

Supporting
European
Aviation



ATM SG/5 Free Route Airspace Developments in ICAO EUR Region

Concept, Implementation and Support

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Free Route Airspace

“Giving users the freedom to plan a route in Europe's airspace”

- The Definition

A **specified airspace** within which users may freely plan a route between a defined entry point and a defined exit point, with the possibility to route via intermediate (published or unpublished) waypoints, without reference to the ATS route network, subject to airspace availability. Within this airspace, flights remain subject to air traffic control.

- All issues related to FRA can be found via the following website:
<https://www.eurocontrol.int/concept/free-route-airspace>

Free Route Airspace Implementation Requirements

- It is expected that as from 1st of January 2022 free route be provided and operated in the airspace, within the ICAO EUR region, for which the European Union Member States are responsible at and above FL310.
- Other States may also implement FRA, as they consider feasible.

Free Route Airspace

Main Principles

FRA shall be **operationally** driven and produce tangible benefits for all airspace users

Military airspace requirements shall be satisfied

European Airspace Design Methodology will be respected

Common practice and methodology, used by EUROCONTROL/NM, will be applied

Free Route Airspace Implementation Ways

- **Horizontally (local):**
 - Flights allowed to flight plan within “specified airspace” between officially published **Entry/eXit** points or via Intermediate points.
 - “Specified airspace” usually represents the area of responsibility for relevant air traffic control (ATC) unit (CTA/UTA → ACC/UAC).

- **Horizontally (cross-border):**
 - Enlarged cross-border States projects - FRA regardless of FIR or State borders.

- **Vertically:**
 - Level limited (different FRA lower limits):
 - Above FL335, FL305; FL285; FL245; FL175, FL105, FL095, 9500 FT, etc.

- **Timely:**
 - H24;
 - Time limited:
 - Core night (e.g. as 22:00 - 04:00 Summer time);
 - Near night (extended night);
 - + Weekend;
 - Seasonal basis within individual State:
 - winter and summer different FRA operational hours.

Free Route Airspace

Current Implementation

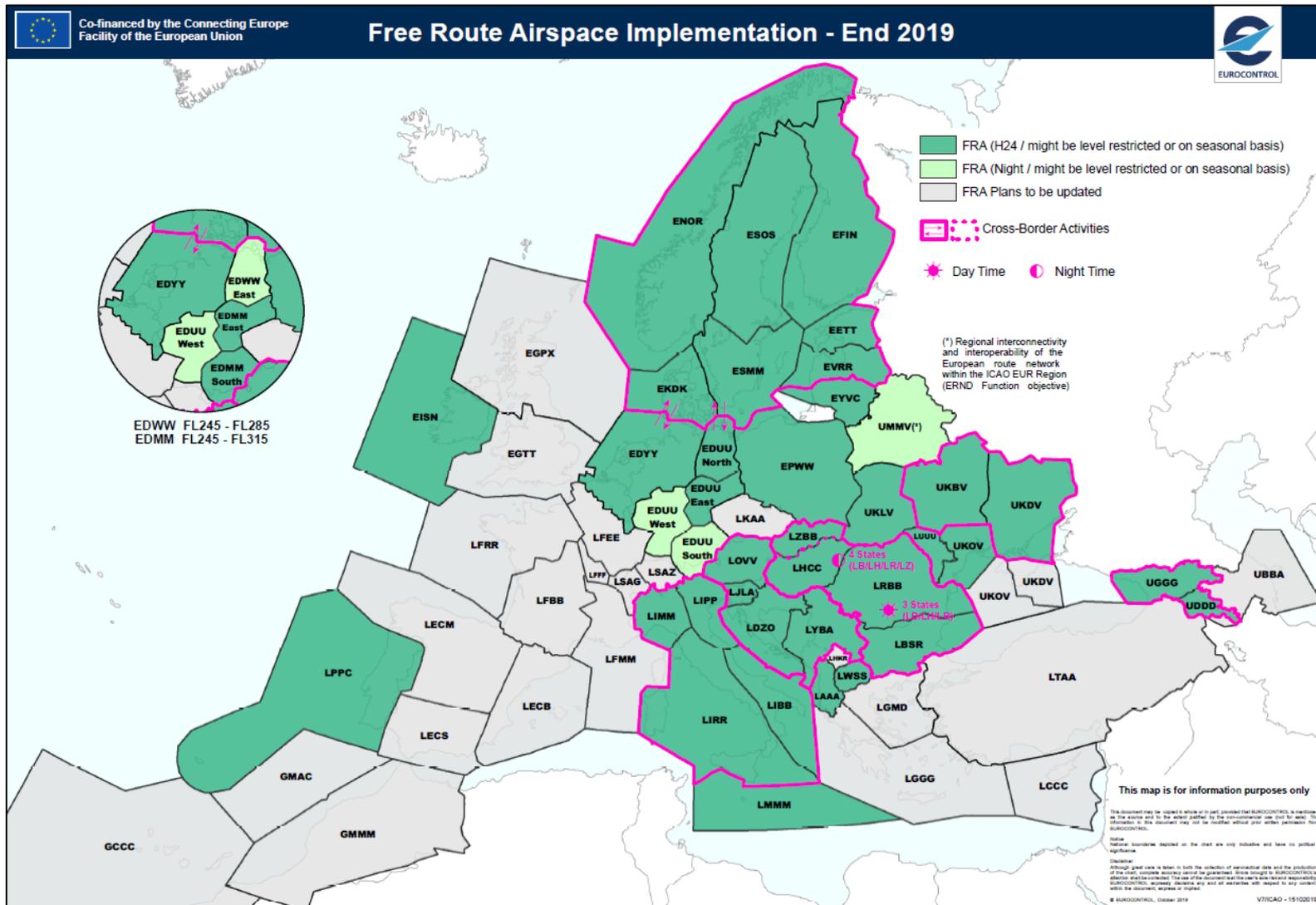
- FRA Concept implementation within the ICAO EUR Region started on **07 MAY 2009** by Portugal within the airspace of Lisboa FIR.
- Until December 2019 FRA Concept is currently implemented within the airspaces of Albania, Armenia, Austria, Belgium (Maastricht UAC), Belarus, Bosnia and Herzegovina, Bulgaria, Croatia, Denmark, Estonia, Finland, Georgia, Germany (Maastricht UAC and Karlsruhe UAC), Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg (Maastricht UAC), Malta, Montenegro, Netherlands (Maastricht UAC), North Macedonia, Norway, Poland, Portugal, Republic of Moldova, Romania, Serbia, Slovakia, Slovenia, Sweden and Ukraine.

Free Route Airspace

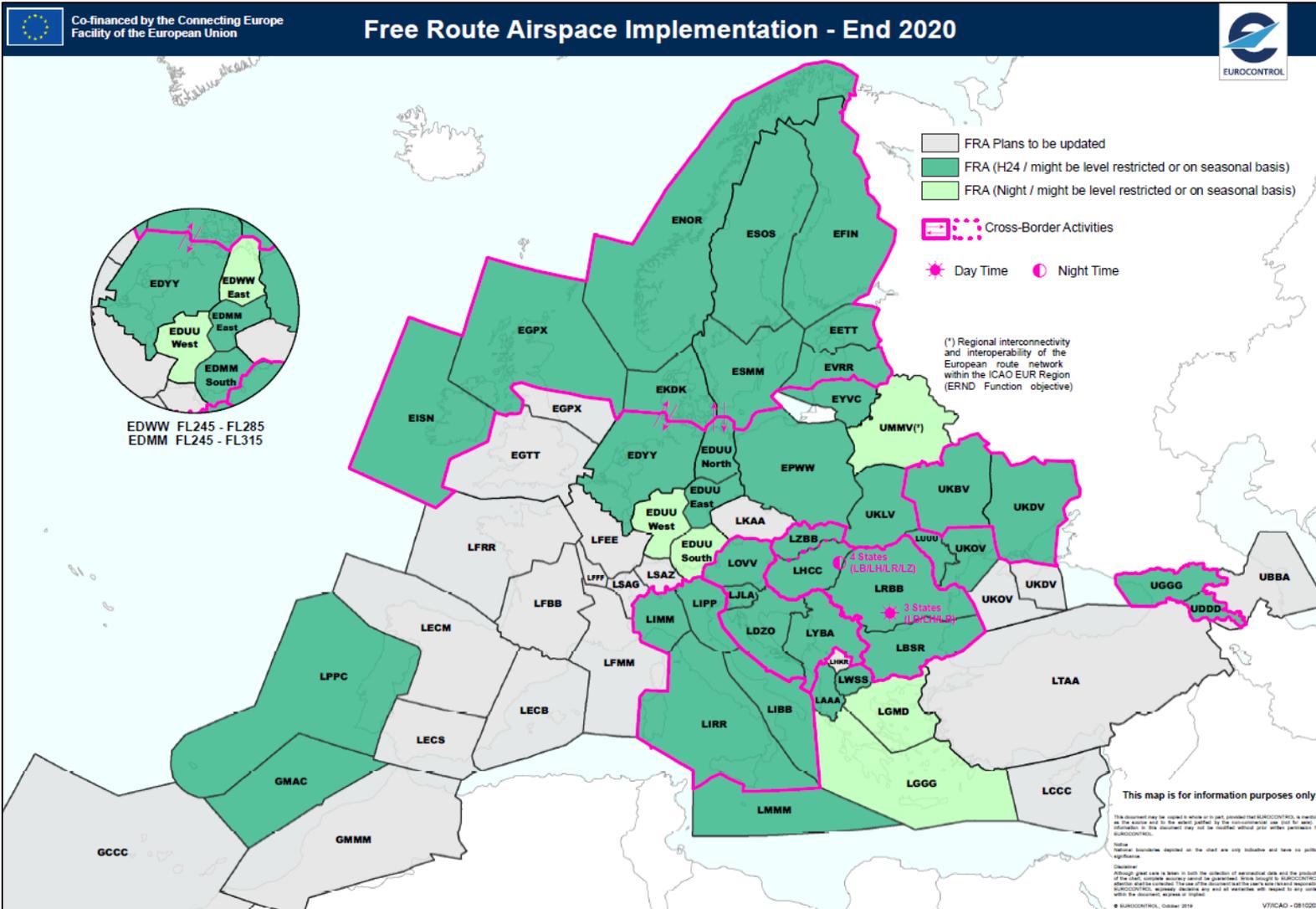
Expected Implementation 2019 / 2020

- FRAM Phase 3 - Free Route Airspace Maastricht UAC - Expansion of existing Night and Weekend FRA (FL245 - FL660) to H24 within the AoR of Maastricht UAC: 05 DEC 2019.
- HELLAS FRA - Night (21:00 - 04:00) Free Route Airspace within Hellas UIR FL335 - FL460: 30 JAN 2020. (EUR-MID Interface)
- FRA Morocco - Night (22:00 - 06:00) Free Route Airspace within the AoR of Agadir ACC FL195 - FL660: 27 FEB 2020.
- SEEN FRA (Bulgaria, Romania, Hungary, Slovakia) - Expansion of time availability within Bratislava FIR by 4 hours to 20:00 - 06:00 (19:00 - 05:00): 27 FEB 2020.

Free Route Airspace Current Status - 2019



Free Route Airspace Planned Implementation - 2020



Free Route Airspace

Document support - FRA Design Guidelines

- The FRA Design - Guidelines document was developed in order to provide additional clarifications and guidelines on FRA design matters related to airspace organisational aspects in FRA implementation. It guides States in FRA design on the way in which different components shall be defined and published and how FRA shall be implemented ensuring a harmonized European network approach.
- The FRA Design - Guidelines document contains the following Chapters:
 - “Establishment of a significant point in FRA” covering establishment of FRA significant points, their positioning at collocated boundaries, their combinations and use of NAVAID as FRA significant point.
 - “Fixed ATS Route Network in FRA” covering general issues and FRA with/without fixed ATS route network.
 - “Flight Level Orientation Scheme (FLOS) in FRA” covering general issues, FLOS inside single and cross-border FRA area and requirements for AIP publication;
 - “FRA Connecting Routes” covering their establishment and AIP publication.
- The FRA Design - Guidelines document can be downloaded via the following website:
<https://www.eurocontrol.int/publication/free-route-airspace-fra-design-application-nmoc-guidelines>



Free Route Airspace

Data support - FRA Points relevance and usage

- EUROCONTROL provided as from 23 MAY 2019 to its Operational Stakeholders the FRA significant points definition in accordance with State AIPs in the form of xls table.
- The FRA points xls file is organised on the way to include all AIP published data for FRA significant points - relevance, airports reference, vertical FL availability, FLOS and all other available FRA information. It is compatible and usable by EUROCONTROL charting and ready for possible future FRA points map presentation and display purposes.
- The FRA points xls file is maintained and updated by EUROCONTROL. The data for each AIRAC is published externally as “**Free Route Airspace (FRA) points list for the ECAC area**” via the following website: <https://www.eurocontrol.int/publications/free-route-airspace-fra-points-list>

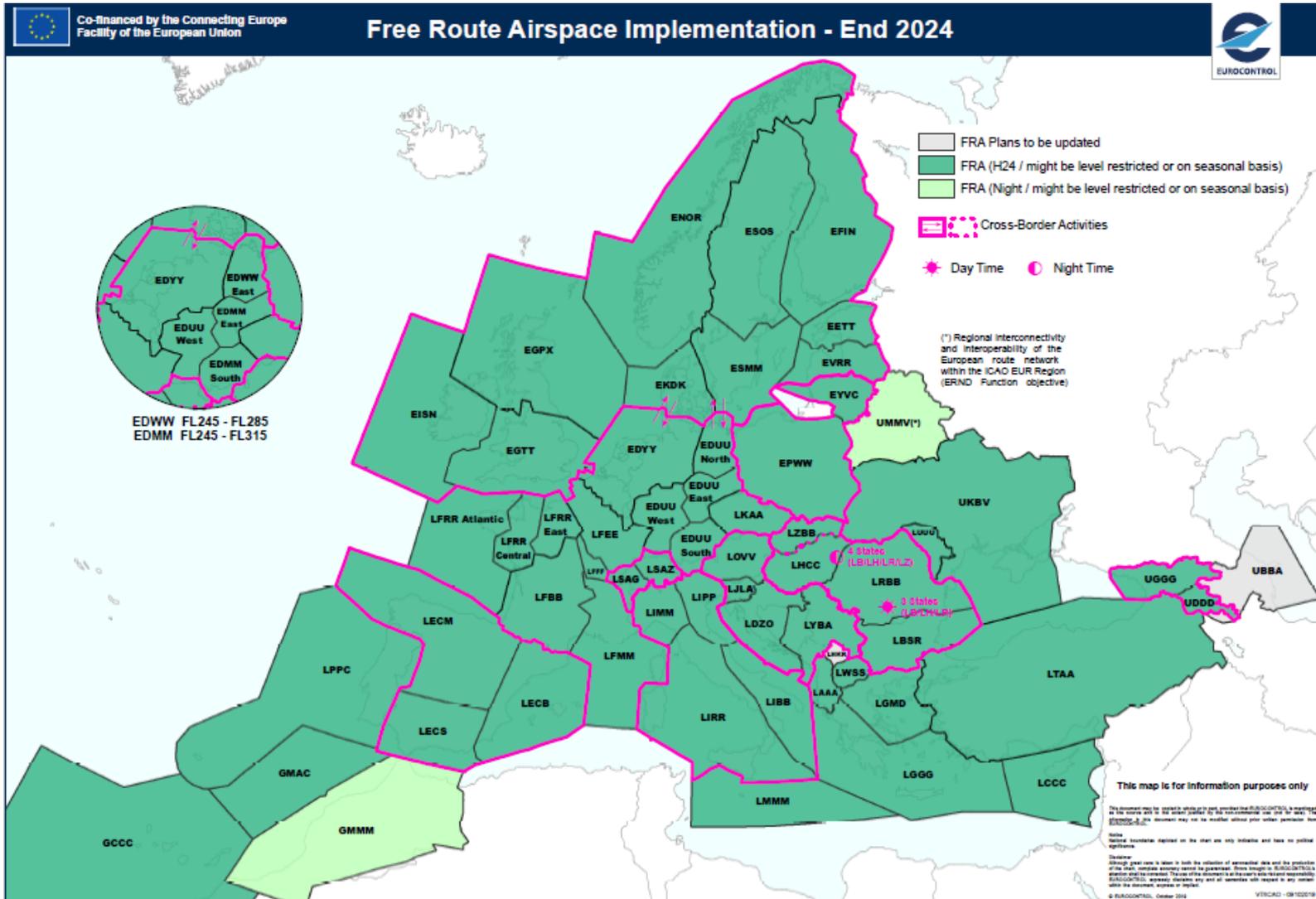
Change Record	Point Type	FRA Point	FRA Name	FRA Status 1	FRA Status 2	Arrival Airport	Departure Airport	FLOS	Level Availability	Time Availability	Loc. indicators
		ADORU	SEEN FRA	X	-			ODD	FL175 / FL660	23:00 - 05:00 (22:00 - 04:00)	LBSR,LTBB
		ADUNO	SEEN FRA	I	A	LBDP,LBSF		-	FL175 / FL660	23:00 - 05:00 (22:00 - 04:00)	LBSR
		ADVER	SEEN FRA	I	-			-	FL245 / FL660	23:00 - 05:00 (22:00 - 04:00)	LBSR
		ADVER	SEEN FRA	X	-			-	FL175 / FL245	23:00 - 05:00 (22:00 - 04:00)	LBSR
		ALIVI	SEEN FRA	I	-			-	FL175 / FL660	23:00 - 05:00 (22:00 - 04:00)	LBSR
		AMTOV	SEEN FRA	I	AD	LBBG,LBWN	LBBG,LBWN	-	FL175 / FL660	23:00 - 05:00 (22:00 - 04:00)	LBSR
		BULEN	SEEN FRA	E	A	LBBG,LBWN		ODD	FL175 / FL245	05:00 - 23:00 (04:00 - 22:00)	LBSR,LRBB
		BULEN	SEEN FRA	X	-			-	FL105 / FL175	23:00 - 05:00 (22:00 - 04:00)	LRBB,LBSR
		BULEN	SEEN FRA	I	-			-	FL175 / FL660	23:00 - 05:00 (22:00 - 04:00)	LRBB,LBSR
		BUVAK	SEEN FRA	I	A	LTFM, LTBA, LTFJ)		-	FL175 / FL660	23:00 - 05:00 (22:00 - 04:00)	LBSR
		DOLAP	SECSI FRA	E	-			EVEN	FL205 / FL660	H24	LYBA,LBSR
		DOLAP	SEEN FRA	X	D		LBSF	EVEN	FL245 / FL660	23:00 - 05:00 (22:00 - 04:00)	LBSR,LYBA
	DME	EMO	SEEN FRA	I	-			-	FL175 / FL660	23:00 - 05:00 (22:00 - 04:00)	LBSR

Free Route Airspace

Airspace Limitations - No Planning Zone (NPZ)

- In order to avoid short crossing of multiple ATC airspaces and to manage ATC operationally sensitive areas, relevant zone unavailable for flight planning may be established.
- Within the airspace volume representing such zone the planning of flight trajectory is either not permitted or allowed under certain specified conditions. In order to assist the airspace users in the presentation of the intended flight operation, the flight planning limitation/s shall be defined in the EUROCONTROL Route Availability Document (RAD).
- Airspace users can avoid such zone by flight planning via appropriate significant points around it or in accordance with allowed conditions.
- Such a zone is named “No Planning Zone” (NPZ) and shall be published in State AIPs.
- Currently there are 10 (ten) NPZs existing or planned in European airspace inside two of the FRA areas.
- AIP publication is done as follows:
 - 2 zones - published;
 - 7 zones - publication 5 DEC 2019;
 - 1 zone - active from 5 DEC 2019 with AIP publication from 27 FEB 2020.

Free Route Airspace Implementation Goal - 2024



QUESTIONS and COMMENTS