Runway Excursion Statistics
Runway/Taxiway Excursion Accidents
IATA Safety Data 2009 - 2013

There were 432 total commercial accidents during this period:

- 98 of these accidents were runway/taxiway excursions
- 7 of the runway excursion accidents involved fatalities
  - Resulted in 191 deaths to passengers and crew
Global Accidents:
2009-2013 Breakdown per accident categories

- Controlled Flight Into Terrain (CFIT): 7%
- Gear-up Landing / Gear Collapse: 17%
- Ground Damage: 13%
- Hard Landing: 8%
- In-flight Damage: 8%
- Loss of Control In-flight: 10%
- Mid-air Collision: 0%
- Off Airport Landing / Ditching: 2%
- Other End State: 2%
- Runway / Taxiway Excursion: 23%
- Tailstrike: 6%
- Undershoot: 4%

9 Accidents could not be assigned an End State
Runway/Taxiway Excursion Accidents

Accident count per region

![Bar chart showing accident counts per region]

- AFI: 18
- ASPAC: 24
- CIS: 8
- EUR: 13
- LATAM: 12
- MENA: 8
- NAM: 11
- NASIA: 4
Runway/Taxiway Excursion Accidents
2009 – 2013 Accident rates per million sectors

Based on region of operator

Global: 0.57
## Runway Excursions - Top Contributing Factors

<table>
<thead>
<tr>
<th>Latent Conditions</th>
<th>Threats</th>
<th>Flight Crew Errors (relating to…)</th>
<th>Undesired Aircraft States (UAS)</th>
<th>End State</th>
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<tbody>
<tr>
<td>Regularity Oversight</td>
<td>Airport Facilities</td>
<td>Manual Handling Flight Controls</td>
<td>Long, forced, bounded, firm or off-centerline landing</td>
<td>Runway Excursion</td>
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<tr>
<td>Safety Management</td>
<td>Meteorology</td>
<td>SOP adherence / Procedural</td>
<td>Loss of aircraft control while on ground</td>
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<tr>
<td>Flt. Ops. Training</td>
<td>Contaminated runway</td>
<td>Failure to go-around after destabilization</td>
<td>Unstable Approach</td>
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<tr>
<td>Maint. Ops. SOPs &amp; Procedures</td>
<td>Aircraft Malfunction</td>
<td>Callouts</td>
<td>Continued Landing after unstable approach</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Air Traffic Services</td>
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</tr>
</tbody>
</table>

End State: Runway Excursion
Accident Scenarios of Interest

- The destination airport has weak regulatory oversight, inadequate overrun areas and poor airport facilities
- Operating in adverse weather conditions into an airport with contaminated runways
- Inadequate flight crew training and Safety Management System
- Flight crew lands long, lands off the centerline or bounces the landing
- Flight crew commits manual handling, flight control errors leading to an Unstable Approach
In line with ongoing cooperative efforts to resolve what remains the number one priority for global aviation safety experts:

- a Runway Safety Implementation Kit (Runway Safety i-Kit) has been developed in collaboration with IATA, ICAO, ACI, CANSO, ICCAIA, FSF, IFALPA, IFATCA, IBAC, IAOPA, FAA, EASA and EUROCONTROL. This i-Kit includes the latest guidance updates to assist aviation industry, including centralized online resources, publication of the ICAO Runway Safety Team Handbook and twelve Regional Safety Seminars.

- IATA/ICAO RERR 2nd edition
- IATA/IFALPA/IFATCA Pilots/ATCs Phraseology Study
Runway Excursion Risk Reduction Toolkit
2nd Edition
# Runway Excursion Risk Reduction (RERR) Toolkit – 2nd Edition: Contents

## Executive Material
- IATA/ICAO Executive Letter
- IATA/ICAO Introductory Video
- IATA/ICAO CEO/COO Brief

## IATA Analysis Report
- IATA Runway Excursion Analysis Report

## Airports/CAAs
- ICAO Aerodrome Best Practices- Landscape Format
- ICAO Aerodrome Best Practices-Portrait Format
- ICAO Self Audit Checklist for Airports
- ICAO Self Audit Checklist for CAAs
- IATA Airport Markings and Signage- (STEADES analysis)
- IATA Use of Technology to Mitigate Overrun
- ACI Practices and Recommendations

## Flight Ops
- IATA Recommendations for Wet / Contaminated Runway Operations
- IATA Risk Management Process
- IATA Air Carrier Self Audit Checklist- Analysis
- IATA Air Carrier Self Audit Checklist-Questionnaire
- IATA Runway Excursion Case Studies Manual

## ATM
- IATA ATC/Pilots Best Practices:
- CANSO ATCO Educational Booklet:

## animations
- IATA Animation
  - B733_Unstable Approach_VOR
  - B738_Unstable Approach_ILS
  - B738_Unstable Approach_VOR

## Workshop Materials
- IATA Workshop Materials

## Contributing Reports
- FSF Report - Reducing the Risk of Runway Excursions
- ECTL - A Study of Runway Excursions from a European Perspective
- ICAO Runway Friction Report
- NLR Report - Rejecting Take Off after V1
- ATSB Reports
  - Runway Excursion Part I
  - Runway Excursion Part II
Runway Safety - 2014

- Runway Safety, As part of IATA’s Six-Point Safety Strategy to reduce operational risk, IATA will continue its effort to improve runway safety, including:
  - The outreach, awareness, lessons learnt and shared information, focusing on runway safety issues, hazards, and mitigating risks which were all effective means to generating effective solutions in reducing runway safety.
  - IATA will be looking at other events in runway safety arena such as runway incursions, tail strikes, hard landings.
  - IATA has taken the lead to establish global KPIs for Runway Safety.
Runway Safety - 2014

- IATA has obtained consensus from ACI, CANSO, FAA, EASA and ICAO to establish a common language for runway safety from which we can share our information, analyze such information to develop global metrics, targets and performance benchmarks, and start introducing predictive analytics.

- Support the delivery of Regional Runway Safety Seminars.

- IATA will be publishing a guidance materials for Operators on Unstabilized approaches.

- IATA will continue to work in close coordination with and support the activities related to Regional Aviation Safety Groups (RASGs).
Runway Safety - 2014

- Promote and support creation of local Runway Safety Teams (RSTs) as one of the best means to address the implementation of risk mitigation measures and best practices through RSTs.
- Promote and support the creation of Runway Safety Go-Teams.
- Promote and encourage implementation of PBN (RNAV/RNP) approach procedures with vertical guidance in order to reduce the number of un-stable approaches which are directly linked to runway excursions and enhance crew awareness of unstabilized approaches.
- IATA is working on a global initiative for mitigating CFIT accidents through PBN.
Safety benefits of PBN

- Vertically Guided Final Approaches
  - Stabilized approaches
- Laterally Guided Missed Approaches
- Increased Situational Awareness for flight crews
- CFIT Reduction
  - More precise course guidance for terrain-impacted terminal areas
- PBN promises to increase capacity / enhance safety
to represent, lead and serve the airline industry