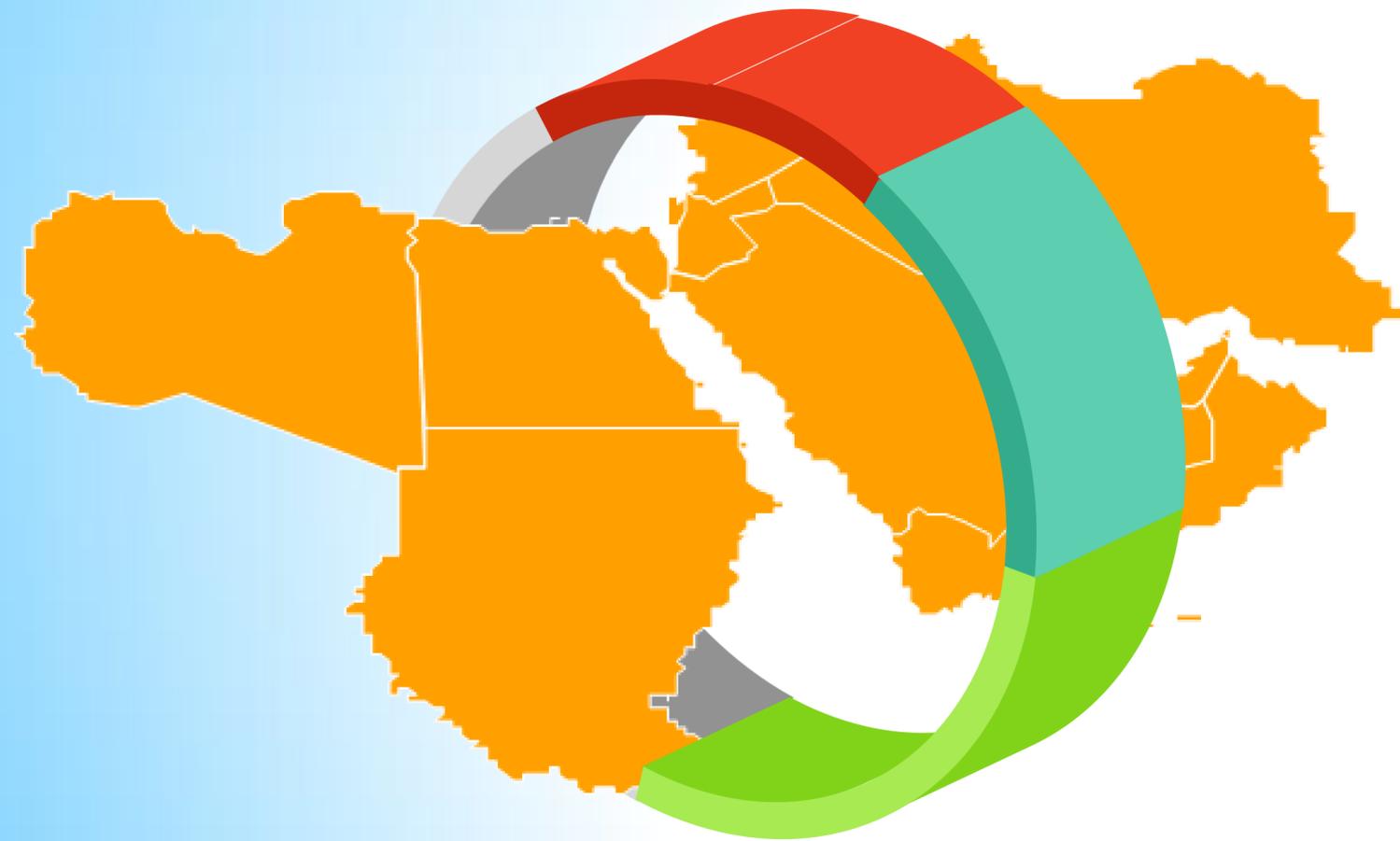




# MID Region Annual Safety Report Review

## Fifth Edition 2017



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## 1- RASG-MID Main Three Team

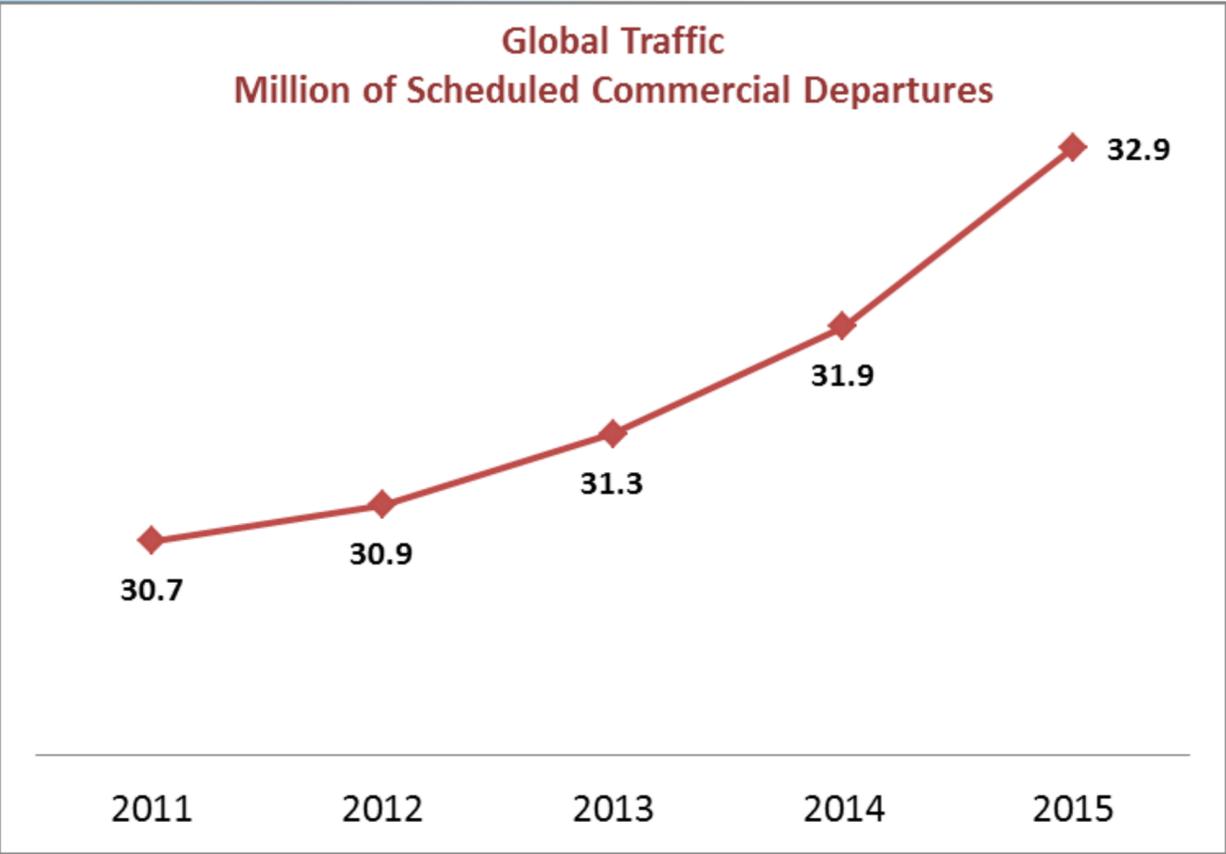


The Accidents and Incidents Analysis Working Group (AIA WG) was established to review, analyse and categorize on annual basis the accidents and incidents to provide dataset of accidents and incidents. The AIA WG would identify the main root causes and contributing factors.

# 2.1 Traffic Volumes by (scheduled commercial international operations)

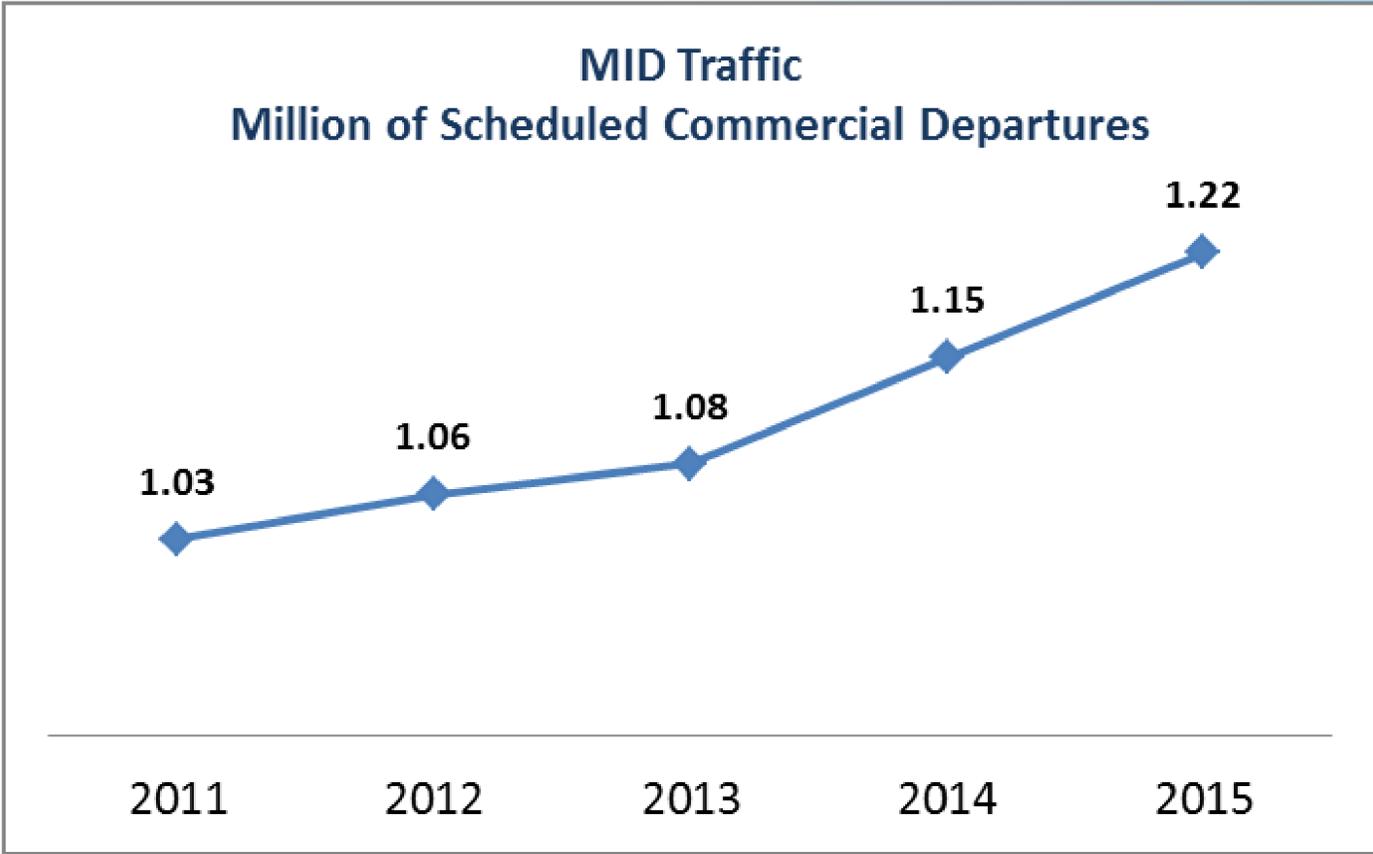
## GLOBAL

32.9 million departures in 2015, compared to 30.7 million departures in 2011



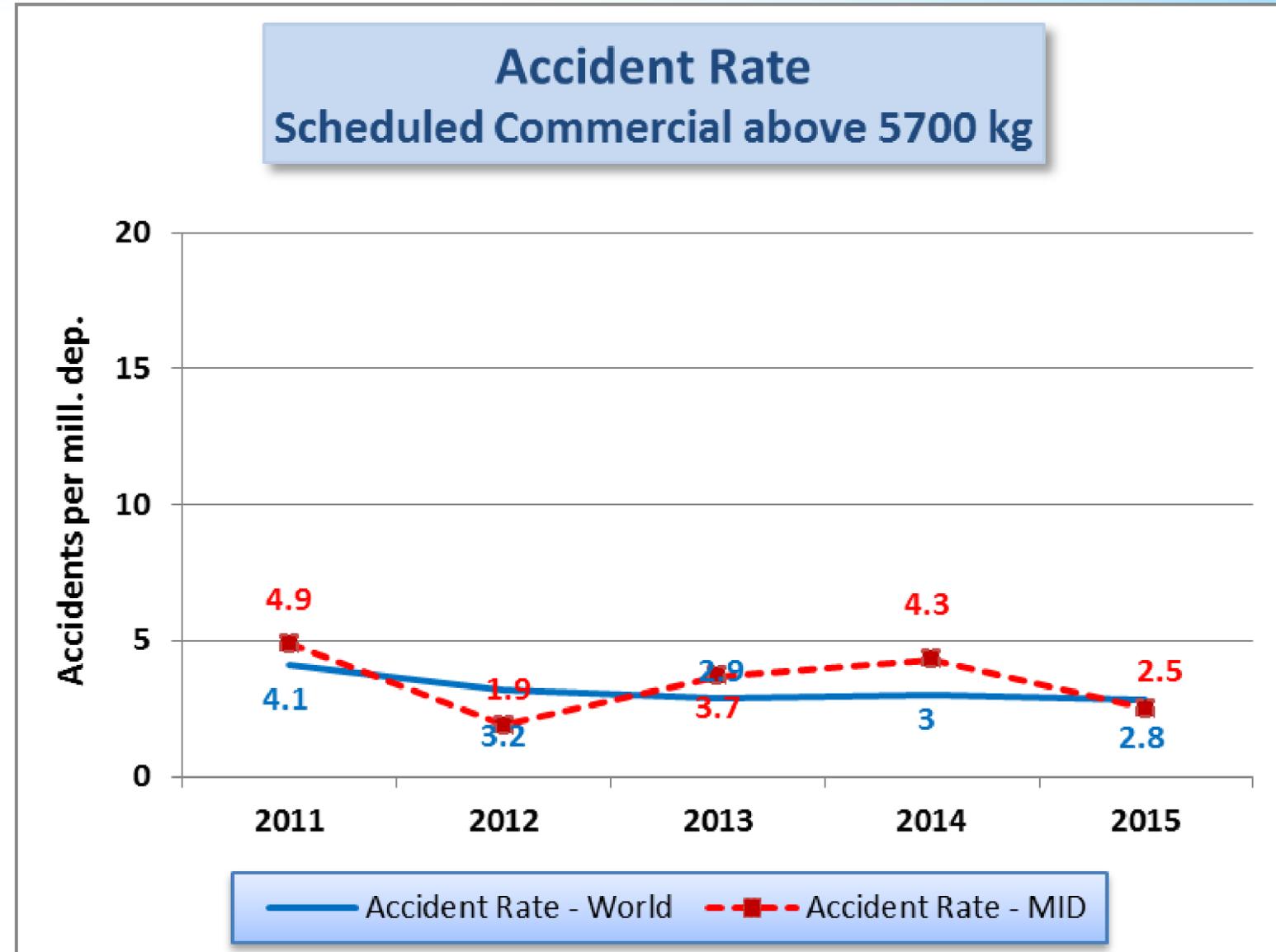
## MID Region

1.22 million departures in 2015, compared to 1.03 million departures in 2011

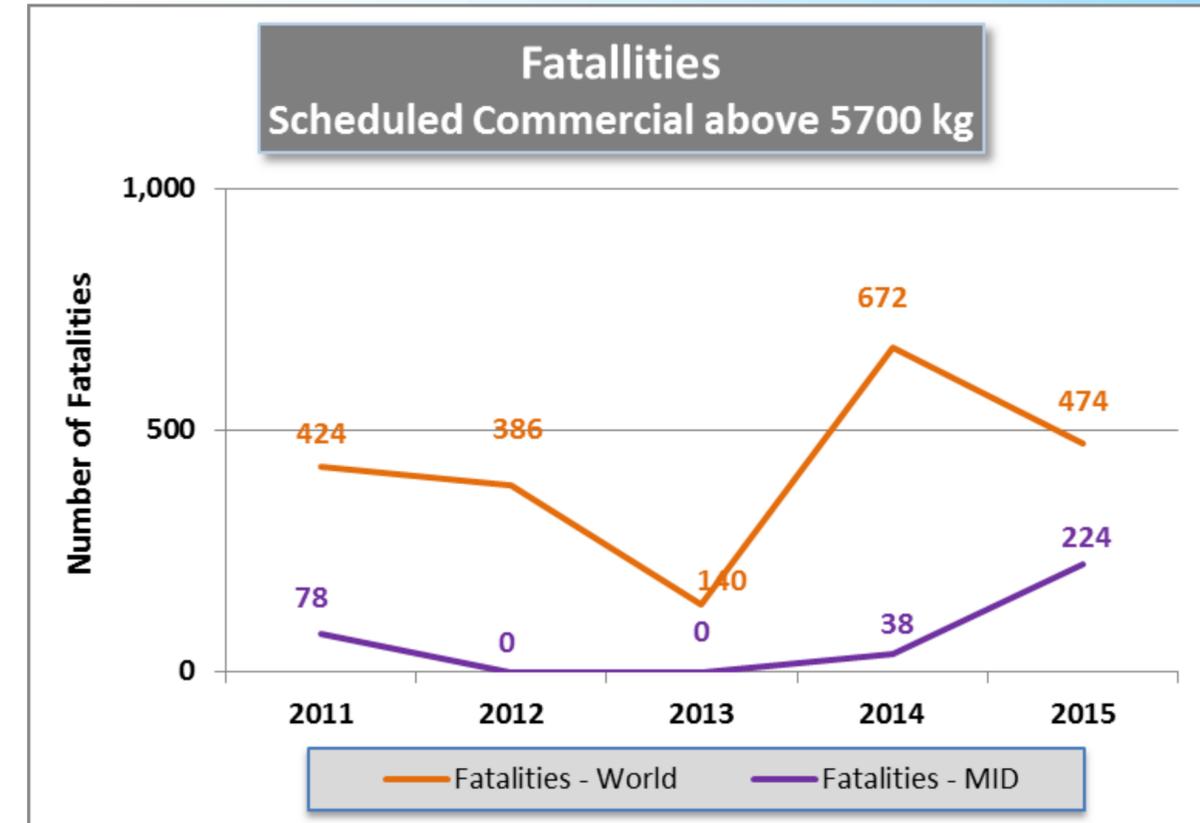
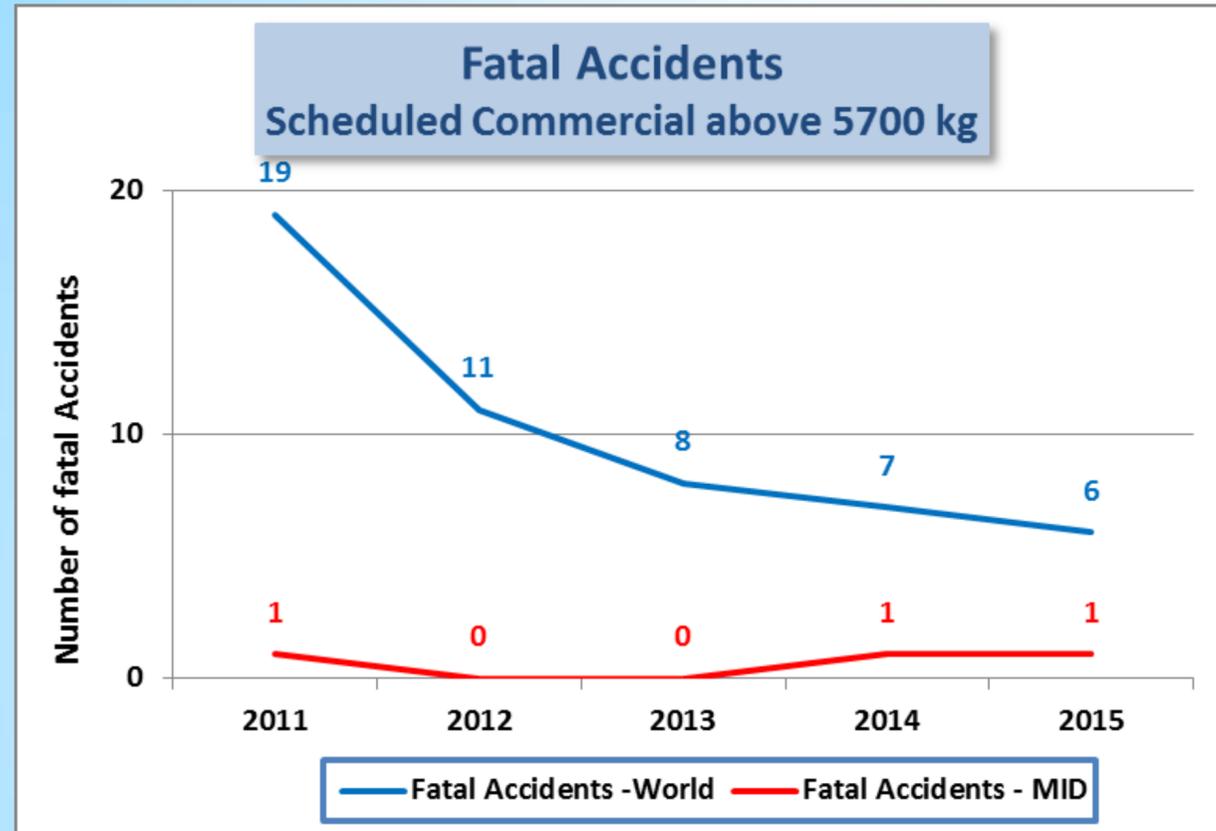


## 2.2 Accidents Rate

The MID Region had an accident rate of 2.5 accidents per million departures in 2015 trending down.

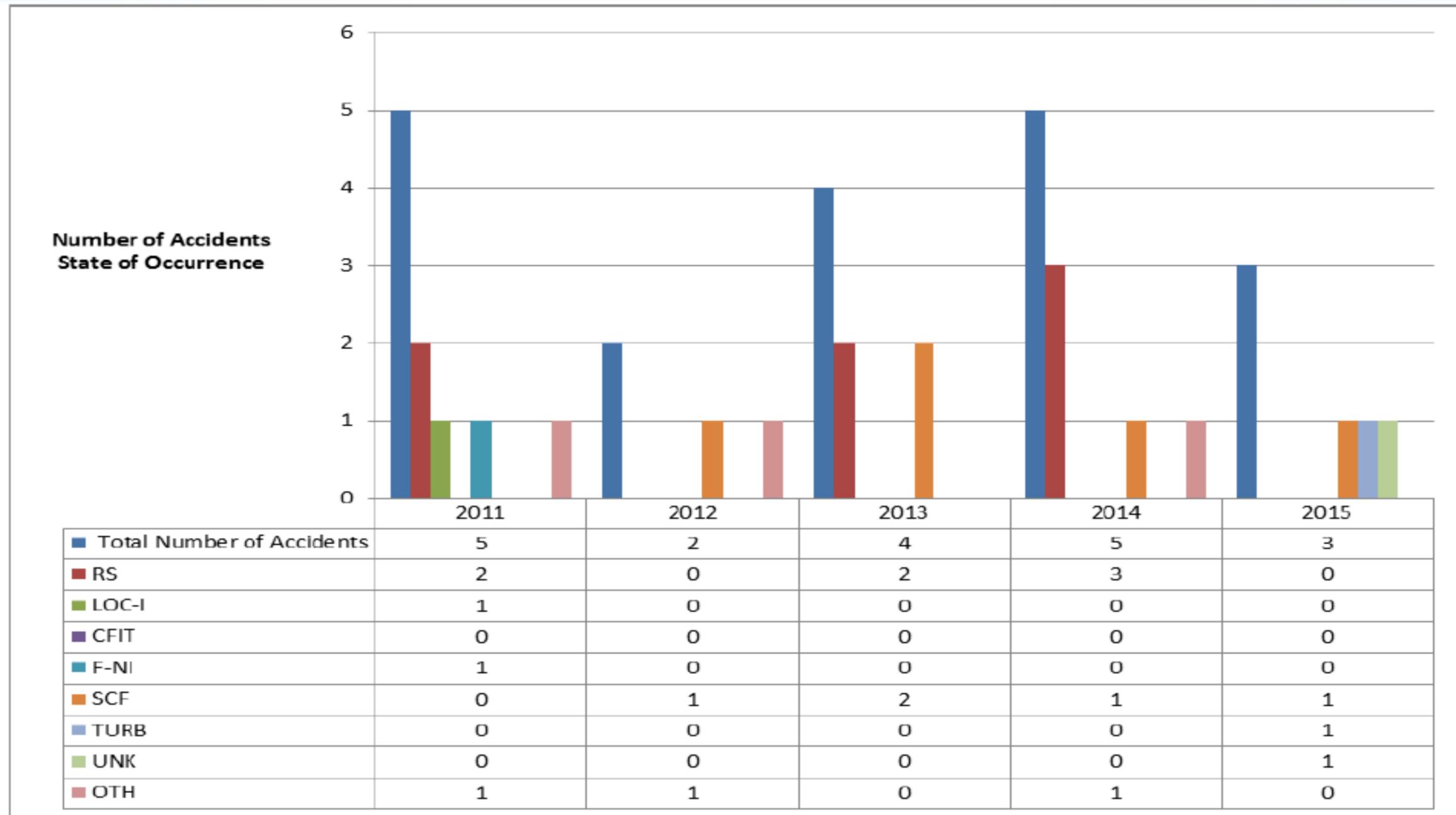


## 2.3 Fatalities



The average number of fatal accidents in the MID Region for the period (2011-2015) is 0.53 compared to 0.33 for the globe. The MID Region had no fatal accidents in 2012 and 2013. However, two fatal accidents occurred in 2014 and 2015, respectively. The 2015 accident caused 224 fatalities.

## Total Number of Accidents and Distribution of Risk Categories for Each Year During The Period (2011-2015).



*Source: ICAO-iSTARS, as of November 2015*

## 3- Reactive safety information

### 3.1.1 Regional Accident Statistics (State of Occurrence)

The tables below provide the MID Region, as well as global accident numbers/rates and fatalities.

Year		2011	2012	2013	2014	2015	Average
MID	Accident Nr.	5	2	4	5	3	3.8
	Accident rate	4.9	1.9	3.7	4.3	2.5	3.5
World	Accident Nr.	125	98	90	97	92	100.4
	Accident rate	4.1	3.2	2.9	3	2.8	3.2

Year		2011	2012	2013	2014	2015	Average
MID-Fatalities		78	0	0	38	224	68
World-Fatalities		424	386	140	672	474	419
Year		2011	2012	2013	2014	2015	Average
MID-Fatal Accident		1	0	0	1	1	0.6
MID Rate		0.97	0	0	0.87	0.82	0.53
World-Fatal Accident		19	11	8	7	6	10.2
World Rate		0.61	0.36	0.26	0.22	0.18	0.33

In Terms of Frequency, the Most Frequent Accidents  
in the MID Region for the Period 2011- 2015 are:

1. Runway Safety (RS) -7 Accidents
2. System/Component Failure (SCF) - 5 Accidents
3. Loss of Control –Inflight (LOC-I) -1 Accident
4. Fire/Smoke, Non-Impact (F-NI) -1 Accident
5. Turbulence encounter - In-flight turbulence encounter (TURB) -1 Accident
6. Occurrence type that is not covered by any other category (OTHR)- 3 Accidents

## The MID Region witnessed 3 fatal accidents in the period (2011-2015):

	Number of fatal Accidents	Risk Category	No of Fatalities	Aircraft registered in the MID Region	Air Operator in the MID Region
2011	1	LOC-I	78	Yes	Yes
2012	None				
2013	None				
2014	1	SCF	38	Yes	Yes
2015	1	UNK	224	No	No

UNK Investigation did not finished yet

In terms of fatality, the top fatal accident categories in the MID Region for the period (2011 – 2015) are:

1. UNK

2. LOC-I

3. SCF

Accordingly, the following matrix shows the assessment for the top accidents categories (excluding UNK and OTHR).

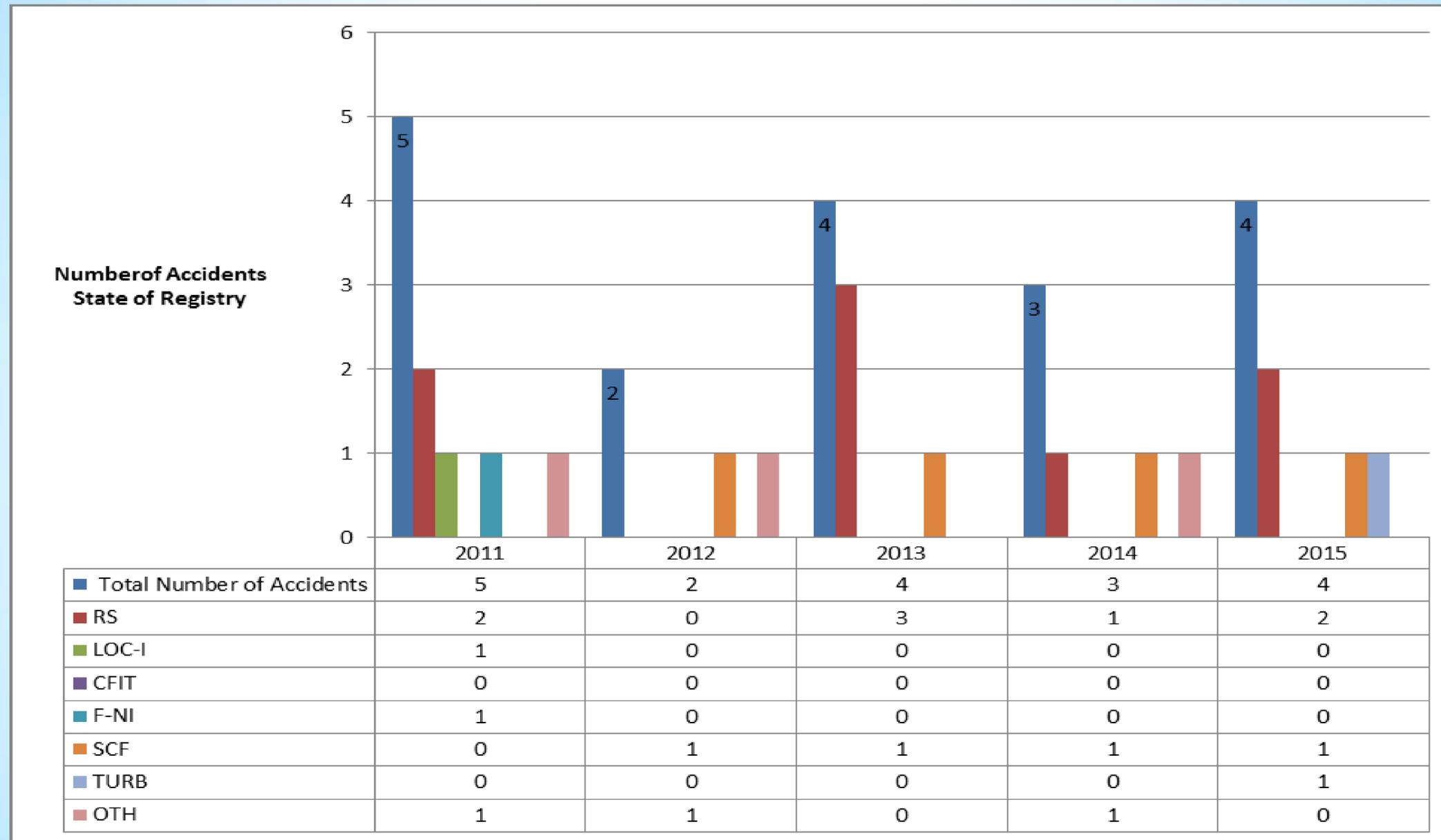
Accident Category	Frequency	Severity	Frequency x Severity
RS	1	3	3
LOC-I	3	2	6
SCF	2	2	4
F-NI	3	3	9
CFIT	3	3	9
TURB	3	3	9

# Main Focus Areas (same as last report)

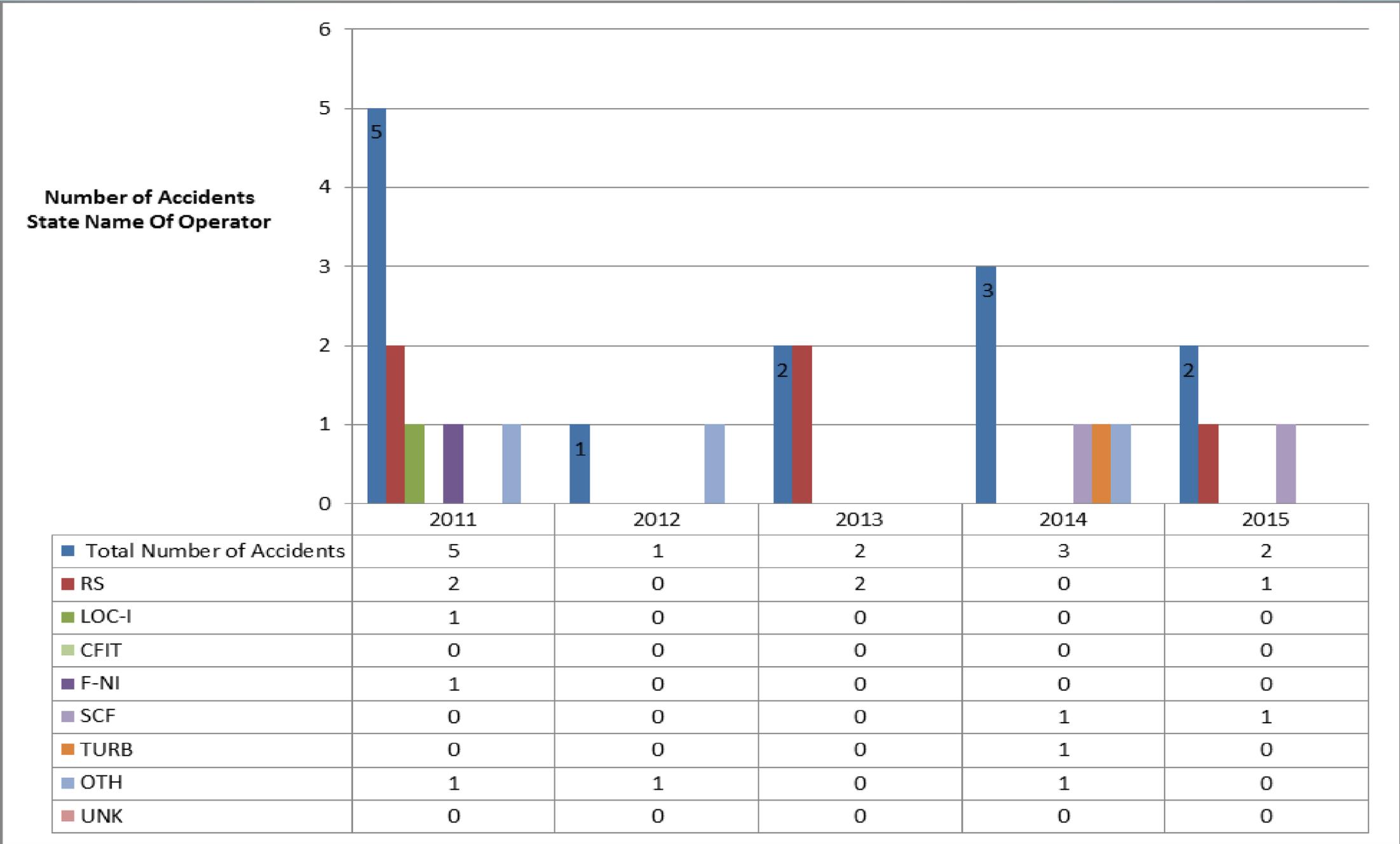


It's to be highlighted that Boeing, Airbus and Embraer reported that based on their data SCF is not a concern for their type of aircraft.

### 3.1.2 Regional Accident Statistics (State of Registry)



### 3.1.3 Regional Accident Statistics (State of the Operator)



## 3.2 IATA Data: IATA In-Depth Analysis of MID accidents

a) In terms of frequency, the most frequent accidents categories in the MID Region for the period 2011 – 2015 are:

1. Gear-up Landing / Gear Collapse
2. Ground Safety
3. Runway/ Taxiway Excursions

b) In terms of fatality, the top three fatal accidents categories in the MID Region for the period 2011 – 2015 are:

1. LOC-I
2. CFIT
3. Inflight Damage

c) Top three flight phases when fatal accidents occur in the MID Region are Go-around (**GOA**) and Initial Climb (**ICL**), and Take Off (**TOF**).

Below is an in-depth analysis the high risk categories identified for the MID Region covering the period 2011 till 2015:

## Runway Excursion

### 1. Trend 2011 to 2015

		2011	2012	2013	2014	2015
<b>MID</b>	<b>Accident rate</b>	2.54	0.78	0.00	0.69	0
	<b># Accidents</b>	3	1	0	1	0
<b>World</b>	<b>Accident rate</b>	0.56	0.64	0.52	0.45	0.40
	<b># Accidents</b>	19	22	18	16	15

### 2. Severity of outcomes

#### Accident Fatal

Fatal	<b>0</b>
Non-Fatal	<b>5</b>
<b>Total Fatalities</b>	<b>0</b>

#### Level of Damage

Hull Loss	<b>2</b>
Substantial Damage	<b>3</b>

## The Safety Priority Areas According to IATA's Accidents Data are:

- i. Loss of Control In Flight (LOC-I)
- ii. Gear up landing/ Gear collapse
- iii. Runway/ Taxiway Excursion
- iv. Controlled Flight Into Terrain (CFIT)
- v. Mid Air Collision

It is worth mentioning here that according to the ICAO classification, Gear up landing/ Gear collapse and Ground safety fall under **Runway Safety**.

# Root Cause

## 3. Contributing factors for Runway Excursion

### BRAIN NUKLEUS

- 
- i. Airport facilities
  - ii. Metrology
  - iii. Poor/Faint markings/signs or runway/taxiway closure
  - iv. Aircraft malfunction
  - v. Contained engine failure/power plant malfunction
  - vi. Errors related to Manual Handling/ Flight controls
  - vii. Errors related to ground navigation
  - viii. Errors related to SOP adherence/ SOP cross verification
  - ix. Continued landing after unstable approach
  - x. Long/floated/bounced/firm/off-center/crabbed landing
  - xi. Unstable approach
  - xii. Overall crew performance
  - xiii. Runway/taxiway management

### *Controlled Flight into Terrain (CFIT)*

#### 1. Trend 2011 to 2015

		2011	2012	2013	2014	2015
MID	Accidents rate	0.00	0.87	0.00	0.00	0.00
	# Accidents	0	1	0	0	0
World	Accidents rate	0.30	0.18	0.14	0.17	0.03
	# Accidents	10	6	5	6	1

#### 2. Severity of outcomes

##### **Accident Fatal**

Fatal	<b>1</b>
Non Fatal	<b>0</b>

Total Fatalities	<b>32</b>
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##### **Level of Damage**

Hull Loss	<b>1</b>
Substantial Damage	<b>0</b>

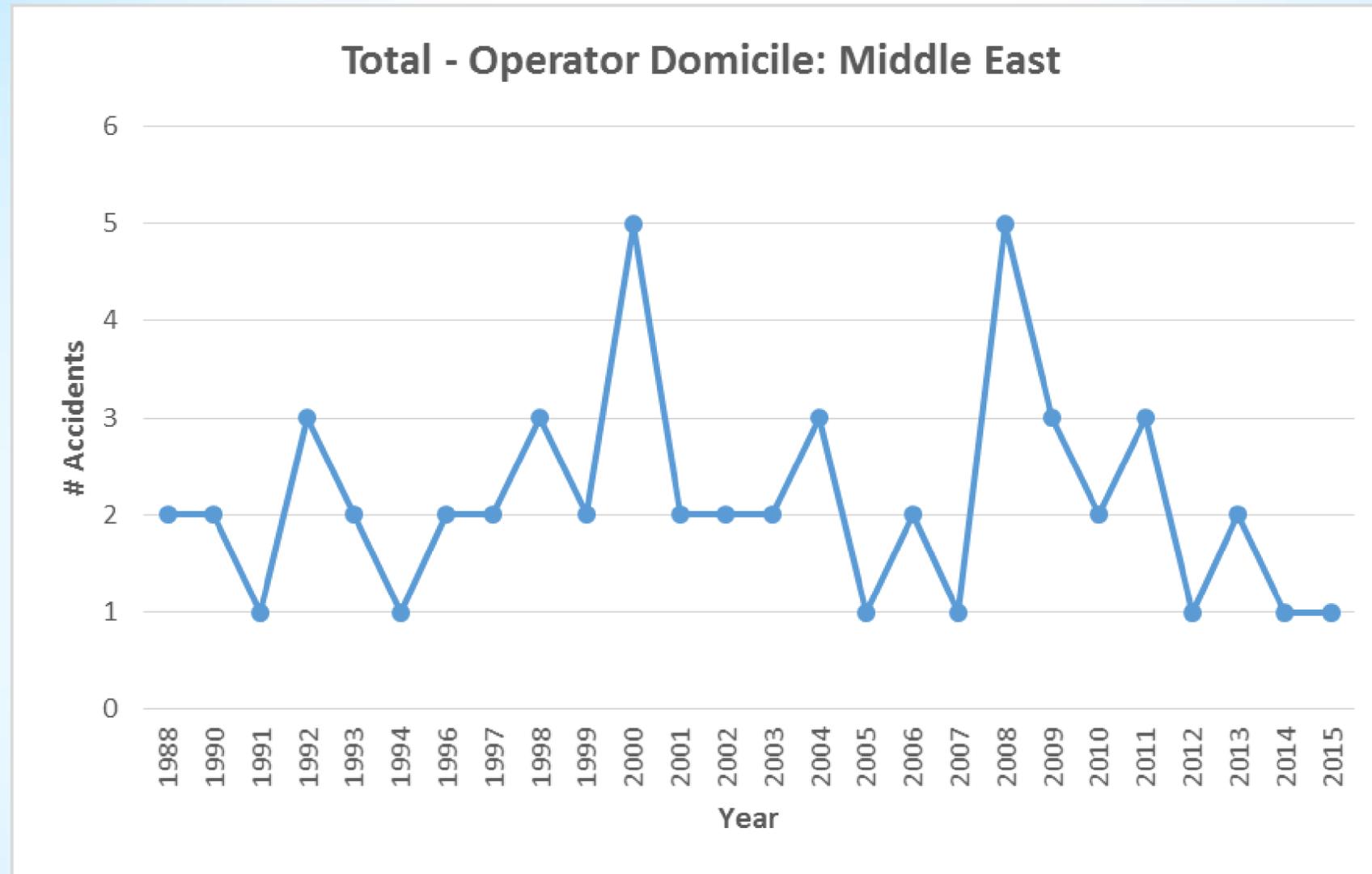
#### 3. Contributing factors:

As per IATA's de-identification rule, the data is insufficient to produce analysis on contributing

### 3.3.1 Boeing Data

#### ***3.3.1.1 Number of Accidents:***

The Chart below shows the total number of accidents for the period (1987-2015)



### 3.5 MID Region Safety Performance - Safety Indicators-Reactive

		Average 2011-2015		2015	
Safety Indicator	Safety Target	MID	Global	MID	Global
Number of Runway Safety related accidents per million departures	Reduce/Maintain the regional average rate of Runway Safety related accidents to be below the global average rate by 2016	1.4	1.6	1.6	1
	Reduce/Maintain the Runway Safety related accidents to be less than 1 accident per million departures by 2016	1.6			

## 4- Proactive Safety Information

With respect to ICAO USOAP-CMA, the average overall Effective Implementation (EI) in the MID Region is 66.17%, which is above the world average 63.54 %.

The ANS is the only area below 60% EI. With respect to the Critical Elements (CEs), CE4 (Qualified technical personnel) still represents the lowest EI, whereas CE7 (surveillance obligations) and CE8 (resolution of safety issues) are below EI 60%.

The common challenges/difficulties related to the USOAP CMA implementation in the MID Region include lack of sufficient human resources, ability to attract/recruit/retain technical personnel, training, separation of oversight functions and service providers/operators, and political/security situation/stability in some States

## 4.2 IATA IOSA and ISAGO

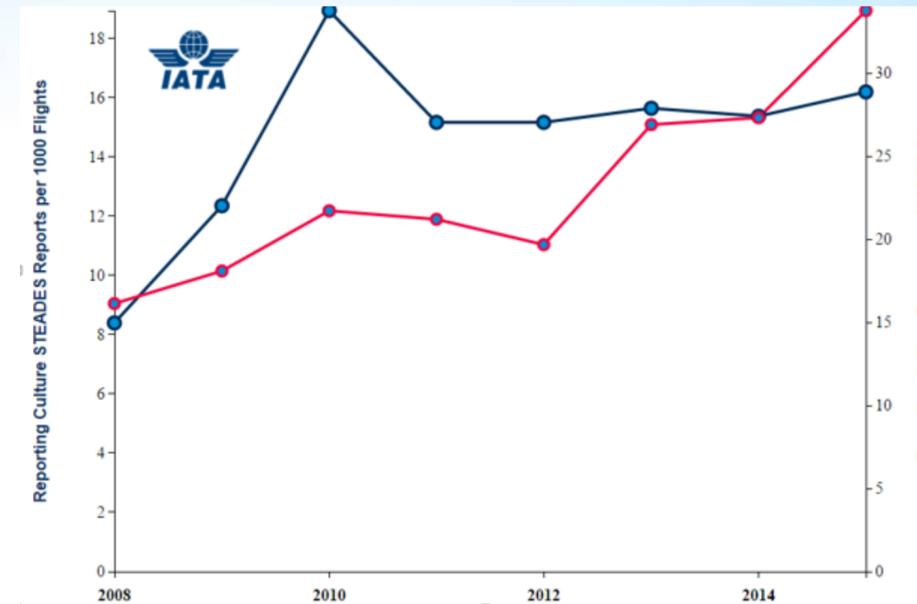
### 4.2.1 IATA Operational Safety Audit (IOSA)

#	Area	Top findings (ISARPS)
4	Ground Handling Operations (GRH)	<ul style="list-style-type: none"><li>- The availability of a process (for operators who do not transport dangerous goods as cargo) to ensure ground handling personnel receive dangerous goods training to include initial training and recurrent training covering passenger handling, baggage handling, aircraft loading, and load control.</li></ul>
5	Organization Management (ORG)	<ul style="list-style-type: none"><li>- The availability of a process to ensure having a system for the management and control of documentation and/or data used directly in the conduct or support of operations.</li><li>- The availability of a flight data analysis program (FDA) that is non-punitive and contains adequate safeguards to protect data sources.</li><li>- The availability of a process for addressing findings that result from audits conducted under the quality assurance program which ensures identification of root causes, development of corrective action, implementation and evaluation of the corrective action in appropriate operational areas.</li></ul>

## 4.3.2 Incidents and Occurrences Reported by Airlines - STEADES Data

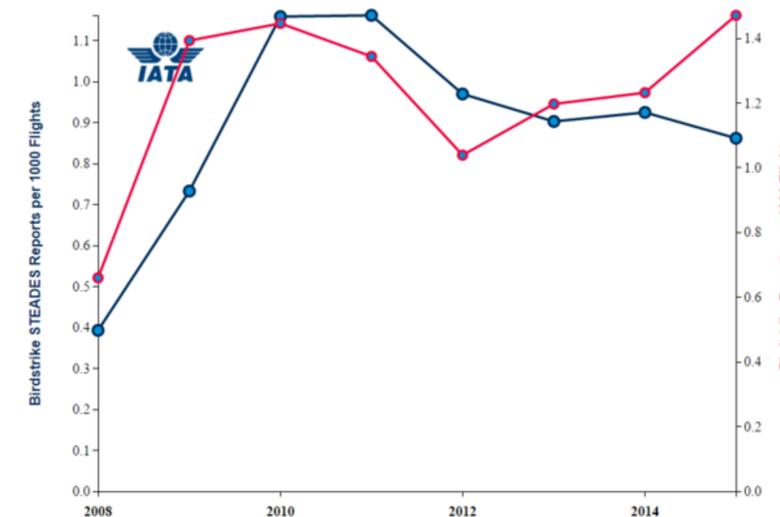
### Reporting Culture

Below figure indicates a better reporting culture for the airlines in the **MENA Region** (in red) compared to the **global** rate (in blue). A significant improvement has been noticed for the year 2015.



### Birdstrikes

While the birdstrikes trend has been decreasing at a **global** level (in blue) since 2011, it has been showing an increase in **MENA** (in Red) since 2012.



## Runway/taxiway Incursions

It can be noted from the figure below that despite the good performance of the MENA Region (in Red) compared to the global one (in Blue) for 2012 - 2013, there has been a spike in the number of runway/taxiway incursions in 2014 for MENA which exceeded the global one. Yet and in 2015, the regional performance has slightly improved compared to the global one.



### 4.3.3 Region Safety Performance - Safety Indicators-Proactive

<b>Number of Significant Safety Concerns</b>	<b>MID States resolve identified Significant Safety Concerns as a matter of urgency and in any case within 12 months from their identification.</b>  <b>No significant Safety Concern by 2016.</b>	<b>Nil</b>	
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## 5. Predictive Safety Information

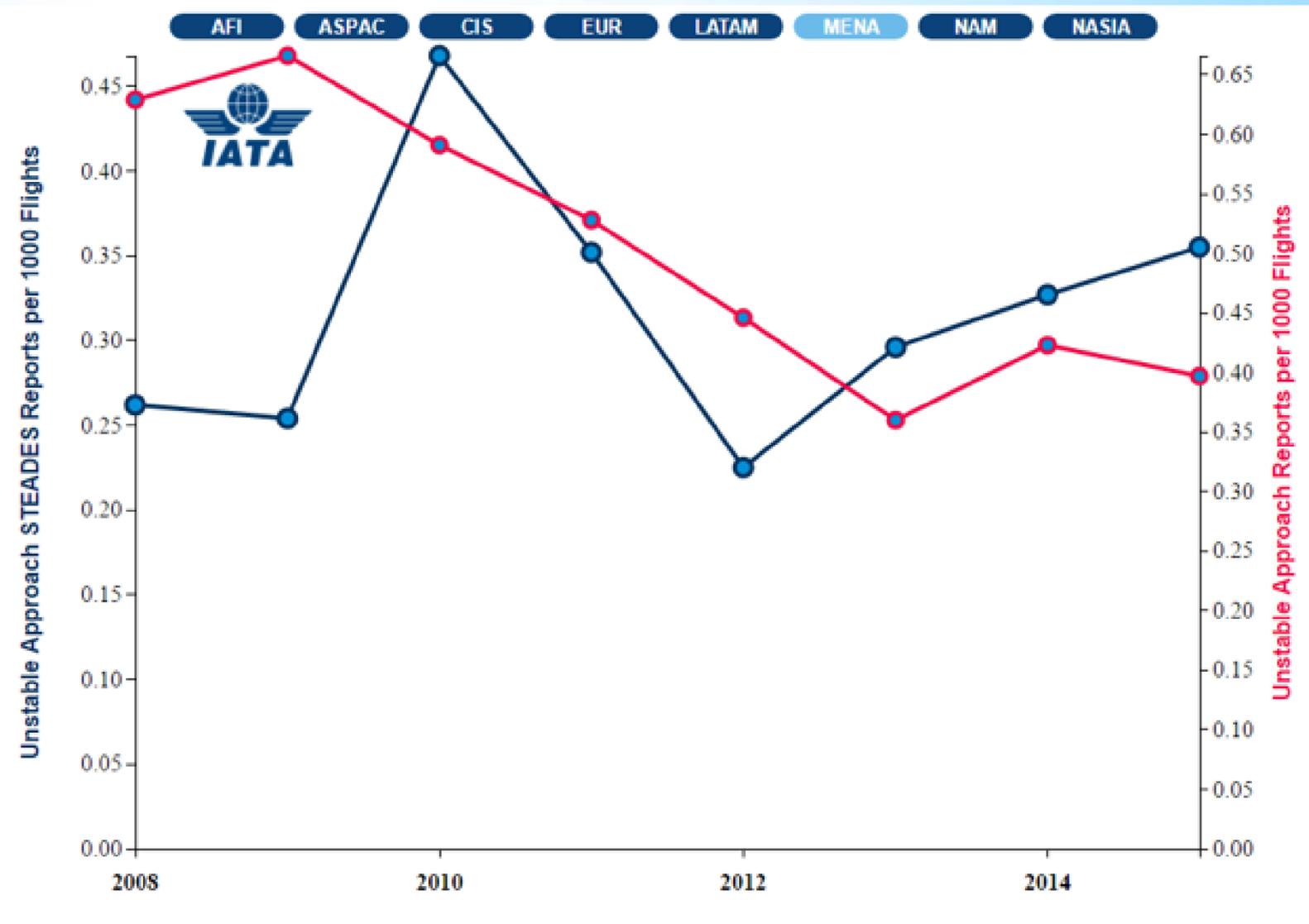
The SSP implementation is still one of the main challenges in the Region which is addressed by the RASG-MID.

Common challenges/difficulties related to SSP implementation include identification of a designated entity, establishment of an initial Acceptable Level of Safety Performance (ALoSP), allocation of resources to enable SSP implementation and lack of qualified and competent technical personnel

## 5.2 IATA Safety Data

### Unstable approaches:

Below figure demonstrates a lower rate of unstable approaches for the **MID** Region (in **Red**) compared to the **global** level (in **Blue**). The rate has been decreasing for the MID Region since 2009 and have slightly increased again in 2014 and 2015. Unstable approaches are a major contributing factor for runway excursions.



## The following are the main challenges facing the ASRT in collecting and analysing safety data:



**A** reporting of incidents by States is very low;

identification of contributing factors due to lack of sufficient information for in-depth analysis;

**B**



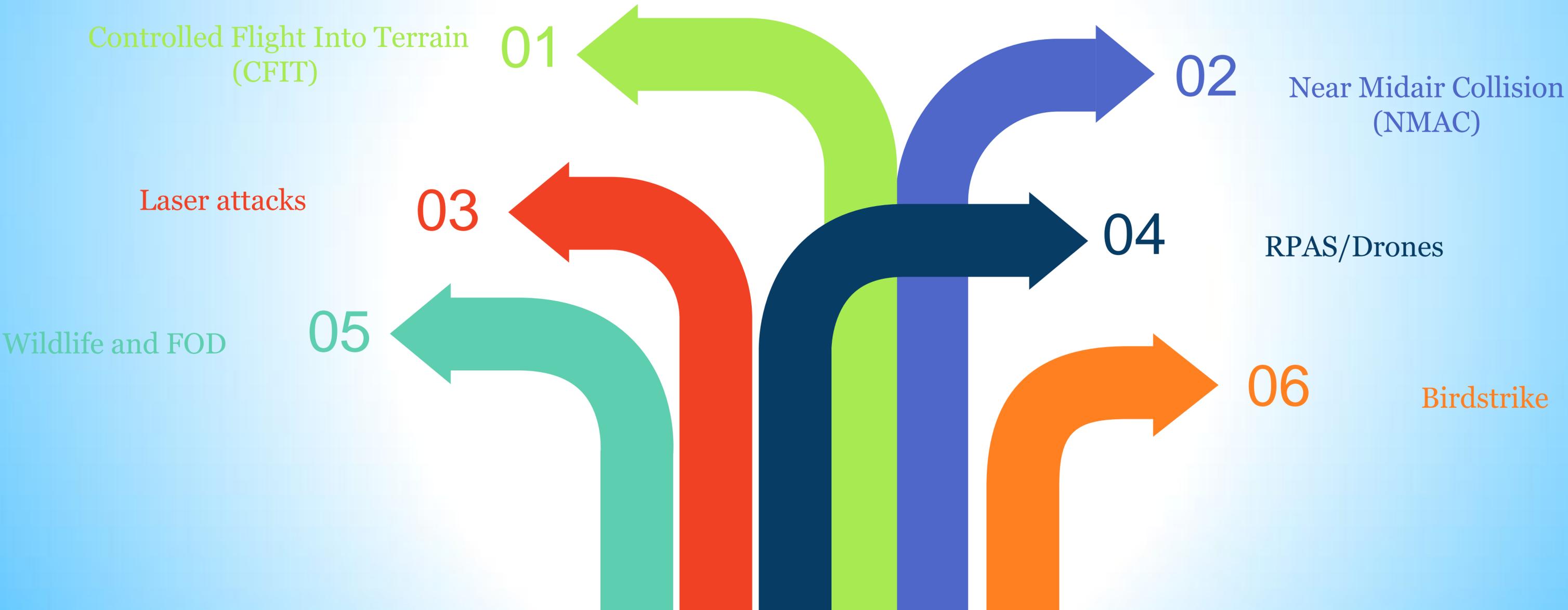
**C** unavailability of predictive safety information to be analysed in order to allow the identification and mitigation of safety concerns before accidents or incidents would even take place; and

differences in the safety information provided by the participating organizations due to the use of different criteria and classifications of accidents.

**D**



# Emerging Risks in the MID Region



# Conclusion:

- Bad news
- Main Focus Areas (same as last report)  
Runway Safety (RS)

So We need to work on ground handling as an issue in reference to wp8 safety strategy target.

- SSP implementation is still one of the main challenges

## Good news are

- Based on previous annual meetings and workshops, proactive steps were taken through workshops and working papers like (

\*ICAO to issue State Letter to promulgate regulations on Laser Attacks

\*LASER Attacks Safety Guidelines

\*LASER Attacks Safety case study (ratio dropped to be 7% 2016)

\*Wildlife Management and Control Regulatory Framework & Guidance Material

\*GUIDANCE MATERIAL Airside Safety Management

\*Develop and issue Stop Bar guidance documentation for consideration of LRSTs

\*Develop and issue guidance material on periodic surveillance audits of Aerodrome Infrastructure and Maintenance

\*Develop a MID-Region Aerodrome Certification toolkit for States.

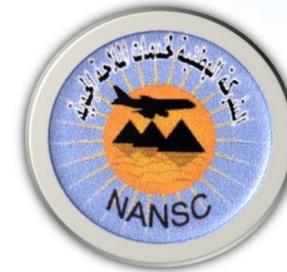
\*Safeguarding guidance toolkit

\*A lot of workshops and seminars

- No significant Safety Concern by 2016.

## Recommendations:

- ICAO Workshop regarding The SSP implementation because it is still one of the main challenges in the Region which is addressed by the RASG-MID.
- work on ground handling as an issue as a part of runway safety related main focus area listed in report



THANK YOU FOR YOUR ATTENTION