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European Action Plan for the Prevention of Runway Incursions – v3.0

2017 ICAO GRSS, Lima, Peru

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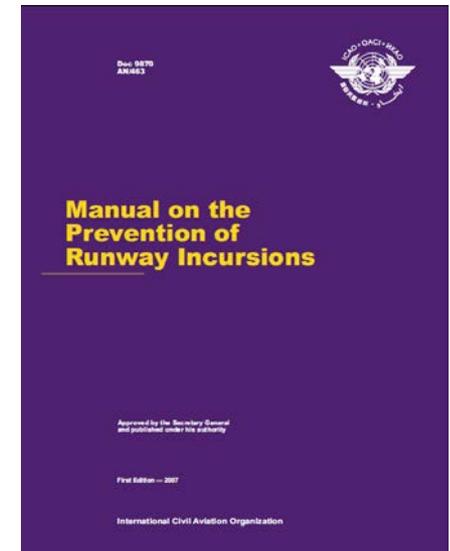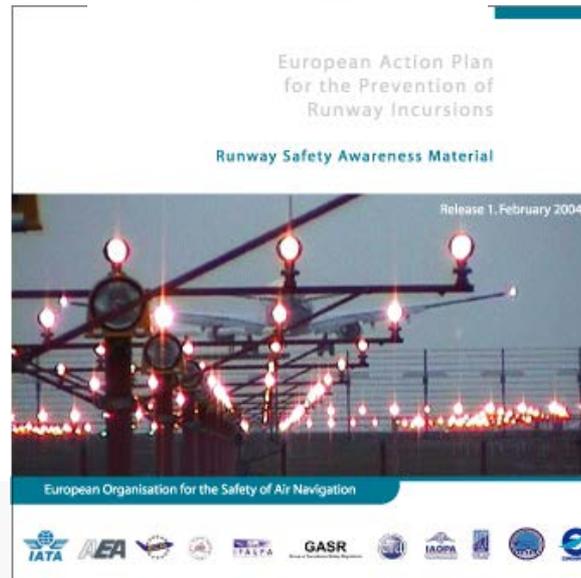# In this briefing:

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EAPPRI – A brief history

Drugs of Change - PESTLE

Political	SES, EU performance management
Economic	Aerodrome capacity constraints, runway throughput/ pressure, fuel efficiency
Social	Increasing mobility, demand, public expectations (safety levels)
Technological	Aerodrome Safety Nets: A-SMGCS, Runway Status Lights ATC Safety Nets (SESAR), datalink. Aircraft Operator Safety Nets: RAAS Future: Remote Tower, drones/RPAS
Legal	New ICAO and EU regulations and requirements (e.g. aerodrome certification, SMS)
Environmental	Noise abatement – sub optimal runway configurations

Collaborative Approach

For the industry by the industry – best practice and sharing of excellence (Safety-II)

EAPPRI 3.0

Objective

- Ensure document remains up to date and relevant, consistent and reflects existing and emerging industry best practices.
- Review, update and, where necessary, add new Recommendations and associated Guidance Materials.
- Continue to shine an industry spot light on Runway Safety.

Aim

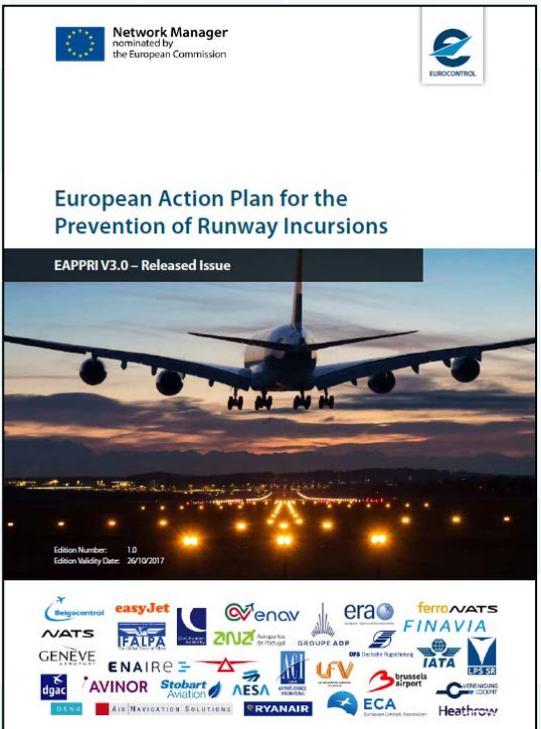- Publish new EAPPRI v3.0 for 2nd ICAO Global Runway Safety Symposium).

Goal

- Aspire to do even better and challenge the industry to further improve runway incursion prevention.

Intermediate Step

- Used 2017 Safety Forum to 'validate' candidate EAPPRI v3.0 new Recommendations and gather additional information from delegates to further inform development.

EAPPRI v3.0 Project Plan and Timeline

Phase \ Time	June 2016	Jun-Jul	Jul-Oct	Nov-Feb 2017	Feb-Apr	Apr-May	Jun	Jun-Sep	Oct	Nov	Dec
Scoping	10 Jun										
Sub WG and Allocation of work		15 Jul									
Initial scoping of effort/change			SISG 39 25 Oct								
Sub WG development work				Ad hoc 9 Feb							
Refinement of Sub WG developments					Ad hoc 25 Apr						
Consolidation of inputs for 1st working draft						19 May					
Validation of working draft candidate Recommendations							SAF Forum 6-7 Jun				
Further validation post SAF Forum & SISG 40							SISG 40 8-9 Jun				
Final refinement for proposed Release version								Ad hoc 12-13 Sep			
Endorsement: SISG, ST, NDOP									ST/SISG /AOT		
Release and coordinated publication										EAPPRI v3.0	
Implementation											

| Key Milestones | EAPPRI v3.0 KoM | | Initial progress report | 2nd progress meeting | 3rd progress meeting | 1st EAPPRI v3.0 Working draft Recs | 2017 Safety Forum validation & further develop | EAPPRI v3.0 Proposed Issue | Consult, endorse & final Release Issue | Publication 2nd ICAO GRSS November | Implement |

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European Action Plan for the Prevention of Runway Incursions

EAPPRI V3.0 – Released Issue

Edition Number: 1.0
Edition Validity Date: 26/10/2017

EAPPRI 3.0

European Action Plan for the Prevention of Runway Incursions — EAPPRI V3.0 – Released Issue

EAPPRI 3.0 – New Recommendations

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)

- ➢ **Development of SMS (data driven, performance based)**

- ➢ **Effectiveness of SMS**

- ➢ **Effectiveness of runway safety team**

- ➢ **Effectiveness runway safety campaigns**

- ➢ **Runway Incursion definition**

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SECTION

Aerodrome Operator (Ad Op)

Ad Op 1
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

Ad Op 2
Carry out regular audits of airside 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

Ad Op 3
Promote the adoption of 'sterile cab' procedures when on the manoeuvring area

Rationale:
Aerodrome local RST 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
Identify aerodrome Protected Areas and produce a map for drivers

Rationale:
Improve drivers' situational awareness. Assist in interpretation of runway incursion definition

Ad Op 5
Assess the numbering/naming policy for aerodrome vehicles and consider assignment of unique numbers/ names for each airside vehicle

Rationale:
Best practice measure to clarify the role of airside vehicles (e.g. Fire One (or similar) is always the Chief Fire Officer) and reduce risk of vehicle related call sign confusion

Ad Op 6
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 protections

- ➤ **Aerodrome contractors**
- ➤ **Runway driver audit checks (e.g. recency)**
- ➤ **"Sterile" cab**
- ➤ **"Ops Normal" calls (with ATC)**
- ➤ **Protected Area Map**
- ➤ **Vehicle naming/numbering policy**
- ➤ **Closely spaced parallel holding positions**
- ➤ **H24 Stop Bars or equivalent means (with ATC)**
  - ➤ **Elevated lights**

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SECTION
Aircraft Operator

AO1
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.

AO 2
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.

AO 3
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.

AO 4
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)

ANSP 1

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

Rationale:
They work! SISG studies consistently show that if
H24 stop bars 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)

ANSP 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 misap-
plication and misinterpretation of conditional
clearances can be a contributing factor in runway
incursions

ANSP 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

ANSP 4

Controllers should avoid issuing
landing clearance earlier than
necessary

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

Note:
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 – Controller Working Positions**
  - ➢ **Facilitate improved scanning & ''Heads up"**

- ➢ **Vacating aircraft**

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SECTION
Regulator

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

Reg 1

National agencies charged with the
oversight of aviation safety should
consider how they discharge their
responsibilities for runway safety
which may include:

1a
The establishment and coordination of
a national/state runway safety
group/team

1b
Including prevention of runway
incursions in national runway safety
plans/State Safety Plans

1c
Supporting the state-wide promotion
and coordinated implementation of
(EAPPRIv3.0)

1d
Participating in aerodrome local
Runway Safety Teams (at their
invitation)

Rationale:
Regulator involvement bolsters support and
improves coordination of national runway safety
activities

Reg 2

Assess the operator's SMS
performances and its risk exposure
related to runway incursions and use
this assessment to adjust the
oversight accordingly on a risk and
performance-based approach

Rationale:
Improve national oversight of runway incursion
prevention activities of all stakeholders.

- ➢ **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**

EAPPRI 3.0 – New Recommendations

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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 optimized/ 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:
Ever 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**

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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 RST?

How might future 'authorised' drone use, e.g. for infrastructure inspections, including aerodrome surfaces, and instrument flight checks/calibrations affect runway safety/runway incursion prevention?

➢ **Emerging technologies**

    ➢ **Authorised RPAS/drone use on airports**

    ➢ **Remote Tower technologies**

New Guidance Material Appendices

Appendix E – ANSP/ATCO, completely re-written.

Appendix K - Aerodrome Design

Appendix L - Inspections/maintenance/work in progress

Appendix M – Emerging Technologies - SESAR

Appendix N – Interpretation of Runway Incursions

What next - Promotion

□ **Improve regulators' awareness of the Plan**

□ **Develop standard PPTs for use at national/local level**

□ **Organise workshop(s) with A(L)RST chairs**

□ **Organise workshop for pilots and controllers at ECTL HQ**

□ **Reach OPS/SAF managers and training departments/establishments**

□ **Reach VFR pilots via appropriate channels**

□ **Set up and maintain RWY safety page & group in social media**

What next – Implementation

❑ **Improve regulators' awareness of the Plan**

❑ **Support best practice sharing**

❑ **Support local workshops on best practice sharing**

❑ **Support development of (generic) training module for airside drivers**

❑ **Cartoon posters for airside drivers (and others)**

❑ **Virtual training (simulation)**

❑ **Encourage/facilitate familiarisation exchange (visits, SIM sessions, flights) between controllers/pilots/drivers.**

What next - more Implementation

- ❑ **SKYclips for airside drivers on:**

  - ❑ **Readbacks**

  - ❑ **Stop bars**

  - ❑ **Signs and markings**

- ❑ **Promote SKYclips through social media**

- ❑ **Provide (on SKYbrary) background information to support correct understanding/interpretation of the recommendations and local analysis/implementation activities**

More safety knowledge?