

The ATR logo is displayed in white, italicized, sans-serif font on a solid orange rectangular background.

Flight Safety Conference

29th – 30th November 2023

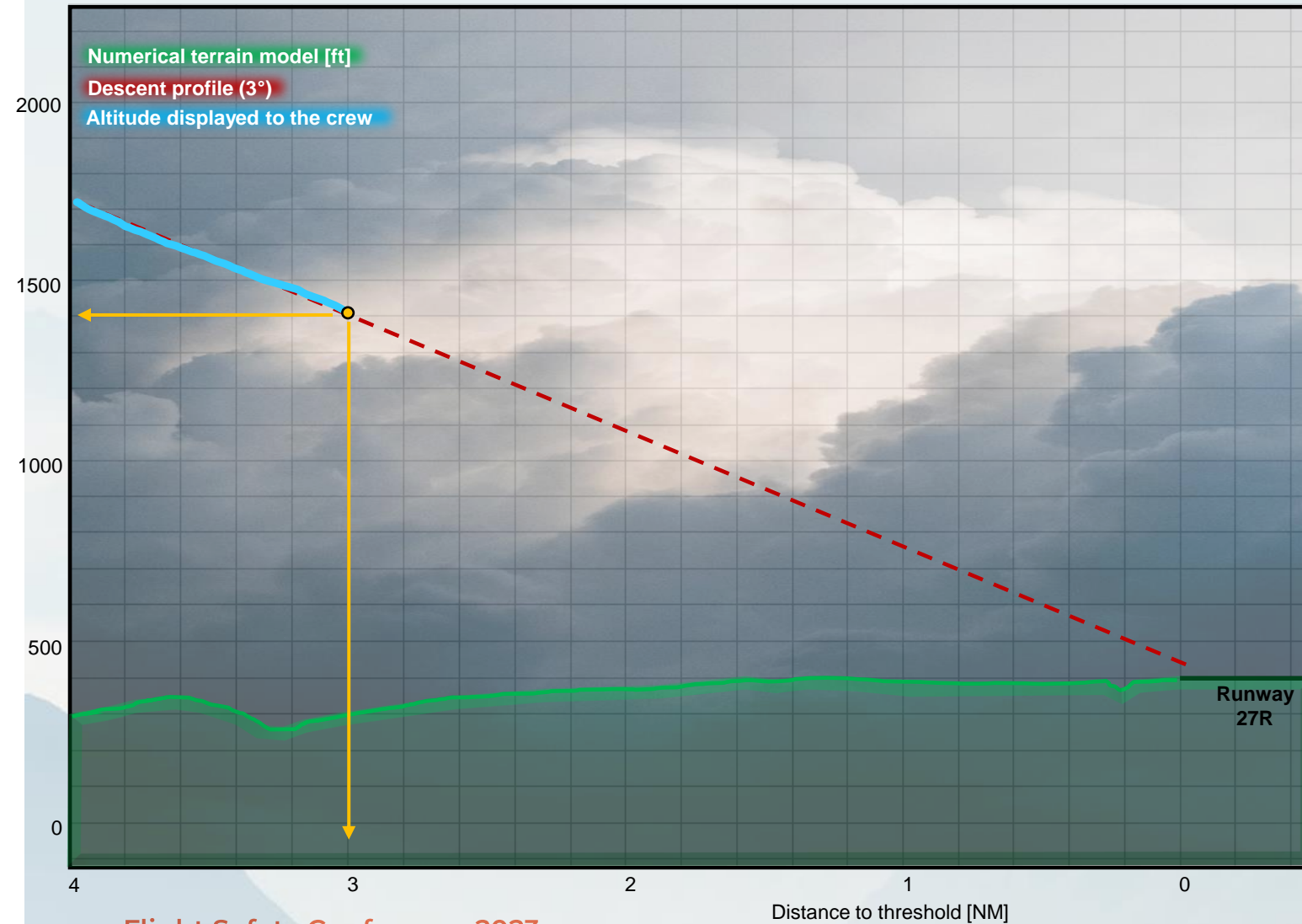
Crosscheck your QNH setting

Nicolas VERSTRAETE

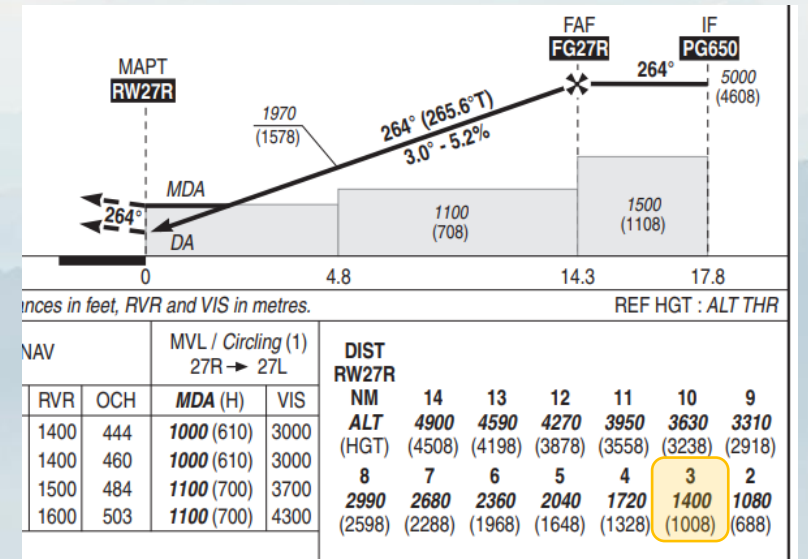
Flight Operations Support Manager



Event description

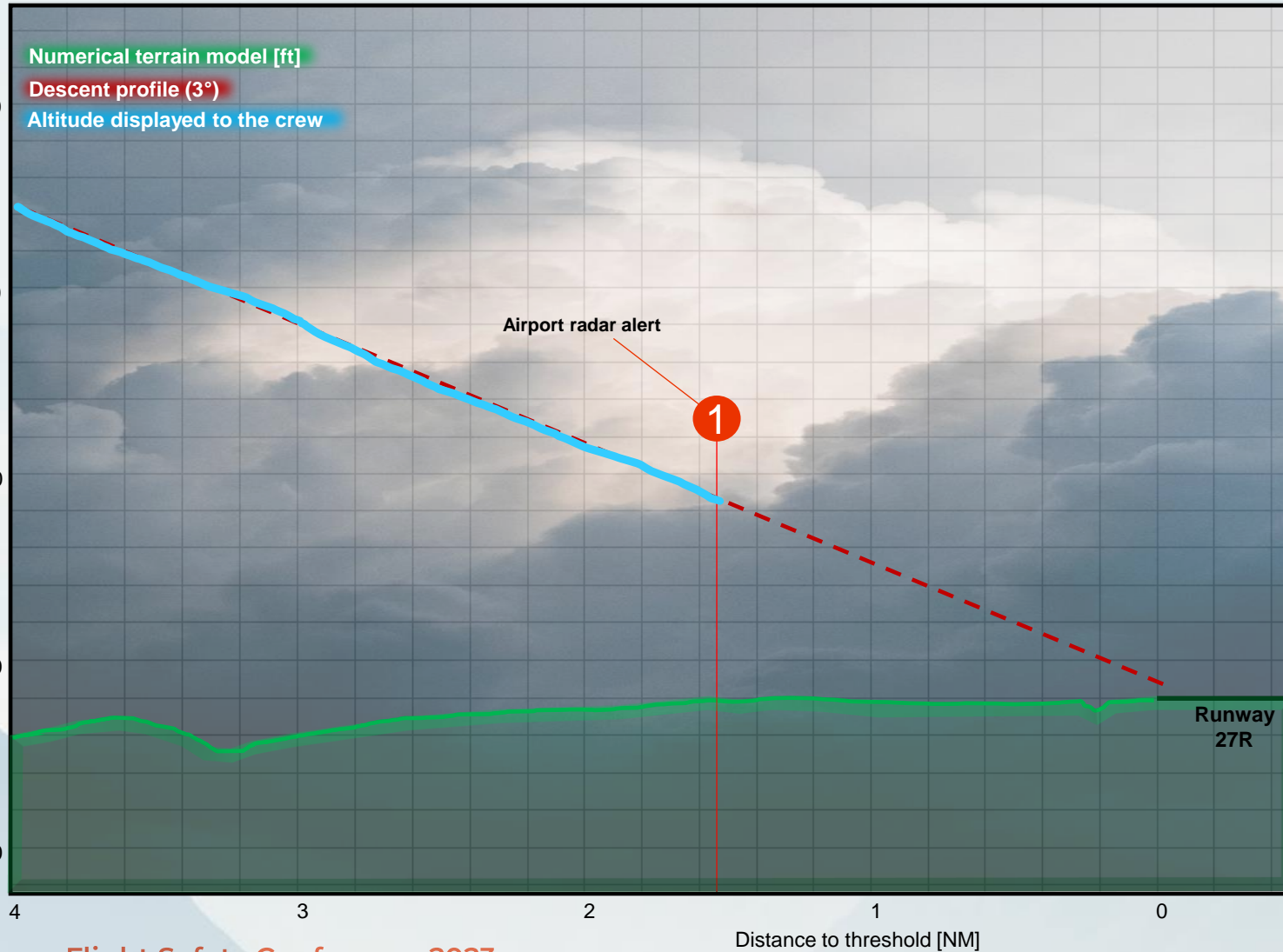


Flight Safety Conference 2023

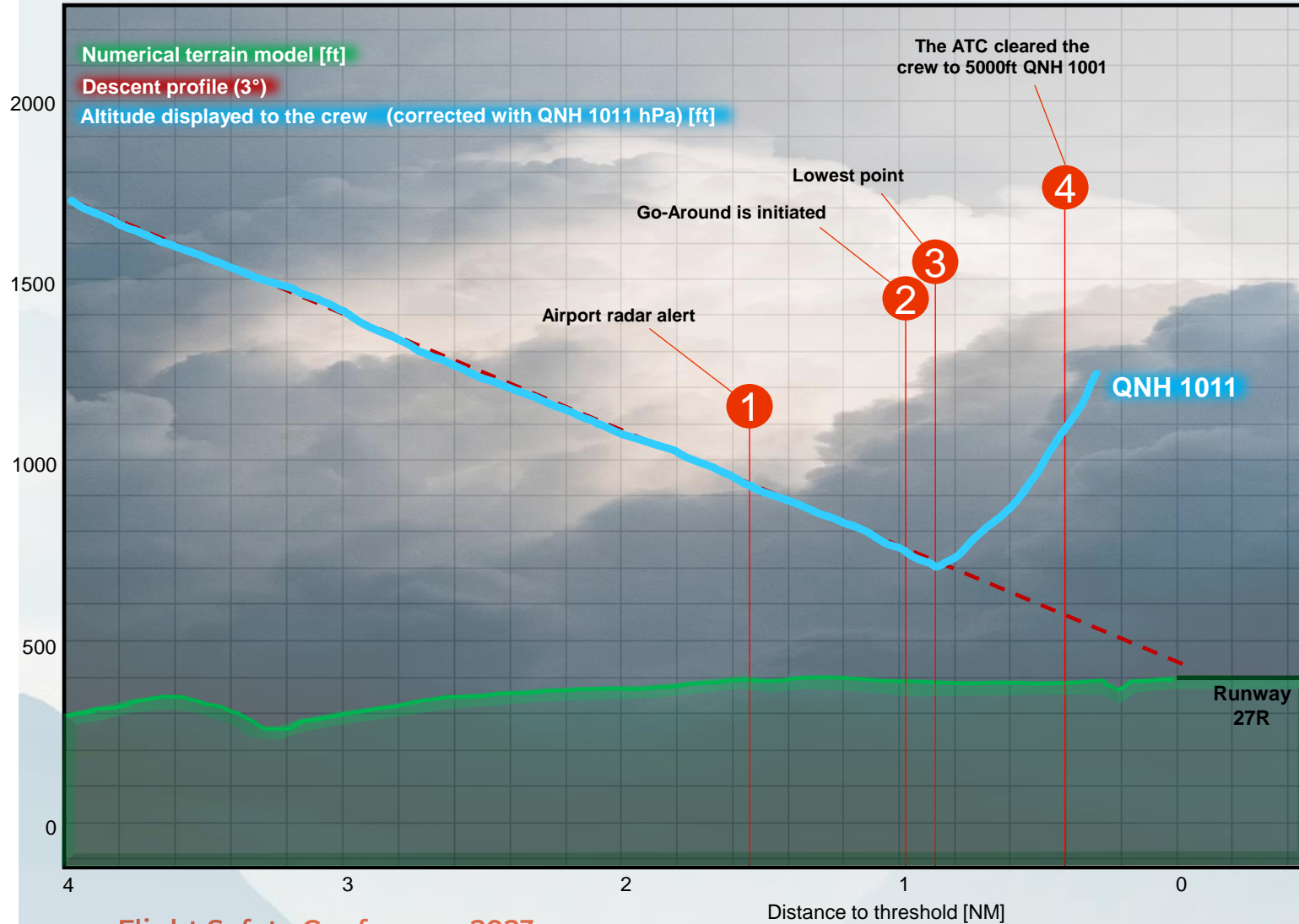


ATR

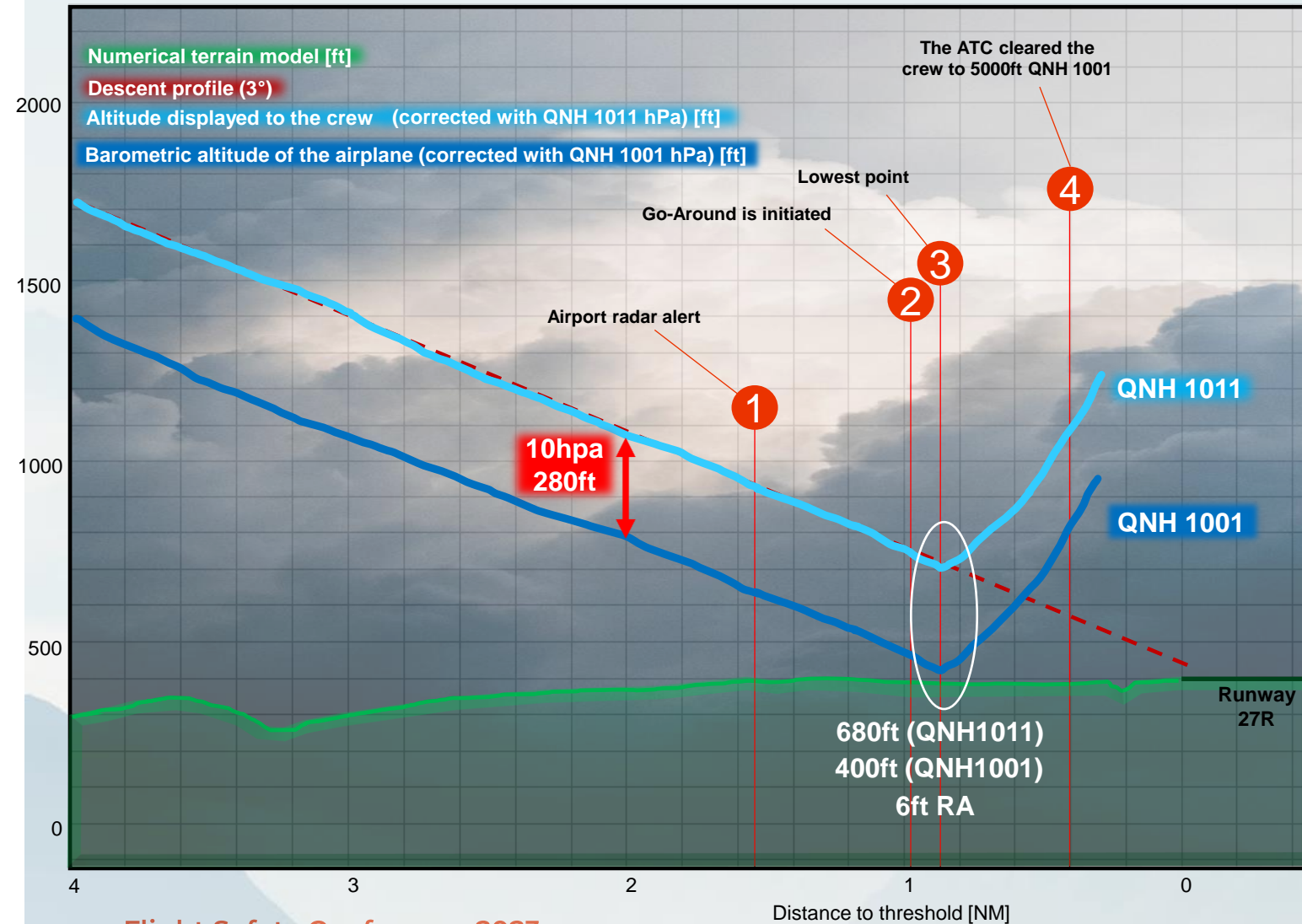
Event description



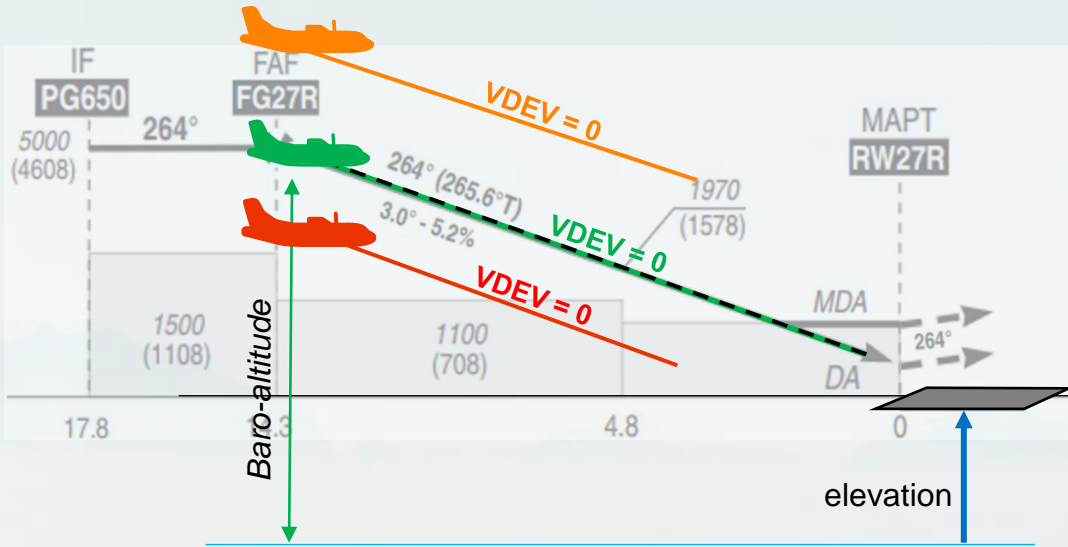
Event description





Event description



Consideration of the QNH in the avionics



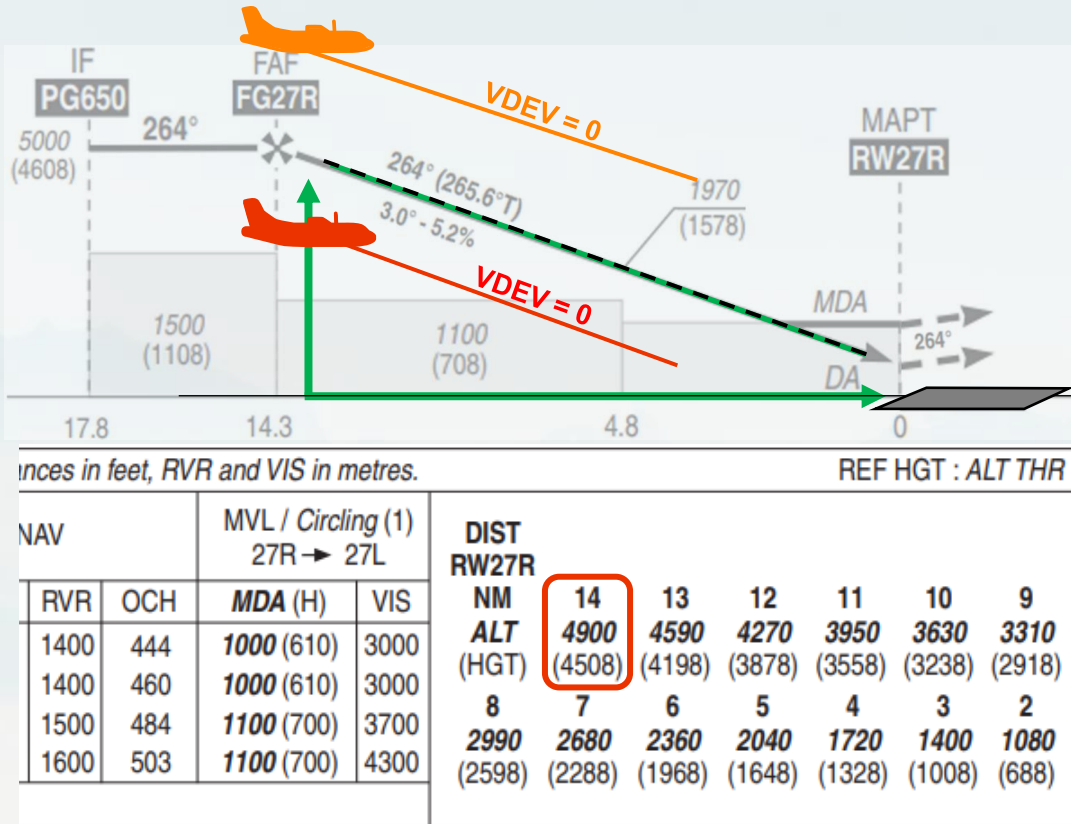
-  Correct QNH
-  Wrong QNH

1hPa difference in the QNH =
shift of 28ft on the baro altitude



QNH 1011
(daily conditions:
QNH 1001)

Consideration of the QNH in the avionics



- Correct QNH
- Wrong QNH

1hPa difference in the QNH = shift of 28ft on the baro altitude



QNH 1011
(daily conditions:
QNH 1001)

Correct
Altitude vs Distance
crosscheck

All indications on DUs were as expected.

An isolated case?

This event is the accumulation of many factors...



Human factors

- Wrong QNH provided by ATC
- Language French/English
- Approach lights were switched off.



Visual references

- Weather got worse after approach was initiated.
- Approach lights were switched off.

...But is it the only flight with wrong QNH setting?



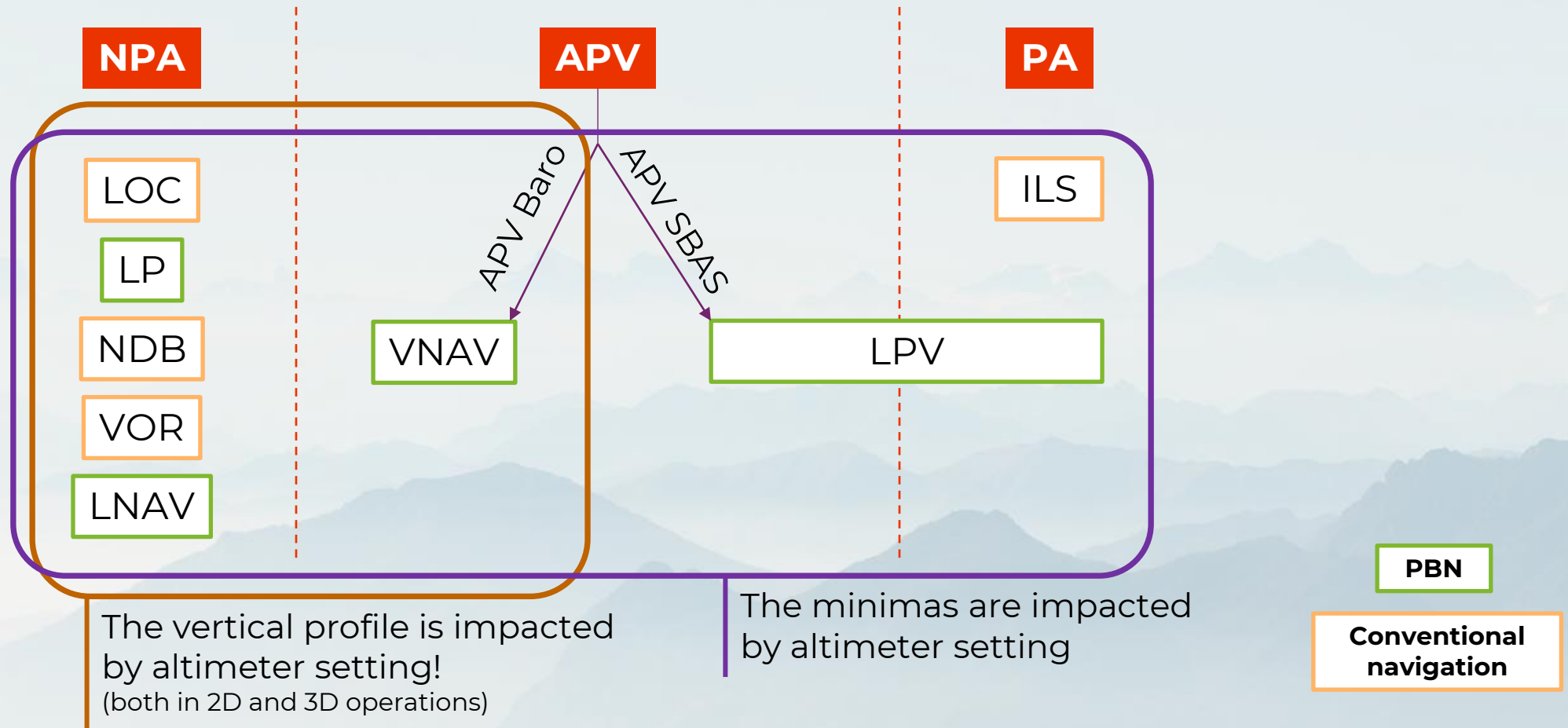
FDM analysis

An rapid study was made covering:

- +120 000 flights
- +200 airports
- QNH error > 4hPa

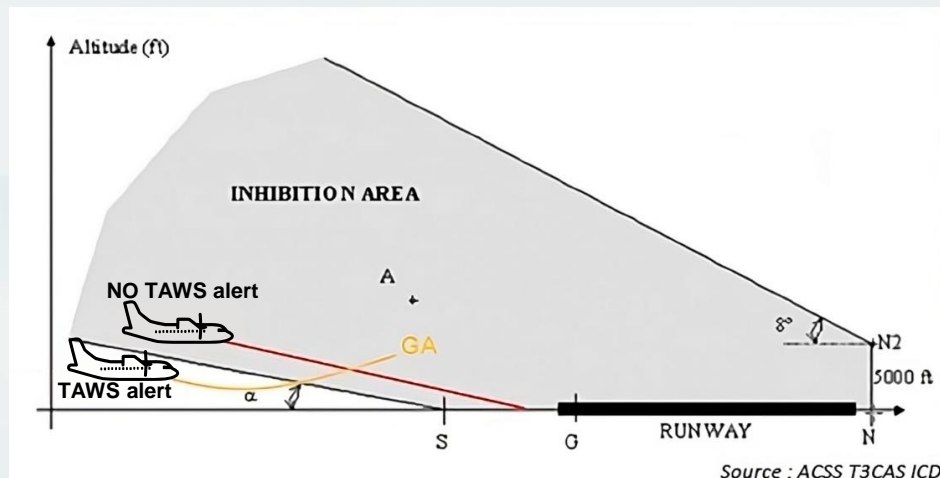
➤ **1 flight / 2 000 performed with wrong QNH at arrival.**

Operations available on ATR



TAWS and Radio Altimeter consideration

- **TAWS**



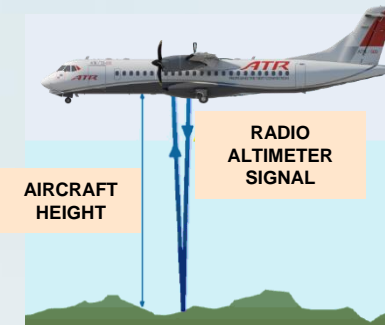
The TAWS may not help detecting a wrong QNH setting.

- **Radio Altimeter**

Abnormally decreasing RA auto-callouts can draw the crew's attention on a mis-set QNH.

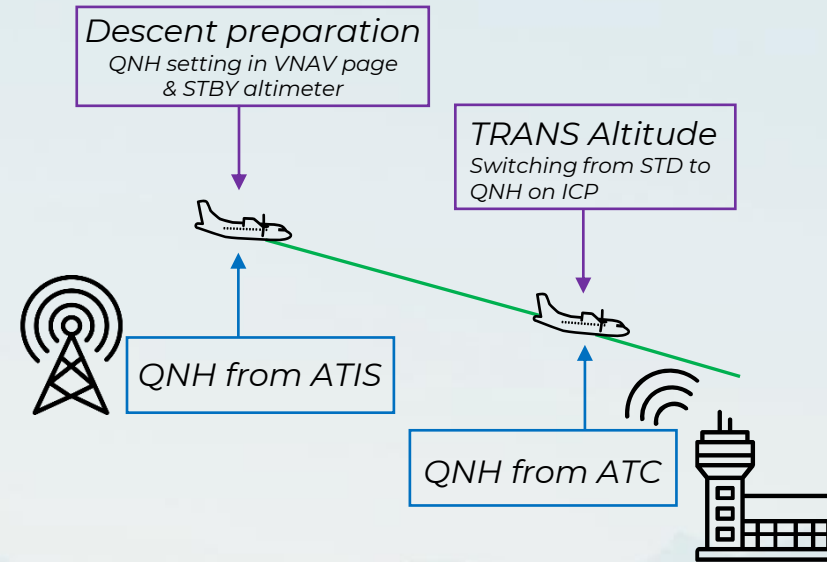
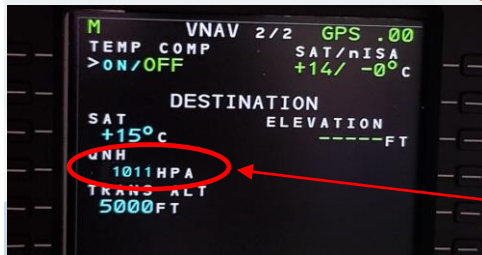
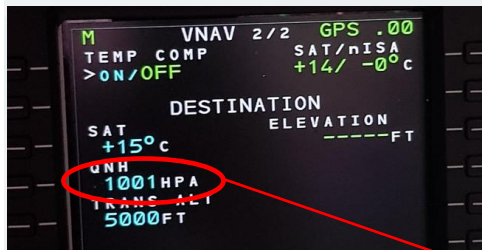


- Late feedback (only from 2500ft above ground)
- Depends on terrain profile/obstacles



Awareness to pilots

How can pilots be aware of this situation through barometric reference?



No automatic check between QNH entered in the FMS and the one set on ICP.

The QNH in the FMS displays the QNH set on ICP.

QNH_{PFD} ≠ QNH_{STBY} ?



Flight crew should cross check QNH by all available means.



Next
FCOM

Conclusion



Update of the FCOM

...to emphasize on the need of crosschecking the altimetric setting.



Implement FDM event “Wrong altimeter setting”...

...to analyze the risk of this CFIT precursor.



Inform your crews...

...about risks associated with wrong QNH settings.