Fuel & Energy planning

Implementation within an AOC

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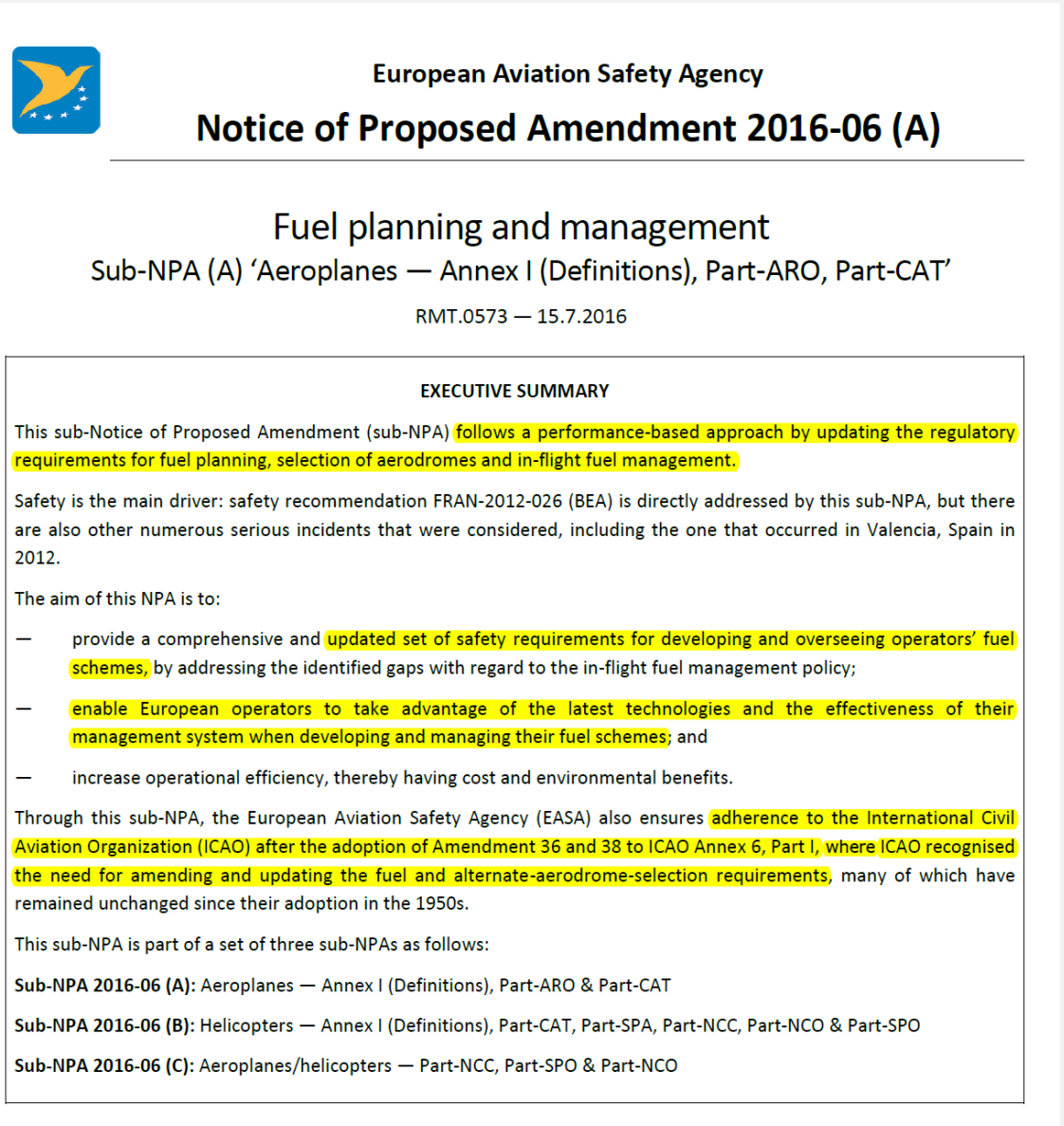
Intern

Project framework

- **Triggered** by Regulatory Monitoring Experts

- **Impact assessent**
  - Policies
  - Manuals
  - Training
  - Risk assessment
  - Approvals

- Decision: setup an implementation Project
  - **Scope definition**



European Aviation Safety Agency

Notice of Proposed Amendment 2016-06 (A)

Fuel planning and management

Sub-NPA (A) 'Aeroplanes — Annex I (Definitions), Part-ARO, Part-CAT'

RMT.0573 — 15.7.2016

EXECUTIVE SUMMARY

This sub-Notice of Proposed Amendment (sub-NPA) follows a performance-based approach by updating the regulatory requirements for fuel planning, selection of aerodromes and in-flight fuel management.

Safety is the main driver: safety recommendation FRAN-2012-026 (BEA) is directly addressed by this sub-NPA, but there are also other numerous serious incidents that were considered, including the one that occurred in Valencia, Spain in 2012.

The aim of this NPA is to:

— provide a comprehensive and updated set of safety requirements for developing and overseeing operators' fuel schemes, by addressing the identified gaps with regard to the in-flight fuel management policy;

— enable European operators to take advantage of the latest technologies and the effectiveness of their management system when developing and managing their fuel schemes; and

— increase operational efficiency, thereby having cost and environmental benefits.

Through this sub-NPA, the European Aviation Safety Agency (EASA) also ensures adherence to the International Civil Aviation Organization (ICAO) after the adoption of Amendment 36 and 38 to ICAO Annex 6, Part I, where ICAO recognised the need for amending and updating the fuel and alternate-aerodrome-selection requirements, many of which have remained unchanged since their adoption in the 1950s.

This sub-NPA is part of a set of three sub-NPAs as follows:

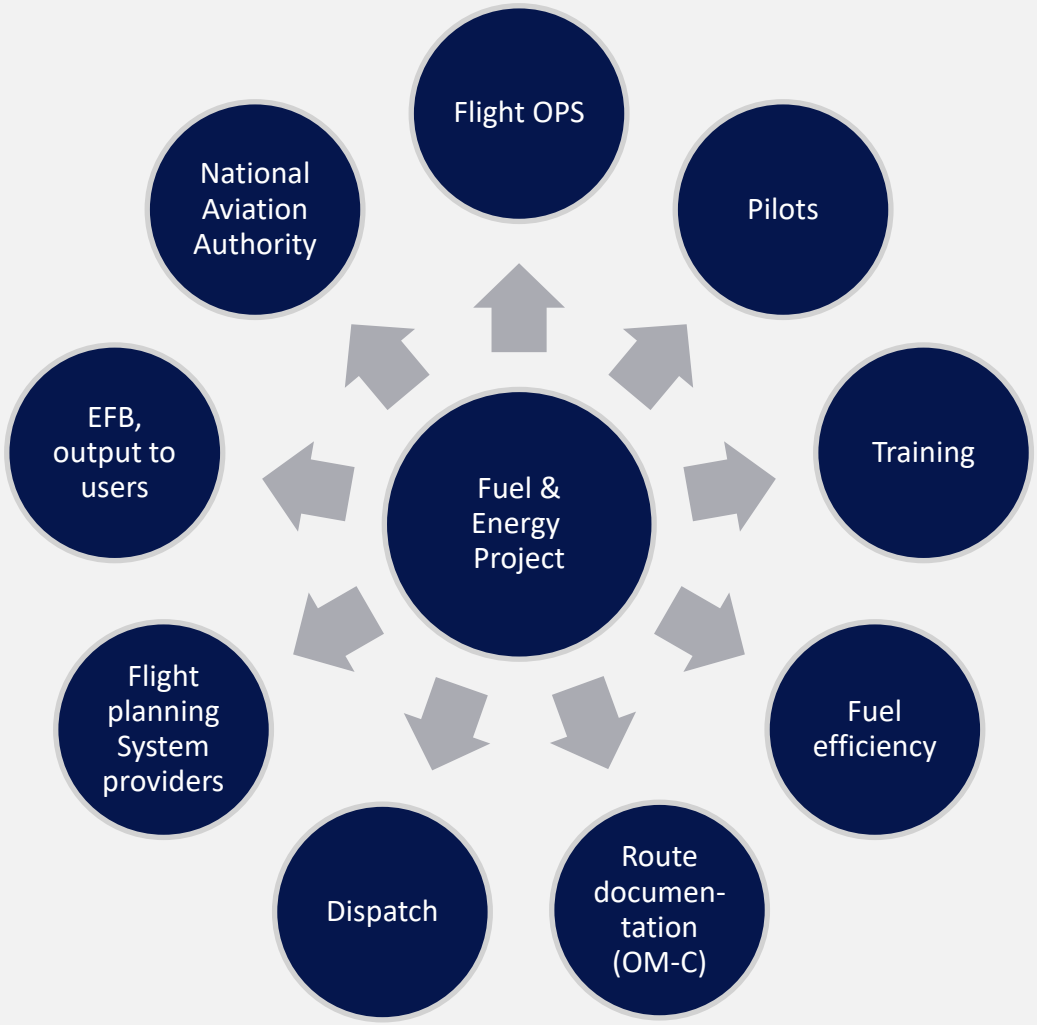
Sub-NPA 2016-06 (A): Aeroplanes — Annex I (Definitions), Part-ARO & Part-CAT

Sub-NPA 2016-06 (B): Helicopters — Annex I (Definitions), Part-CAT, Part-SPA, Part-NCC, Part-NCO & Part-SPO

Sub-NPA 2016-06 (C): Aeroplanes/helicopters — Part-NCC, Part-SPO & Part-NCO

Stakeholder Analysis

- RMT.0573 does not cover a single topic but **touches on many disciplines in flight operations** (planning, OPS, monitoring/watch)
- Requires **coordination for setup and implementation** across several departments in the AOC
- Intensive **stakeholder management is vital** from the very beginning
- Set-up of **steering and review board** allows for constant adjustment of deliverables



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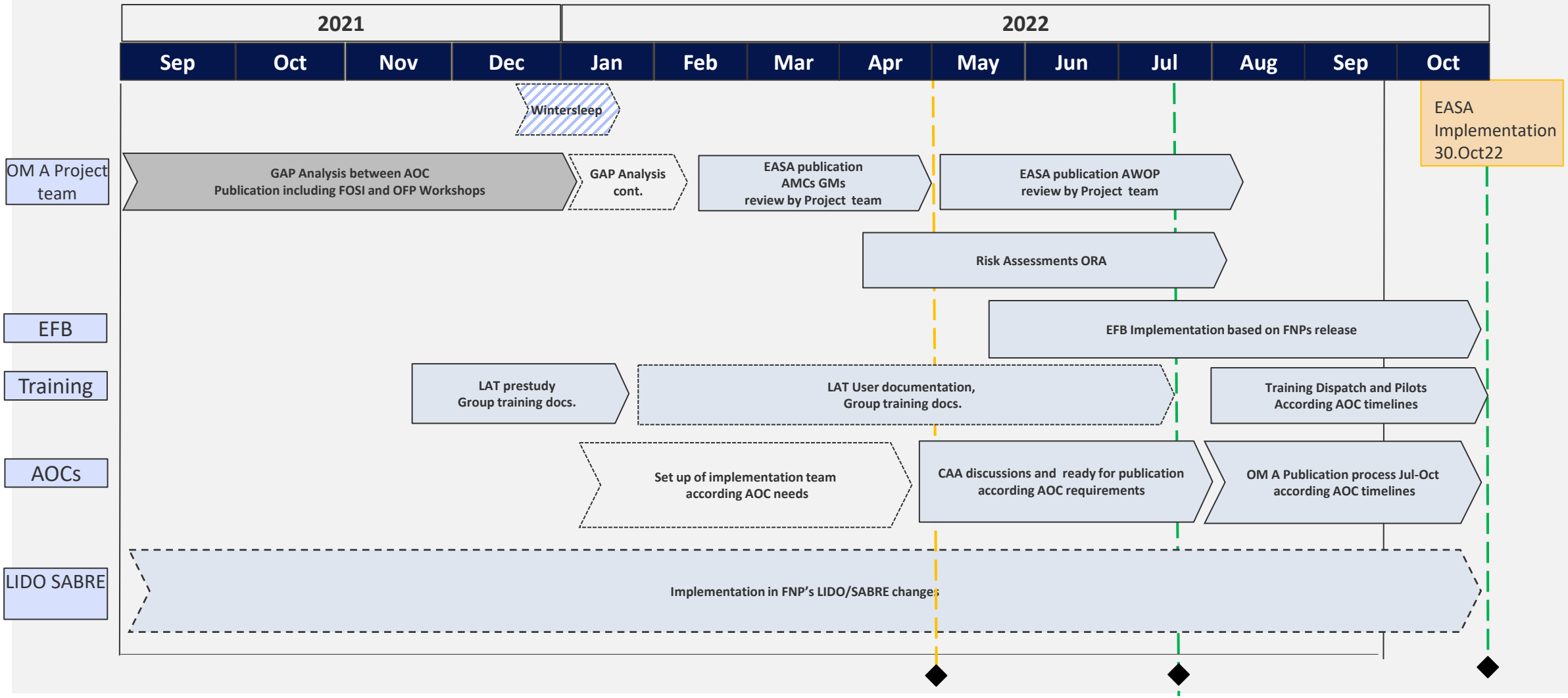
Timeline



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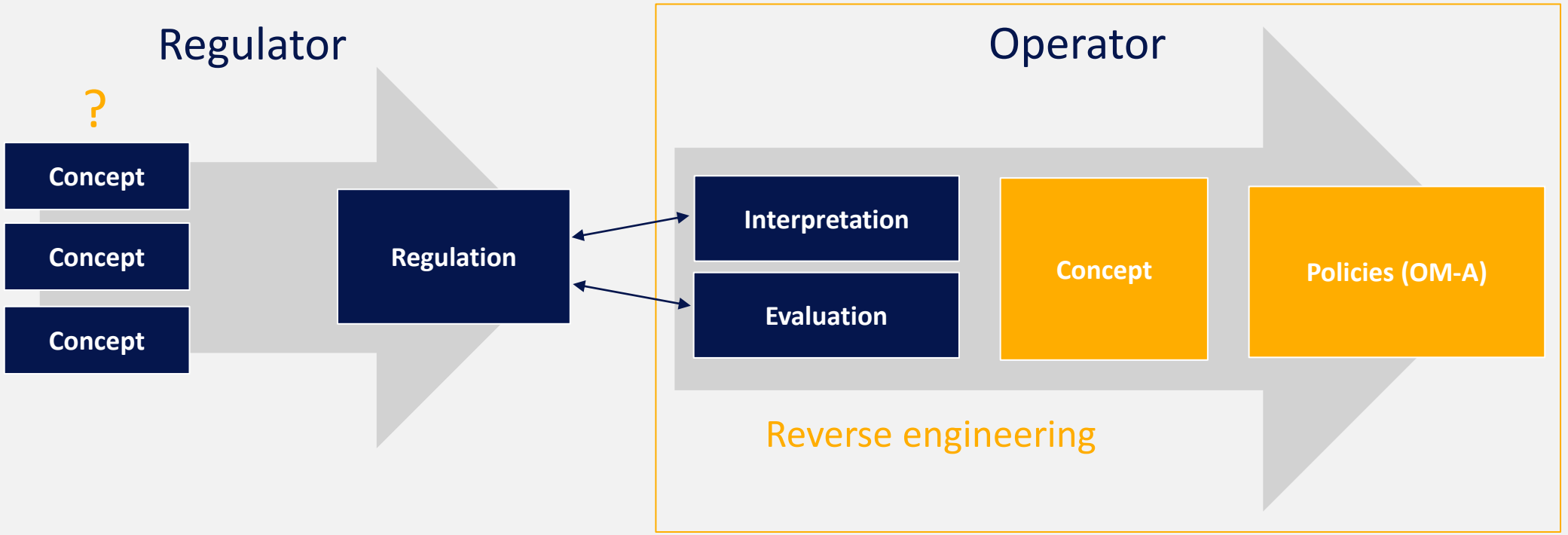
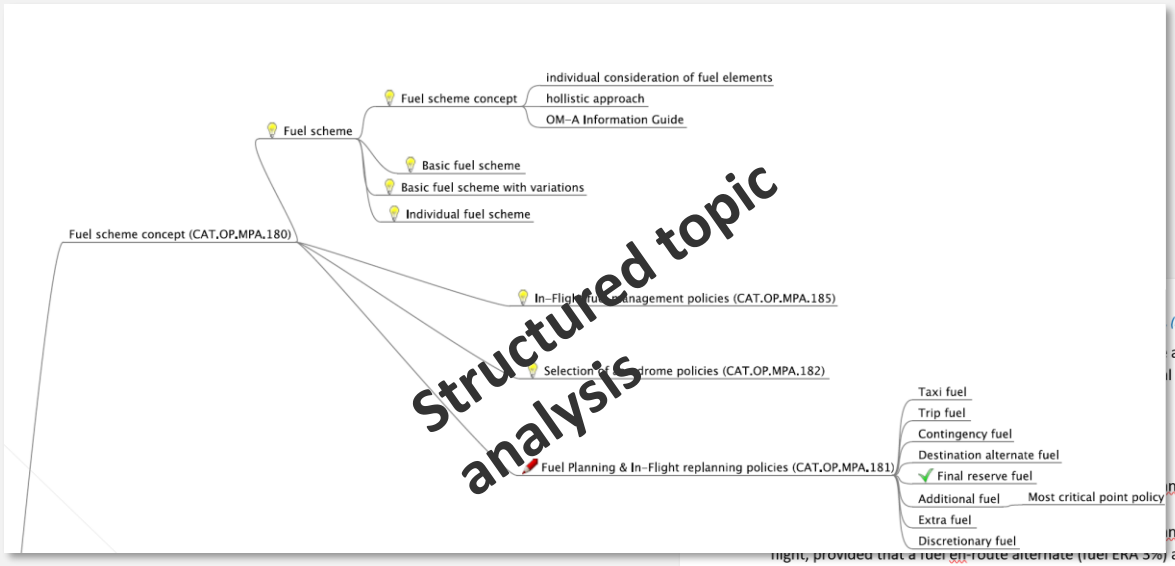
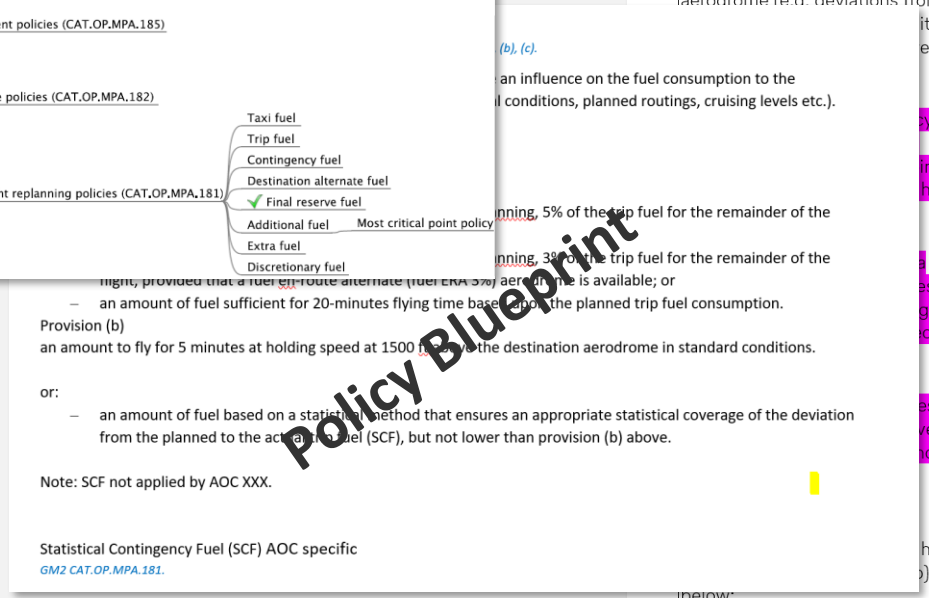
Policy making process

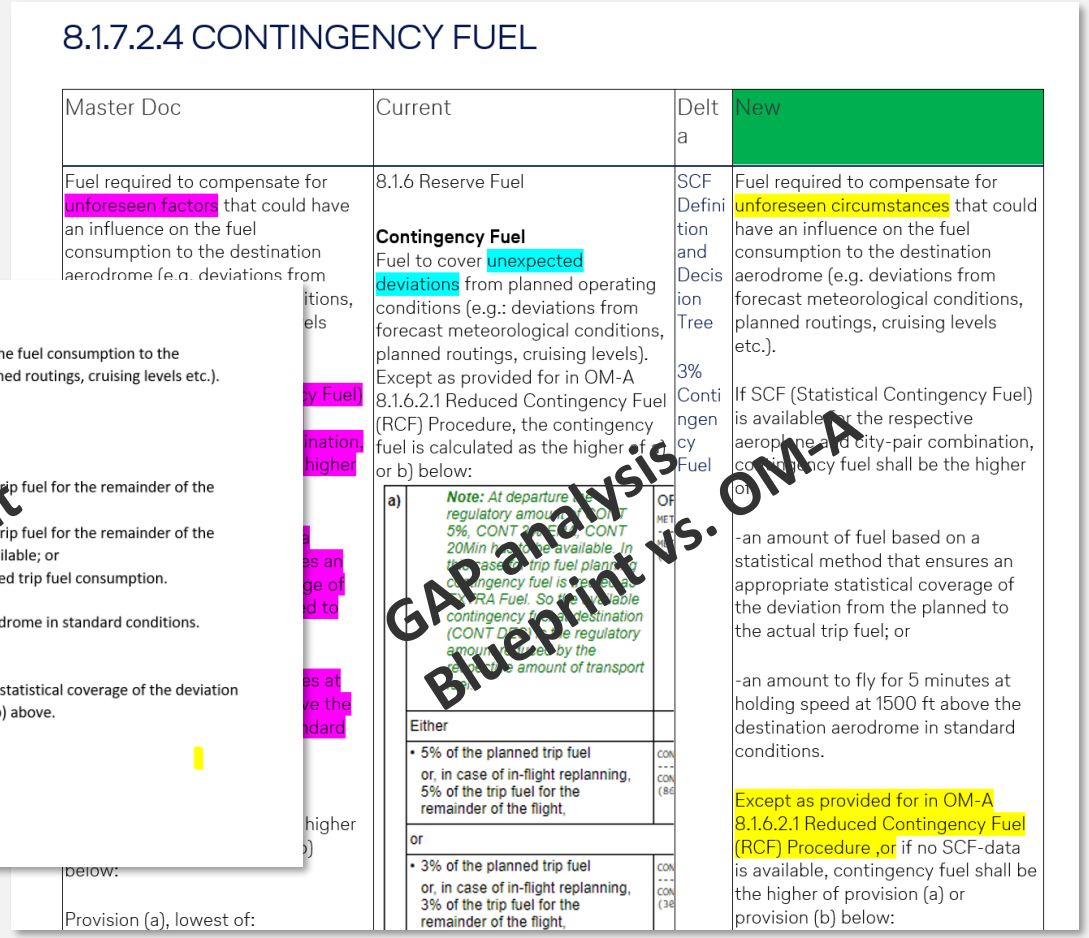


Safety | Reasonable | Comprehensible | Efficiency & Economics | Realizable | Compliance

Development steps







Way forward

- Editing of background information for flight crews/dispatch
- Update of flight planning system (Incremental Implementation, Testing)
- Approval process with CAAs

Challenges

- Accomodation of training time during demanding ramp up phase
- Overlapping of Implementation of Fuel & Energy planning and AWO
- Implementation without transition period is additional hardship on providers and users

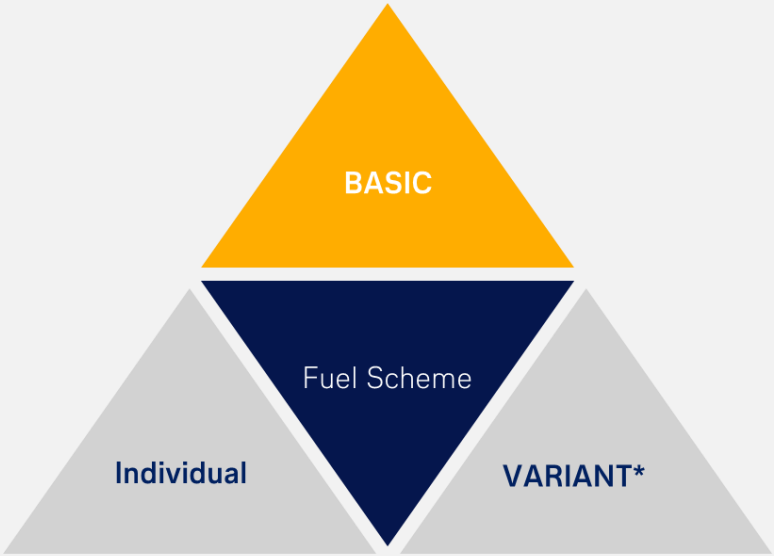
Thank you for your attention.

Implementation of fuel scheme concept

Basic fuel scheme

Basic fuel schemes **with variations**

- fuel consumption monitoring system will be required for 3 % ERA
- and other contingency fuel variations



Individual fuel scheme

- intended for operators demonstrating certain capabilities
- collect data for a period of at least 2 years of continuous operation
- Individual aeroplane data acquisition and processing procedures resulting in ~~a~~ detailed analysis of each aeroplane's individual fuel burn (fuel bias)
- The operator should provide a comparative analysis of actual fuel consumption vs. planned fuel consumption.

***Fuel consumption monitoring program** for individual aeroplanes must be established

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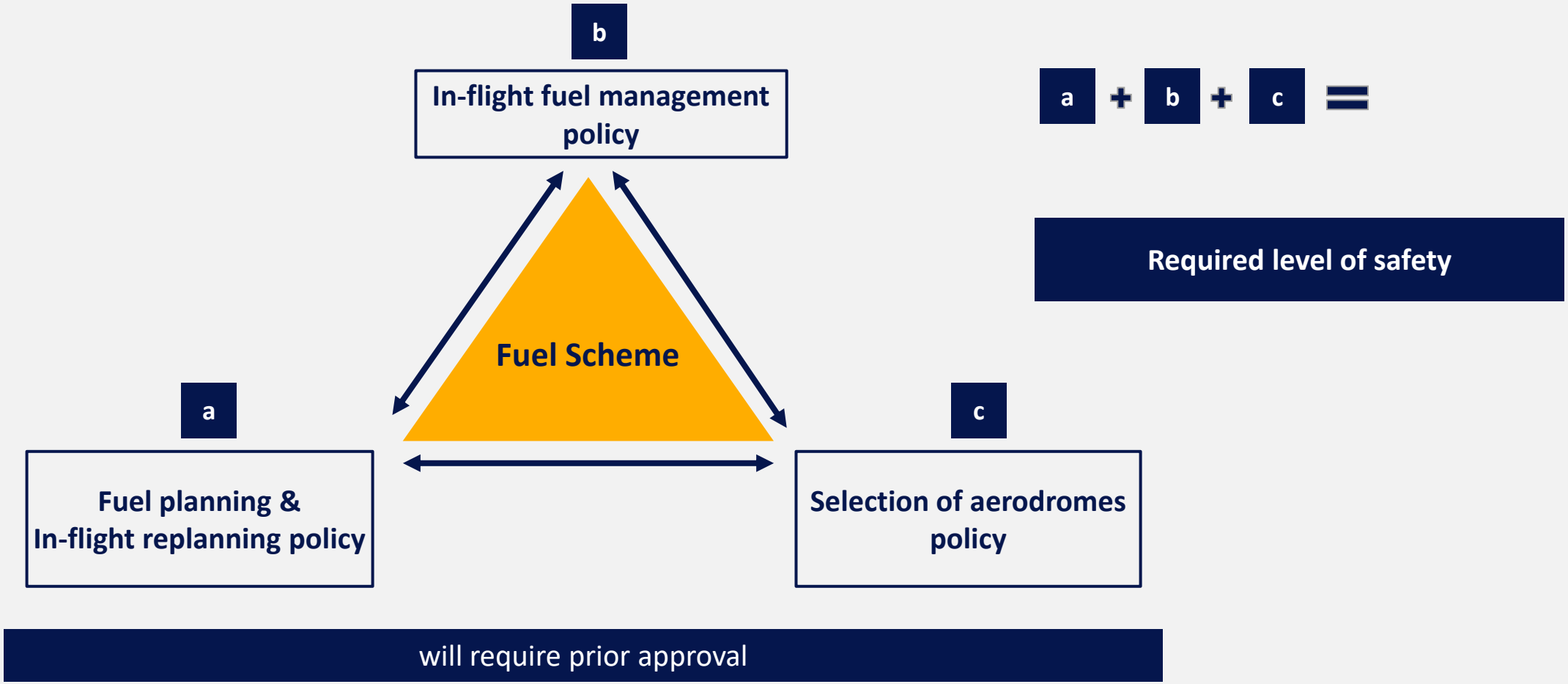
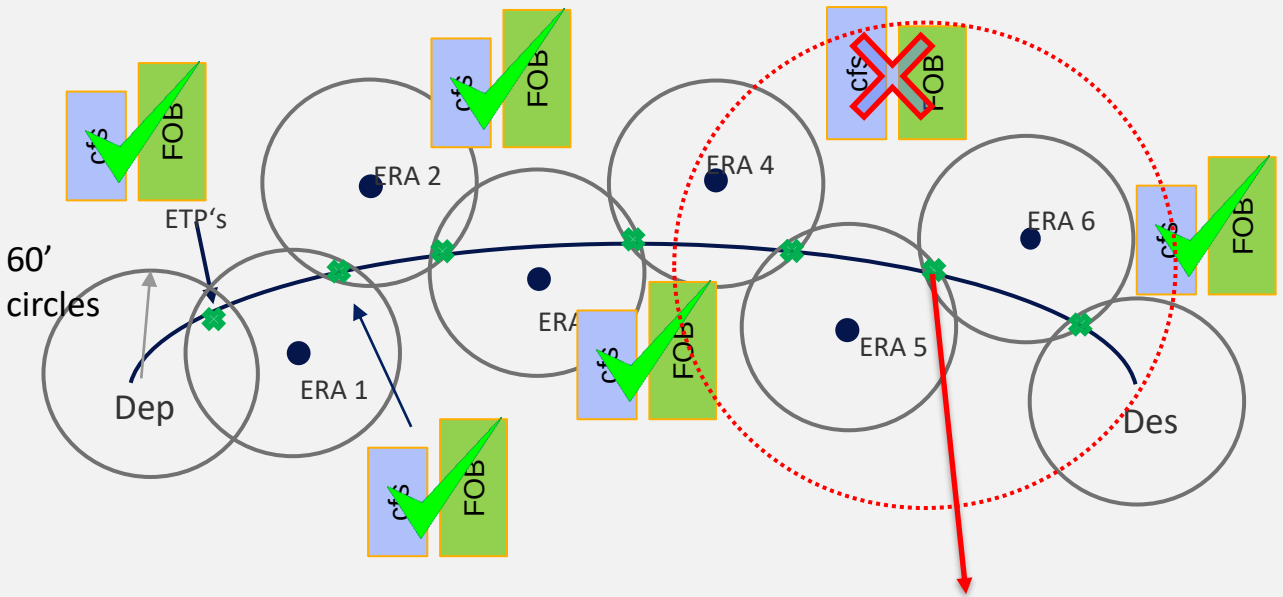
Implementation of fuel scheme concept



Pinpointing regulatory challenges: Fuel ERA concept



Distance to FUEL ERA CFS unrestricted

- ERA (adequate aerodrome) with circles 60' OEI speed
- ETP's (CFS): diversion to ERA OEI or decompression + 15' hold fuel

Mitigation methods

1. ADD CFS Fuel to cater for elevate most critical point to FUEL ERA (WX)

or

2. Insert additional ERA to allow

Impact in Fuel planning policy within AOCs

Taxi fuel	▪ Amount of taxi fuel based on precise planning, taking into account local conditions, including anticipated delays ▪ Possibility to implement statistical taxi fuel in the future
Trip fuel	▪ MEL/CDL deviations in trip fuel only
Contingency fuel	▪ Evaluation of statistical contingency fuel
Destination Alternate fuel	▪ Standardization/ clarification of routing to destination alternate ▪ Implementation of No Destination Alternate planning possibility for all AOCs (Consider 15min fuel allowance as alternate fuel instead of additional fuel)
Final Reserve fuel	
Additional fuel	▪ Clarification/Implementation of additional fuel in regard to the `most critical point´ concept ▪ Removal of PDP planning
Extra fuel	▪ Implementation of commander´s discretionary fuel ▪ Clear distinction between extra fuel and commander´s discretionary fuel
Commander´s discretionary fuel	

Major change

Minor change

No change

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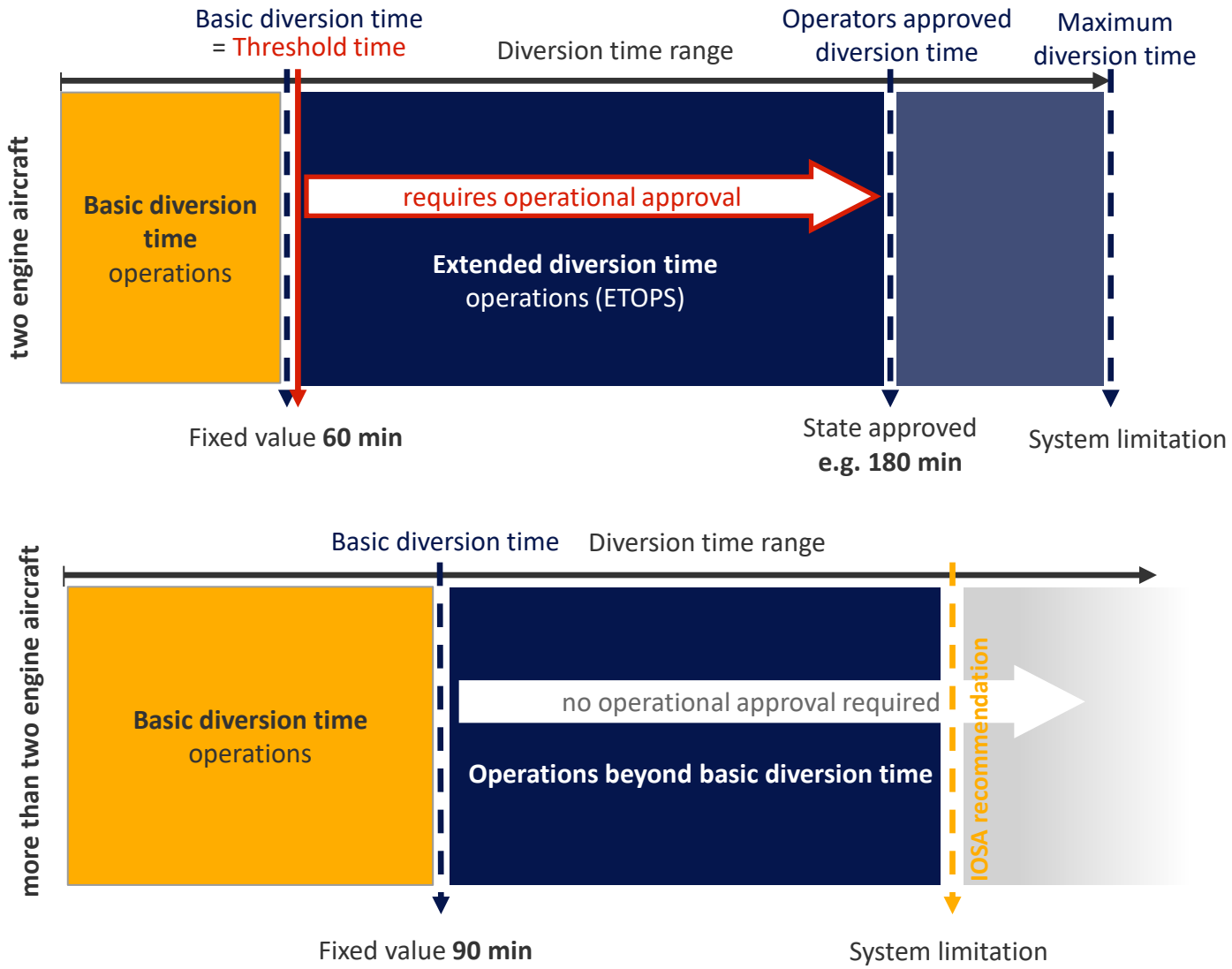
Diversion time operations concept (TB: Diese slide würde ich streichen)



- Derived from ICAO Annex 6 “EDTO” (adoption by EASA announced)
- Correlating different requirements using a systematic approach results in a more transparent flight planning

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