EUROCONTROL

European Route Network Improvement Plan/ERNIP

Implementation Monitoring

Monitoring Report: AIRAC 2101
28 January 2021 - 24 February 2021

SUPPORTING EUROPEAN AVIATION

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European Route Network Improvement Plan (ERNIP) Implementation Monitoring

Monitoring Report: AIRAC 2101
28 January 2021 - 24 February 2021
NETWORK MANAGER

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1. INTRODUCTION

1.1 SUMMARY

This Monitoring Report focuses on **AIRAC 2101 (28 January 2021 - 24 February 2021)**. It provides an update on the evolution of the environment indicators[1] listed in the *Network Performance Plan* and plots on the progress achieved in improving airspace design and its utilisation flight efficiency[2], in line with the improvement proposals implemented in the relevant AIRAC cycle.

Caused by the airspace enhancements implemented during AIRAC 2101 as well as the airspace design improvements put in place since AIRAC 2001 in connection with changing traffic patterns and structure, the additional, **potential savings offered** during AIRAC cycle 2101 amount to 276 000 NMs flown less compared with the equivalent AIRAC cycle in 2020. This translates into 1 700 tons of fuel, or 5 500 tons of CO2, or € 1 380 000.

Based on the last filed flight plan indicator and as a result of the airspace design improvements put in place since AIRAC 2001 in connection with changing traffic patterns and the airline choices made, the **actual gains calculated** during the AIRAC cycle 2101 amount to 446 000 NMs flown less compared to the equivalent AIRAC cycle in 2020. This translates into 2 700 tons of fuel, or 8 900 tons of CO2, or € 2 200 000.

The actual savings recorded on the last filed flight plan data during AIRAC cycle 2101 compared to the equivalent AIRAC cycle in 2020 are a result of airspace design improvement measures and traffic composition in connection with the varying flight planning choices of the airline operators. The airline choices are **affected by special events** like weather, industrial actions, closed areas in adjacent airspace(s) and regulations applied due to capacity problems in the network**.**

*Note: The **data of AIRAC 2101** report are **significantly disrupted by the COVID-19 crisis.** Traffic is still around 50% - 60% fewer flights in the NM area compared to 2019. Therefore, the statistics/ results might not be as reliable and accurate as usual.*
The periodical implementation process is part of the ERNIP Part 2 - ARN Version 2020 - 2024 to enhance the European ATM capacity, flight efficiency and environmental performance through the development and implementation of an improved ATS route network, Free Route Airspace and TMA systems structures supported by corresponding improvements to the airspace structure and the optimal utilisation rules.

1.2 PERFORMANCE TARGETS - THIRD REFERENCE PERIOD/ RP3

The ERNIP Part 2 - ARN Version 2020 - 2024 will contribute to the achievement of the performance targets of the third Reference Period of the Single European Sky Performance Scheme/ RP3. For the third performance Reference Period/ RP3 starting on 1st January 2020 and ending on 31st December 2024, the European Union-wide performance indicators will be as follows:

Environment

- average horizontal en-route flight efficiency of the actual trajectory, calculated as follows:
  - the indicator is the comparison between the length of the en route part of the actual trajectory derived from surveillance data and the achieved distance, summed over IFR flights within or traversing the airspace as defined in Article 1, hereinafter referred to as 'European airspace';
  - 'en route part' refers to the distance flown outside a circle of 40 NM around the airports;

[1] **FPL**: Flight Plan data provided by NM systems; SAAM analysis carried out by NM. **DES/ RAD** Traffic demand provided by NM systems; airspace environment data, profile calculations and SAAM analysis provided by NM.

[2] The methodology used for assessing flight efficiency is described in WP/9 of RNDSG/64. This document can be found at: https://ost.eurocontrol.int/sites/RNDSG/Shared%20Documents/Forms/AllItems.aspx?RootFolder=%2Fsites%2FRNDSG%2FShared%20Documents%2F%21%21%21%20RNDSG%20Meetings%2FRNDSG%20meetings%2051%2D85%2FRNDSG%2D64%20%2820%2D22%20May2008%29

- where a flight departs from or arrives at an airport outside the European airspace, the entry or exit points of the European airspace are used for the calculation of this indicator as the origin or destination respectively, rather than the departure or destination airport;
- where a flight departs from and arrives at an airport inside the European airspace and crosses a non-European airspace, only the part inside the European airspace is used for the calculation of this indicator;
- 'achieved distance' is a function of the position of the entry and exit points of the flight into and out of each portion of airspace for all parts of the trajectory. Achieved distance represents the contribution that those points make to the great circle distance between origin and destination of the flight; and,
- the indicator is calculated for the whole calendar year and for each year of the reference period, as an average. When calculating this average, the ten highest daily values and the ten lowest daily values are excluded from the calculation.

This KPI is applicable at both network and Functional Airspace Block level.

The Regulation also introduces a new environmental indicator for monitoring:

- the share of arrivals applying Continuous Descent Operation/ CDO, calculated at local level as follows:
  - this indicator is the ratio between the total number of arrivals performing a CDO from a reference point at a height above ground, defined by the national supervisory authority, and the total number of arrival operations; and,
  - this indicator is expressed as a percentage, calculated for the whole calendar year and for each year of the reference period.

This indicator is applicable at local level.

It should be noted that this indicator might be used to measure the performance of the part of the descent profile where noise is the principal environmental impact. Whilst the altitude of the reference point to be defined by the national supervisory authority may depend upon local factors such as airspace particularities or the extent of the area of responsibility, the majority of emissions savings can be gained from enabling CDO from top of descent or from higher levels wherever possible. Whilst reference points may be defined according to local requirements, airspace design should still aim to enable CDO from top of descent or from as high a level as possible.

Capacity:

- The average minutes of en route ATFM delay per flight attributable to air navigation services, calculated as follows:
  - the en route ATFM delay is the delay calculated by the Network Manager, expressed as the difference between the estimated take-off time and the calculated take-off time allocated by the Network Manager;
  - for the purposes of this indicator:
    - 'estimated take-off time' means the forecast of time when the aircraft will become airborne calculated by the Network Manager and based on the last estimated off-block time, or target off-block time for those airports covered by airport collaborative decision-making procedures, plus the estimated taxi-out time calculated by the Network Manager;
    - 'calculated take-off time' means the time allocated by the Network Manager on the day of operation, as a result of tactical slot allocation, at which a flight is expected to become airborne;

        - ‘estimated taxi-out time’ means the estimated time between off-block and take off. This estimate includes any delay buffer time at the holding point or remote de-icing prior to take off;
    - this indicator covers all IFR flights and all ATFM delay causes, excluding exceptional events; and,
    - this indicator is calculated for the whole calendar year and for each year of the reference period.

The ERNIP Part 2 - ARN Version 2020 - 2024 also responds to the targets included in the Network Performance Plan (NPP) 2020 - 2024 as described below:

- Route extension - last filed flight plan:
    - Targets:
        - Achieve 3.78% for NM area for KPI by 2024.
- Percentage of En-route delay savings:
    - Targets:
        - Deliver additional operational benefits in terms of en-route delay savings of 10% of total en-route delay.

1.3 A CONSOLIDATED EUROPEAN AIRSPACE DEVELOPMENT

The ERNIP Part 2 - ARN Version 2020 - 2024 will, in cooperation with the ANSPs and the FABs, ensure the implementation of the Airspace Vision agreed by the Network Management Board:

- a comprehensive cross-border implementation of Free Route Airspace, at least at and above FL310, in the European airspace;
- an optimised route structure below Free Route Airspace/ FRA ensuring efficient connectivity in/out terminal airspace;
- a simplification of the RAD;
- a harmonisation of the airspace publications;
- more efficient Flexible Use of Airspace procedures and the associated system support to enable a better utilisation of the civil/military airspace structures;
- a closer cooperation between the Network Manager, the airspace users and the computer flight plan service providers aimed at ensuring a better utilisation of the available airspace structures.

The ERNIP Part 2 - ARN Version 2020 - 2024:

- achieves an European Route Network for the safe and efficient operation of air traffic, taking due account of the environmental impact;
- keeps operational consistency of the European airspace organisation;
- consolidates into a network approach the Functional Airspace Blocks developments, the wide implementation of airspace projects from Free Route Airspace to TMA developments;
- facilitates the development of an airspace structure offering the required level of safety, capacity, flexibility, responsiveness, environmental performance and seamless provision of expeditious air navigation services, with due regard to security and defence needs;
- ensures regional interconnectivity and interoperability of the European route network within the ICAO EUR Region and with adjacent ICAO Regions.
- ensures compliance with the Commission Implementing Regulation No 716/2014 of 27th June 2014 on the establishment of the Pilot Common Project supporting the implementation of the European Air Traffic Management Master Plan.

The ERNIP Part 2 - ARN Version 2020 - 2024 includes details on:

- Implementation of Free Route Airspace projects;
- ATS route network developments;
- Re-sectorisation actions;
- Actions aimed at simplifying the usage of the ATS route network;

- Civil/military airspace structures;
- Deployment of the night route network.

The ERNIP Part 2 - ARN Version 2020 - 2024 is derived from the following sources:

- Proposals covering a cohesive development of the European Airspace Structure;
- Solutions developed inside various FAB initiatives;
- Proposals originating at national or sub-regional level;
- Aircraft operator's proposals.

1.4 MONITORING AND IMPROVEMENT

Through the European Route Network Improvement Plan/ ERNIP Part 2, the Network Manager supports the Commission by providing relevant input for the preparation of Union-wide performance targets before the reference periods and for **monitoring the achievement of the performance targets during the reference period**.

In that respect, a close cooperation and synchronisation was ensured between the Network Manager and all the FABs in the preparation of the ERNIP Part 2 - ARN Version 2020 - 2024, as part of the Network Operations Plan.

The Monitoring Report - as part of the ERNIP Part 2 - ARN Version 2020 - 2024 - addresses the **monitoring and improvement of the environment/ flight efficiency performance** of the network from an airspace design and utilisation perspective as one of the requirements laid down in the COMMISSION IMPLEMENTING REGULATIONS.

The **ERNIP Implementation Monitoring Report** is published every **A**eronautical **I**nformation **R**egulation **A**nd **C**ontrol (AIRAC) cycle and available via the EUROCONTROL *Airspace design and utilisation website* (publication/ activity):

https://www.eurocontrol.int/publication/european-route-network-improvement-plan-ernip-monitoring-report-airac-2101

The list of all available monitoring reports is accessible via the EUROCONTROL *Route network and airspace design* website (function):

https://www.eurocontrol.int/function/route-network-and-airspace-design

A copy of the ERNIP Implementation Monitoring Report is available via the restricted EUROCONTROL OneSky Online websites for access by interested members of the RNDSG, ASMSG and NETOPS *(see sub-sections under main section "LIBRARY"):*

https://ost.eurocontrol.int/sites/NETOPS/SitePages/Home.aspx
https://ost.eurocontrol.int/sites/RNDSG/SitePages/Home.aspx
https://ost.eurocontrol.int/sites/ASM-SG/SitePages/Home.aspx

2. LIST OF PROPOSALS IMPLEMENTED AIRAC 2101 (28 JANUARY 2021)

2.1 SUMMARY OF MAJOR PROJECTS IMPLEMENTED ON 28 January 2021

During the AIRAC cycle 16 (sixteen) airspace improvement package co-ordinated at network level were implemented. Apart from ECAC States AIP en-route publication issues, ATS route network or RAD improvements the list below provides an overview of the major enhancements implemented on 28 January 2021:

- Slovakia, Hungary, Romania, Bulgaria
  - SEE FRA Phase 2

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The latest situation of the European route network structure is available and updated at each AIRAC cycle through the publication of Regional Electronic Charts that can be found here: http://www.eurocontrol.int/articles/eurocontrol-regional-charts

3. EVOLUTION OF PERFORMANCE INDICATORS

3.1 AIRSPACE DESIGN INDICATOR EVOLUTION

The graph below shows the yearly evolution of airspace design flight efficiency (RTE-DES[3]) over the period 2007 - 2020 and its evolution until 24 February 2021. *(Note: inclusion of new measurements will be done as soon as all data will become available)*

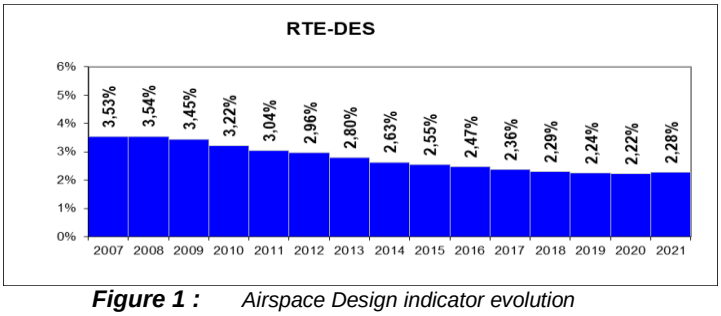


Figure 1 : *Airspace Design indicator evolution*

3.2 FLIGHT PLANNING INDICATOR EVOLUTION

The graph below shows the yearly evolution of the last filed flight plan indicator (RTE-FPL[4]) over the period 2007 - 2019 and its evolution until 24 February 2021. *(Note: inclusion of new measurements will be done as soon as all data will become available)*

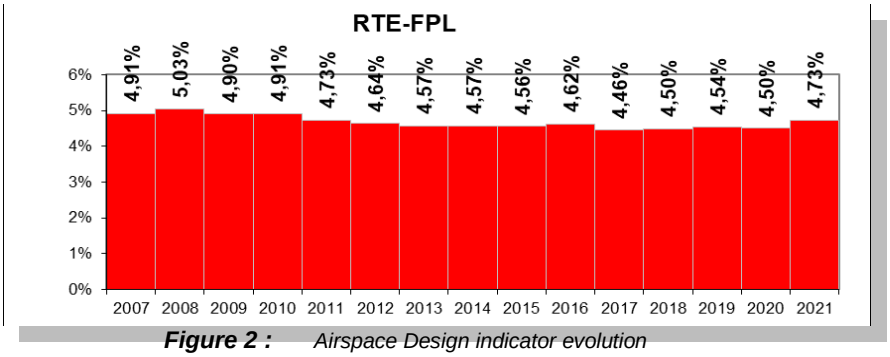


Figure 2 : *Airspace Design indicator evolution*

3.3 ROUTE AVAILABILITY INDICATOR EVOLUTION

The impact of the civil route restrictions included in the Route Availability Document (RAD) is measured through a specific RAD indicator (RTE-RAD[5]). The graph below shows the yearly evolution of the RTE-RAD indicator between January 2012 and 24 February 2021. *(Note: inclusion of new measurements will be done as soon as all data will become available)*

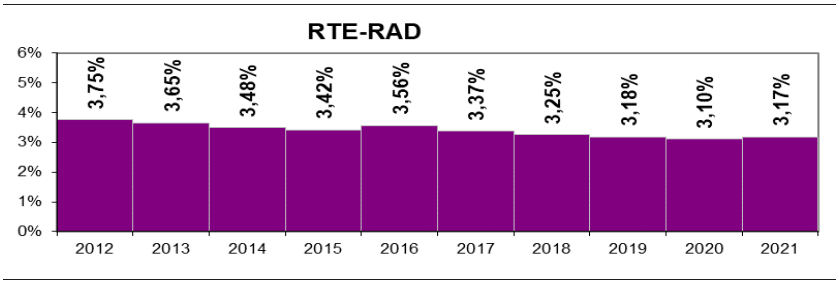


Figure 3 : *Route Availability indicator evolution*

3 **RTE-DES** (Flight Extension due to Route Network Design) This KPI will be calculated by measuring the difference between the shortest route length (from TMA exit and entry points) and the great circle distance. For this KPI the RAD will not be taken into account and all the CDR routes will be considered as open.

[4] **RTE-FPL** (Flight Extension due to Route Network Utilisation - last filled FPL) This KPI will be calculated by measuring the difference between the route from the last filed flight plan for each flight (from TMA exit and entry points) and the great circle distance.

[5] **RTE-RAD**: (Flight Extension due to Route Network Utilisation - RAD active) This KPI will be calculated by measuring the difference between the shortest plannable route length (from TMA exit and entry points) and the great circle distance. For this KPI the RAD will be taken into account and all the CDR routes will be considered as open.

3.4 FLIGHT EFFICIENCY EVOLUTION PER AIRAC CYCLE

The graph below shows the evolution per AIRAC cycle of the two main flight efficiency indicators RTE-DES and RTE-FPL over the period 2010 - 2019 and the evolution until 24 February 2021. *(Note: inclusion of new measurements will be done as soon as all data will become available)*

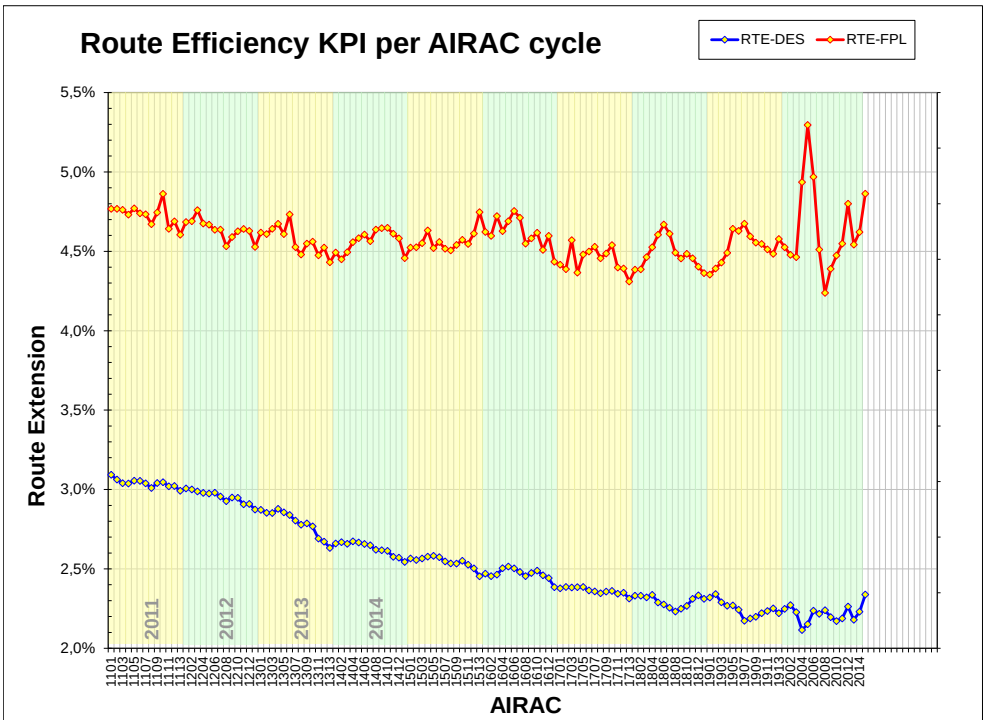


Figure 4 : *Flight efficiency (DES, FPL) evolution per AIRAC cycle*

The graph below shows the evolution per AIRAC cycle of the two main efficiency indicators RTE-DES and RTE-FPL in relation to the RTE-RAD indicator between January 2012 and 24 February 2021. *(Note: inclusion of new measurements will be done as soon as all data will become available)*

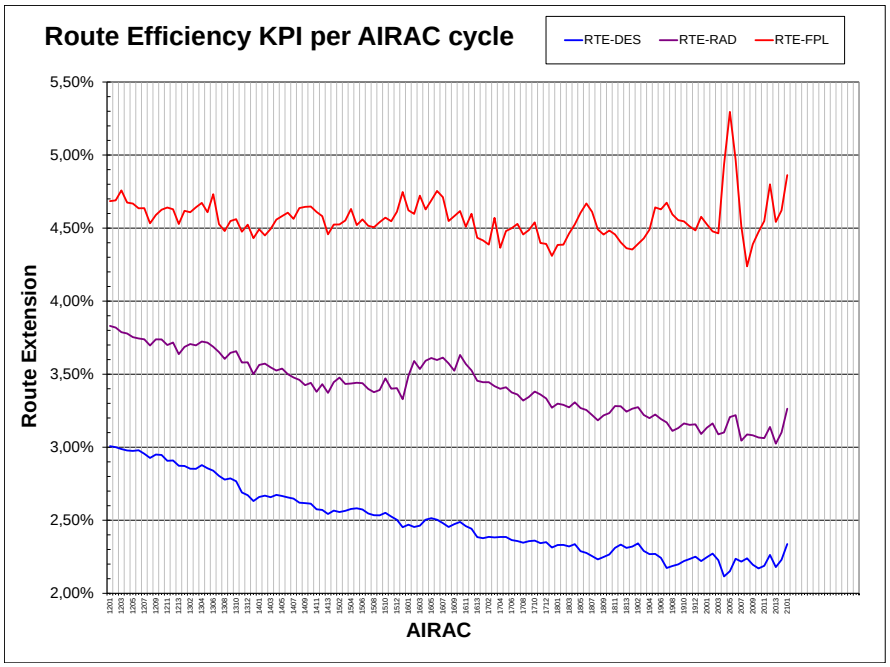


Figure 5 : *Flight efficiency (DES, RAD, FPL) evolution per AIRAC cycle*

The difference between the three indicators (DES, FPL, RAD) clearly indicate that additional efforts must be made to further improve the efficiency of airspace utilisation and to ensure that the indicator based on the latest filed flight plan/ FPL and the RAD indicator follow similar to the airspace design indicator/ DES.

3.4.1 EVOLUTION OF RTE-DES AND RTE-FPL INDICATORS

The current data indicates that, the average yearly route extension due to airspace design was reduced between 2009 and 24 February 2021 by 1.17 percentage points (was 1.22 in AIRAC 2014). The evolution of the airspace design indicator is on the right path and the contributions of the airspace design projects are key for improving flight efficiency.

The current data indicates that, the average yearly route extension based on the last filed flight plan was reduced between 2009 and 24 February 2021 by 0.17 percentage points (was 0.30 in AIRAC 2014).

The difference between the airspace design indicator and the last filed flight plan indicator was 1.45 percentage points in 2009 and was 2.45 percentage points on 24 February 2021 (was 2.38 in AIRAC 2014).

The current data indicates that the route extension due to airspace design went up to 2.34% in January 2021 (2.23 in AIRAC 2014).

The current data show that the route extension based on the last filed flight plan went up to 4.86% in January 2021 (4.62 in AIRAC 2014).

3.4.2 EVOLUTION OF RTE-RAD INDICATOR

As shown in Figure 3 above the impact of the RAD decreased by 0.58 percentage points in January 2020 compared with 2012. Continuous actions will be required further diminishing this impact and ensuring that the target set in the Network Manager Performance Plan is reached.

*Note: **During the COVID-19 crisis**, over 1000 **RAD restrictions** have been **suspended** until 17th June 2021. The RAD measures addressed offer additional flight planning options and - depending on daily traffic & airline choices made - generate a significant amount of distance-flown savings. It is subject to each ANSP to un-suspend these temporary modifications to national and cross-border restrictions. NM will continuously monitor the situation in relation to the COVID-19 evolution and adapt the actions accordingly.*
For more details see: https://www.nm.eurocontrol.int/RAD/index.html/common/covid19.html

3.4.3 BENEFITS AND ASSESSMENT OF RTE-DES AND RTE-FPL EVOLUTIONS

Caused by the airspace enhancements implemented during AIRAC 2101 as well as the airspace design improvements put in place since AIRAC 2001 in connection with changing traffic patterns and structure, the additional, **potential savings offered** during AIRAC cycle 2101 amount to 276 000 NMs flown less compared with the equivalent AIRAC cycle in 2020. This translates into 1 700 tons of fuel, or 5 500 tons of CO2, or € 1 380 000.

Based on the last filed flight plan indicator and as a result of the airspace design improvements put in place since AIRAC 2001 in connection with changing traffic patterns and the airline choices made, the **actual gains calculated** during the AIRAC cycle 2101 amount to 446 000 NMs flown less compared to the equivalent AIRAC cycle in 2020. This translates into 2 700 tons of fuel, or 8 900 tons of CO2, or € 2 200 000.

The actual savings recorded on the last filed flight plan data during AIRAC cycle 2101 compared to the equivalent AIRAC cycle in 2020 are a result of airspace design improvement measures and traffic composition in connection with the varying flight planning choices of the airline operators. The airline choices are **affected by special events** like weather, industrial actions, closed areas in adjacent airspace(s) and regulations applied due to capacity problems in the network**.**

*Note: The **data of AIRAC 2101** report are **significantly disrupted by the COVID-19 crisis.** Traffic is still around 50% - 60% fewer flights in the NM area compared to 2019. Therefore, the statistics/ results might not be as reliable and accurate as usual.*

The special events recorded for this AIRAC cycle are as follows:

- **Overall crisis situation in Ukraine** that lead a significant number of flights to avoid the entire Ukrainian airspace moving to neighbouring countries (Turkey, Bulgaria, Romania, Poland, Slovakia, etc.); as a result of the Ukrainian crisis adjacent ACCs/ UACs were on-loaded by Far Eastern traffic avoiding the Ukraine airspace leading to increased route extensions.
- **Closure of Libyan airspace** for over flights due to the security situation required procedures with impact on flight efficiency for traffic between Europe and Africa re-routed via Egypt and Tunisia (while traffic to/from Tunisia remains suppressed since the terrorist attack on 26 June 2016.)
- **Avoidance of Syrian airspace** due to the security situation with impact on flight efficiency for traffic between Europe and Middle East and Asia re-routed via Iran and Turkey with additional impacts on the flows from the Ukrainian crisis.
- Aircraft Operators adjusted their schedules in reaction to the **Coronavirus (nCoV-2019)** and in reaction to State-implemented travel restrictions, resulting in a **significant decrease of flights** (approx. 50% fewer flights compared to 2019) operated in the NM area.

Figure 6 below shows the airspace unavailability and closed areas in February 2021.

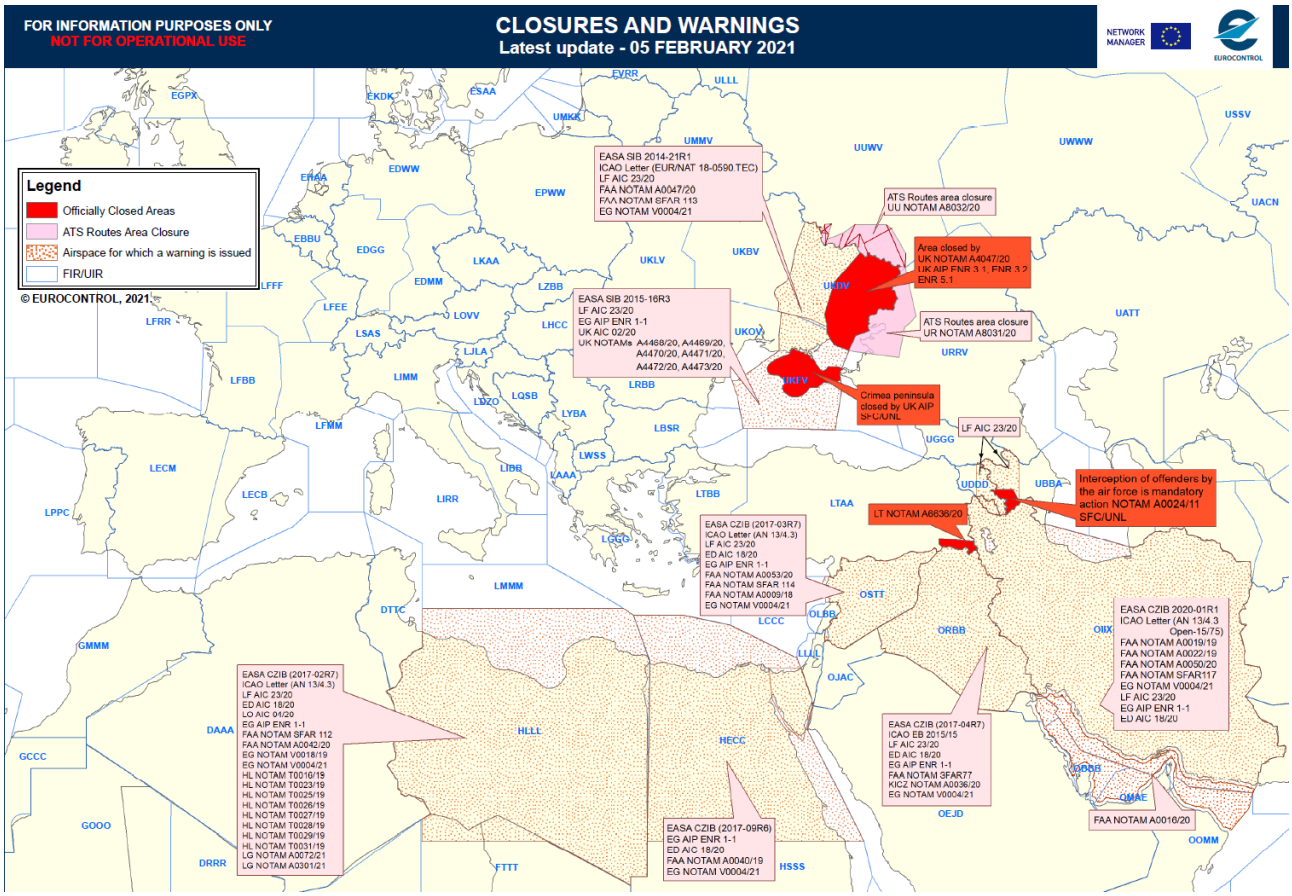


Figure 6 : *Airspace unavailability and closed areas in February 2021*

Figure 7 and Figure 8 below visualise the impact of the mentioned airspace unavailability (see Figure 6 above) by comparing traffic flows in February 2014 and February 2021.

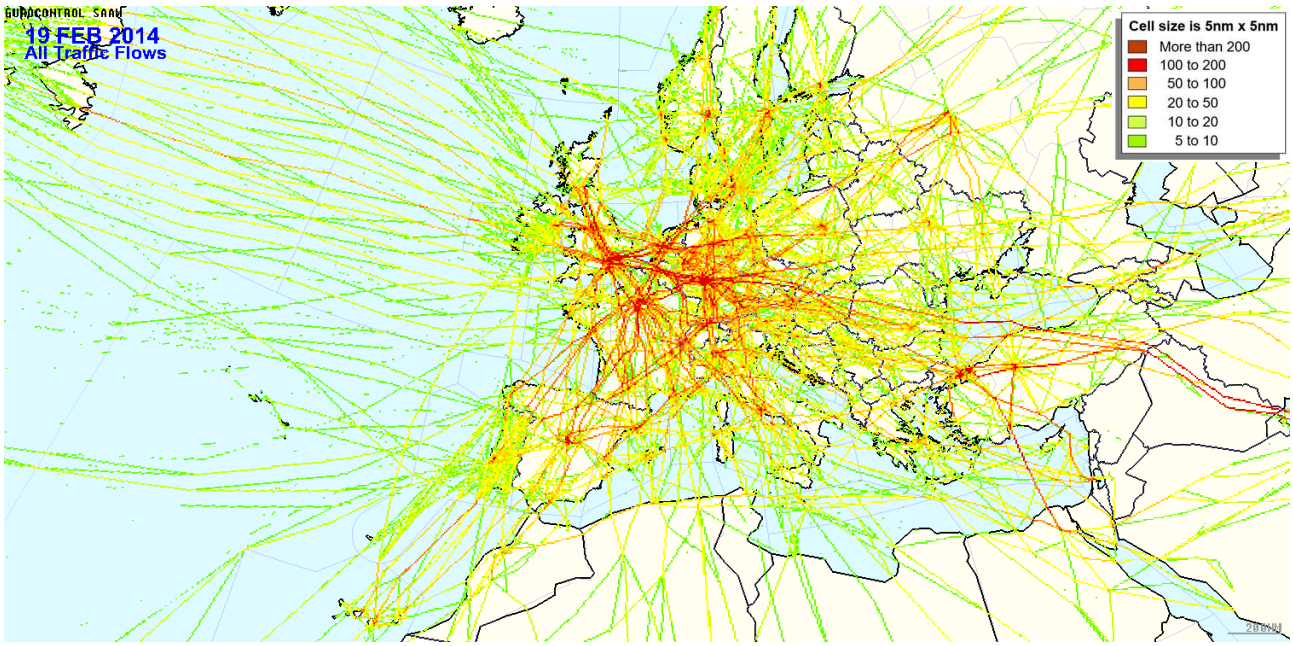


Figure 7 : *24h traffic situation Wednesday, 19 February 2014 (flight planned)*

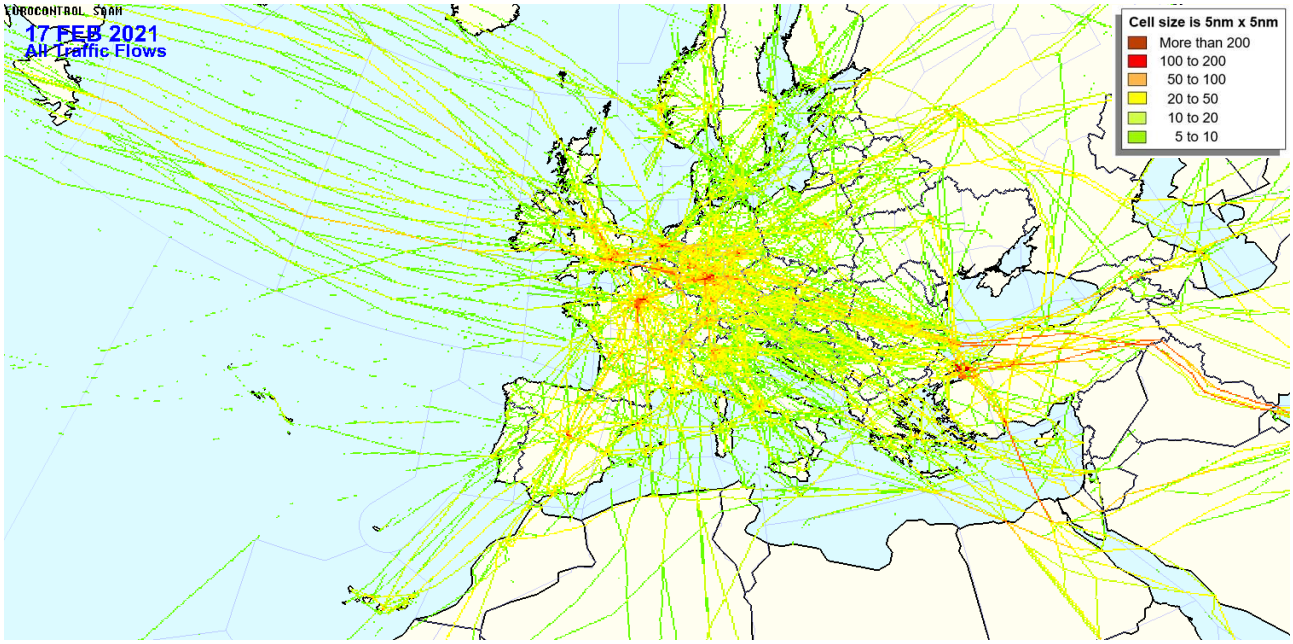
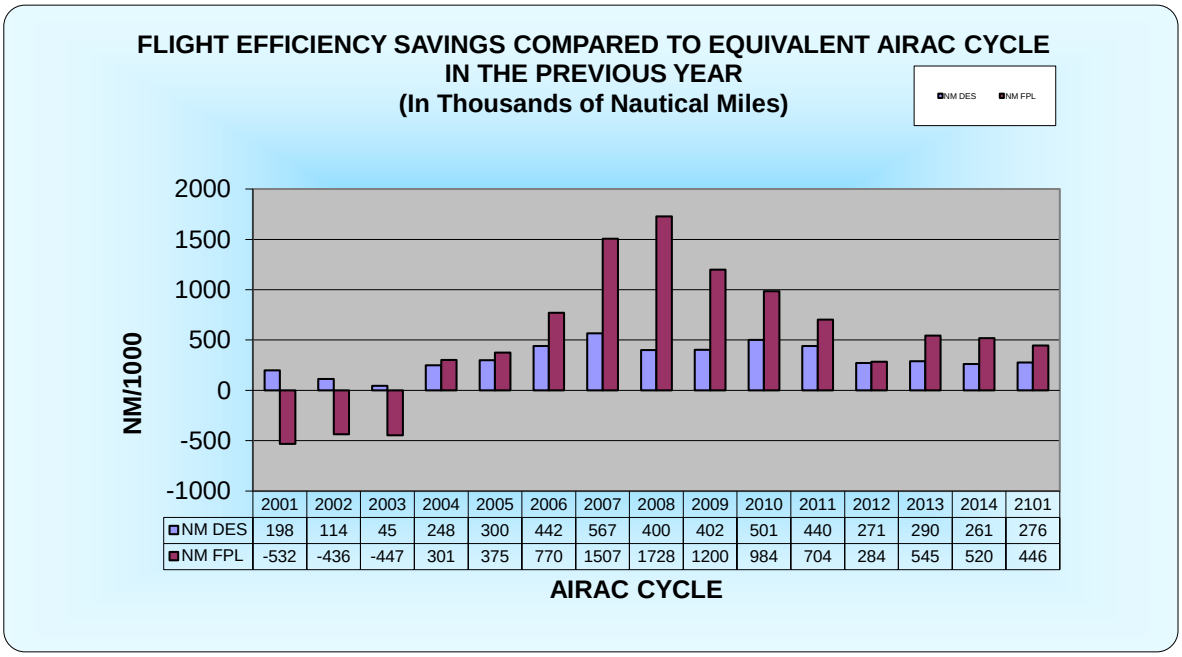


Figure 8 : *24h traffic situation Wednesday, 17 February 2021 (flight planned,* ***impacted by nCoV-2019 lockdown)***

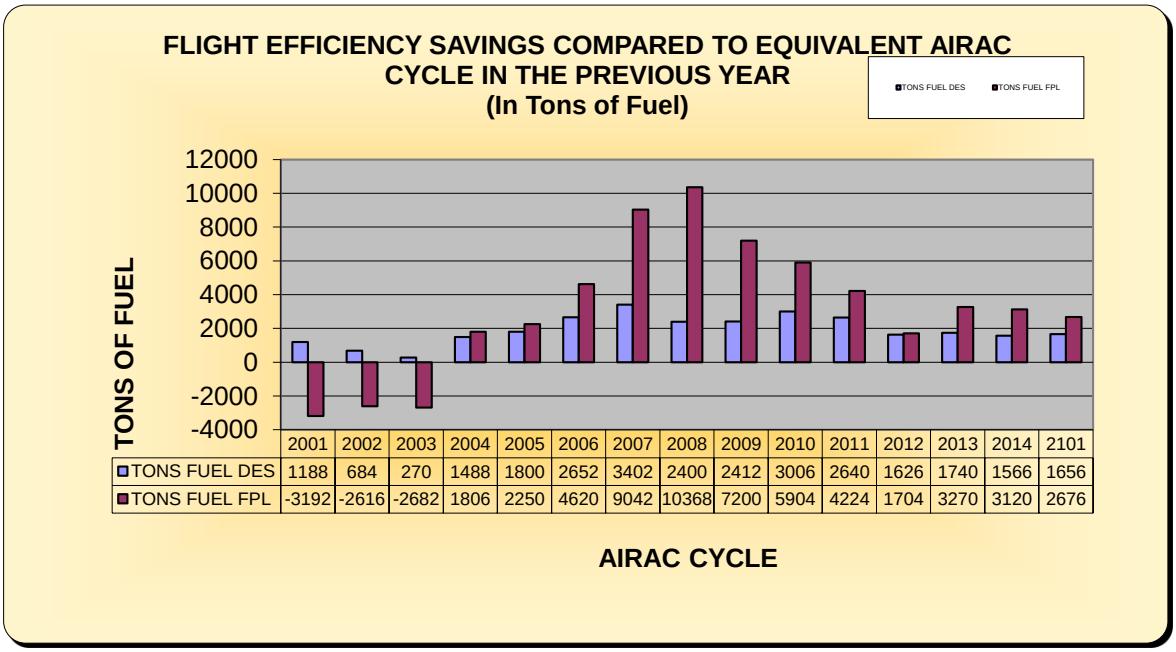
Note *: In order to better reflect the traffic situation in a Free Route Airspace environment, the charts above are based on the traffic density in a portion of airspace instead of number flights on a route segment.*

The comparison between the potential (RTE-DES) and actual (RTE-FPL) savings/ losses related to the different parameters is depicted in the graphs below (see Figure 9 to Figure 12).



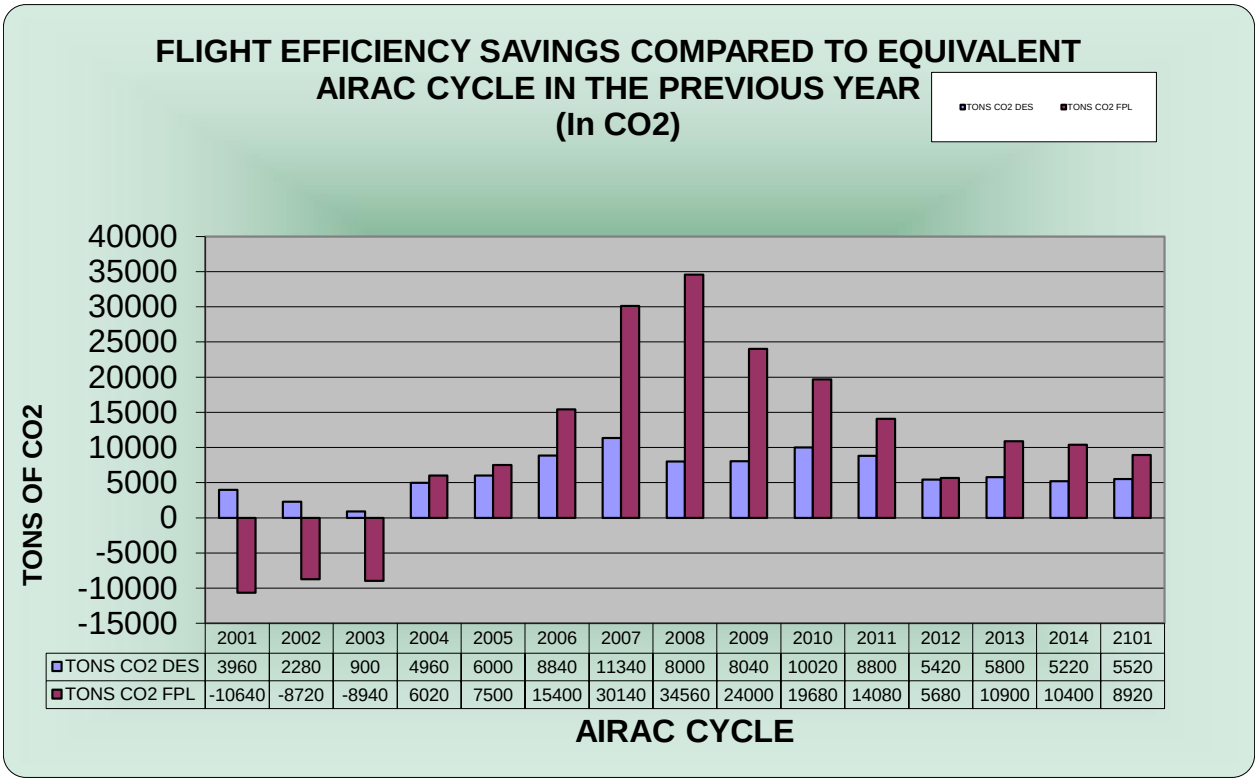
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2101
NM DES	198	114	45	248	300	442	567	400	402	501	440	271	290	261	276
NM FPL	-532	-436	-447	301	375	770	1507	1728	1200	984	704	284	545	520	446

Figure 9 : *Flight Efficiency savings/ losses in Thousands of Nautical Miles*



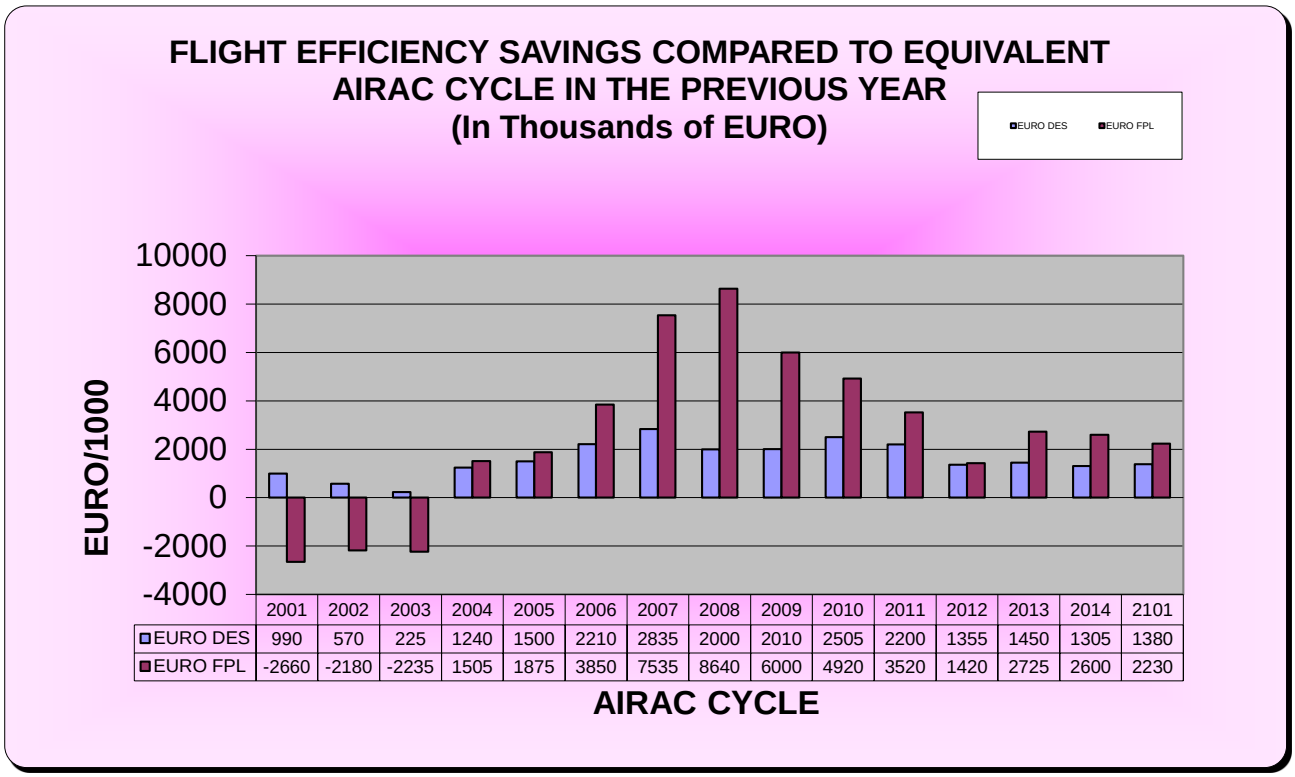
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2101
TONS FUEL DES	1188	684	270	1488	1800	2652	3402	2400	2412	3006	2640	1626	1740	1566	1656
TONS FUEL FPL	-3192	-2616	-2682	1806	2250	4620	9042	10368	7200	5904	4224	1704	3270	3120	2676

Figure 10 : *Flight Efficiency savings/ losses in Tons of Fuel*



	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2101
TONS CO2 DES	3960	2280	900	4960	6000	8840	11340	8000	8040	10020	8800	5420	5800	5220	5520
TONS CO2 FPL	-10640	-8720	-8940	6020	7500	15400	30140	34560	24000	19680	14080	5680	10900	10400	8920

Figure 11 : *Flight Efficiency savings/ losses in CO2*



	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2101
EURO DES	990	570	225	1240	1500	2210	2835	2000	2010	2505	2200	1355	1450	1305	1380
EURO FPL	-2660	-2180	-2235	1505	1875	3850	7535	8640	6000	4920	3520	1420	2725	2600	2230

Figure 12 : *Flight Efficiency savings/ losses in Thousands of EURO*

Note: For additional information on ATFM delay that could impact on network efficiency consult the NM Monthly Network Operations Reports, accessible via:
https://www.eurocontrol.int/library?f%5B0%5D=product%3A807

3.4.4 BENEFITS AND ASSESSMENT OF RTE-RAD EVOLUTIONS

The decrease of the RAD indicator is due to improvements in airspace design and the removal of RAD restrictions. More actions will be required to ensure that the KPI based on the RAD indicator follows trends similar to the airspace design indicator/ DES as well as to ensure that the target set in the Network Manager Performance Plan is reached.

3.5 FREE ROUTE AIRSPACE/ FRA EVOLUTION

FRA implementation leads to improved flight efficiency and has an economic impact in terms of fuel savings as well as notable environmental impact on climate in terms of reduced CO2 emissions.

Full H24 Free Route Airspace implementation has taken place within the airspace of the following States: Albania, Armenia, Austria, Belgium - Maastricht UAC, Bosnia and Herzegovina, Bulgaria, Croatia, Denmark, Estonia, Finland, Georgia, Germany (some German ACC/UAC cells including Maastricht UAC), Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg - Maastricht UAC, Malta, Moldova, Montenegro, Netherlands - Maastricht UAC, North Macedonia, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Sweden and Ukraine.

Partial implementation during night, weekend or based on permission to flight plan direct/ DCT between a defined set of points has already been provided in a large number of European States (see Figure 13 below).

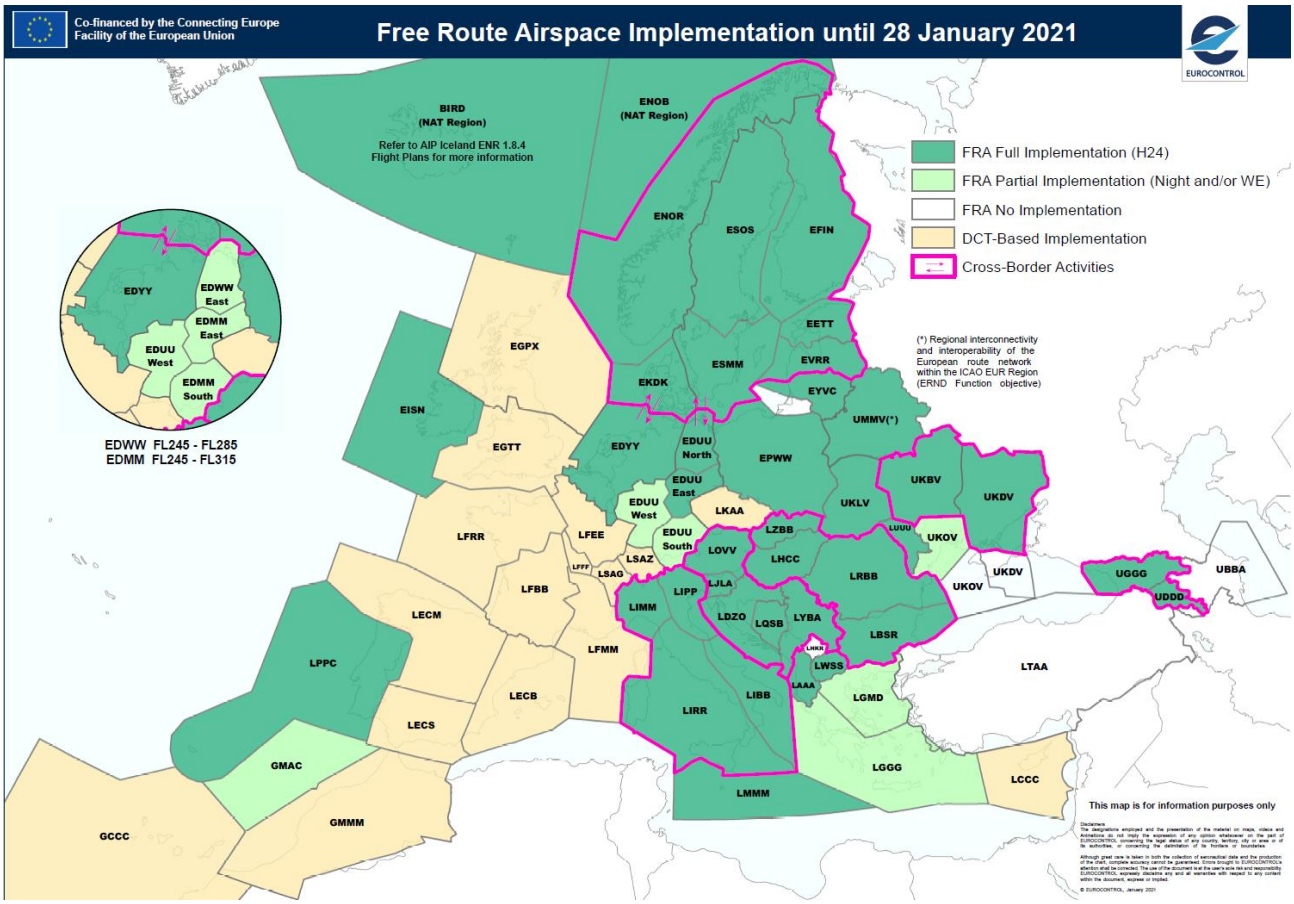


Figure 13 : *Airspace implementation towards Free Route Airspace*

3.6 ASM PERFORMANCE ASSESSMENT

*Note: There is no ASM Performance Assessment included for AIRAC 2101. The ASM Performance Assessments **Q1**, **Q2 and Q3 2020** is included for AIRAC 2110. The ASM Performance Assessment **Q4 2021** will be included for AIRAC 2113.*

3.7 PBN IMPLEMENATION MONITORING

The following PBN implementations have been made on AIRAC *2101. For a complete view of the PBN implementation in Europe, please check the PBN Map Tool.*

State	Aerodrome	RWY	PBN Implementation
Austria	LOGH	H	New LPV (AV1) minima
Finland	EFJY	12	New LPV (AV1) minima
Finland	EFJY	30	New LPV (AV1) minima
Finland	EFKE	18	New LPV (APV1) minima
Finland	EFKE	36	New LPV (APV1) minima
Finland	EFUT	07	New LPV (APV1) and LNAV/VNAV minimas
Finland	EFUT	25	New LPV (APV1) and LNAV/VNAV minimas
France	LFEY	32	New LPV (APV1) minima
France	LFJY	12	New LPV(APV1) minima
France	LFJY	30	New LPV(APV1) minima
France	LFKC	18	New LNAV/VNAV minima and LPV Minima upgraded to Cat 1
Hungary	LHPR	12	New LPV (APV1) minima
Hungary	LHPR	30	New LPV (Cat1) minima
Hungary	LHSM	16	New LPV (Cat1) minima
Hungary	LHSM	34	New LPV (APV1) minima
Ireland	EISG	10	New LPV (AV1), LNAV & LNAV/VNAV minimas
Ireland	EISG	28	New LPV (Cat1), LNAV & LNAV/VNAV minimas

ANNEX A: DETAILED LIST OF PROJECTS IMPLEMENTED 28 JANUARY 2021

The following table presents detailed information about each of the improvement proposals developed within the RNDSG and implemented during the relevant AIRAC cycle. The description of the proposals is based on the information available from different sources (e.g. Airspace Users, Member States/ ANSPs, ICAO and EUROCONTROL). The table includes:

- Proposal ID number:
  A reference number to identify each proposal allowing tracing at which RNDSG it was initiated.
- Project Name:
  Dedicated Name and Phase/ Step of the improvement project.
- Description:
  A detailed description of the planned improvement proposal.
- Event:
  A flag to indicate proposals with possible impact on the network.
- Objective:
  A brief description of the purpose of the enhancement measure.
- Implementation Status:
  The implementation status defined as Proposed, Planned, Confirmed or Implemented.
- Project Group:
  The Functional Airspace Block Group (FAB), Regional Focus Group (RFG), Sub-Group (SG) or any other Project Group(s) involved directly or indirectly by the proposed enhancement measure.
- Project Category:
  The nature of the proposed enhancement measure defined through Project Categories (e.g. Airspace Structure, ATC Sectors, ATS Routes, Free Route Airspace, TMA etc.).
- Serial Number / Circulation Letter / Approval Letter:
  Records the ICAO coordination procedure for implementation of airspace changes over the High Seas in accordance with the EANPG59 RASG-EUR06 Conclusion/15.
- States and Organisations:
  The States and/or Organisations involved directly or indirectly by the proposed enhancement measure.
- Originator(s):
  The States and/or Organisations who have originated the proposal.
- Comments:
  The conditions and/or pre-requisites, which have to be met in order to implement the proposal or any other relevant comment(s).

***Note:** The list of implemented changes for this AIRAC cycle does not claim to be complete. For the correctness and verification of the relevant aeronautical information, consult official State AIP publications. The data from this document should not be used for operational purpose.*

	Proposal ID :	Status:	Contributor:	Comments:
1. EVENT	**Project Name: OVVER area re-organisation Tirana ACC** **Description:** To reorganise the OVVER area and ease RAD LA2036 in order to capture only flights via RODON. **Objective:** To further improve the airspace structure within Tirana ACC while offering a shorter option to flights departing the Ionian Islands.	**Implementation:** Implemented 28 JAN 2021	**State(s) and Org:** ALB **Originator(s):** ALB **Project Category:** Airspace Structure	NIKRO – New Point west of OVVER – RODON.
	Proposal ID : **101.011**	**Status:**	**Contributor:**	**Comments:**
2. EVENT	**Project Name: ATS route Improvement - Tirana FIR** **Description:** 1. To implement two 5LNC points LIMJA and TIRCA as intermediate points of FRALB Airspace 2. To implement the following ATS routes (FL115 - FL195): a. **N732** RODON - LIMJA - PITAS southbound; b. **L187** TIRCA - RODON northbound; c. **Y132** NIKRO - TIRCA - RETRA northbound; d. **L607** PETAK - TRN southbound. 3. To re-aligned existing ATS route (new waypoint) **M603** as PINDO - ADDER - OVVER - TIRCA - LIMJA - GOKEL. 4. To delete waypoints **GRIBA** and **AMOXO**. **Objective:** To further improve ATS route and FRA options within Tirana FIR for departures from Ionian Islands airports.	**Implementation:** Implemented 28 JAN 2021 **Serial Number(s):** EUR/NAT 20/06-HS-ALB **Circulation Letter:** EUR/NAT 20-0463.TEC of 19 October 2020 **Approval Letter:** EUR/NAT 20-0494.TEC of 13 November 2020	**State(s) and Org:** ALB **Originator(s):** ALB **Project Group:** RFG SE **Project Category:** ATS Routes High Seas	• High Seas Coordination (Serial no: EUR/NAT 20/06-HS-ALB) ◦ Circulation letter ref: EUR/NAT 20-0463.TEC of 19 October 2020 - deadline on 12 November 2020 ◦ Approval letter ref: EUR/NAT 20-0494.TEC of 13 November 2020
	Proposal ID : **97.015**	**Status:**	**Contributor:**	**Comments:**
3. EVENT	**Project Name: Langen ACC Sector Group 1 re-design** **Description:** Preparation for Langen ACC Sector Group 1 redesign 1. To re-design EDDL SIDs and STARs and 2. Creation of new and/or change of existing ATS routes in the vicinity of EDDL to connect those SIDs & STARs to the existing network. **Objective:** To prepare Dusseldorf/ EDDL approach and surrounding sectors for the implementation of PSS (pre-requisite for future iCAS implementation).	**Implementation:** Implemented 28 JAN 2021	**State(s) and Org:** DEU **Originator(s):** DEU **Project Category:** Airspace Structure ATC Sectors ATS Routes	**Related proposals:** • 100.034 • 97.011 • 97.012

	Proposal ID: 100.037	Status:	Contributor:	Comments:
4.	**Project Name: ATS route re-designation Langen ACC** **Description:** To re-designate ATS route segment T884 NEREL - AGENI as **T855** (continuation of Z717 ABAMI - NEREL and connection to T855 AGENI - BATTY in Belgium). **Objective:** To further adapt and harmonize the ATS route designation in the ICAO EUR Region.	**Implementation:** Implemented 28 JAN 2021	**State(s) and Org:** DEU **Originator(s):** DEU **Project Category:** Route Redesignation	Route designator **T884** can be released.
	Proposal ID: 100.034	**Status:**	**Contributor:**	**Comments:**
5.	**Project Name: ATS Route Improvement Langen ACC** **Description:** To replace BAM SID out of ETNG by new ATS route segment **Y853** ZELTI – LEBTI – ELBAL in the lower airspace and extend it until DODEN (release of RD **Z45**). **Objective:** To prepare Dusseldorf/ EDDL approach and surrounding sectors for the implementation of PSS (pre-requisite for future iCAS implementation).	**Implementation:** Implemented 28 JAN 2021	**State(s) and Org:** DEU **Originator(s):** DEU **Project Category:** ATS Routes Route Redesignation	• The double collocation with Y841 and N853 in the area of DOMEG will be solved and route designator **Z45** can be released. • Linked to Langen ACC Sector Group 1 re-design. **Related proposals:** • 97.015
	Proposal ID: 100.036	**Status:**	**Contributor:**	**Comments:**
6.	**Project Name: ATS Route Improvement Langen ACC** **Description:** To create the following new ATS route segments: a. **T474** IBESA - LAA (Niederrhein NDB) for flights to EDLV; b. **T473** LIPMI - BAMSU - ONUNE (N 51 22 09 E 007 25 00) for flights from EDDG to EDDF. **Objective:** To further improve the ATS route network within Langen ACC/ Maastricht UAC.	**Implementation:** Implemented 28 JAN 2021	**State(s) and Org:** DEU **Originator(s):** DEU **Project Category:** ATS Routes	
	Proposal ID: 101.039a	**Status:**	**Contributor:**	**Comments:**
7.	**Project Name: Sharp Turn Angle Resolution** **Description:** To allow direct flight planning option **AVESA DCT GIBMA**, avoiding sharp turn via WSN for EDDW GIBMA STAR. **Objective:** To further improve flight planning options for ARR EDDW avoiding Sharp Turn Angle.	**Implementation:** Implemented 28 JAN 2021	**State(s) and Org:** DEU **Originator(s):** EUROCONTROL **Project Category:** DCTs RAD	**Related proposals:** • 101.039b

	Proposal ID :	89.020e	Status:	Contributor:	Comments:
8.	**Project Name: Unnamed Significant Points** **Description:** Phase 4: To remove from ENR 3 in AIP unnamed significant point TMA RENNES from ATS route A361. **Objective:** To further improve the AIP airspace data publication.		**Implementation:** Implemented 28 JAN 2021	**State(s) and Org:** FRA **Originator(s):** EUROCONTROL **Project Category:** AIP ATS Routes	This is the last unnamed significant point to be removed from ATS routes on which ATC service is provided. **Related proposals:** • 89.020a • 89.020b • 89.020c • 89.020d
	Proposal ID :	**102.002**	**Status:**	**Contributor:**	**Comments:**
9.	**Project Name: Improved interface LIRR/LFMM concerning Sardegna** **Description:** To review and further improve the interface between LIRR and LFMM. **Objective:** 1. To further improve the interface between LIRR & LFMM 2. To reduce delays in the area 3. To reduce load of AJ Sector from Marseille		**Implementation:** Implemented 28 JAN 2021	**State(s) and Org:** FRA ITA **Originator(s):** FRA **Project Category:** Airspace Structure	The flows of OLBIA arrivals are now passing by PELOS
	Proposal ID :	**100.027**	**Status:**	**Contributor:**	**Comments:**
10.	**Project Name: PBN Transition Plan - Hungary** **Description:** To implement Performance Based Navigation (PBN) in Hungary **Objective:** To be compliant with 2020 requirements of EC Regulation 2018/1048.		**Implementation:** Implemented 28 JAN 2021	**State(s) and Org:** HUN **Originator(s):** HUN **Project Category:** PBN Transition Plan	The NM review has concluded that: • The consultation with NM is complete regarding 2020 requirements with no further comments. See attached plan and NM feedback. **Note:** PBN procedures implemented as planned according to the PBN Transition Plan. However, note that the PBN Transition Plan also provides a justification for not planning in the short term the implementation of any missing LNAV/VNAV line of minima at NPA IREs. NM will continue monitoring the status and modifying this information accordingly. Explanatory note on Implementation status:

				The implementation date corresponds to latest implementation date of the procedures related to 2020 requirements. If any related procedure is still pending to be published, the date will correspond to latest planned implementation date of the missing procedure, as stated in the PBN Transition Plan. In the absence of information on a specific AIRAC cycle, latest AIRAC cycle of the year is proposed.
	Proposal ID : **101.006**	**Status:**	**Contributor:**	**Comments:**
11. EVENT	**Project Name: New Sector EWA in LIRRACC** **Description:** To create a new Sector EWA in LIRR ACC (currently part of EW1). **Objective:** To further improve the the Airspace Structure.	**Implementation:** Implemented 28 JAN 2021	**State(s) and Org:** ITA **Originator(s):** ITA **Project Category:** Airspace Structure ATC Sectors	
	Proposal ID : **100.024**	**Status:**	**Contributor:**	**Comments:**
12. EVENT	**Project Name: RNP APCH/ RNAV procedures Fes and Ifrane airports** **Description:** To implement RNP approaches and RNAV procedure design for Fes/GMFF and Ifrane/ GMFI airports. **Objective:** To further improve the airspace organisation for Fes/GMFF and Ifrane/ GMFI airports	**Implementation:** Implemented 28 JAN 2021	**State(s) and Org:** MAR **Originator(s):** MAR **Project Category:** Airspace Structure TMA	
	Proposal ID : **96.017**	**Status:**	**Contributor:**	**Comments:**
13.	**Project Name: Decommission FSK and STT Navaids** **Description:** To realign RNAV route **Z202** ...STO - LURUX - LEBDO... (LURUX replaces STT). **Objective:** To decommision NAVAIDS FSK and STT.	**Implementation:** Implemented 28 JAN 2021	**State(s) and Org:** NOR **Originator(s):** NOR **Project Group:** FAB NEFAB **Project Category:** ATS Routes	

	Proposal ID :	Status:	Contributor:	Comments:
14. EVENT	**Project Name: SEE FRA Phase 2** **Description:** To expand **SEE FRA** time availability from Night **to H24** within Bratislava FIR. **Objective:** To further improve the Free Route Airspace operations within Bratislava FIR.	**Implementation:** Implemented 28 JAN 2021	**State(s) and Org:** SVK BGR HUN ROU **Originator(s):** SVK **Project Group:** RFG SE **Project Category:** Free Route Airspace	**Related proposals:** • 69.052 • 81.001 • 82.033 • 90.034 • 91.014 / 26.010 • 98.015
	Proposal ID : 100.046	**Status:**	**Contributor:**	**Comments:**
15.	**Project Name: ESGG RNAV STAR** **Description:** To implement new ESGG RNAV STAR system and new ARQUS STAR (L617) replacing OSNAK/KOVUX STAR. **Objective:** To further improve the ATS route network through a new RNAV STAR system in order to comply with environmental requirements and a new ARQUS STAR (L617) in order to facilitate flight planning to both RWYs via L617.	**Implementation:** Implemented 28 JAN 2021	**State(s) and Org:** SWE **Originator(s):** SWE **Project Category:** ATS Routes PBN	Project managed by Swedavia.
	Proposal ID : 100.030b	**Status:**	**Contributor:**	**Comments:**
16.	**Project Name: RAD Promulgation Ankara FIR** **Description:** To change **RAD LT2148** on ATS route segment R/UR21 KABAN - SRT to “only available for ARR LTCJ/LTCL/LTCV” (no need to delete this segment). **Objective:** To further improve the flight planning options within Ankara FIR.	**Implementation:** Implemented 28 JAN 2021	**State(s) and Org:** TUR **Originator(s):** TUR **Project Category:** RAD	Implemented through Increment 2014 and RAD 2101 (Only avaliable for traffic ARR LTCL) **Related proposals:** • 100.030a

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ANNEX B: ACRONYMS AND TERMINOLOGY

1. The following ISO-3 coding of States is used in the column *States and Organisation*:

ALB	Albania		IRN	Iran, Islamic Republic of
ARM	Armenia		IRQ	Iraq
AUT	Austria		ITA	Italy
AZE	Azerbaijan		LBY	Libyan Arab Jamahiriya
BEL	Belgium		LTU	Lithuania
BGR	Bulgaria		LUX	Luxembourg
BIH	Bosnia and Herzegovina		LVA	Latvia
BLR	Belarus		MAR	Morocco
CHE	Switzerland		MDA	Moldova, Republic of
CYP	Cyprus		MKD	North Macedonia
CZE	Czech Republic		MLT	Malta
DEU	Germany		MNE	Montenegro
DNK	Denmark		NLD	Netherlands
DZA	Algeria		NOR	Norway
EGY	Egypt		POL	Poland
ESP	Spain		PRT	Portugal
EST	Estonia		ROU	Romania
FIN	Finland		RUS	Russian Federation
FRA	France		SRB	Serbia
GBR	United Kingdom		SVK	Slovakia
GEO	Georgia		SVN	Slovenia
GRC	Greece		SWE	Sweden
HRV	Croatia		SYR	Syrian Arab Republic
HUN	Hungary		TUN	Tunisia
ISL	Iceland		TUR	Turkey
IRL	Ireland		UKR	Ukraine

MUAC	Maastricht UAC			

2. *BLUMED FAB, DANUBE FAB and FAB CE proposals referenced in proposal number box are coded with a unique identification number abbreviated as BM or DN or CE, respectively, following by four digits (XXXX) (example BM0001 or DN0001 or CE0001).*

3. *The content of each proposal is an indication of State's intention to implement the relevant airspace improvement but don't represent a copy of any official publication. For the correctness and verification of the relevant aeronautical information consult official State AIP publication. The data from this document should not be used for operational purposes.*

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