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Evolution of EAPPRI and the new safety recommendations

EAPPRI implementation seminar
Lisbon, 18 October 2018

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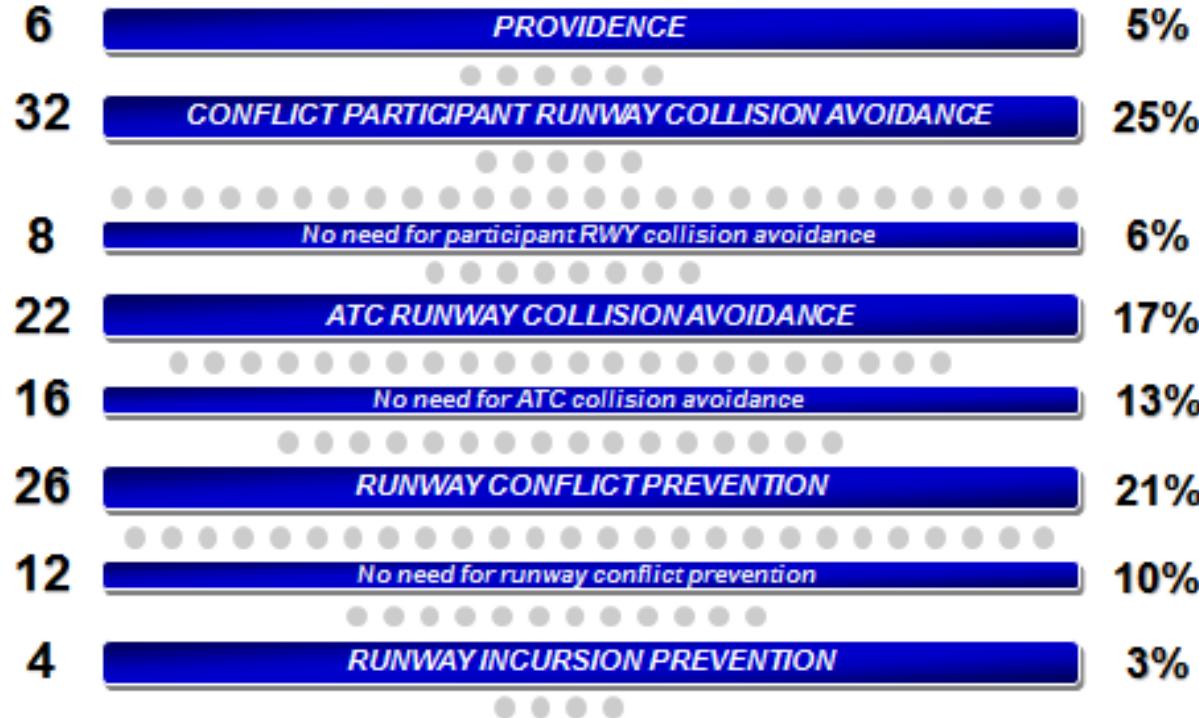


- EAPPRI v3.0
- Why an Action plan?
- Action plan evolution
- Action plan scope
- New recommendations

EUROCONTROL - RI part of NM TOP 5 risks



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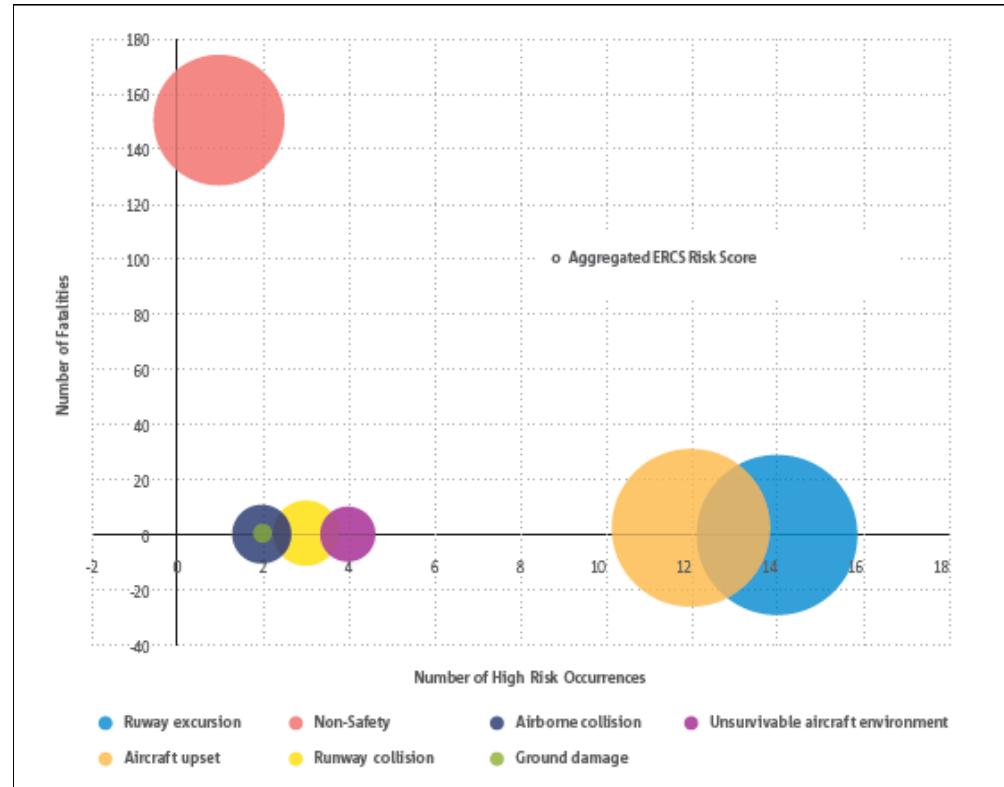


126 European RI incidents in 2013-2015

EASA Annual Safety Review 2017



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- Runway collision identified as one of the 6 priority key risk areas for CAT operations
- Runway collision identified as one of the 7 priority key risk areas for aerodrome and ground handling

European Plan for Aviation Safety (EPAS)



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- Runway excursions and collisions - one of the Top 2 risk areas for CAT operations
- EPAS RWY safety goal: Continuously assess and improve risk controls to mitigate the risk of REs and RIs.
- MST.014: Include runway incursions in national SSPs

EAPPRI – A brief history



Linate 2001



2003



2004

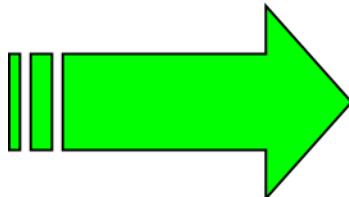


2011

BUT, EAPPRI LIVES!



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EAPPRI drivers of change



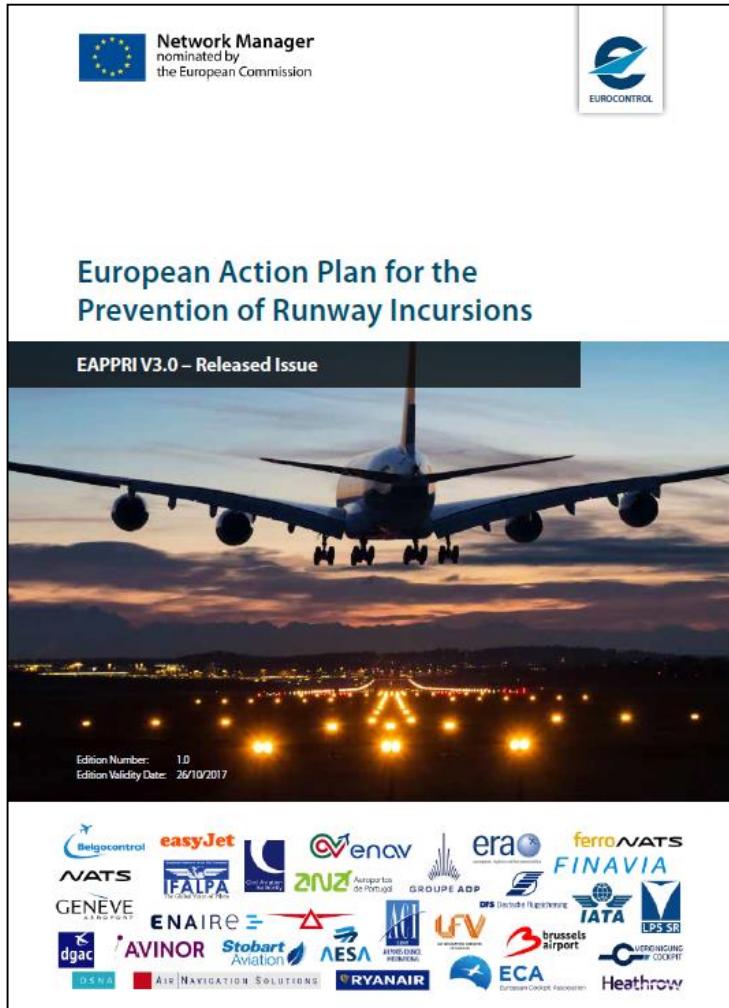
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P olitical	SES II, EU performance management (Risk Assessment Tool (RAT) for runway incursions)
E conomic	Aerodrome capacity constraints, runway throughput/pressure, fuel efficiency
S ocial	Increasing mobility, demand, public expectations (safety levels)
T echnological	Aerodrome Safety Nets: A-SMGCS, Runway Status Lights ATC Safety Nets (SESAR), datalink. Aircraft Operator Safety Nets: RAAS Future: Remote Tower, drones/RPAS
L egal	New ICAO SARPS (Annex 14) and EU regulations and requirements (e.g. aerodrome certification, SMS)
E nvironmental	Noise abatement – sub optimal runway configurations

EAPPRI 3.0



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EAPPRI 3.0 launched at ICAO GRSS

- Published in November 2017
- “From industry for industry”
- Reviewed and substantially updated
- 104 safety recommendations in total
- More than 25 new recommendations
- New implementation guidance material

EAPPRI 3.0 – New Recommendations



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European Action Plan for the Prevention of Runway Incursions v3.0 (EAPPRI v3.0) new Recommendations

SECTION
General Principles
(applies to Air Navigation Service Provider, Aircraft Operator, Aerodrome Operator)

GP1
Assess effectiveness of SMS (with regard to runway safety/runway incursion prevention)

Rationale:
SMS should have been implemented in line with ICAO and EU provisions; however, in spirit of continuous improvement, re-assess all aspects of SMS related to runway safety (in particular runway incursion prevention) and ensure optimisation

GP2
Continue to develop components of SMS and move towards a data driven, performance based safety-system approach with an emphasis on safety assurance and identifying best practice and signs of excellence

Rationale:
Ensure a proactive approach; learn from "what goes right" as well as "what goes wrong" in line with Safety-II philosophy

GP3a
Assess effectiveness of aerodrome local Runway Safety Team (RST), how it works and consider how it can be improved

Rationale:
Aerodrome local RST should have been established in line with ICAO guidance and EU regulation; however, in the spirit of continuous improvement, confirm that working arrangements are optimal. Check role, terms of reference, composition, frequency, tasks and outputs

GP3b
Assess effectiveness of runway safety awareness campaigns

Rationale:
In conjunction with GP3a above, specifically re-assess safety awareness campaigns established at each aerodrome. Consider format, method of delivery, frequency and feedback

GP4
European stakeholders should work together to study the interpretation of the ICAO runway incursion definition with the aim of improving the consistency and credibility of runway incursion reporting via appropriate regulatory channels

Rationale:
Still widespread disparity in interpretation of ICAO runway incursion definition. Improve consistency and credibility of runway incursion reporting

Note:
All runway safety related events should be reported and investigated as necessary





- Development of SMS (data driven, performance based)
- Effectiveness of SMS
- Effectiveness of runway safety team
- Effectiveness runway safety campaigns
- Runway incursion definition interpretation

EAPPRI 3.0 – New Recommendations



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SECTION

Aerodrome Operator (Ad Op)

Ad Op 1	Ad Op 2	Ad Op 3
Ensure briefing and supervision of external aerodrome construction contractors' drivers and other personnel working on the airfield Rationale: External contractors may not be runway safety aware; Important to ensure that they are properly briefed and supervised	Carry out regular audits of airdrome driving permits (e.g. check 'recency' of use) In particular those allowing access to the runways, which should be as few as possible Rationale: Best practice to ensure access to runways is kept as low as possible	Promote the adoption of 'sterile cab' procedures when on the manoeuvring area Rationale: Aerodrome local IAT should have been established law with ICAO guidance and EU regulation; however, in the spirit of continuous improvement, confirm that working arrangements are optimal. Check role, terms of reference, composition, frequency, tasks and outputs
Ad Op 4	Ad Op 5	Ad Op 6
Identify aerodrome Protected Areas and produce a map for drivers Rationale: Improve drivers' situational awareness. Assist in interpretation of runway incursion definition 	Assess the numbering/naming policy for aerodrome vehicles and consider assignment of unique numbers/names for each airdrome vehicle Rationale: Best practice measure to clarify the role of airdrome vehicles (e.g. Fire One (or similar) is always the Chief Fire Officer) and reduce risk of vehicle related call sign confusion	Recommendation AD Op 6: Closely spaced multiple parallel runway holding positions on the same taxiway should be avoided. Rationale: Wide (nonstandard) taxiway entrances reduce the effectiveness of signs and markings as aids to prevent ground routing error and the infringement of the runway protection zones

- Aerodrome contractors
- Runway driver audit checks
- “Sterile” cab
- “Ops Normal” calls (with ATC)
- RWY protected Area Map
- Vehicle naming/numbering policy
- Closely spaced parallel holding positions
- H24 Stop Bars or equivalent means (with ATC)
 - Elevated lights

EAPPRI 3.0 – New Recommendations



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SECTION
Aircraft Operator

A01
If received significantly early, flight crew should confirm with ATC the line-up/take-off or crossing clearance when approaching the runway holding position.
Rationale:
Aims to reduce RIs caused by pilots not remembering if they have clearance (or not) to enter the runway. Complementary recommendation for ANSPs not to give clearance too early.

A02
Flight crew should consider to confirm landing clearance on short final, if ATC issued it more than 5 nautical miles from touch down.
Rationale:
Aims to reduce RIs caused by pilots not remembering if they have clearance (or not) to land. Complementary recommendation for ANSPs not to give clearance too early.

A03
Ensure that crews are aware of the significance of red lights (e.g. stop bars and other red lights) used in line with alerting systems to prevent incorrect entry onto a runway and to enhance situational awareness.
Rationale:
Takes account of introduction of runway status lights in Europe.

A04
Pilots shall only apply EOT procedure after careful consideration of local and operational circumstances so as to avoid a conflict with the sterile cockpit procedures.
Rationale:
EOT could potentially be a distraction; aim is to maintain a sterile cockpit as far as practicable.



- Early take-off/landing clearance
- Aerodrome red lights (e.g. RWSL)
- Engine Out Taxi

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SECTION ANSPs

(also applies to Aerodrome Operator for ANSP 1, 2 and 3)

ANSPI 1

Consider implementation of H24 stop bars (and associated no crossing illuminated stop bar procedures)

Rationale:
They would SSG studies consistently show that if H24stop bar available then many reported RIs could/would most likely have been avoided

Note:
Important to acknowledge potential cost and drawbacks, e.g. potential increase in controller workload (Tower ergonomics and stop bar ops need to be optimised/automated)

ANSPI 2

Assess conditional clearance operational procedures and practices. Consider if the operational use of conditional clearances can be removed or reduced

Rationale:
Safety studies have demonstrated that the misapplication and misinterpretation of conditional clearances can be a contributing factor in runway incursions

ANSPI 3

Controllers should only issue line-up and/or take-off or crossing clearance when the aircraft is approaching the runway holding point

Rationale:
Early passing of line-up and/or take-off clearance, which has no capacity related benefits, has been a contributing factor in some RIs

ANSPI 4

Controllers should avoid issuing landing clearance earlier than necessary

Rationale:
Early passing of landing clearance has been a contributing factor in some RIs

This should be established as local best practice and can normally be defined as a distance from touchdown

- H24 Stop Bars or equivalent means
 - Review contingency
- “HOLD POSITION” phraseology
- Runway occupancy status
- “Ops Normal” calls (with ATC)
- Conditional clearances
- Early take-off and landing clearances
- HMI and Controller Working Positions
 - Facilitate improved scanning & “Heads up”
 - Vacating aircraft

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SECTION

AIM

(Applies to AIM Providers, ANSPs, Aircraft Operators, Aerodrome Operators)

AIM 1

Provide information on aerodrome conditions that is simple to understand and focused on what is operationally usable, expressed in a standardised manner on format and content

AIM 2

Provide information on temporary changes to operating conditions at the aerodrome that is optimised/focussed to increase the situational awareness of the most critical changes. When needed, AIP Supplement with graphics and charts should be published. For planned temporary changes, issuance of NOTAM with short notice ahead of the effective date or non-AIRAC publications should be avoided

Rationale:
The expanding volume of aerodrome AIM data created. Need to simplify and better target safety critical information for flight crews

- Simplify NOTAM information/data
- Enhance readability/usability
- Move to digitise data for graphical display of NOTAM

EAPPRI 3.0 – New Recommendations



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- Assess operators' SMS
- Performance and risk based
- RI prevention in State Safety Plans
- National runway safety teams
- Promotion of EAPPRI v3.0
- Aerodrome local runway safety team

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SECTION Future Work

(Applies to EUROCONTROL but other stakeholders' views are welcome)

FW 1
Monitor and evaluate emerging technologies that may affect future aerodrome operations. Consider potential implications concerning runway safety and provide appropriate guidance, for example

FW 1a
Authorised Remotely Piloted Aerial Systems (RPAS)/'drone' and autonomous vehicle operations on and around the aerodrome

FW 1b
Remote Tower (rTWR) operations

Rationale:
Emerging technologies may impact on runway incursion prevention. There is a need to monitor potential effects, e.g. enhanced rTWR sensors may benefit controllers but how will rTWR operations affect ANSP participation in local RSTT. How might future authorised drone use, e.g. for infrastructure inspections, including unauthorised surfaces, and instrument flight checklists, affect runway safety/runway incursion prevention?



- Emerging technologies
- Authorised RPAS/drone use on airports
- Remote Tower technologies

SKYclips for runway safety promotion



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SKYclips - short animation videos available on SKYbrary:

<http://www.skybrary.aero/index.php/Solutions:SKYclips>



Stop Bars



Conditional
Clearance



Landing Without Clearance

EAPPRI Implementation support

SKYclips

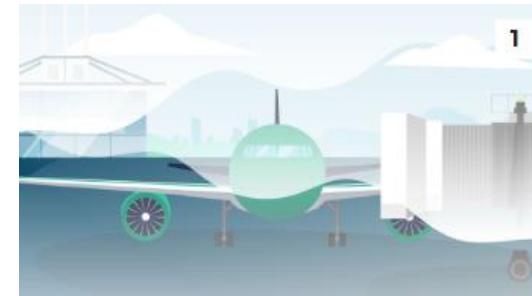


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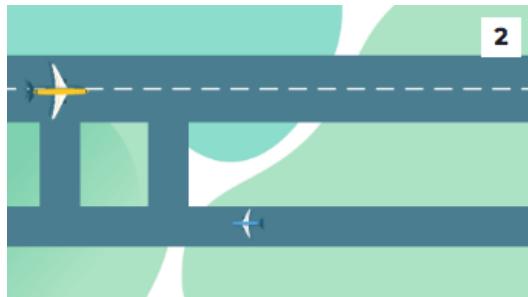
Under development



Low Level Go Around



Low Visibility Take-Off



Immediate Departure



Airside Driving

Training Opportunities - EUROCONTROL Institute of Air Navigation Services (IANS)



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PREVENTING RUNWAY INCURSIONS V0.99

EUROCONTROL

Home Facts & figures Videos Implementing Safety Quiz Runway Safety Training ARIA
ICAO Manual for Preventing Runway Incursions European Action Plan for the Prevention of Runway Incursions Contact information

1 3

Aerodrome resource management
Joint training... In recognition that a team on the manoeuvring area consists of pilots, drivers and air traffic controllers:
The Aerodrome Resource Management (ARM) course
Maintaining teamwork between pilots, air traffic controllers, aerodrome operators and vehicle operators is very important since one of the most common causal factors in runway incursions is the breakdown of teamwork... with often tragic consequences.
An effective way of building and maintaining teamwork between the partners concerned is the organisation of local ARM courses. Candidate **facilitators** of such local courses should attend an **ARM train-the-trainer course** organised by EUROCONTROL.



NEXT

Course dates 2018
12-16 November



Start | Inbox - Microsoft Outlook | Microsoft PowerPoint - [...] | 2 Windows Explorer | Adobe Flash Player 9 | 08:25

<http://www.eurocontrol.int/sites/default/files/publication/files/2018-training-brochure.pdf>



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More safety knowledge?

The single point
of reference in the network of aviation safety knowledge



The screenshot shows the Skybrary website homepage. The top navigation bar includes links for Operational Issues, Enhancements, Safety News, Safety Alerts, and Skybrary Solutions. Below the navigation is a grid of 12 icons representing various safety topics. The main title 'SKYbrary' is displayed in large, bold, white letters, with 'SKY' stacked above 'brary'. Below the title is the website address 'www.skybrary.aero'.

Questions?



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