

FDAP Working Group

Presentation to RASG-PA ESC/28



ATR
PROPELLING THE NEXT CONNECTION

Flight Data Analysis Program

- Flight Data Analysis Program:
 - Significant safety benefit
 - Heart of operator's SMS
 - Requirements for aircraft which Max Takeoff Weight is above 27t



No Operator Left Behind

Context of the Working Group

Decision from RASG-PA ESC/27:



- The creation of a dedicated working group on **Flight Data Analysis Program**, co-led by ICAO (South American Office) and ATR, to analyse alternatives to the 27 000 kg threshold.
- This group will elaborate an action plan, assign specific actions and present a business case accordingly.
- Its goal is to come up with a recommendation to be presented at the RASG-PA ESC, then obtain approval from all RASG-PA members. Once agreed, this RASG-PA recommendation will be then analyzed by the ICAO Air Navigation Commission (ANC) on the annual follow-up meetings with RASG-PA.

Planning

13-14 Dec
2016

- RASG-PA ESC/27
- FDAP WG Creation

28/02/2017

- 2nd Virtual Meeting

23/03/2017

- 4th Virtual Meeting

27/04/2017

- 6th Virtual Meeting

21/02/2017

- Kick-off virtual meeting

14/03/2017

- 3rd Virtual Meeting

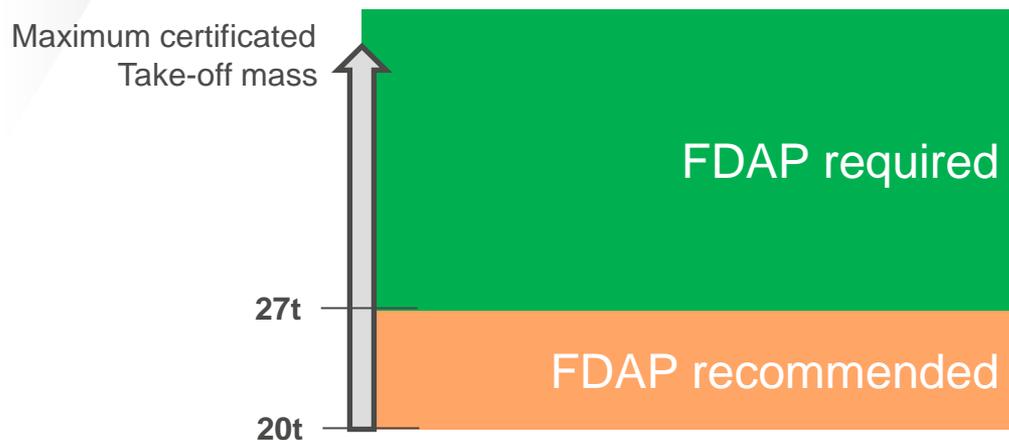
18/04/2017

- 5th Virtual Meeting

4 – 5 May
2017

- RASG-PA ESC/28
- Presentation of first conclusions

ICAO's requirement & recommendation FDAP: as-is situation



Annex 6 to the Convention on International Civil Aviation

Operation of Aircraft

Part I — International Commercial Air Transport — Aeroplanes
Tenth Edition, July 2016



This edition supersedes, on 10 November 2016, all previous editions of Part I of Annex 6.

For information regarding the applicability of the Standards and Recommended Practices, see Foreword.

INTERNATIONAL CIVIL AVIATION ORGANIZATION

Extract from ICAO's Annex 6 Part 1

(10th edition, July 2016)

3.3.1 **Recommendation.**— *The operator of an aeroplane of a certificated take-off mass in excess of 20 000 kg should establish and maintain a flight data analysis programme as part of its safety management system.*

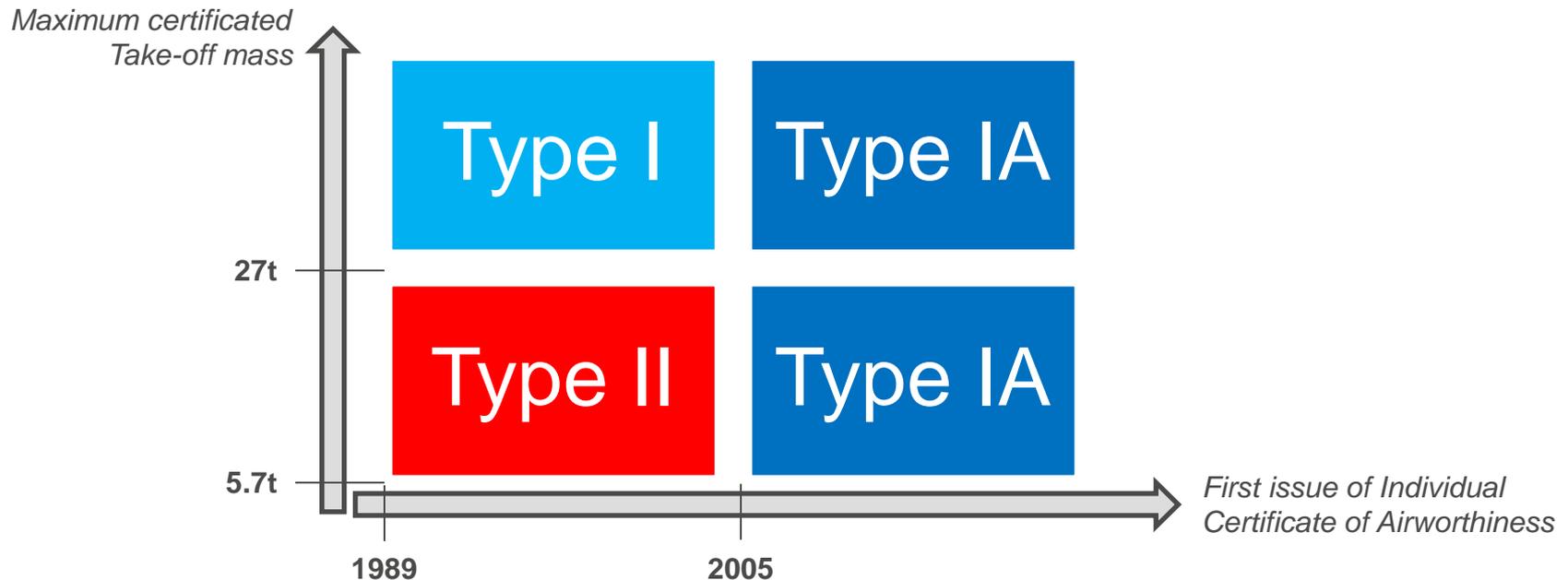
3.3.2 The operator of an aeroplane of a maximum certificated take-off mass in excess of 27 000 kg shall establish and maintain a flight data analysis programme as part of its safety management system.

ICAO's requirements FDR: as-is situation

6.3.1.2.3 All aeroplanes of a maximum certificated take-off mass of over 27 000 kg for which the individual certificate of airworthiness is first issued on or after 1 January 1989 shall be equipped with a Type I FDR.

6.3.1.2.4 All aeroplanes of a maximum certificated take-off mass of over 5 700 kg, up to and including 27 000 kg, for which the individual certificate of airworthiness is first issued on or after 1 January 1989, shall be equipped with a Type II FDR.

6.3.1.2.11 All aeroplanes of a maximum certificated take-off mass of over 5 700 kg for which the individual certificate of airworthiness is first issued after 1 January 2005 shall be equipped with a Type IA FDR.



FDR Types

Non suitable
for FDAP

➤ Types II & IIA: 16 parameters

Type II

Time, Altitude, Airspeed, Heading, Normal & longitudinal acceleration, pitch, roll, VHF key, engine power, flaps, slats, reversers, ground spoilers, outside air temperature, automation modes

➤ Type I: 32 parameters

Type I

Type II + lateral acceleration, pilots inputs, radio height, a/c position (ILS, latitude & longitude), master warning, DME distance, air/ground status, GPWS, angle of attack, ground speed, landing gear

➤ Type IA: 78 parameters

Type IA

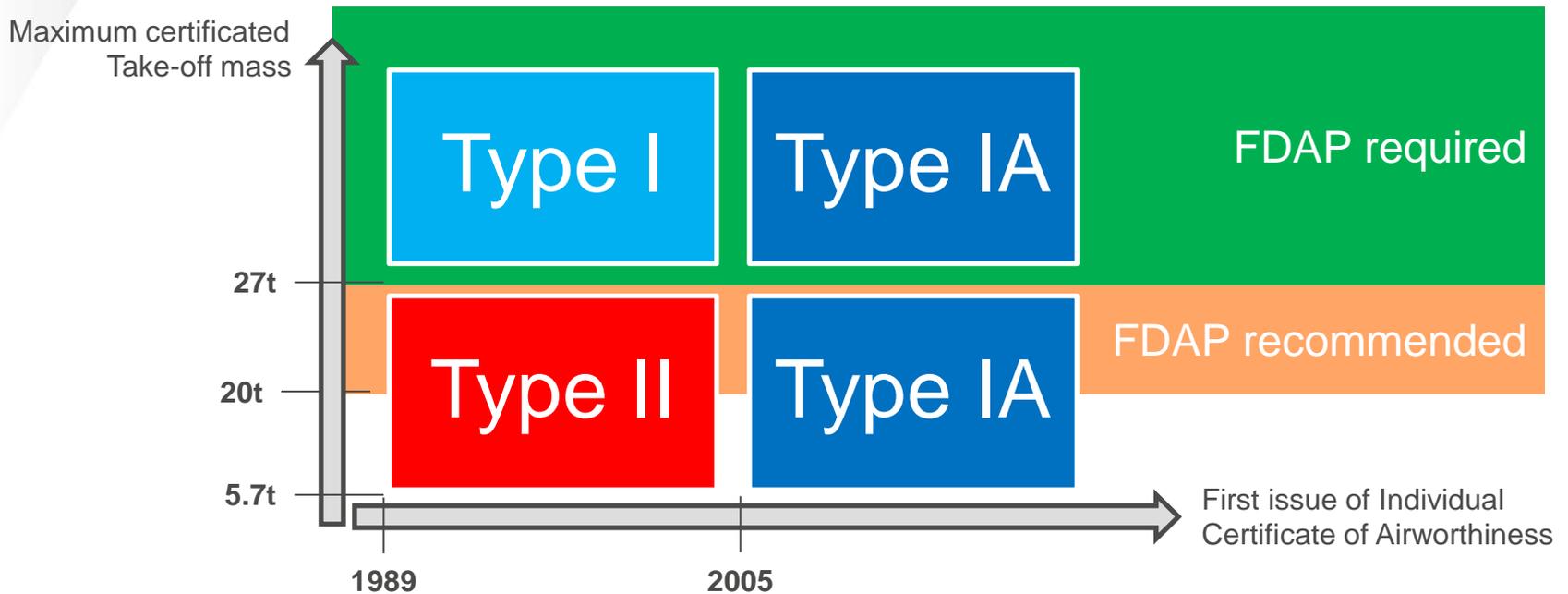
Type I + brakes, TCAS, windshear, targets, electrical bus status, bleed, CG, fuel, ice detection, trims, hydraulic pressure

Suitable for FDAP

Optimum for FDAP

ICAO's requirements & recommendations

FDR & FDAP: as-is situation



Type II

Not suitable for FDAP

Type I

Type IA

Suitable for FDAP

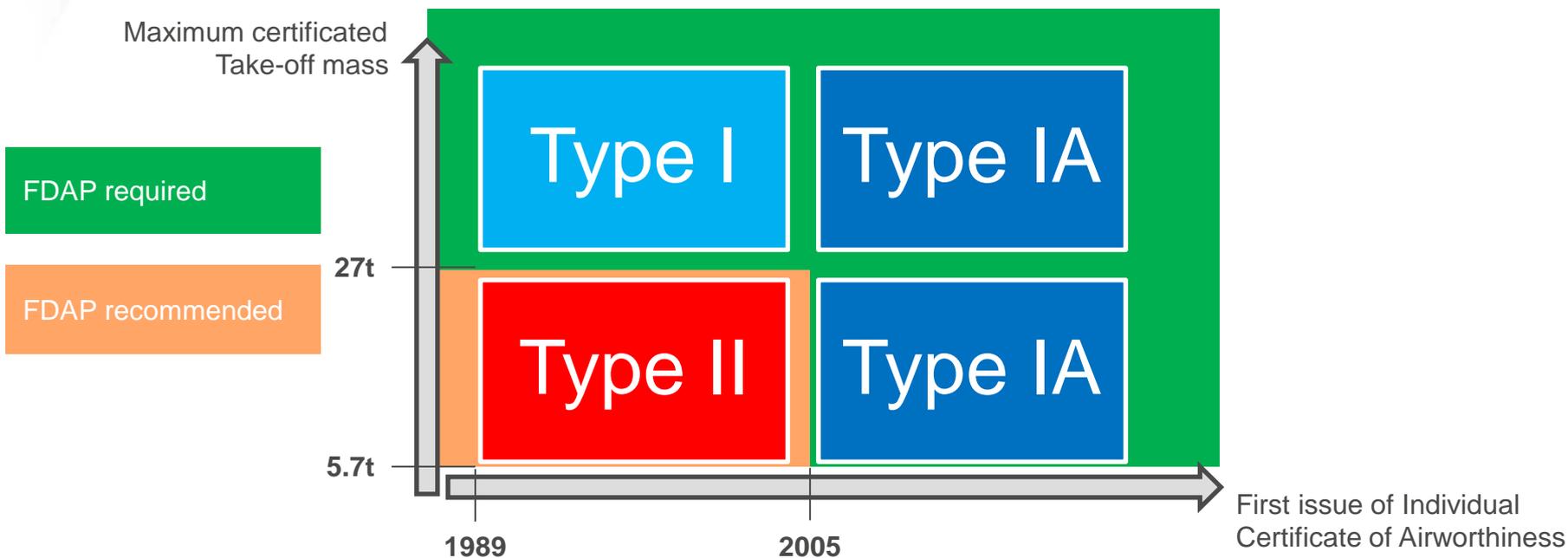
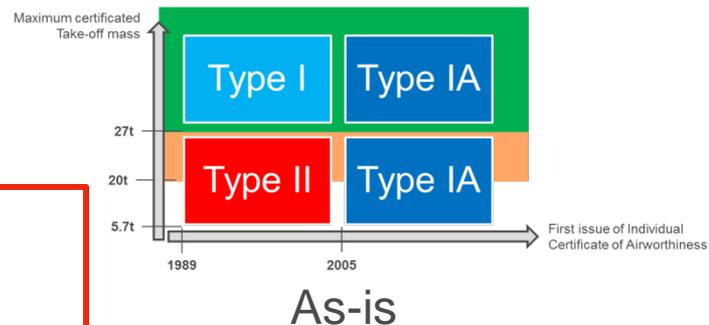
Proposed alternative

Rationale of the proposed alternative:

- Consistency between FDR type & FDAP

Potential show stopper of the proposed alternative:

- Easy access to recorded data => QAR



Recommendation: Type I instead of Type II

Proposed alternative

Modification

3.3.1 **Recommendation** All aeroplanes of a maximum certificated take-off mass over 5 700kg should be equipped with a Quick Access Recorder (QAR). This QAR should record at a minimum the parameters recorded by the Flight Data Recorder and the operator should establish and maintain a flight data analysis programme as part of its safety management system.

No change

3.3.2 The operator of an aeroplane of a maximum certificated take-off mass in excess of 27 000 kg shall establish and maintain a flight data analysis programme as part of its safety management system.

New

3.3.3 All aeroplanes of a maximum certificated take-off mass over 5 700kg for which the individual certificate of airworthiness has been first issued on or after 1 January 2005 shall be equipped with a Quick Access Recorder (QAR). This QAR shall record at a minimum the parameters recorded by the Flight Data Recorder and the operator shall establish and maintain a flight data analysis programme as part of its safety management system.

New

6.3.2.5 **Recommendation** All aeroplanes of a maximum certificated take-off mass of over 5 700kg, up to and including 27 000 kg, for which the individual certificate of airworthiness is first issued on or after 1 January 1989, should be equipped with a Type I or Type IA FDR.



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