



EASA
European Aviation Safety Agency

Performance Based Navigation - European Mandates

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Your safety is our mission.

EASA is an agency of the European Union





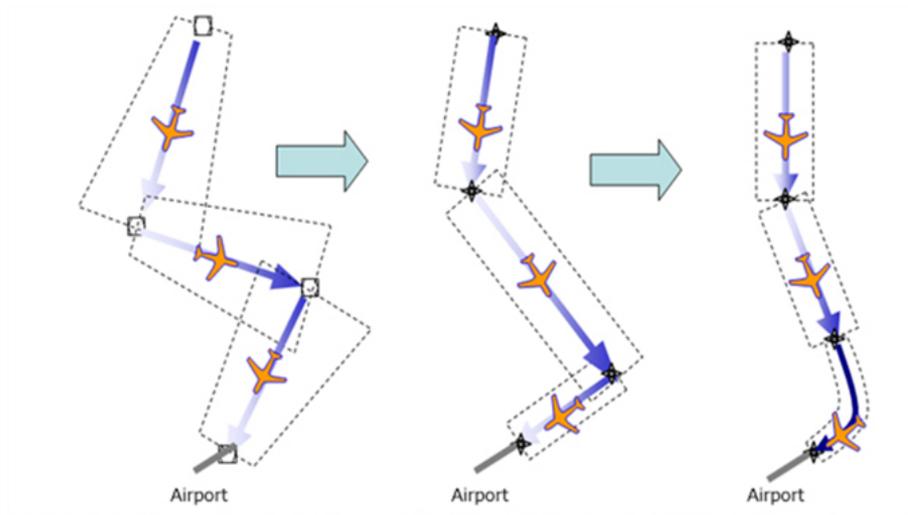
Navigation – Performance Based Navigation

General Benefits

EU PBN Mandates

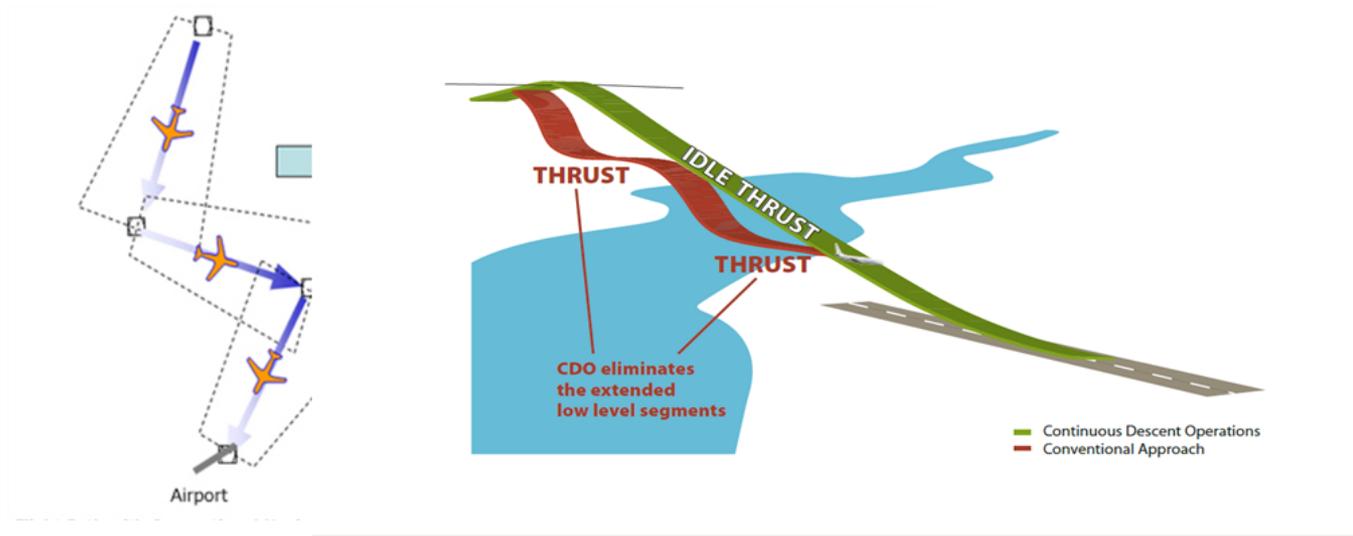


Benefits



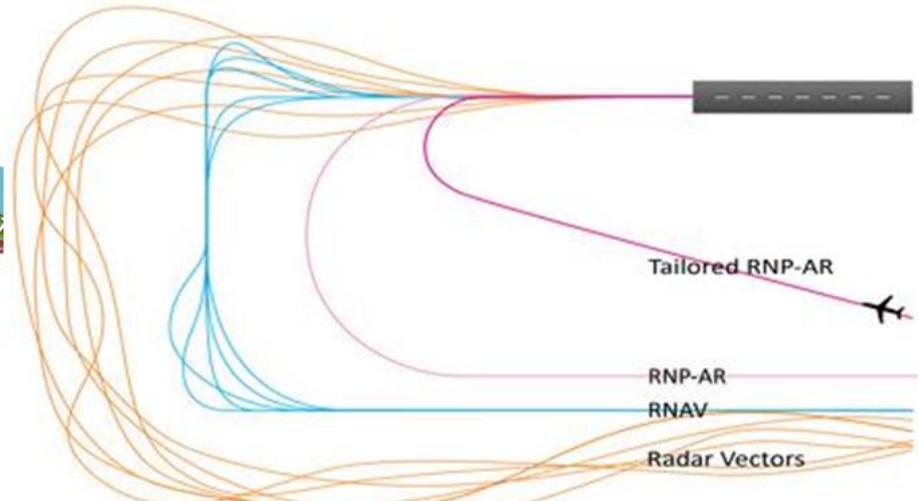
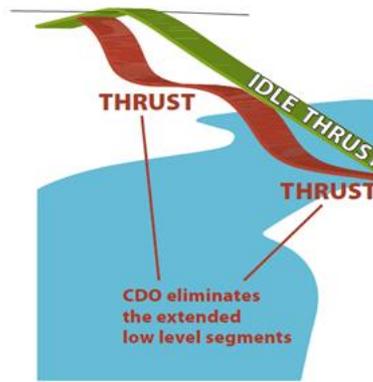
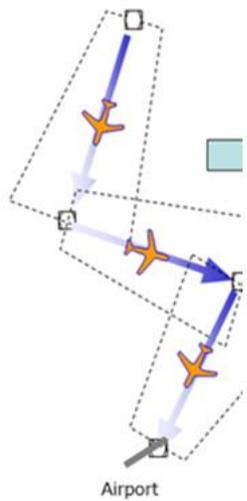


Benefits



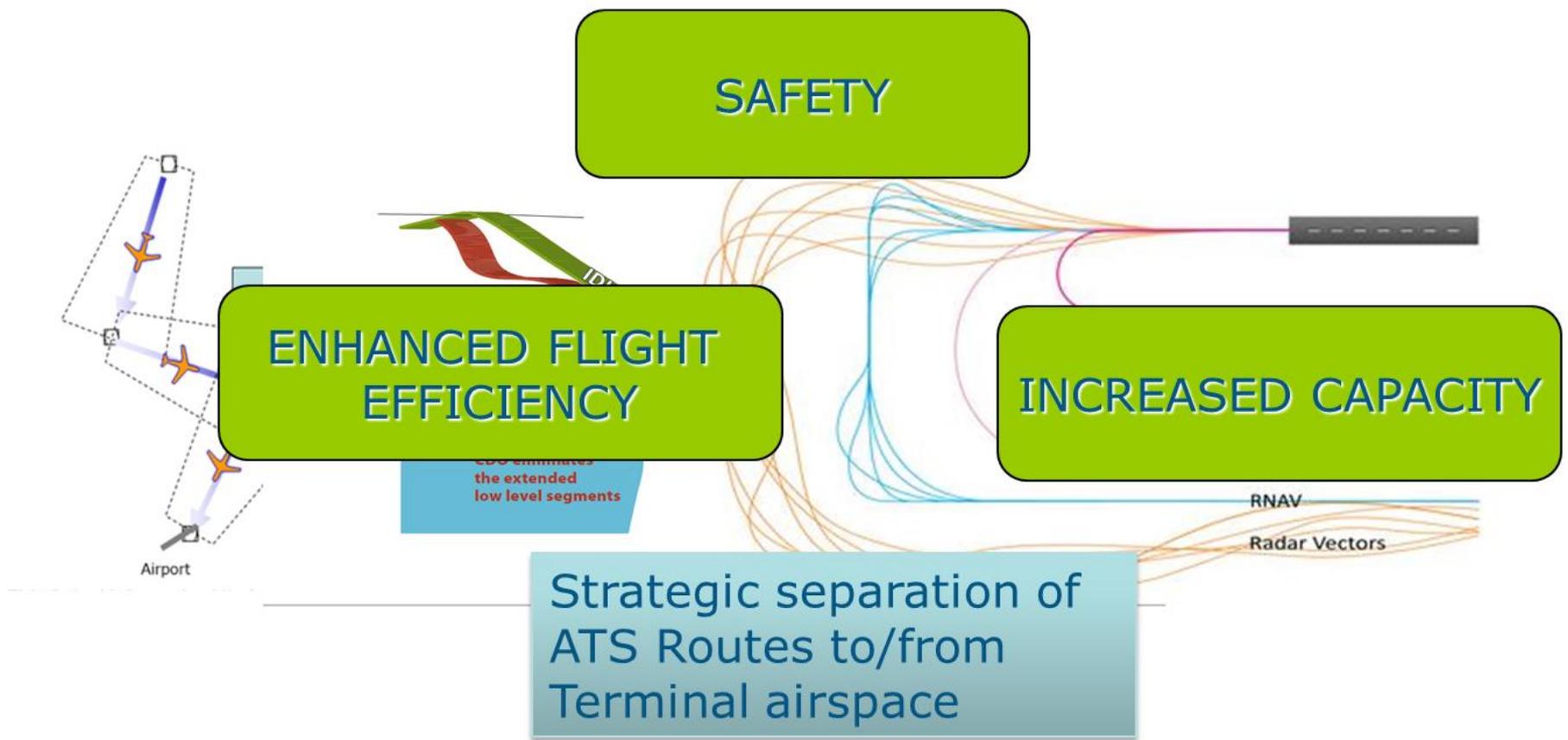


Benefits





Benefits





Benefits



Widespread use of PBN has significant **benefits** for total system **safety, capacity** and **environmental** impact



Operating methods based on PBN are, in general, **simpler for flight crews** than conventional navigation, and are the real-world operating methods that have been used for many years by the majority of operators



Commonality in operating methods between PBN specifications

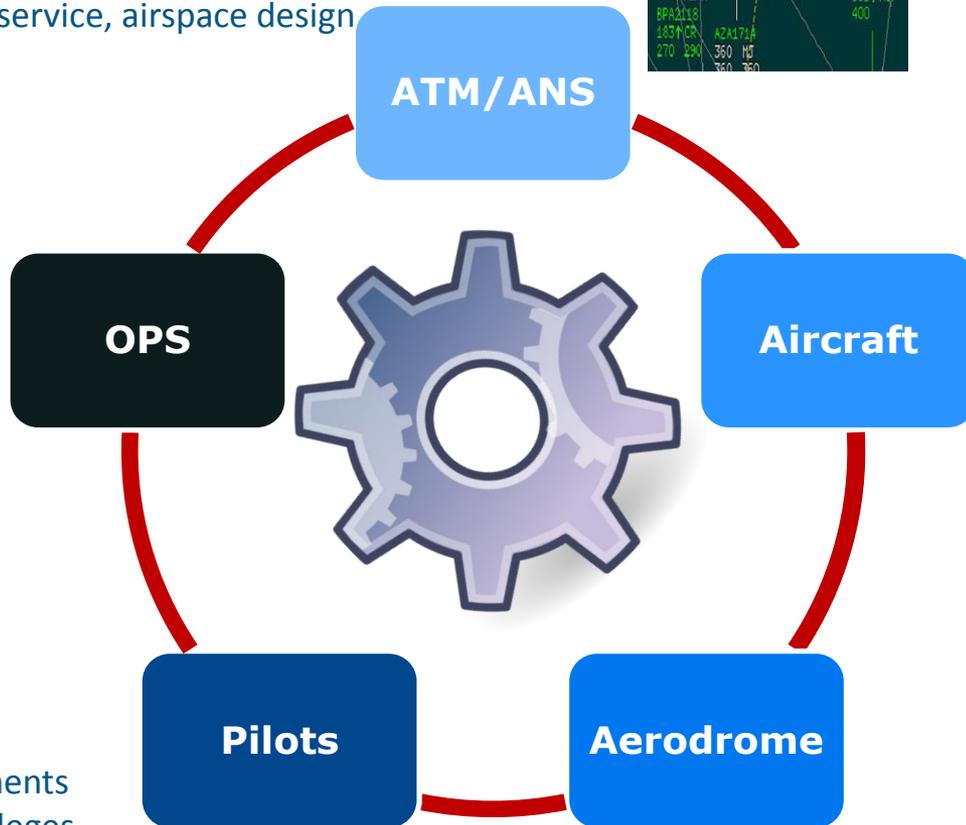


Enabling PBN

Requirements for safe ANS operations plus Data service, airspace design



Aircraft performance and functionalities requirements & Aircraft associated specific operational information



Requirements to safely operate an aircraft



Training requirements and privileges



Requirement to safely operate and design an Aerodrome





Navigation

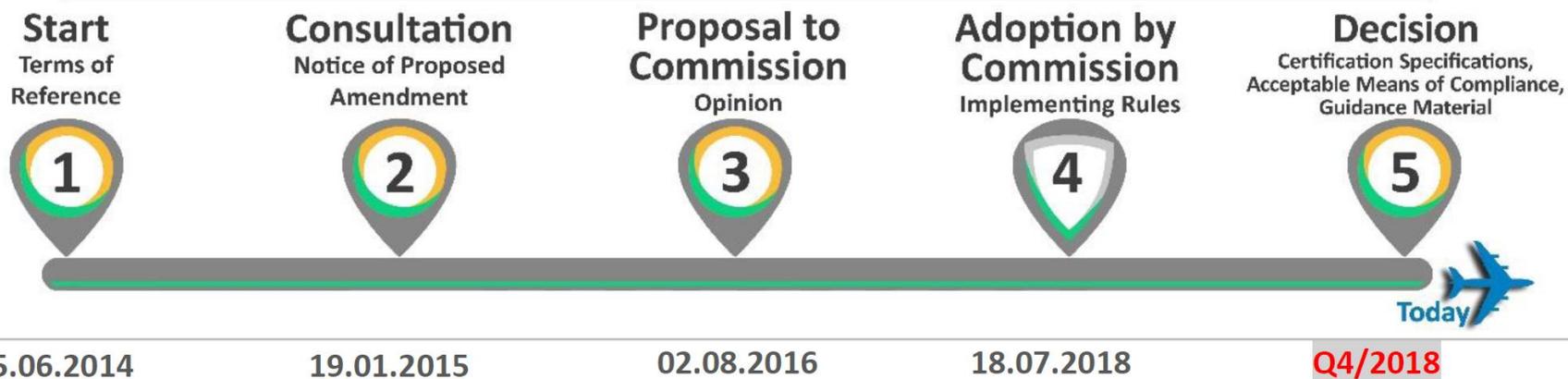
Performance Based Navigation



Scope

- Implementation of ATS routes and instrument approach procedures i.a.w. a harmonised and agreed set of PBN specifications and functionalities.

• EASA rulemaking process





PBN Regulations

Regulation 2018/1048 – laying down airspace usage requirements and operating procedures concerning performance-based navigation.

Approach (3D Approaches)

RNP APCH to **LPV minima** and LNAV/VNAV at instrument Runway ends or to RNP-AR as required by obstacles

3 Dec 2020
25 Jan 2024
6 June 2030

TMA

RNAV 1 SIDs, STARs or RNP 1 Plus use of altitude constraints, and Radius to Fix (RF) as required

25 Jan 2024
6 June 2030

En route

RNAV 5

Above FL150 - 3 Dec 2020
Below FL150 - 25 Jan 2024



PBN Regulations

Regulation 716/2014 – on the establishment of the Pilot Common Project supporting the implementation of the European Air Traffic Management Master Plan.



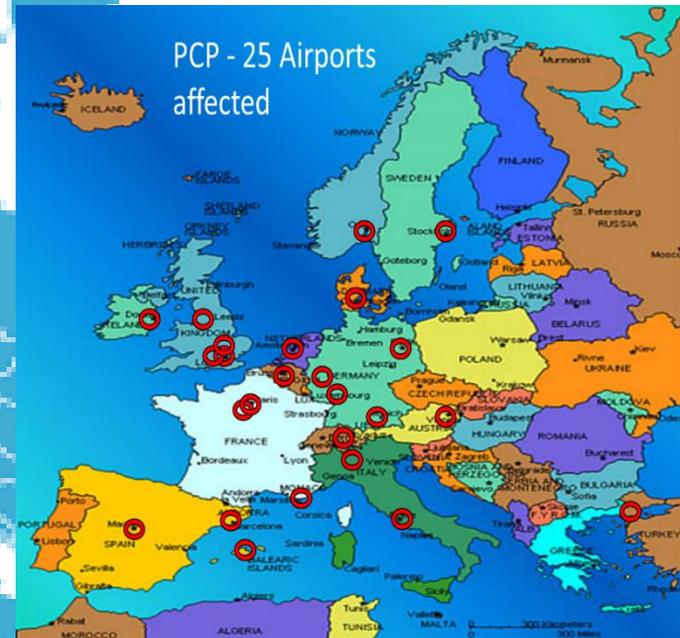
RNP 1 SIDs,
STARs Plus Radius
to Fix (RF)

2024



RNP APCH to
LNAV/VNAV and
LPV minima

High Density TMA





Navigation after June 2030

Only the specified PBN applications and functionalities permitted for normal operations.

There are only two explicit exceptions

- CAT II & CAT III landing systems can remain in service unaffected
- other instrument flight procedures can be designed/kept in support of contingency modes

Use of SBAS to Support operation to CAT I minima – removal of ILS



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Any questions?
Thank you for your attention



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