Runway Safety
Aviation’s #1 Safety Priority
http://www.icao.int/safety/RunwaySafety

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Runway Safety Go Team Visit to Ukraine
Kiev, 02 – 04 July 2019
Runway Safety Programme Mandate

The establishment of coordinated, collaborative and multidisciplinary efforts within ICAO and between ICAO and Runway Safety Programme Partners to promote the implementation of strategies to reduce the number and severity of runway safety-related accidents and incidents on an ongoing basis.
Expected Outcome

*reduce the number and severity of runway safety-related accidents and incidents.*
Effective implementation of Runway Safety Teams at airports with assistance from ICAO ROs, RSP Partners and RASGs

reduce the number and severity of runway safety-related accidents and incidents.
Measuring Results

How will we know if our efforts are effective?

1. Monitor and measure the number, activities and maturity of RSTs globally. (RST survey & RS Go-Teams)

2. Monitor and measure the rate of runway-safety-related occurrences at the airport, State, regional and global levels. (RSAP-WG)
Evolution of Runway Safety at ICAO

• ICAO NAM/CAR/SAM Regions Runway Safety/Incursion Conference, Mexico City – 2002
• ICAO AN-Conf/11 Recommendation 4/5 on Runway safety programmes – 2003
• ICAO/ERAU Runway Safety Toolkit – 2005
• ICAO/FAA Runway Incursion Severity Classification (RISC) – 2009
• ICAO Assembly Resolution 37-6 on Runway Safety – 2010
• ICAO/IATA Runway Excursion Risk Reduction Toolkit – 2011
• ICAO Global Runway Safety Symposium, Montreal – May 2011
• Establishment of the collaborative ICAO Runway Safety Programme – 2011
• ICAO RSP Regional Runway Safety Seminars - 2011 – 2015
ICAO RSP Key Achievements (2014-2017)

2014
• Runway Safety Implementation Kit (I-Kit) and web site
• Runway Safety Team (RST) Handbook
• Runway Safety Go-Team Methodology

2015
• ICAO & Partners Runway Safety Go-Team missions
• RASG safety enhancement initiatives related to runway safety, detailed implementation plans & related activities
• ACI APEX Airport Safety Reviews
• IATA Unstabilised Approach Guidance

2016
• Runway safety team survey
• Annex 14 Vol. I Amendment 13
• PANS-Aerodromes 2nd edition (Doc 9981)

2017
• Runway Incursion Prevention course
• Second Global Runway Safety Symposium
• Input to GASP Study Group
• Launched Global Runway Safety Action Plan (RSAP)
EUR Region Initiatives

45 Runway Safety Teams reported to ICAO

• In addition, all Russian airports have RSTs established as per order of Russian CAA

SMS/RWY Safety Seminar held on 19-20 July 2016 in Moscow, Russia. The Seminar has been organized with the support of ICAO, IAC, FAA, Rosaviatsia (Russian CAA) and Airbus. The Seminar was attended by over 180 representatives of CAAs and airports of Armenia, the Republic of Belarus, Republic of Kazakhstan, Kyrgyz Republic and Russian Federation.

RASG-EUR have two Safety Enhancement Initiatives developed on runway safety

• SEI IE-REST/IE-RSG/01 related to Runway Safety Standard Operating Procedures (SOP) Promotion
• SEI IE-REST/IE-RSG/02 related to Runway Safety Team Guidance and Implementation

RASG-EUR to publish safety advisory on guidance for Air Operators in developing SOP supporting runway safety (scheduled for November 2016)

Translation into Russian of the ICAO RST Handbook on the ICAO EUR/NAT website and at: http://favr.ru/favr_new/?q=novosti/aktualnaja_informacija/aktualnaja_informacija/4348
EUR Region Go-teams

Runway Safety Go-Team missions:
1. BEN GURION (LLBG) - Israel (08-10 November 2016)
2. ESENBOGA (LTAC) – Turkey (07-09 March 2017)
3. BISHKEK (UAFM) - Kyrgyzstan (2-4 August 2017)
4. PODGORICA (LYPG) – Montenegro (14-16 November 2017)
5. ENFIDHA–HAMDAMET (DTNH) – Tunisia (11-14 December, 2017)
6. MALTA (LMML) – Malta (12-14 June 2018)
7. RABAT (GMMM) – Morocco (18-20 June 2019)
ICAO ANNUAL SAFETY REPORT
2018 EDITION
Global Accidents by Category (2017)

Accident Categories:
- CFIT: Controlled Flight into Terrain
- GS: Ground Safety
- LOC-I: Loss of Control in-Flight
- MED: Injuries to and/or Incapacitation of Persons
- OD: Operational Damage
- OTH: Other
- RS: Runway Safety
- UNK: Unknown
Risk Distribution for the Top 3 Safety Priorities

*Scheduled commercial above 5,700kg for 2017*

![Bar chart showing risk distribution for different safety priorities.](image)

- **CFIT**
  - Fatalities: 20%
  - Fatal Accidents: 1%
  - Accidents: 2%
  - Accidents with Aircraft Destroyed or Substantially Damaged: 12%

- **LOC-I**
  - Fatalities: 20%
  - Fatal Accidents: 2%
  - Accidents: 2%
  - Accidents with Aircraft Destroyed or Substantially Damaged: 4%

- **RS**
  - Fatalities: 6%
  - Fatal Accidents: 40%
  - Accidents: 55%
  - Accidents with Aircraft Destroyed or Substantially Damaged: 76%

2 July 2019
Regional Accidents Overview (2017)

RASG-EUR region experienced the highest percentage of fatal accidents and fatalities (0 runway safety related)
Runway safety: Runway safety-related events include the following ICAO accident occurrence categories: abnormal runway contact (ARC), bird strikes (BIRD), ground collision (G-COL), runway excursion (RE), runway incursion (RI), loss of control on the ground (LOC-G), collision with obstacle(s) during take-off and landing (CTOL) and undershoot/overshoot (USOS). Runway safety events remain the highest number of events, even if they do not cause the most fatalities. In 2018, 22 accidents involving aircraft of maximum mass of over 2 250 kg occurred in the EUR/NAT regions.
PQ 8.205
Has the State established and implemented a process to ensure that an aerodrome operator’s plan for lighting, signs and markings is integrated as a whole into the aerodrome’s runway incursion and collision avoidance strategy, taking account of different traffic intensities and visibility conditions?

PQ 7.189
Has the State promulgated a regulation requiring the establishment and implementation of a runway safety programme?

World Average EI of PQs: 7.189 & 8.205: 48.57%
Second Global Runway Safety Symposium 2017

• Outcomes:
  - Forum to exchange best practices in improving runway safety
  - Promoted improved runway safety worldwide through global, regional, national and airport collaboration
  - Launched and supported the ICAO-led collaborative Runway Safety Programme – Global Runway Safety Action Plan
Runway Safety Action Plan Working Group (RSAP-WG)

• Established February 2017
• Comprised of experts nominated by Runway Safety Programme partners
• Objectives:
  1) Review runway related accident and serious incident data;
  2) Conduct a safety risk assessment of runway safety accident occurrence categories;
  3) Identify the runway safety risk priorities and high risk accident categories;
  4) Identify appropriate global mitigation actions; and
Runway Safety vs Other High Risk Categories

Accidents by Risk Category
Scheduled Commercial flights on airplanes above 5.7t only

Fatalities by Risk Category
Scheduled Commercial flights on airplanes above 5.7t only

Source: ISTARS 3.0 – ADREP et al. (https://portal.icao.int/space)
• Runway Excursion was the top category with 34% (382) of reports.
• The next two highest categories were - Abnormal Runway Contact and Ground Collision, with 28% (311) and 14% (311) of reports respectively.
• Top 3 categories accounted for 76% of occurrences.
<table>
<thead>
<tr>
<th>Incident Type</th>
<th>Total Risk Weight</th>
<th>Average Risk Weight</th>
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<tbody>
<tr>
<td>RE: Runway excursion</td>
<td>390.6605123</td>
<td>0.962218011</td>
</tr>
<tr>
<td>GCOL: Ground Collision</td>
<td>64.68188334</td>
<td>0.428356843</td>
</tr>
<tr>
<td>ARC: Abnormal runway contact</td>
<td>60.65670508</td>
<td>0.191951598</td>
</tr>
<tr>
<td>USOS: Undershoot/overshoot</td>
<td>57.6776441</td>
<td>1.130934198</td>
</tr>
<tr>
<td>CTOL: Collision with obstacle(s) during take-off and landing</td>
<td>32.92302258</td>
<td>1.496501026</td>
</tr>
<tr>
<td>LOC-G: Loss of control - ground</td>
<td>9.812887685</td>
<td>0.125806252</td>
</tr>
<tr>
<td>RI: Runway incursion - vehicle, aircraft or person</td>
<td>0.867738317</td>
<td>0.01008998</td>
</tr>
</tbody>
</table>

- Data normalized with traffic data
- 1100 occurrences
- 44 events with fatalities
- 446 fatalities
Recommendations

- Is Runway Safety still a global priority? Yes
- If so, what category(ies)?

**Runway Excursion**
- Highest total risk weight
- Highest number of events
- Harmonized with international organizations (e.g. IATA)

**Runway Incursion**
- High number of incidents
- 1 incident report per day
- High fatality risk