MID Annual Safety Report
Fifth Edition

Presented by:

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Objectives of ASRT

- Gather safety information from different stakeholders

- Identify the main aviation safety risks in the MID region to deploy mitigation actions for enhancing aviation safety in a coordinated manner

- Produce the annual safety report
  - 1st Edition, Nov 2012
  - 2nd Edition, Jan 2014
  - 3rd Edition, March 2015
  - 4th Edition, May 2016
  - 5th Edition, pending endorsement

Regional Aviation Safety Group - Middle East (RASG-MID)

MID Region Annual Safety Report

Second Edition January 2014
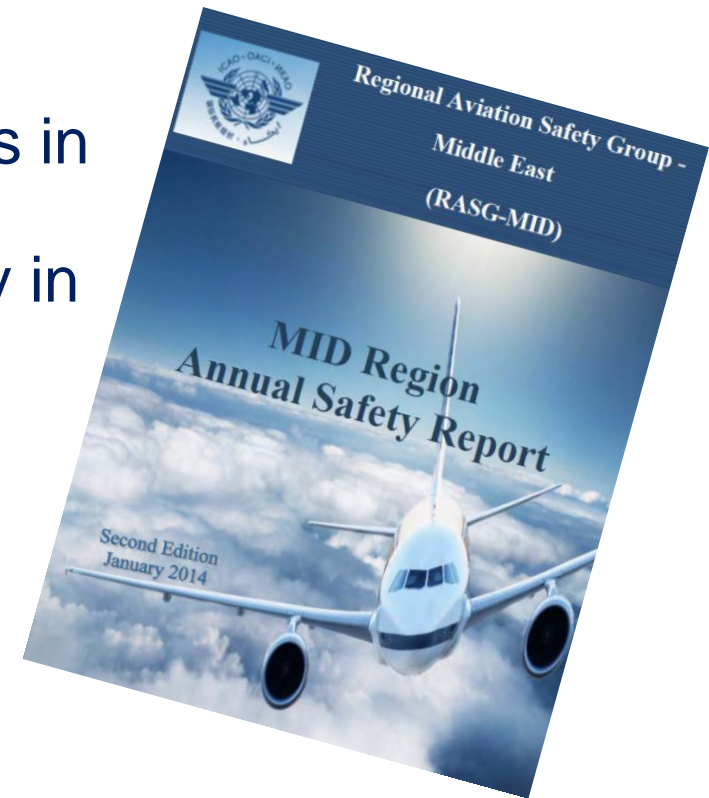
Data Collection & Sources

Methodology

- Utilize existing safety databases of different aviation stakeholders

- Conduct surveys targeted at specific aviation stakeholders

- Benefit from experts opinion

- Industry meetings to capture emerging risks addressed by the different stakeholders

Data sources for ASR (5th edition)

ASR Content (5th edition)

RASG-MID uses different types of safety information

REACTIVE: safety analysis based on accidents and serious incidents in MID region

PROACTIVE: ICAO USOAP results, IOSA, ISAGO audit results, and STEADES data

PREDICTIVE: SSP/SMS implementation and analysis of FOQA de-identified data, oriented towards identifying potential future hazards for initiating corresponding mitigation actions – an area for improvement!
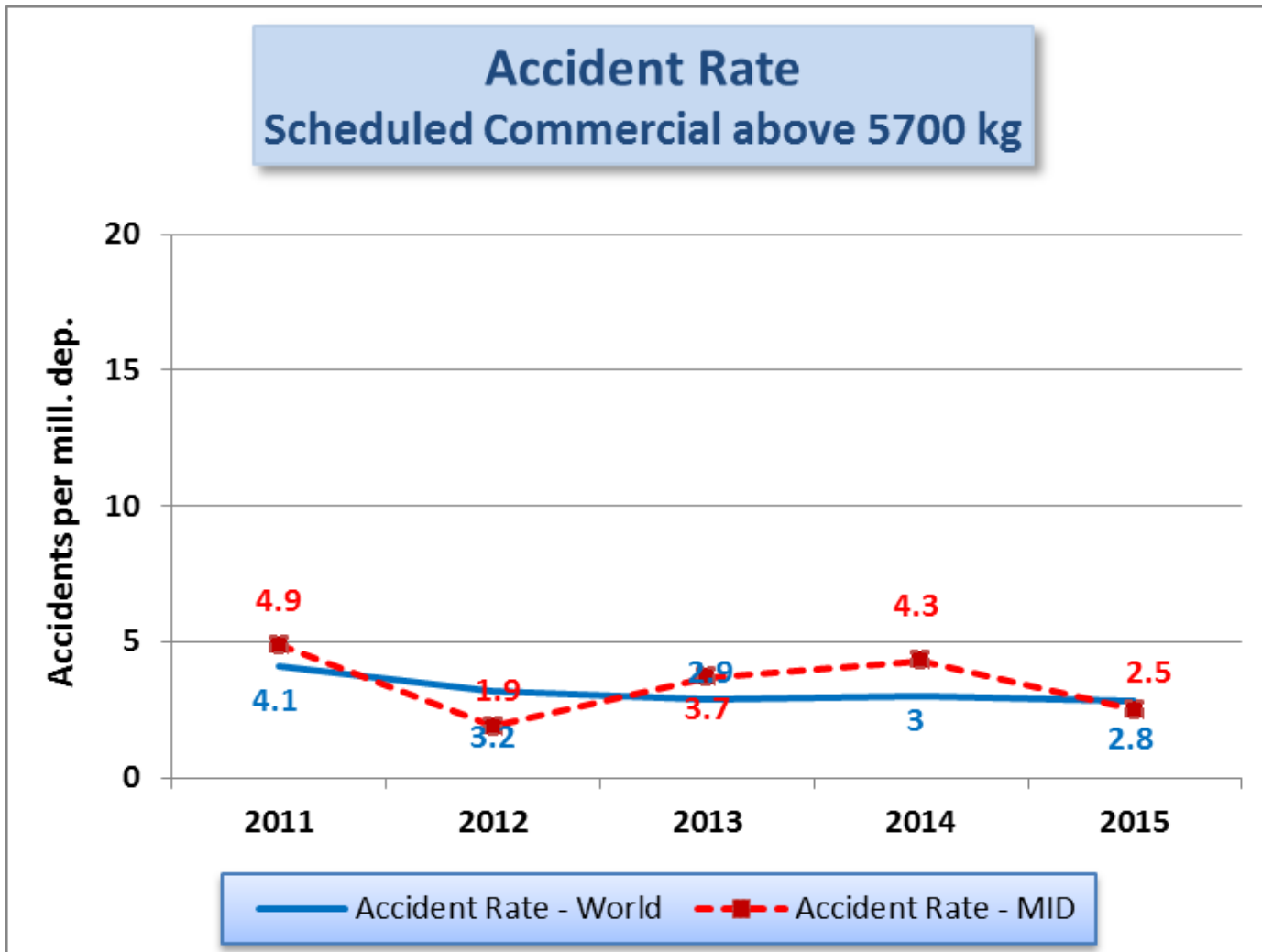
Safety Data Analysis

Risk assessment based on:

✓ Frequency
✓ Severity (fatality)

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

Reactive Safety Analysis – Accident rates

Accident Rate
Scheduled Commercial above 5700 kg

Accidents per mill. dep.

- 4.9 (2011, MID)
- 4.1 (2011, World)
- 1.9 / 3.2 (2012)
- 2.9 / 3.7 (2013)
- 4.3 / 3 (2014)
- 2.5 / 2.8 (2015)

Accident Rate - World
Accident Rate - MID

- Reduced accident rate for 2015 compared to 2014

- Below global rate in 2015

- Above global 5 yr average rate (avg global = 3.2 while avg MID = 3.5)

- No fatalities in both 2012 & 2013, while 38 fatalities in 2014 and 224 in 2015

Reactive Safety Analysis – Fatal Accidents

Fatal Accidents
Scheduled Commercial above 5700 kg
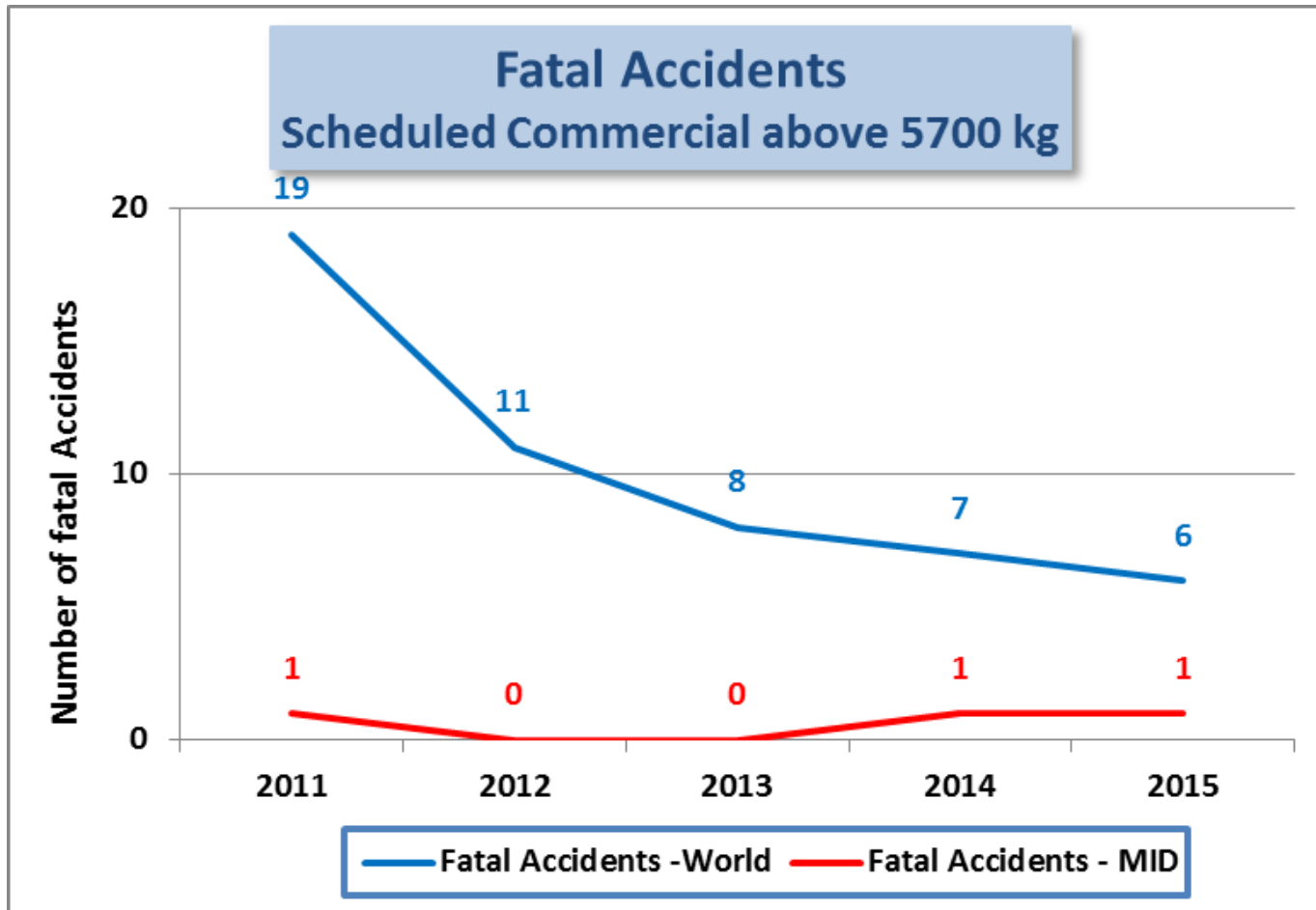
- Accident rate for MID fatal accidents (2011-2015) is 0.53

- Above global accident rate for World fatal accidents (2011 – 2015) which is 0.33

- Fatalities in 2011 = 78 2014 = 38 2015 = 224

Reactive Safety Analysis

- **Top contributing factors:**

  - Airport facilities
  - Metrology
  - Poor/Faint markings/signs or runway/taxiway closure
  - Aircraft malfunction
  - Contained engine failure/power plant malfunction
  - Errors related to Manual Handling/ Flight controls
  - Errors related to ground navigation
  - Errors related to SOP adherence/ SOP cross verification
 - Continued landing after unstable approach
  - Long/floated/bounced/firm/off-center/crabbed landing

Reactive Safety Analysis

- **Focus Areas for MID region for 2017** (based on 2011-2015 period)
  - ➤ Runway Safety (RS)
  - ➤ Loss of Control In Flight (LOC-I)
  - ➤ System/ Component Failure (SCF)

- **Regional emerging risks continue to be:**
  - ➤ Controlled Flight Into Terrain (CFIT)
  - ➤ Near Mid Air Collision (NMAC)
  - ➤ Laser attacks
  - ➤ RPAS/Drones
 - ➤ Wildlife & FOD

Proactive Safety Analysis - USOAP

- ➢ **13 out of 15 States have been audited**
- ➢ **Overall MID EI = 66.17% which is above Global average (63.54%)**
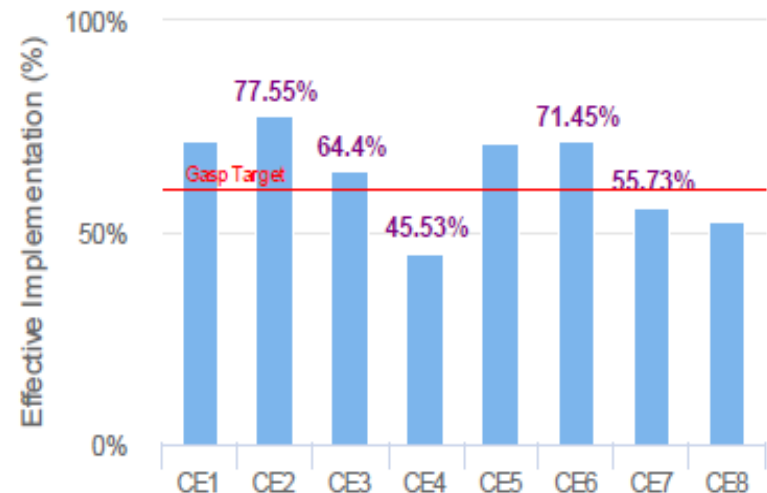- ➢ **5 states are below 60% (Libya, Syria, Egypt, Jordan & Kuwait)**
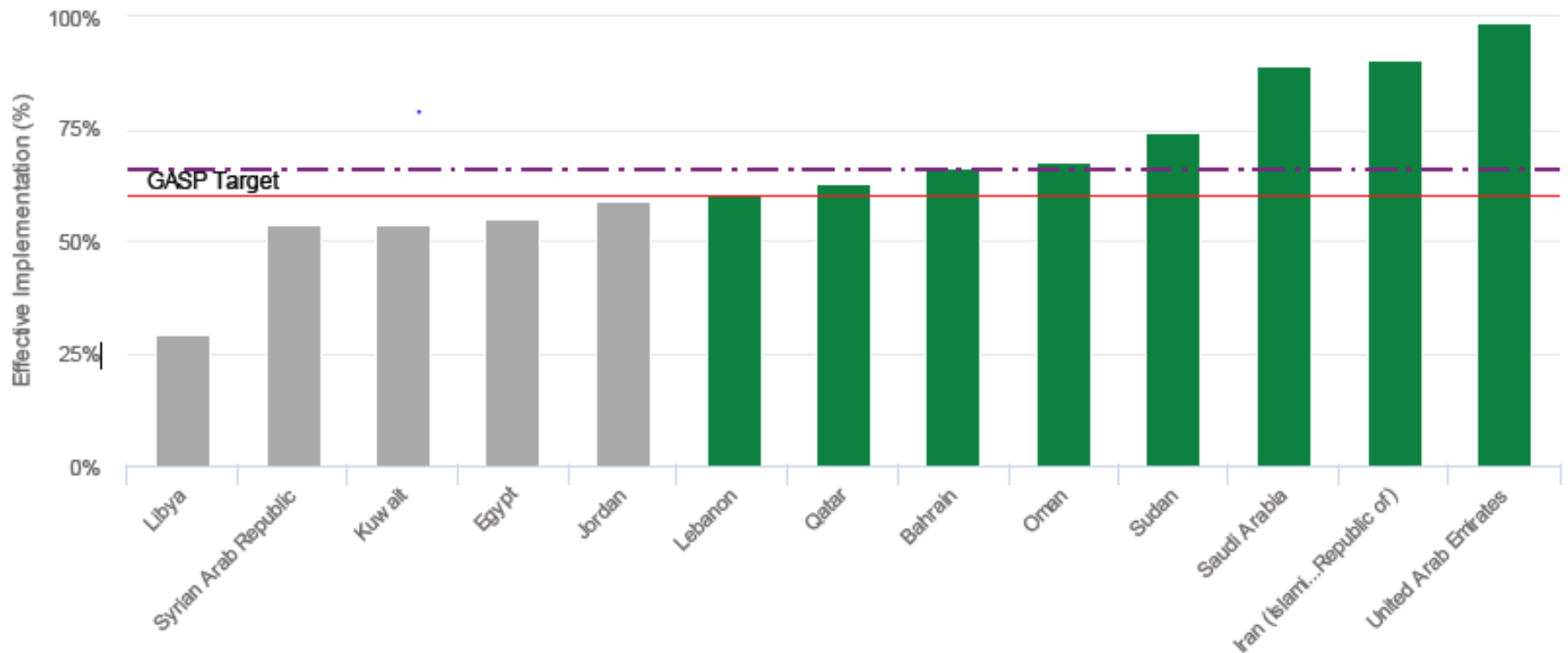
Proactive Safety Analysis - USOAP

➢ **7 areas and 5 critical elements are above the target of 60%**

➢ **ANS area is below 60%**

➢ **Critical elements CE4 (Qualified technical personnel), CE7 (Surveillance obligations), and CE8 (Resolution of Safety issues) are the lowest in terms of EI (below 60%)**


EI by Area
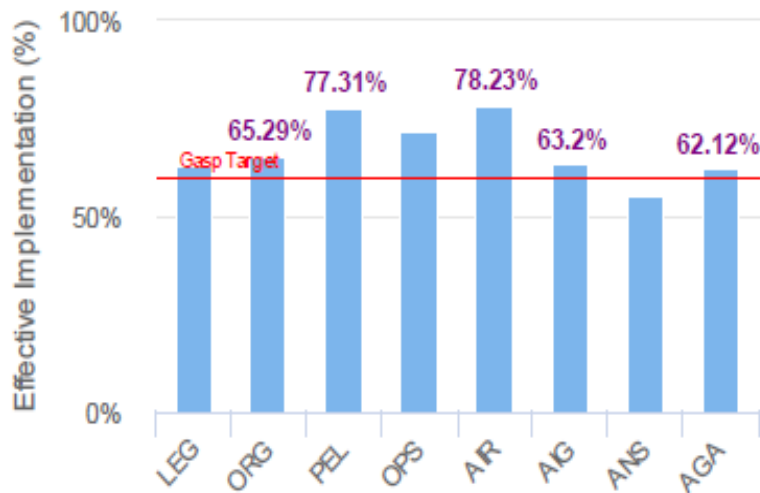
EI by Critical Element

Proactive Safety Analysis - IOSA

➢ **All MID accidents rate among non-IOSA registered operators was above the world average by an average of 5.57**

➢ **47 audits were performed in the MENA Region with an average of 6.5 findings per audit.**

➢ **Findings were mainly in the areas of:**
   - ✓ **Flight Operations (FLT),**
   - ✓ **Dispatch (DSP),**
   - ✓ **Maintenance (MNT),**
   - ✓ **Ground Handling Operations (GRH),**
   - ✓ **Organization Management (ORG)**

Proactive Safety Analysis - ISAGO

- **A total of 12 audit reports (8 combined and 4 station) have been included in the analysis covering the IATA MENA Region.**

- **Findings were mainly in the areas of**
  - ✓ **Passenger and Baggage Handling (BAP),**
  - ✓ **Load Control (LOD),**
  - ✓ **Aircraft Handling & Control (HDL),**
  - ✓ **Aircraft Ground Movement (AGM).**

MENA
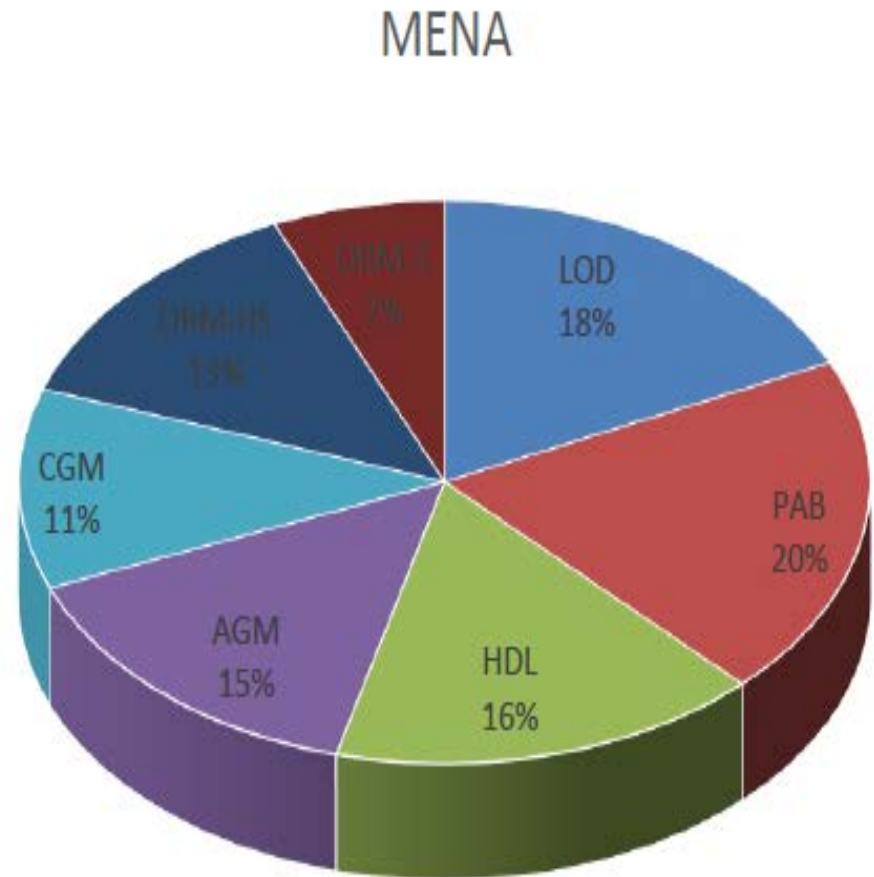
Proactive Safety Analysis - Incidents

- **STEADES utilized for trending purposes to analyze incidents reported through ASRs submitted by airlines – Bird strikes trend has been increasing since 2012!**


Middle East & North Africa
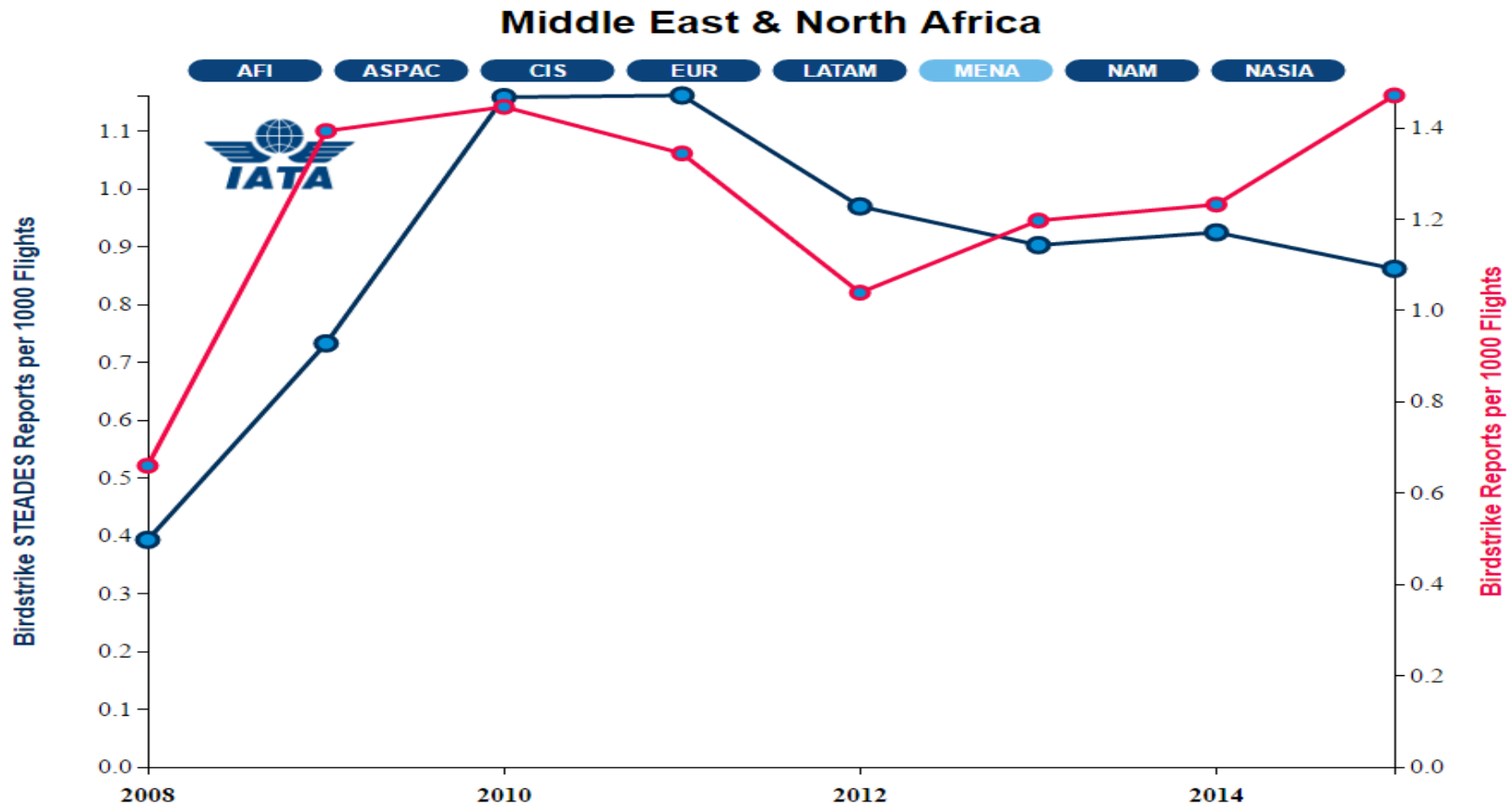
Predictive Safety Analysis

- **STEADES utilized for trending purposes to analyze top contributing factors that would result in accidents**

    - ➢ EGPWS/GPWS warning – a decreasing trend in 2015
    - ➢ Stall warning - a decreasing trend in 2015
    - ➢ TCAS RA – same level maintained for 2015
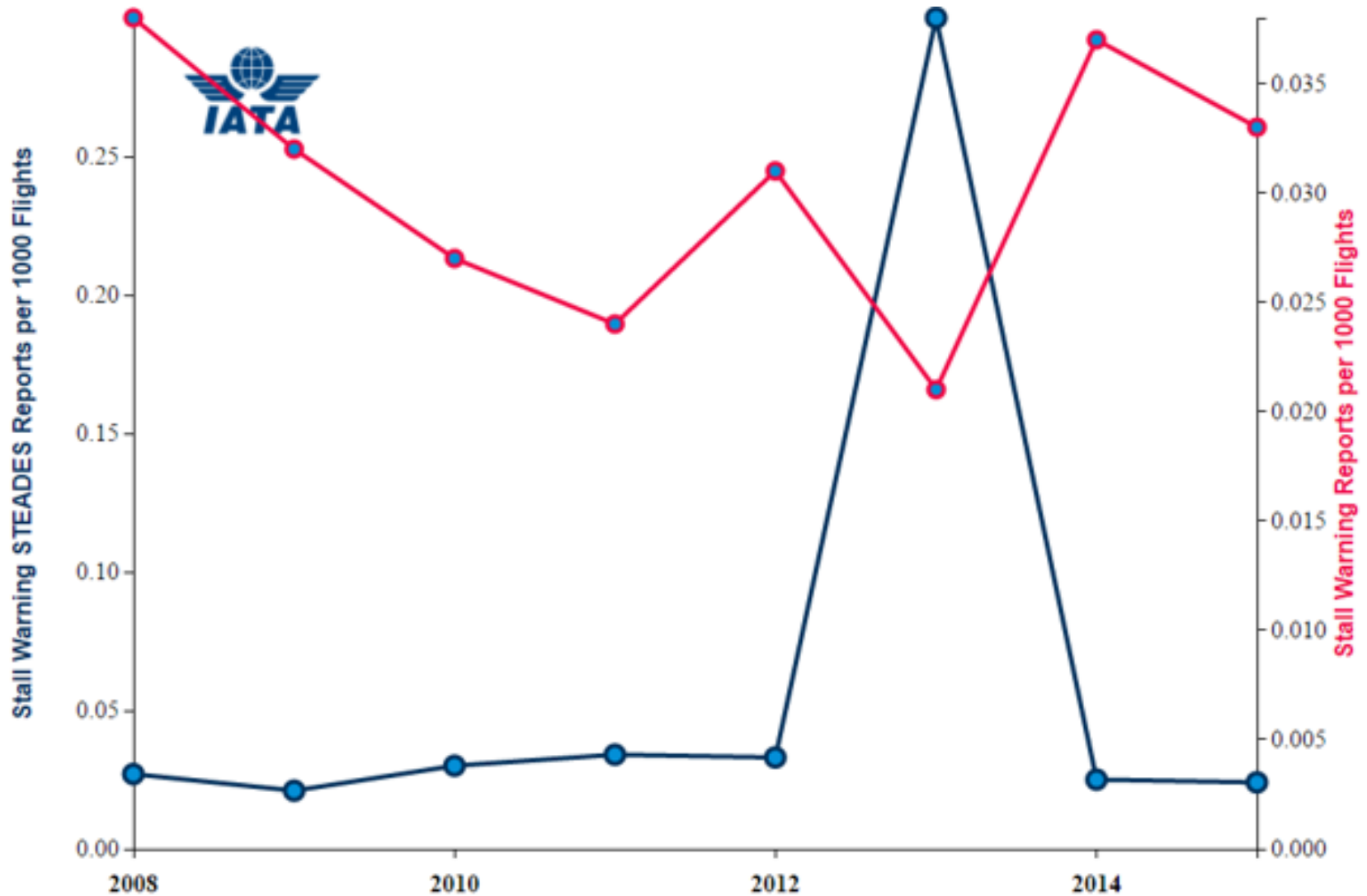   - ➢ Unstable approaches - a decreasing trend in 2015
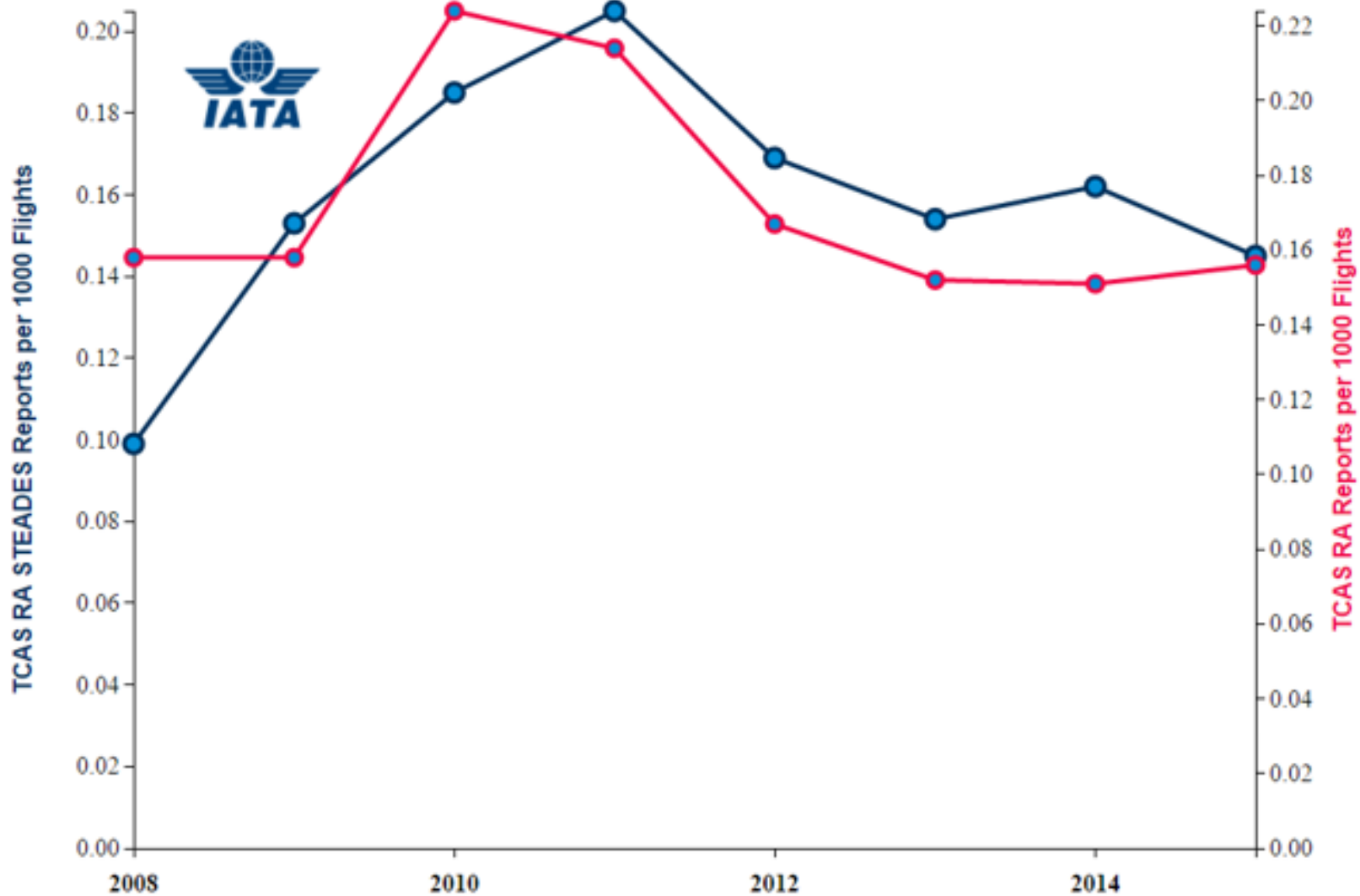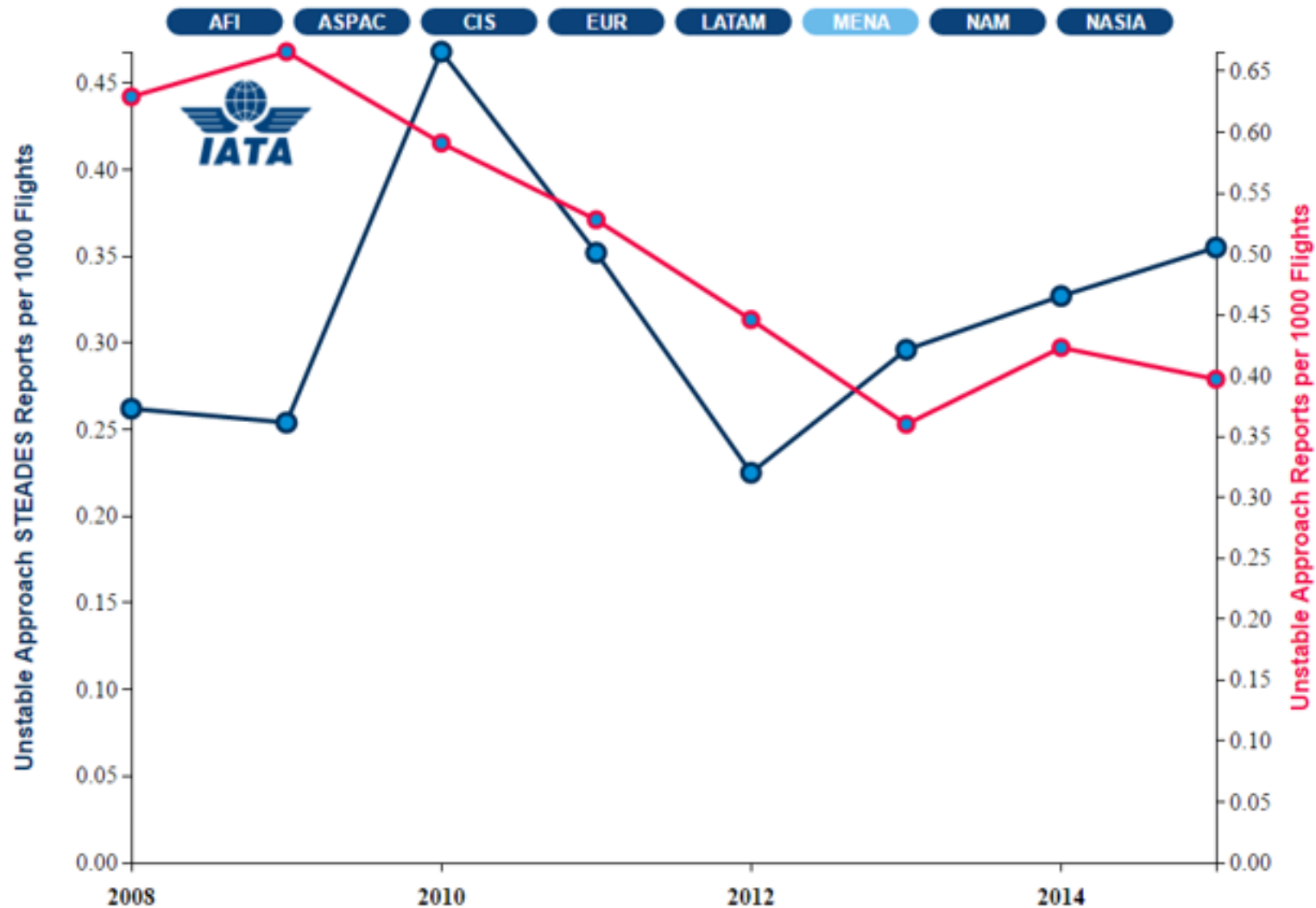
Predictive Safety Analysis – EGPWS
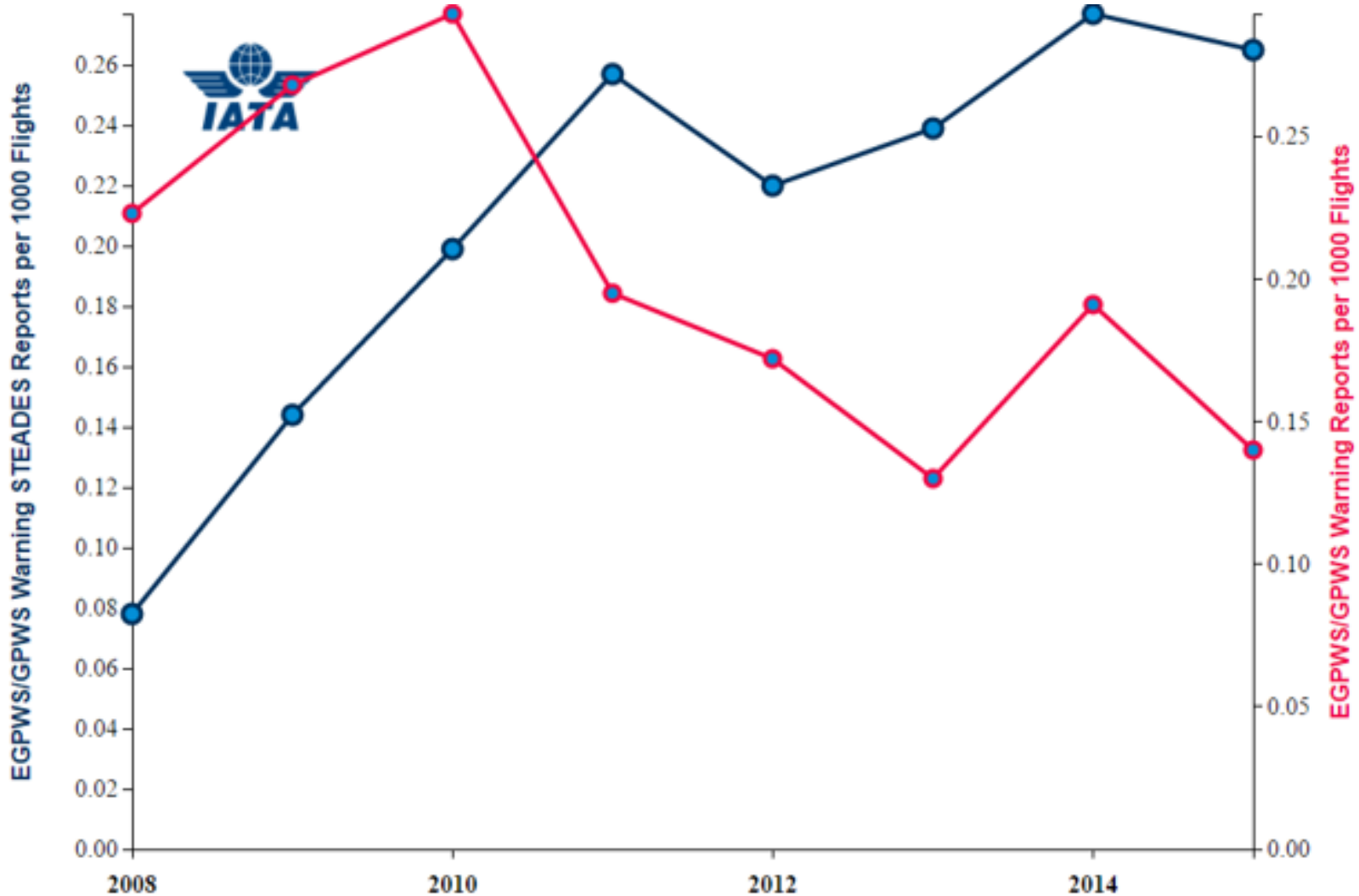
Predictive Safety Analysis – Stall warning

Predictive Safety Analysis – TCAS RA

Predictive Safety Analysis – Unstable approaches

Challenges

- Differences in the reporting/classification criteria used by the different contributing stakeholders
- Low reporting culture in the MID region
- Limited sources of information for predictive safety

Future Improvements

- Enhance the reporting culture in the MID region and encourage voluntary reporting to be able to move to predictive safety management

- Adopt a collaborative approach in harmonizing taxonomy across the different aviation stakeholders

Thank you!