



Increased access regional airports

(Monday, 23 May 2016 | 11:50 – 12:25)

PRESENTED BY:

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Increased access regional airports

RMT 0296 / 0297 two major items

ICAO State letter 30



FAA TALPAARC

Harmonization

Dispatch Landing Factor

1. More passengers / pay-load
2. More destinations → Regional airports

RISK is a function of the likely hood and the severity of an occurrence.

Bottom line: Effect on society, expressed in Fatalities, Injuries, Damage to property and equipment, Disruption to operation and Legal (civil & criminal).

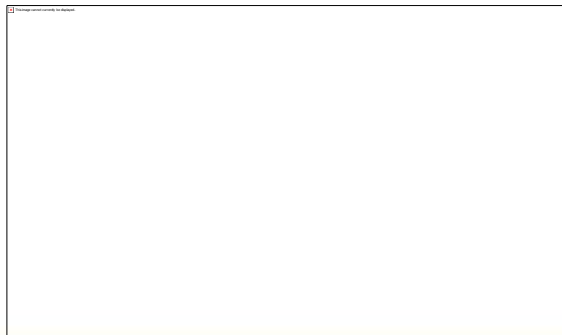
Safe-Runway developed a **model** for large commercial operators expressing the risk of runway events effects in costs.

Cost-Benefit and Return of (safety) Investment can be used as **management tool** for efficient runway excursions risk reduction

Sources: Safe-Runway GmbH

Dassault Falcon 20 Chicago Executive 26-01-16

Runway Overrun, Long landing, runway M μ 0,7. NCC



Runway excursion cost calculation:

Total estimated Overrun costs

- \$ 4,4 Million
- \$ 10,8 Million (if No EMAS)
- ICAO compliant

→ Low Risk regional airport

Embraer 190 Cuenca (equador) 28-04-16

Runway Overrun, Wet, CAT, 93 occupants, provenance.



Regional airport Cuenca:

- Closed 7 days
- Inadequate Strip
- Inadequate RESA
- Ditch, roads & rural area
- NON-ICAO standard airport

→ High risk regional airport

Embraer 190 Cuenca (equador) 28-04-16

Runway Overrun, Wet, CAT, 93 occupants

INPUT		OUTPUT	
Accident data		Million \$	Total \$
Date	28-Apr-2016		\$ 130,83
Severity	Major		
Aircraft			
Type	Embraer 190		
Age	2		
SCB	93		
Type of operation	Narrow body pass		
If TYPE OTHER, provide:			
Unit Price (only)			
Monthly lease			
Daily clear costs			
Airport			
Name	SECU		
Type	Regional airport		
If TYPE OTHER, provide:			
Revenue per aircraft (Min)			
Number of landings per hour			
Number of hours per day runway is open			
EMAS installed?	No		

INPUT		OUTPUT	
Accident data		Million \$	Total \$
Date	28-Apr-2016		\$ 485,83
Severity	Disaster		
Aircraft			
Type	Embraer 190		
Age	2		
SCB	93		
Type of operation	Narrow body pass		
If TYPE OTHER, provide:			
Unit Price (only)			
Monthly lease			
Daily clear costs			
Airport			
Name	SECU		
Type	Regional airport		
If TYPE OTHER, provide:			
Revenue per aircraft (Min)			
Number of landings per hour			
Number of hours per day runway is open			
EMAS installed?	No		

Estimated Accident costs

- \$ 130 Million (current)
- \$ 484 Million (if left/right or slightly higher speed)
- \$ 14 Million (if EMAS)

Runway RISK reduction

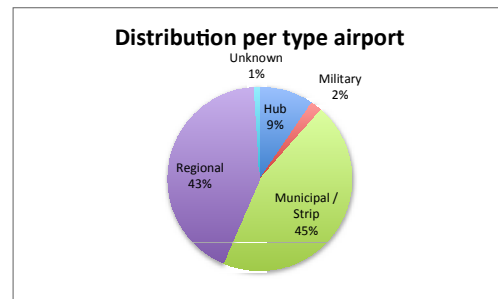
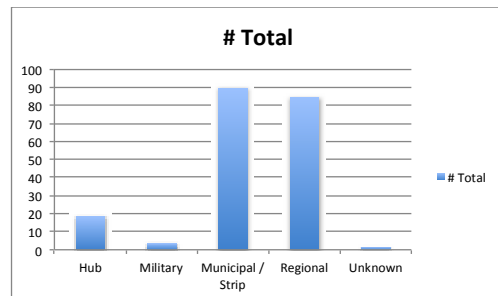
Likelihood: Aircraft operators SOP's.

Severity: Airport operators

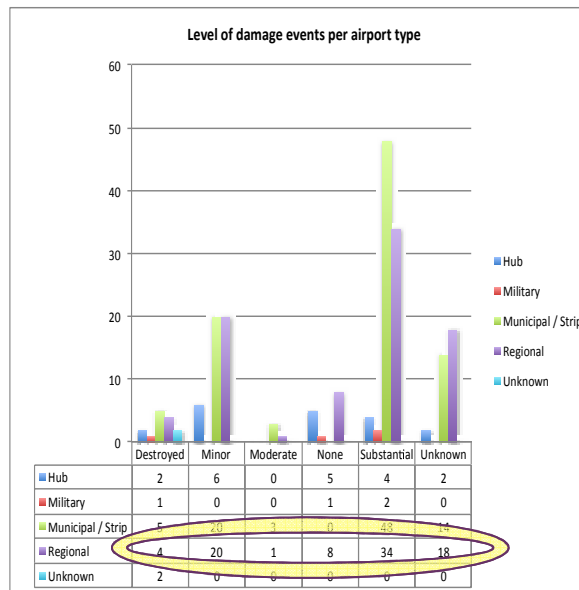
- ICAO standard runway strip & RESA or alternative reduces risks and reduces accident costs.
- (Regional) Airports have a vital role in reducing the runway excursion risk (and costs).

2016 runway events, Airport operator related

200 events (11-05-2016)



Sources: Safe-Runway GmbH



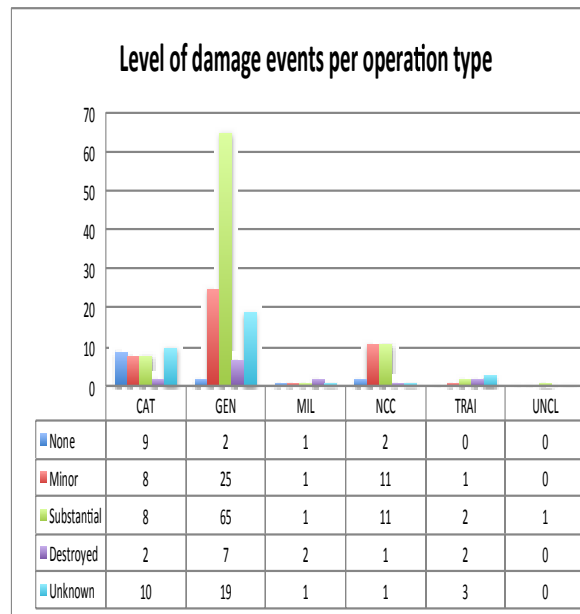
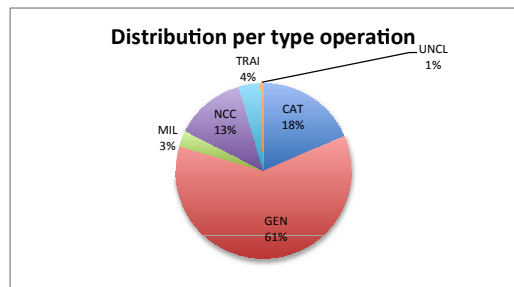
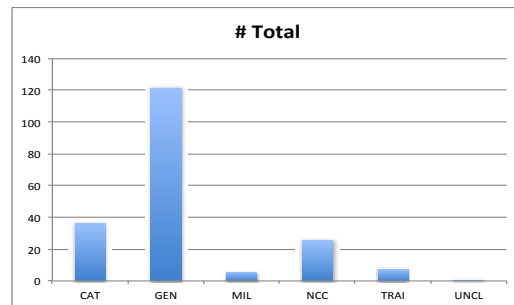
Conclusion:

Regional airports

- High # occurrences
- High damage levels

2016 runway events, Aircraft operator related

200 events (11-05-2016)



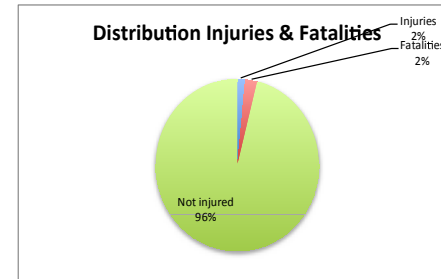
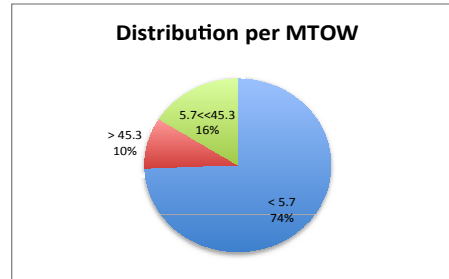
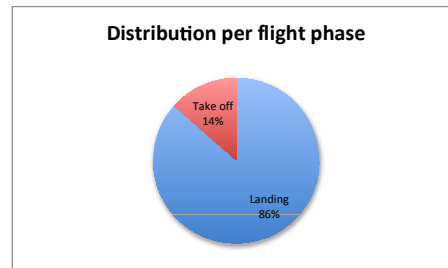
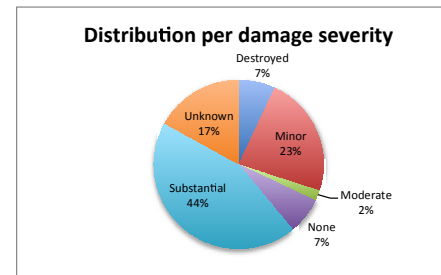
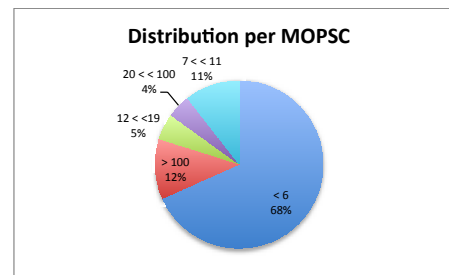
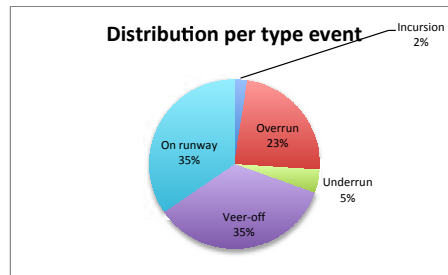
Conclusion:

- CAT & NCC 31% of all runway events
- CAT & NCC 15% suffered more than minor damage

Sources: Safe-Runway GmbH

2016 runway events distribution

Period 1 Jan – 11 May



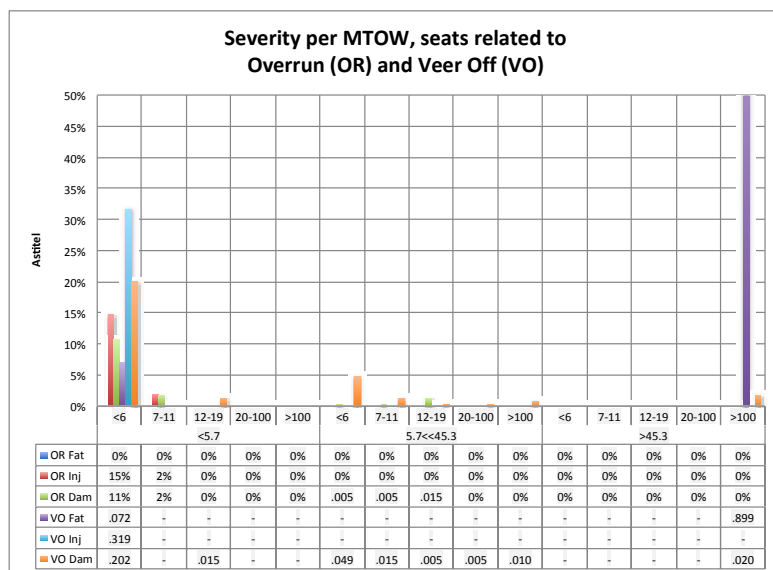
Conclusions:
Of ALL runway occurrences

- Damage 90%
- Injuries / fatalities 2%
- Landing overruns 20%
- Business type a/c 2,5%

Sources: Safe-Runway GmbH

Overrun risk Business type aircraft

RMT 0296 / 0297



Sources: Safe-Runway GmbH

CAT.POL.A 230

RMT addresses:

Landing (86%) Overruns (23%) of CAT (18%) operated business type aircraft with 7-19 MAPSC (16%) and a 5.7- 45.3T MCTOM (16%).

These accounted in the period 01-01-16 to 11-05 2016 for **0,01%** of ALL runway occurrences with more than minor damage.

Conclusion

- (Safety) Effect on society is virtual NIL
- 80% landing factor has Equivalent level of safety!
- RIA important

CAT.POL.230.A

Status update

WG in principle reached an agreement on 80%

- Applies to aero planes with a MCTOM of 45 360 kg or less and a MAPSC of 19 and less in non-scheduled on demand commercial air transport operations
- Approval by competent authority
- Conditions:
 - Either a risk assessment OR
 - Special conditions applicable

Special conditions

- Aircraft
 - MEL dispatch braking devices, flaps, etc.
- Operations
 - No special approach procedures
 - In flight landing check
- Crew
 - Adequate training, checking, monitoring
 - Recency
- Airport (DAAP)
 - No tailwind
 - Not contaminated
 - Special conditions when Wet
 - No Adverse weather

Sources: Safe-Runway GmbH

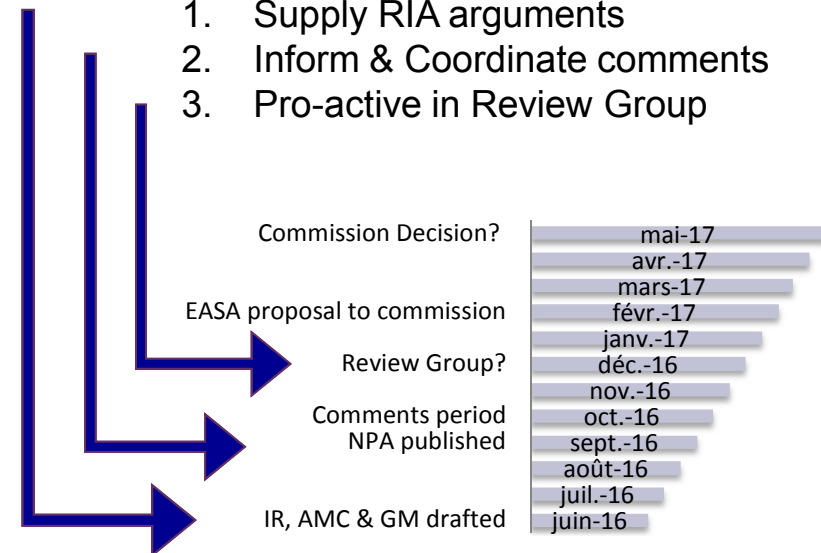
CAT.POL.230.A

Status update

- Drafting Guidance Material and Acceptable Means of Compliance, to be ready June 16
- Regulatory Impact Assessment June 16
- WG agreement in summer 16
- Publication NPA in fall 16
- Public comments period
- Review group depending on comments ?
- EASA proposal to EU commission Early 2017.

EBAA action:

1. Supply RIA arguments
2. Inform & Coordinate comments
3. Pro-active in Review Group



Sources: Safe-Runway GmbH

Runway excursion risk reduction

Likelihood & Severity

MAJOR items	likelihood	Severity
Aircraft operator	Training	Cabin staff training
	SOP's	Pax safety devices
	Aircraft technical & equipment	
	Risky runway identify	
Aerodrome operator	Runway surface grooved or PFA	ICAO standard strip
	Rubber removal	ICAO standard RESA
	Contaminants removal	No Obstacles
	No special procedures	RFFF
		EMAS

RISKY RUNWAYS: Three oranges is RED

- ⦿ No standard RESA,
- ⦿ Non grooved or PFA Runway surface
- ⦿ Short or narrow runway
- ⦿ Heavy rubber deposits
- ⦿ Obstacles, terrain, ditches, etc. near runway
- ⦿ Special procedures (steep or curved approach)
- ⦿ Frequent Adverse Weather
- ⦿ High density runway operations
- ⦿ Runway performance penalties or restrictions.

Sources: Safe-Runway GmbH



Conclusions

- Outlook for 80% dispatch landing factor looks good.
- Proposed conditions are realistic, safe and achievable.
- FAA harmonization?
- Risky Runways identify and mitigate.
- RIA is essential; Risk to society is negligible.
- Race not over yet.
- KEEP FLYING SAFE; NO overruns please!



<http://www.safe-runway.com>

Sources: Safe-Runway GmbH

EBACE

24-26 MAY 2016 | GENEVA

