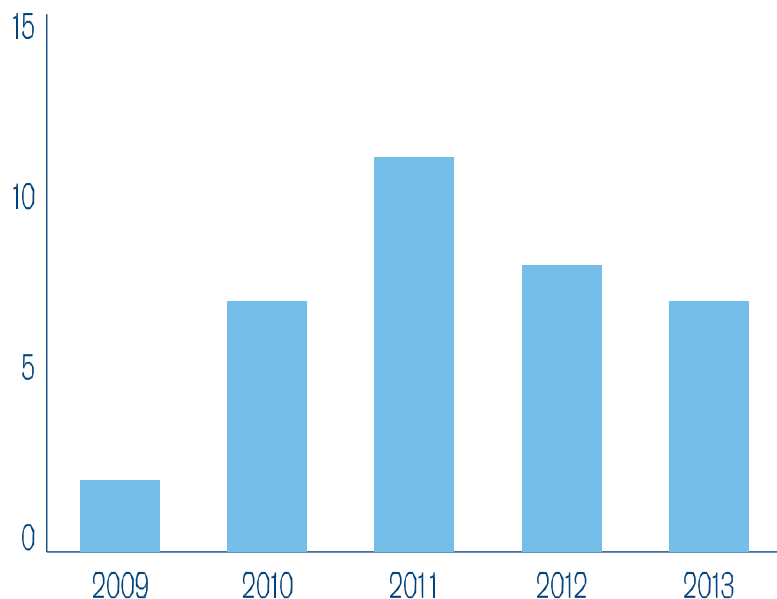




Airbus contribution to the improvement of Aviation safety and Air Navigation Performance in Africa

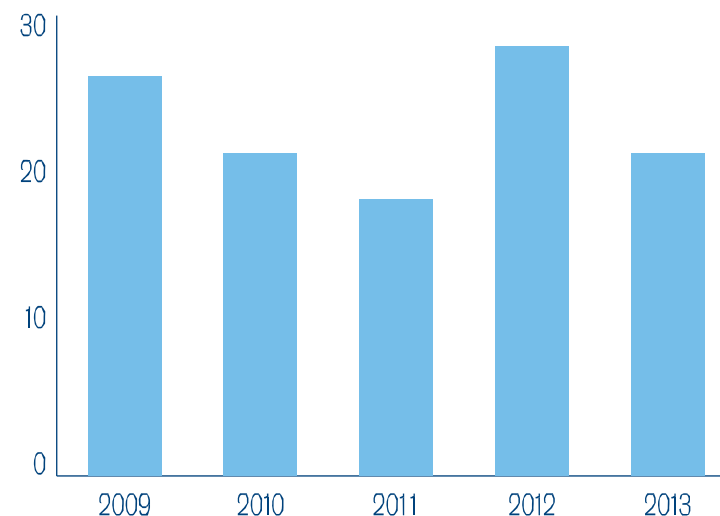
Presented by
Maury SECK / Airbus Regional Safety Director - International Safety Programs

RWY Excursion remains +CFIT #1 accident category



Controlled Flight into Terrain

In most of cases Controlled Flight into Terrain (CFIT) are associated with lack of precision approaches capabilities .



Runway Excursions

Trend for runway excursions remained relatively unchanged . From 2009 to 2013 it represents in average 23% of all accidents over the period .Improving runway Excursion trend is a key priority of Airbus strategy to reduce operational risk .

Source IATA 2013 Safety Report

Contributing Factors Based on Airbus cases analyzed

WEATHER was a contributing factor in 70% of the events

LOSS VISUAL → 40 %

DESTABILIZATION → 40 %

RWY WET → 50 %

TD OFF CL → 60 %

TD LONG → 50 %

One Typical Case

WEATHER

LOSS VISUAL

DESTAB. BELOW DH

TD OFF CENTER LINE

RWY WET

Mitigation Means: Training

Be Go Around minded

Go-around can be decided until the selection of the reversers

- Reasons for go-around decision could be:
 - Destabilization of the approach
 - Loss of visual references

Once go-around is initiated, it must be completed

Mitigation Means: Flight operations best practices

In Flight Landing Distance Assessment

- Introduction of In-Flight landing distances contributes to reduction of runway excursions
- In-Flight landing distances are EASA approved since mid of July 2012
- From now on, the In-Flight Landing Distances are the Airbus reference to assess in flight the landing performance, with and without failures
 - FCOM PER-LDG-DIS DISPATCH
 - QRH for OLD
- Further reading:
 - Safety First N°10

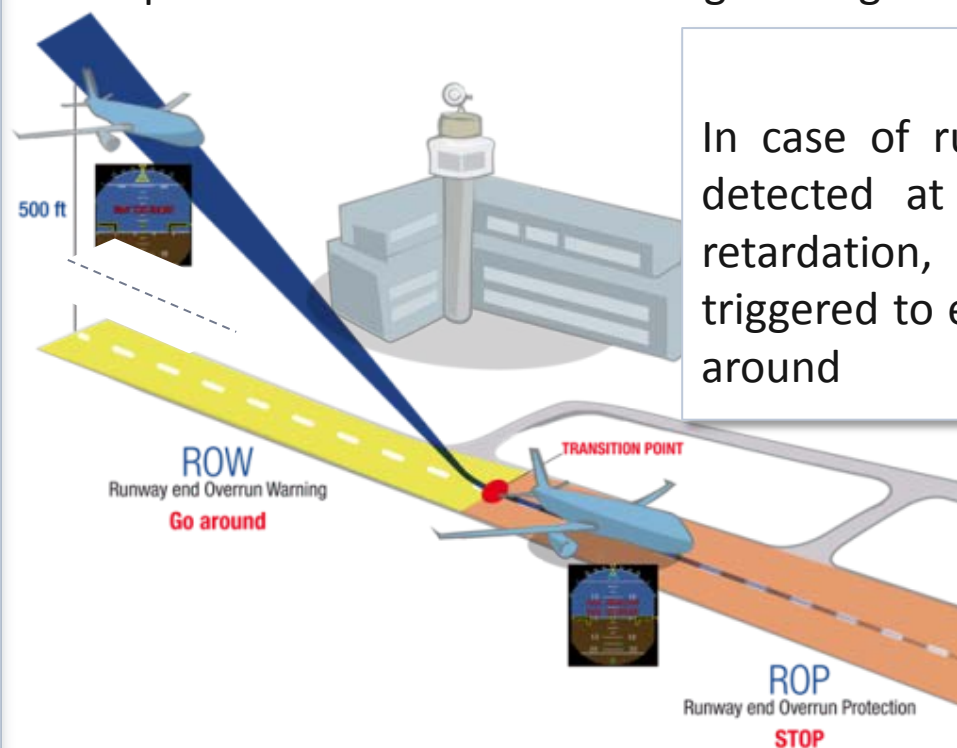


Runway State		Required Landing Distances (m)				
		Dry	Wet	Compacted snow	Slush	Standing Water
Weight (1000 kg)						
40		1 160	1 330	1 370	1 390	1 430
45		1 150	1 320	1 360	1 410	1 440
50		1 130	1 310	1 350	1 400	1 430
55		1 110	1 290	1 330	1 380	1 410
60		1 090	1 270	1 310	1 360	1 390
65		1 070	1 250	1 290	1 340	1 370
70		1 050	1 230	1 270	1 320	1 350
75		1 030	1 210	1 250	1 300	1 330
80		1 010	1 190	1 230	1 280	1 310
85		990	1 170	1 210	1 260	1 290
90		970	1 150	1 190	1 240	1 270
95		950	1 130	1 170	1 220	1 250
100		930	1 110	1 150	1 200	1 230
Altitude	Per 1 000 ft ABOVE SL	+ 50	+ 60	+ 80	+ 130	+ 130
Speed	Per 5 kt	+ 70	+ 90	+ 90	+ 140	+ 170
Wind	Per 5 kt TIR	+ 150	+ 170	+ 150	+ 200	+ 300
Reverse	Per Thrust Reverser Operative	-	-	- 80	- 90	- 100

Mitigation Means: Aircraft systems

Runway Overrun Prevention System

- Automatic detection of current landing runway using terrain/airport database
- Real time monitoring and assessment** of realistic landing and stopping distance with respect to current and remaining landing distance available



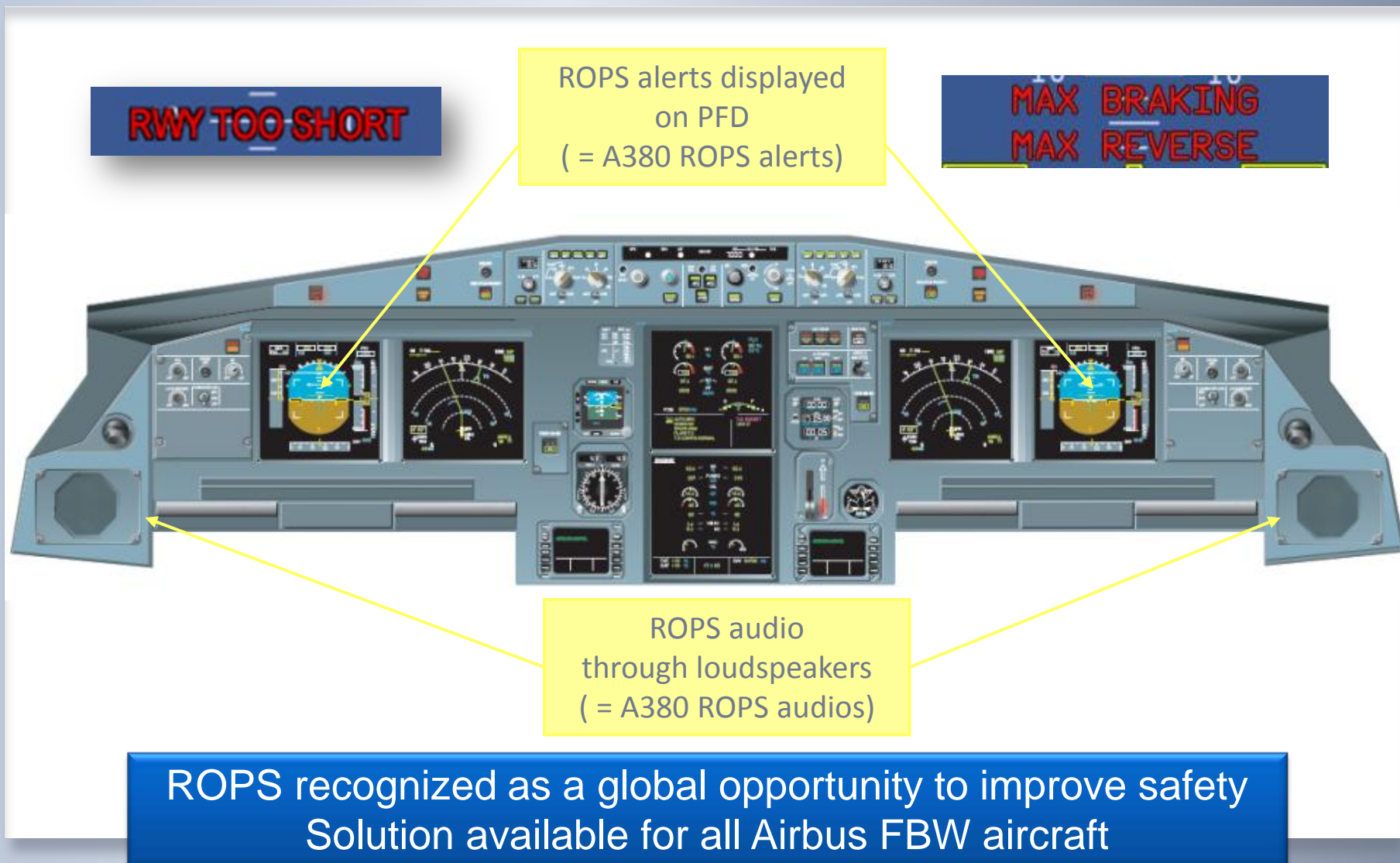
ROW

In case of runway overrun situation detected at landing before aircraft retardation, a dedicated red alert is triggered to encourage the pilot to go around

ROP

In case of runway overrun situation while the aircraft has started to brake, dedicated red alerts to set/keep full pedal braking and to select/keep max reverse thrust

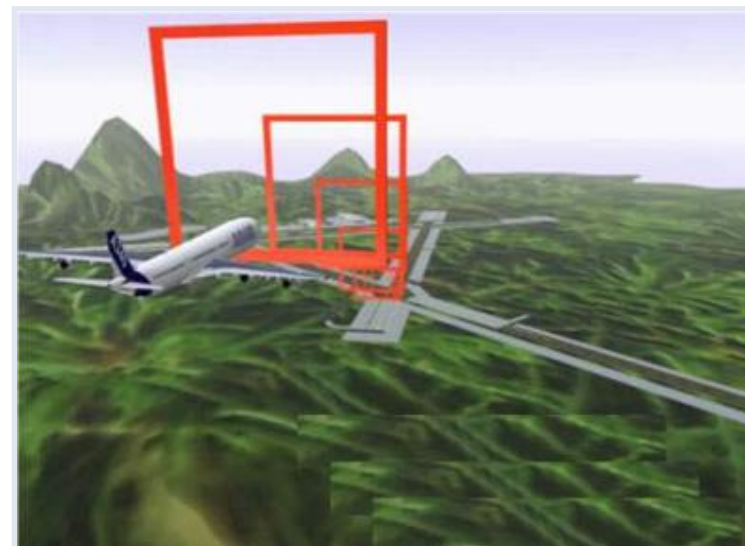
Integration of ROPS in Airbus Cockpit



Mitigation Means:PBN support

PBN approaches implementation

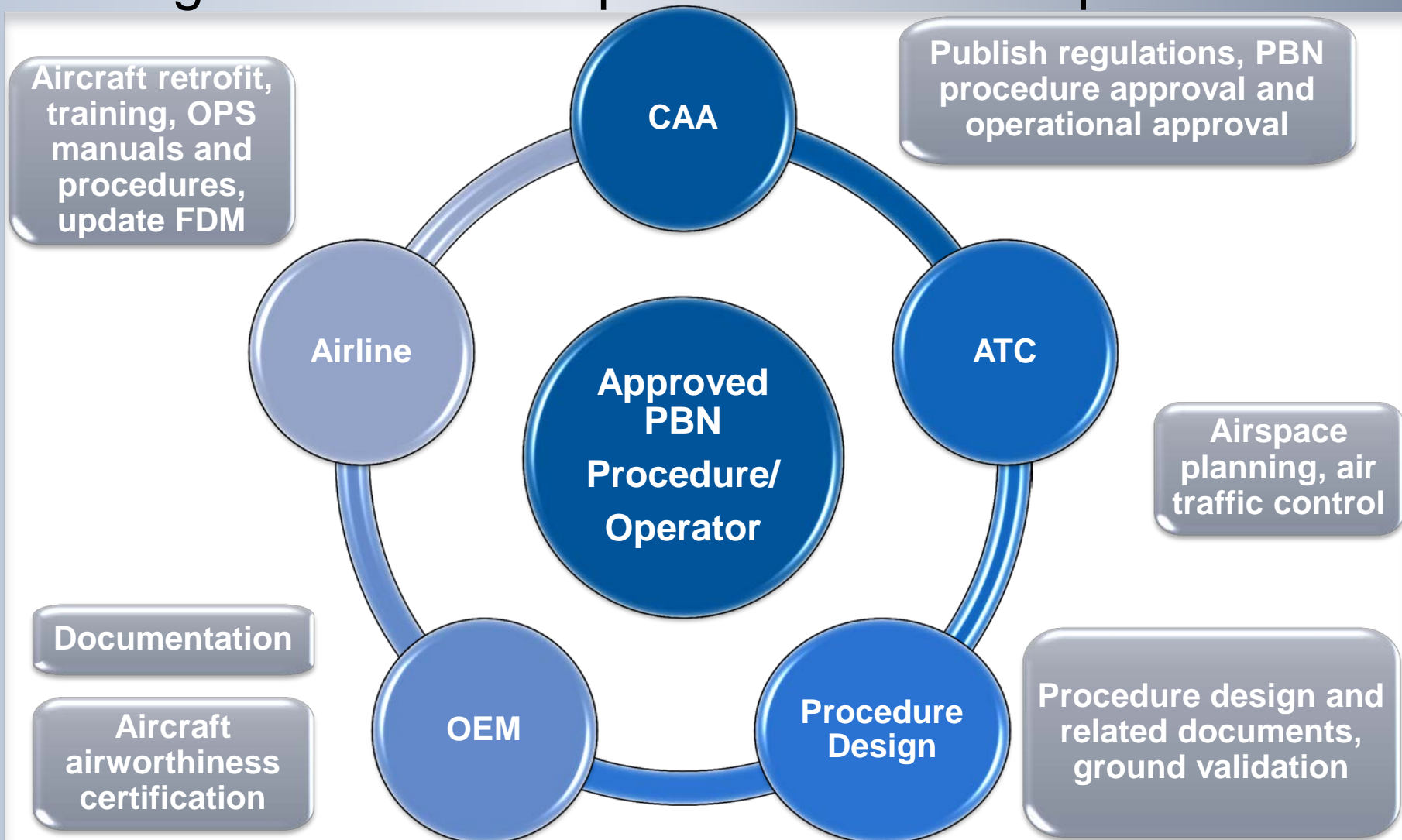
- Fully managed trajectories, laterally and vertically
- Stabilized approaches with smooth and constant descent slope
- Alignment with the runway axis
- Reduced crew workload
- Allowing replacement of existing circle to land and visual procedures
- Avoiding tailwinds landings due to avoidance of poorly equipped runways



PBN reduces the risk of un-stabilized approaches and CFIT

Airbus approach : « Train the trainer »

Sharing “know-how” capabilities and best practices



Conclusion

- Airbus actively supports the improvement of Aviation Safety through various initiatives:
 - ✓ Continuous improvement of aircraft systems and innovation
 - ✓ Airline flight operations and training departments' support for the implementation of best practices
 - ✓ Promotion of a safe and efficient PBN implementation and active support based on Train the Trainer approach and Airbus ProSky expertise
 - ✓ Active support to the ICAO African Flight Procedure Program



THANKS FOR YOUR ATTENTION!