

RAD Restrictions in Free Route Airspace

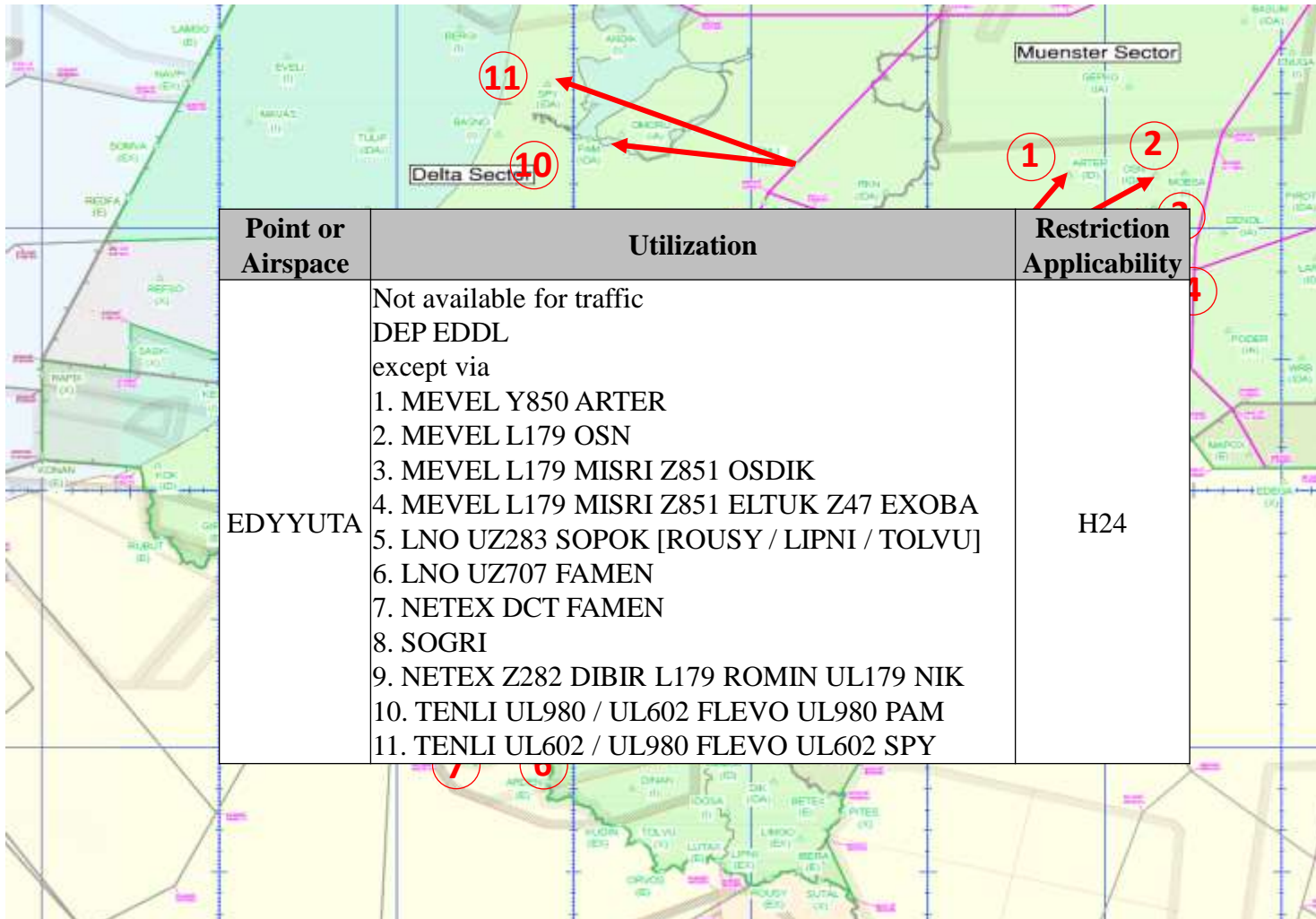
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Connecting Routes seen laterally



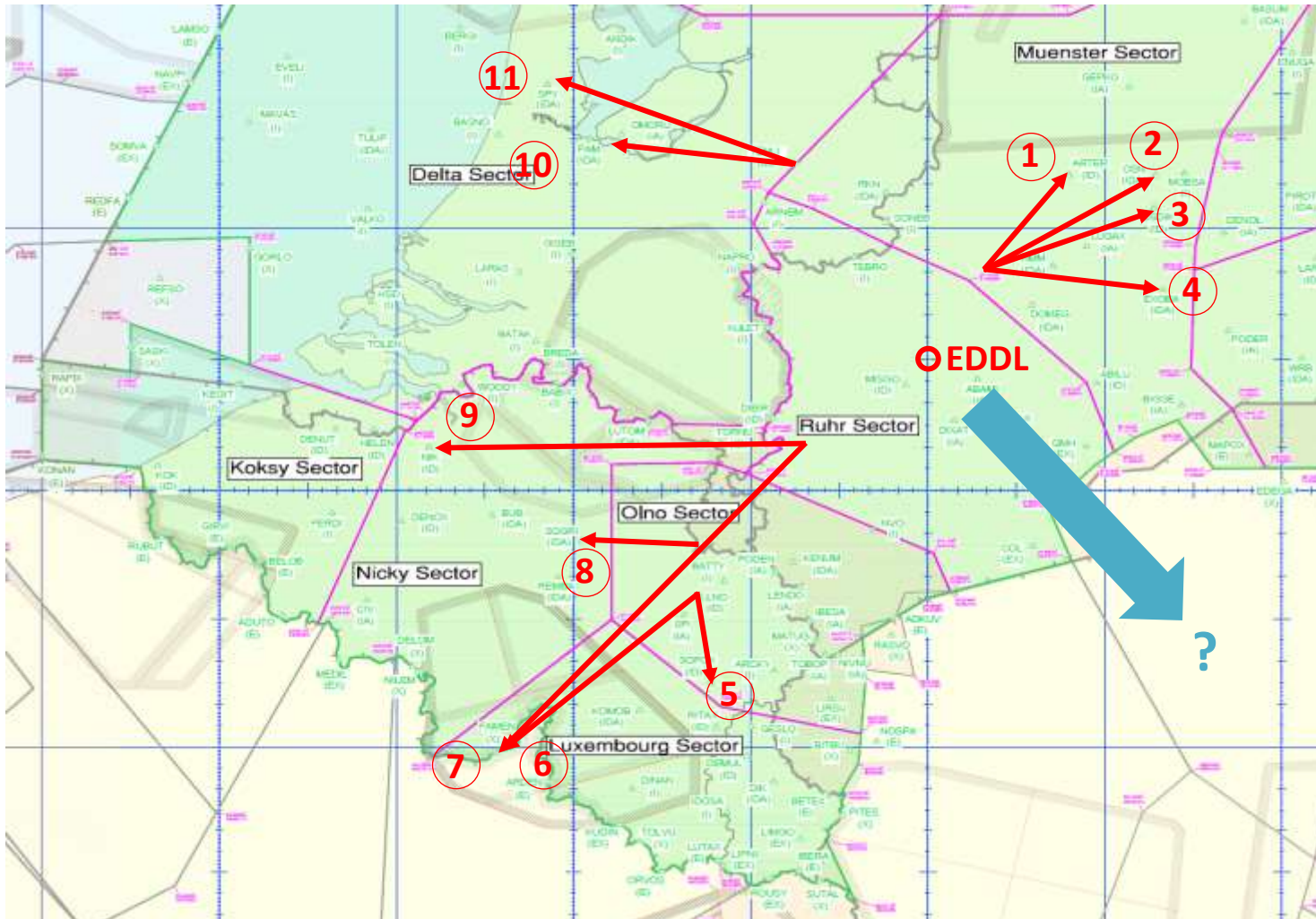
Requirements for Connecting Routes



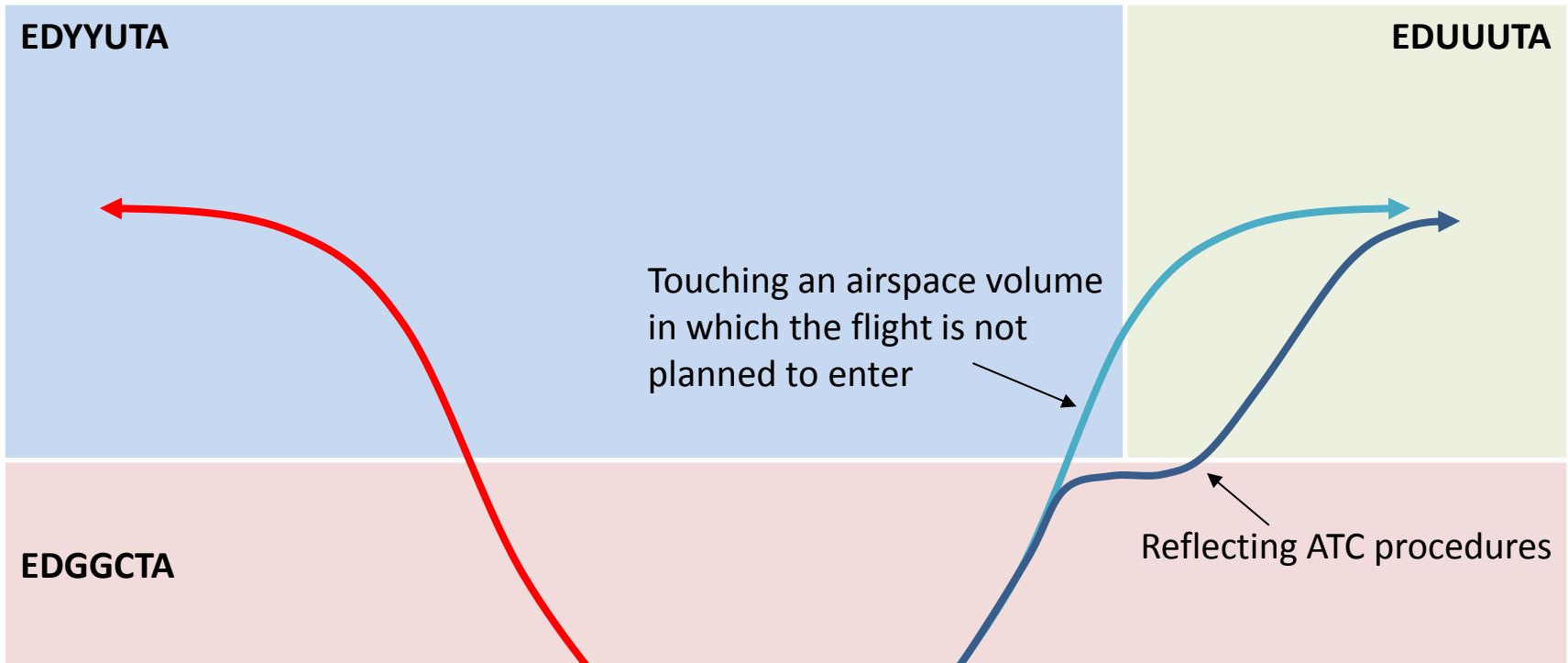
Connecting Routes shall ...

- define the **vertical connectivity** for subjacent / nearby airports
- provide **structure** to departing / arriving flows for safety and capacity
- connect FRA **A- / D-points** with the ATS routes in subjacent ACCs
- be published via the **RAD** with least effort for creation / maintenance
- establish **transparency** on all route requirements for AOs
- reduce the number of **creative flight plans**

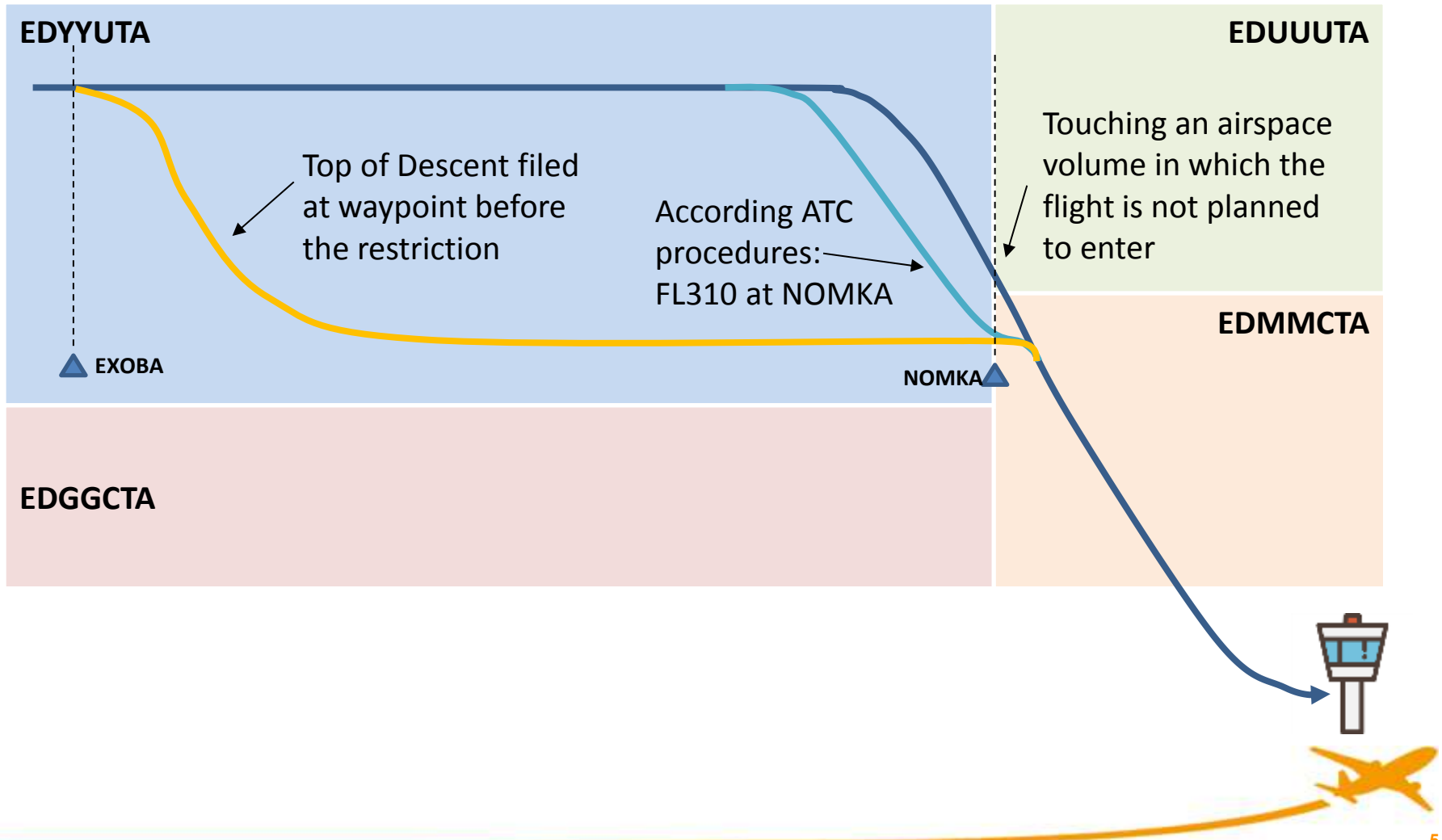
Connecting Routes seen laterally



Connecting Routes seen vertically



Top of Descent: filing vs. actual



Strengths & Challenges of the Concept



Strengths

- + All route requirements in one RAD restriction
- + Provides good overview for the AOs
- + Easy to search & find in Excel sheets
- + Reduces the amount of RAD restrictions
- + Reflecting ATC procedures
- + Clear attribution of the restriction to an ANSP

Challenges

- Effects on some profiles due to sectorisation
- Handling of sector-based restrictions by flight planning systems
- Computation time consideration
- Profile misalignment between AO and IFPS

Other Concepts: Appendix 5



DEP AD	Last PT SID / SID ID	DEP Restrictions	DEP Restriction Applicability	DEP ID No
EDDL	NETEX	Not available for traffic Via EDYYUTA Except via 1. NETEX DCT FAMEN 2. NETEX Z282 DIBIR L179 ROMIN UL179 NIK	H24	ED5..
EDDL	MODRU	Not available for traffic Via EDYYUTA Except via 1. LNO UZ707 FAMEN 2. LNO UZ283 SOPOK [ROUSY / LIPNI / TOLVU] 3. SOGRI	H24	ED5..
EDDL	SONEB	Not available for traffic Via EDYYUTA Except via 1. TENLI UL980 / UL602 FLEVO UL980 PAM 2. TENLI UL602 / UL980 FLEVO UL602 SPY	H24	ED5..
...



Other Concepts: Compulsory FRA Points FABEC

Point or Airspace	Utilization	Restriction Applicability	Restriction ID
LNO / MEVEL / NETEX / SOGRI / TENLI	Compulsory for traffic DEP EDDL Via EDYYUTA	H24	YX..
LNO	Not available for traffic DEP EDDL Via EDYYUTA Except via 1. LNO UZ707 FAMEN 2. LNO UZ283 SOPOK [ROUSY / LIPNI / TOLVU]	H24	YX..
TENLI	Not available for traffic DEP EDDL Via EDYYUTA Except via 1. TENLI UL980 / UL602 FLEVO UL980 PAM 2. TENLI UL602 / UL980 FLEVO UL602 SPY	H24	YX..
...

