WORLDWIDE FLIGHT SAFETY CONFERENCE

BANGKOK 2018

27TH – 28TH JUNE

Wandering in the goldmine

FOA insight

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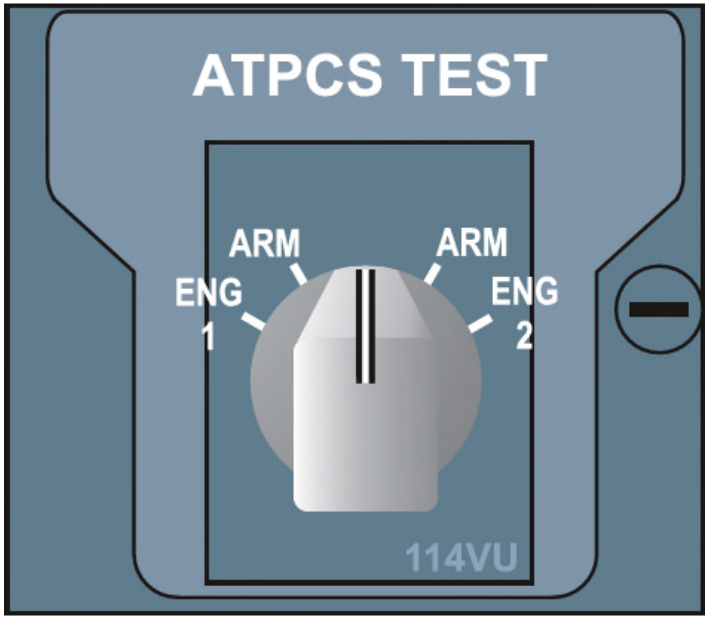
Head of digitalization & data analytics

ATR
PROPELLING THE NEXT CONNECTION

CONTENT

1. ATPCS



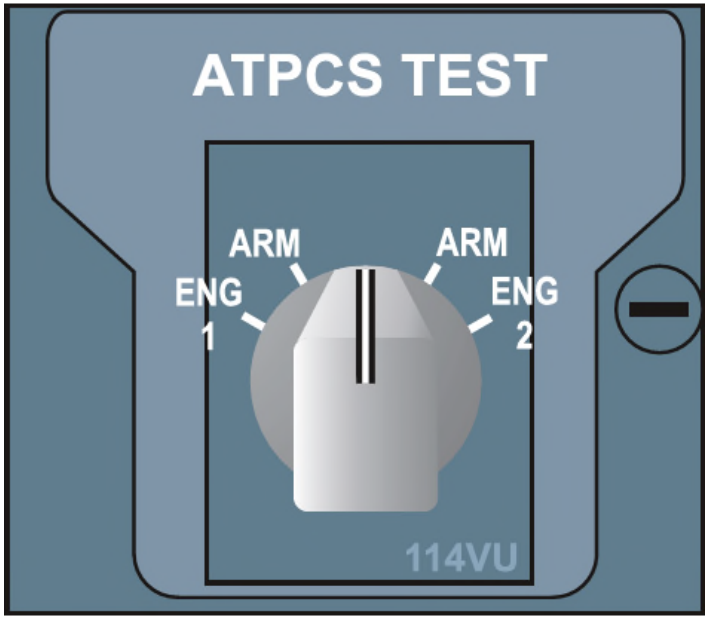
CONTENT

2. Decelerated approaches

CONTENT

3. Dual inputs

1. ATPCS



ATPCS

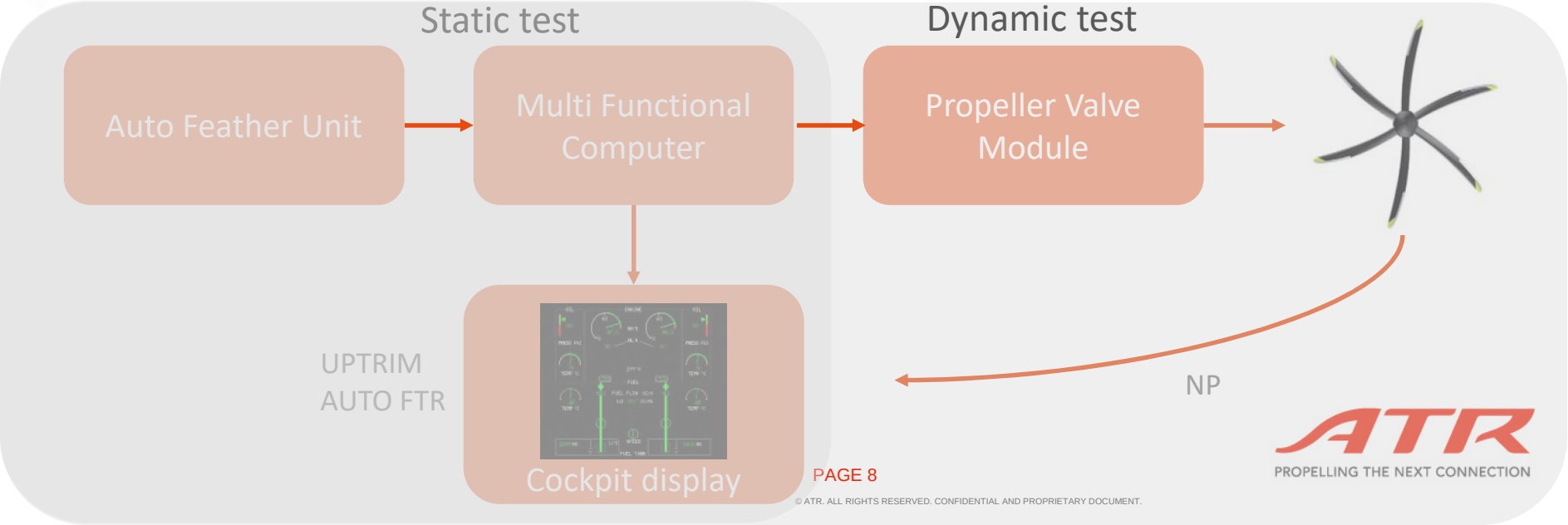
ATPCS = Automatic Takeoff Power Control System

In case of engine failure during takeoff:

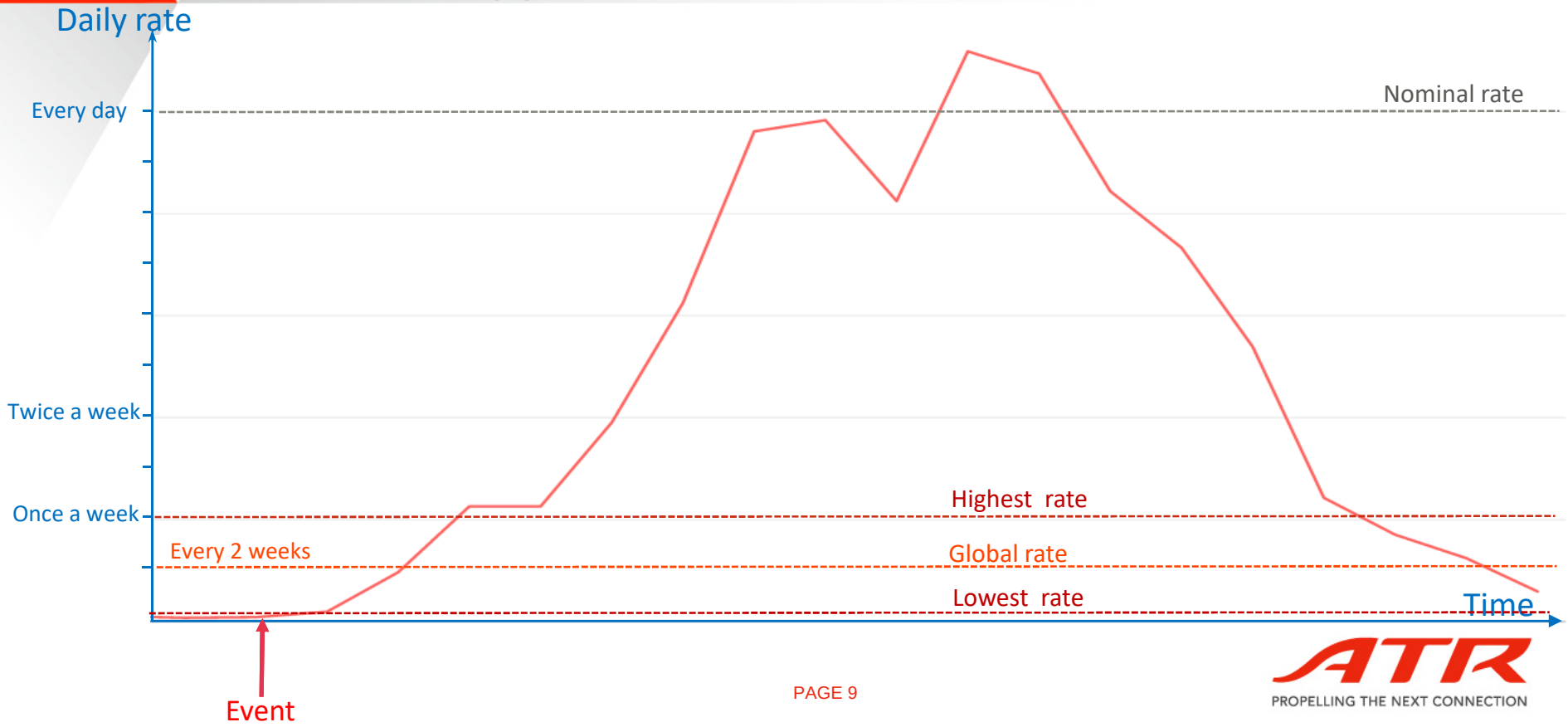
- Provide uptrim to remaining engine
- Automatically feather propeller of failed engine.

ATPCS

- Both ATPCS static and dynamic tests shall be performed to ensure reliability of the function:
  - Static test performed before each flight, engine off
  - Dynamic test performed after last flight of the day, both engines running



ATPCS

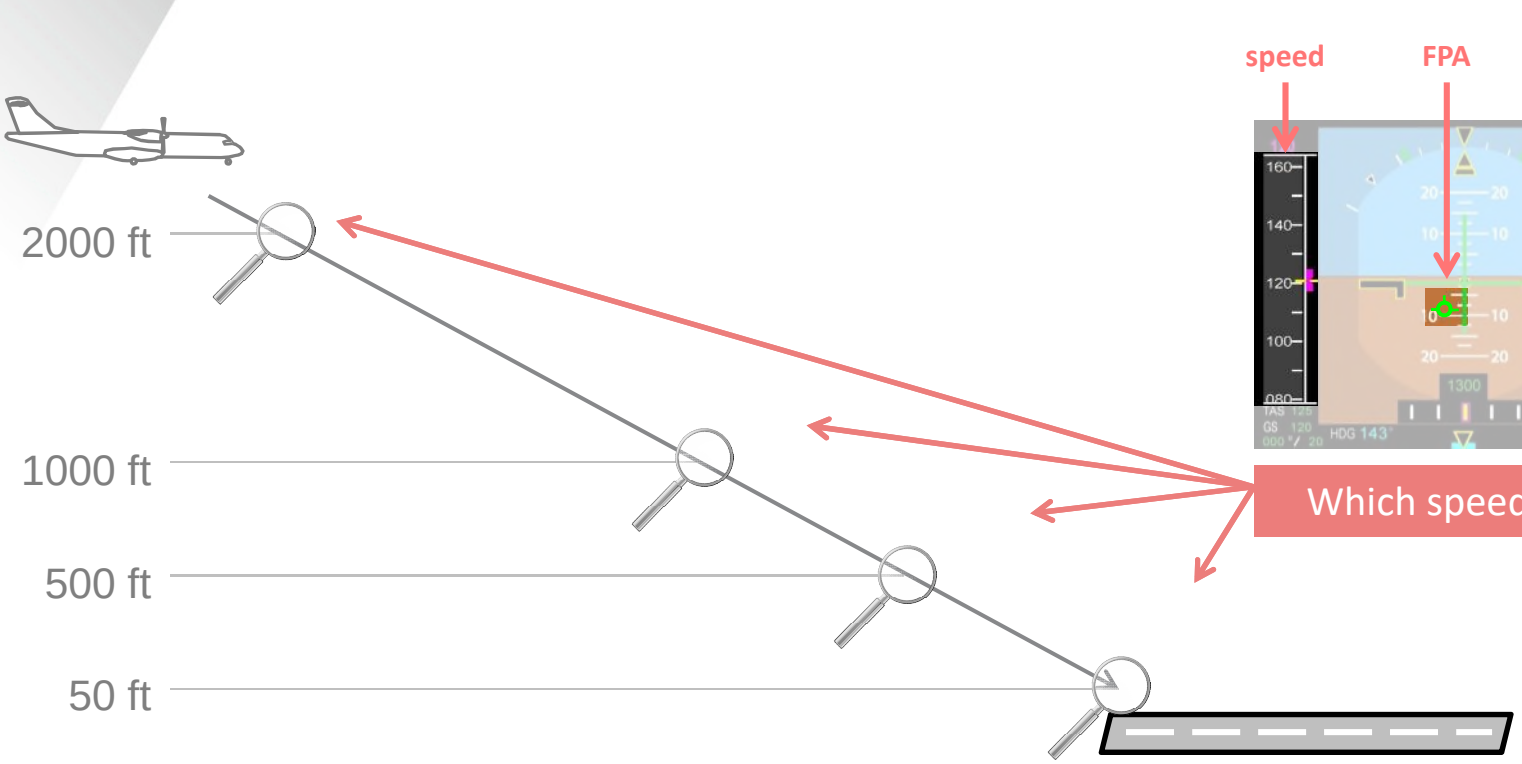


ATPCS

- Next steps:
  - Internal review
  - Rate of other daily tests

2. Decelerated approaches

Decelerated approaches



Decelerated approaches

ANOR.1.2 Approach

_f20d6d99-3cf7-4d8d-928a-14d1eab951f1 | 1.3

NO CRITERIA

The deceleration capabilities of the ATR aircraft provide a good operational advantage which can be used for:

- Reduce the noise during decelerated approaches
- Minimize time and fuel burn
- Enable better integration in big airports

This is why they have been described as the «standard approaches» (Refer to FLIGHT PATTERNS).

Approach speed can be up to 240 kt. To perform the specified maneuvers of the approach procedure or requested by ATC the crew will decrease that speed accordingly.

Initial approach speed can be maintained on a typical 3 ° glide slope down to the following height above runway:

NP	DECELARATION HEIGHT
82 %	(IAS x 10) ft

Configuration changes should be made at V_{LE} V_{FE} when decelerating. This procedure enables reaching V_{APP} speed at 500 ft above runway in IMC (Instrumental Meteorological Conditions).

Note

If deceleration rate on approach appears insufficient, it is possible to increase it by increasing NP on 100 % OVRD, but that will result in an increased interior noise.

Decelerated approaches

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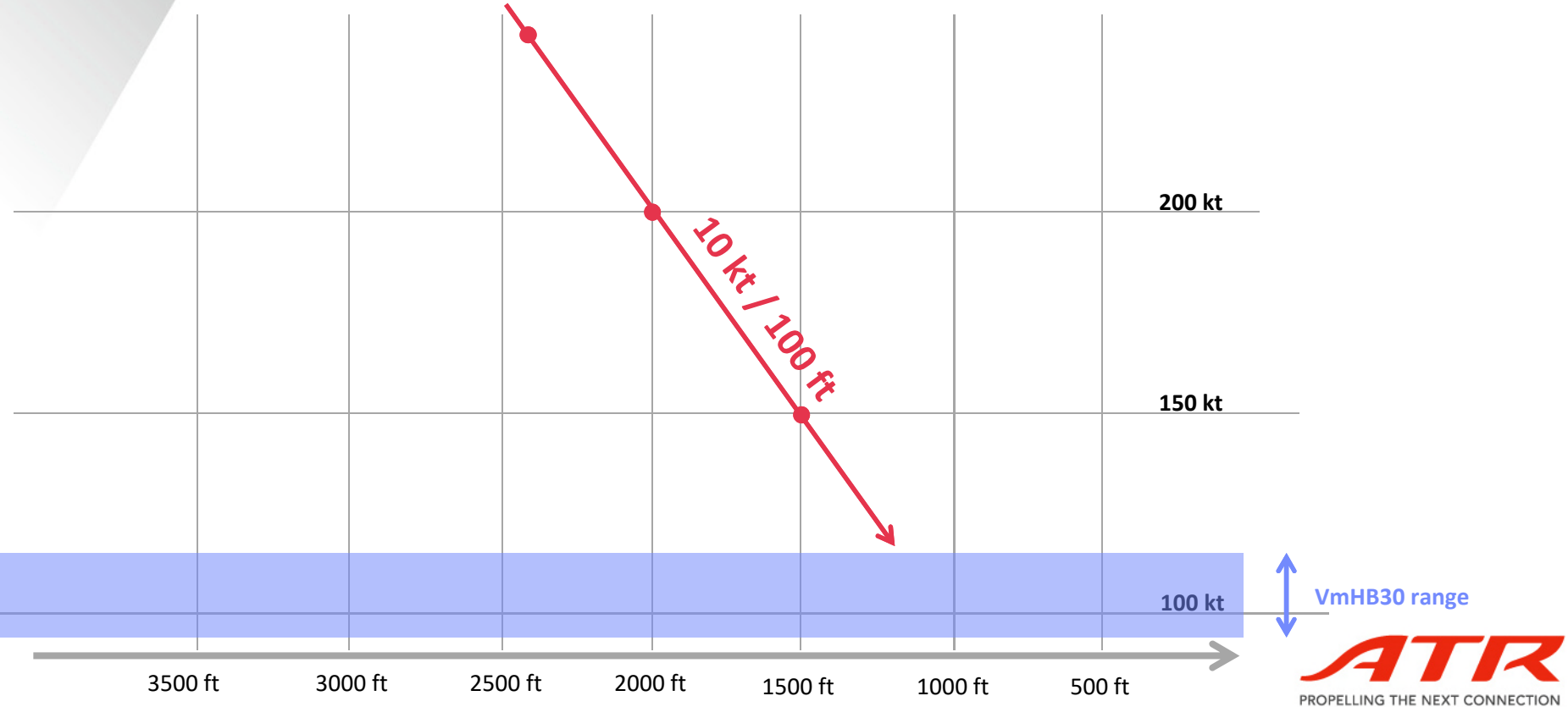
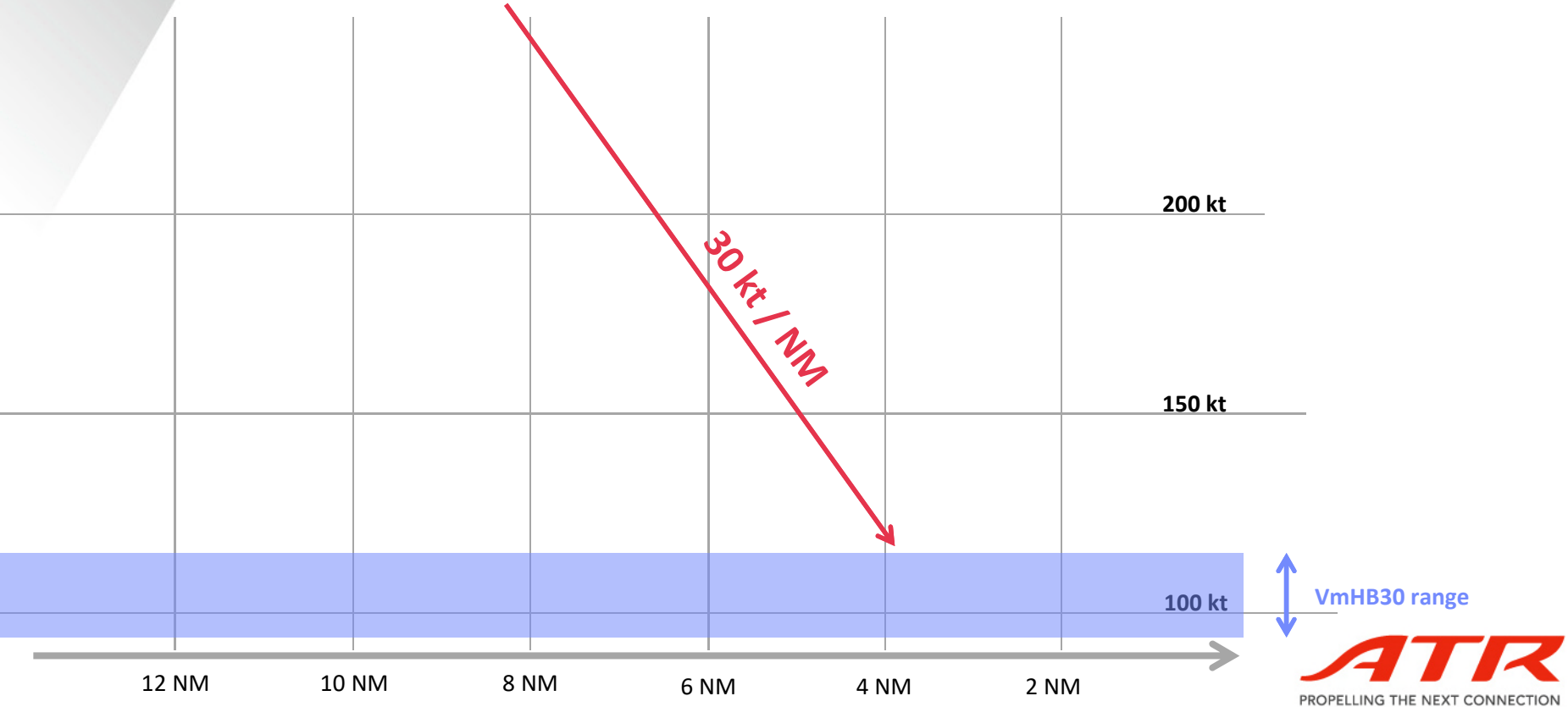


Decelerated approaches



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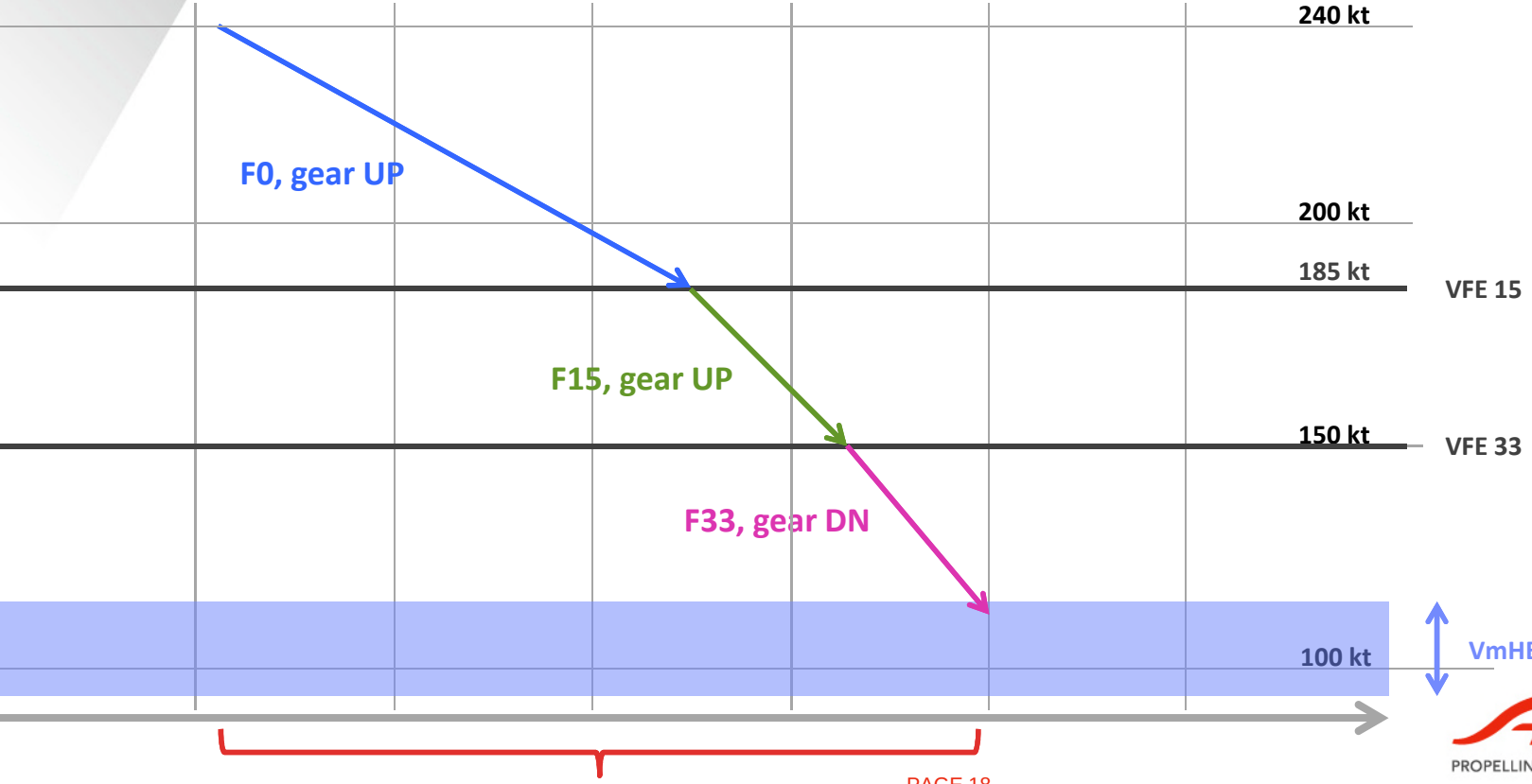
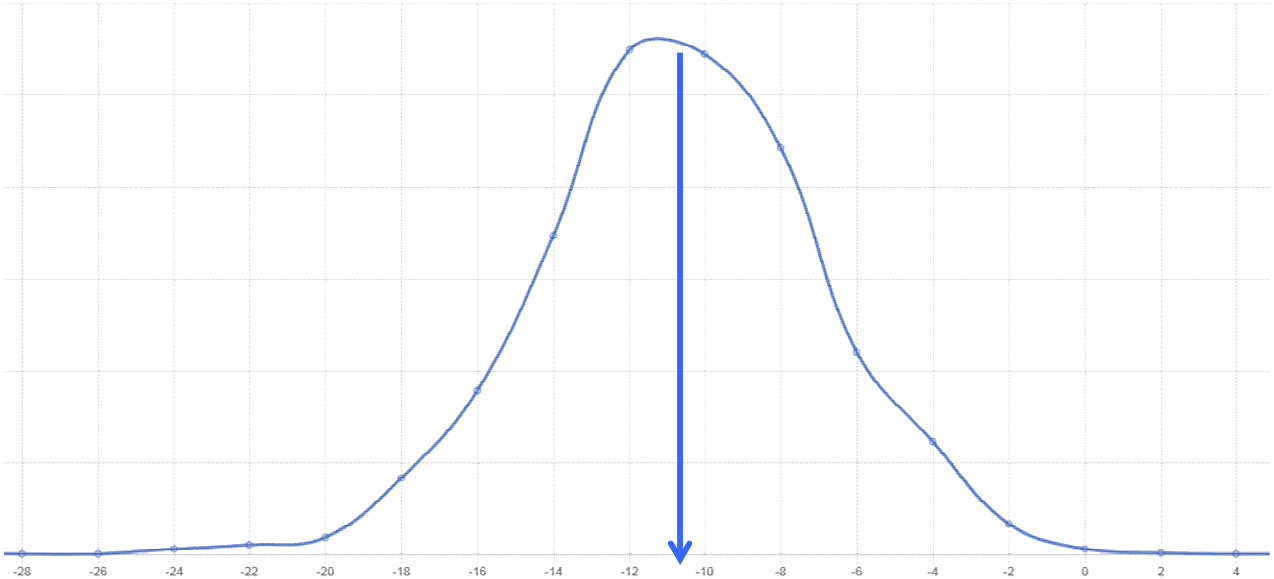


Decelerated approaches

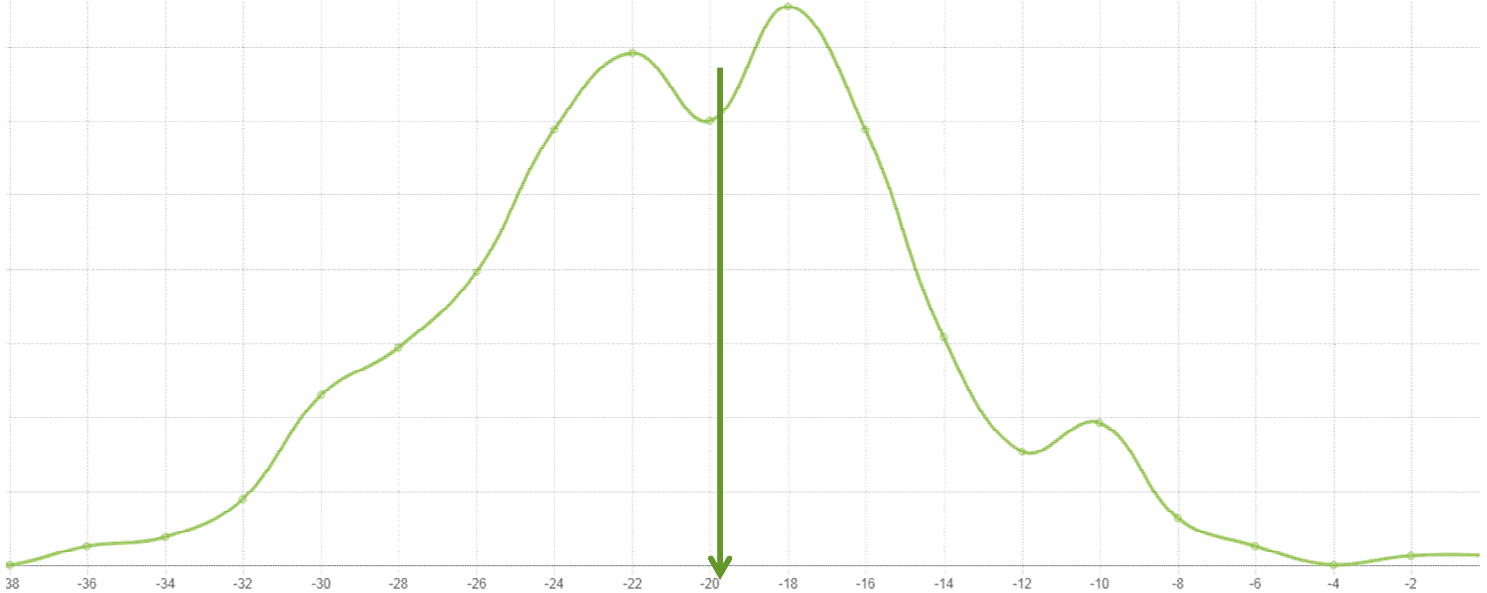
- Deceleration rate in FLAP 0 (Flight idle, 3° glide path, ATR 72-212A)



10-11 kt / NM

Decelerated approaches

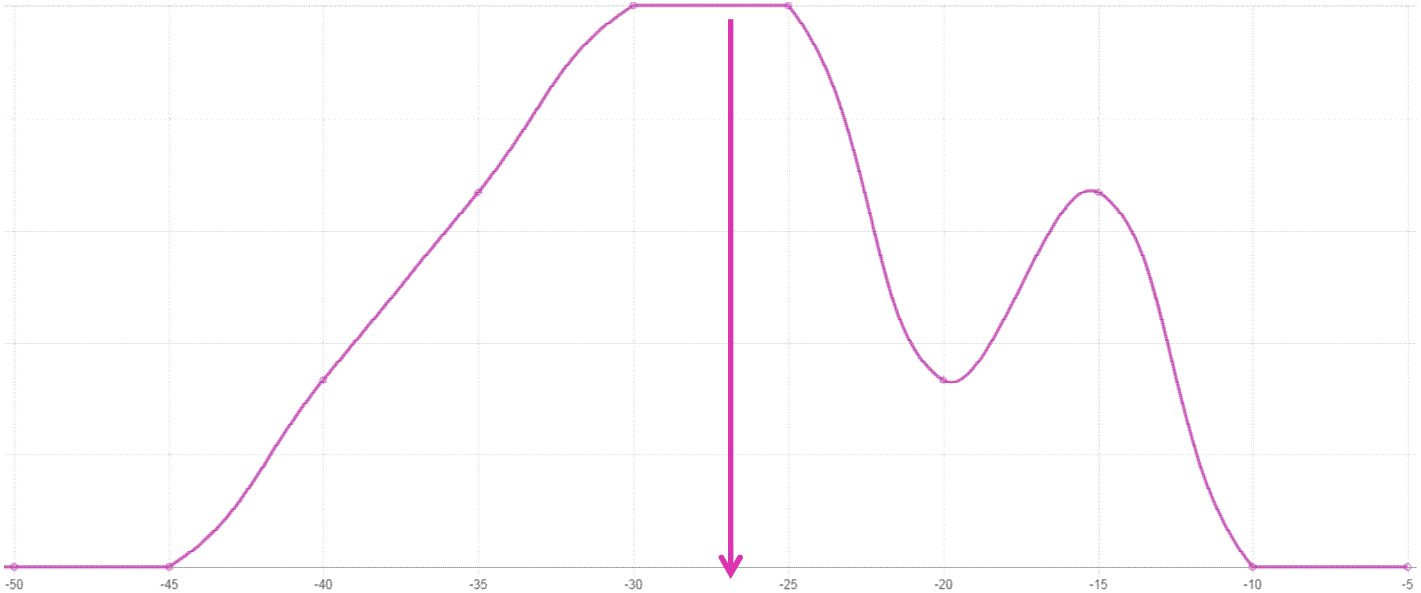
- Deceleration rate in FLAP 15 (Flight idle, 3° glide path, ATR 72-212A)



20 kt / NM

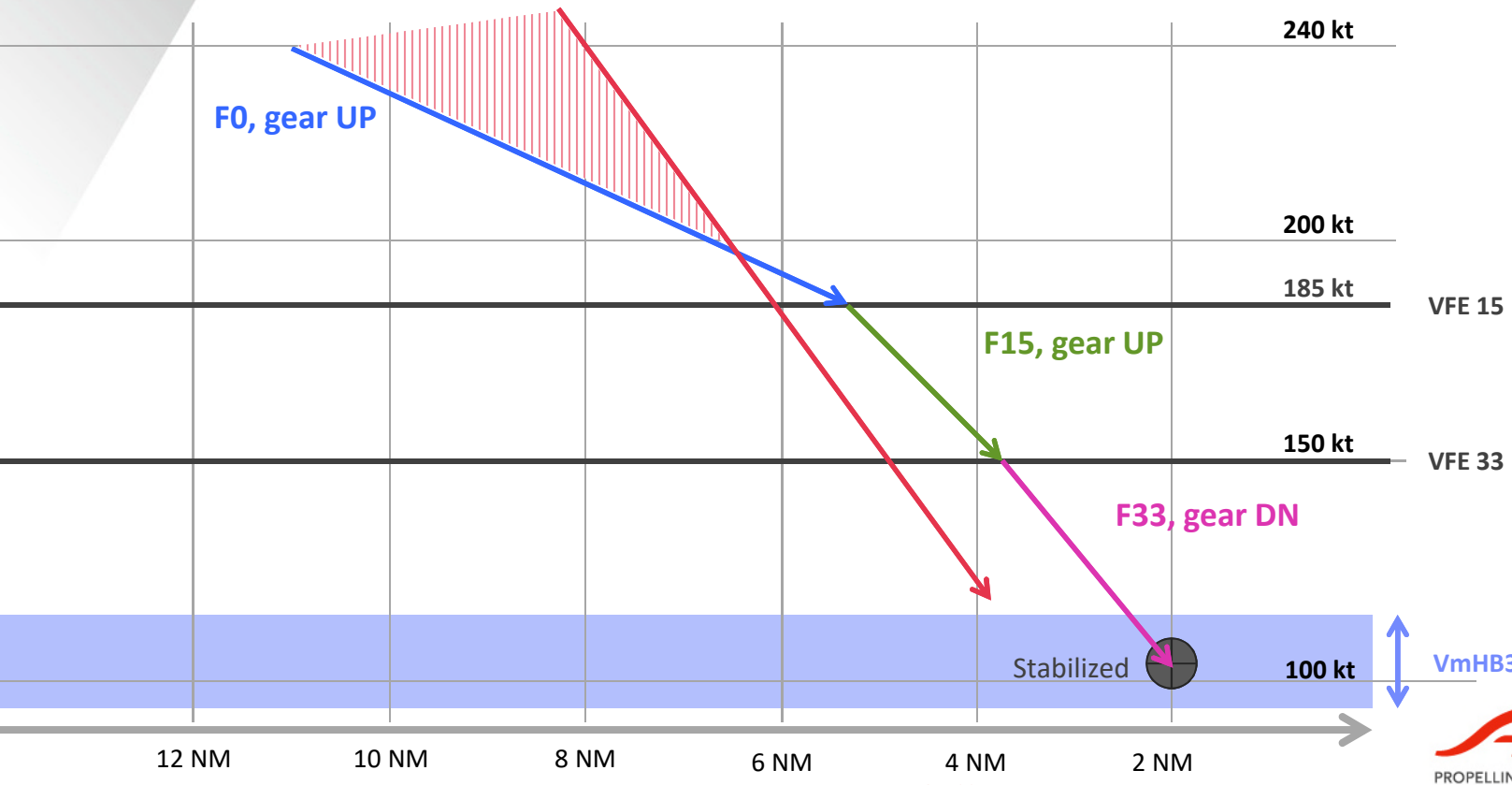
Decelerated approaches

- Deceleration rate in FLAP 33 (Flight idle, 3° glide path, ATR 72-212A)



25-27 kt / NM

Decelerated approaches



Decelerated approaches

- At 10 NM / 3000 ft IAS should be lower than 230 kt
  - At 2000 ft, 200 kt
- ATR Publication Query raised to improve FCOM
  - Effect of wind, altitude, weight

3. Dual inputs

Dual input

- Feedback: dual input situation has occurred in operations
- Task sharing (as per FCTM – **F**light **C**rew **T**raining **M**anual):

FCTM

PF in charge of :	PM in charge of :
• Flight path • Navigation • A/C configuration • Procedure initiation	• Flight path & system monitoring • Communication • Checklist reading • Execution of called actions by PF

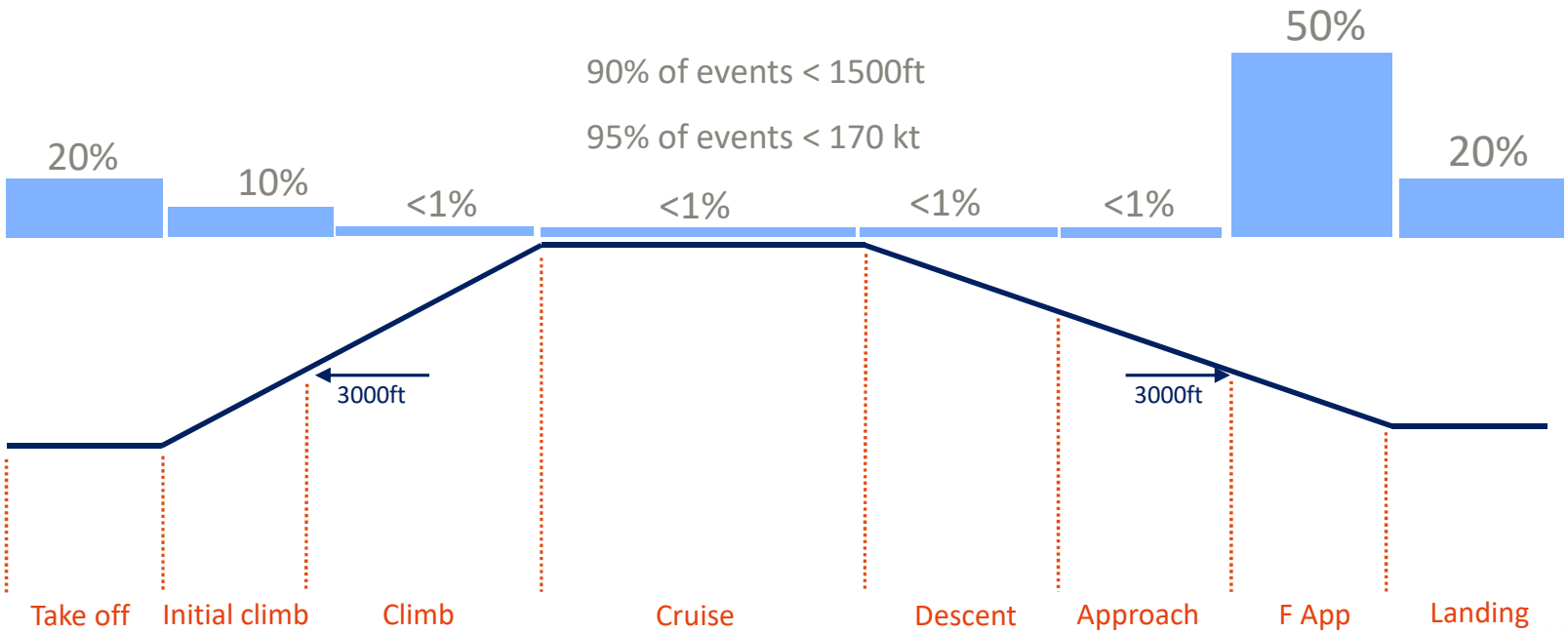
- PF function transfer → YOU HAVE CONTROL
- Pilot assigned PF → I HAVE CONTROL

→ Characterise dual input situation, to increase manufacturer's awareness.

Dual input

Rate of Dual input > 4sec

2 events every 100 flights



Dual input

Dual input

60% of the events in opposite direction
5% with max differential effort above 20kg

Dual input

- 2 dual input events every 100 flights
- 5% of the events with differential effort >20kg

1 significant dual input event every 1000 flights

→Monitoring dual input is key

Key messages

ATPCS dynamic test:
check the airline policy

Dual inputs:
monitor

Decelerated approaches:
230 kt / 3000 ft
200 kt / 2000 ft

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