European Route Network Improvement Plan/ERNIP

Implementation Monitoring

Monitoring Report: AIRAC 2014

31 December 2020 - 27 January 2021

SUPPORTING EUROPEAN AVIATION

European Route Network Improvement Plan (ERNIP) Implementation Monitoring

Monitoring Report: AIRAC 2014
31 December 2020 - 27 January 2021
NETWORK MANAGER

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1. INTRODUCTION

1.1 SUMMARY

This Monitoring Report focuses on **AIRAC 2014 (31 December 2020 - 27 January 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 2014 as well as the airspace design improvements put in place since AIRAC 1913 in connection with changing traffic patterns and structure, the additional, **potential savings offered** during AIRAC cycle 2014 amount to 261 000 NMs flown less compared with the equivalent AIRAC cycle in 2019. This translates into 1 600 tons of fuel, or 5 200 tons of CO2, or € 1 300 000.

Based on the last filed flight plan indicator and as a result of the airspace design improvements put in place since AIRAC 1913 in connection with changing traffic patterns and the airline choices made, the **actual gains calculated** during the AIRAC cycle 2014 amount to 520 000 NMs flown less compared to the equivalent AIRAC cycle in 2019. This translates into 3 100 tons of fuel, or 10 000 tons of CO2, or € 2 600 000.

The actual savings recorded on the last filed flight plan data during AIRAC cycle 2014 compared to the equivalent AIRAC cycle in 2019 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 2014** 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-2014

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 2014 (31 DECEMBER 2020)

2.1 SUMMARY OF MAJOR PROJECTS IMPLEMENTED ON 31 December 2020

During the AIRAC cycle 3 (three) 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 31 December 2020:

- Belarus
  - BELFRA Project - Phase 2
- Greece
  - Single CDR Category(SCC) Greece

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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 - 2019 and its evolution until 27 January 2021. *(Note: inclusion of new measurements will be done as soon as all data will become available)*

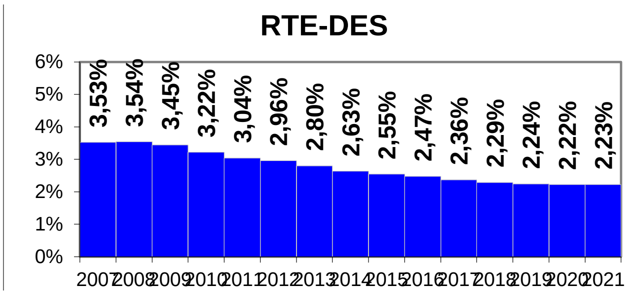


Figure 1 : *Airspace Design indicator evolution*

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 27 January 2021. *(Note: inclusion of new measurements will be done as soon as all data will become available)*

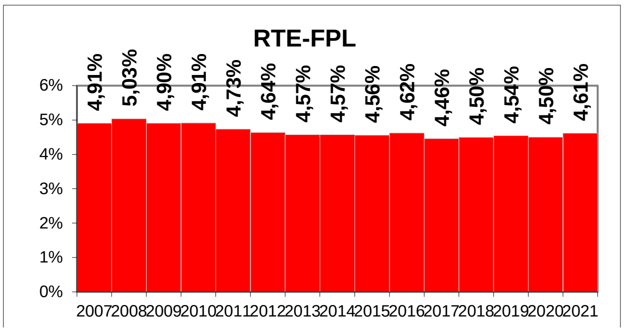


Figure 2 : *Airspace Design indicator evolution*

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 27 January 2021. *(Note: inclusion of new measurements will be done as soon as all data will become available)*

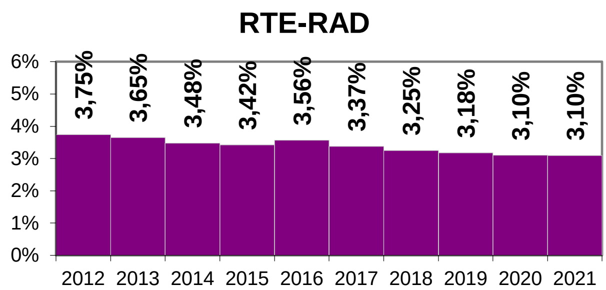


Figure 3 : *Route Availability indicator evolution*

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 27 January 2021. *(Note: inclusion of new measurements will be done as soon as all data will become available)*

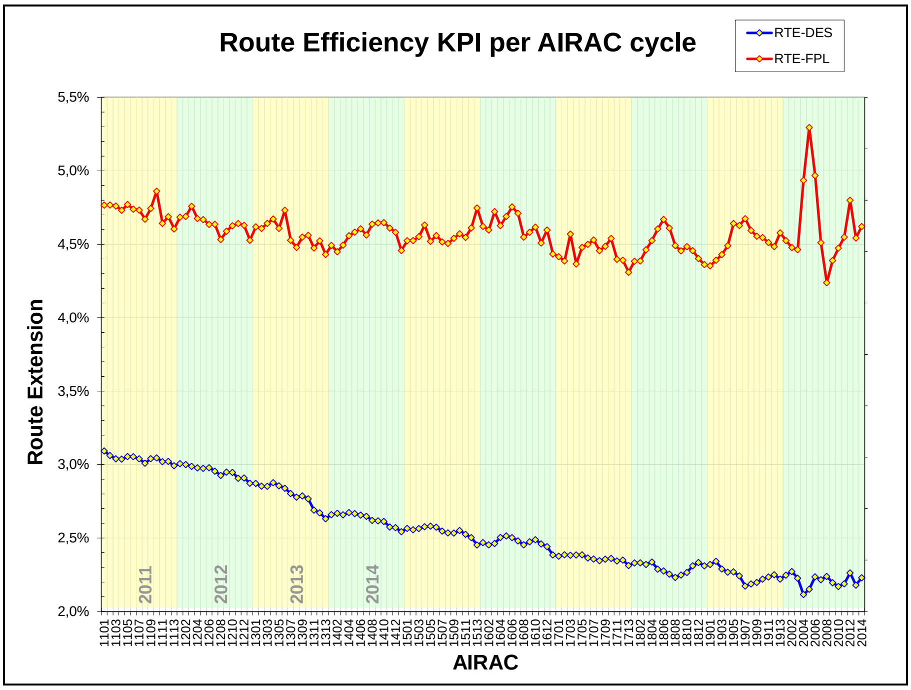


Figure 4 : *Flight efficiency (DES, FPL) evolution per AIRAC cycle*

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 27 January 2021. *(Note: inclusion of new measurements will be done as soon as all data will become available)*

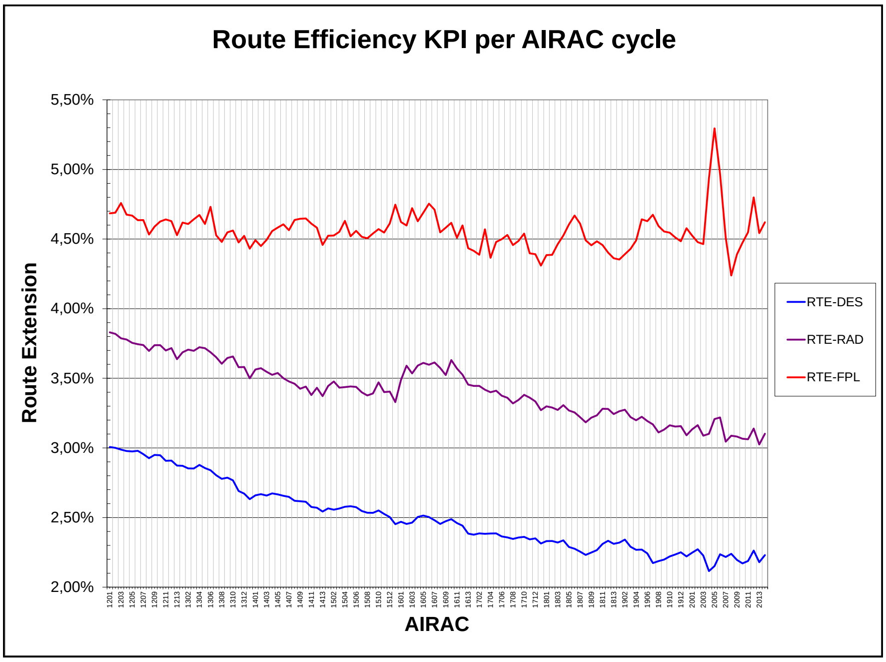


Figure 5 : *Flight efficiency (DES, RAD, FPL) evolution per AIRAC cycle*

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 27 January 2021 by 1.22 percentage points (was 1.23 in AIRAC 2013). 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 27 January 2021 by 0.30 percentage points (was 0.40 in AIRAC 2013).

The difference between the airspace design indicator and the last filed flight plan indicator was 1.45 percentage points in 2009 and was 2.38 percentage points on 27 January 2021 (was 2.36 in AIRAC 2013).

The current data indicates that the route extension due to airspace design went up to 2.23% in January 2021 (2.18 in AIRAC 2013).

The current data show that the route extension based on the last filed flight plan went up to 4.61% in January 2021 (4.54 in AIRAC 2013).

3.4.2 EVOLUTION OF RTE-RAD INDICATOR

As shown in Figure 3 above the impact of the RAD decreased by 0.64 percentage points in November 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 2014 as well as the airspace design improvements put in place since AIRAC 1913 in connection with changing traffic patterns and structure, the additional, **potential savings offered** during AIRAC cycle 2014 amount to 261 000 NMs flown less compared with the equivalent AIRAC cycle in 2019. This translates into 1 600 tons of fuel, or 5 200 tons of CO2, or € 1 300 000.

Based on the last filed flight plan indicator and as a result of the airspace design improvements put in place since AIRAC 1913 in connection with changing traffic patterns and the airline choices made, the **actual gains calculated** during the AIRAC cycle 2014 amount to 520 000 NMs flown less compared to the equivalent AIRAC cycle in 2019. This translates into 3 100 tons of fuel, or 10 000 tons of CO2, or € 2 600 000.

The actual savings recorded on the last filed flight plan data during AIRAC cycle 2014 compared to the equivalent AIRAC cycle in 2019 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 2014** 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 December 2020.

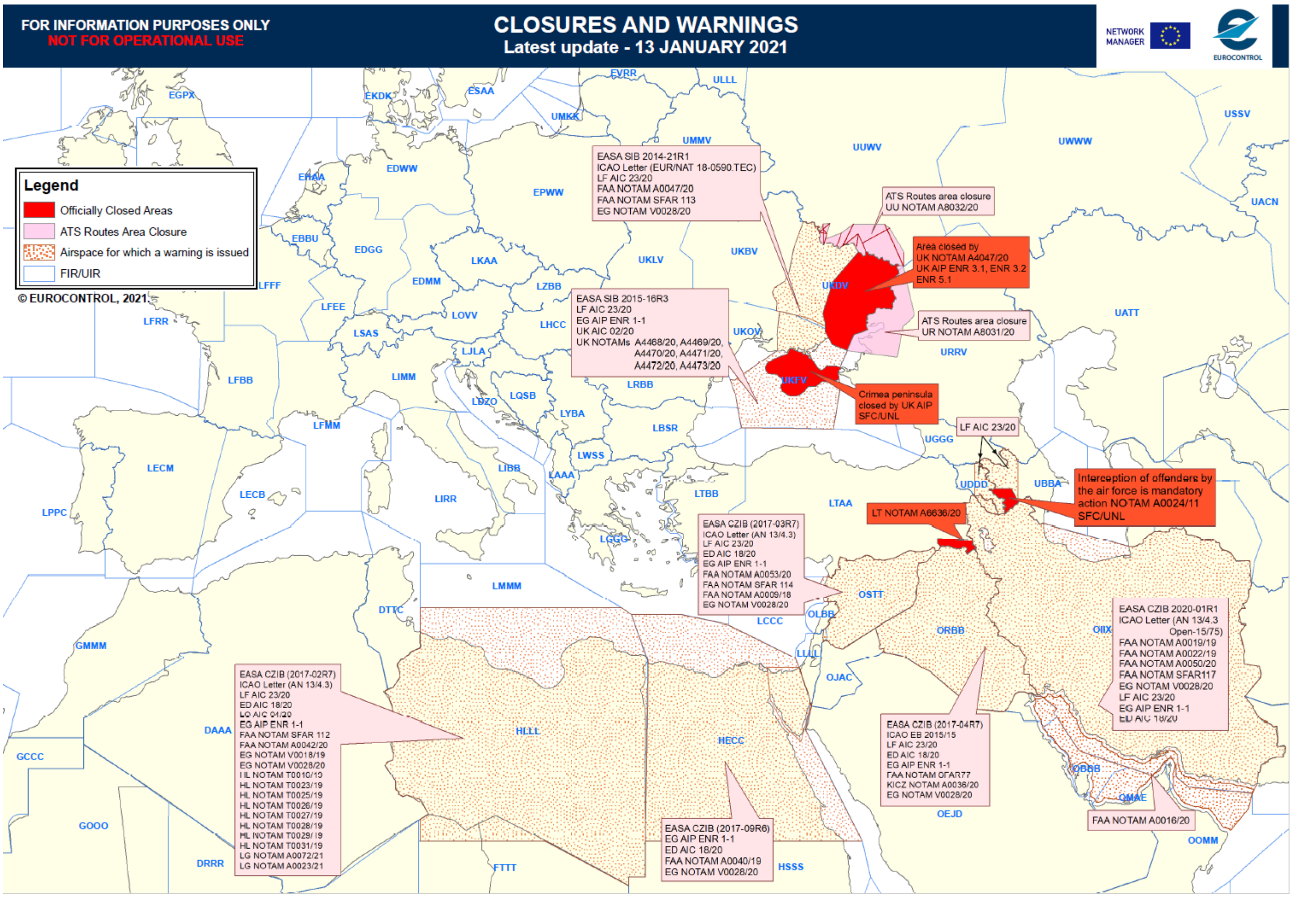


Figure 6 : *Airspace unavailability and closed areas in December 2020*

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

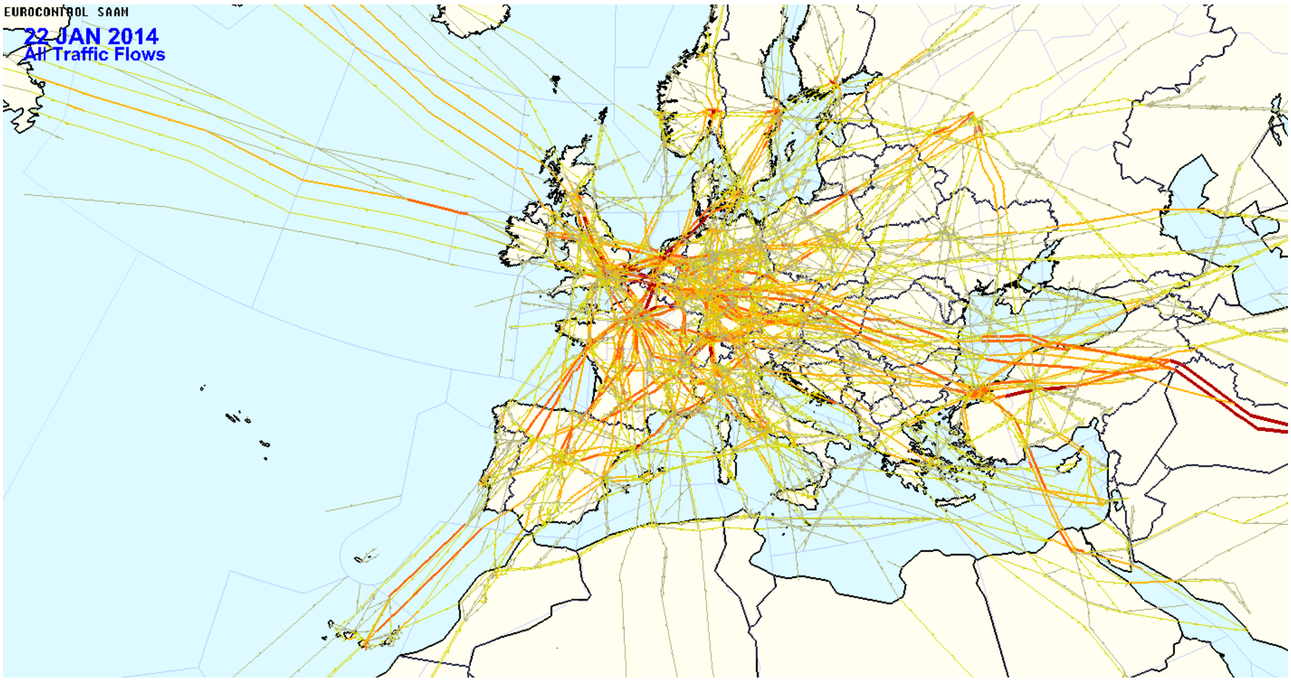


Figure 7 : *24h traffic situation Wednesday, 23 January 2014 (flight planned)*

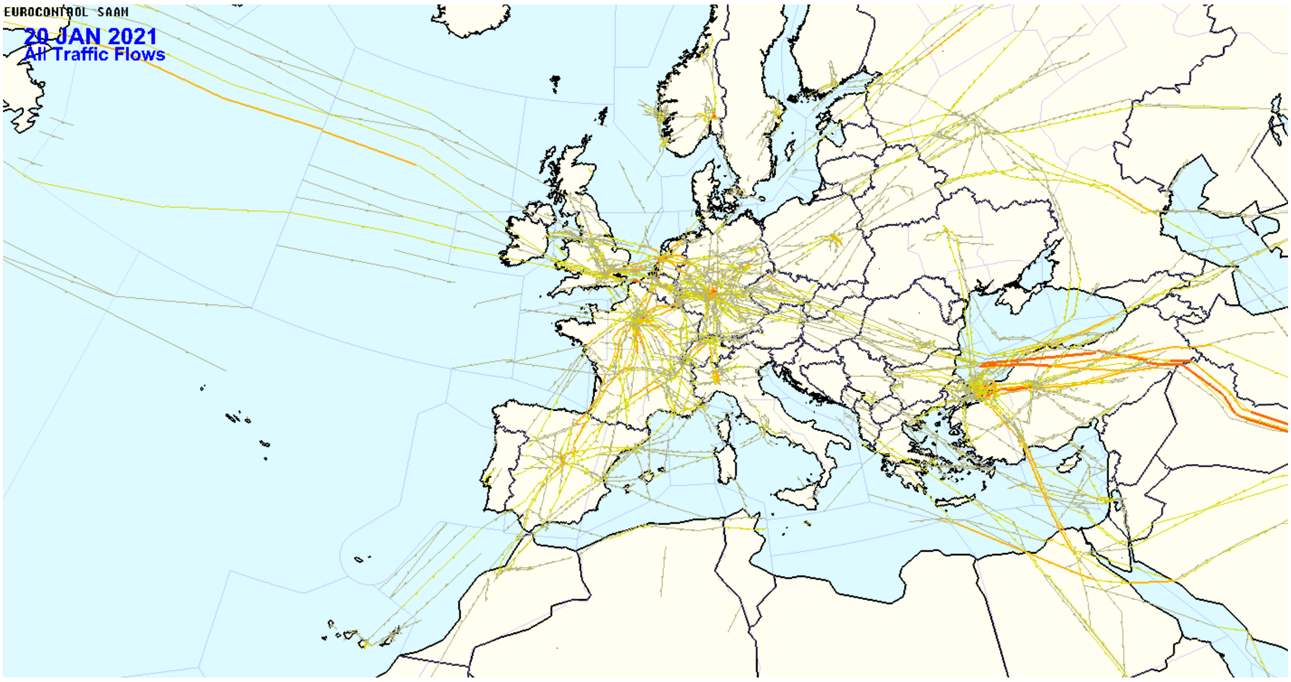
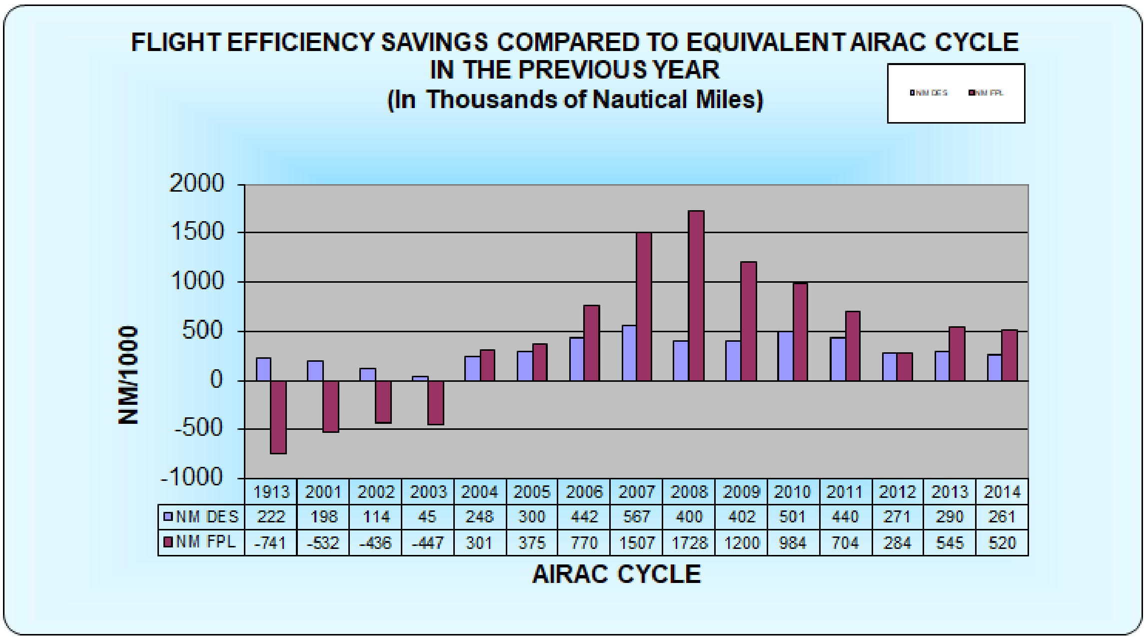


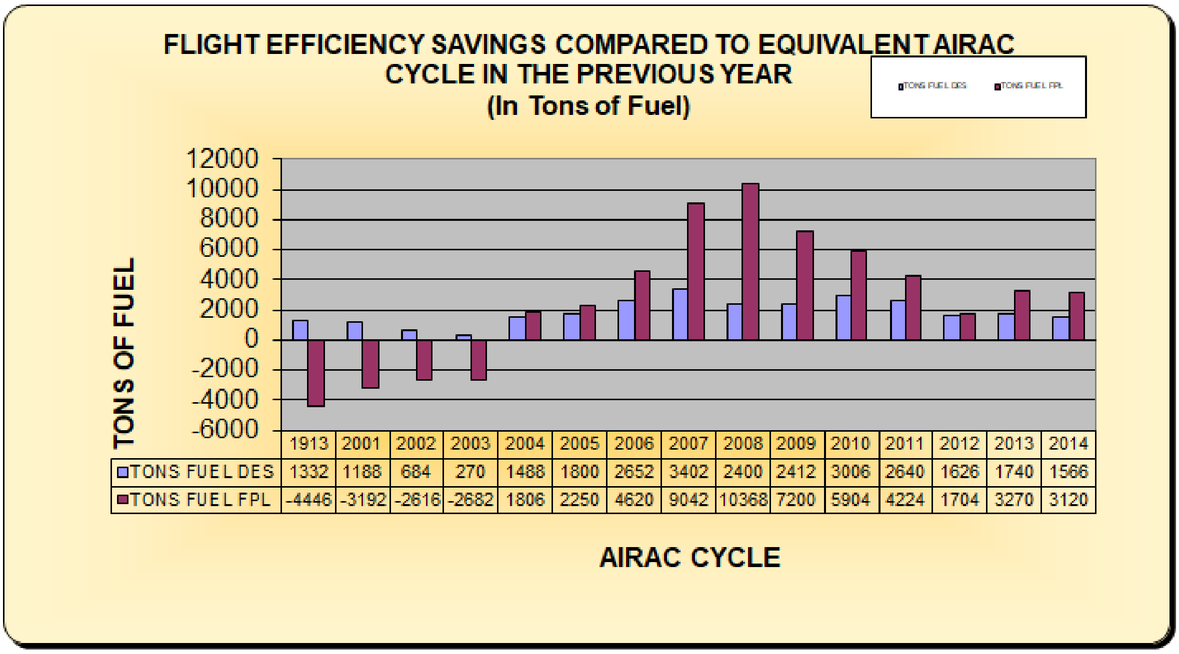
Figure 8 : *24h traffic situation Wednesday, 20 January 2021 (flight planned,* ***impacted by nCoV-2019 lockdown)***

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).



	1913	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
NM DES	222	198	114	45	248	300	442	567	400	402	501	440	271	290	261
NM FPL	-741	-532	-436	-447	301	375	770	1507	1728	1200	984	704	284	545	520

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



	1913	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
TONS FUEL DES	1332	1188	684	270	1488	1800	2652	3402	2400	2412	3006	2640	1626	1740	1566
TONS FUEL FPL	-4446	-3192	-2616	-2682	1806	2250	4620	9042	10368	7200	5904	4224	1704	3270	3120

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

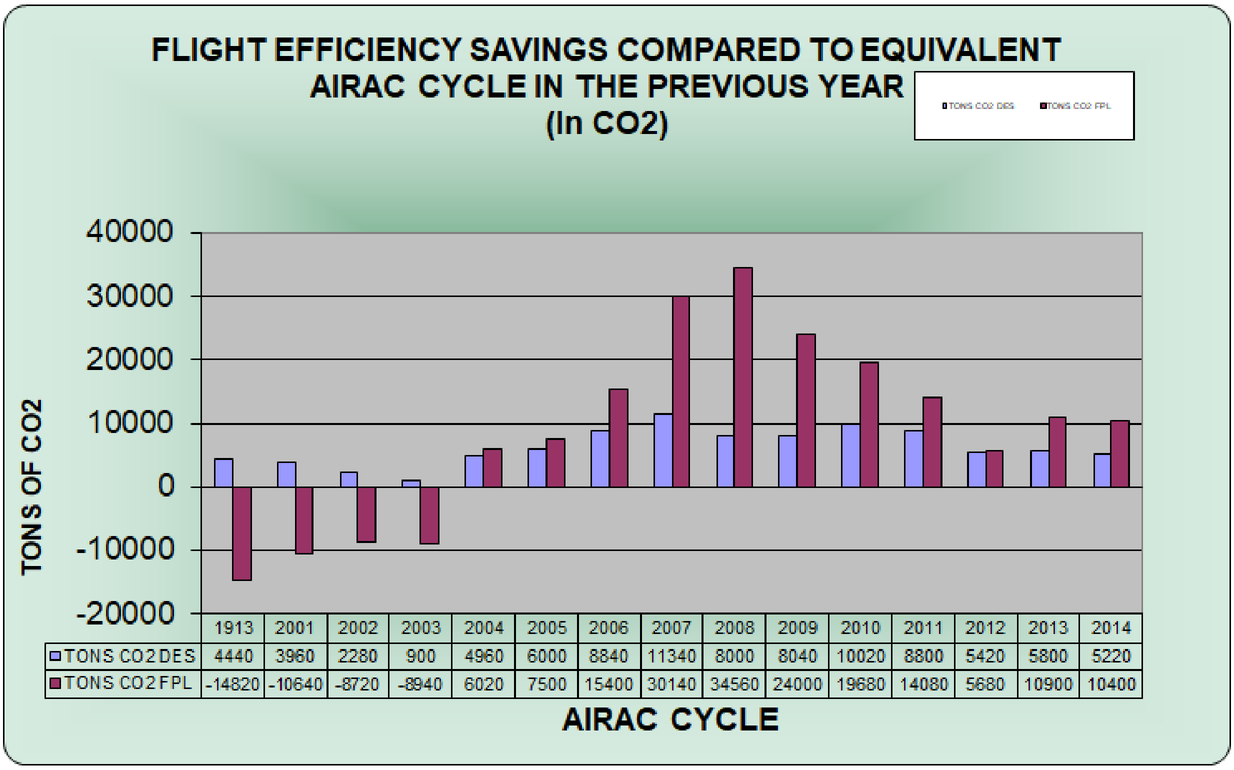


Figure 11 : *Flight Efficiency savings/ losses in CO2*

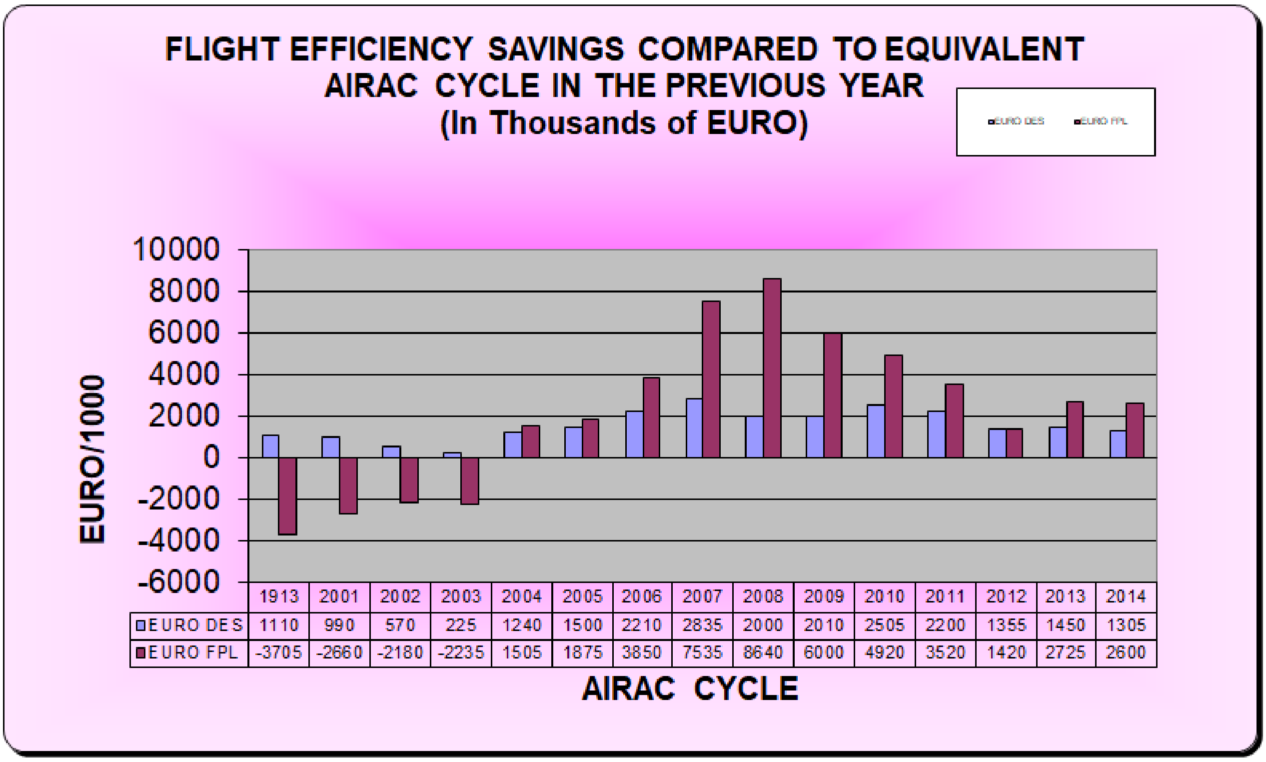


Figure 12 : *Flight Efficiency savings/ losses in Thousands of EURO*

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).

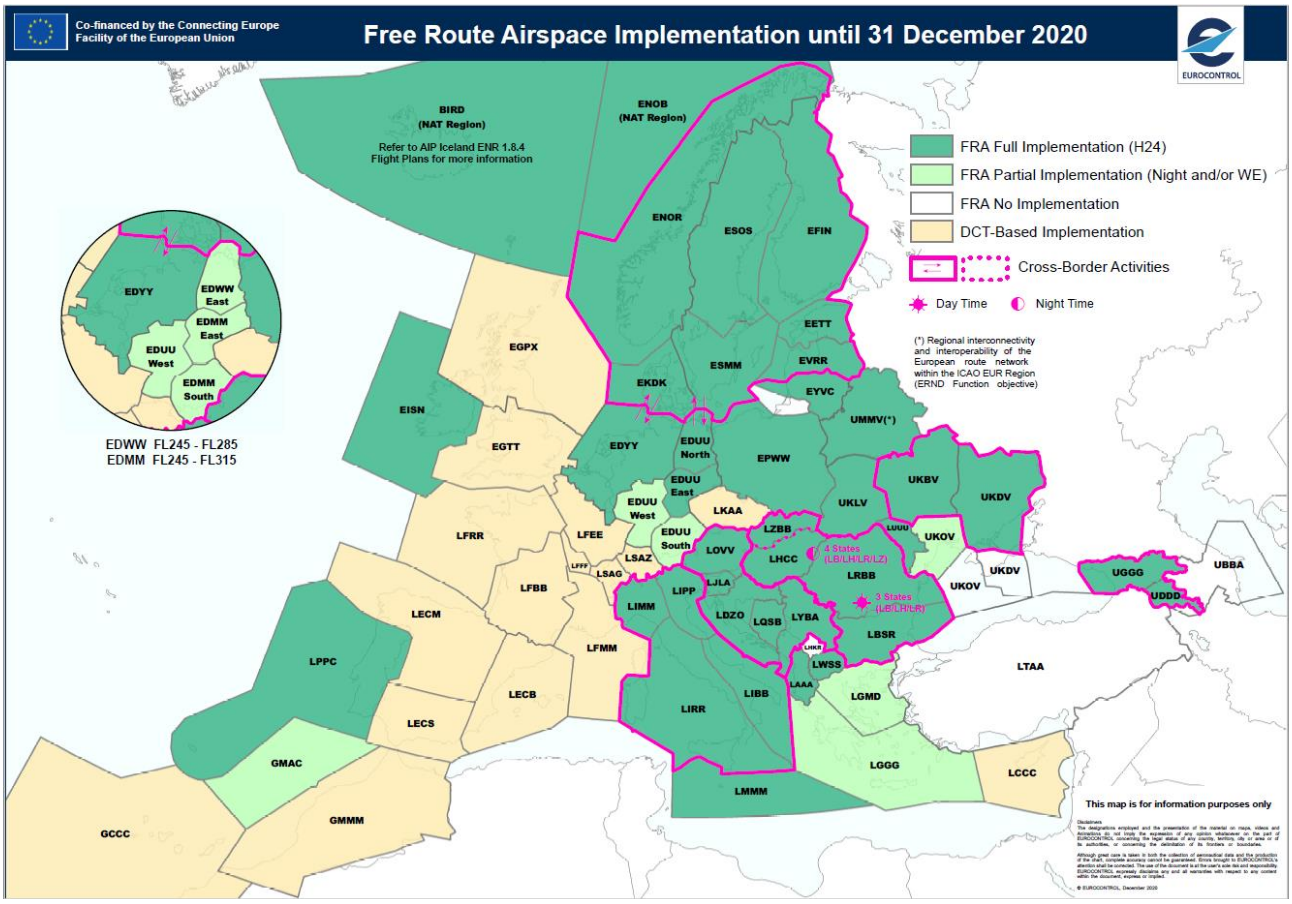


Figure 13 : *Airspace implementation towards Free Route Airspace*

3.6 ASM PERFORMANCE ASSESSMENT

Figure 14 is the ECAC map of published CDRs for the last AIRAC cycle in 2020. It is worth to note the diversity the CDRs categories, one of the consequences of establishing night routes which in many cases are CDR1s and during the day being CDR3s.

The move to Single CDR Category is not visible straightforward in the numbers. By this process most of CDR3 became either CDR1 or ATS routes available for use by ATC. To date SCC has been implemented in all but three states of those committed to move to SCC. Even these three states have committed to implement SCC for the year 2021.

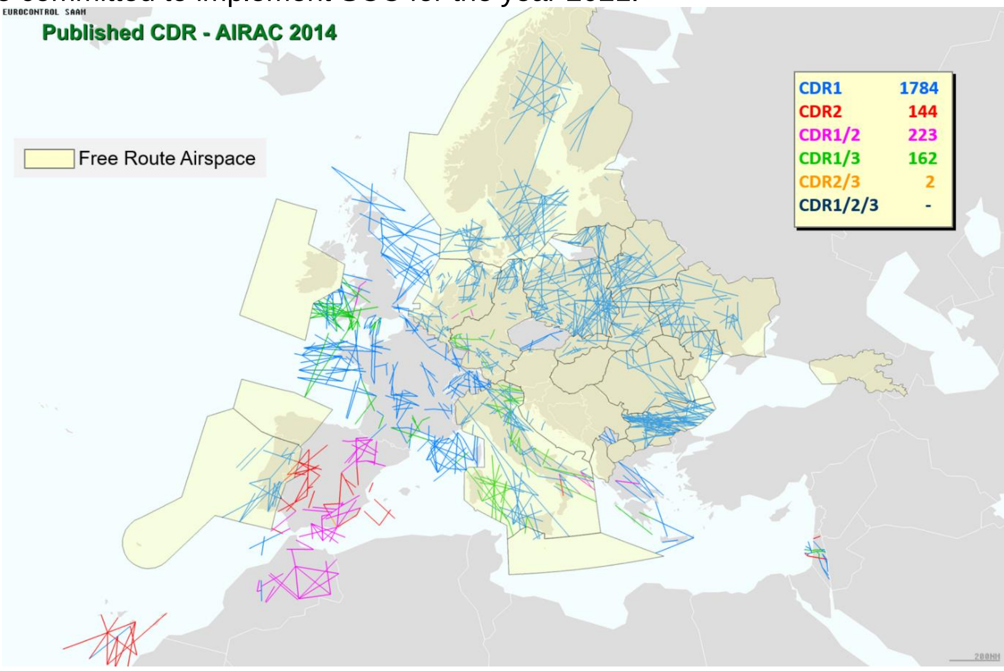


Figure 14 : *ECAC map of published CDR1, CDR2, CDR1/2, CDR1/3 and CDR2/3 for AIRAC 2014 (December 2020)*

To note that the map with CDRs displays the data published in the CACD database at the end of 2020. It is for the states to update this information with the latest AIP publications in order to properly reflect the changes in CDRs status.

The following tables and diagrams provide a comparison by AIRAC cycles of the main parameters and ASM KPI for CDRs: CDR1 and CDR2.

AIRAC	IFPS flights (daily average)	interested flights CDR1 (daily average)	flights planning CDR1	actual flights on CDR1	Total CDR1 in AUP,UUP	CDR1 used for planning	CDR1 actually used	CDR1 with no interested flights	CDR1 with no intersted flights but with actual usage	RoCA_avg (%)	RAI_avg (%)	RAU_avg (%)
2001	26260	11348	9390	6320	1479	1092	1044	359	69	97.29	91.54	61.64
2002	26623	11754	9542	6388	1483	1113	1061	344	66	96.86	90.78	61.19
2003	20490	9986	7880	5127	1479	1083	1035	373	64	97.16	91.03	60.10
2004	3899	1608	1265	687	1482	906	789	550	71	97.65	91.25	57.87
2005	4387	1688	1325	748	1423	910	807	477	54	97.04	92.05	59.00
2006	6008	2198	1685	983	1451	991	891	429	66	97.09	91.81	58.06
2007	11059	4342	3501	2115	1429	1031	967	366	61	96.80	90.37	58.21
2008	15873	7004	5912	3651	1416	1057	980	332	53	97.05	91.53	58.82
2009	17303	7671	6106	3794	1423	1080	1001	306	50	96.99	89.41	57.73
2010	15666	6767	5109	3217	1428	1057	1010	344	71	96.68	90.02	58.74
2011	13820	5801	4352	2666	1433	1069	993	333	54	96.86	90.35	55.97
2012	10353	4297	3071	1795	1428	1071	974	333	66	96.74	90.03	55.39
2013	10924	4436	3733	2164	1435	1038	954	369	61	97.53	92.96	56.92

The table consolidates the data for CDR1 flights, Total number of CDRs available using AUP/UUP data (so no officially closed), usage and CDR1 ASM KPI (RoCA, RAI, RAU) by AIRAC cycle. IFPS traffic values are shown for comparison with traffic on CDR1 and to illustrate the special situation of this summer.

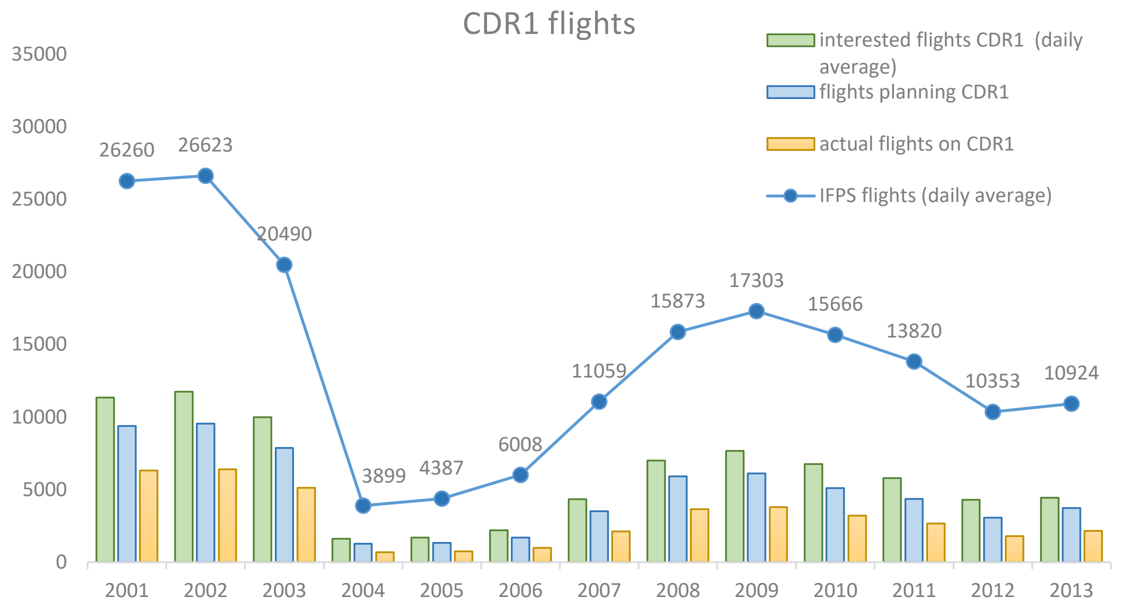


Figure 15: *Interested, planning and actual flights on CDR1*

The proportion of interested flights on CDR1 stays between 37% to 49% of total traffic with flights planning on CDR1 representing 75-84% from interested flights and those actually using the CDR1 being around 57-72% from interested flights.

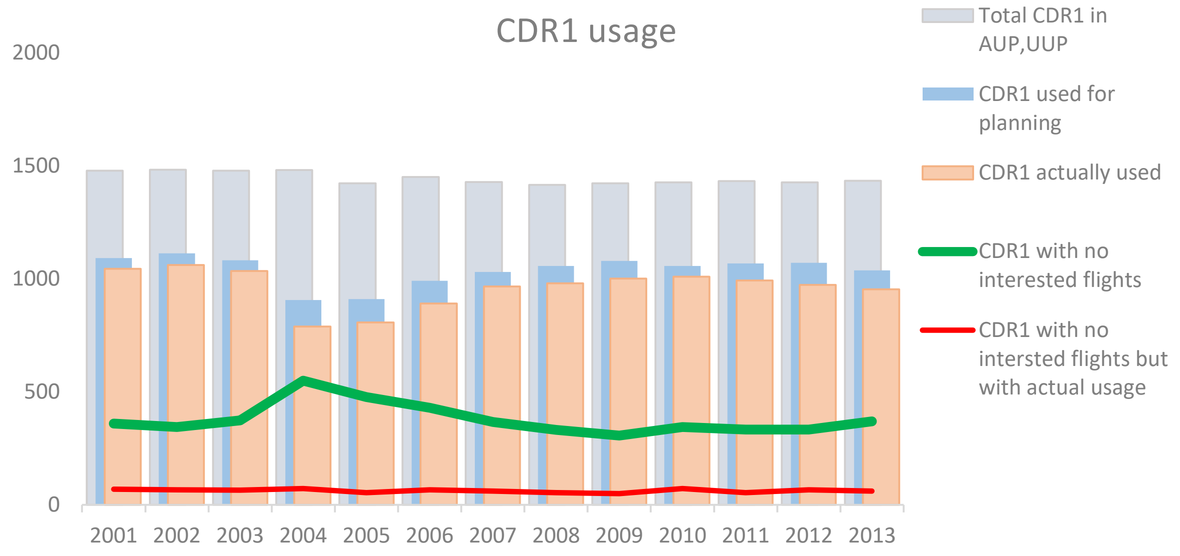


Figure 16: *Number of CDR1 used for planning, actual usage and CDR1 with no interested flights*

CDR1 used for planning is between 61% to 76% from all CDR1, with actually used CDR1 of 53% to 71%.

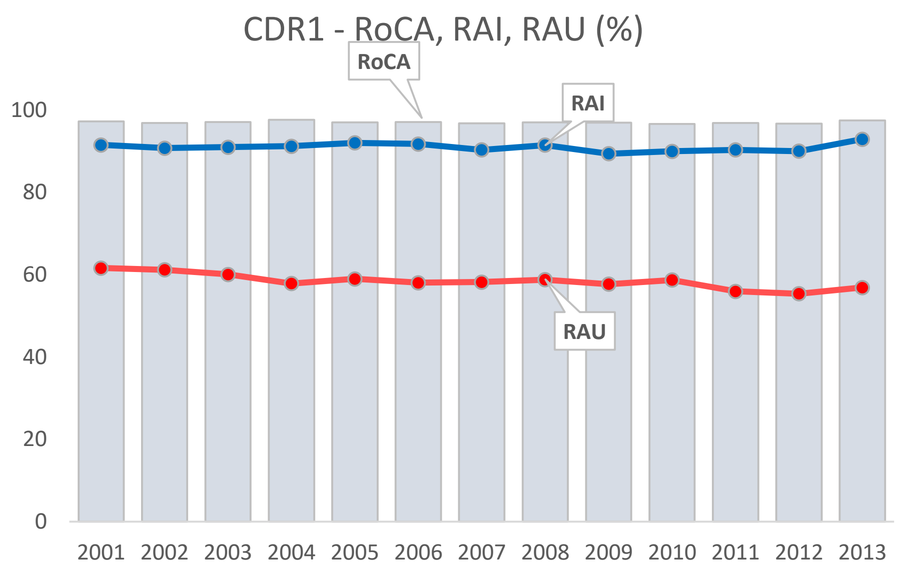


Figure 17: *ASM KPI for CDR1 – RoCA, RAI, RAU*

RoCA values are steadily very high with an average of 97%. RAI and RAU follow the traffic evolution with values between 89.4% and 91.8 for RAI; for RAU values are between 55.4% and 61.6%.

A similar analysis for CDR2 is presented in the following table and diagrams

AIRAC	IFPS flights (daily average)	interested flights CDR2 (daily average)	flights planning CDR2	actual flights on CDR2	Total CDR2 in AUP,UUP	CDR2 used for planning	CDR2 actually used	CDR2 with no interested flights	CDR2 with no intersted flights but with actual usage	RoCA_avg (%)	RAI_avg (%)	RAU_avg (%)
2001	26260	863	404	325	247	118	115	120	10	58.58	67.56	51.82
2002	26623	1120	415	332	249	115	110	118	8	54.15	63.40	46.87
2003	20490	705	246	181	244	114	105	106	10	56.83	71.33	52.33
2004	3899	74	25	14	240	88	69	132	30	59.89	75.55	56.70
2005	4387	59	20	13	235	88	73	125	17	57.16	77.85	65.56
2006	6008	92	29	18	235	94	79	120	23	56.61	71.61	56.90
2007	11059	197	91	65	235	103	94	119	14	58.59	69.51	57.88
2008	15873	337	166	122	233	116	95	107	5	60.91	72.68	56.86
2009	17303	483	255	191	237	109	98	121	16	59.18	69.60	62.37
2010	15666	508	216	160	237	107	102	100	8	57.40	64.03	47.08
2011	13820	243	97	70	232	99	85	117	10	54.02	68.73	51.35
2012	10353	200	62	41	171	69	55	91	30	49.23	60.01	38.56
2013	10924	228	68	45	168	66	59	88	17	55.56	60.39	43.22

The values of indicators for CDR2 concerning traffic are significantly lower, about 10 times compared with CDR1, due to the smaller number of CDR2 but mainly as a result of a much lower availability.

It is worth to note that while CDR2 where no flights are interested represents between 45% to 95% from the total number of CDR2 made available, still 3% to 10% have been in reality used by traffic.

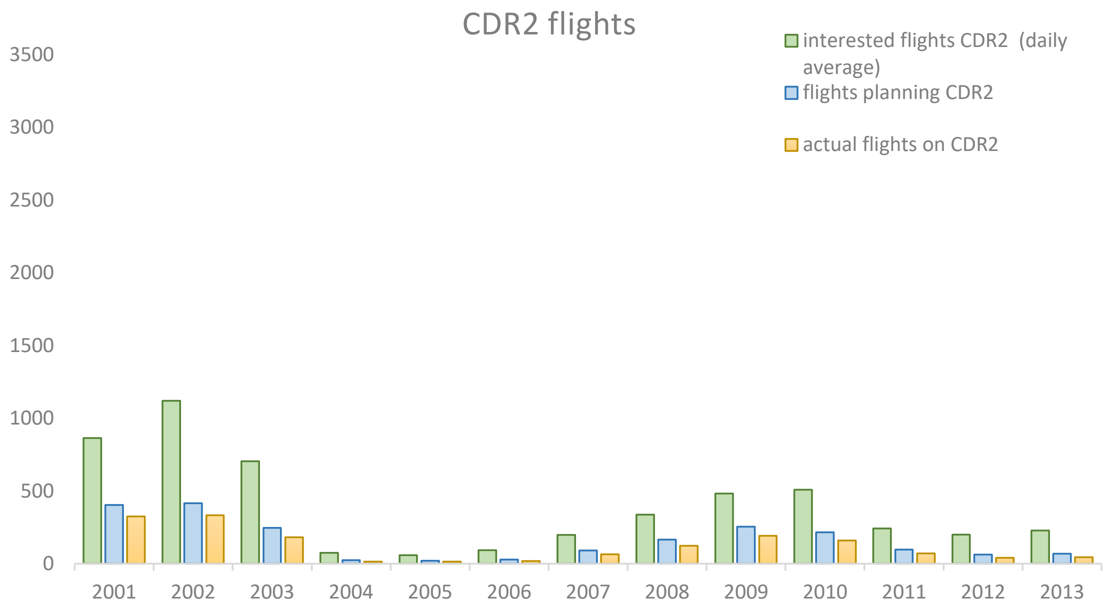


Figure 18: *Interested, planning and actual flights on CDR2*

While interested flights on CDR2 represents only 3% of total traffic, planning on CDR2 represents 30% to 53% of the number of interested flights and the flights that actually used CDR2 is between 19% to 40% of interested flights.

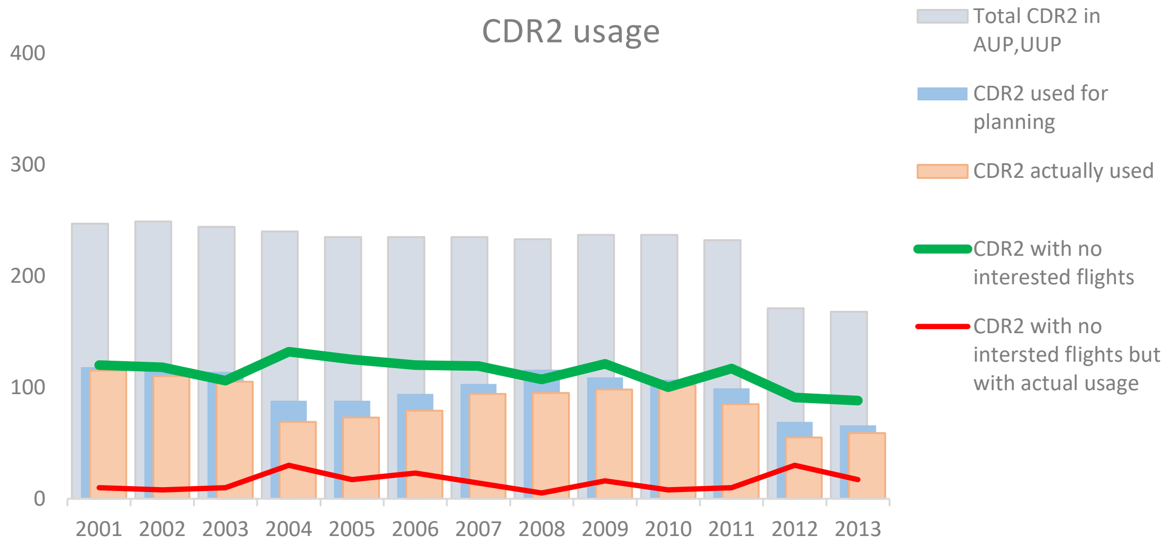


Figure 19: *Number of CDR2 used for planning, actual usage and CDR2 with no interested flights*

While the number of CDR2 available is decreasing (249 to 168), the CDR2 used for planning is between 37% to 50%, and those actually used is 19% to 40%.

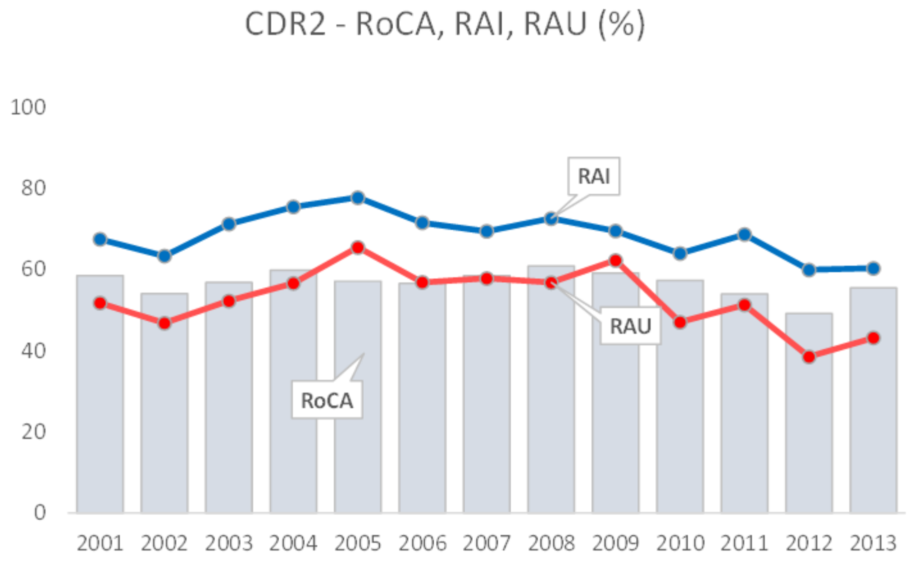


Figure 20: *ASM KPI for CDR2 – RoCA, RAI, RAU*

CDR2 availability (RoCA) is between 49% to 61%. Regarding the usage, RAI values varies between 60% to 76% and RAU between 39% to 66%. (RAI, RAU values are calculated only for CDR2 that have interested flights)

ANNEX A: DETAILED LIST OF PROJECTS IMPLEMENTED 31 DECEMBER 2020

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).

<u>Note:</u> 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: 98.011 / 31.003	**Status:**	**Contributor:**	**Comments:**
• EVENT	**Project Name: BELFRA Project - Phase 2** **Description:** To implement **H24** Free Route Airspace FL275 - FL660 within **Minsk FIR**. **Objective:** To further improve Free Route Airspace operations within Minsk FIR.	**Implementation:** Implemented 31 DEC 2020	**State(s) and Org:** BLR **Originator(s):** BLR **Project Group:** SG BALTIC **Project Category:** Free Route Airspace	1. Presented and discussed at RDGE/31 (9 - 13 SEP 2019). 2. With appropriate NM support and based on FRA Concept Night FRA (23:00 - 05:00 UTC) FRA FL305 - FL660 was implemented within Minsk FIR as from 8 NOV 2018. 3. On the basis of a thorough FRA utilization in Minsk FIR analysis made by BELAERONAVIGATSIA, the lower limit and time period of FRA utilization is proposed for expansion. 4. Further support by NM will be provided if required by BELAERONAVIGATSIA. **Related proposals:** • 92.029 / 27.002

	Proposal ID: 95.020	**Status:**	**Contributor:**	**Comments:**
•	**Project Name: 5LNC replacement by France** **Description:** To replace existing 5LNC **BASTO** by **POHKI**. **Objective:** To avoid 5LNCs duplication within the ECAC area of the ICAO EUR/NAT region, to improve the aeronautical information provided and be compliant with ICAO Annex 11.	**Implementation:** Implemented 31 DEC 2020	**State(s) and Org:** FRA **Originator(s):** EUROCONTROL **Project Category:** 5LNC	BASTO is reserved in ICARD for United States of America. Used by Spanish military.

	Proposal ID: 99.026	**Status:**	**Contributor:**	**Comments:**
•	**Project Name: Single CDR Category(SCC) Greece** **Description:** To change existing CDR Categories into a single CDR category. **Objective:** To further improve flight planning options reducing CDR complexity by simplifying the CDR category in Greece.	**Implementation:** Implemented 31 DEC 2020	**State(s) and Org:** GRC **Originator(s):** EUROCONTROL **Project Group:** RFG SE **Project Category:** CDRs SCC	

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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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