



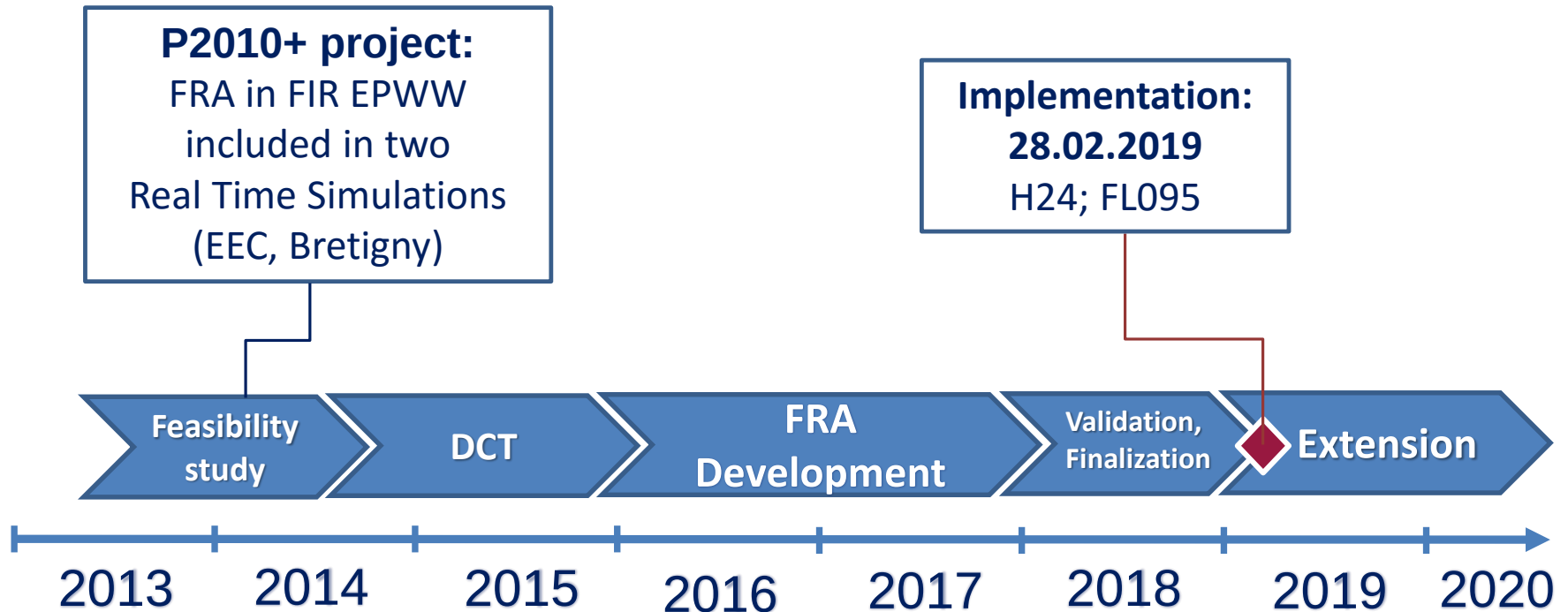
POLFRA INFORMATION DAY FOR AIRSPACE USERS

Warsaw, 31.10.2018

Łukasz Godlewski
Polish Air Navigation Services Agency

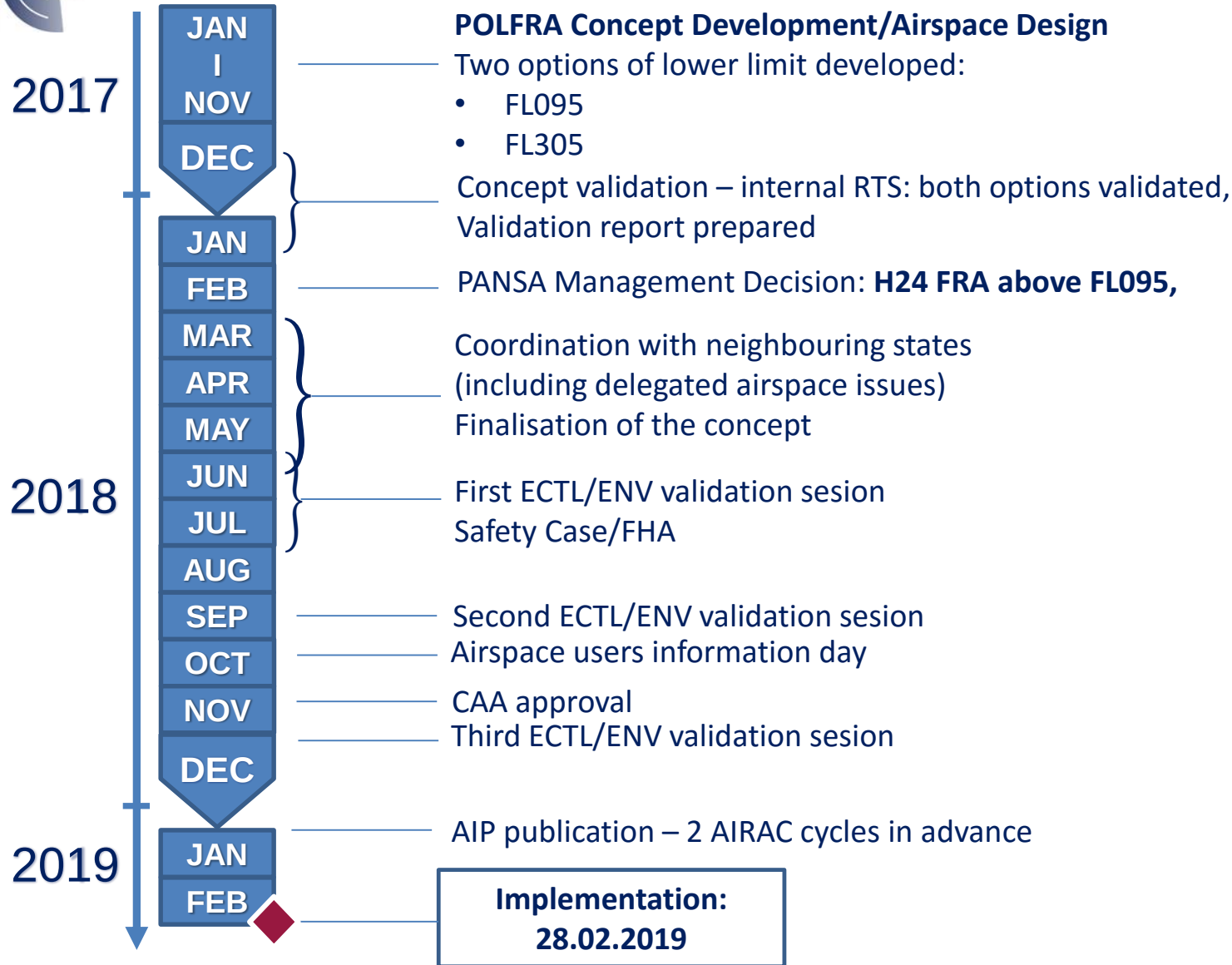


Project Development and Implementation Phases





Recent & Current Activities



POLFRA Information day

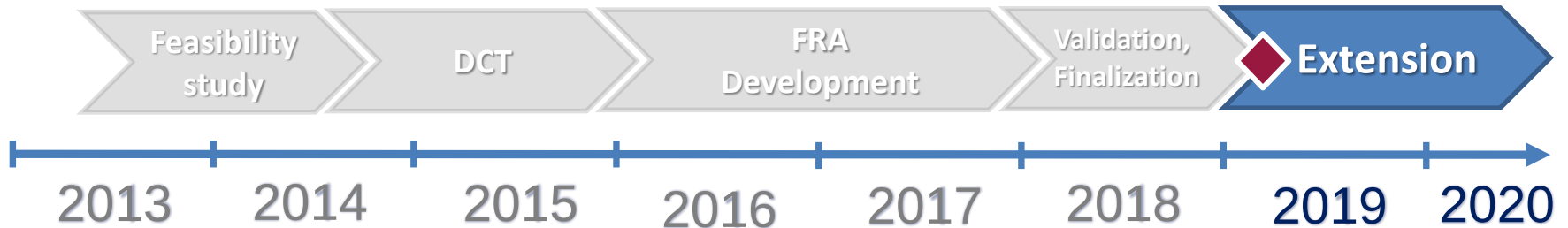


Recent & Current Activities

- Close coordination with Eurocontrol/NM from the very beginning; ✓
- NEST/SAAM environment prepared for various scenarios, FTS report; ✓
- Creating necessary restrictions, e.g. mandatory segment /intermediate points, entry-exit points restrictions; ✓
- Internal RTS executed, both scenarios validated, report prepared; ✓
- Final decision regarding lower limit; ✓
- Safety case prepared; ✓
- NM Validations - *ongoing*; ↻
- Preparation of the AIS Publication - *ongoing*; ↻
- Training of the operational staff - *planned 1Q2019*. ↻



Future Activities



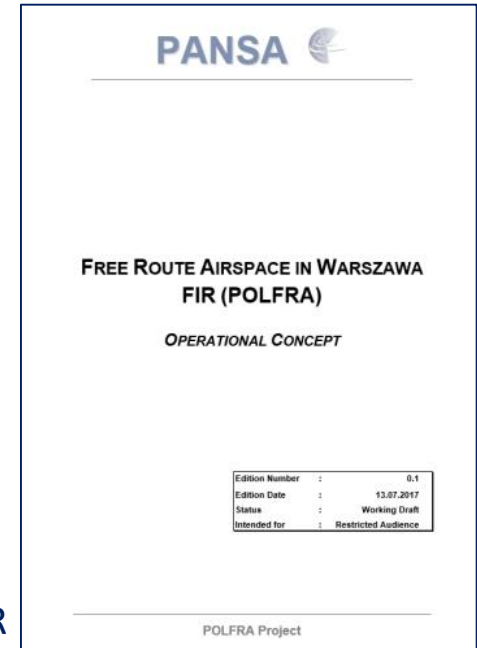
Next steps of POLFRA development:

- Removal of ATS route network,
- To extend POLFRA into cross-border FAB Baltic Free Route Airspace,
- Potential extension of POLFRA/FAB Baltic FRA to cross-border FRA with already existing (or planned) FRA of neighboring FABs (e.g. DK-SE FAB, FABEC, FAB CE) and countries (e.g. Ukraine, Belarus).



Concept of Operations – main assumptions

- **FRA with Intermediate Points**
- Area of applicability: **ACC Warszawa AoR +/- delageted airspaces**
NOTE: to enter/cross TMAs route network must be used
- **No segment length restriction**
- Trajectories shall not plan closer than **5NM** to the lateral border
- Compulsory **Connecting Routes** for main departure / arrival flows (marginal flows connect via any A / D point) within and outside FIR EPWW
- The planning of DCT segments that are partially outside the lateral limits of FRA EPWW (multiple re-entry segments) is not allowed;
- Generally flights may not be planned through active TRAs, TSAs, prohibited, restricted and danger areas (FUA restricions created in RAD Appendix 7). Intermediate points must be used to avoid the active areas;
- The ATS route network within FIR EPWW will be maintained for transition period (**duration of the period not decided yet**).

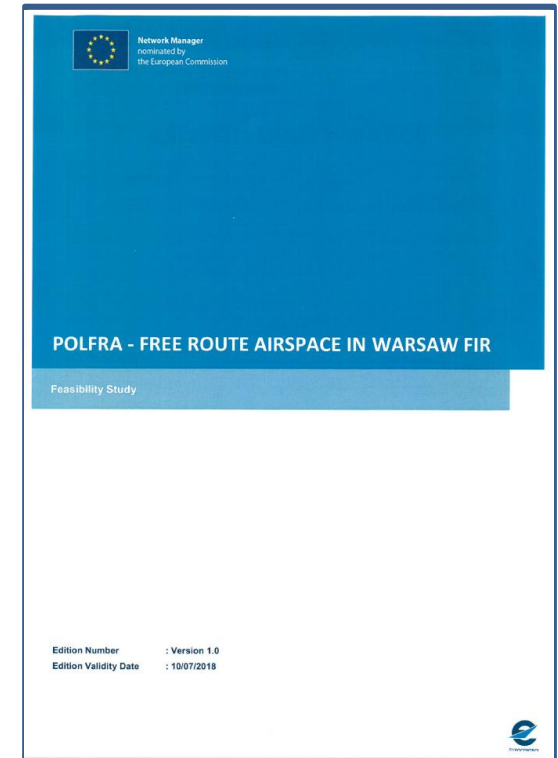




Fast Time Simulation

Development phase of the project:

- ✓ NEST/SAAM analysis for various scenarios,
- ✓ Feasibility Study prepared,
- ✓ Close coordination with Eurocontrol/NM.





Real Time Simulation



Objective:

- ✓ to validate theoretic airspace design (including flow restrictions),
 - ✓ gain feedback from ATCOs,
 - ✓ check the lower limit of POLFRA.
- **five days** of Real Time Simulation (December 2017/January 2018);
 - **18 ACC ATCOs** involved;
 - total hours simulated: **16**;
 - **6 different traffic samples** (based on most traffic demanding days from summer 2017);
 - **7 different sector configurations** tested;
 - **two options simulated** (FL95/FL305).

GENERAL FEEDBACK:





EUROCONTROL/ENVIRONMENT pre-validations:

- June 2018
- September 2018
- November 2018
- ? *if necessary*



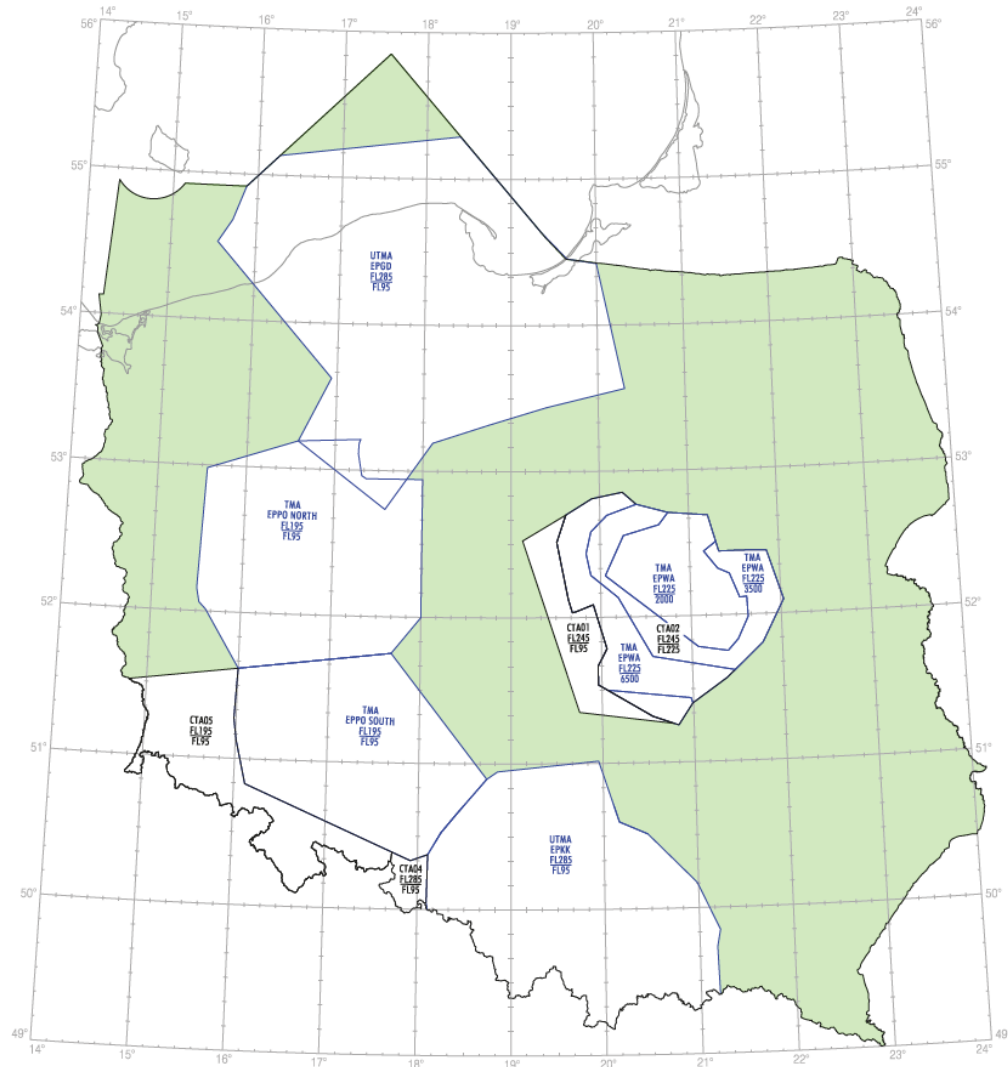


GEOGRAPHICAL BOUNDARIES



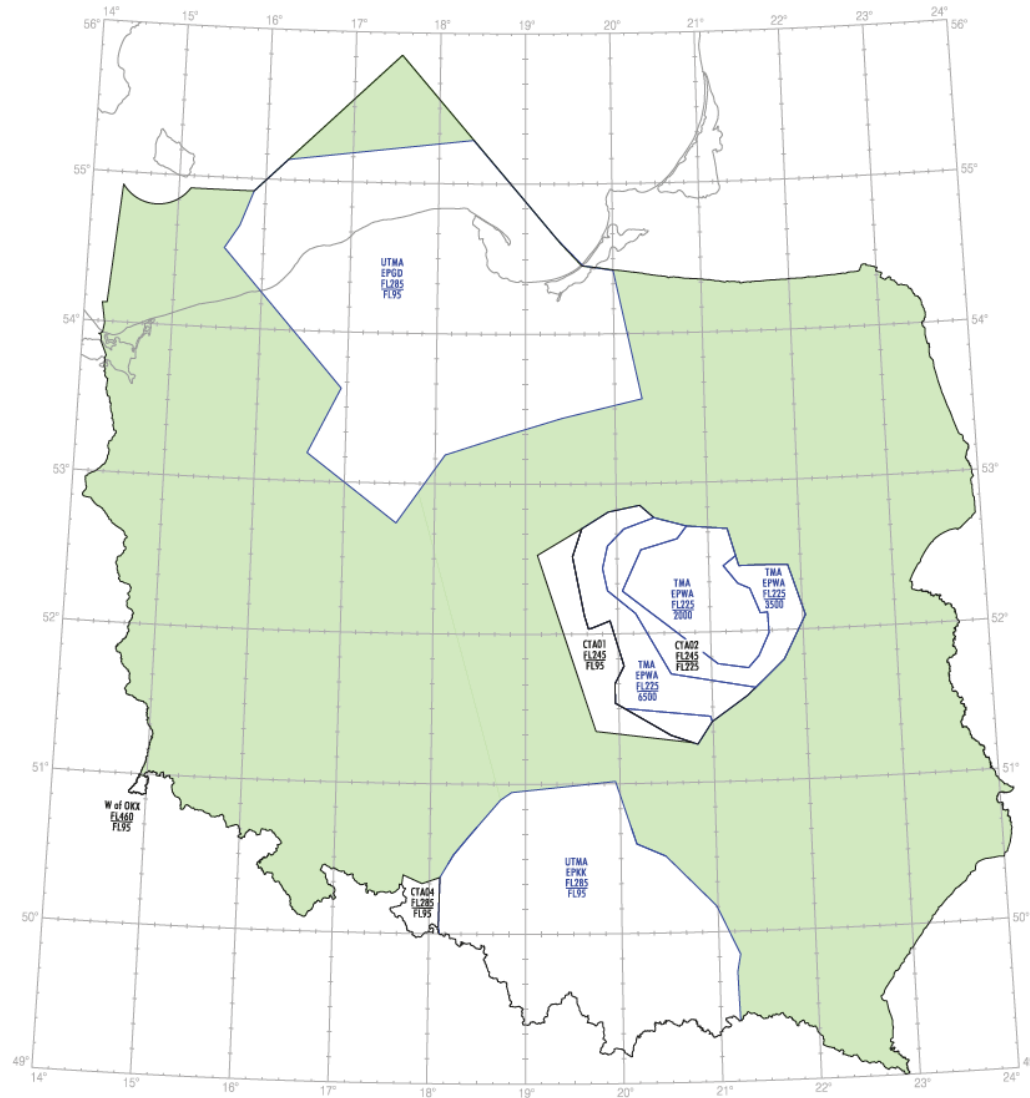


POLFRA geographical boundaries FL145-FL195



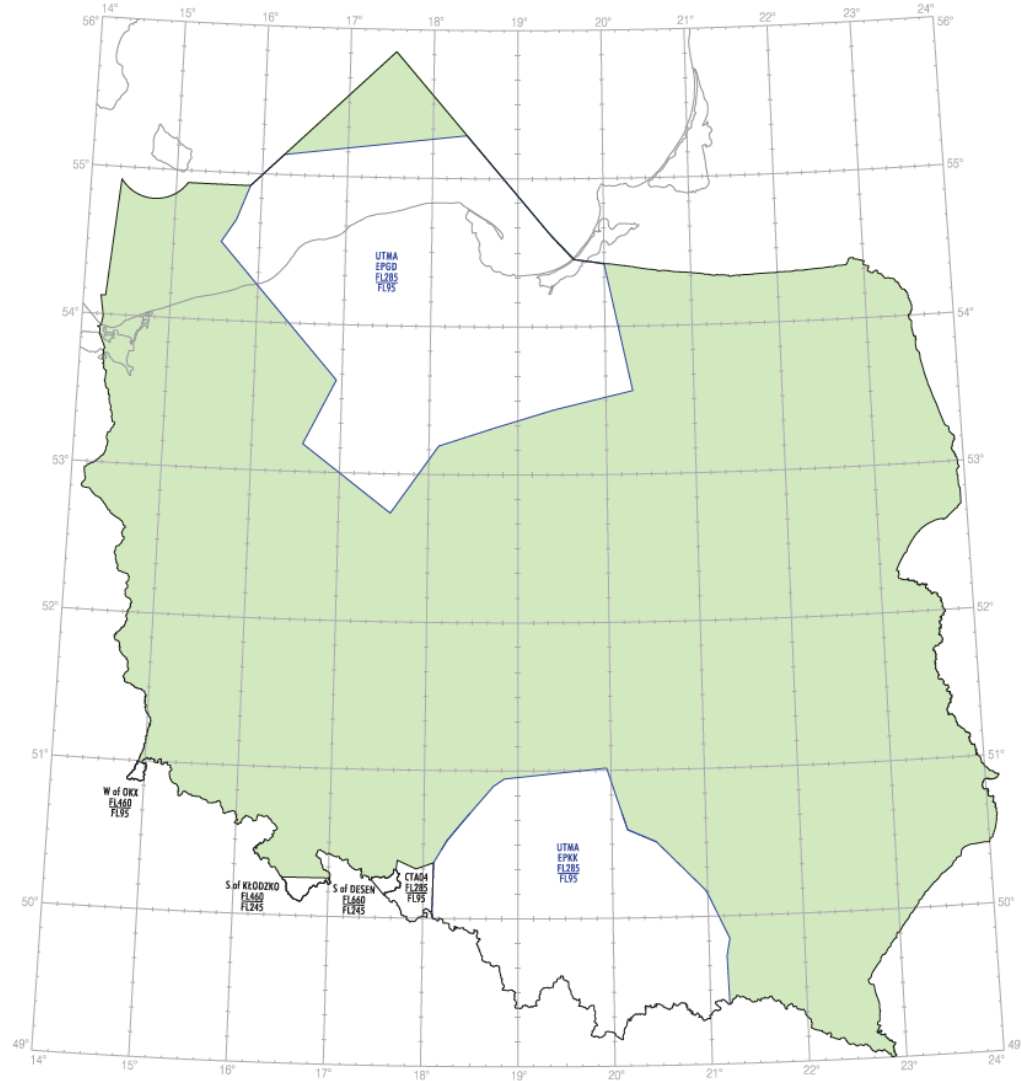


POLFRA geographical boundaries FL195-FL245



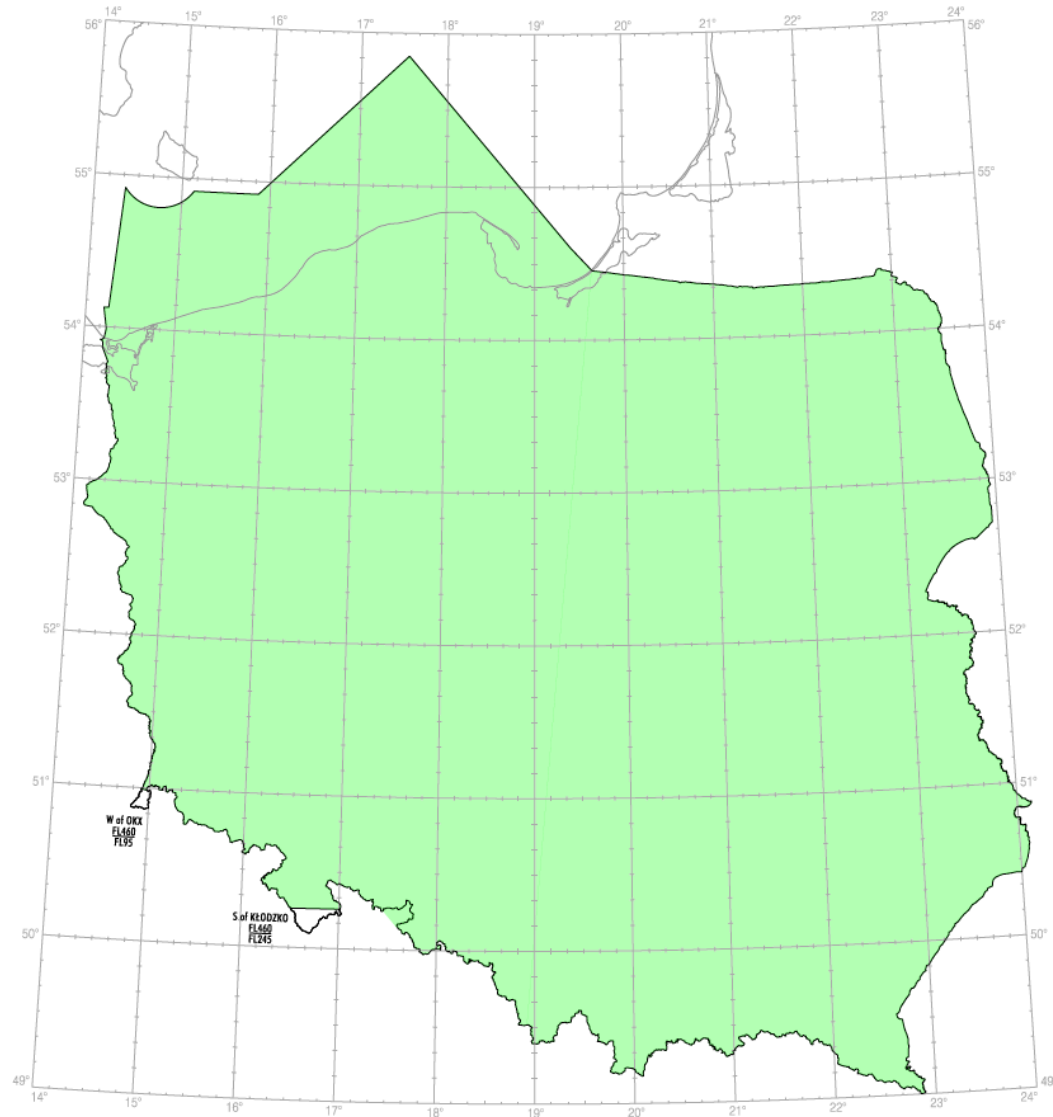


POLFRA geographical boundaries FL245-FL285



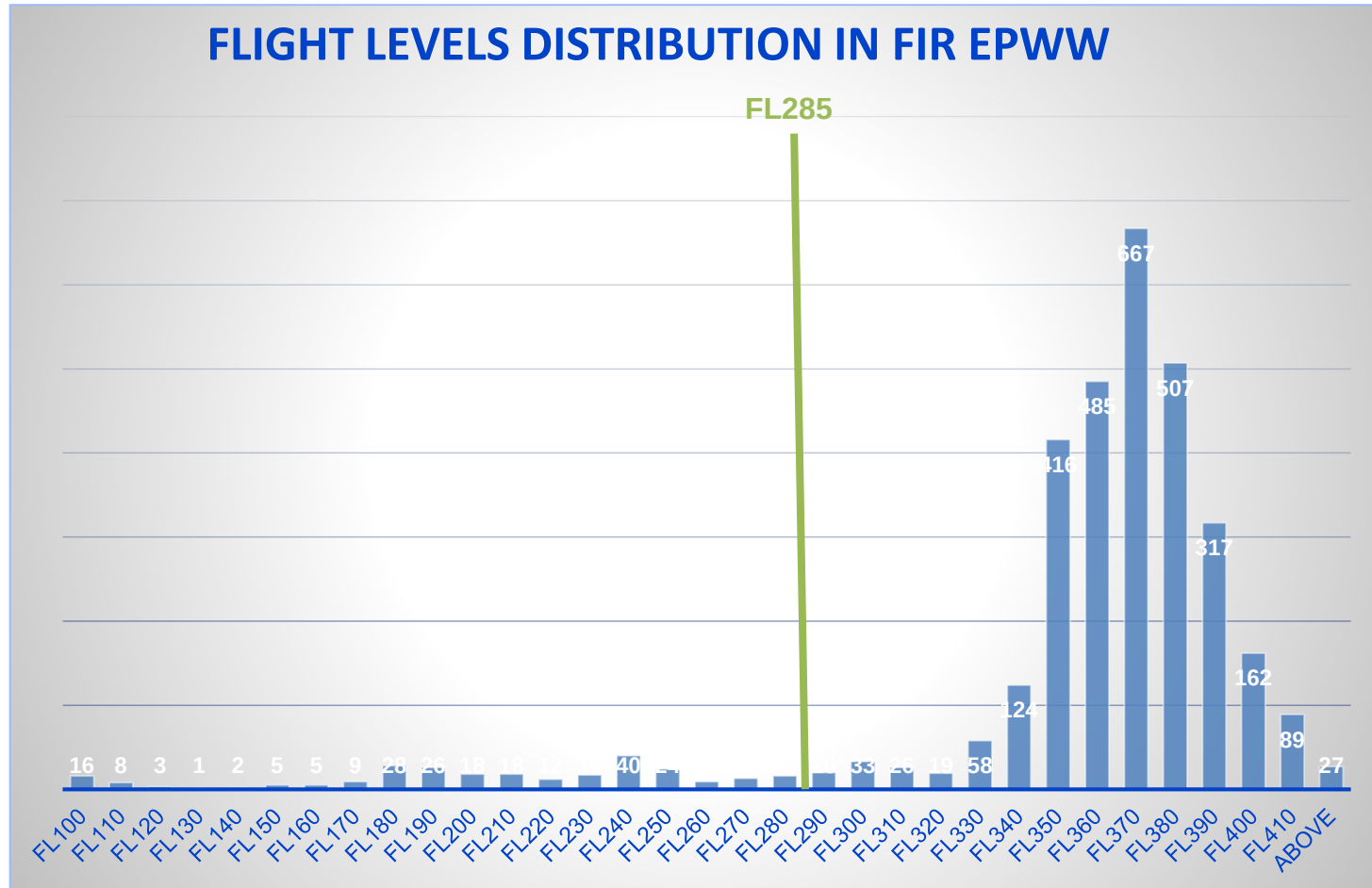


POLFRA geographical boundaries FL285-FL660





POLFRA FLIGHT LEVELS DISTRIBUTION

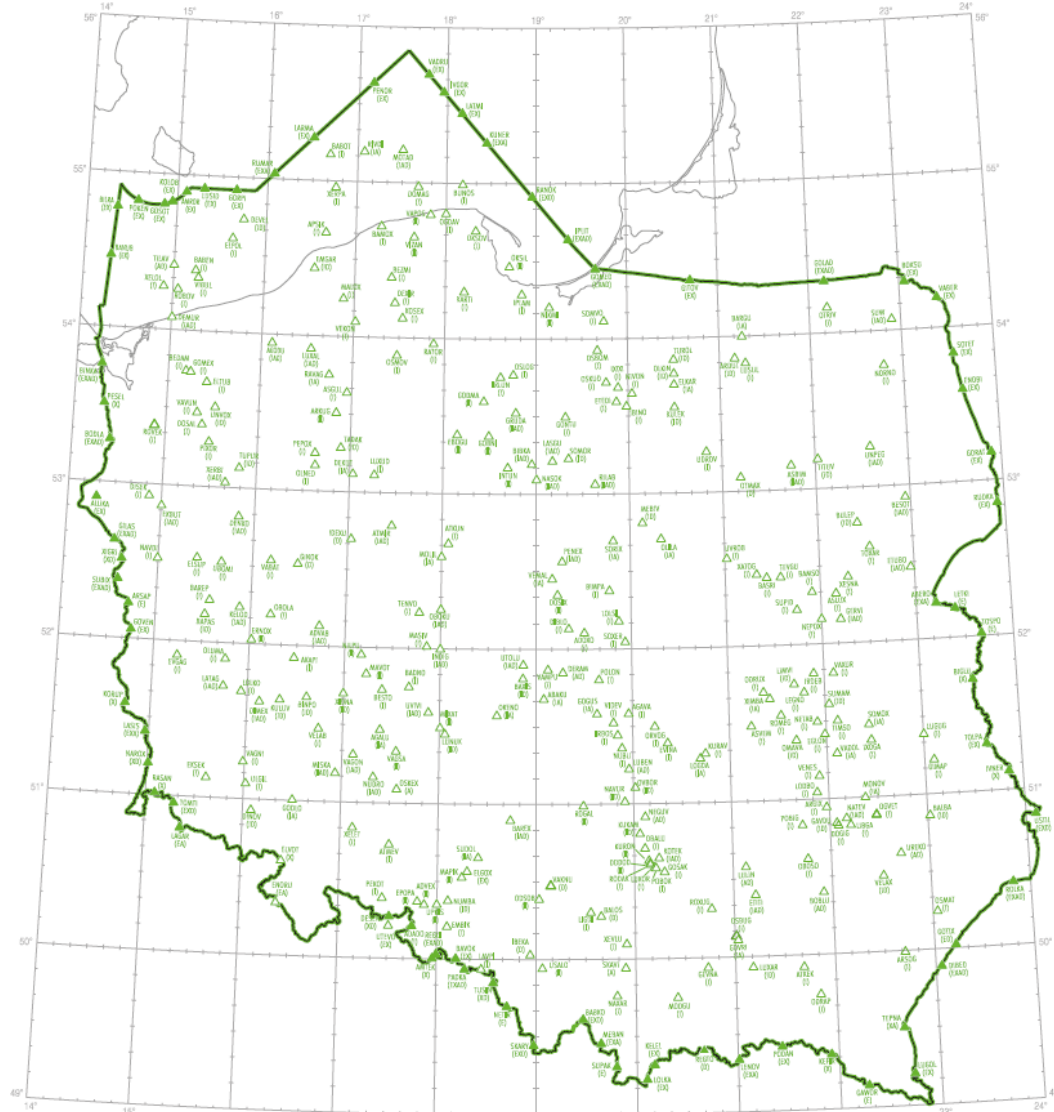




SIGNIFICANT POINTS



FRA Significant Points





COONECTING ROUTES



Connecting routes



- **COMPULSORY** - for airports with high number of traffic movements *to stabilize the traffic flows.*
- **OPTIONAL** - for other airports *to facilitate flight planning process* for airspace users.



FLOW RESTRICTIONS



- to reduce complexity,
- to prevent sector clipping/re-entries,

with objective to maximise throughput and maintain capacity.

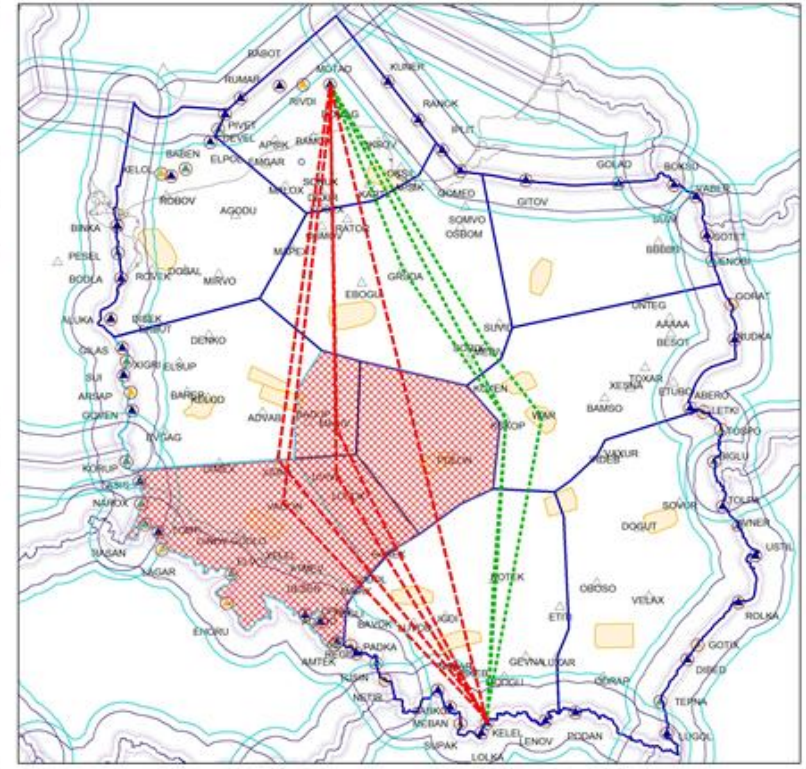
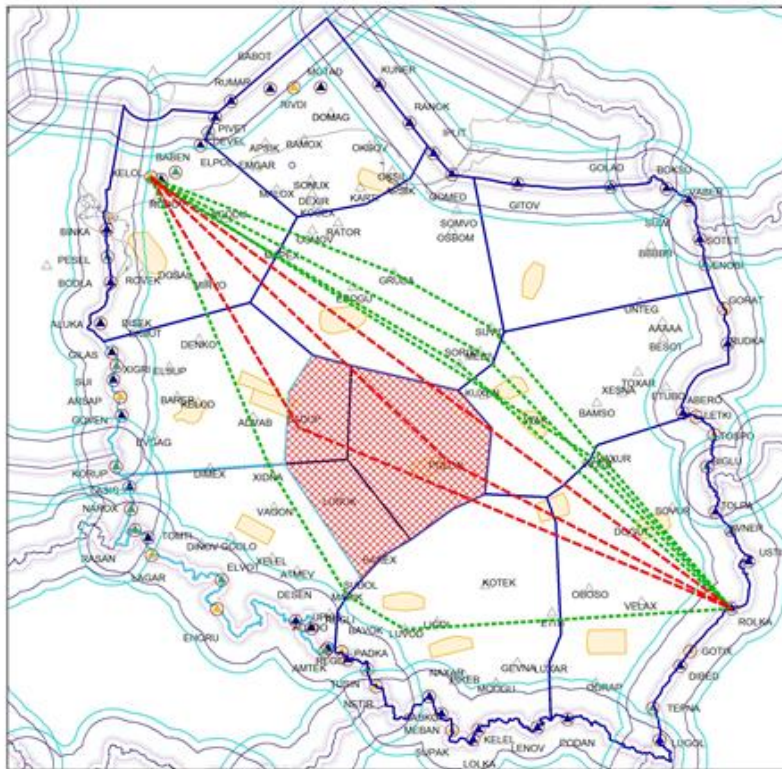




EN-ROUTE FRA RESTRICTIONS

Example of restrictions based on sector volumes:

- to balance sector load,
 - to prevent sector clipping/re-entries,
- with objective to maximise throughput and maintain capacity.**





POLFRA RAD Restrictions

~300 new RAD restrictions

~190 existing RAD restrictions checked and edited

Change record	AIRWAY	FROM	TO	Point or Airspace	Utilization	Restriction Applicability	ID Number	Operational Goal
	P31	BEZMI	GOVEN		Only available for traffic 1. Above FL285 a. ARR (adEDOF/DM/DS) b. ARR/Overfly (as/LF, LI, LS) c. DEP adESSA With ARR adLOW/W 2. ARR (adEDAB/AC/DB/DC/DE/DP/DT) Below FL285	H24	EPED1004	To segregate traffic flows in an West - East direction
AMD	M985	POBOK	MEBAN		Not available for traffic Above FL195 Except 1. ARR LHCCTFR 2. DEP ARR EPLB 3. DEP ARR EPLB	H24	EPLZ1001	To facilitate arriving traffic on a unidirectional airway. This traffic shall file 1. BABKO M866 NIDOK 2. BABKO L856 KOPAT
AMD				LULIN	Compulsory for traffic With RFL above FL250 in EP**, ED** 1. DEP EB, EG, EH, EI With ARR EPLB 2. DEP EPLB With ARR EB, EG, EH, EI Only available for traffic DEP/ARR EPLB	H24	EP2157 EP2173	To segregate arriving traffic from overflying traffic To segregate departing traffic from overflying traffic
DEL Not needed in FRA	L20	GRUDA	SLW		Not available for traffic Above FL285 Except 1-ARR-EP6V 2-DEP-EP6V	H24	EP2169	To force arriving and departing traffic via other transition routing
DEL Not needed in FRA	L20	SUW	GRUDA		Not available for traffic Above FL285 Except 1-ARR-EP6V 2-DEP-EP6V	H24	EP2190	To force arriving and departing traffic via other transition routing
	L617	ADVAB	RONIX		Not available for traffic ARR EDDT	H24	EP2192	To avoid creative flight planning. This traffic shall file via ADVAB DCT GILAS or ADVAB DCT UBOMI DCT GILAS
	L619	ALUKA	DENKO		Not available for traffic 1. Via BOKSU, NIKMI 2. Via GRUDA when ALUKA L20 GRUDA is available	H24	EP2051	To prevent traffic entering the EPWWD sector
AMD Duplicated restriction	L619	DENKO	ALUKA		Not available for traffic 1. Via NIKMI, SUW 2-ARR-EDDB-DT	H24	EP2050	To prevent traffic entering the EPWWD sector
AMD	L621	VADOL	LIMVI	LIMVI	Not available for traffic DEP EPLB/FA Except with ARR EPBC/MO/WA	H24	EP2158	To segregate arriving traffic from departing traffic
DEL	L623	VANBL	MYSKO		Not available for traffic ARR EPLB This traffic shall file LENOV N131 KOTER	H24	EP2065	To reduce complexity in the APP sector To segregate arriving traffic from departing traffic
AMD	L730	VEKON	VAVUN LUXAL		Not available for traffic DEP EPDQ Via BODLA	H24	EP2092	To simplify traffic in EPWWD sector. To segregate traffic flows in an East-West direction

Preparation of the final RAD document is ongoing.



PANSA – Dependencies/Risks

- **Overlapping areas issue in NM systems** - NM software release 22.5 (November 13th 2018),
- **B2B interface** between NM systems and CAT2.0 for automated processing/transferring of the AUP/UUP (tests completed, waiting for the certificate),
- Implementation of updated version of **local ASM tool CAT2.0** (planned for December 10th 2018).





Thank you for your attention!

