Runway Excursion Task Force Update

RETRE Conference

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Group Composition

- Internal – Aerodrome Standards, Air Traffic Standards, Flight Ops, Pilot Licensing, Strategic Analysis, Press Office
- External – British Airways, Virgin, EasyJet, Netjets, BAA Heathrow, NATS, Bristol Airport, Manchester Airport, GAPAN

Terms of Reference

- Purpose: To evaluate the causal factors associated with runway excursions and recommend any safety initiatives and safety performance indicators to Safety Risks Team
- Key Tasks: Review work already completed or underway regarding runway excursions both internally and externally
- Analysis the risks related to runway excursions and create strategies for monitoring and reducing these risks
- Develop Safety Performance Indicators in conjunction with Strategic Analysis

Deliverables and timescales

- December 2009 – Report progress to SRT and CAA EC
- February 2010 – Report progress to Safety Conference

Runway Excursion Definition

- A runway excursion is defined as an aircraft inadvertently or uncontrollably leaving a runway end or side, usually during landing but also during takeoff, especially following a rejected takeoff

- Consists of two types of events:

- Veer-off: A runway excursion in which an aircraft departs the side of a runway
- Overrun: A runway excursion in which an aircraft departs the end of the runway

Recent Runway Excursions

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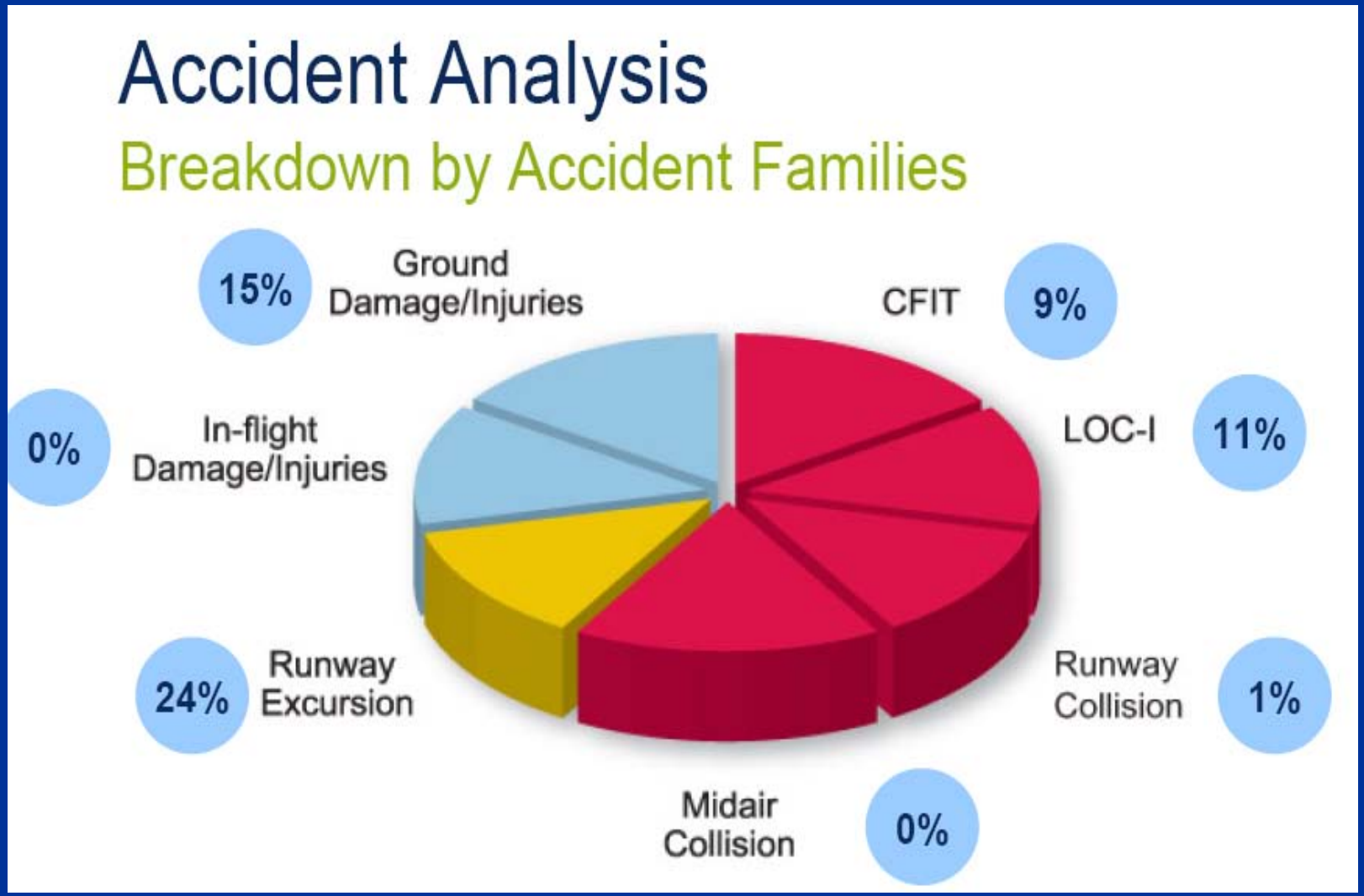
Excursion Data (IATA)



CAA Fishbone Group

- Main Risks Areas identified:

- Flight handling
- Timely crew decisions
- Technical failures
- Pilot information
- Airport issues
- Post event management
- Training

Other initiatives

- Flight Safety Foundation – Report of the Runway Safety Initiative and Runway Excursion Risk Awareness Tool
- IFALPA – Runway Safety Manual
- FAA Circular on Runway Excursions
- Australian Transport Safety Bureau Excursion Report

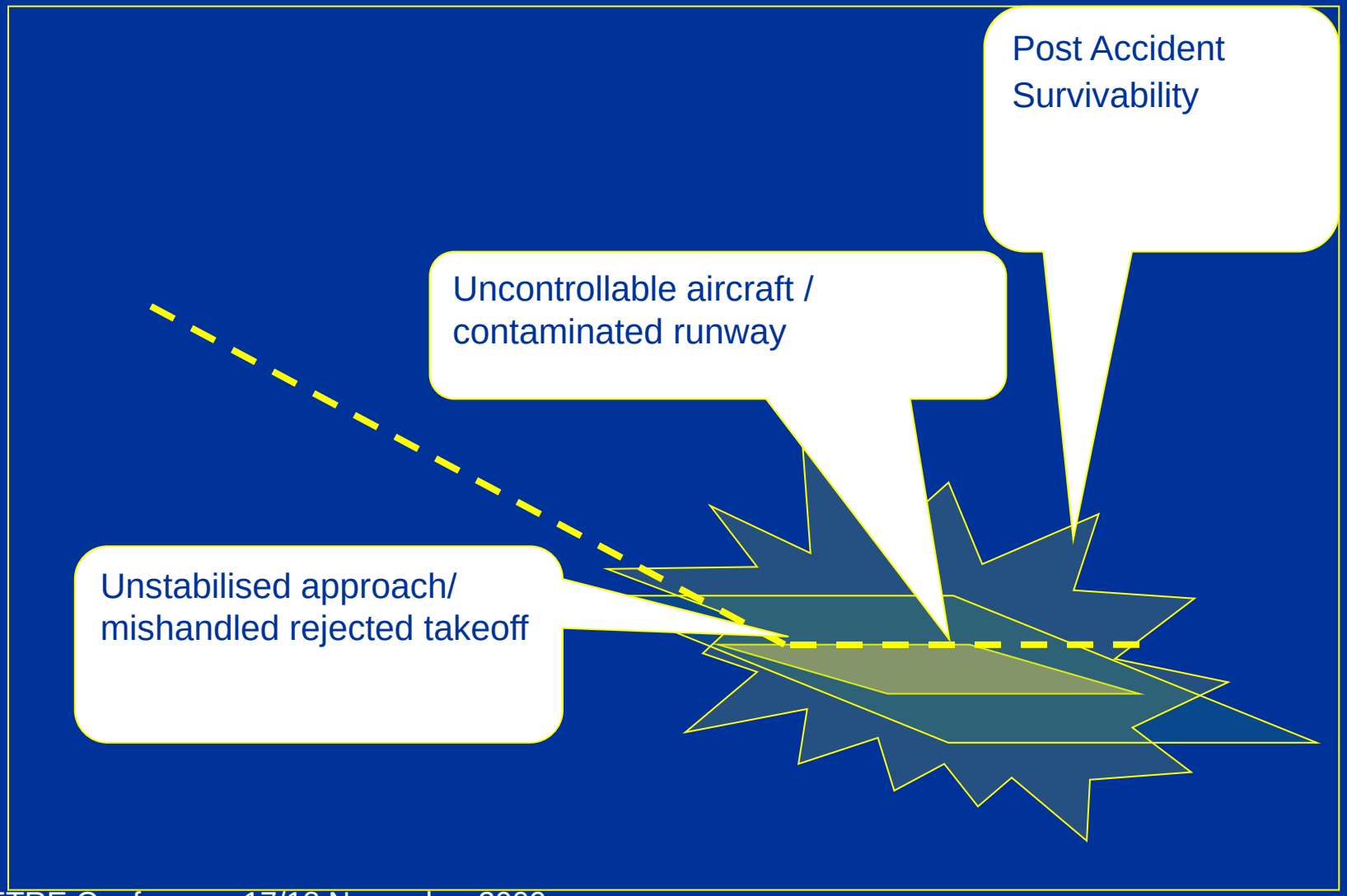
- EUROCONTROL – Runway Excursion Group supported by extensive data from NLR Air Transport Safety Institute

Landing Excursion Risk Factors

- Wet / contaminated runways
- Long landing
- High Speed
- Ineffective braking
- Touch down fast / hard
- Incorrect decision to land
- Aquaplaning
- Tailwind
- Late / incorrect use of reverse thrust
- Landing gear malfunction
- Approach high

Takeoff Excursion Risk Factors

- Rejected takeoff after V1
- Wet / contaminated runways
- Tyre failure
- Aircraft weight calculation error
- Lack of directional control
- Power loss / asymmetric thrust
- RTO not considered
- Pilot technique - crosswind


Post Accident Survivability
Uncontrollable aircraft / contaminated runway
Unstabilised approach/ mishandled rejected takeoff

Un-stabilised approaches

- Pressures on crew: weather, ATS, timely crew decisions, late runway change, commercial pressure……..!

- Planning – landing briefing
- Be prepared for change
- Go-around minded
- Just culture
- Training – SOPs, stabilised approach criteria

Runway Friction

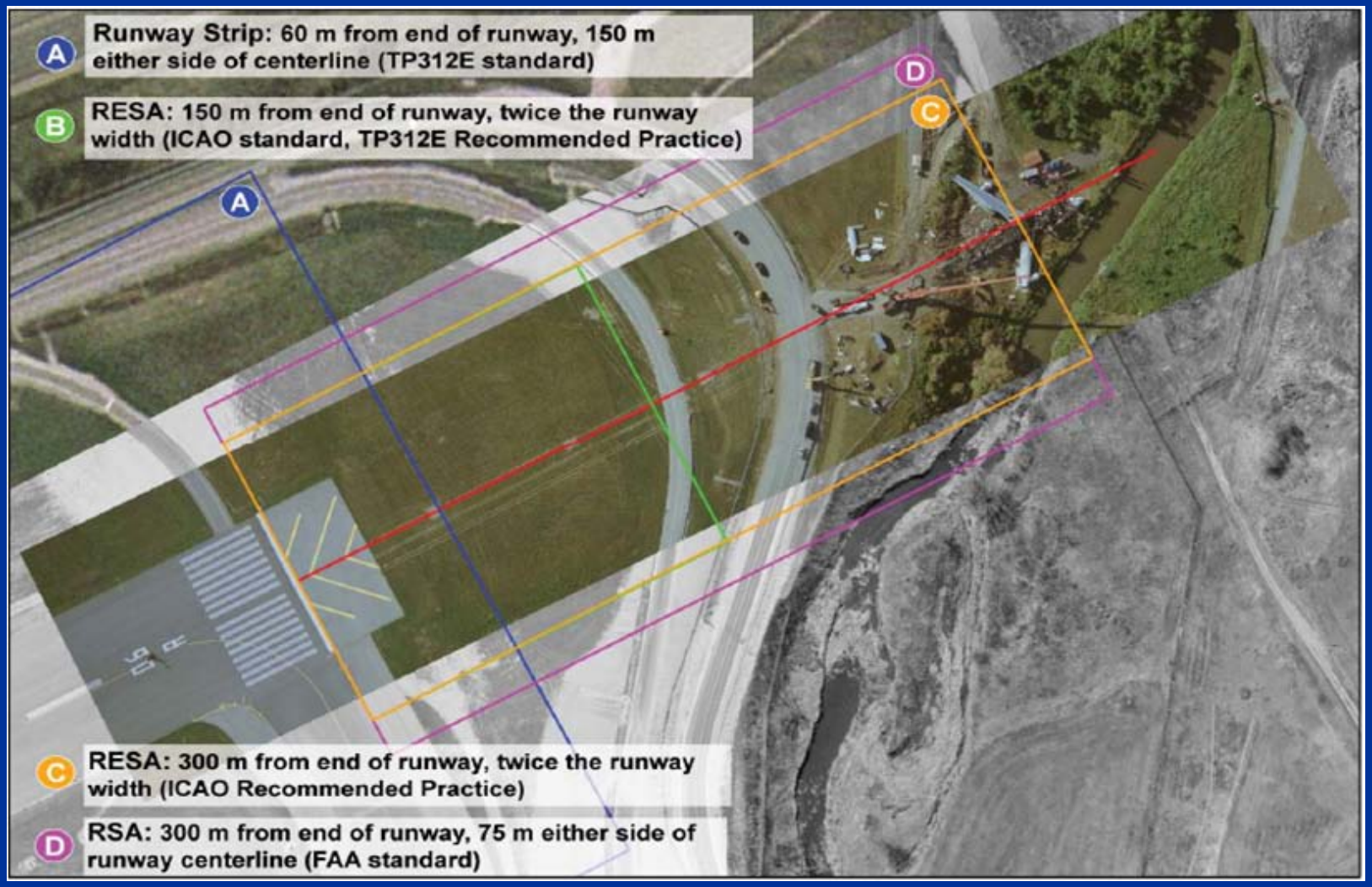
- Goal – Aerodrome operators to give meaningful data to provide assured stopping distance in ***all*** runway conditions

- ICAO Runway Friction Task Force – Wide ranging review of runway friction (circular / proposed amendment to SARPS / action plan)
- FAA TALPA-ARC – Development of a runway assessment matrix
- EASA – Runway friction research programme

Runway Friction

- Runway rehabilitation – Porous Friction Course (PFC) / Grooved Marshall Asphalt
- Development of new surfaces that offer better wet braking performance due to better macro and micro texture
- New materials do not require grooving!

Post Accident Survivability

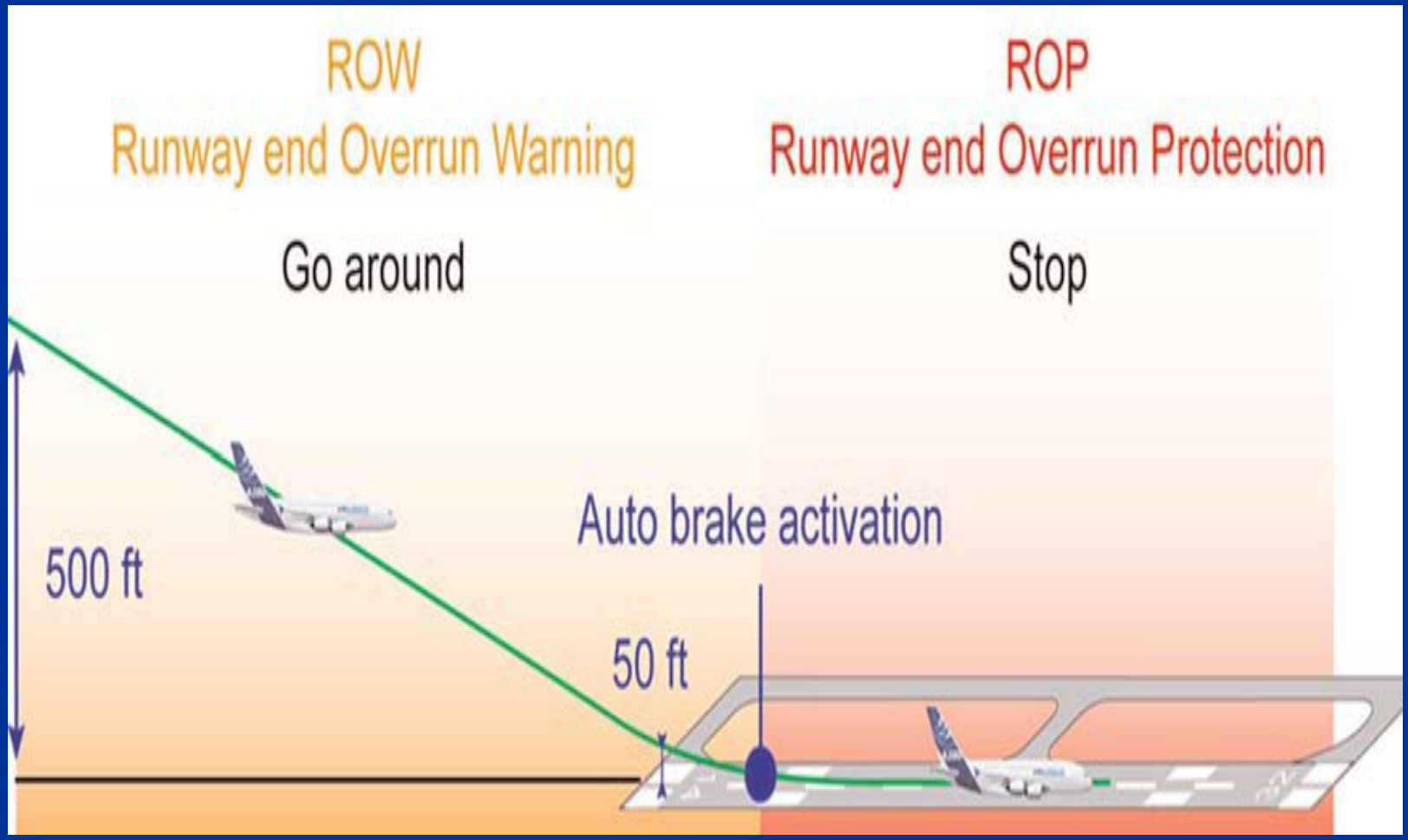


Post Accident Survivability

New Technology

- Airbus – Brake to Vacate and Runway Overrun Protection System (ROPS)
- Honeywell –Smart Landing

Airbus Runway End Overrun Warning



Airbus Runway End Overrun Warning

Shared practices

- Using flight data to identify trends, analyse incidents, monitor for high energy / rushed approaches, deep landings
- Incorporate lessons learned into training exercises
- Train for go arounds from “unusual” altitudes other that 200ft
- Unambiguous go-around policy

Conclusions

- Industry / airlines already have runway excursions as a high priority
- Identify and mitigate “high risk” factors
- Work in conjunction with other organisations to highlight and share best practice
- Airlines should identify “high risk” runways
- Airlines / aerodromes need to assess the risk of runway excursions as part of their SMS