Airbus China Safety Conference

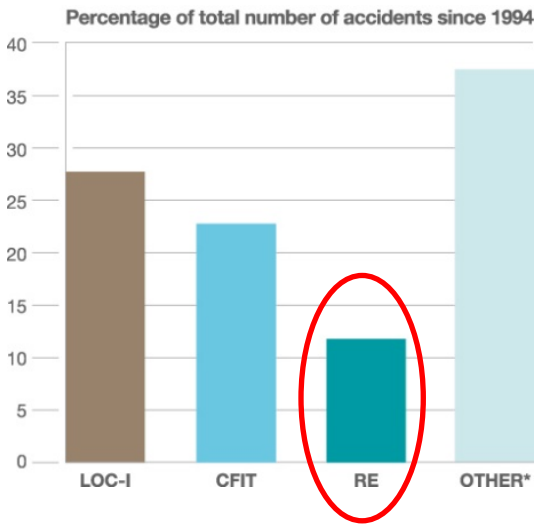
Chengdu, 15-16 July 2015

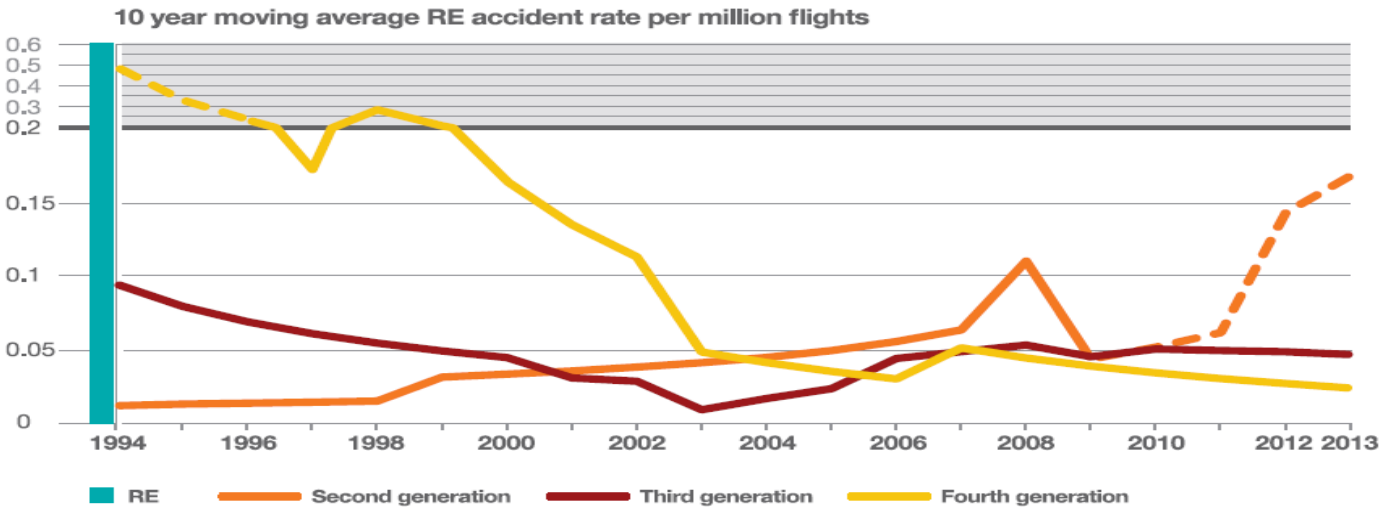
Lateral Runway Excursion

The right things to do to avoid it

Presented by Capt. Olivier ASPE

Technology as an Efficient Safety Net





Emerging technology contribution in addressing Runway Excursion:

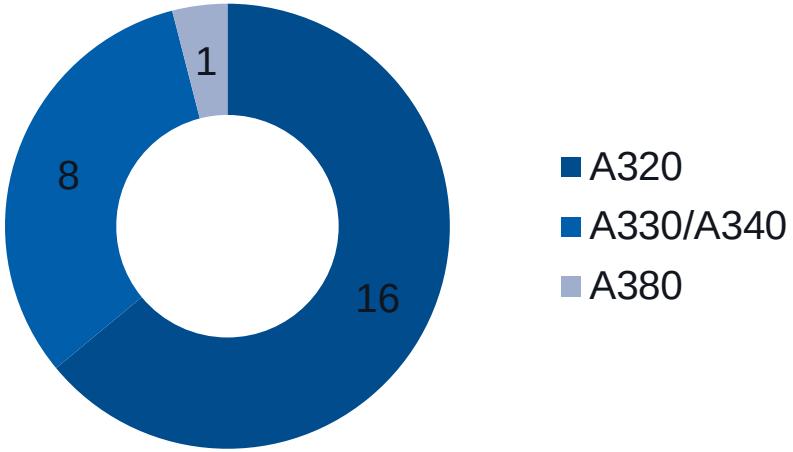
☑ ROPS or equivalent energy/landing performance based system


23:08:15 UTC
SPEED
G/S
LOC
AP 1+2
1 FD 2
A/THR
180
160
140
120
100
015
010
11
60
40
20
900
ILS
QNH 1004
117.90
3.2 NM
DN
L
R
UP
Brake Pedals
80
60
40
20
0
Rudder Pedals
40
20
0
-20
-40
AUTOBRAKE: MED
F/CTL
SPD BRK
DN
L
R
UP

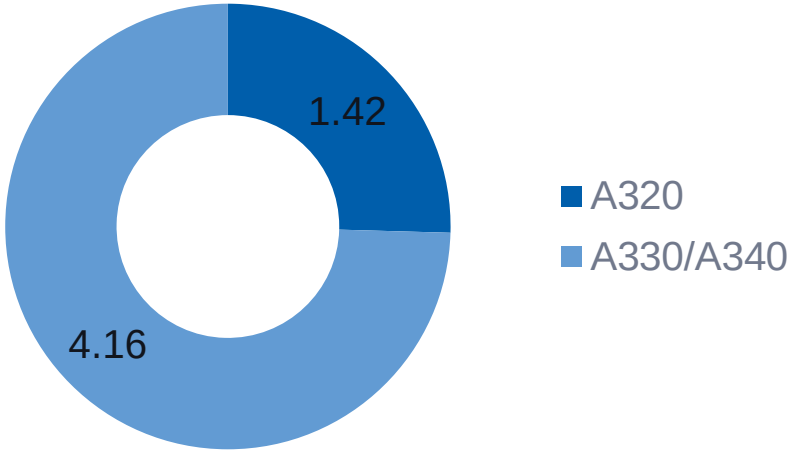
Events Analysis

- From the 01/01/2012 to the 31/12/2014:
  - 31 Airbus events reported as Lateral Runway Excursions (LRE)
  - all programs
- Among these 31 events:
  - 25 usable LRE events
  - 6 events removed for various reasons including:
    - No available data (no plots, no conclusions, no conditions)
    - LRE during U-turn at the end of the runway
    - Very narrow runway due to snow (snowdrifts)
    - RH landing gear bogie broken in two parts

LRE – Events per Aircraft Type



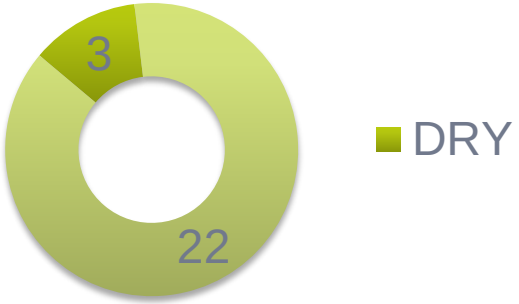
LRE – Events per Million of Landings



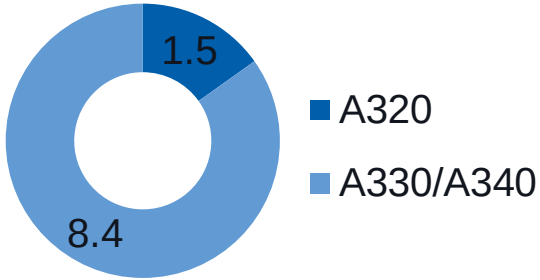
LRE – Weather Effect per Aircraft Type

LRE – Dry runway

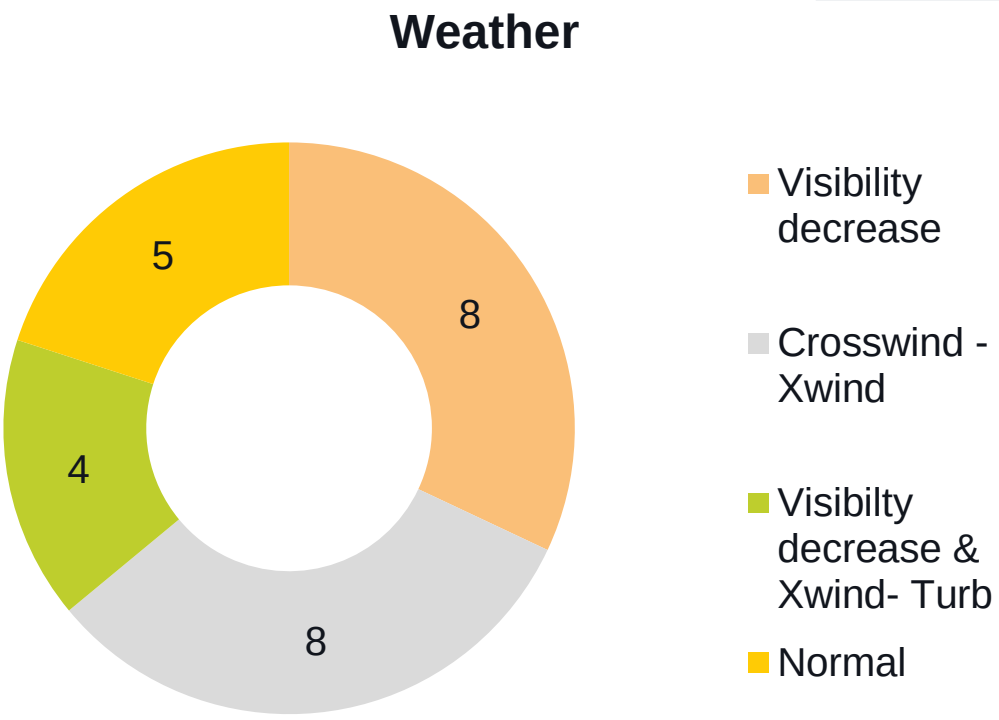
Environmental



LRE – Wet runway per million ldngs

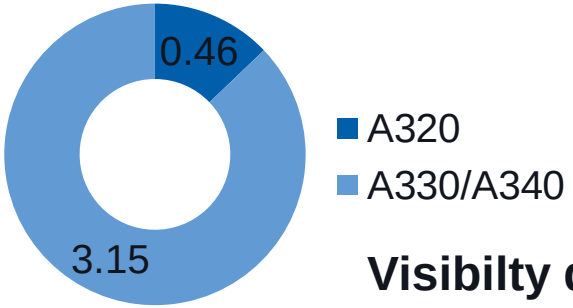


LRE – Weather Effect

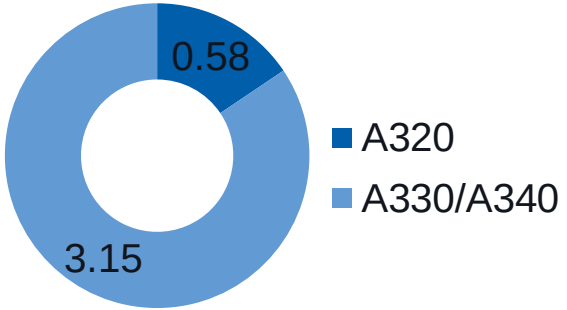


LRE – Weather Effect per Million Landings

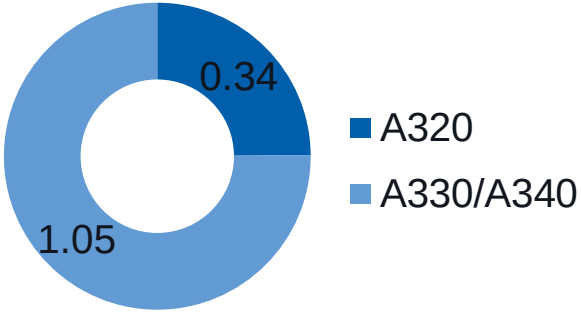
Visibility decrease



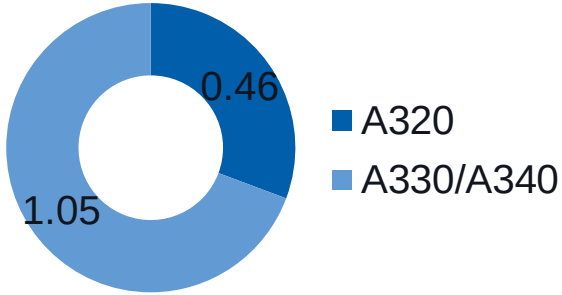
Crosswind - Xwind



Visibilty decrease & Xwind- Turb



Normal



Handling Issues

- Lack of lateral control before touch down
  - Localizer deviation away from runway centerline
- Insufficient decrab before touchdown
- Loss of situational awareness
  - Particularely below 500ft
- Poor ground control
- A combination of the above

What Is the Correct Technique?

Be correctly seated

Full deflection of all flight controls and braking must be possible at all times

Be Go-Around minded

Initiate go-around close to the ground or bounced landing procedure, if needed (as long as reversers are not deployed, a go-around is always possible)

Be Stabilized

Aircraft must be on the correct lateral and vertical path at the correct configuration and speed and continuously until the flare is initiated.

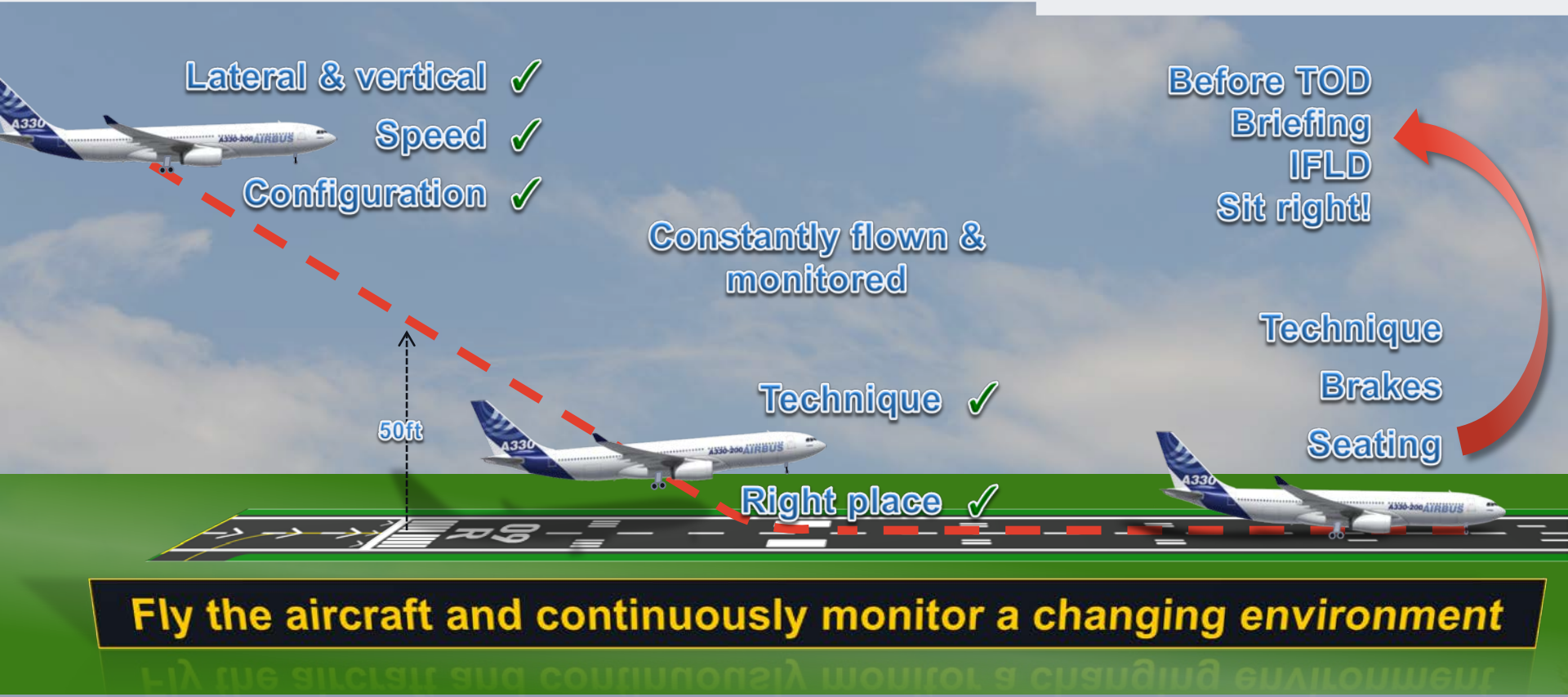
What Is the Correct Technique

Be aware of the landing conditions
- Fly within the crosswind limits of the aircraft
- Be aware on the runway braking coefficient

Use proper flare and decrab techniques
- Flare, decrab and land in the landing zone with the correct alignment
- Land without delay after decrab

« Fly » until you vacate the runway
- Weathercock effect
- Braking
- Respond immediately to any adverse reverser effect

Conclusion



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