at an efficient use of voice over Internet protocol (VoIP) by harmonised and coordinated implementation for ground/ground and ground part of ground/air aeronautical communications, ensuring network benefits from VoIP implementation. The initiative covers inter centre (encompassing all type of ATM Units) voice communication and the links with the ground radio stations. Inter-centre voice communications are currently mainly performed via analogue and digital circuits. This legacy ATM voice services will soon no longer be supported by the European telecommunication service providers, making the use of new technology necessary.
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↑↑

<b>Name of new major investment 3</b>	<b>Expansion facilities/ Polaris</b>		Total value of the asset	<b>50.411.000 €</b>
Description of the asset	Due to various internal and external developments, amongst others the need for more space for the (migration towards a) new ATC system iCAS, the intended CIV/MIL integration of training and education and the outcome of a Contingency study, the present ATC Centre and its infrastructure need to be expanded. Polaris (the name of the new building) will be delivered just before RP3. During RP3 Polaris will be made ready to house the new ATC system iCAS and a trainings- and education centre for military and civil usage.			
The investment is mandated by a SES Regulation (i.e. PCP/CP1/Interoperability)?	No			
Level of impact of the investment	Network	Improved contingency for ATM services in the Dutch airspace		
	Local	Improved contingency for ATM services in the Dutch airspace		
	Non-performance			
Quantitative impact per KPA	Safety	No impact expected		
	Environment	No impact expected		
	Capacity	Improved contingency for ATM services in the Dutch airspace		
	Cost Efficiency	Enabler for setting up a joint civil/military training school		
Results of the consultation of airspace users' representatives	No specific comments were made during the consultation meeting regarding individual investments. Some concerns were raised on the feasibility of the overall investment programme, and the performance plan is based on a revised overall planning.			
Joint investment / partnership	Yes	Joint development with the military, with the purpose of using the facility as a joint training school.☑		
Investment in ATM systems	No	Polaris is a building for a contingency centre for ATM services☑		
If investment in ATM system, type?	Click to select			
If investment in ATM system, Reference to European ATM Master Plan / PCP	Click to select			

↑↑

<b>Name of new major investment 4</b>	<b>LVNL office and sustainability</b>		Total value of the asset	<b>56.380.000 €</b>
Description of the asset	During RP3 LVNL has to invest in renovating in a sustainable manner the existing HQ building at Schiphol Oost by investing in solar panels to generate green electricity, making the heating installations more energy efficient, insulation of the building, durable office furniture etc. As part of the renovation, the building will be prepared for other ongoing developments, in particular through the creation of offices for staff related to e.g. remote tower/centralised approach, and integration of civil and military service providers.			
The investment is mandated by a SES Regulation (i.e. PCP/CP1/Interoperability)?	No			
Level of impact of the investment	Network	No impact expected		
	Local	No impact expected on formal KPA, but reduced environmental impact (CO2) from business practices		
	Non-performance	No impact expected		
	Safety	No impact expected		
	Environment	No impact expected		

Quantitative impact per KPA	Capacity	No impact expected
	Cost Efficiency	Reduction of energy costs by solar panels to generate green electricity, more energy efficient heath installations and insulation of the buildings.
Results of the consultation of airspace users' representatives	No specific comments were made during the consultation meeting regarding individual investments. Some concerns were raised on the feasibility of the overall investment programme, and the performance plan is based on a revised overall planning.	
Joint investment / partnership	No	
Investment in ATM systems	No	
If investment in ATM system, type?	Click to select	
If investment in ATM system, Reference to European ATM Master Plan / PCP	Click to select	

↑↑

<b>Name of new major investment 5</b>	<b>Maintenance investments</b>	Total value of the asset	<b>129.691.754 €</b>
Description of the asset	<p>In order to maintain the normal level of service provision, several investments are needed with respect to the regular replacement and updating of the ATM systems, buildings and infrastructure, such as:</p> <ul style="list-style-type: none"> <li>- Replacing ILS systems;</li> <li>- Replacing VOR/DMEs;</li> <li>- Replacing direction finders (VDF);</li> <li>- Replacing TAR systems by WAM/ ADS-B systems</li> <li>- Replacement of monitoring and control systems;</li> <li>- Replacement of computers and ICT systems;</li> </ul> <p>Additionally, the introduction of new, modern systems as part of many of the other investments leads to the need to replace/modernise support systems.</p>		
The investment is mandated by a SES Regulation (i.e. PCP/CP1/Interoperability)?	No		
Level of impact of the investment	Network	No impact expected, these investments ensure the continuity of services.	
	Local	No impact expected, these investments ensure the continuity of services.	
	Non-performance		
Quantitative impact per KPA	Safety	No impact expected	
	Environment	No impact expected	
	Capacity	No impact expected, these investments ensure the continuity of services.	
	Cost Efficiency	No impact expected	
Results of the consultation of airspace users' representatives	No specific comments were made during the consultation meeting regarding individual investments. Some concerns were raised on the feasibility of the overall investment programme, and the performance plan is based on a revised overall planning.		
Joint investment / partnership	No		
Investment in ATM systems	Yes		
If investment in ATM system, type?	Replacement	Replacement investments and overhaul of existing systems	
If investment in ATM system, Reference to European ATM Master Plan / PCP	Click to select	Not applicable for replacement investments	

↑↑

<b>Name of new major investment 6</b>	<b>Replacement of AAA by iCAS and SESAR Deployment of Trajectory Based Operations</b>	Total value of the asset	<b>128.959.036 €</b>
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Description of the asset	<p>The current AAA-system (FDP) is the core of the LVNL support system for operational services, it allows for the processing of flight plan- and radar data, it handles the display of relevant information on the operational workstations and it includes warning- (safety nets) and planning functions. AAA will no longer meet future operational requirements, like 4D trajectory based operations and SWIM, at a cost-efficient level.</p> <p>The iCAS programme objective is to procure and deploy a state-of-the-art, harmonised and interoperable air traffic control system which will be rolled out at all DFS and LVNL control centres. iCAS is an important contribution to LVNL's ability to achieve the implementation of numerous Families of the Deployment Programme of the SESAR Deployment Manager to be deployed for Common Project 1. iCAS features a 4D-trajectory and is designed to provide ATC services within the entire airspace of Germany and the Netherlands including all lower and upper control centre sectors (except in airspace controlled by EUROCONTROL Maastricht UAC).</p> <p>iCAS will be used as a fully integrated civil / military ATS system, thus enabling a more "advanced and flexible use of the airspace" (A-FUA) for both civil and military purposes. The key iCAS components Flight Data Processor, Controller Working Position and Middleware are developed in the iTEC Collaboration together with a total of 7 ANSPs thus enabling a cost-efficient procurement as well as ensuring an interoperable system in line with the strategic goals of the Single European Sky (EU No. 552/2004 and EU No. 1070/2009). iCAS-II adds all necessary functions to the iCAS-I system to support ATC services in lower en-route and Terminal Manoeuvring Area (TMA) and to enable the transition between free route airspace and low en-route and terminal airspace operations including the integration with their associated TMAs and Extended Arrival Management systems.</p> <p>iCAS will make use of improved high resolution (hi-res) meteorological information as produced and developed by MET ANSP KNMI.</p> <p>iCAS will enable the introduction of future operational concepts which are based on 4D-trajectory information and which aim to move from today's tactical ATM operations towards increasingly strategic ATM operations.</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.)	Yes	Mandated by PCP regulation (EU) No 716/2014 and CP1 regulation (EU) No 2021/116 ; Funded by CEF grant agreements 2015-EU-TM-0196-M, 2016-EU-TM-0117-M and 2017-EU-TM-0076-M.						
Specify links to the PCP/CP1/Interoperability Regulations (add the sub-AF number(s) under each relevant box)	AF1 1.1	AF2	AF3 3.2	AF4 4.2	AF5 5.5 and 5.6	AF6	Interoperability	
Benefits for airspace users and results of the consultation of airspace users' representatives	<ul style="list-style-type: none"> <li>- Common Deployment of iCAS into all DFS and LVNL Control Centers enables cost sharing in procurement, deployment and maintenance life cycles thus reducing total iCAS cost of ownership;</li> <li>- The continuity of services is better guaranteed by replacing the current AAA system with the new iCAS;</li> <li>- The advanced conflict management tools of iCAS will increase situational awareness of potential conflicts, so increasing safety;</li> <li>- iCAS will enable improved flight efficiency, allow for optimised routes regarding time and route length therewith reducing fuel burn and CO2 emissions. The improvements can generate benefits in Delay absorption, Delay reduction and User driven prioritisation process;</li> <li>- Increased system support and advanced tools will free the ATCOs from routine tasks providing gains in productivity. A productivity growth could make a capacity growth possible.</li> </ul>							
Joint investment / partnership	Yes	Partner DFS						
Investment in ATM systems	Yes							
If investment in ATM system, type?	Replacement investment	Partly a replacement investment (replacing AAA) and partly a new system for CP1 requirements and future Trajectory Based Operations						
If investment in ATM system, Reference to European ATM Master Plan / PCP	PCP	<ul style="list-style-type: none"> <li>- CP1 ATM Functionality 1: Extended AMAN and Integrated AMAN/DMAN in the high-density TMA, sub-functionality 1.1 "Arrival Management extended to en-route Airspace";</li> <li>- CP1 ATM Functionality 3: Flexible Airspace Management and Free Route Airspace, sub-functionality 3.2 "Free Route Airspace";</li> <li>- CP1 ATM Functionality 4: Network Collaborative Management, sub-functionality 4.2 "Collaborative NOP"</li> <li>- CP1 ATM Functionality 5: Initial System Wide Information Management, sub-functionalities 5.5 "Cooperative network information exchange" and 5.6 "Flight information exchange";</li> </ul>						

↑↑

<b>Name of new major investment 7</b>	<b>System Wide Information Management (SWIM)</b>					Total value of the asset	<b>23.231.492 €</b>
Description of the asset	<p>Implementation of System Wide Information Management includes IPv6 based data communication networks, Public Key Infrastructure, SWIM technical infrastructure and systems using web services for the exchange of:</p> <ul style="list-style-type: none"> <li>- Aeronautical information</li> <li>- Meteorological information</li> <li>- Cooperative network information</li> <li>- Flight information (Yellow profile).</li> </ul> <p>By using open standards and interoperable services based on a Service Oriented Architecture (SOA) information can be shared throughout the system and consistent information is available to all interested. This will provide for sharing of information across different systems. Depending on the type of information an ANSP is a producer or consumer of information. The loose system coupling and separation of information provision and information consumption allow for quick and cost-effective creation of new system interfaces. Information is exchanged by XML based standard data models which makes the information machine readable. Cyber security is an important aspect of SWIM implementation. To exchange information by SWIM services the current systems need to be upgraded, adapted, interfaced or replaced. The actual list of services that LVNL provides will be made available in the common registry.</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.)	Yes	Mandated by PCP regulation (EU) No 716/2014 and CP1 regulation (EU) No 2021/116 ; Only a part of the investment activities are funded by CEF grant agreements 2015-EU-TM-0193-M, 2015-EU-TM-0196-M and 2017-EU-TM-0076-M.					
Specify links to the PCP/CP1/Interoperability Regulations (add the sub-AF number(s) under each relevant box)	AF1	AF2	AF3	AF4	AF5	AF6	Interoperability
					5.1, 5.2, 5.3, 5.4, 5.5 and 5.6		
Benefits for airspace users and results of the consultation of airspace users' representatives	<ul style="list-style-type: none"> <li>- Information can be shared throughout the system and consistent information is available to all interested. Up-to-date information shared with ANSPs and NM, it supports the exchange of flight information (and in the future trajectory based operations) and enhance the optimal flow of traffic.</li> <li>- SWIM allow for quick and cost-effective creation of new system interfaces and adaptation and extension of the information exchanged.</li> </ul> <p>Implementation of new interfaces can be done separately in the different organisations and participating organisations only implement the parts of the system they need. Both is cheaper than the current situation. ☒</p>						
Joint investment / partnership	Click to select	Only for Common infrastructure components (NewPENS and PKI), partner Eurocontrol					
Investment in ATM systems	Yes						
If investment in ATM system, type?	New system						
If investment in ATM system, Reference to European ATM Master Plan / PCP	PCP	- CP1 ATM Functionality 5: "System Wide Information Management", sub-functionalities 5.1: "Common infrastructure components", 5.2 "SWIM yellow profile technical infrastructure and specifications", 5.3 "Aeronautical information exchange", 5.4 "Meteorological information exchange", 5.5 "Cooperative network information exchange" and 5.6 "Flight information exchange (Yellow profile)".					

↑↑

<b>Name of new major investment 8</b>	<b>Tower system</b>	Total value of the asset	<b>23.048.143 €</b>
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Description of the asset	<p>LVNL will deploy a state-of-the-Art tower system at Schiphol Airport to support the implementation of the European ATM Master Plan and the Common Project 1 (CP1) in accordance with the SESAR deployment plan. Realisation of CP1 requirements in the TWR domain consists of:</p> <ul style="list-style-type: none"> <li>- Departure Management Synchronised with Pre-departure sequencing, including A-SMGCS 1 and 2</li> <li>- Airport Safety Nets</li> </ul> <p>In addition:</p> <ul style="list-style-type: none"> <li>- A-SMGCS routing and planning function (to improve Airport Safety Nets)</li> <li>- Upgrade of the A-SMGCS Surveillance System</li> <li>- Interface for surface movement guidance</li> </ul> <p>The new TWR-system allows the processing of flight plan- and radar data, it handles the display of relevant information on the operational workstations, it handles Electronic Flight Strips, Airport CDM and controls the taxiway centreline lighting. Departure management synchronised with pre-departure sequencing is a means to improve departure flows at Schiphol Airport. Advanced Surface Movement Guidance and Control Systems (A-SMGCS) shall provide optimised taxi-time and improve predictability of take-off times. The routing and planning functions of A-SMGCS shall provide the automatic generation of taxi routes, with the corresponding estimated taxi time and management of potential conflicts. Airport safety nets consist of the detection and alerting of conflicting ATC clearances to aircraft and deviation of vehicles and aircraft from their instructions, procedures or routing which may potentially put the vehicles and aircraft at risk of a collision.</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.)	Yes	Mandated by PCP regulation (EU) No 716/2014 and CP1 regulation (EU) No 2021/116; Only a part of the investment activities are funded by CEF grant agreement 2015-EU-TM-0196-M.						
Specify links to the PCP/CP1/Interoperability Regulations (add the sub-AF number(s) under each relevant box)	AF1	AF2 2.1 and 2.3	AF3	AF4	AF5	AF6	Interoperability	
Benefits for airspace users and results of the consultation of airspace users' representatives	<ul style="list-style-type: none"> <li>- The new TWR system will enhance safety and reduce hazardous situations on the runway;</li> <li>- The new TWR system will calculate the most operationally relevant route, reducing taxi time (less fuel burn);</li> <li>- The new TWR system aims at maximising traffic flow on the runway by setting up a sequence (DMAN) with minimum optimised separations. Provide optimised taxi-time and improve predictability. Improved predictability results in more optimal use of available capacity and thus less delays.</li> <li>- No cost efficiency for ANSP expected. Airlines will benefit financially from these activities.</li> </ul>							
Joint investment / partnership	No							
Investment in ATM systems	Yes							
If investment in ATM system, type?	Replacement							
If investment in ATM system, Reference to European ATM Master Plan / PCP	PCP	- CP1 ATM Functionality 2: Airport Integration and Throughput, sub-functionalities 2.1 "Departure Management Synchronised with Pre-departure sequencing" and 2.3 "Airport Safety Nets".						

### 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

See the appendix of Annex R for further information on main other investments



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

Number of new other investments	<input type="text" value="Click to select number of new other investments"/>
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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	2024	

## 2.2 - Investments - MUAC

Information is provided at MUAC level and is therefore not specific to the Netherlands only.

### 2.2.1 - Summary of investments

Number of new major investments	6
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#	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	New Voice Communication System	6.939.000	6.939.000	663.020	706.133	698.362	690.383	682.310	8 to 15	100%		Q4-2017
2	MeDUSA (MUAC Dual System Architecture)	13.500.000	13.500.000	0	0	0	0	0	8 to 15	100%		Q4-2025
3	Back up Voice Communication System	8.700.000	8.700.000	0	0	0	0	0	8 to 15	100%		Q4-2027
4	Data Centre Modernisation	7.103.000	7.103.000	0	0	0	511.890	507.438	15 to 20	100%		Q2-2023
5	IOP-G programme - First deployment	21.000.000	21.000.000	0	0	0	0	0	8 to 15	100%		Q2-2029
6	PHOENIX - New ops building (previously called New ATCO Consoles project)	34.375.000	34.375.000	0	0	0	0	0	8 to 50	100%		Q4-2026
Sub-total of <b>new major investments</b> above (1)		91.617.000	91.617.000	663.020	706.133	698.362	1.202.273	1.189.748				
Sub-total <b>other new investments</b> (2)		36.509.000	36.509.000	0	549.900	1.207.900	2.523.900	3.839.900				
Sub-total <b>existing investments</b> (3)				8.581.777	6.267.967	5.228.738	4.740.827	4.132.352				
<b>Total new and existing investments</b> (1) + (2) + (3)		128.126.000	128.126.000	9.244.797	7.524.000	7.135.000	8.467.000	9.162.000				

\* 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	New Voice Communication System		Total value of the asset	6.939.000 €
Description of the asset	ED-137 compliant VoIP Voice Communication System, including test system. The system supports the FABEC concept for inter-centre sectorisation.			
The investment is mandated by a SES Regulation (i.e. PCP/CP1/Interoperability)?	No			
Level of impact of the investment	Network	Very limited on the short term. Positive impact on the network will arise once VoIP has been implemented across all ANSPs in Europe.		
	Local	None		
	Non-performance	None		
Safety	Current safety levels are maintained or improved. Improved radio coverage.			
	Environment	No impact		

Quantitative impact per KPA	Capacity	The N-VCS can support more sectors than the old one and provides in addition more flexibility when switching from one sector configuration to another. Essential enabler for future CONOPS developments e.g. deeper integration with FDPS.
	Cost Efficiency	Reduced communication maintenance costs
Results of the consultation of airspace users' representatives	Covered in national consultation of BE, NL, GE and LUX. No specific comments were made.	
Joint investment / partnership	Yes	Common procurement with DSNA
Investment in ATM systems	Yes	
If investment in ATM system, type?	Replacement investment	
If investment in ATM system, Reference to European ATM Master Plan / PCP	Master Plan (non-PCP)	Replacement of the Voice System, supporting VoIP for ground telephone; implementation objective COM11.1

↑↑

<b>Name of new major investment 2</b>	<b>MeDUSA (MUAC Dual System Architecture)</b>		Total value of the asset	<b>13.500.000 €</b>
Description of the asset	The MUAC Dual System Architecture (MeDUSA) project will provide an upgraded Fallback/system, which will support the necessary operational requirements for a safe transition from Primary high capacity to Fallback sustained capacity. Upgraded Fallback CWP-HMI with additional functionalities on top of the currently existing ones : identical look and feel as the PRI-CWP, datalink and outgoing OLDI. The project is currently in the initiation phase.			
The investment is mandated by a SES Regulation (i.e. PCP/CP1/Interoperability)?	No			
Level of impact of the investment	Network	None		
	Local	Due to the similar HMI and features in both PRI and FLB, training effort will be less. In addition, the legacy fallback system is a potential blockage to future capacity gains. MEDUSA ensures that primary system capacity at MUAC can grow, due to the higher		
	Non-performance	None		
Quantitative impact per KPA	Safety	The project is in the initiation phase. It is too early to quantify its impact.		
	Environment	No direct impact		
	Capacity	Positive impact as a) MEDUSA ensures that primary system capacity at MUAC can grow and b) When operating under fallback conditions, the new system will be able to cope with more flights than the current fallback system.		
	Cost Efficiency	No direct impact		
Results of the consultation of airspace users' representatives	Covered in national consultation of BE, NL, GE and LUX. No specific comments were made.			
Joint investment / partnership	No			
Investment in ATM systems	Yes			
If investment in ATM system, type?	Overhaul of existing system			
If investment in ATM system, Reference to European ATM Master Plan / PCP	Master Plan (non-PCP)	The upgraded Fallback System will provide for a new Fallback CWP-HMI, as well as a replacement of the current MUAC Fallback Flight Server		

↑↑

<b>Name of new major investment 3</b>	<b>Back up Voice Communication System</b>		Total value of the asset	<b>8.700.000 €</b>
Description of the asset	Replacement of the current BVCS system introduced in 2008			

The investment is mandated by a SES Regulation (i.e. PCP/CP1/Interoperability)?	No	
Level of impact of the investment	Network	None
	Local	None
	Non-performance	This is a replacement project, without direct impact on network or local performance.
Quantitative impact per KPA	Safety	The project is in the initiation phase. It is too early to quantify it's impact.
	Environment	No direct impact
	Capacity	No direct impact
	Cost Efficiency	With the migration to IP technology, the phase out of legacy telephony will start
Results of the consultation of airspace users' representatives	Covered in national consultation of BE, NL, GE and LUX. No specific comments were made.	
Joint investment / partnership	No	
Investment in ATM systems	Yes	
If investment in ATM system, type?	Replacement investment	
If investment in ATM system, Reference to European ATM Master Plan / PCP	Master Plan (non-PCP)	Replacement of the Backup Voice System, supporting VoIP for ground telephone; implementation objective COM11.1

↑↑

<b>Name of new major investment 4</b>	<b>Data Centre Modernisation</b>	Total value of the asset	<b>7.103.000 €</b>
Description of the asset	The data Centre Modernisation project aims at the upgrade of the equipment rooms and their installations and facilities to the Uptime Institute TIER III level. Besides that, the project will deliver processes and tooling to efficiently plan the rack-space and administer the assets and their physical (network) interconnections.		
The investment is mandated by a SES Regulation (i.e. PCP/CP1/Interoperability)?	No		
Level of impact of the investment	Network	No	
	Local	No	
	Non-performance	The upgrade of the infrastructure is needed in order to ensure that the platform remains capable to support current and future IT needs.	
Quantitative impact per KPA	Safety	Reduced risk of system interruptions	
	Environment	Improved energy consumption, fire protection and physical security	
	Capacity	Reduced risk of system interruptions	
	Cost Efficiency	No	
Results of the consultation of airspace users' representatives	Covered in national consultation of BE, NL, GE and LUX. No specific comments were made.		
Joint investment / partnership	No		
Investment in ATM systems	No		
If investment in ATM system, type?			
If investment in ATM system, Reference to European ATM Master Plan / PCP			

↑↑

<b>Name of new major investment 5</b>	<b>IOP-G programme - First deployment</b>	Total value of the asset	<b>21.000.000 €</b>
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Description of the asset	To comply with the Initial SWIM Implementing Rule 716/2014 of the Pilot Common Projects (PCP), MUAC is preparing the implementation of the Flight Object (FO), supported by the Blue SWIM Profile. The IOPG Programme comprises additional validations to complement the validations under SESAR1 & SESAR2020, the development and integration of the SWIM Node and Flight Object Manager (common project with ITEC) and the modifications to							
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.)	Yes							
Specify links to the PCP/CP1/Interoperability Regulations (add the sub-AF number(s) under each relevant box)	AF1	AF2	AF3	AF4	AF5	AF6	Interoperability	
					Family 5-6-2			
Benefits for airspace users and results of the consultation of airspace users' representatives	Access to common flight data can result in improved coordination in user-preferred route environments, safety, robustness and concepts of operation. Costs saving through common development of the Blue SWIN Node and Flight Object Manager with ITEC.							
Joint investment / partnership	Yes							
Investment in ATM systems	Yes							
If investment in ATM system, type?	New system							
If investment in ATM system, Reference to European ATM Master Plan / PCP	PCP	AF#5,family 5-6-2						

↑↑

<b>Name of new major investment 6</b>	<b>PHOENIX - New ops building (previously called New ATCO Consoles project)</b>		Total value of the asset	<b>34.375.000 €</b>
Description of the asset	New operational building, flexibly locatable in a brighter OPS Room, including new consoles designed to modern ergonomic standards, improved training, test and locat contingency infrastructure, refurbished training, test & contingency environment. The Study Phase has been approved by the MCG; the outcome of the study will be presented in the MCG of Spring 2022.			
The investment is mandated by a SES Regulation (i.e. PCP/CP1/Interoperability)?	No			
Level of impact of the investment	Network			
	Local	The new building will provide additional CWP's to handle more traffic.		
	Non-performance			
Quantitative impact per KPA	Safety	The project is in the initiation phase. It is too early to quantify it's impact.		
	Environment	Sustainability will be a high priority for the new OPS building		
	Capacity	Additional CWP's will allow for a higher capacity and support the future CONOPS.		
	Cost Efficiency	No impact		
Results of the consultation of airspace users' representatives	Covered in national consultation of BE, NL, GE and LUX. No specific comments were made.			
Joint investment / partnership	No			
Investment in ATM systems	No			
If investment in ATM system, type?				
If investment in ATM system, Reference to European ATM Master Plan / PCP				

## 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

The **existing investments** with the highest significance in terms of operational and financial impact are : the MUAC building (9 M€ of depreciations over RP3), new FDPS which has been fully depreciated at the end of 2020 (3.7 M€ of depreciations in 2020), the data centre operations (3.1 M€ of depreciation over RP3), the Radio Direction Finder (1.2 M€ over RP3), the MUAC office Cloud operations OBS (1.1 M€ over RP3) and the BEEK transmitter station (0.6 M€ over RP3). The new investments with the highest significance are disclosed in section 2.7.1 . **Other new investment projects** includes among others , Maintenance of servers and workstations, the new Access Control system and increased automation in training (MUSE project).

**2.2.3.2 - 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	2024	
1	Data Centre operations	7.321.000	7.321.000	620.000	620.000	620.000	620.000	620.000	Obsolescence : replacement of servers and workstations  NOTE: Although the total value of this line is more than €5mln, the line covers a significant number of smaller replacement investments which are grouped here for convenience. Alle individual investments are well below the €5mln threshold.
2	New Access Control System	2.800.000	2.800.000				100.000	200.000	obsolescence of the existing access control system, acquire a new and state of the art access control system based on an integrated security platform which interconnects all required applications within an open architecture meeting the present regulations, expecting benefits are in user friendliness, IT security, capacity and possibilities of the new system, improvement of physical barriers, futureproof and reducing of maintenance costs
3	Automated/remote ATCO training, self training and scoring (MUSE)	1.708.000	1.708.000					600.000	Improvement of the real time simulation environment at MUAC and from home leading to workload reduction, sel training for ab-initios

## 2.3 - Investments - Royal Netherlands Meteorological Institute (KNMI)

### 2.3.1 - Summary of investments

Number of new major investments	1
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#	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 <b>new major investments</b> above (1)	0	0	0	0	0	0	0				
	Sub-total <b>other new investments</b> (2)	1.300.000	780.000	0	0	260.000	260.000	260.000		82%	18%	
	Sub-total <b>existing investments</b> (3)			21.000	12.000	12.000	12.000	12.000		82%	18%	
	<b>Total new and existing investments</b> (1) + (2) + (3)	1.300.000	780.000	21.000	12.000	272.000	272.000	272.000				

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

### 2.3.2 - 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	<i>KNMI has no new major investments planned. However, if '0' is selected in cell D6, the table in rows 8-63 disappears completely, leaving no space to report other new investments. For this reason '1' was selected, but there is no information to provide here. Further details on other new investments are provided below.</i>								
The investment is mandated by a SES Regulation (i.e. PCP/CP1/Interoperability)?									
Specify links to the PCP/CP1/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								
	Non-performance								
Quantitative impact per KPA	Safety								
	Environment								
	Capacity								
	Cost Efficiency								
Benefits for airspace users and results of the consultation of airspace users' representatives									
Joint investment / partnership									
Investment in ATM systems									
If investment in ATM system, type?									

If investment in ATM system, Reference to European ATM Master Plan / PCP		
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**2.3.3 - Other new and existing investments**

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

The total of investments costs is 1300k€ (combined en-route and terminal) and consists of LIDARs for Schiphol.

The two points below are charged to aviation via allocation keys. Compared to budget, there is a shift between fixed assets/depreciation and other operational costs:

1. Replacement and renewal investment of observation infrastructure and components in the observing network for aviation
2. Improved contingency and forecaster tools

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

Number of new other investments	<a href="#">Click to select number of new other investments</a>
---------------------------------	---

#	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	



## SECTION 3: PERFORMANCE TARGETS AND MEASURES FOR THEIR ACHIEVEMENT

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### 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 - 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

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### **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		7					
		2020A	2020	2021	2022	2023	2024
		<i>Actual</i>	<i>Target</i>	<i>Target</i>	<i>Target</i>	<i>Target</i>	<i>Target</i>
LVNL	Safety policy and objectives	C	C	C	C	C	C
	Safety risk management	C	C	C	C	D	D
	Safety assurance	C	C	C	C	C	C
	Safety promotion	C	C	C	C	C	C
	Safety culture	C	C	C	C	C	C
	Additional comments						
		2020A	2020	2021	2022	2023	2024
		<i>Actual</i>	<i>Target</i>	<i>Target</i>	<i>Target</i>	<i>Target</i>	<i>Target</i>
MUAC	Safety policy and objectives	C	C	C	C	C	C
	Safety risk management	D	D	D	D	D	D
	Safety assurance	C	C	C	C	C	C
	Safety promotion	C	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**

*\* Refer to Annex O, if necessary.*

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

There are different committees established within FABEC as explained in the "FABEC Reference Guide", clearly highlighting the existing groups at ANSPs as well as Competent Authorities level and their responsibilities. For the KPA of Safety the ANSPs' committee installed is the Standing Committee Safety (SC-SAF) where all 7 ANSPs are represented.

On ANSPs level, a few measures for safety risk management were put in place by individual ANSPs as follows.

LVNL (the Netherlands) decided to put in place following measures:

- Annual update of SMS;
- Establishment of a risk-based Safety Plan;
- Update of Safety Risk Target document and corresponding Unit Safety Case.

MUAC decided to put in place following measures

- Improving traceability between safety requirements;
- Creating an overall MUAC dashboard to steer the KPIs, including the safety aspect;
- Providing input to the FABEC working groups (SRAP and SPM).

On the Competent Authority level, the compliance verification of Commission Implementing Regulation (EU) 2017/373 is considered an effective means by inspecting the current safety performance and thus also anticipating if a set target is endangered. As the EoSM results are directly linked to aforementioned regulation's compliance verification, this is clearly depicting an early indicator of EoSM maturity and its necessary improvement.

Further, FABEC Competent Authorities meet regularly (three times a year) in a dedicated working group, the Safety Performance and Risk Coordination Task Force (SPRC TF), to gather Safety Performance data, to compare the ANSPs' performance among each other and to jointly determine whether and where catch-up demand is necessary. Additionally, the SPRC TF has established cooperation with the Standing Committee Safety (SC-SAF) to guarantee a holistic approach including all 7 FABEC ANSPs.

*\* Refer to Annex O, if necessary.*

## SECTION 3.2: ENVIRONMENT KPA

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### **3.2 - Environment targets**

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

- a) FAB environment performance targets
- b) Detailed justifications in case of inconsistency between FAB targets and FAB 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

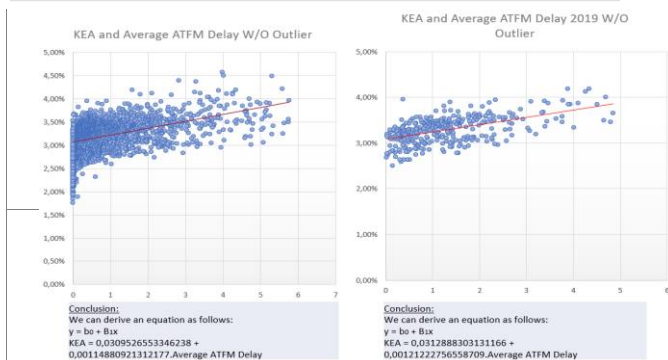
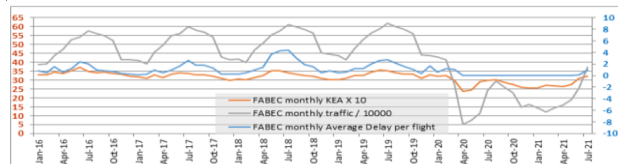
#### 3.2.1 - Environment KPI #1: Horizontal en route flight efficiency (KEA)

##### a) National environment performance targets

	2020A	2020	2021	2022	2023	2024
National reference values	2,63%	n/a	2,63%	2,62%	2,62%	2,62%
		2020	2021	2022	2023	2024
National targets		Target	Target	Target	Target	Target
		2,63%	2,63%	2,62%	2,62%	2,62%

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

The Netherlands is planning to reach the reference values. However, in line with earlier statements made by FABEC, the Netherlands wants to underline uncertainties of the achievement of strong correlation with delays. Though the Netherlands is also committed to achieve capacity reference values, current volatility in traffic evolution - and thus also uncertainties as far as bottlenecks and delays might endanger this goal.



In addition, the Netherlands continues to underline the **limitations of the KPI HFE**, with significant influential factors without (share of overflights as well as weather) or only within limited control of ANSPs and the civil aviation administration (military use of airspace). Furthermore, there are numerous situations where a good horizontal flight efficiency might not constitute the most CO<sub>2</sub>-efficient flight path (flying in non-optimal flight level or non-optimal wind-related flight paths, see <https://www.eurocontrol.int/publication/eurocontrol-data-snapshot-14-horizontal-flight-efficiency>). Also, from a network perspective, **focussing on local HFE might have a negative impact** (see also <https://ansperformance.eu/library/pru-hfe.pdf>) and thus the Netherlands advocates for a reassessment of the local level HFE and especially to reassess the necessity and benefit of considering contributions by individual ANSPs.

Apart from improvements on HFE, the Netherlands also stresses **additional projects to reduce any negative environmental impact** that are within the control of ANSPs. Thus, among others, projects to improve vertical flight efficiency during climb and descent (CCO/CDO), but also the MUAC project to reduce contrails at night, perceived to have a measurable impact on climate change should be valued. In addition, efforts of ANSPs to reduce noise pollution with a severely negative impact on the highly populated areas around airports does pose a priority of ANSPs that however result in trade-offs with horizontal flight efficiency and should thus be especially taken into account when assessing performance in the KPA Environment.

\* Refer to Annex P, if necessary.

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

###### MUAC

MUAC has implemented free route airspace (FRA) 24/7 across its entire airspace. FRA offers airspace users more direct flight planning options, reducing fuel burn and emissions.

MUAC optimises airspace sectors to draw full benefit from free route airspace. On the AIRAC date 25 March 2021, MUAC successfully implemented a major overhaul of its airspace sector layout, which now better meets the European concept of free route airspace. The new airspace sector organisation is designed to better support higher traffic levels as soon as commercial schedules resume. Benefits include a reduction in flight planning restrictions and the creation of several shorter flight-plannable route options. The new sectorisation, with the alignment of flows and sector boundaries, also provides benefits for MUAC operations in terms of a reduction in airspace complexity and therefore enhanced capacity performance. Full acceptance of the measures and thus benefits are expected over the course of 2021, resulting in an improved and then maintained HFE.

After optimizing ATS-routes in 2020 MUAC has removed more than 100 network restrictions – the so-called Route Availability Document (RAD) measures - to improve flight planning options, making flights 'greener' by ensuring more direct routings.

The implementation of concept "CDR activation" to "Area activation" has been done which allows for a better predictability and traffic distribution between DECO and BSG sector groups. All routes are available for flight planning 24/7 and closed by FUA. A MUAC FUA cell has been created.

###### LVNL

Flight efficiency is largely dependent on the airspace structure and the availability of temporary reserved airspace, both in the Netherlands and in adjacent countries. Due to the limited size of LVNL airspace, opportunities for significant improvements are scarce. Increases of low visibility capacities have been realised, allowing shorter holding times in case of visibility improvements, increasing KEA.

Notable improvements of horizontal and vertical flight efficiency will be achieved through the national airspace redesign programme. Especially the horizontal flight efficiency of traffic flows on the southeast axis is expected to benefit from a redesign of the airspace in the southeastern part of Dutch airspace, and in particular the potential move of a military training area from the southeast to the north. While the first parts of the redesign programme are planned to be implemented in RP3, most benefits are expected after RP3.

Other initiatives during RP3 that will deliver or enable improved flight efficiency are the implementation of the new LVNL ATM system (ICAS), the implementation of AMAN/XMAN, the integration of the civil and military service providers (enabling more efficient airspace use) and the introduction of PBN. PBN routes within the Schiphol TMA improve predictability and therefore vertical flight efficiency, but also reduce noise.

A full list of projects improving horizontal flight efficiency within the Netherlands including additional information might be found in the **ERNIP Part 2** (<https://www.eurocontrol.int/publication/european-route-network-improvement-plan-ernip-part-2>). For further information on FRA development as well as Extended Arrival Management XMAN, please consult the FABEC-webpage under <https://www.fabec.eu/strategy/operations>.

\* Refer to Annex P, if necessary.

## SECTION 3.3: CAPACITY KPA

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### 3.3 - Capacity targets

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

- a) FAB capacity performance targets
- b) Detailed justifications in case of inconsistency between FAB targets and FAB reference values
- c) Main measures put in place to achieve the target for en-route ATFM delay per flight
- d) ATCO planning
  - d.1) skeyes
  - d.2) DSNA
  - d.3) DFS
  - d.4) LVNL
  - d.5) MUAC
  - d.6) Skyguide

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

##### 3.3.2.1 - Belgium

- a) 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

##### 3.3.2.2 - France

##### 3.3.2.3 - Germany

##### 3.3.2.4 - Luxembourg

##### 3.3.2.5 - Netherlands

##### 3.3.2.6 - Switzerland

### 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	0,01	n/a	n/a	0,14	0,14	0,14
		2020 Target	2021 Target	2022 Target	2023 Target	2024 Target
National targets		0,14	0,14	0,14	0,14	0,14

**Important note:** National reference values and MUAC reference values at national level for 2022-2024 were provided by NM on 28 October, on request by the MUAC States. Reference values are in line with agreed Union wide targets. Proposed local target s are in line with reference values. Not targets at national level were set for 2020 and 2021 in the draft FABEC RP3 performance plan, as this was not required by the performance regulation. It is not feasible to set these targets retroactively. For completeness, the reference values for 2022-2024 were also set as targets for 2020 and 2021.

	2020A	2020	2021	2022	2023	2024
ANSP contribution to national targets	Actual	Value	Value	Value	Value	Value
LVNL	0,01	0,13	0,06	0,09	0,09	0,10
ANSP contribution to national target	LVNL contribution to RP3 capacity targets is in line with the reference values set by the NM during the period.  LVNL will pursue continuous recruitment and improve training to maintain levels of ATCOs, in anticipation of the significant number of ATCOs that will retire in the coming years. Additionally, activities are planned to eliminate the bow-wave effect of COVID-19 in operational training. Both will help in maintaining capacity while traffic recovers to pre-COVID levels.  In the period 2022-2024, LVNL will implement several capacity benefiting projects, such as a Decision Support Tool for enhanced ATFCM, AMAN/XMAN, AOP-NOP information sharing and LARA for advanced FUA.					
MUAC	0,01	0,95	0,13	0,15	0,15	0,15
ANSP contribution to national target	NOTE: 2020 and 2021 targets for MUAC were set at overall MUAC level, through the draft FABEC RP3 performance plan. It is not feasible to adjust these targets retroactively.  MUAC's contribution to the RP3 capacity target is in line with the reference values set by the NM. The drop in traffic observed in 2020 and the slow recovery in 2021 are important factors in delay reduction.  While the volatility of traffic demand is expected to be very high over the coming years, MUAC is confident that there will be sufficient staffing and procedures in place to stay within the set targets, e.g. as a result of the 2019 ATCO social agreement and the 'minus counter' applied during low traffic in years 2020 and 2021, which helps to provides more ATCO hours in the later years of RP3.					

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

During RP1, and at the time of developing RP2 plans, traffic growth was lower than forecasts and its future was uncertain. As a result, the main focus of all stakeholders was on cost-efficiency, and ANSPs aimed to control costs, i.a. through reducing or delaying recruitments and investments. In reality, Dutch airspace - like the rest of Europe - has experienced unforeseen high traffic growth during RP2, as well as significant traffic shifts. ANSPs have reacted to this but measures required to increase capacity in a structural manner need time to be implemented and become effective (e.g. hiring and qualifying new ATCO need 3 to 5 years), investment and related operational changes for additional capacity also need several years and may imply provisional capacity reduction for training and safe commissioning purposes. During RP2, the FABEC area, including - in relation to the Netherlands - the MUAC area, experienced high delays, while some major measures for capacity will be implemented during RP3 - but take time to deliver.

In the context of the COVID crisis and the resulting low traffic demand, ATCO training facilities were subject to COVID restrictions. Licenced ATCOs were required to train high traffic load scenarios in simulators to keep proficiency, and on-the-job training spots for ab initio's were limited. As a result the capacity building measures were slowed down.

It is still expected that, In the next years, despite extensive efforts, some FABEC ACCs, including Dutch ACCs, could still be facing an imbalance between traffic and capacity (the targets are challenging and performance will also depend on the traffic evolution which is currently still very uncertain), staffing issues and new system implementations. Although some good progress is being witnessed, measures enabling capacity to match the demand will be implemented during or till end RP3.

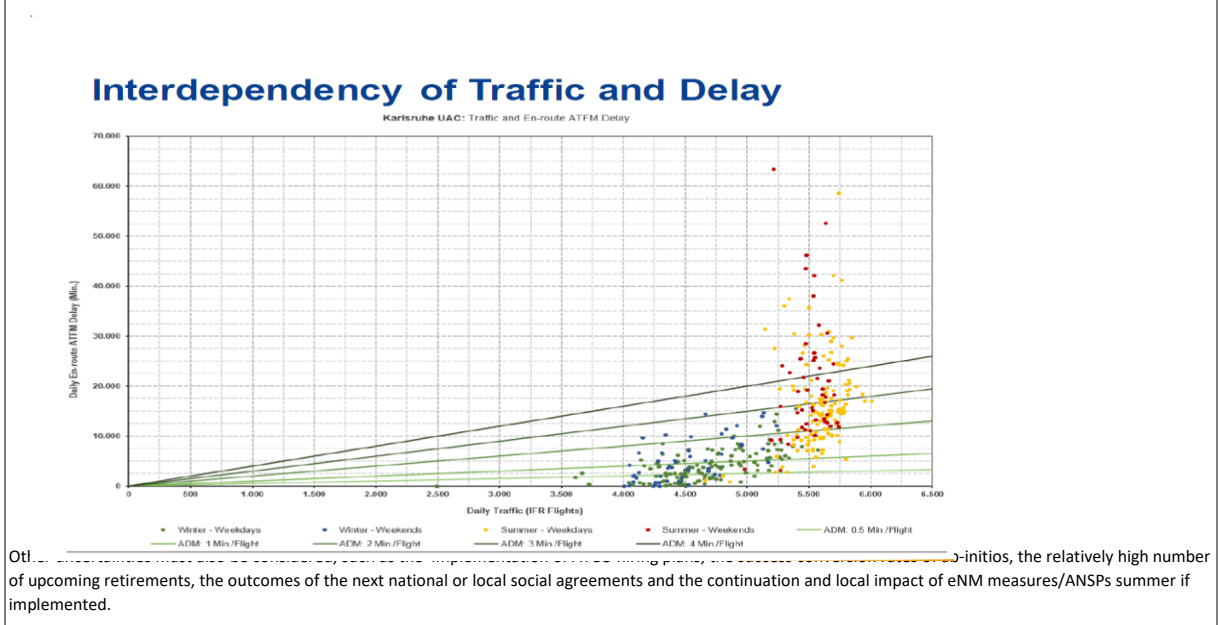
ANSPs already planned major capacity enhancement measures for RP3 to remedy this situation, including implementing global and local individual ACCs measures agreed with the NM (see list of main contributive measures below and detailed individual measures in the NOP 2022 – 2024 edition).

The main drivers such as ATCO hiring and training will progressively deliver benefits during the period.

Major system implementation will occur in 2022-2024 across the FABEC area, including ICAS ATM system implementation in Amsterdam. Training phase for ATCO and transition plans for commissioning phase will impact local capacity provision.



Major uncertainties remain regarding further traffic development and volatility. It is important to consider that, if an ACC operates close to its capacity limits, minor variations in traffic levels can lead to significant changes in the amount of delay. The example below of Karlsruhe ACC, generated for traffic and delay of 2018, shows the exponential impact on delays of the traffic evolution. In some cases, even without more traffic in total, just a local traffic shift is enough to overload sectors and to create a large amount of delays.



\* Refer to Annex Q, if necessary.

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

Full set of detailed measures implemented by ANSPs and contributing to local capacity improvements was listed in the European Network Operations Plan (NOP) 2022-2024 and updated in the Network Operations Plan 2022-2026. All ANSP capacity measures detailed in the NOP and in this performance plan and their impact on capacity provision, delay forecast, and target setting are based on values provided and calculated by the Network Manager and Eurocontrol in general. This is the case at national and ANSP level to ensure consistency: national and ANSP reference values are respectively calculated by NM at national and ANSP levels and consistent with the EU-wide capacity targets. As the national and ANSP targets strictly stick to the NM reference values, consistency is ensured as well. The capacity profile computed in the NOP – and all the proposed associated measures – are based on the high traffic scenario of the STATFOR Forecast published mid-October 2021 (future versions of the NOP will be updated according to future STATFOR publications, this could increase the gap between the capacity profiles and the PP). In case of assessment of the Performance Plan based on the NOP, due consideration shall be given to the differences between the traffic forecasts. The main measures providing capacity enhancement planned to be implemented by the ANSP to achieve the targets are described here under.

**Regarding LVNL:**

LVNL will pursue the continuous recruitment and improve training to maintain levels of ATCOs, while many will retire in the coming years. Additionally, activities are planned to eliminate the bow-wave effect of COVID-19 in operational training. Both will help in maintaining capacity while traffic recovers to pre-COVID levels.

In the period 2022-2024, LVNL will implement several capacity benefiting projects, such as a Decision Support Tool for enhanced ATFCM, AMAN/XMAN, AOP-NOP information sharing and LARA for advanced FUA.

**Regarding MUAC:**

To provide the necessary staffing, MUAC is taking several measures, including training of new staff, cross training of ATCOs, a new agreement with the social partners for mitigating measures and (further) scrutinizing of involvement of operational staff in developments. Furthermore, a study is undergoing to reduce the number of sectors open during the night. Since the traffic downturn, a deal has been agreed with the social partner that allows for some of the surplus ATCO shifts from 2020 and Q1 2021 to be deferred. These days can be used at zero addition cost in the rest of the RP3 period.

Furthermore, MUAC has taken an active part in developing measures at network level aimed at safeguarding or increasing throughput while decreasing delay. MUAC sees further opportunities in this area in improved and harmonized ASM. Also the exclusion of short-duration high-workload flights is under investigation. MUAC has also been active in using some of the surplus ATCO shifts in 2020/2021 to accelerate some airspace design projects that should also provide additional capacity as the recovery materialises. Looking further ahead, MUAC is working on post-OPS analysis and business intelligence as a means of further fine-tuning and optimising daily operations. This is expected to deliver some additional capacity, as well as avoiding ATFM delays due to overregulation.

**At FABEC level:**

Performance in the Netherlands should also be considered in relation to the added value of cooperation at FABEC level. FABEC collaboration with NM contributes to enhance capacity and prevent or mitigate delays through supporting the rolling seasonal NOP planning activities, eNM/ANSP summer measures. On top of FABEC ongoing airspace design initiatives, it was decided to set up a FABEC/NM Airspace Design Coordination Group (ADCG) which final goal is to define a Target Plan for implementation of a FABEC Optimized Airspace Structure, an optimum FABEC sectorisation, FRA cross-border operations and ATS route structure below FRA, in order to optimize all FABEC measures, make them consistent at network level and deliver the highest possible benefits of operations.

In general, it should be noted that capacity benefits and delay reductions expected from the ANSP initiatives listed in the ANSP capacity planning included in the latest NOP 2022-2024, have been taken into account in the NM delay forecast (where quantitative impact of ANSP capacity measures are calculated according to NM methodology at ANSP and national level and resulting delay forecast is computed). Those ANSP capacity profiles and exhaustive list of initiatives can be found in Annex 5 of the European Network Operations Plan 2022-2024 edition 2021.

\* Refer to Annex Q, if necessary.

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*\* Refer to Annex Q, if necessary.*

d) ATCO planning

d.1) LVNL

	Actual	Planning					
	2018	2019	2020	2021	2022	2023	2024
<b>Amsterdam (EHAA ACC)</b>							
# of additional ATCOs in OPS planned to start working in the OPS room (FTEs)	3	4	1	2	4	4	4
# of ATCOs in OPS planned to stop working in the OPS room (FTEs)	0	0	0	7,4	2,9	5	7,9
# of ATCOs in OPS planned to be operational at year-end (FTEs)	85,4	89,4	90,4	85	86,1	85,1	81,2

d.2) MUAC Information is provided at MUAC level and is therefore not specific to the Netherlands only.

	Actual	Planning					
	2018	2019	2020	2021	2022	2023	2024
<b>Maastricht (EDYY UAC)</b>							
# of additional ATCOs in OPS planned to start working in the OPS room (FTEs)	2	2,2	0,5	6,4	19	16,8	9,8
# of ATCOs in OPS planned to stop working in the OPS room (FTEs)	2,5	2,5	6	3	0	10	8,5
# of ATCOs in OPS planned to be operational at year-end (FTEs)	292	291,7	286,2	289,6	308,6	315,4	316,7

Additional comments	
<p>En Route capacity target has strong interdependencies with Safety and Environment targets and with Cost-efficiency target. Those are addressed in Chapter 3.6 of this performance plan. The financial incentive scheme regarding this En Route capacity target is fully described in chapter 5.2.1.</p>	
<p>Regarding ATCO planning, the Netherlands notes that there is no legal requirement for ATCO planning figures to be included in the performance plans for RP3. In addition, the Netherlands questions if this is the right level of detail to be monitored by the EC. Technically the plans are and will always be subject to change, creating the unnecessary burden of tracking, supervising and explaining the figures within the SES performance scheme domain.</p>	
<p>However ATCO hiring and assignment is one of the major driver for capacity and staffing issues. Nevertheless, the Netherlands considers that they cannot be considered as a commitment due to the high level of uncertainties related to such ATCO recruitment plans management. These figures, even when provided on annual basis, can only be regarded as snapshot information, i.e. a situation at one point in time which does not guarantee a realistic view throughout the entire duration of RP3.</p>	
<p>There are many factors with a high level of uncertainty that have an impact on the ATCO planning: first of all there are classical uncertainty factors of general staff planning like the actual rate of retirement, the absence rate of employees, as well as maternity and parent leave. Moreover, ATCOs mobility has become a severe issue recently, leading to high rate of unforeseen leaves.</p>	
<p>Another factor which cannot be significantly mitigated further impacting the availability of ATCOs is the number of suitable applicants, the failure rate of the theoretical training at the academies and the success rate during the on-the-job training phases of trainees.</p>	
<p>The formal retirement age may be set by law, but in many countries employees are offered some flexibility. ANSPs can only assume a certain amount of people opting out/in. It is common culture now that companies offer varying working hours to enable employees to adjust their work to different phases of their life. Again, ANSPs can only assume a certain amount of people opting in/out. On top of all that, future social agreements will significantly determine the ATCO availability per person and by that the total available FTE per ANSP.</p>	
<p>The demographic situation of ANSPs is different and might require to hire to an extent not aligned to the traffic demand.</p>	
<p>FTE refers to a different amount of working time per year/ANSP. FTE is not harmonised among ANSPs but are subject to national laws and labour regulations.</p>	
<p>Before the planned ATCO FTE can reasonably be reported, a revised specification for information disclosure is required, clearly describing how to count ATCOs partially working in projects (another uncertainty factor) and (very important) standardising the assumptions for the uncertainties mentioned above.</p>	
<p>Additional information regarding ATCO hiring plans and their impact on cost-efficiency for some ANSP is also provided in chapters 3.4 (cost-efficiency) &amp; 3.6 (interdependencies) and in annexes of this Performance Plan.</p>	

### 3.3.2.5 - Netherlands

#### a) National performance targets

	2020A	2020	2021	2022	2023	2024
	Actual	Target	Target	Target	Target	Target
<b>National level</b>	1,26	2,00	1,4	1,6	1,6	1,4
Additional comments	<p>In the initial RP3 plan, the Netherlands proposed a stepwise improvement from the RP2 target of 2 minutes, based on the measures presented below. Due to the impact of the COVID pandemic, several measures have been delayed, and as a result the performance improvement profile has also been delayed, by one year. However, due to the lower traffic levels in 2021 and 2022, it should still be possible to perform at a better level than this improvement profile, therefore targets for these years have been set at a lower level.</p> <p>Since nearly all delays are caused Amsterdam, in the breakdown below the full target is allocated to Amsterdam and the target for other airports is set at 0.</p>					

Airport level	<i>EHAM-Amsterdam Schiphol</i>	1,41	2,20	1,54	1,76	1,76	1,54
	Airport contribution to national targets						
<i>EHRD-Rotterdam</i>	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Airport contribution to national targets							
<i>EHGG-Groningen Eelde</i>	0,01	0,00	0,00	0,00	0,00	0,00	0,00
Airport contribution to national targets							
<i>EHBK-Maastricht - Aachen</i>	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Airport contribution to national targets							

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

Schiphol Airport is one of the major sources of arrival ATFM delay in the European network, and a reduction in this delay would provide a notable, positive contribution to the performance of the network.

\* 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

Although the majority of delays at Schiphol are so called 'non-CRSTMP delays', i.e. delays that are outside the direct influence of the ANSP, a number of initiatives is planned to reduce the occurrence of relevant external factors (e.g. insufficient aerodrome capacity) or, where reducing the occurrence is not possible, to reduce the impact (e.g. weather delays).

Main measures are:

- Increased operational peak hour capacity: this activity includes the implementation of RECAT-EU, time-based separation and reduced minimum radar separation for certain aircraft pairs. A higher operational capacity makes the terminal operation at Schiphol better able to cope with tactical variations in traffic flows, without having to initiate ATFCM measures.
  - Capacity management: this activity also includes a set of different measures, including a Decision Support Tool for enhanced ATFCM. These complement the measures to increase capacity - rather than adding more capacity, the capacity management activity aims to ensure that optimum use is made of the available capacity.
  - Extended Arrival Management, to reduce bunches in traffic demand by speed adjustments rather than ATFM regulations.
- (see annex R, providing additional information on cost efficiency targets, for further details on these measures)

\* Refer to Annex Q, if necessary.

## SECTION 3.4: COST-EFFICIENCY KPA

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### 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

### 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.

## SECTION 3.4.1: KPI #1: Determined unit cost (DUC) for en route ANS

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

- 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

#### Annexes of relevance to this section

ANNEX A. REPORTING TABLES & ADDITIONAL INFORMATION (EN-ROUTE)  
ANNEX F. BASELINE VALUES (COST-EFFICIENCY)  
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.

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

En Route Charging Zone #4 - Netherlands

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	2019 B	2020/2021 D	2022 D	2023 D	2024 D		
Total en route costs in nominal terms (in national currency)	180.495.027	239.062.234	477.609.444	246.424.037	253.428.073	259.058.008	43,5%	8,4%
<b>Total en route costs in real terms (in national currency at 2017 prices)</b>	<b>182.950.892</b>	<b>230.537.096</b>	<b>454.269.148</b>	<b>229.819.383</b>	<b>233.322.266</b>	<b>236.043.088</b>	<b>29,0%</b>	<b>2,4%</b>
Total en route costs in real terms (in EUR2017) <sup>1</sup>	182.950.892	230.537.096	454.269.148	229.819.383	233.322.266	236.043.088	29,0%	2,4%
YoY variation			97,0%	-49,4%	1,5%	1,2%		
Total en route Service Units (TSU)	2.712.796	3.314.024	2.994.593	2.593.000	3.081.000	3.294.000	21,4%	-0,6%
YoY variation			-9,6%	-13,4%	18,8%	6,9%		
<b>Real en route unit costs (in national currency at 2017 prices)</b>	<b>67,44</b>	<b>69,56</b>	<b>151,70</b>	<b>88,63</b>	<b>75,73</b>	<b>71,66</b>	<b>6,3%</b>	<b>3,0%</b>
Real en route unit costs (in EUR2017) <sup>1</sup>	<b>67,44</b>	<b>69,56</b>	<b>151,70</b>	<b>88,63</b>	<b>75,73</b>	<b>71,66</b>	<b>6,3%</b>	<b>3,0%</b>
YoY variation			118,1%	-41,6%	-14,6%	-5,4%		
National currency	EUR							
<sup>1</sup> Average exchange rate 2017 (1 EUR=)	1,00							

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	2019 B	2014 A	2019 A		
Total en route costs in nominal terms (in national currency)	180.495.027	239.062.234	177.088.241	237.137.991	3.406.786	1.924.243
<b>Total en route costs in real terms (in national currency at 2017 prices)</b>	<b>182.950.892</b>	<b>230.537.096</b>	<b>179.481.165</b>	<b>228.706.280</b>	<b>3.469.727</b>	<b>1.830.816</b>

Total en route costs in real terms (in EUR2017) <sup>1</sup>	182.950.892	230.537.096	179.481.165	228.706.280	3.469.727	1.830.816
Total en route Service Units (TSU)	2.712.796	3.314.024	2.767.312	3.380.622	-54.516	-66.598

**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	3
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Adjustment #1	Entity name	Entity type	Nature	Costs nominal NC	Costs real NC	Costs EUR2017
Transfer of costs for tax compensation into MUAC cost base	MUAC	ANSP	Staff	2.621.100	2.663.145	2.663.145
Description and justification of the adjustment						
<p>In EUROCONTROL, the remunerations of active staff are subject to an internal tax, while the pensions of retired staff are subject to national taxes in the countries where they reside. Pensioners receive a compensation for local income taxes, depending on where they live, to ensure all pensioners receive the same net pension. In 2005, the EUROCONTROL'S Pension Fund was created whereby the net pensions (net amounts paid to the pensioners) are financed through this Fund (from employer and employee contributions) and the tax compensation on pensions is financed on a pay as you go basis from the budget.</p> <p>In 2016, an agreement was made between the 4 MUAC States and the other EUROCONTROL Member States whereby the 4 States were given more autonomy over MUAC while in exchange the pension tax compensation related to MUAC is progressively (over a period of 7 years from 2016 to 2022) borne by the 4 States. The agreements were embedded in Decision n°128 and n°129 of the Permanent Commission. In accordance with the Declaration of the National Contracting Parties to the Maastricht Agreement dated 19-04-2016, these costs have been included since 2016 in a Special Annex (to the general budget of EUROCONTROL) in a staggered approach (10% in 2016, 20% in 2017, 30% in 2018, 40% in 2019, 60% in 2020, 80% in 2021). These costs will be included at 100% in MUAC (Part III) General Budget and thus the MUAC Cost Base once the new Maastricht Agreement has been ratified by all four States, which is assumed to happen before the end of 2021.</p> <p>In 2014, the total overall Eurocontrol tax compensation on pension and ancillary cost in 2014 was 38,326,507.28 €. The proportion for MUAC was 31.5 % or 12.072.849,79 EUR. The Dutch share within MUAC for 2014 was 21,71 %.</p> <p>In order to provide for a baseline that makes future costs comparable to the situation in 2014, the MUAC cost base is adjusted accordingly.</p>						

Adjustment #2	Entity name	Entity type	Nature	Costs nominal NC	Costs real NC	Costs EUR2017
Transfer of costs for HQ costs into MUAC cost base	MUAC	ANSP	Other operating	1.302.642	1.323.538	1.323.538
Description and justification of the adjustment						
<p>Under the same discussions between the 4 MUAC States and the 41 EUROCONTROL Member States, an agreement embedded in Decision n° 128 of the Permanent Commission was concluded as relates the allocation to Part III (MUAC) of the costs for support services delivered by other units of the Agency to MUAC. Similarly, the 4 states agreed to include these costs in a Special Annex (Part IV), in accordance with the Declaration of the National Contracting Parties to the Maastricht Agreement dated 19-04-2016. There is no progressive approach for these costs and they are supported directly at 100% by the 4 MUAC states. As from 2022 these costs will be included at 100% in MUAC (Part III) General Budget.</p> <p>In 2014, the HQ support costs amounted to around 6.000.000 EUR, included by 100% into the MUAC Special Annex (Part IV); the Dutch share within MUAC for 2014 was 21,71 %.</p> <p>In order to provide for a baseline that makes future costs comparable to the situation in 2014, the MUAC cost base is adjusted accordingly.</p>						

Adjustment #3	Entity name	Entity type	Nature	Costs nominal NC	Costs real NC	Costs EUR2017
Correction of adjustments #1 and #2	Eurocontrol	NSA/EUROCONTROL	Other operating	-516.956	-516.956	-516.956
Description and justification of the adjustment						
<p>The adjustments described in points #1 and #2 above need to be corrected, because, although they represent increased costs for the Netherlands in relation to MUAC, the Netherlands did already pay part of these costs when they were part of the general Eurocontrol budget. These costs should be subtracted from the identified increase, above.</p> <p>The total costs related to MUAC in points #1 and #2 are 18.072.849,79 EUR. The sharing key for the Netherlands for the general budget in 2014 was 2,8604%.</p>						

Total adjustments to the 2014 baseline value for the determined costs	Costs nominal NC	Costs real NC	Costs EUR2017
	3.406.786	3.469.727	3.469.727

**c.2) Adjustments to the 2014 service units**

Impact of transition to actual route flown	Coefficient M2/M3	Source	Service units
	-1,97%	CRCO correction factor May 2019 (on 12 months)	-54.516

Other adjustment to the 2014 service units	No
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Total adjustments to the 2014 service units	-54.516
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**c.3) Adjustments to the 2019 baseline value for the determined costs**

Number of adjustments	2
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For reference: CRCO correction factor May 2019 (on 12 months)



Adjustment #1	Entity name	Entity type	Nature	Costs nominal NC	Costs real NC	Costs EUR2017
Integration of costs for tax compensation into MUAC cost base	MUAC	ANSP	Staff	2.244.528	2.151.101	2.151.101
<b>Description and justification of the adjustment</b>						
<p>In EUROCONTROL, the remunerations of active staff are subject to an internal tax, while the pensions of retired staff are subject to national taxes in the countries where they reside. Pensioners receive a compensation for local income taxes, depending on where they live, to ensure all pensioners receive the same net pension. In 2005, the EUROCONTROL's Pension Fund was created whereby the pensions (amounts paid to the pensioners) are financed through this Fund (from employer and employee contributions) and the tax compensation on pensions is financed on a pay as you go basis from the budget.</p> <p>In 2016, an agreement was made between the 4 MUAC States and the other EUROCONTROL Member States whereby the 4 States were given more autonomy over MUAC while in exchange the pension tax compensation related to MUAC is progressively (over a period of 7 years from 2016 to 2022) borne by the 4 States. The agreements were embedded in Decision n°128 and n°129 of the Permanent Commission. In accordance with the Declaration of the National Contracting Parties to the Maastricht Agreement dated 19-04-2016, these costs have been included since 2016 in a Special Annex (to the general budget of EUROCONTROL) in a staggered approach (10% in 2016, 20% in 2017, 30% in 2018, 40% in 2019, 60% in 2020, 80% in 2021). These costs will be included at 100% in MUAC (Part III) General Budget and thus the MUAC Cost Base once the new Maastricht Agreement has been ratified by all four States, which is assumed to happen before the end of 2021.</p> <p>In 2019, the tax compensation amounted to 17.553.719 EUR, 40% of which were attributed to the MUAC special annex (EUROCONTROL Part IV) and 60% thereof to the EUROCONTROL General Budget (Part I); the Dutch share within MUAC for 2019 was 21,31 %.</p> <p>In order to provide for a baseline that makes future costs comparable to the situation in 2019, the MUAC cost base is adjusted accordingly.</p> <p>NOTE: in relation to affected entity, relevant costs are treated under a Special Annex of the Eurocontrol budget until 2021 and will become part of the regular MUAC budget from 2022 onwards. This means that relevant amounts were reported as Eurocontrol costs in reporting tables for 2019 (as well as 2020 and 2021), and as MUAC costs from 2022 onwards. This shift has no impact on the overall cost base and is therefore not reported as an additional baseline adjustment here.</p>						

Adjustment #2	Entity name	Entity type	Nature	Costs nominal NC	Costs real NC	Costs EUR2017
Correction of adjustment #1	Eurocontrol	NSA/EUROCONTROL	Other operating	-320.285	-320.285	-320.285
<b>Description and justification of the adjustment</b>						
<p>Similar to the adjustments of the 2014 baseline, adjustment #1 needs to be corrected, because the Netherlands did already pay part of the relevant costs when these were part of the general Eurocontrol budget. These costs should be subtracted from the identified increase.</p> <p>The relevant total costs related to MUAC are 60% of 17.553.719 EUR. The sharing key for the Netherlands for the general budget in 2019 was 3,0341%.</p>						

Total adjustments to the 2019 baseline value for the determined costs	Costs nominal NC	Costs real NC	Costs EUR2017
	1.924.243	1.830.816	1.830.816

#### c.4) Adjustments to the 2019 service units

Impact of transition to actual route flown	Coefficient M2/M3	Source	Service units
	-1,97%	CRCO correction factor May 2019 (on 12 months)	-66.598
<b>Other adjustment to the 2019 service units</b>			
Click to select			
<Title of adjustment>			Service units
<Description and justification of the adjustment>			
<Justification>			
<b>Total adjustments to the 2019 service units</b>			-66.598

For reference: CRCO correction factor May 2019 (on 12 months)  
-1,97%

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

<p>Cost efficiency targets are consistent with EU-wide targets. However, the Netherlands still considers it important that a clear view is given of the basis for the proposed costs. In this context, we in particular highlight that additional costs will be incurred to address existing capacity issues as well as priorities of the new national aviation policy. Other factors apply as well, e.g. potential areas of savings which were identified by the PRB as the basis for the EU-wide targets are not, or only to a limited extent, applicable to the situation in the Netherlands. Further details on these issues, as well as other arguments based on distribution of cost reductions over charging zones; existing reserves; and traffic development, are described in further detail in Annex R.</p> <p>Additionally, service provision is being restructured through, firstly, the introduction of remote tower and approach services and, secondly, the integration of civil and military service providers. However, the type of benefits these activities will provide, in relation to the strict requirement in the performance and charging regulation for financial benefits, mean it is not possible to identify these costs as a justification for deviation from Union-wide targets.</p>
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\* Refer to Annex R, if necessary.

e) 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:

<b>Additional costs of measures necessary to achieve the capacity targets for RP3</b>	Yes	Detailed in part 3.4.6 of the performance plan
<b>Restructuring costs planned for RP3</b>	No	

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

Cost development will be monitored and discussed with relevant parties on a regular basis. If deviations between planned and actual DUC occur or are expected to occur, this will be discussed between the NSA and the relevant party or parties to determine a) causes and b) possible measures. Because DUC is dependent on external factors (in particular traffic development) as well as a number of assumptions which become more uncertain towards the end of the RP, the need for measures will be determined on a case-by-case basis. If non-achievement of DUC targets is justified by circumstances, and/or is in the interest of airspace users or their customers, this may lead to a situation where no further measures are taken.

*\* 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

The NSA and responsible Ministry have agreed the basic principles for identifying costs incurred by LVNL which can or cannot be allocated to the cost base for one of the charging zones. Any areas where uncertainty exists are generally discussed and resolved before they are definitively allocated. With respect to the cost base for RP3, a very limited number of issues was identified and resolved.

No issues were identified for MUAC.

In their written input following the stakeholder consultation, Lufthansa highlighted three concerns regarding eligibility and necessity of costs. All three points have been considered by the NSA, and the NSA is satisfied these have been dealt with correctly in the cost bases of the en route and terminal charging zones.

*\* Refer to Annex U, if necessary.*

## SECTION 3.4.2: KPI #2: Determined unit cost (DUC) for terminal ANS

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

- 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

#### Annexes of relevance to this section

ANNEX B. REPORTING TABLES & ADDITIONAL INFORMATION (TERMINAL)  
ANNEX F. BASELINE VALUES (COST-EFFICIENCY)  
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.

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

#VERW!

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	
Total terminal costs in nominal terms (in national currency)	77.845.000	143.394.048	74.772.706	77.867.459	79.526.060	2,2%
<b>Total terminal costs in real terms (in national currency at 2017 prices)</b>	<b>74.861.717</b>	<b>135.747.570</b>	<b>69.422.076</b>	<b>71.324.542</b>	<b>72.133.235</b>	<b>-3,6%</b>
Total terminal costs in real terms (in EUR2017) <sup>1</sup>	74.861.717	135.747.570	69.422.076	71.324.542	72.133.235	-3,6%
YoY variation		81,3%	-48,9%	2,7%	1,1%	
Total terminal Service Units (TNSU)	412.433	454.653	313.300	376.000	401.000	-2,8%
YoY variation		10,2%	-31,1%	20,0%	6,6%	
<b>Real terminal unit costs (in national currency at 2017 prices)</b>	<b>181,51</b>	<b>298,57</b>	<b>221,58</b>	<b>189,69</b>	<b>179,88</b>	<b>-0,9%</b>
Real terminal unit costs (in EUR2017) <sup>1</sup>	181,51	298,57	221,58	189,69	179,88	-0,9%
YoY variation		64,5%	-25,8%	-14,4%	-5,2%	

National currency	EUR
<sup>1</sup> Average exchange rate 2017 (1 EUR=)	1,00

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)	77.845.000	77.845.000	0
<b>Total terminal costs in real terms (in national currency at 2017 prices)</b>	<b>74.861.717</b>	<b>74.861.717</b>	<b>0</b>

Total terminal costs in real terms (in EUR2017) <sup>1</sup>	74.861.717	74.861.717	0
Total terminal Service Units (TNSU)	412.433	412.433	0

**c) Detailed justifications for the adjustments to the baseline values**

**c.1) Adjustments to the 2019 baseline value for the determined costs**

Number of adjustments	0
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**c.2) Adjustments to the 2019 service units**

Adjustment to the 2014 service units	No
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**d) Description and justification of the contribution of the the local targets to the performance of the European ATM network**

Noting that no Union-wide targets are applied for terminal charging zones, local targets for the Netherlands closely follow, and for 2020/2021 are significantly better than, Union-wide targets for en route cost efficiency. Continued investment in existing capacity issues as well as in priorities of the new national aviation policy is included in the targets. Targets are set at the proposed level despite terminal traffic recovery in the Netherlands lagging behind the EU average. Further information on cost efficiency targets is provided in Annex R.

*\* Refer to Annex R, if necessary.*

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

Cost development will be monitored and discussed with relevant parties on a regular basis. If deviations between planned and actual DUC occur or are expected to occur, this will be discussed between

*\* 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**

The NSA and responsible Ministry have agreed the basic principles for identifying costs incurred by LVNL which can or cannot be allocated to the cost base for one of the charging zones. Any areas where uncertainty exists are generally discussed and resolved before they are definitively allocated. With respect to the cost base for RP3, a very limited number of issues was identified and resolved.

In their written input following the stakeholder consultation, Lufthansa highlighted three concerns regarding eligibility and necessity of costs. All three points have been considered by the NSA, and the NSA is satisfied these have been dealt with correctly in the cost bases of the en route and terminal charging zones.

*\* Refer to Annex U, if necessary.*

## SECTION 3.4.3: Pension assumptions

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### **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

skeyes

DSNA

DFS

ANA LUX

LVNL

Skyguide

MUAC

### 3.4.3 - Pension assumptions - LVNL

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

Pension costs	2020D	2021D	2020/2021D	2022D	2023D	2024D
<b>Total pension costs</b>	19.418	21.265	40.683	22.982	23.681	22.818
En-route activity	13.340	14.609	27.949	15.789	16.269	15.676
Terminal activity	5.922	6.486	12.408	7.010	7.223	6.959
Other activities	155	170	325	184	189	183

#### 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						
<b>Total pension costs in respect of this scheme</b>			-			
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

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

#### 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? Select

<Staff category name>	2020D	2021D	2020/2021D	2022D	2023D	2024D
Total pensionable payroll to which this scheme applies	93.671	97.815	191.486	100.139	103.185	104.959
Employer % contribution rate to this scheme	20,73%	21,74%		22,95%	22,95%	21,74%
<b>Total pension costs in respect of this scheme</b>	19.418	21.265	40.683	22.982	23.681	22.818
Number of employees the employer contributes for in this scheme	1.190	1.221		1.305	1.298	1.279

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

As of 2008 the LVNL financial statements comply with IFRS with the exception of the provisions related to the early retirement arrangements of the operational LVNL-staff (FLNA/IKV; IAS 19 and IAS 19R IFRS). The Netherlands has decided not to implement this specific IFRS item. As a consequence of this decision the majority of the FLNA/IKV obligations is not presented as liabilities in the LVNL balance sheet. To minimize the lack of transparency on this issue, LVNL presents these obligations as 'off-balance sheet rights and commitments'.

As in the past users will only be charged for the actual FLNA/IKV expenses. According to LVNL's Annual Report 2020, the net present value of the defined benefit obligations is about M€ 586 on 31st December 2020, including a standard tax penalty of 52%.

LVNL has no pension related assets. Only a small part of the early retirement arrangements (M€ 9.3) is included in a balance sheet provision. This concerns mainly the early retirement arrangements of a select number of controllers on the regional airports.

The pension premium is set by the independent national pension fund ABP.

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

The pension costs form a substantial part of the staff costs. Because the national pension fund (ABP) have difficulties to meet the mandatory coverage ratio (assets at least 104% of the liabilities) we expect the pension premium increase in 2022, which was issued to regain the mandatory coverage ratio, will remain for 2 years.

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

However there is a (cost exempt) risk that structural changes in the pension scheme may occur during RP3 because of the pension discussion currently held in The Netherlands. A new study to the necessary coverage ratio of pension funds in The Netherlands addresses the need for an improved coverage ratio which may lead to increased pension premiums. Besides this study the government and the social partners are negotiating the fundamentals of the current pension scheme. For example new retirement age categories are now discussed upon. This may also lead to changes during RP3.

#### 3.4.3.3 Assumptions for the occupational "Defined benefits" pension scheme

Does the ANSP assume liability for meeting future obligations for the occupational "Defined benefits" scheme?	Select
Is the occupational "Defined benefits" pension scheme funded?	Select

	2020D	2021D	2020/2021D	2022D	2023D	2024D
Total pensionable payroll to which this scheme applies			-			
<b>Total pension costs in respect of this scheme</b>			-			
- in respect of regular pension costs			-			
- in respect of non-recurring deficit repair			-			
- reported as staff costs (in reporting tables)			-			
- not reported as staff costs (in reporting tables): please use comment box			-			
<b>Actuarial assumptions</b>						
% discount rate						
% projected increase in benefits						
% annual increase in salaries						
% expected return on plan assets						
Net funding surplus / deficit			-			
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



### 3.4.3 - Pension assumptions - MUAC

Information is provided at MUAC level and is therefore not specific to the Netherlands only.

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

Pension costs	2020D	2021D	2020/2021D	2022D	2023D	2024D
<b>Total pension costs</b>	12.805	13.562	26.367	35.410	37.830	40.067
En-route activity	12.805	13.562	26.367	35.410	37.830	40.067
Terminal activity			-			
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? Select

<Staff category name>	2020D	2021D	2020/2021D	2022D	2023D	2024D
Total pensionable payroll to which this scheme applies			-			
Employer % contribution rate to this scheme						
<b>Total pension costs in respect of this scheme</b>			-			
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  
 MUAC does not have a "State" pension scheme.

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

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

#### 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? Select

<Staff category name>	2020D	2021D	2020/2021D	2022D	2023D	2024D
Total pensionable payroll to which this scheme applies			-			
Employer % contribution rate to this scheme						
<b>Total pension costs in respect of this scheme</b>			-			
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  
 MUAC does not have a "defined contributions" pension scheme.

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

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

#### 3.4.3.3 Assumptions for the occupational "Defined benefits" pension scheme

Does the ANSP assume liability for meeting future obligations for the occupational "Defined benefits" scheme? Yes  
 Is the occupational "Defined benefits" pension scheme funded? Yes

	2020D	2021D	2020/2021D	2022D	2023D	2024D
Total pensionable payroll to which this scheme applies	163.014	167.049	330.063	197.297	207.720	215.899
<b>Total pension costs in respect of this scheme</b>	12.805	13.562	26.367	35.410	37.830	40.067
- in respect of regular pension costs			-			
- in respect of non-recurring deficit repair			-			
- reported as staff costs (in reporting tables)	12.805	13.562	26.367	35.410	37.830	40.067

- not reported as staff costs (in reporting tables): please use comment box			-			
<b>Actuarial assumptions</b>						
% discount rate						
% projected increase in benefits						
% annual increase in salaries						
% expected return on plan assets						
Net funding surplus / deficit			-			
Number of employees the employer contributes for in this scheme	750	750		750	750	750

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

MUAC employees are eligible for membership in the EUROCONTROL defined benefit pension scheme. This scheme is the first and unique pillar for the employees. Contributions from the employees and the employer are paid to the EUROCONTROL pension fund. The pension costs reported in this section relates to 2 different elements : the employer contribution (expressed as a percentage of the basic salary -17.5% in 2021) and the tax compensation on pension. Following a decision from the MUAC Member States, this tax compensation on pensions is gradually recognised over RP3 as pension costs in the MUAC costbase. This explains the substantial increase of pension costs as from 2022.

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

One of the main assumptions is the percentage of the employer contribution which is set at 17.5% of the basic salary in 2021. According to actuarial studies, this percentage is expected to increase up to 20% during RP3. Another assumption relating to the tax compensation on pension (accounted on a Pay as You Go basis) is the mortality and taxation pressure in the countries were pensioners reside.

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.

Not applicable.

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

Increase of pension age of ATCOs and non ATCO staff. Review of benefits. New HR policy limiting access to permanent contracts of employment.

## SECTION 3.4.4: Interest rate assumptions for loans financing the provision of ANS

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

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DSNA  
DFS  
ANA LUX  
LVNL  
Skyguide  
MUAC

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

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	Commercial loans BNG (existing loans, fixed interest rates)					
Remaining balance (end of year)	2.600	650				
Interest rate %	4,60%	4,60%		4,60%		
Interest amount	162	53	215	3		
Loan #2	2020D	2021D	2020/2021D	2022D	2023D	2024D
Description	Treasury banking loans (existing loans, fixed interest rates)					
Remaining balance (end of year)	136.817	145.180		135.565	125.950	116.335
Interest rate %						
Interest amount	709	641	1.350	575	514	452
Loan #3	2020D	2021D	2020/2021D	2022D	2023D	2024D
Description	Treasury banking 2022-2024 - new loans					
Remaining balance (end of year)				58.820	106.740	153.103
Interest rate %				1,00%	1,00%	1,00%
Interest amount			-	295	828	1.283
Other loans	2020D	2021D	2020/2021D	2022D	2023D	2024D
Description						
Remaining balance (end of year)						
Average weighted interest rate %	-	-		-	-	-
Interest amount			-			
Total loans	2020D	2021D	2020/2021D	2022D	2023D	2024D
<b>Total remaining balance</b>	139.417	145.830		194.385	232.690	269.438
<b>Average weighted interest rate %</b>	0,62%	0,48%		0,45%	0,58%	0,64%
<b>Interest amount</b>	871	694	1.565	873	1.342	1.735

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

Select number of loans

Information is provided at MUAC level and is therefore not specific to the Netherlands only.

Interest rate assumptions for loans financing the provision of air navigation services (Amounts in nominal terms in '000 national currency)						
<b>Loan #1</b>	2020D	2021D	2020/2021D	2022D	2023D	2024D
Description	Bullet loans with KBC contracted in December 2020 for 60 million € up to 31 Dec 2027 at variable rate (IRS Swap Curve + 0.4%)					
Remaining balance (end of year)	60.000	60.000		60.000	60.000	60.000
Interest rate %	0,40%	0,40%		0,40%	0,40%	0,40%
Interest amount	0	240	240	240	240	240
<b>Loan #2</b>	2020D	2021D	2020/2021D	2022D	2023D	2024D
Description	Loan with KBC contracted in 2017 for 40 million € at variable rate (EURIBOR 1 to 9 months + 0.40%) maturing in December 2025					
Remaining balance (end of year)	25.000	20.000		15.000	10.000	5.000
Interest rate %	0,40%	0,40%		0,40%	0,40%	0,40%
Interest amount	120	100	220	80	60	40
<b>Loan #3</b>	2020D	2021D	2020/2021D	2022D	2023D	2024D
Description	Loan with BNP contracted in 2017 for 30 million € at variable rates (EURIBOR + 0.40%) maturing in December 2025					
Remaining balance (end of year)	18.750	15.000		11.250	7.500	3.750
Interest rate %	0,40%	0,40%		0,40%	0,40%	0,40%
Interest amount	90	75	165	60	45	30
<b>Loan #4</b>	2020D	2021D	2020/2021D	2022D	2023D	2024D
Description	Loan with KBC contracted in 2014 for 70 million € at variable rate (EURIBOR 1 to 9 months +0.58%) maturing in December 2022					
Remaining balance (end of year)	17.500	8.750		-	-	-
Interest rate %	0,58%	0,58%				
Interest amount	152	102	254			
<b>Other loans</b>	2020D	2021D	2020/2021D	2022D	2023D	2024D
Description						
Remaining balance (end of year)						
Average weighted interest rate %	-	-		-	-	-
Interest amount			-			
<b>Total loans</b>	2020D	2021D	2020/2021D	2022D	2023D	2024D
<b>Total remaining balance</b>	121.250	103.750		86.250	77.500	68.750
<b>Average weighted interest rate %</b>	0,30%	0,50%		0,44%	0,45%	0,45%
<b>Interest amount</b>	362	517	879	380	345	310

## SECTION 3.4.5: Restructuring costs

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### 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

skeyes

DSNA

DFS

ANA LUX

LVNL

Skyguide

MUAC

### Annexes of relevance to this section

ANNEX H. RESTRUCTURING MEASURES AND COSTS

### 3.4.5 - Restructuring costs - LVNL

#### 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
---	-------	-------	------------	-------	-------	-------

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

##### 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

##### b) Detailed information on the restructuring measures planned for RP3

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

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

##### c) 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			-			
<b>Total restructuring costs</b>	-	-	-	-	-	-

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

Additional comments

### 3.4.5 - Restructuring costs - MUAC

#### 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
---	-------	-------	------------	-------	-------	-------

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

##### 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

##### b) Detailed information on the restructuring measures planned for RP3

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

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

##### c) 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			-			
<b>Total restructuring costs</b>	-	-	-	-	-	-

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

Additional comments



## SECTION 3.4.6: Additional determined costs related to measures necessary to achieve the en route capacity targets

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### 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

skeyes  
DSNA  
DFS  
ANA LUX  
LVNL  
Skyguide  
MUAC

#### Annexes of relevance to this section

-

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

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

#### Netherlands charging zone

To avoid risk of misunderstanding, in this case MUAC-related costs are specific to the Netherlands only.

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

**MUAC:** GCE packages, post-ops analysis and business intelligence initiatives

**LVNL:** Various initiatives in or affecting en route zone to address ATFM delays at Schiphol airport

Further details on all measures are provided in Annex R.

#### 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	3
--	---

Measure #1	2020D	2021D	2020/2021D	2022D	2023D	2024D
Associated additional costs (nominal terms in '000 national currency)	1.511	1.708	3.219	1.779	1.779	1.826

Description and justification of the additional determined costs of the measure

**MUAC: GCE Package** : The measure aims to increase ATCO availability in order to mitigate the gap between staff availability and traffic demand. Key measures of the proposal include: an increase in annual working time for newly recruited ATCO staff; the replacement of stand-by shifts (where staff are off duty but on call) by flex shifts (where the shifts have to be worked within a certain time window); the possibility to contract additional working days for staff currently in post; more flexible working time planning on an annual basis; the possibility to transfer leave days to a lifetime working time account, freeing up additional working days in the short to medium term; the possibility to increase working time with the consent of the ATCO, including extension of the retirement age to 60 years; and an increase in the basic salary scales of O grades by 10.75% over a two-year period.

Measure #2	2020D	2021D	2020/2021D	2022D	2023D	2024D
Associated additional costs (nominal terms in '000 national currency)	243	291	534	30		

Description and justification of the additional determined costs of the measure

**MUAC: Post-OPS Analysis and BI (PABI)**: the scope of this project consists of enhancing the Post-OPS Analysis process and tooling at MUAC, in order to further optimise the planning of daily operations, and in this context to develop Business Intelligence facilities that not only allows the efficient creation of KPI monitoring and reporting workflows and dashboards, but also allows users to perform data mining in a self-service manner. The additional insights gained from properly consolidated MUAC performance data will improve the cost-efficiency not only of the ATM operations directly, but also of the ATM system and operational concepts development strategies, thereby securing the stability and long-term sustainability of MUAC services. In accordance with OPS ATFCM requirements timeline, PABI is estimated to provide a slight amount of additional capacity and some CRSTMP delay reduction by avoiding over-regulation, and a better determination of the necessary amount of excess ATCOs to cover the unforeseen.

Measure #3	2020D	2021D	2020/2021D	2022D	2023D	2024D
Associated additional costs (nominal terms in '000 national currency)	156	171	327	903	1.476	1.663

Description and justification of the additional determined costs of the measure

**LVNL: Various initiatives to address ATFM delays at Schiphol airport**: This measure covers the initiatives AMAN/XMAN, capacity management and peak hour capacity, which are aimed to help reduce the high level of ATFM delays at Schiphol airport. Although the majority of delays is caused by factors outside the direct influence of the ANSP (eg weather), these initiatives will help reduce the impact of such factors. Whereas the problems are experienced at the airport, part of the solutions are implemented in the en route zone. Given the importance of Schiphol as a major airport node in the European network, addressing this issue is considered important by the Netherlands.

	2020D	2021D	2020/2021D	2022D	2023D	2024D
<b>Total additional costs of measures ('000 national currency)</b>	1.909	2.171	4.080	2.712	3.255	3.489

#### 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)

	2020D	2021D	2020/2021D	2022D	2023D	2024D
Staff	1.511	1.708	3.219	1.779	1.779	1.826
of which, pension costs			-			
Other operating costs	399	437	836	165	250	319
Depreciation		25	25	768	1.226	1.344
Cost of capital			-			
Exceptional items			-			
<b>Total additional costs of measures</b>	-	-	-	-	-	-

	2020D	2021D	2020/2021D	2022D	2023D	2024D
<b>Total additional costs of measures ('000 national currency)</b>	1.909	2.171	4.080	2.712	3.255	3.489

Additional comments

**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**

See Annex R for details.

## SECTION 3.5: ADDITIONAL KPIS / TARGETS

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### **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

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### **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?

Other KPAs may require changes directly impacting the ANSP functional system. Some changes have already been identified e.g. new procedures for greener routes or modernization of systems to comply with Common Project 1 (CP1) requirements (KPA environment), additional changes may be identified at a later stage.

Improving and maintaining a mature SMS (for example human resources / staff requirements) does also have an indirect impact on other KPAs (especially KPA cost efficiency). An important effort is required to train, maintain and operate experience feedback mechanisms (investigators, local and corporate safety committees, automatic loss of separation detection tools, improved runway alerting systems like ASMGCS) as well as functional system changes' analysis (development of safety barrier models etc.).

In all cases, changes are subject to Commission Implementing Regulation (EU) 2017/373 including its detailed requirements for changes to the functional system.

On the ANSPs level, the current safety management processes requested by aforementioned Common Requirements do ensure that safety levels are not compromised when implementing airspace changes or changes to the ATM/ANS functional system. Changes to the ATM/ANS functional system could be required to reach the targets in the different KPAs. A mitigation layer exists as these changes will require approval from the Competent Authorities.

Furthermore, changes might also be necessary on the organisational level (i.e. safety training or safety culture initiatives).

On the Competent Authority level, the changes to the ANSP functional system are closely supervised. The precise changes' scope as well as interfaces are challenged during this process to ensure that all essential information is available to avoid any unacceptable safety implications right from the start of the change management procedure. The combination of changes due to measures to reach the targets in the different KPAs may not have any negative safety implication and overall safety should improve in line with the safety targets. Furthermore, change management procedures and any change thereto require prior approval by the Competent Authority. These procedures are also inspected by EASA in the frame of the ongoing standardisation (STD) visits. Besides, the Competent Authority oversees the Safety Management requirements covered by Commission Implementing Regulation (EU) 2017/373 Part.ATM/ANS and Part.ATS specifically. That ensures a high standard of safety performance management.

b) What are the main assumptions used to assess the interdependencies between safety and other KPAs?

Safety constitutes the highest priority and its attainment cannot be compromised by adverse interdependencies with other key performance areas. Thus, it is always part of any other KPA's consideration. The achievement of an acceptable level of safety has the highest priority. Safety will naturally be balanced with other strong requirements linked to environment, production pressure and finances. In all change paths undertaken, this balance is addressed and ensured to guarantee that this balance stays acceptable. Sometimes this leads to a non-acceptance of change proposals, based on one of these requirements. ANSPs have a safety target for their operations, that, if quantifiable, helps to establish a bottom line for safety.

On the Competent Authority level, the mitigation measures described in a) address the assumptions used to assess the interdependencies between safety and other KPAs.

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?

ANSPs have defined own (K)PIs to monitor their performance by means of other ad-hoc and flexible indicators than those described in Commission Implementing Regulation (EU) 2019/317. These are also crossing the KPAs to highlight the interface and interdependency between safety and other KPAs. At FABEC level, ANSPs have a dashboard including safety data as well as lagging and leading indicators. For instance: there is an indicator that monitors the number of runway crossings at a certain crossing to ensure achieving the safety objective(s). These indicators could typically indicate production pressure.

Similarly, there are parameters for the driving direction of runway inspections, separation on final, etc. Besides, there is a common FABEC dashboard which is kept up-to-date by the SPM working group reporting to the SC-SAF. A yearly aggregation of SMI, RI and EoSM results is done under the leadership of the DSNA and analysed both by SPM and SC-SAF. The publication on a website is foreseen in the near future.

Moreover, FABEC ANSPs also hold performance board meetings to monitor indicators relevant to their Integrated Safety Management System (Safety, Security, Quality, Environment). Indicators, issues and possible trade-offs are discussed, explained and sorted out by board members under the leadership of the ANSPs' management.

On the Competent Authority level, the Safety Management System's components as described in Commission Implementing Regulation (EU) 2017/373, Part-ATS, ATS.OR.200 are subject to the ongoing oversight. These are: Safety policy and objectives, safety risk management, safety assurance and safety promotion.

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?

In terms of resources normally the operational staff is the bottleneck. Of course, the acceptable safety performance is priority 1, second is safety training, third is the change management of changes to the functional ATM system(s). No non-safety target will be able to restrict safety or safety activities. Operational safety trade-offs (day to day operations at unit level) are very different in nature and content to safety performance trade-offs at organisational level. Operational safety is the main driver but consequences of corporate decision making is also tracked and monitored. Specific processes are required to manage the operational HR's needs that must be maintained independent of the different size of ANSPs. Furthermore, budget issues are scrutinized because of civil service specific norms and rules.

e) Have the States 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.

The FABEC ANSPs, included those active in the airspace of the Netherlands, have committed themselves by declaring to have sufficient resources to perform the required safety activities in their day-to-day operations. The State oversees the financial and personnel plan to ensure all necessary activities are carried out.

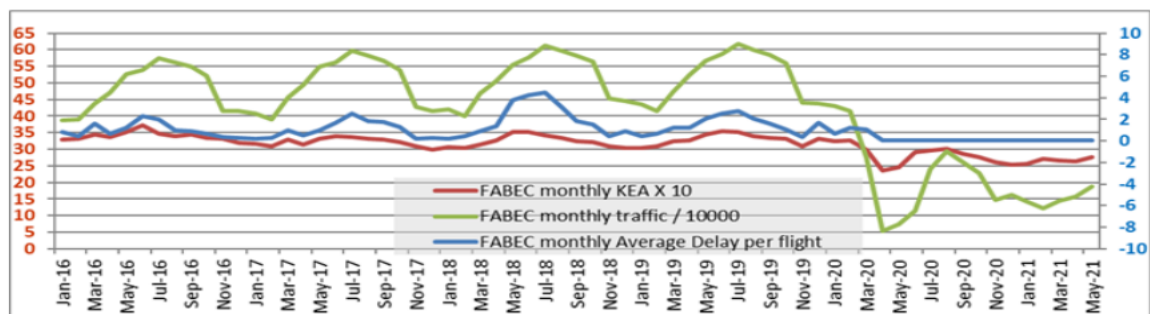
On the Competent Authority level, the Safety Management System's components as described in Commission Implementing Regulation (EU) 2017/373, Part-ATS, ATS.OR.200 are subject to the ongoing oversight. These are: Safety policy and objectives, safety risk management, safety assurance and safety promotion.

Besides, the Management System requirements for ATS providers laid down in Commission Implementing Regulation (EU) 2017/373 Part.ATM/ANS and Part.PERS are strictly overseen by the Competent Authority. These include, but are not limited to, the following aspects: providing appropriate human and financial resources by the senior management, ensuring sufficient resources allocated to the compliance monitoring function and safety manager function, allocation of appropriate resources to achieve the planned safety performance by the safety review board, appropriate resources covered in the Stress Management and Fatigue Management policies. Apart from this, the Competent Authority supervises the annual plan, the resulting annual report and the (5 years) business plan to ensure that financial and personnel resources are dealt with proportionally. Furthermore, the mitigation measures described in a) address the assumptions used to assess the interdependencies between safety and other KPAs.

### 3.6.2 - Interdependencies and trade-offs between capacity and environment

The interdependency between capacity and environment is most clearly illustrated at FABEC level. Following traffic increases, the FABEC KEA indicator increased between 2014 and 2016. From 2017 onwards the KEA performance has stabilised as a balance has occurred between continued strong traffic growth and the introduction of operational changes such as FRA, but this may also be related to a change in the KEA calculation method. In 2020 KEA has decreased with the massive drop of traffic as from the outbreak of the COVID-19 pandemic.

KEA achievements are clearly influenced by traffic level and volatility (the yearly profile is clearly influenced by seasonality and number of flights). ATCOs can offer more direct routing with low traffic and facing no capacity issues. Nevertheless, with the capacity and staffing issues incurred by FABEC ANSPs in the core area, delays increased significantly during RP2, deteriorating flight efficiency. The graph provided here under show the relationship between traffic and delay increases and KEA deterioration :



In addition NM summer initiatives introduced as from 2018 summer introduced massive rerouting which have impacted FABEC flight efficiency in order to mitigate capacity issues. As stakeholders put priority on reducing delays, this comes at a cost to environmental performance.

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

As it has been described in chapter 3.3.1, main capacity improvements during RP3 and following RP4 will be provided through measures such as:

- Implementation new ATM systems or upgrades of legacy systems enabling new concepts of operations or introducing new ATC tools (safety nets, stripless, DLS, 4D trajectory, MTCD, sector less ATM, new HMI etc.) such as ICAS;
- ATCO hiring plans.

These measures have an impact on the costs bases of ANSP: on staff costs for additional recruitments or social agreements, on depreciation costs and costs of capital regarding new investments.

Individual ANSPs' detailed interdependencies between cost-efficiency and capacity are addressed in chapter 3.4 and in Annex R of this performance plan.

### 3.6.4 - Other interdependencies and trade-offs

Regarding Environment performance, capacity is not the only performance area influencing KEA achievement; many other factors, some of them out of the full scope of responsibility of ANSPs, can impact a good flight efficiency.

Among the main factors can be listed:

- Further implementation of FUA in the airspaces most affected by military activities is expected to bring a certain improvement of flight efficiency. However, the current ERNIP edition includes only a few project (out of around 300) focusing on FUA improvement. In addition, benefits from FUA implementation will only be significantly perceivable if the level of military activity/training will remain unchanged in the years to come. Increase of military activity has an impact on flight efficiency. Nevertheless, FABEC has set up a FUA harmonization and implementation initiative with its ANSPs through a permanent joint CIV-MIL task force.

- Weather has been becoming more extreme and unpredictable; and so has its impact on air traffic (to reflect the real situation the TMA cylinder should be extended from 40NM to 200NM, therefore excluding the constraints set for arrival and departure from the calculation of en-route flight efficiency).

- Structure of the traffic: more overflights automatically means a better HFE. The core area of European airspace, of which the Netherlands is a part, however, contains the busiest European airports (FRA, CDG, AMS, LHR), and therefore a large proportion of arriving and departing traffic.

- In contrast to the aim to minimise emissions, Airspace users are not obliged to fly the shortest route. One example of a reason why they might not do this is when longer but cheaper route is available due to different unit rates across Europe. Neither are they obliged to provide a reason for not flying the shortest route. In addition the new En Route charging calculation according to actual flown route could have an impact on Airspace users choice regarding routes, which will influence flight-efficiency in a magnitude which is still unknown.

- The NM and the ANSPs have optimized their operations with respect to rolling UUP and Procedure 3, bringing more flexibility and more options for AOs to fly shorter routes. Unfortunately, the major part of AOs are not able to seize these opportunities because they file their flight plans more than 6-7 hours in advance. As a consequence, when a TRA is released only 3 hours in advance, they are not able to update their flight plans. As long as the flown track follows the flight plan trajectory, this lack of AOs' reactivity has a negative impact on flight efficiency and potentially on capacity (for instance if several flight plans are filed in a region with a capacity bottleneck whereas if these flight plans were updated, the corresponding flights would be rerouted outside this area).

More in general, we note that the performance scheme does not cover all KPAs and indicators that are relevant to ANS performance, and indeed to air transport as a whole. Performance areas such as security, sustainability, business continuity, etc are also important, and activities undertaken to address performance in these areas can affect performance in relation to the KPIs and targets included in this plan, e.g. improving security will come at a cost. Similarly, within the KPAs of safety, capacity, environment and cost efficiency there are (both local and European) issues or priorities that require action even without target setting - compare the PIs included in the performance and charging regulation. As an example, it may be necessary to invest in detecting and/or preventing runway incursions or airspace infringements. This will also affect cost efficiency but it will not contribute to meeting any of the targets in this plan.



## SECTION 4: CROSS-BORDER INITIATIVES AND SESAR IMPLEMENTATION

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### **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**

- a) Belgium
- b) France
- c) Germany
- d) Luxembourg
- e) Netherlands
- f) Switzerland

### **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	10
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**Note: menu will only allow selection of a maximum of 10 initiatives, however, 12 initiatives are listed below.**

Initiative #1	
Name	iCAS deployment collaboration
Description	DFS and LVNL develop and deploy common iCAS system. The German and Dutch Air Navigation Service Providers DFS and LVNL have signed contracts for the development and commissioning of the air traffic management system iCAS (iTEC Center Automation System) at the control centers in Germany and at the Amsterdam center in the Netherlands. iTEC is a highly advanced air traffic management system based on 4-dimensional trajectory-based flight management that provides major savings in terms of time and fuel, resulting in a reduction of both CO2 emissions and costs for airlines, in addition to increasing the total capacity of the system.
Expected performance benefits	SAF+ CAP+ CEF+ ENV+

Initiative #2	
Name	Collaboration for Flight Object Interoperability (FO IOP)
Description	Maastricht Upper Area Control Centre (MUAC), DFS and LVNL will jointly develop components that will enable interoperability between their respective Air Traffic Management systems and help deliver a Single European Sky.
Expected performance benefits	CAP+ CEF+

Initiative #3	
Name	The 14 ACCs of FABEC are internally benchmarked with the focus on sector level capacity
Description	The study explores factors influencing capacity provision at all 14 FABEC ACCs. In contrast to available benchmark reports this is done on a unusual detailed level and unusual large data set. Local supervisors, ATCOs and ATFM experts along with FABEC performance experts analyse the operational environment, the technical environment as well as staff planning routines to provide a deeper understanding of performance differences and to identify and exchange best practices.
Expected performance benefits	CAP+

Initiative #4	
Name	Framework for Cross-Border Business Continuity / Contingency
Description	Establish the appropriate framework at FABEC level supporting the development of cross-border business continuity or contingency procedures. FABEC ANSPs will check the requirements to support each other with bilateral arrangements in case of outages of an ACC (e.g. frequency outage, power failure, etc.).
Expected performance benefits	SAF+ CAP+ CEF+ ENV+

Initiative #5	
Name	Harmonisation of regulator framework for unmanned aircraft systems
Description	Initiative to harmonise separation standards to unmanned aircraft systems (UAS/ drones). In the framework of the initiative any kind of factors are analysed that may impair safety and operational performance. The objective is to avoid procedure diversification within FABEC and prepare a consolidated regulatory approach.
Expected performance benefits	CEF+

Initiative #6	
Name	RAD Optimisation Workshops
Description	The Route Availability Document (RAD) is a common reference document containing the policies, procedures and description for route and traffic orientation. The RAD is part of the European Route Network Improvement Plan (ERNIP). It also includes route network and free route airspace utilisation rules and availability. The RAD is also an Air Traffic Flow and Capacity Management (ATFCM) tool that is designed as a sole-source flight-planning document, which integrates both structural and ATFCM requirements, geographically and vertically. FABEC's CRM group organises regular meetings to optimise and harmonise the documents. Airspace users, NM representatives and FABEC's RAD coordinators optimise and harmonise RAD restrictions and increase understanding on users side.
Expected performance benefits	CAP+ ENV+

Initiative #7	
Name	Joint States/ ANSPs FUA Task Force
Description	The Task Force of State and ANSP experts, referred to as the joint FUA Task Force (JTF), supports the work of the Airspace Committee in developing an harmonised application of the ASM/FUA concepts within FABEC and in providing guidance to FABEC ANSPs on an harmonised application of FUA Level 2 and Level 3. The tool sub-group is focussing on the usage of available tools. The JTF is established with the general objectives of providing ASM/ FUA expertise to the AC and performing tasks for the AC in the area of ASM/FUA, with the end goal to develop proposals for the harmonisation of the application of ASM/ FUA concept at all three levels, in order to enhance airspace utilisation and contribute to performance and network improvements in particular in the FABEC core area and in cross-border areas of the FABEC airspace.
Expected performance benefits	CAP+ ENV+

Initiative #8	
Name	FABEC/Network Manager Airspace Design Coordination Group (FABEC/NM ADCG)
Description	For the mid-term, the NM Action Plan aims to tackle existing bottlenecks, address future capacity, and flight efficiency challenges, with a renewed airspace structure, in particular for the FABEC. The Airspace Design Coordination Group (ADCG) has been set up with the objective to make the link between the FABEC States and ANSPs bodies/structures (AC, SC OPS and ODG) and the NM RNDSG in charge of conducting the airspace study, on a seamless approach basis regardless of national borders. The new airspace structure will address current and future structural airspace bottlenecks and will include the new airspace requirements, which had to be declared by the States no later than May 2019. The implementation plan was postponed several times due to the COVID crisis but all potential projects are now included in the 'Airspace Catalogue', as annex to ERNIP part 2, even though with a status 'proposed'.
Expected performance benefits	CAP+ ENV+

Initiative #9	
Name	The Cooperative Optimisation of Boundaries, Routes and Airspace (COBRA)
Description	The two upper area control centres in Karlsruhe (DFS) and Maastricht (Eurocontrol) have launched an initiative to optimise the transfer of flights at the boundary of their areas of responsibility. The project is developing measures in the Central, East and West modules for the adjacent sectors along the geographical borders between Germany, Belgium, Luxembourg and France. The objective of the planned modifications is to reduce the complexity of air traffic in these airspaces for controllers. This will in turn optimise workflows, which will increase safety and airspace capacity as well as shorten the routes.
Expected performance benefits	SAF+ CAP+ ENV+

Initiative #10	
Name	Extended Arrival Management (XMAN)
Description	With the need to focus on activities which are directly answering current operational needs and the heavy constraints which the still ongoing COVID-19 crisis imposes on all ANSPs, FABEC ANSPs were forced to re-prioritise their FABEC XMAN Activities. As it remains an important initiative for when traffic recovers, most ANSPs continue with implementation as planned or with minor postponement. The maximum benefit for Airlines is therefore still expected to be substantial.
Expected performance benefits	CAP+ ENV+ CEF+

Initiative #11	
Name	Free Route Airspace (FRA)
Description	The project work on Direct Routings and Free Route is in a rolling status with a yearly update of the implementation report and implementation plan. The four involved FABEC ANSPs (MUAC, DFS, DSNA and Skyguide) will have FRA 24h by end 2025. Additional FRA improvements are also planned with several cross border operations for e.g. Karlsruhe/Munich/Zurich, Karlsruhe/MUAC, Karlsruhe/Vienna and Geneva/Zurich.
Expected performance benefits	CAP+ ENV+

Initiative #12	
Name	Preparing for Dutch Airspace Redesign
Description	<p>The essence of the redesign programme is that closer collaboration between civil and military aviation will allow for more efficient use of airspace capacity. This will result in shorter ATS routes, and in shorter routes to and from airports, thus reducing fuel consumption as well as CO2 and airborne nitrogen deposits. In addition, faster climbing and descending aircrafts will also reduce noise impact.</p> <p>The main elements of the redesigned Dutch airspace includes expansion of the existing military training zone in the northern part of the Netherlands which will allow for the closure of the existing training area in the south-east. The area that will thus become available can be adapted for civil air traffic. The northern zone will enable efficient training with the new generation of fighter aircraft, such as the F-35. The aim is to incorporate this training area into a cross-border Dutch-German training zone. A feasibility study for a cross-border training area is being carried out in cooperation with the German organisations DFS, Luftwaffe, Ministry of Transport and Ministry of Defence. The study phase will be followed by the initiation of the implementation phase, which will continue beyond RP3.</p>
Expected performance benefits	CAP+ ENV+

#### Additional comments

FABEC is an important enabler for cross-border coordination and cooperation for the Netherlands. FABEC States are focusing their work in order to ensure that FABEC airspace management aims at supporting both the performance of operations within FABEC airspace, in particular defined RP3 targets, and the Military Mission Effectiveness achievement.

The functional airspace block worked as facilitator for not just the abovementioned larger undertakings but also to many more smaller initiatives. Many initiatives are born when the CEOs, OPS directors, technical directors, the Head of ACC group or performance experts plan jointly future performance in their regular meetings. Studies, tests and deployment then, usually starts with one or two collaborating ANSPs and if successful are joined by the FABEC partners. FABEC offers a more comprehensive picture on Operational planning on this site: <https://www.fabec.eu/opmap/>

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

##### Details of synergies in terms of common infrastructure and common procurement

Generally speaking, it has to be noted that the financial impact of such common procurement or common infrastructure is hard to determine as soon as an alliance starts to act.

Practically, on a yearly basis, FABEC SC TECH SYS collects the investment plans for CNS equipment of the FABEC partners in order to investigate possibilities for a common procurement. This already resulted in cooperation between FABEC partners on many technical projects and investment synergies are achieved.

Such technical synergies are listed in chapter 4.1.1 above.

## 4.2.2 - Common Project One (CP1)

### a) Netherlands

CP1 ATM Functionality (CP1-AF) / Sub functionality (CP1-s-AF)	Recent and expected progress
<b>CP1-AF1 - Extended AMAN and Integrated AMAN/DMAN in High-Density TMAs</b>	
CP1-s-AF1.1 AMAN extended to en-route airspace	
Amsterdam Schiphol	LVNL commissioned a new and extensible basic AMAN system in 2018 with functionality referred to as "version AMAN 1.0". This system will be extended in RP3 to an enhanced version referred to as "AMAN 2.0" and "AMAN 2.1" and to Extended AMAN. This will be implemented in the period 2021 to 2024. Completion of Extended AMAN is planned for end of 2024.
CP1-s-AF1.2 AMAN/DMAN Integration	
Amsterdam Schiphol	n/a
<b>CP1-AF2 - Airport Integration and Throughput</b>	
CP1-s-AF2.1 DMAN synchronised with predeparture sequencing	
Amsterdam Schiphol	An electronic flight strip system was put into operation at Schiphol's control tower in 2019. LVNL is going to replace the tower system of Amsterdam Schiphol Airport in phases with a system that is suitable for the new SESAR functionalities. One of these functionalities is a Departure Manager (DMAN), which is scheduled to go live in 2022.
CP1-s-AF2.2.1 Initial airport operations plan (iAOP)	
Amsterdam Schiphol	The Royal Schiphol Group (RSG) has implemented an initial airport operations plan (iAOP) for Amsterdam Schiphol Airport in 2019 for which LVNL supplies part of the data. The iAOP will be interfaced with the NOP systems to implement a Collaborative NOP. This is planned for end of 2021.
CP1-s-AF2.2.2 Airport operations plan (AOP)	
Amsterdam Schiphol	The gradual development by Royal Schiphol Group (RSG) of the iAOP into a extended AOP continues in RP3 and full implementation is planned in RP4. The expected completion date is end of 2027.
CP1-s-AF2.3 Airport safety nets	
Amsterdam Schiphol	LVNL is going to replace the tower system of Amsterdam Schiphol Airport in phases with a system that is suitable for the new SESAR functionalities. One of these functionalities is Airport safety Nets. The expected completion date is end of 2025.
<b>CP1-AF3 - Flexible Airspace Management and Free Route Airspace</b>	
CP1-s-AF3.1 Airspace management and advanced flexible use of airspace	Local limitations prevent the implementation of ASM and A-FUA in Dutch airspace below FL245 (LVNL). However, LVNL will implement LARA including an interface with the new iCAS. The expected LARA completion date is end of 2023. Within the Netherlands the Dutch Airspace Redesign Program (DARP) is active. In this program FRA below FL 310, and below FL 245, will be assessed and implemented when possible. The program expects to implement first redesigns of the Dutch airspace starting 2025-2027.
CP1-s-AF3.2 Free route airspace	FRA must be provided and operated at least above flight level 305, this means that it does not apply below FL 245, the airspace where LVNL provides its services. However, LVNL is going to replace its current system in RP3 with iCAS and thereby upgrade the ATM system so that it supports Free Route. The expected completion date is end of 2023.
<b>CP1-AF4 - Network Collaborative Management</b>	
CP1-s-AF4.1 Enhanced short-term ATFCM measures	LVNL is working on the implementation of STAM. An initial set of STAM measures will be implemented in 2022, after which it will be extended. A decision support tool (DST) is being developed and is scheduled to be implemented in 2022, a what-if function and other features will support STAM.
CP1-s-AF4.2 Collaborative NOP	The Royal Schiphol Group has implemented an iAOP for Schiphol Airport in 2019 for which LVNL supplies part of the data, the iAOP will be interfaced with the NOP systems to implement a Collaborative NOP. LVNL will work on the application of target times for ATFCM purposes in RP3. The expected completion date is end of 2023.
CP1-s-AF4.3 Automated support for traffic complexity assessment	LVNL has developed a workload model for ACC and is working on its improvement and is also developing these models for APP and Ground Control. In addition, a decision support tool (DST) is being developed and is scheduled to be implemented in 2022.
CP1-s-AF4.4 AOP/NOP integration	The Royal Schiphol Group will implement the information exchange of the Schiphol AOP with NM NOP in RP3. The expected completion date is end of 2027.
<b>CP1-AF5 - SWIM</b>	
CP1-s-AF5.1 Common infrastructure components	LVNL is connected to the New Pan-European Network Services (NewPENS) in 2019. In RP3 LVNL will implement the public key infrastructure (PKI) and will use the registry for information about services. The expected completion date is end of 2023.
CP1-s-AF5.2 SWIM yellow profile technical infrastructure and specifications	In RP3 LVNL will implement the SWIM yellow profile technical infrastructure. The expected completion date is end of 2023.
CP1-s-AF5.3 Aeronautical information exchange	In RP3 LVNL will implement the exchange of aeronautical information via SWIM. The expected completion date is end of 2025.

CP1-s-AF5.4 Meteorological information exchange	In RP3 LVNL will implement the exchange of Meteorological information via SWIM. The expected completion date is end of 2025.
CP1-s-AF5.5 Cooperative network information exchange	In RP3 LVNL will implement the exchange of Cooperative network information via SWIM. The expected completion date is 2025.
CP1-s-AF5.6 Flight information exchange (yellow profile)	In RP3 LVNL will implement the exchange of Flight information (yellow profile) via SWIM. The expected completion date is 2025.
<b>CP1-AF6 - Initial Trajectory Information Sharing</b>	
CP1-s-AF6.1 Initial air-ground trajectory information sharing	Although the application of the initial trajectory information (EPP) is not mandatory below FL285, LVNL has planned the development of the application EPP to start in RP3 and its commissioning is planned to take place in RP4.
CP1-s-AF6.2 Network Manager trajectory information enhancement	n/a
CP1-s-AF6.3 Initial trajectory information sharing ground distribution	Although the application of the initial route information (EPP) is not mandatory below FL285, LVNL has planned to implement the necessary interface for the ground-based distribution of trajectory information data coming from onboard systems in RP4.

b) MUAC Information is provided at MUAC level and is therefore not specific to the Netherlands only.

CP1 ATM Functionality (CP1-AF) / Sub functionality (CP1-s-AF)	Recent and expected progress
<b>CP1-AF1 - Extended AMAN and Integrated AMAN/DMAN in High-Density TMAs</b>	
CP1-s-AF1.1 AMAN extended to en-route airspace	- MP Obj ATC15.1 - The interface with Amsterdam ACC was implemented in 2011. Implementation with additional partners is expected to take place depending on their readiness and operational needs. Due to its unique position, MUAC is piloting the integration with multiple AMAN implementations as input
CP1-s-AF1.2 AMAN/DMAN Integration	n/a
<b>CP1-AF2 - Airport Integration and Throughput - n/a</b>	
<b>CP1-AF3 - Flexible Airspace Management and Free Route Airspace</b>	
CP1-s-AF3.1 Airspace management and advanced flexible use of airspace	Implemented (AOM19.1, AOM19.2, AOM19.3 and AOM19.4)
CP1-s-AF3.2 Free route airspace	Implemented (AOM21.2)
<b>CP1-AF4 - Network Collaborative Management</b>	
CP1-s-AF4.1 Enhanced short-term ATFCM measures	Implemented (FCM04.2)
CP1-s-AF4.2 Collaborative NOP	B2B services will be implemented upon their availability and added value. (FCM05)
CP1-s-AF4.3 Automated support for traffic complexity assessment	implemented
CP1-s-AF4.4 AOP/NOP integration	B2B services will be implemented upon their availability and added value. (FCM05)
<b>CP1-AF5 - SWIM</b>	
CP1-s-AF5.1 Common infrastructure components	Preparatory steps have been taken. Services are in place in some areas, in other areas they are being planned. (INF08.1)
CP1-s-AF5.2 SWIM yellow profile technical infrastructure and specifications	The infrastructure for Yellow SWIM profile is in place and used for some initial services such as the B2B connection with NM of the ATM Portal. New services are being developed
CP1-s-AF5.3 Aeronautical information exchange	implemented
CP1-s-AF5.4 Meteorological information exchange	MUAC is planning an upgrade of the meteorological data feed in the coming year(s), before December 2024
CP1-s-AF5.5 Cooperative network information exchange	partially implemented
CP1-s-AF5.6 Flight information exchange (yellow profile)	implemented

<b>CP1-AF6 - Initial Trajectory Information Sharing</b>	
CP1-s-AF6.1 Initial air-ground trajectory information sharing	MUAC is operational with data Link (DLS/IR scope = ATN-B1) since 2003. MUAC plans an operational introduction of the two CP1 AF#6 ADS-C/EPP (ATS-B2) functionalities, display of the EPP and a discrepancy warning, early 2022.
CP1-s-AF6.2 Network Manager trajectory information enhancement	n/a
CP1-s-AF6.3 Initial trajectory information sharing ground distribution	MUAC is partner in the ADS-C Common Service prototype definition and validation under SESAR2020 PJ38 and will implement the service when it becomes available for operational use (around 2025?).

### 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

#### **LVNL**

With all changes LVNL pays attention to limiting the negative impact on the operation. This is achieved in different ways depending on the type of change. For example changes at the controller working position and operational testing of software are done during night hours. For airspace changes, such a phasing will be applied that is feasible for airspace users and air traffic controllers. The cut over to the new iCAS ATC system will be done in the winter season and will be executed using the so called Shadow-Mirroring principle. A new building, intended as a contingency and training facility, will be used for the transition to iCAS. The new system will be installed in that new building and integrated with all other systems, creating a fully independent operational environment without any major effect on the current operation. To test the iCAS system in real operations pre-transition life operations will be executed during nights and weekends. After thorough training the controllers will temporarily provide services from the new building using the iCAS system. The controllers move back after replacement of the current ATC-system in the main operational room.

#### **MUAC**

Depending on its size, risk and/or exposure, a change may be managed as a project. In such a case, Strategy & Performance Management triggers the project initiation by an approved Idea Sheet (IDS), committing resources for this first stage, and approves the Project Management Plan (PMP) to allocate the necessary resources for the project execution.

In the event that a technical change (internally or externally triggered) would risk a negative impact on the network, the aim is to minimize the impact on Network Performance. For the vast majority of changes, the goal is always for airspace changes to have a positive network impact.

Information is provided at MUAC level and is therefore not specific to the Netherlands only.



## SECTION 5: TRAFFIC RISK SHARING ARRANGEMENTS AND INCENTIVE SCHEMES

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### 5.1 - Traffic risk sharing

- 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 at FAB level for the calculation of financial advantages or disadvantages - Enroute
  - 5.2.1.2 Rationale and justification - Enroute
  - 5.2.1.3 Parameters for the calculation of financial advantages or disadvantages - Enroute (skeyes)
  - 5.2.1.4 Parameters for the calculation of financial advantages or disadvantages - Enroute (DSNA)
  - 5.2.1.5 Parameters for the calculation of financial advantages or disadvantages - Enroute (DFS)
  - 5.2.1.6 Parameters for the calculation of financial advantages or disadvantages - Enroute (LVNL)
  - 5.2.1.7 Parameters for the calculation of financial advantages or disadvantages - Enroute (Skyguide)
  - 5.2.1.8 Parameters for the calculation of financial advantages or disadvantages - Enroute (MUAC)
- 5.2.2 - Capacity incentive scheme - Terminal
  - 5.2.2.1 Belgium
  - 5.2.2.2 France
  - 5.2.2.3 Germany
  - 5.2.2.4 Luxembourg
  - 5.2.2.5 Netherlands
  - 5.2.2.6 Switzerland

### 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

<b>Netherlands</b>	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

Netherlands - 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%

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

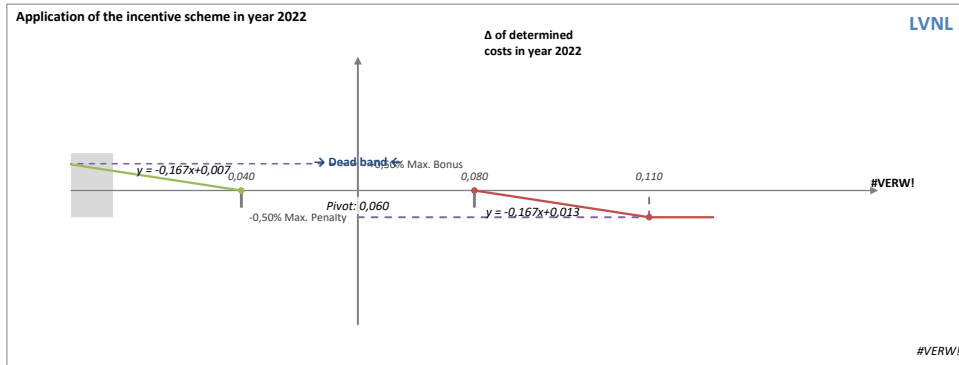
LVNL	Expressed in	Value
Dead band Δ	fraction of min	±0,020 min
Max bonus (≤2%)*	% of DC	0,50%
Max penalty (≥ Max bonus)*	% of DC	0,50%
The pivot values for RP3 are*	modulated	CRSTMP

\* These values are defined at FAB level and apply to all ANSPs and for the whole duration of RP3

	2020	2021	2022	2023	2024
Ref. values (mins of ATFM delay/flight) as per NM email of 28.10.2022			0,09	0,09	0,10
Alert threshold (Δ Ref. value in fraction of min)			±0,050	±0,050	±0,050
Performance Plan targets (mins of ATFM delay per flight)			0,09	0,09	0,10
Pivot values for RP3 (mins of ATFM delay per flight)**			0,06	0,07	0,07
Delay ranges for the calculation of financial advantages / disadvantages	Dead band range		[0,04-0,08]	[0,05-0,09]	[0,05-0,09]
	Bonus sliding range*		[0,01-0,04]	[0,02-0,05]	[0,02-0,05]
	Penalty sliding range*		[0,08-0,11]	[0,09-0,12]	[0,09-0,12]

\* Bonuses only apply if ATFM delay per flight in year n at FAB level is within the 'Bonus range' for year n as shown in Section 5.2.1.1 and penalties only apply if ATFM delay per flight in year n at FAB level is within the 'Penalty range' for year n as shown in Section 5.2.1.1.

\*\* When modulation applies, these figures are only indicative as they will be updated annually on the basis of the November n-1 NOP and the methodology described in 5.2.1.2.a2. The pivot values for year n have to be notified to the EC by 1 January n.



5.2.1.2 Parameters for the calculation of financial advantages or disadvantages - Enroute (MUAC-NL)

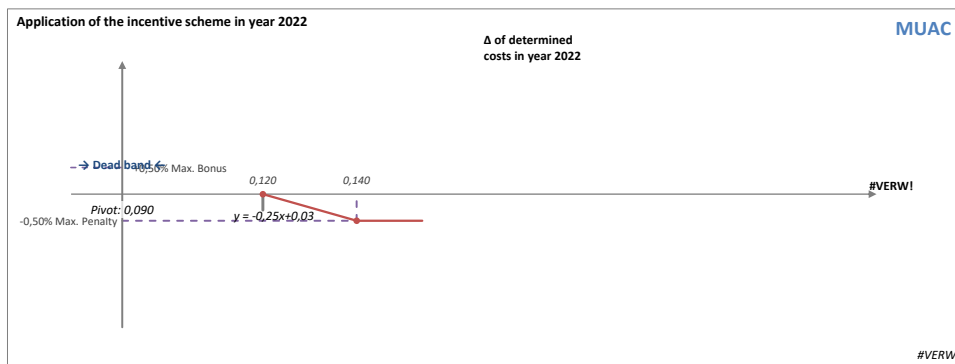
MUAC	Expressed in	Value
Dead band Δ	fraction of min	±0,030 min
Max bonus (≤2%)*	% of DC	0,50%
Max penalty (≥ Max bonus)*	% of DC	0,50%
The pivot values for RP3 are*	modulated	CRSTMP

\* These values are defined at FAB level and apply to all ANSPs and for the whole duration of RP3

	2020	2021	2022	2023	2024
Ref. values (mins of ATFM delay/ flight) as per NM email of 28.10.2022			0,15	0,15	0,15
Alert threshold (Δ Ref. value in fraction of min)			±0,050	±0,050	±0,050
Performance Plan targets (mins of ATFM delay per flight)			0,15	0,15	0,15
Pivot values for RP3 (mins of ATFM delay per flight)**			0,09	0,09	0,09
Delay ranges for the calculation of financial advantages / disadvantages	Dead band range		[0,06-0,12]	[0,06-0,12]	[0,06-0,12]
	Bonus sliding range*		[0,04-0,06]	[0,04-0,06]	[0,04-0,06]
	Penalty sliding range*		[0,12-0,14]	[0,12-0,14]	[0,12-0,14]

\* Bonuses only apply if ATFM delay per flight in year n at FAB level is within the 'Bonus range' for year n as shown in Section 5.2.1.1 and penalties only apply if ATFM delay per flight in year n at FAB level is within the 'Penalty range' for year n as shown in Section 5.2.1.1.

\*\* When modulation applies, these figures are only indicative as they will be updated annually on the basis of the November n-1 NOP and the methodology described in 5.2.1.2.a2. The pivot values for year n have to be notified to the EC by 1 January n.



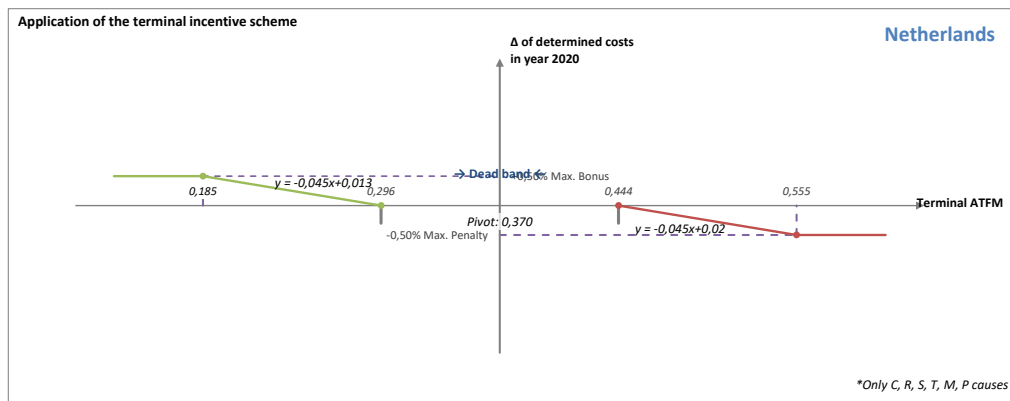
5.2.2.5 Netherlands: Capacity incentive scheme - Terminal

a) Parameters for the calculation of financial advantages or disadvantages - Terminal

Netherlands - Terminal	Expressed in	Value
Dead band Δ	%	±20,0%
Bonus/penalty range (% of pivot value)	%	±50%
Max bonus	% of DC	0,50%
Max penalty	% of DC	0,50%
The pivot values for RP3 are	modulated	

	2020	2021	2022	2023	2024
Performance Plan targets (mins of ATFM delay per flight)			1,6	1,6	1,4
Bonus/penalty range Δ (in fraction of min)			±0,185	±0,185	±0,155
Pivot values for RP3 (mins of ATFM delay per flight)*			0,37	0,37	0,31
Financial advantages / disadvantages	Dead band range		[0,296-0,444]	[0,296-0,444]	[0,248-0,372]
	Bonus sliding range		[0,185-0,296]	[0,185-0,296]	[0,155-0,248]
	Penalty sliding range		[0,444-0,555]	[0,444-0,555]	[0,372-0,465]

\* When modulation applies, these figures are only indicative as they will be updated annually on the basis of the methodology described in 5.2.1.2.a below. The pivot values for year n have to be notified to the EC by 1 January n.



b) 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\*\*

There is only one terminal charging zone in the Netherlands, and only one relevant ANSP (LVNL).

\*\* Refer to Annex I, if necessary.

Indicate which of the principles below will be applied for the modulation of the pivot values for the whole RP3:	
a) The pivot value for year n is modulated in order to enable significant and unforeseen changes in traffic to be taken into account and is based on the principles explained below:**	No
b) The scope of the incentives is limited to delay causes related to ATC capacity, ATC routing, ATC staffing, ATC equipment, airspace management and special events with the codes C, R, S, T, M and P of the ATFCM user manual. If yes, provide below a justification for this decision and an explanation of how the pivot values are calculated.	Yes

Arrival ATFM delays in the Netherlands are dominated by the performance of Schiphol. The vast majority of delays at Schiphol are due to either weather or aerodrome capacity: on average over the period 2016-2019, 37% of delays was due to aerodrome capacity and 52% due to weather – together these two issues have therefore caused approx. 90% of all ATFM delays (in 2020, when traffic was far below normal levels, this was more than 99%). As a basic principle, it is considered unfair to reward or penalise the ANSP for performance that is outside of its influence (i.e. non-CRSTMP delays). Additionally, in particularly weather delays are highly volatile from one year to the next, making it nearly impossible to define a non-modulated incentive scheme that would fairly reward or penalise the ANSP. The Netherlands has therefore decided to introduce a CRSTMP-only scheme.

Modulated values have been determined using the same approach as in the performance plan that was submitted in 2019: a stepwise improvement of the all-causes delay target from 2,0 min/ft to 1,2 min/ft was linked to a stepwise improvement in CRSTMP-only delays from 0,5 min/ft to 0,25 min/ft. In this approach, the new all-causes targets for 2022 (1,6 min/ft), 2023 (1,6 min/ft) and 2024 (1,4 min/ft) link to CRSTMP-only targets of resp. 0,37 min/ft; 0,37 min/ft; and 0,31 min/ft.

\*\* Refer to Annex I, if necessary.

## SECTION 6: IMPLEMENTATION OF THE PERFORMANCE PLAN

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**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 NSAs 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
Monitoring processes exist at FABEC and national level, and vary between different KPAs.
Capacity and environment performance is reported by the FABEC ANSPs' Performance Management Group (PMG) on a monthly basis. Reports are presented to the States' Financial and Performance Committee (FPC) which meets approximately 6 times per year. Additionally, quarterly or six-monthly meetings are held at national level with the two ANSPs. A monthly performance dashboard is under development by MUAC.
Monitoring of the safety KPI is limited to the annual monitoring process described below.
Monitoring of cost efficiency and investments is performed at national level.
For the annual monitoring process, the Netherlands will continue to cooperate and coordinate in the FABEC context. FABEC has continued to use the process applied during RP2. The process is performed under the responsibility of the FPC: <ul style="list-style-type: none"><li>- the FABEC ANSPs' Performance Management Group (PMG) on gathering operational performance information (capacity, environment)</li><li>- the FABEC States' Safety Performance and Risk Coordination (SPRC) Task Force and the ANSPs' focal points for EoSM for gathering and verifying safety performance data; If necessary, the ANSPs' Standing Committee on Safety will be consulted</li><li>- national NSAs for information on costs and investments</li></ul> In all areas, identification of the main drivers for performance and in particular for deviations from planned performance will be part of the monitoring process.

### 6.2 Non-compliance with targets during the reference period

Description of the processes put in place and measures to be applied by the NSAs to address the situation where targets are not reached during the reference period
For the Netherlands, compliance with cost efficiency targets is monitored through the regular annual reports and budget planning processes, as well as through six-monthly updates on cost developments.



Union-wide safety targets for the end of RP3 i.e. 2024 given by Commission implementing decision (EU) 2021/891 of 2 June 2021 are always born in mind by NSAs through the yearly monitoring process. The ANSPs individual targets for 2021-2023 are checked every year within the NSA assessment of the ANSPs self-assessment. Subject matter experts gather data during January each year and will counteract instantly in case an intermediate target is not reached and thus a non-compliance identified. For that purpose close cooperation between NSAs (SPRC TF / NSAC) and ANSPs (SC-SAF) at FABEC level has been established.

For capacity and environment performance, in addition to the quarterly and six-monthly meetings with the two ANSPs, FABEC has developed the 'OPS performance process' which requires ANSPs to propose measures to improve performance if performance is not in line with targets. Remedial measures are initially proposed to the FPC, which will assess the proposals and provide advice to the FABEC Council to either accept the proposed remedial measures or request further improvements.