

HONG KONG ATC-PILOT SYMPOSIUM

29 SEP 2017/ 0900-1700
CAD HQ AUDITORIUM

RUNWAY SAFETY AND STABILIZED APPROACH

Presented by
Captain Brian Legge



HKATCA

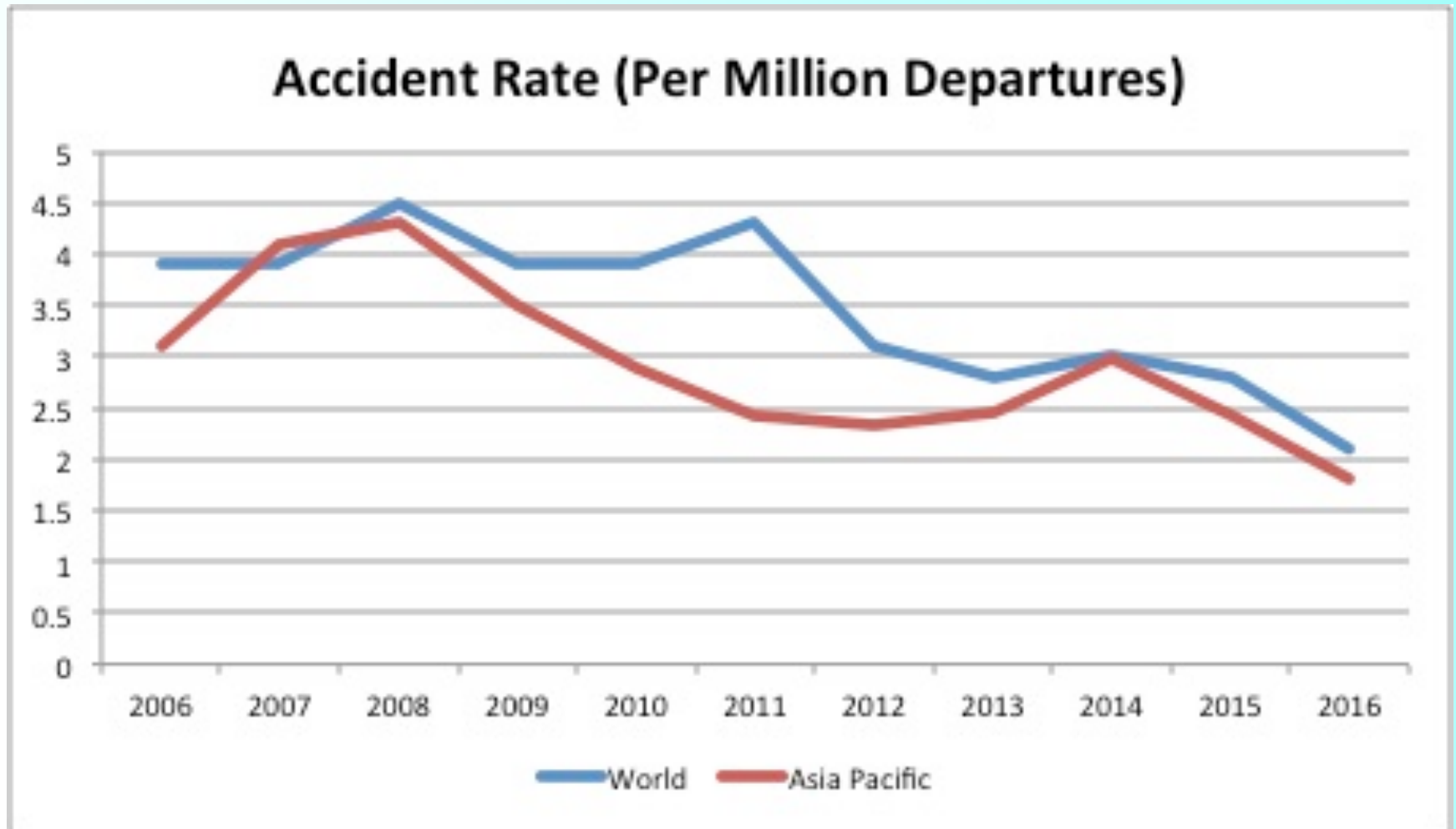
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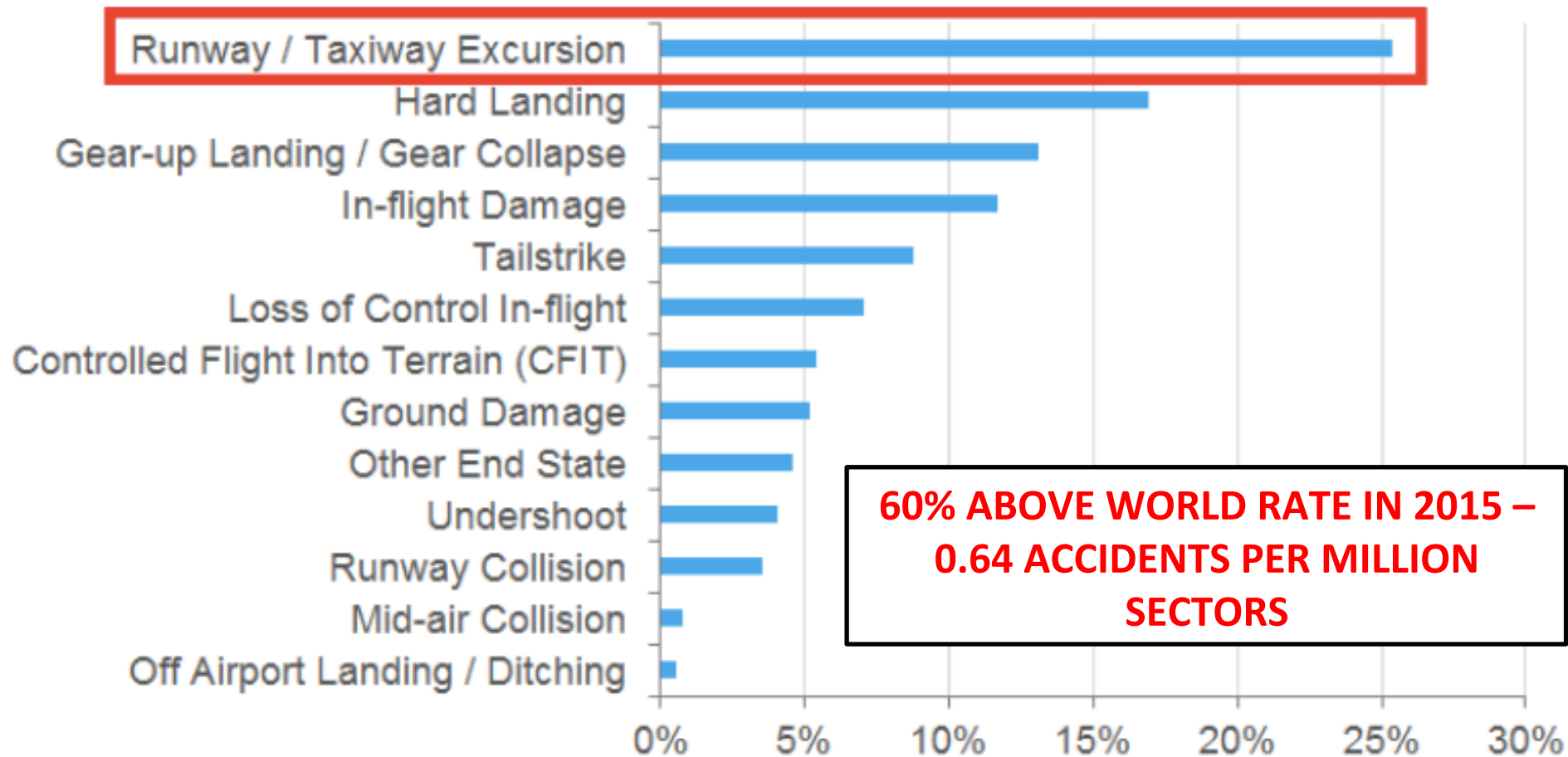
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Global Aircraft Accident Rate



Accidents by Category 2012-2016





List of recent runway mishaps at Kalibo:

2014-12-30	A320	AirAsia Zest	ran off runway on landing
2013-12-19	A320	AirAsia Zest	ran off runway during turnaround
2013-08-26	A320	Tigerair Phil.	ran off runway during turnaround
2012-02-13	A320	AirPhil Express	ran off runway on landing
2010-08-17	A320	Philippine Airlines	ran off runway on landing



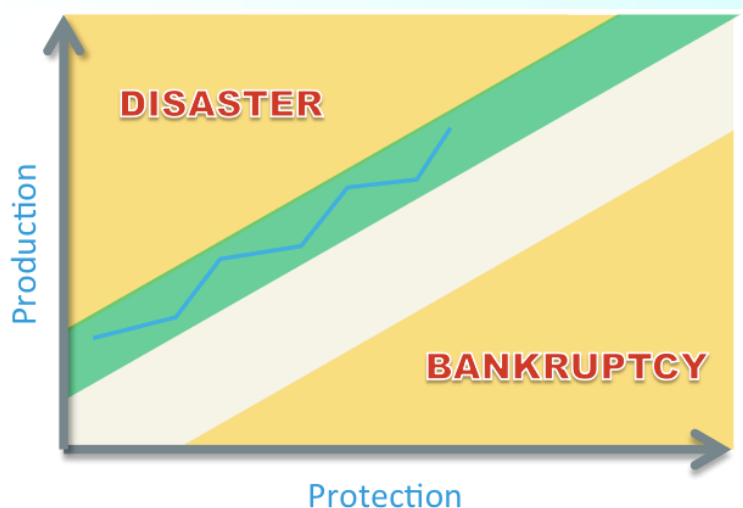
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How Do We Proceed??

- Assessment from a SYSTEMS Perspective
- Utilize Risk Management Tools
 - Address Probability AND Severity



Risk MANAGEMENT does NOT mean NO RISK!
ALARP Principles Apply
Manage and Mitigate Wherever Feasible



Runway Safety: A Systems Perspective

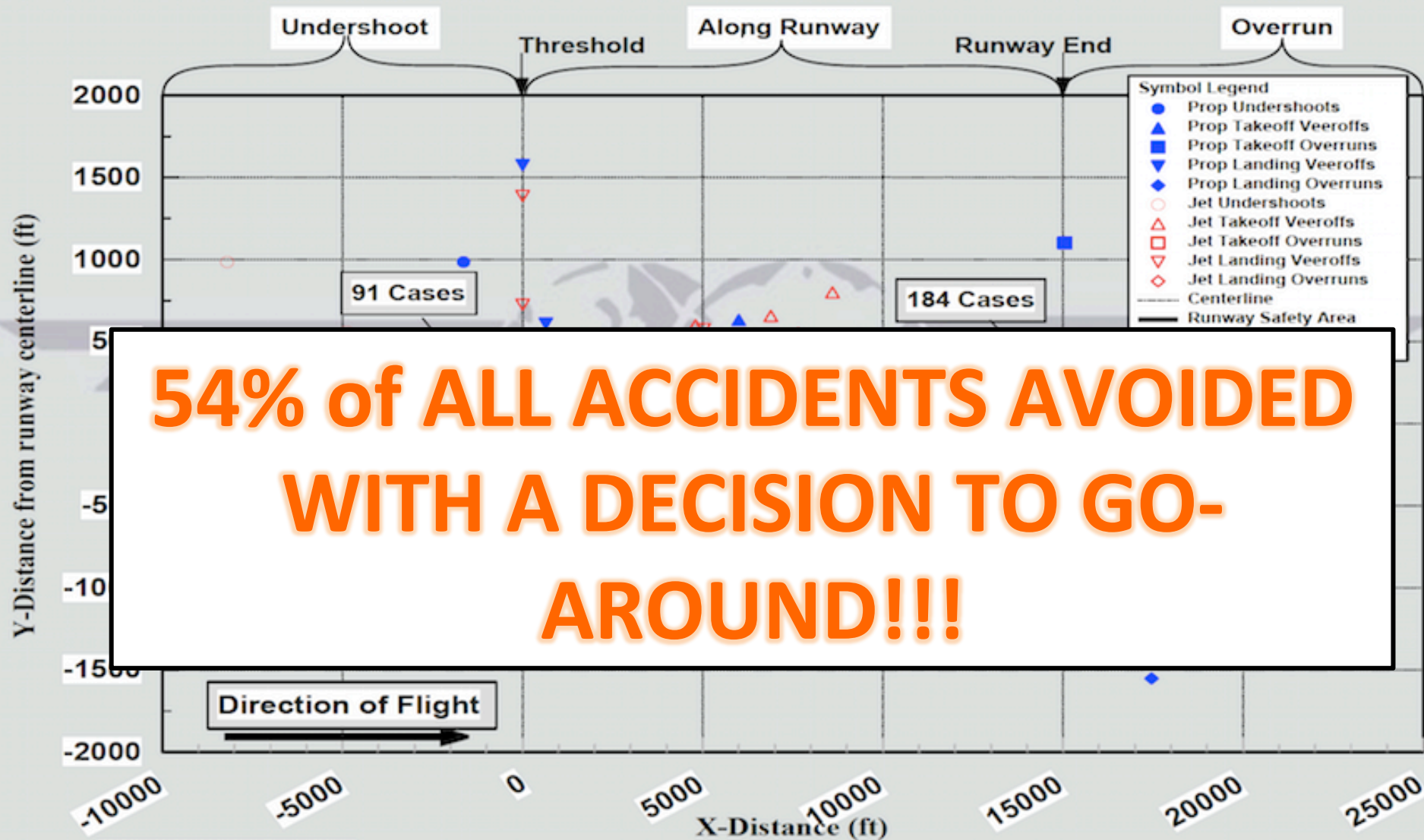


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Location of Landing and Takeoff Accidents



**54% of ALL ACCIDENTS AVOIDED
WITH A DECISION TO GO-
AROUND!!!**



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The Pilot Component

**LOSS
OF S.A.**

NORMAL

FATIGUE

STRESS

**EXTERNAL
FACTORS**

**WORK
LOAD**

WHY???



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The Pilot Component

EGO?

RISK?

**LOSS
OF S.A.**

**PREVIOUS
EXPERIENCE**

UNCERTAINTY

3%

UNSTABLE

APPROACHES

UNCERTAINTY?!



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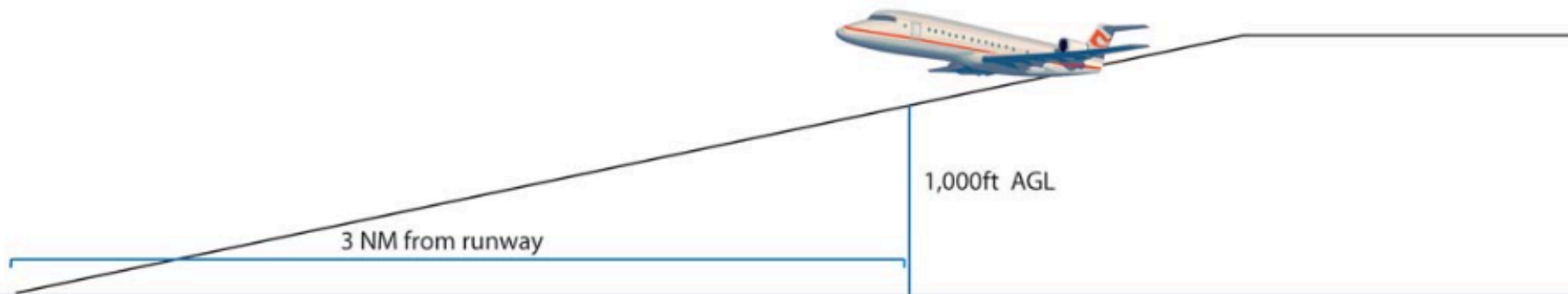
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Stabilized Approach

- Stabilized on Correct Flight Path – Vertically & Horizontally
- Aircraft Fully Configured – Gear, Flaps, Speed (*considering prevailing conditions & ATC requirements*)
- All Briefings, PAs, and Landing Checklist Complete
- Stability **Maintained** Throughout Approach and Landing





 **MadLipz.com**



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The Pilot Component

- Compliance with SOPs / Stabilized Approach Criteria
- Landing Performance Assessment on EVERY Landing
- Nominate an Exit / Action Point on Runway
- Know our Aircraft Performance
- Improved Monitoring and Assertiveness from Pilot Monitoring (PM)
- What ELSE??



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Air Traffic Control

- How do our roles conflict??
- SHORT CUTS / Vectors
- Late runway changes



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IATA / Operators

- Is there a REAL go-around culture?
- Conflict with Efficiency (Fuel / OTP / Investigations)
- Is there a Stabilized Approach Criteria Established?
- Training – Go-Arounds from a Variety of Altitudes



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Regulators

- RNP or Precision Approaches to ALL Runways Used In Commercial Ops
- Oversight – Training & Culture
- Investigations



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Aircraft Manufacturers

Guidance

- No Landing is Routine



www.boeing.com/flight-safety#/excursions

Technology

- Runway Overrun Prevention System (ROPS)
- Runway Situational Awareness Tool (RSAT)

Aircraft as a Sensor



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Airports

- Local Runway Safety Teams (LRST)
- Maintenance of Runways
- Improve Measuring & Reporting of Runway Conditions
- Runway End Safety Area (RESA) or EMAS
- Effective Communication to Stakeholders



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Recent Hong Kong Excursion

Braking Action			Maximum Crosswind			
			*T/O ≤ 35% MAC			LDG
ICAO	CODE	MU	250 or above	215	180 or below	All Wgts
Dry	6	>50	38 kts		33 kts	38 kts
Good	5	40 & above	38 kts	34 kts	29 kts	38 kts
Good to Medium	4	39 - 36	29 kts	25 kts	20 kts	20 kts
Medium (Fair)	3	35 - 30	20 kts	19 kts	18 kts	20 kts
Medium to Poor	2	29 - 26	15 kts			15 kts
Poor	1	25 - 21	10 kts			15 kts
Nil	0	20 & below	---			

- Slipped
- Dry on
- Greater than
- Dry S

medium

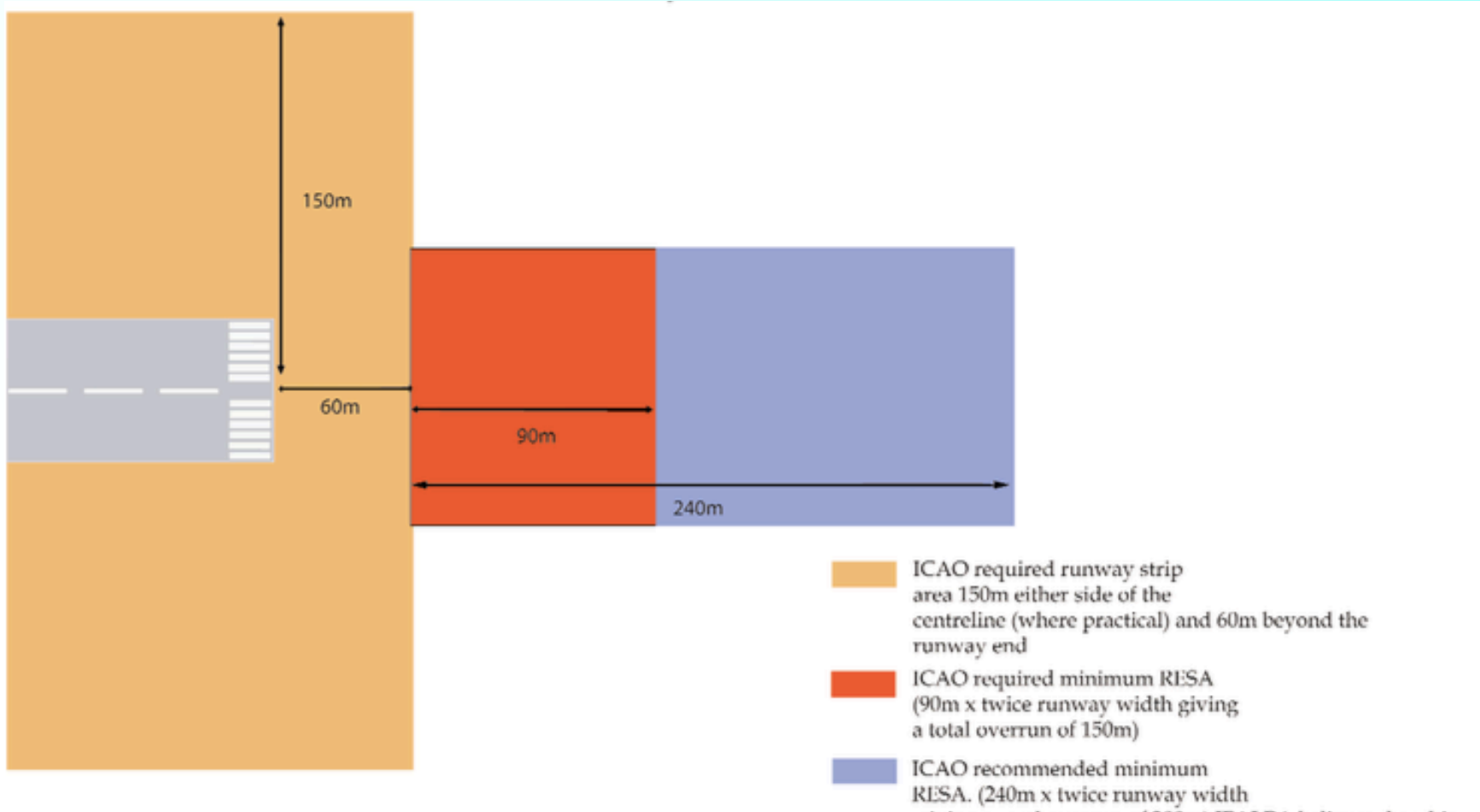


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Runway End Safety Area (RESA)





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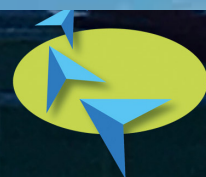


ATTENTION B737NG CAPTAINS

NO ASSESSMENTS!!

IMMEDIATE JOINING!

CONTACT NOW: [REDACTED]



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Sources

Go-around Decision-Making and Execution Project – Flight Safety Foundation

IFALPA Runway Safety Manual



ICAO Annual Safety Report 2016 (APAC)



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A Quiet Afternoon in HKG



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