



# INTRODUCTION

EU ELIGIBLE ON DEMAND OPERATION (EOD)

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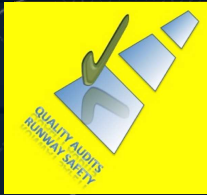




# EU EOD 80% LANDING FACTOR

1. INCREASED SAFETY
2. MORE DESTINATIONS
3. HIGHER PAYLOAD
4. REGULATORY COMPLIANCE , GUIDANCE, TRAINING



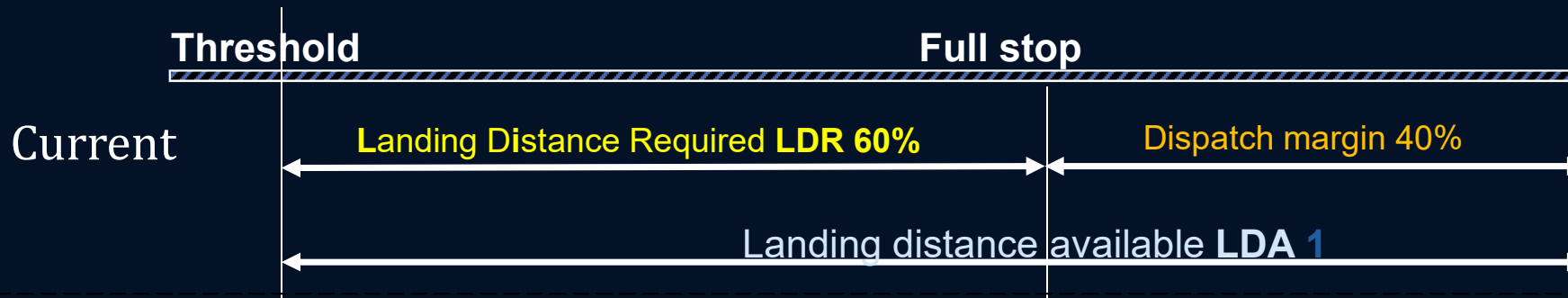


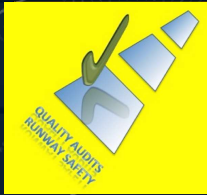
# Landing factor Dispatch requirement DRY



$$\text{LDR} \leq 60\% * \text{LDA} \quad \text{///} \quad \text{LDA} \geq 1.67 * \text{LDR}$$

CAT.POL.A.230: Max Landing Mass allows full stop within 60% / 70% of LDA (dry).





# Landing factor Dispatch requirement NEW dry

$$\text{LDR} \leq 80\% * \text{LDA} \quad /// \quad \text{LDA} \geq 1.25 * \text{LDR}$$

CAT.POL.A.230: Max Landing Mass allows full stop within 80% of LDA (dry).



Threshold

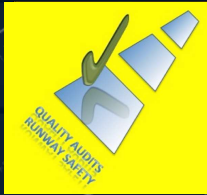
Full stop

Landing Distance Required **LDR 80%**

Dispatch margin  
20%

**New EOD**

Landing distance available **LDA 1**



# LEVEL OF SAFETY :

80% = // > 60% OPERATION

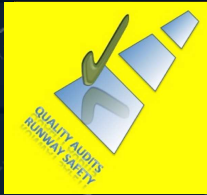
Dispatch margin changed from 40% to 20% → compensation required

- Extensive Safety Assessment
- Extensive EASA Working Group input
- Extensive EASA review

Restrictions and requirements



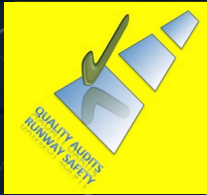
Compliant AOC holders **MAY** request approval by the applicable NAA



# INITIAL FINDINGS OF SAFETY ASSESSMENT

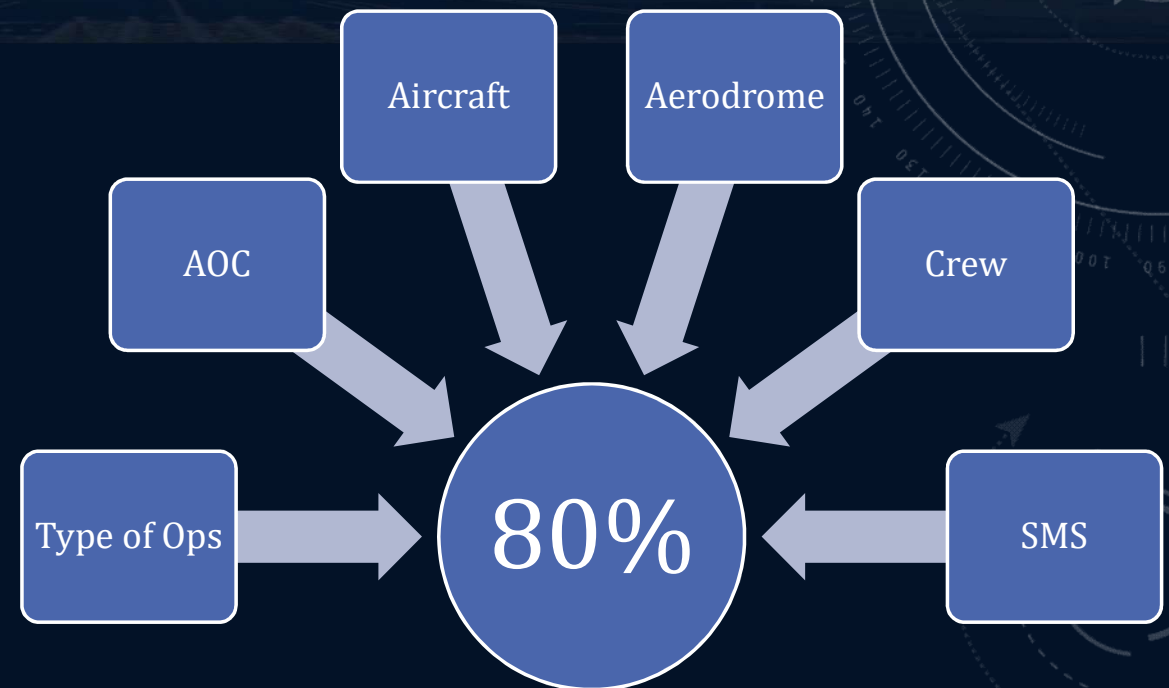
1. No Tailwind
2. No contaminated runways
3. 100% reverse thrust
4. Reduced unstable approaches and limited floating

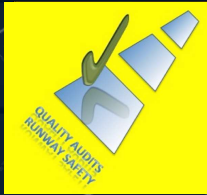
Equivalent level of safety is achieved



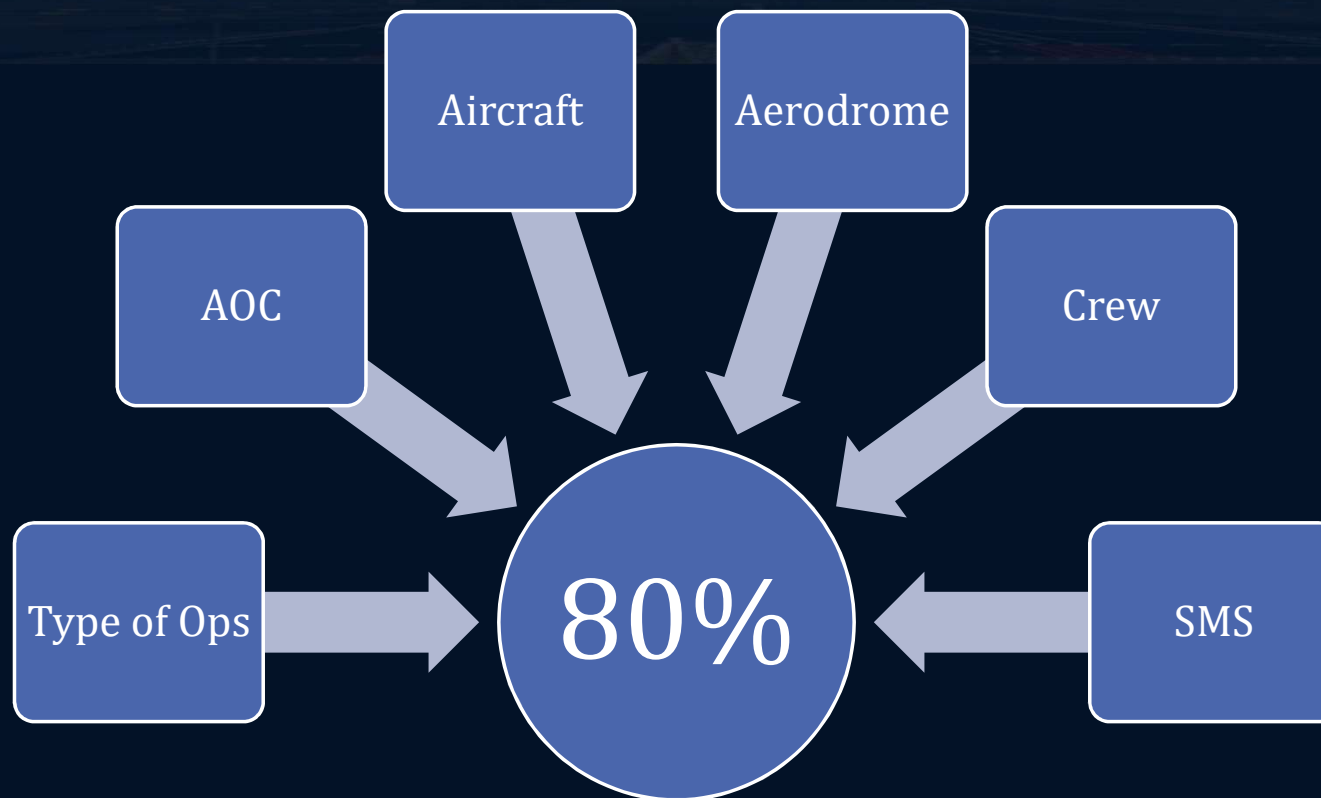
## AFTER RULE MAKING PROCESS:

1. No Tailwind
2. No contaminated runways
3. 100% reverse thrust
4. Reduced unstable approaches and limited floating

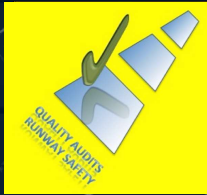




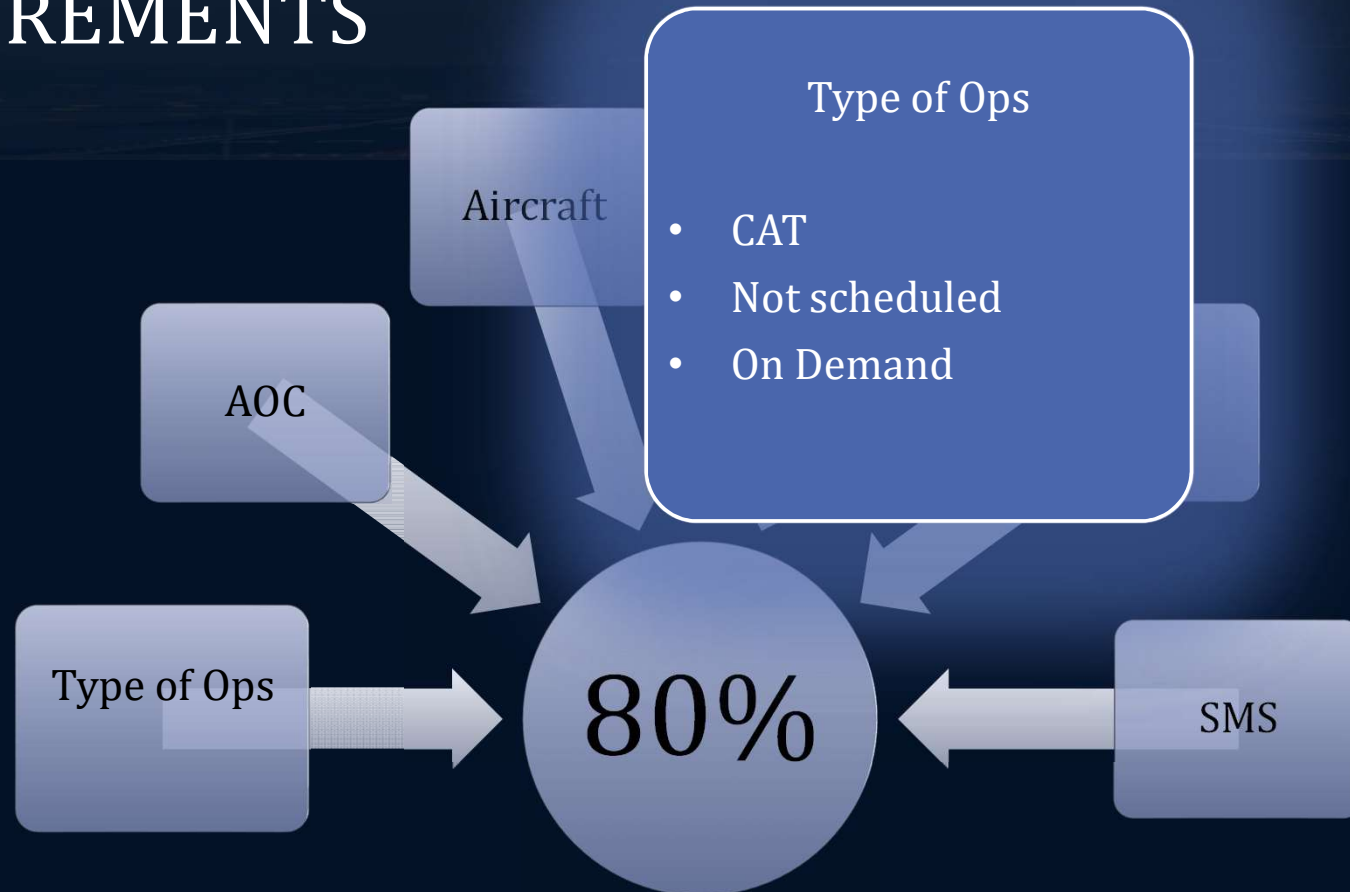
# REQUIREMENTS

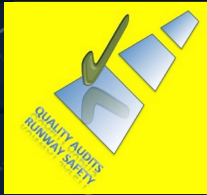




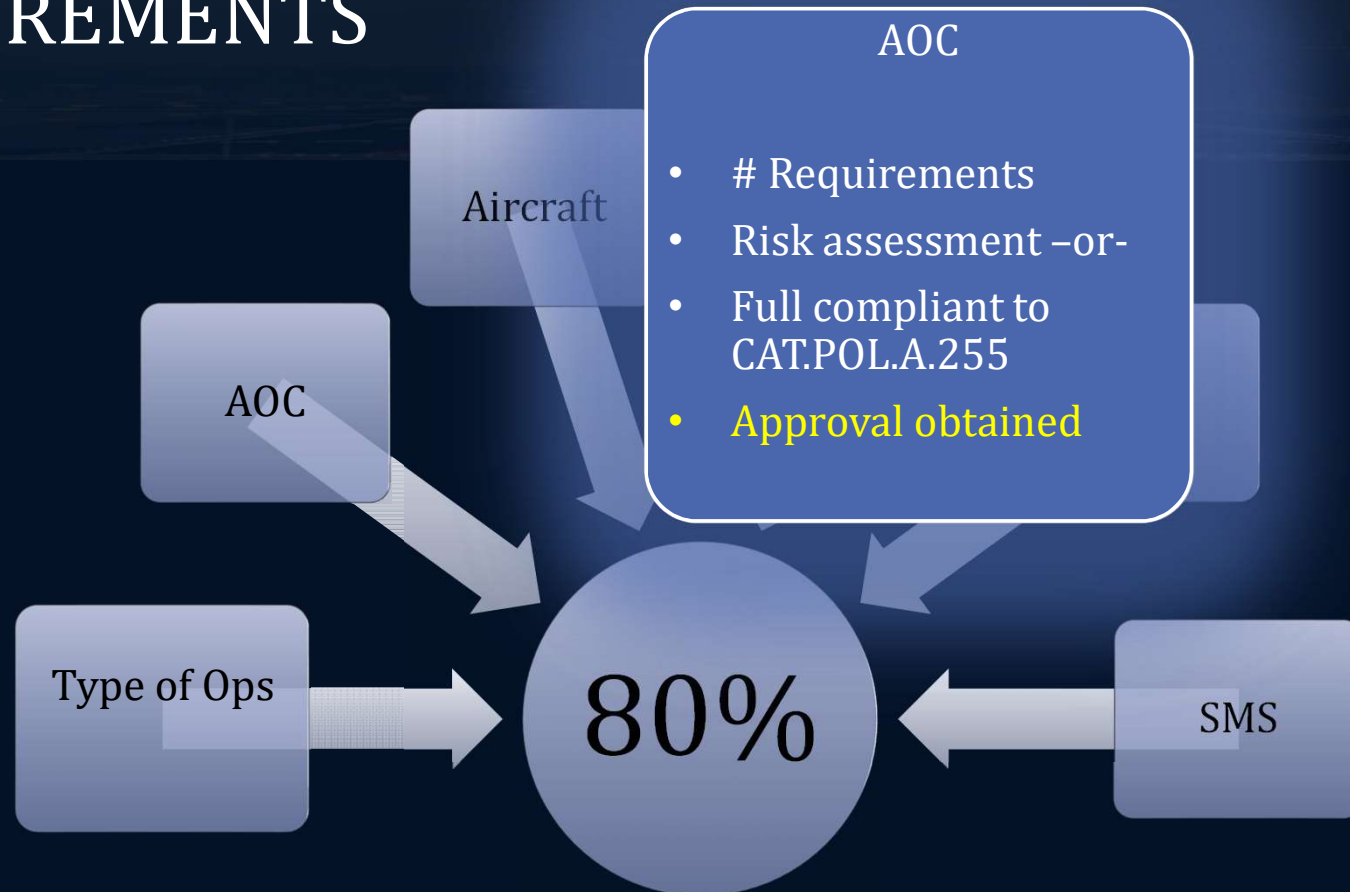


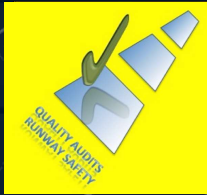
# REQUIREMENTS



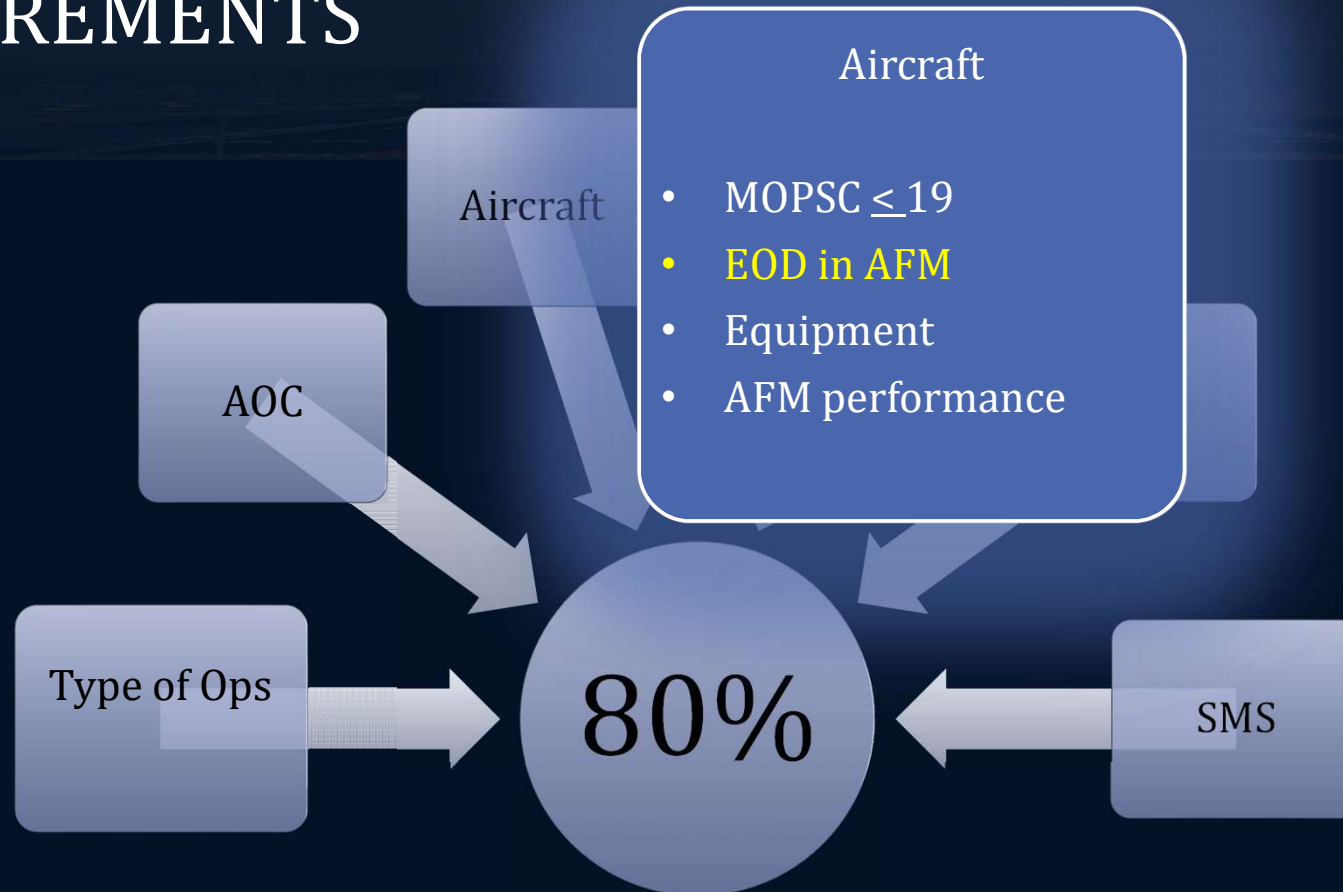


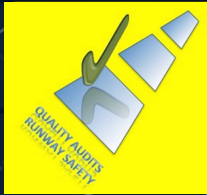
# REQUIREMENTS



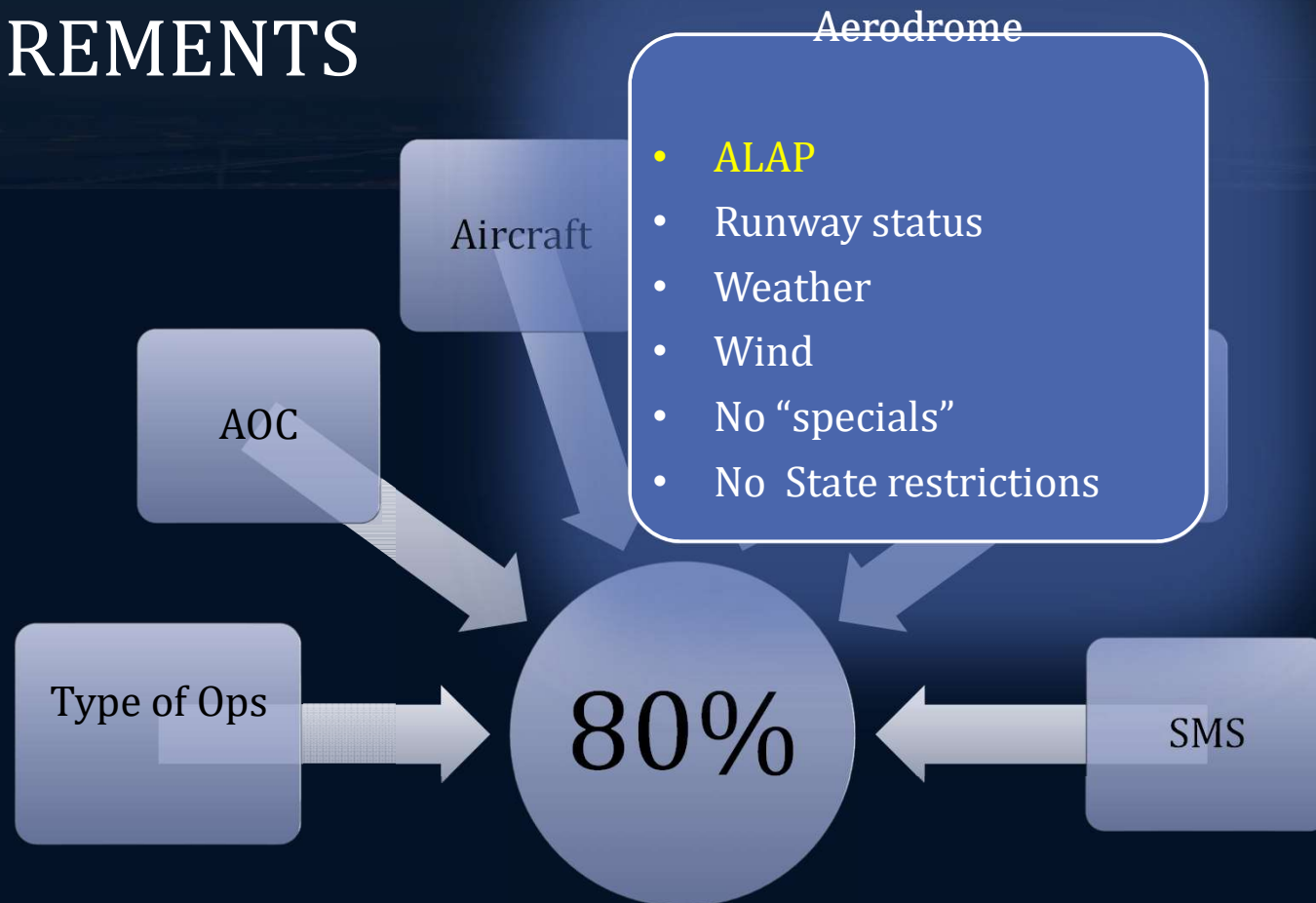


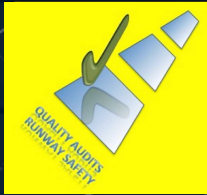
# REQUIREMENTS



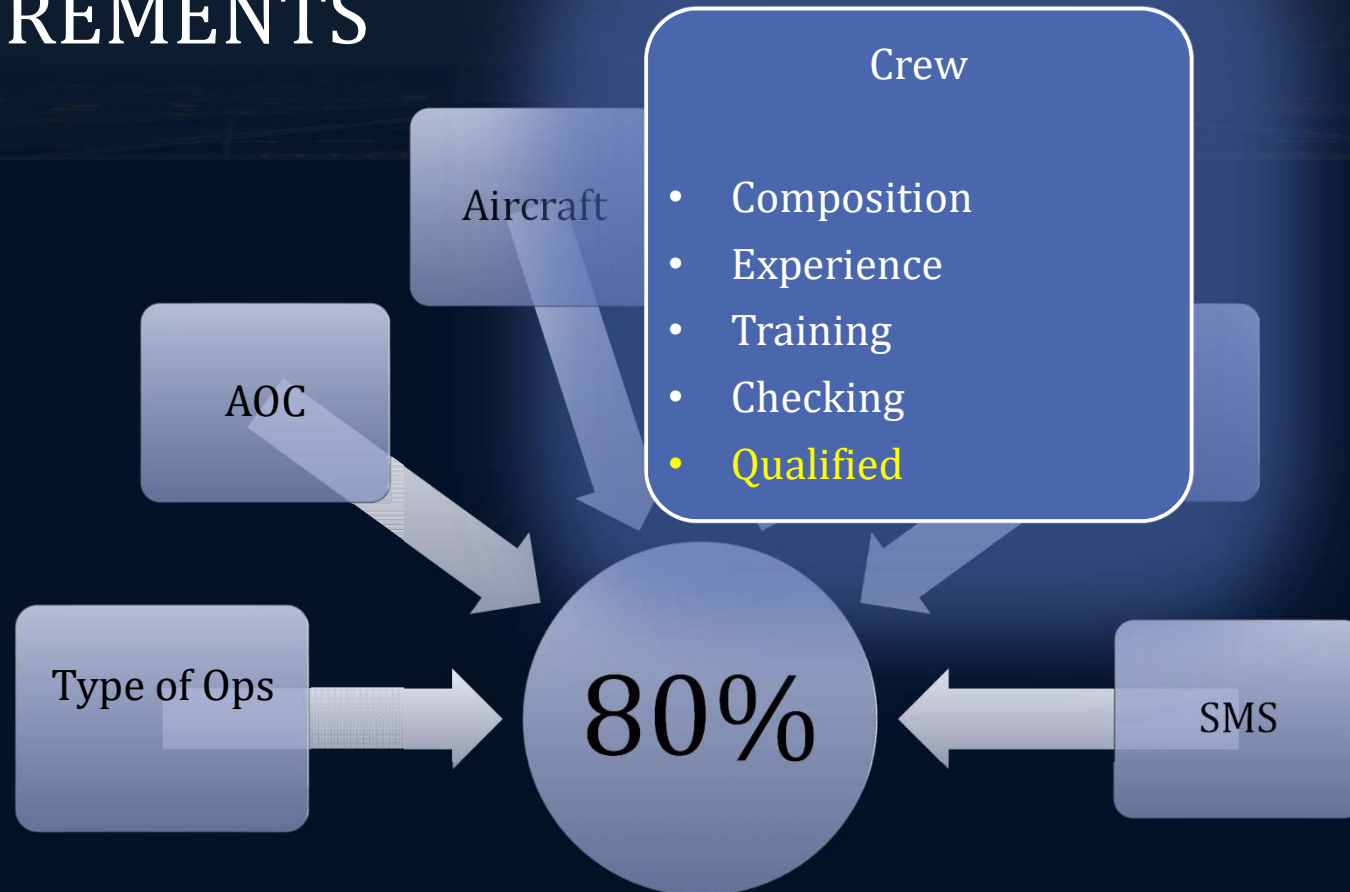


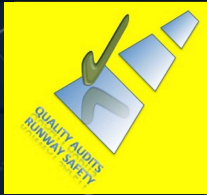
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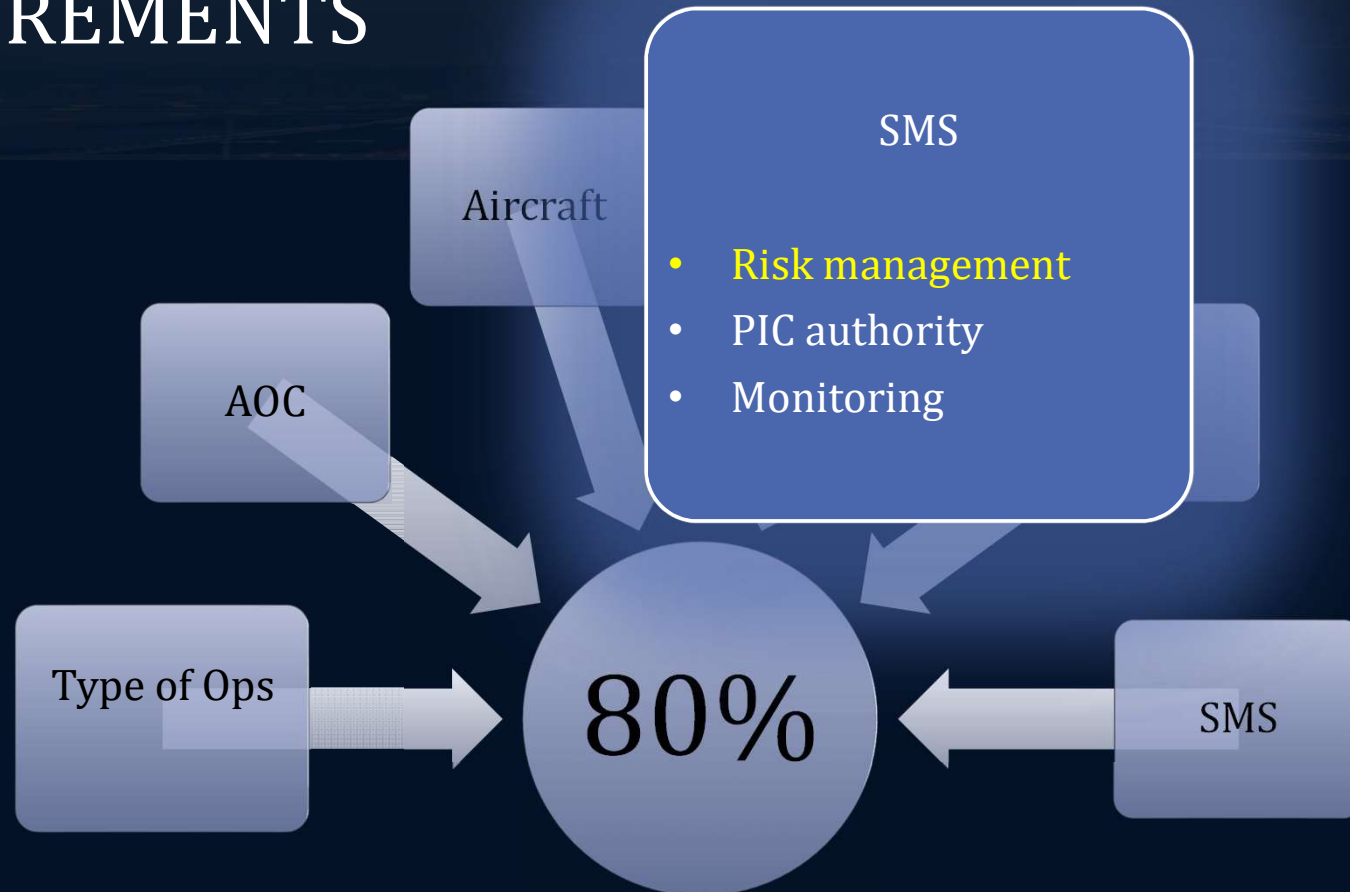


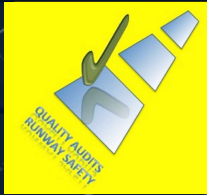
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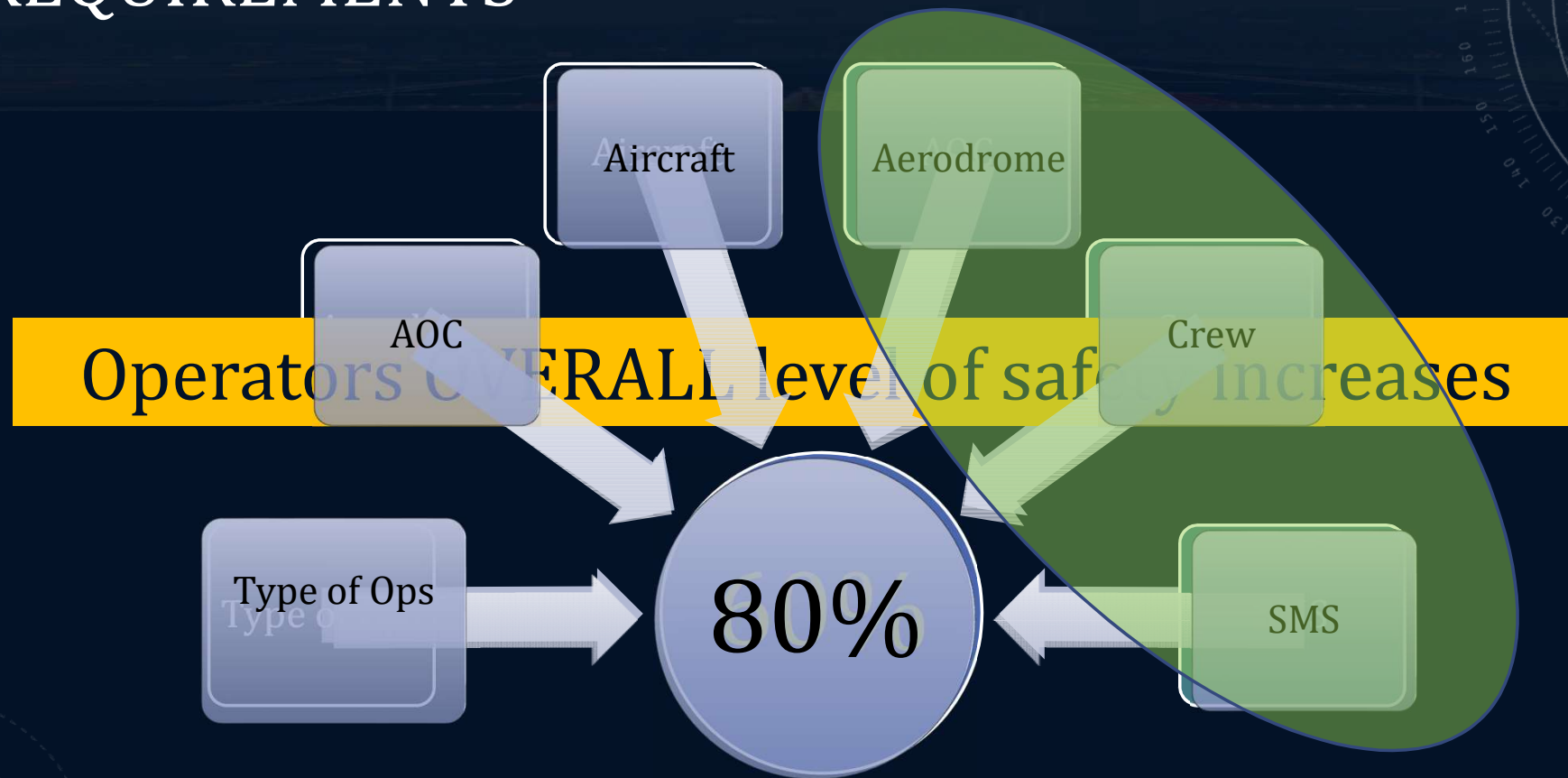


# REQUIREMENTS

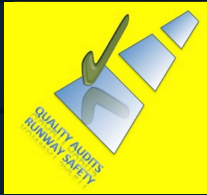




# REQUIREMENTS







# UP TO 30% MORE DESTINATIONS

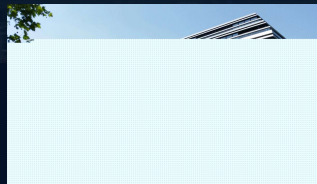
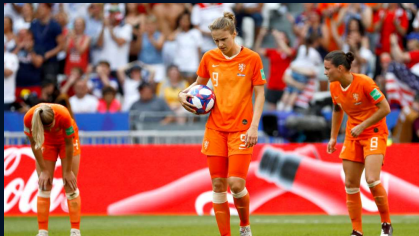


+ 30%





# HIGHER PAYLOAD





# EOD 80% APPLICATION



Type of Ops



Aircraft



Aerodrome



Application

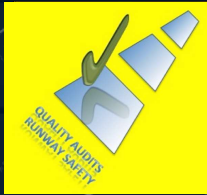


AOC

Crew

SMS





# HOW TO GET 80%

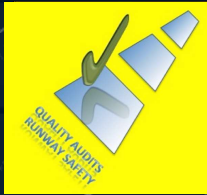
## **CAT.POL.A.255 Approval of reduced required landing distance operations**

An aeroplane operator may conduct landing operations within 80 % of the landing distance available (LDA) if it complies with the following conditions:

- (1) the airplane has an MOPSC of 19 or less;
- (2) the airplane has an eligibility statement for reduced required landing distance in the AFM;
- (3) the airplane is used in non-scheduled on-demand commercial air transport (CAT) operations;
- (4) the landing mass of the aeroplane allows a full-stop landing within that reduced landing distance;
- (5) **the operator has obtained a prior approval of the competent authority.**

→ **Request for approval needed.**





To obtain the approval, the operator shall provide evidence on:

1. No Tailwind
2. No contaminated runways
3. 100% reverse thrust
4. Reduced unstable approaches and limited floating

1. Type of operation;
2. Adequate training, checking and monitoring;
3. Flight crew composition and recency;
4. Aircraft equipment affecting landing performance;
5. AFM and OM LLDR inclusions;
6. Wet runway performance;
7. Aerodrome landing analysis programme (ALAP);
8. No special-approach procedures;
9. No tailwind;
10. No special approaches or landings
11. Aerodrome conditions and restrictions;
12. No contaminated runway conditions;
13. No forecasted adverse weather;
14. Final decision PIC.

# THE DEVIL IS IN THE DETAILS



## CAT.POL.A.255 Approval of reduced required landing distance operations

(a) For aeroplanes having a maximum certified take-off mass (MCTOM) of 45 360 kg or less and a maximum operational passenger seating configuration (MOPSC) of 19 or less, used in non-scheduled on-demand commercial air transport (CAT) operations, landing operations with a landing mass of the aeroplane allowing a full stop landing within 80 % of the landing distance available (LDA) require prior approval by the competent authority.

(b) To obtain the approval, the operator shall provide evidence that:

(1) a risk assessment has been conducted by the operator to demonstrate that a level of safety equivalent to that intended by

CAT.POL.A.230(a)(1) or CAT.POL.A.230(a)(2), as applicable, is achieved; or

(2) the following conditions are met:

(i) special-approach procedures, such as steep approaches, planned screen heights higher than 60 ft or lower than 35 ft, low-visibility operations, planned operations outside stabilised approach criteria, are prohibited;

(ii) short landing operations in accordance with CAT.POL.A.250 are prohibited;

(iii) an adequate training, checking and monitoring process for the flight crew is established;

(iv) an aerodrome landing analysis programme (ALAP) is established by the operator to ensure that the following conditions are met:

(A) no tailwind is forecasted at the expected time of arrival;

(B) if the runway is forecasted to be wet at the expected time of arrival, the landing distance at dispatch shall either be determined in accordance with CAT.OP.MPA.303(a) or be at least 115 % of the landing distance required by CAT.POL.A.230(a)(3), whichever is longer;

(C) no expected contaminated runway conditions exist at the expected time of arrival; and

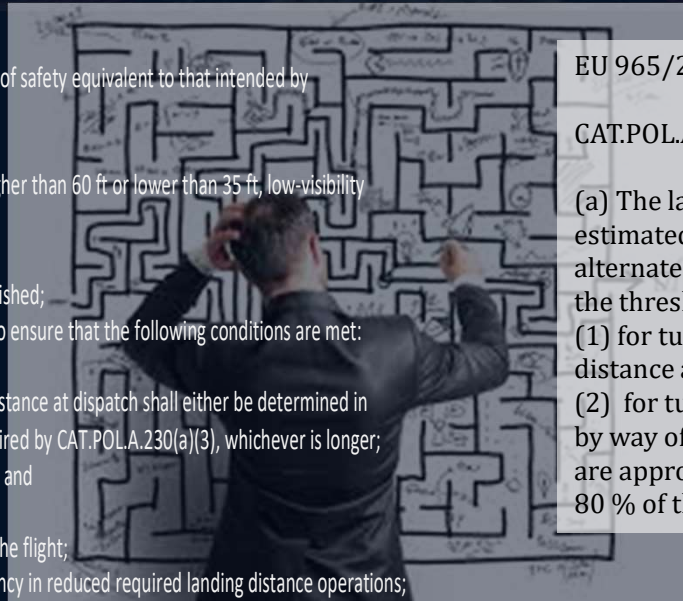
(D) no forecasted adverse weather conditions exist at the expected time of arrival;

(v) all the equipment affecting landing performance is operative before commencing the flight;

(vi) the flight crew is composed of at least two qualified and trained pilots having recency in reduced required landing distance operations;

(vii) the commander shall make the final decision to conduct reduced required landing distance operations and may decide not to do so when they consider this to be in the interest of safety; and

(viii) additional aerodrome conditions, if specified by the competent authority, taking into account aeroplane type characteristics, orographic characteristics in the approach area, available



## EU 965/2012 SUBPART C CAT.POL.A.230

### CAT.POL.A 230 Landing – dry runways

(a) The landing mass of the determined in accordance with for the estimated time of landing at the destination aerodrome and at any alternate aerodrome shall allow a full-stop landing from 50 ft above the threshold:

(1) for turbojet-powered aeroplanes, within 60 % of the landing distance available

(2) for turbopropeller-powered aeroplanes, within 70 % of the LDA by way of derogation from (a)(1) and (a)(2) above, for aeroplanes that are approved for reduced landing distance operations under , within 80 % of the LDA.



# APPLICATION PROCESS FLOWCHARTS

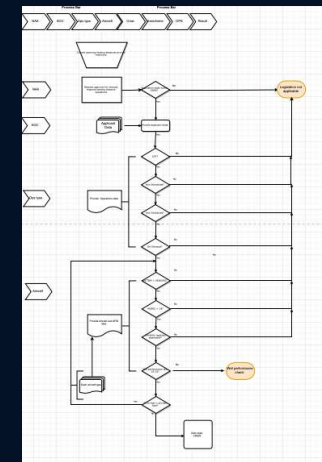
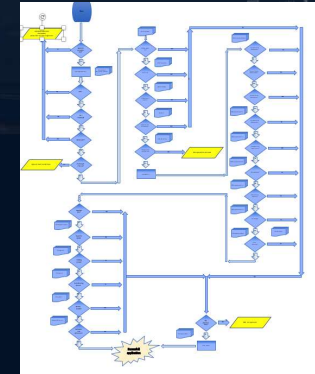
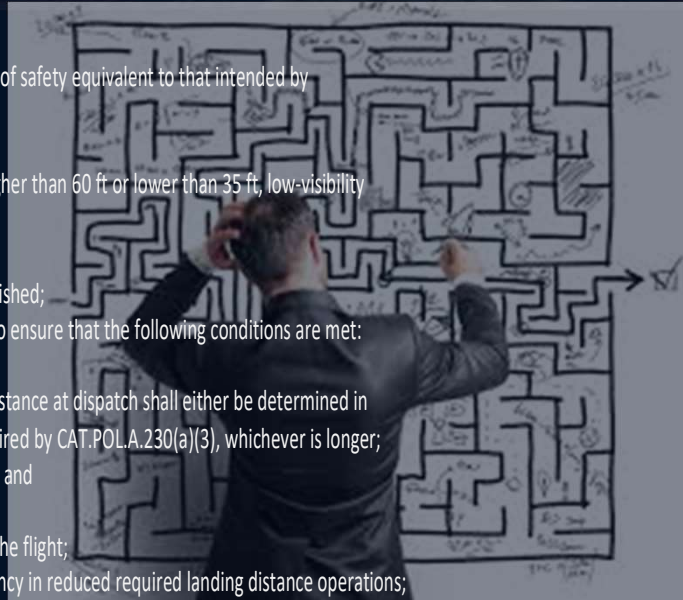


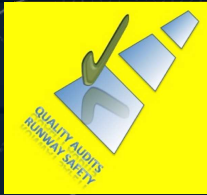
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(b) To obtain the approval, the operator shall provide evidence that:

- (1) a risk assessment has been conducted by the operator to demonstrate that a level of safety equivalent to that intended by CAT.POL.A.230(a)(1) or CAT.POL.A.230(a)(2), as applicable, is achieved; or
- (2) the following conditions are met:
  - (i) special-approach procedures, such as steep approaches, planned screen heights higher than 60 ft or lower than 35 ft, low-visibility operations, planned operations outside stabilised approach criteria, are prohibited;
  - (ii) short landing operations in accordance with CAT.POL.A.250 are prohibited;
  - (iii) an adequate training, checking and monitoring process for the flight crew is established;
  - (iv) an aerodrome landing analysis programme (ALAP) is established by the operator to ensure that the following conditions are met:
    - (A) no tailwind is forecasted at the expected time of arrival;
    - (B) if the runway is forecasted to be wet at the expected time of arrival, the landing distance at dispatch shall either be determined in accordance with CAT.OP.MPA.303(a) or be at least 115 % of the landing distance required by CAT.POL.A.230(a)(3), whichever is longer;
    - (C) no expected contaminated runway conditions exist at the expected time of arrival; and
    - (D) no forecasted adverse weather conditions exist at the expected time of arrival;
  - (v) all the equipment affecting landing performance is operative before commencing the flight;
  - (vi) the flight crew is composed of at least two qualified and trained pilots having recency in reduced required landing distance operations;
  - (vii) the commander shall make the final decision to conduct reduced required landing distance operations and may decide not to do so when they consider this to be in the interest of safety; and
  - (viii) additional aerodrome conditions, if specified by the competent authority, taking into account aeroplane type characteristics, orographic characteristics in the approach area, available





# EXAMPLE

## Flight crew training:

### • Previous experience RRLDO

- No
- Yes on type
- Yes on different type
- Yes with same operator
- Yes with another EU operator

### • Required training

- Full
  - Ground training
  - FSTD
  - Flight training
- Abbreviated
- Difference
- .....etc.

## CAT.POL.A.255 Approval of reduced required landing distance operations

Regulation (EU) 2019/1387

### AMC1 CAT.POL.A.255(b)(2)(iv) Approval of reduced required landing distance operations

(a) An aeroplane operator may conduct landing operations within 80 % of the landing distance available (LDA) if it complies with the following conditions:

- (1) the airplane has an MOPS of 19 or less;
- (2) the airplane has an eligible flight statement for reduced required landing distance in the AFM;
- (3) the airplane is used in non-scheduled on-demand commercial air transport (CAT) operations;
- (4) the landing mass of the aeroplane allows a full-stop landing within that reduced landing distance;
- (5) the operator has obtained a prior approval of the competent authority.

(b) To obtain the approval referred to in (a), an operator with previous increased reduced required landing distance operations experience of a similar type of operation with another EU operator, may undertake the following:

- (1) an abbreviated ground training course if operating an aircraft of a type or class different from the aircraft type or class on which the previous reduced required landing distance operations experience was gained;
- (2) that the following conditions are met:

- (i) special-approach procedures, abbreviated ground, FSTD and/or flight training course for operating the same type or class and variant of the same aircraft type or class on which the previous reduced required landing distance operations experience was gained; this course should include at least the provisions of the conversion training contained in this AMC; the operator may reduce the number of approaches/landings required by the course by a maximum of 50%;
- (ii) short landing operations in accordance with point CAT.OP.MPA.115(a), are prohibited;
- (iii) landing on contaminated runways is prohibited;

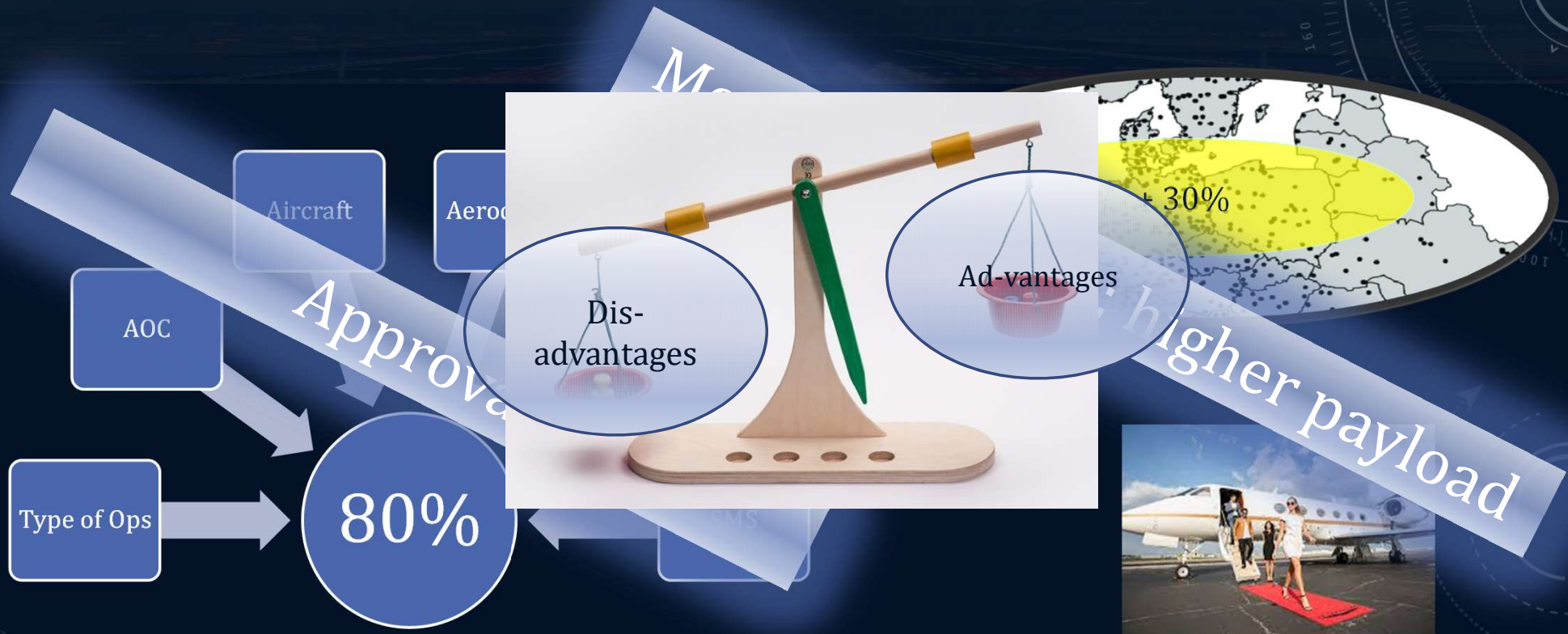
(iv) an adequate training, checking and monitoring process for the flight crew is established;

(v) an aerodrome landing approval is obtained for the aircraft type or class on which the previous reduced required landing distance operations experience was gained; this approval should be valid for a period of 12 months.

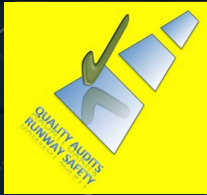
- (A) no tailwind is forecast at the expected time of arrival;
- (B) if the runway is forecast to be wet at the expected time of arrival, the landing distance at dispatch shall be determined in accordance with point CAT.OP.MPA.115(b) as applicable and shall be at least 15% of the landing distance determined for dry runways which are longer;



# CONCLUSION







# APPLICATION PROCESS CHALLENGE SOLUTIONS

- Large number
- Detailed requirements
- Easy to miss one
- Complex restrictions
- Complex requirements
- Legal challenges
- NAA understanding

- **Do it your own requires**

- Training
- Legal
- Time consuming

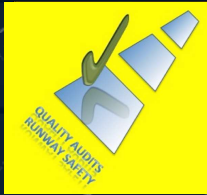


- **Outsource application process**

- Partial
- Full
- → tip balance sooner

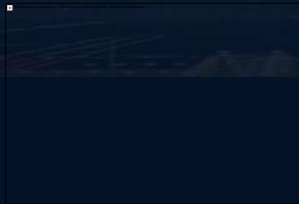


Let us help you



# TRAINING

- **Crew:** ground course
  - Mandatory items
  - Initial and Recurrent training
- **Dispatcher / Planner**
  - Compliance
- **AOC holder**
  - Compliance
  - Application process
- **NCAA**
  - Approval
  - Auditing and monitoring



Computer Based Training

Webinars

News blogs

Webinar





# SPECIALIZED 80% EOD LLDR CHECKLISTS

AOC Holder	items	Reference
Approval for RRLD operations by competent authority	Generic or Specific (separate risk assessment)	RRLD operations authority Own separate risk assessment
AOC Holder flight crew requirements	Flight crew composition RRLD	RRLD training
	Flight crew RRLD training and checking established	RRLD training
	Flight crew RRLD recency compliant	Have a RRLD recency
	Flight crew RRLD qualified	RRLD qualification
	Commanders authority	Approval commander RRLD for this flight
AOC holder Operations requirements	RRLD flight is CAT, non-scheduled and & On-demand	CAT non-schedule on demand
	RRLD Trend analysis and monitoring	RRLD Trend analysis and monitoring
	Operations manual contains RRLD specifics	Performance Information for Landing Distance Assessment
AOC holder Aircraft requirements		
	AFM contains RRLD performances, limits and requirements	CS-25.1592 CAT.POL.A.235 AFM includes wet performance
	RRLD MEL items listed	Aircraft Equipment Eligibility
	AFM contains eligibility statement	
	AFM contains MOPSC	MOPSC
AOC holder Aerodrome requirements	Aerodrome information source	Aerodrome (ALAP)
	ALAP established	An ALAP is established
	Aerodrome Facilities, limitations and restrictions	Aerodrome restrictions and conditions are considered Aerodrome declared distances are considered

CAA

AOC Holder	items	Reference
Approval for RRLD operations by competent authority	Generic or Specific (separate risk assessment)	RRLD operations authority Own separate risk assessment
AOC Holder flight crew requirements	Flight crew composition RRLD	RRLD training
	Flight crew RRLD training and checking established	RRLD training
	Flight crew RRLD recency compliant	Have a RRLD recency
	Flight crew RRLD qualified	RRLD qualification
	Commanders authority	Approval commander RRLD for this flight
AOC holder Operations requirements	RRLD flight is CAT, non-scheduled and & On-demand	CAT non-schedule on demand
	RRLD Trend analysis and monitoring	RRLD Trend analysis and monitoring
	Operations manual contains RRLD specifics	Performance Information for Landing Distance Assessment
AOC holder Aircraft requirements		
	AFM contains RRLD performances, limits and requirements	CS-25.1592 CAT.POL.A.235 AFM includes wet performance
	RRLD MEL items listed	Aircraft Equipment Eligibility
	AFM contains eligibility statement	
	AFM contains MOPSC	MOPSC
AOC holder Aerodrome requirements	Aerodrome information source	Aerodrome (ALAP)
	ALAP established	An ALAP is established
	Aerodrome Facilities, limitations and restrictions	Aerodrome restrictions and conditions are considered Aerodrome declared distances are considered

AOC HOLDER

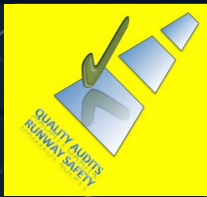
DISPATCH	items	Reference
Approval RRLD	Requirements in OM	Approval for RRLD operations by competent authority
	RRLD flight is CAT, non-scheduled and & On-demand	non-schedule on demand
	Commanders approval	Commander authority
Aerodrome	Aerodrome Landing Analysis	ALAP
	Aerodrome facilities	Friction improved runway f) Runway safety margins
	Aerodrome restrictions	(b) Topography Aerodrome specific
	Aerodrome weather	weather at time of arrival is expected 50% of headwind is used.
	Runway status	Runway is at ETA forecasted
	Aerodrome information source	Runway is at ETA forecasted Wet
	Wind	50% of headwind is used.
	AFM includes wet performance	Runway is at ETA forecasted Wet
Aircraft	CS-25.1592	Wet
	CAT.POL.A.235	Aerodrome declared distances are considered
	Aircraft Equipment Eligibility	Steepest approach planned screen heights < 35 or > 60 feet Stabilized approach criteria operations
	MOPSC	low visibility operations Short landings
	AFM includes wet performance	
	Destination runway	Favorable runway
	Alternate(s)	Runway planned
	LDA	Runway is at ETA forecasted Dry
	Dry LDR	Runway is at ETA forecasted Wet
	Wet LDR	
	Wind	50% of headwind is used.
	No tailwind is forecasted at ETA	
	Landing mass	CAT.POL.A.105 General
	Dry LDR	CAT.POL.A.105 General
	Wet LDR	

DISPATCHER

COMMANDER	items	Reference
APPROVAL RRLD	AOC	RRLD operations authority Own separate risk assessment
	DISPATCH	Approval RRLD
	AIRCRAFT	MOPSC
	TYPE OF OPERATIONS	non-schedule on demand
	COMMANDER	Approval commander RRLD for this flight
CREW	TRAINING and CHECKING	RRLD training
	COMPOSITION	
	QUALIFICATION	RRLD qualification
	REGENCY	Have a RRLD recency
AIRCRAFT	NO LLDR MEL	Aircraft Equipment Eligibility
	AFM ELIGIBLE	CS-25.1592
	AFM PERFORMANCE	CAT.POL.A.235
	AFM WET PERFORMANCE	AFM includes wet performance
AERODROME	ALAP	ALAP
	RESTRICTIONS	
	FACILITIES	
	RUNWAY STATUS	
	LDR	Aerodrome declared distances are considered
	ALTERNATE(S)	
	RUNWAY PLANNED	Favorable runway
		Runway planned
OPERATION	APPROACH PROCEDURES	
	SPECIAL PROCEDURES	
	STEEP APPROACHES	
	SHORT RUNWAYS	
	ADVERSE WEATHER	
	WIND	50% of headwind is used. No tailwind is forecasted at ETA
	DRY PERFORMANCE	
	WET PERFORMANCE	Runway is at ETA forecasted Wet
	LANDING MASS	CAT.POL.A.105 General

PIC





# EXAMPLE CHECKLISTS

AOC Holder	items	Reference
Approval for RRLD operations by competent authority	Generic or Specific (separate risk assessment)	RRLD operations authority Own separate risk assessment
AOC Holder flight crew requirements	Flight crew composition RRLD Flight and Flight com Flight Com	RRLD training
AOC holder Operations requirements	RRLD sche RRL mon Oper RRL	RRLD flight is CAT, non-scheduled and & On-demand RRLD Trend analysis and monitoring Operations manual contains RRLD specifics Performance Information for Landing Distance Assessment
AOC holder Aircraft requirements	AFM contains RRLD performances, ll requirements RRLD MEL items AFM contains el statement AFM contains M	CS-25 1509
AOC holder Aerodrome requirements	Aerodrome info source ALAP established Aerodrome Facilities, limitations and restrictions	An ALAP is established Aerodrome restrictions and conditions are considered Aerodrome declared distances are considered

AOC HOLDER

RRLD TREND ANALYSIS

## AMC2 CAT.POL.A.255(b)(2)(iv) Monitoring

- (a) Reduced required landing distance operations should be continuously monitored by the operator to detect any undesirable trends before they become hazardous.
- (b) A flight data monitoring (FDM) programme, as required by ORO.AOC.130, is an acceptable method to monitor operational risks related to reduced required landing distance operations.

## GM2 CAT.POL.A.255(b)(2)(iv) Monitoring

- Although ORO.AOC.130 requires FDM only for aeroplanes with a maximum certified take-off mass (MCTOM) of more than 27 000 kg, FDM may be used voluntarily on aeroplanes having smaller MCTOM. It is recommended for all operators conducting reduced required landing distance operations.

AMC & GM DETAIL









# EU EOD 80% LANDING FACTOR

## 1. OPERATORS FULLY COMPLIANT WITH 80% REQUIREMENTS ENJOY:

1. An improved Level of safety for all their operations;
2. Up to 30% more destinations;
3. Higher payload to shorter runways.

## 2. HELP AVAILABLE FOR:

1. Application process,
2. Training and regulatory compliance
3. Specific guidance





# QUESTIONS / REMARKS?

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