2020 Full Year Accident Update

Performance at 31st December 2020

14 June 2021

IATA

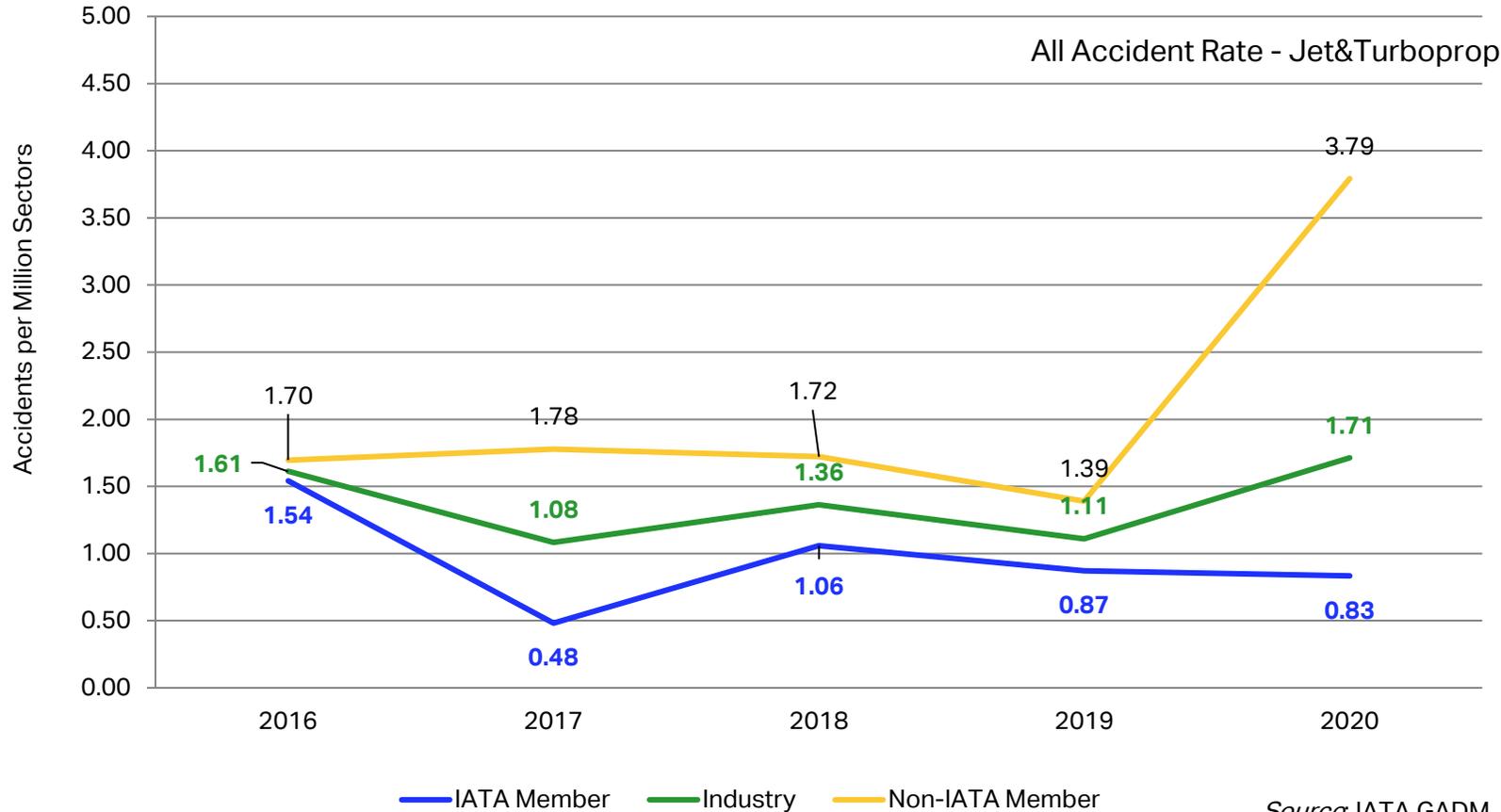# Accidents

Accidents Overview

	2019	2020
Total Accidents	52	38
Total Jet Hull Losses	6	4
Total Turboprop Hull Losses	5	5
Total Fatal Accidents	8	5
Total Fatalities on board	240	132
Total IATA Member Accidents	22	13

Source: IATA GADM

IATA

Accidents Update: as of 31st December 2020

Industry Accident Rate Increased

All Accidents per Million Sectors 2016 to 2020

All Accident Rate - Jet&Turboprop

Y-axis: Accidents per Million Sectors (0.00 to 5.00)

X-axis years: 2016, 2017, 2018, 2019, 2020

IATA Member: 1.54, 0.48, 1.06, 0.87, 0.83
Industry: 1.61, 1.08, 1.36, 1.11, 1.71
Non-IATA Member: 1.70, 1.78, 1.72, 1.39, 3.79

Legend: IATA Member — Industry — Non-IATA Member

Source: IATA GADM

- Even with the lower number of accidents reported in 2020, the accident rate increased from 1.11 to 1.71, because of the reduction of sectors flown in 2020 by 53% when compared to 2019.
- IATA members continue to trend lower than all the industry.

Source: IATA GADM

Accidents Update: as of 31st December 2020

IATA Regions the Accident Rate

All Accident Rate per Region of Operator as 31st December 2020

CIS
6.07 2020
4.04 2019
4.99 2016-2020

EUR
1.31 2020
0.40 2019
0.88 2016-2020

NAM
1.81 2020
1.27 2019
1.11 2016-2020

NASIA
0.00 2020
0.15 2019
0.13 2016-2020

MENA
1.01 2020
0.44 2019
1.75 2016-2020

LATAM/CAR
1.93 2020
1.73 2019
2.11 2016-2020

ASPAC
1.67 2020
0.99 2019
1.64 2016-2020

AFI
9.86 2020
6.03 2019
5.81 2016-2020

2020 vs 2019 accident rate

	World	IATA Members
2020	1.71	0.83
2019	1.11	0.87
2016-2020 (Avg)	1.38	0.96

Source: IATA GADM

Accidents Update: as of 31st December 2020
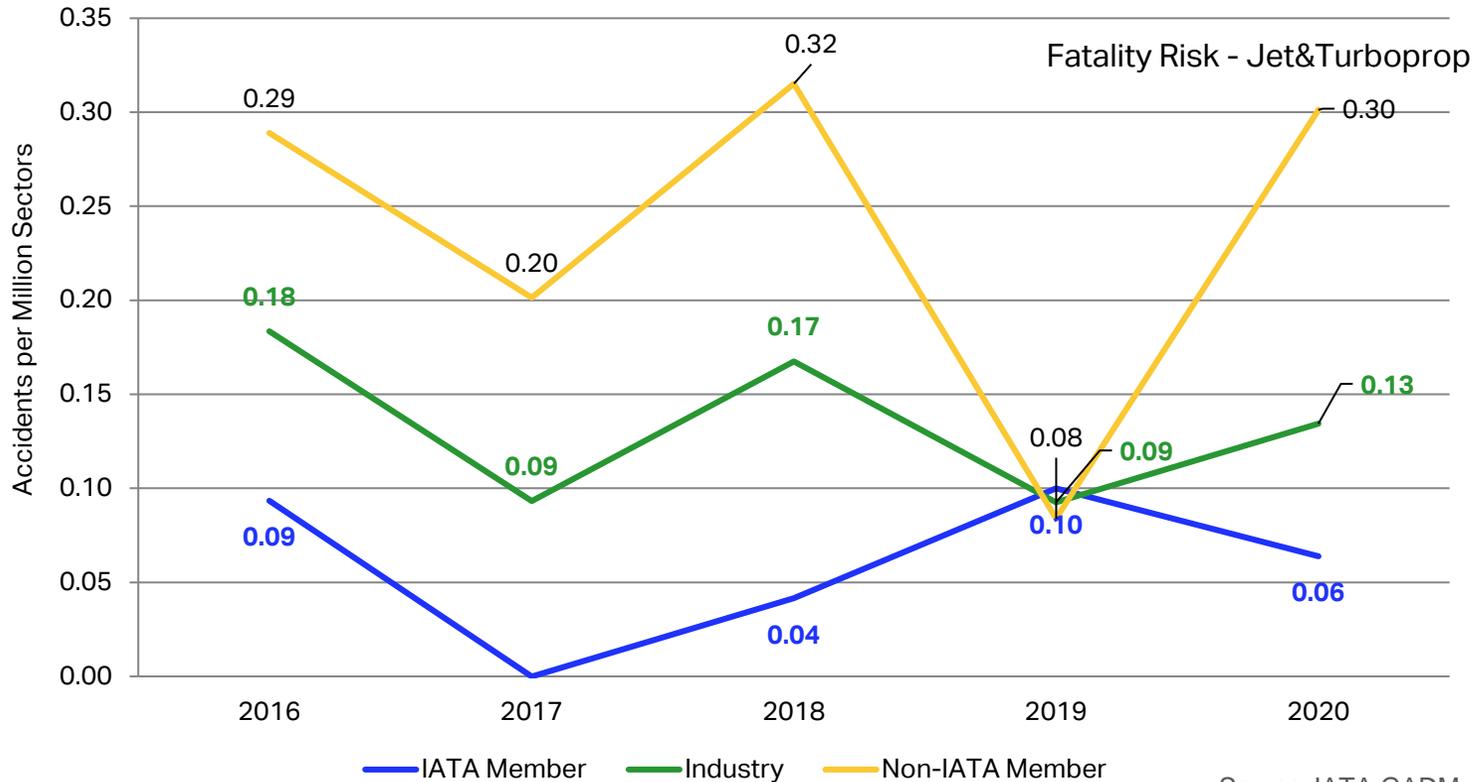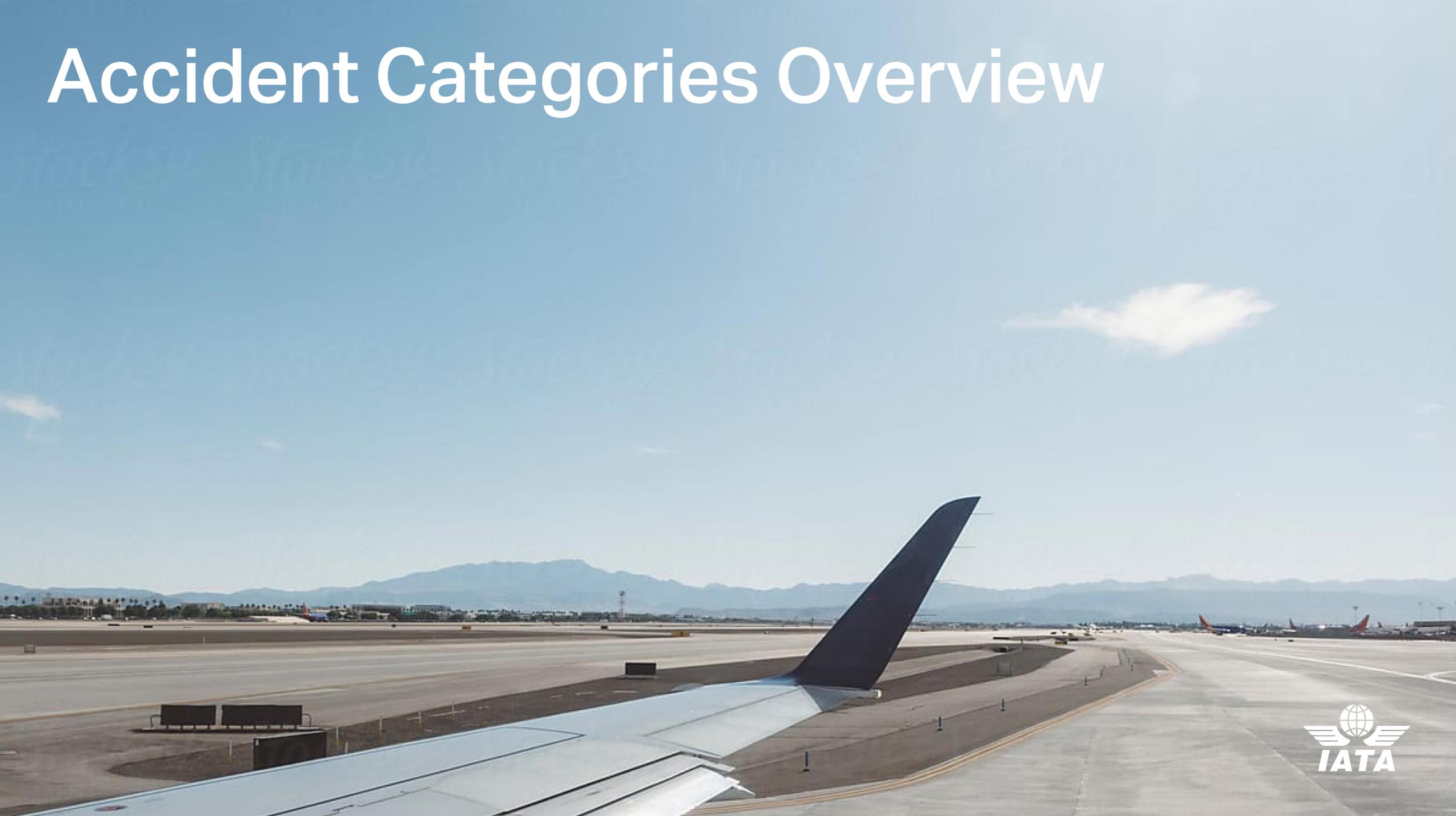
Fatalities

The Fatalities Risk for IATA Members Decreased

Fatality Risk (Full-Loss Equivalents per Million Sectors)


Fatality Risk - Jet&Turboprop

Source: IATA GADM

- The industry fatality risk has seen a rate increase over 2019.
- The 2020 fatality risk of 0.13 means that on average, a person would have to travel by air every day for 461 years before experiencing an accident with at least one fatality.
- On average, a person would have to travel every day for 20,392 years to experience a 100% fatal accident.
- The fatality risk has declined for IATA members.

Source: IATA GADM

Accidents Update: as of 31st December 2020

Accident Categories Overview

2020 Accident Categories Count and Fatalities – Inflight Damage had the highest # of fatalities
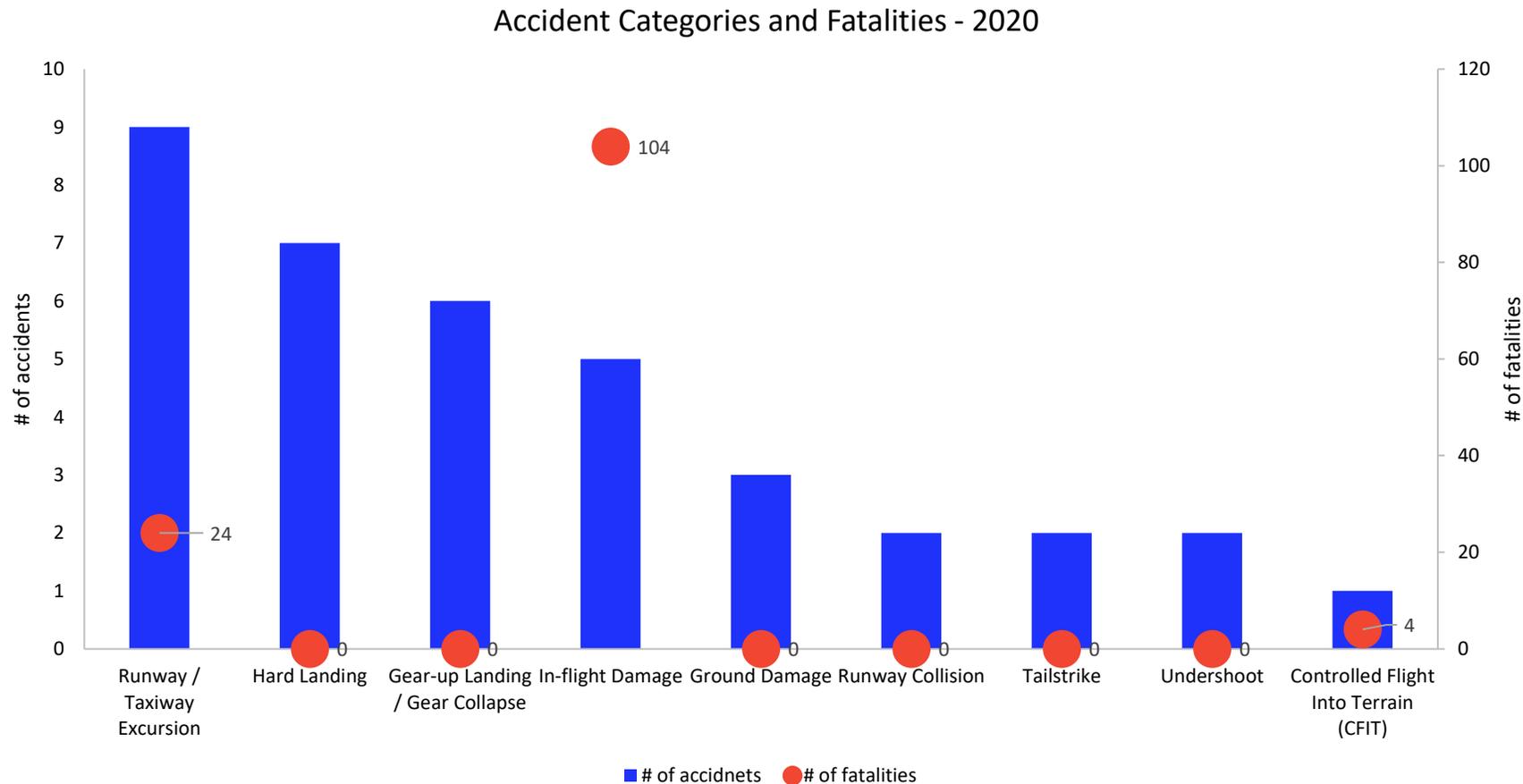
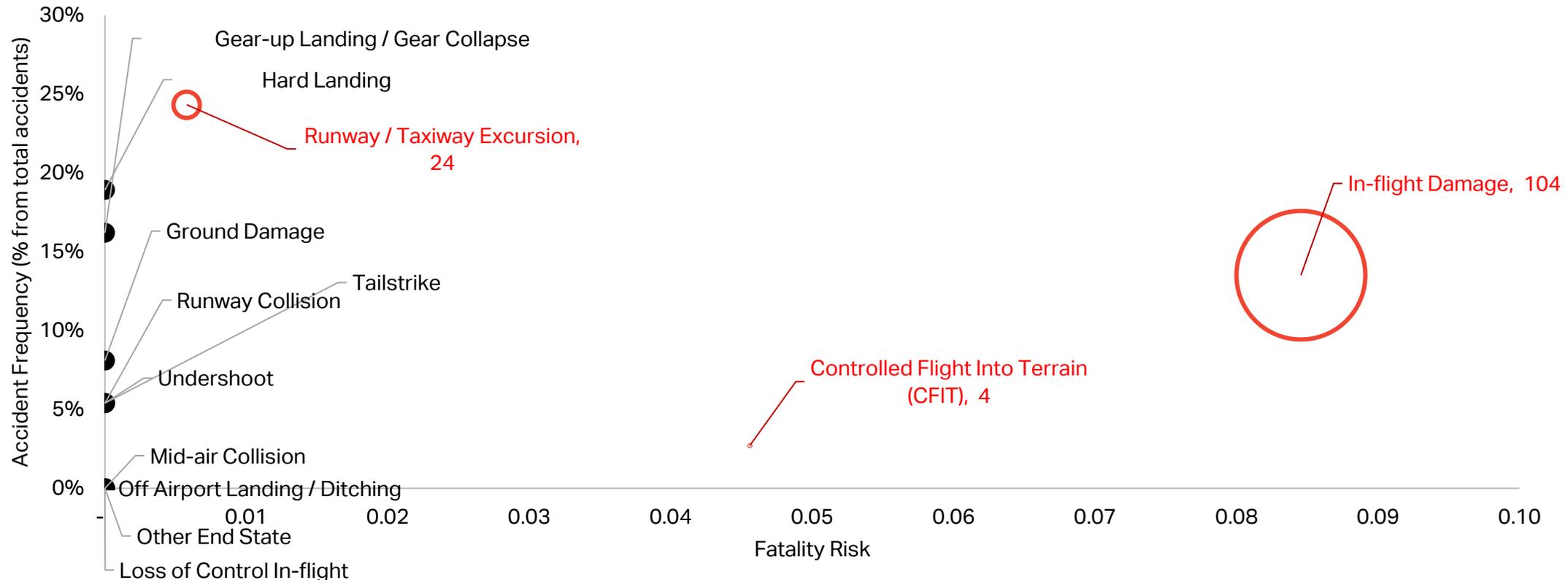Accident Categories and Fatalities - 2020

- LOC-I had zero accidents and fatalities for the first time in over 15 years
- Inflight Damage had the highest number of fatalities in this category since 2005

- One accident could not be assigned an End State due to insufficient data

IATA

Accidents Update: as of 31st December 2020

Inflight Damage caused the highest fatalities in 2020

Fatality Risk by Accident Category in 2020

2020

Gear-up Landing / Gear Collapse

Hard Landing

Runway / Taxiway Excursion, 24

In-flight Damage, 104

Ground Damage

Tailstrike

Runway Collision

Controlled Flight Into Terrain (CFIT), 4

Undershoot

Mid-air Collision

Off Airport Landing / Ditching

Other End State

Loss of Control In-flight

Accident Frequency (% from total accidents)

Fatality Risk
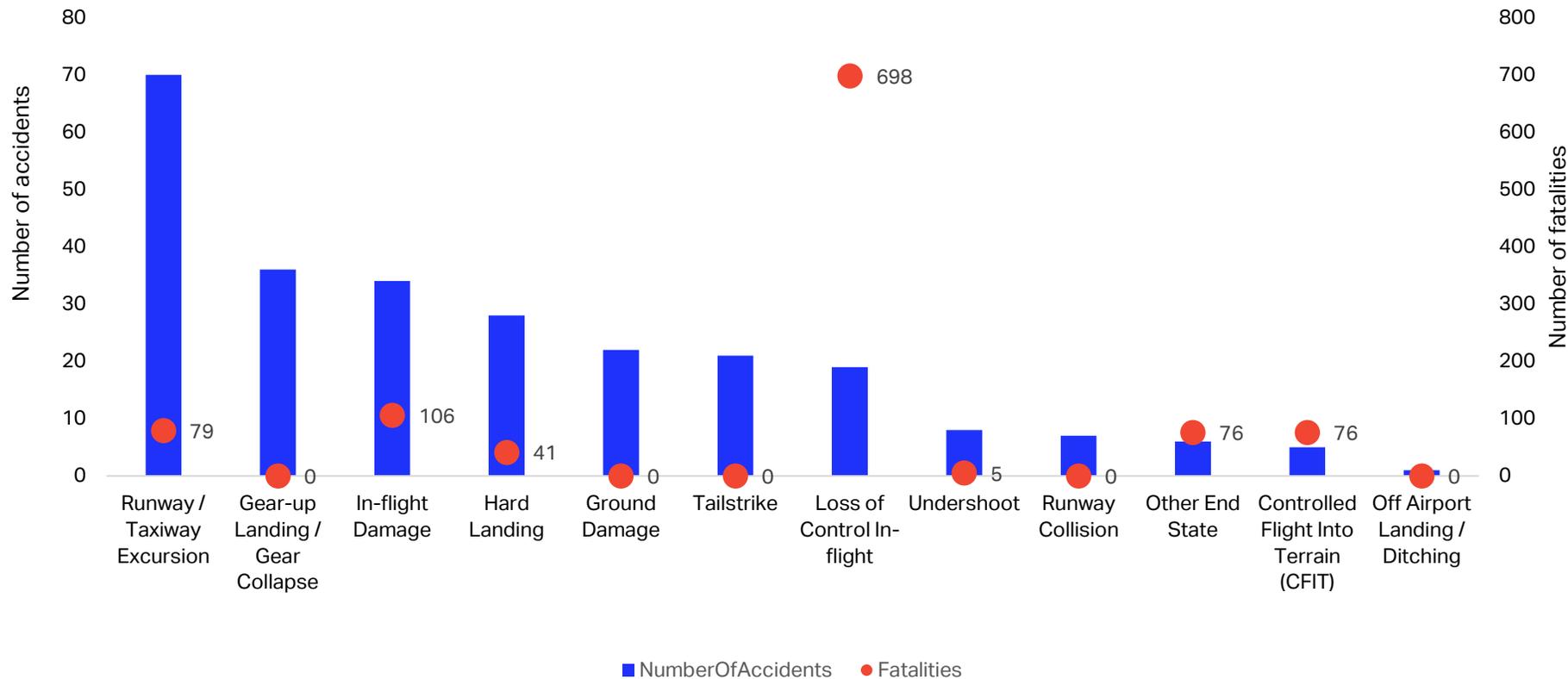
Note: (1) The area of the bubble indicates the number of fatalities associated with the particular accident category, the value is displayed
(2) Fatality Risk: number of full-loss equivalents per 1 million flights
(3) Accidents not involving fatalities are displayed on this graph as black circles

Source: IATA GADM

Accidents Update: as of 31ˢᵗ December 2020

2016-2020 Accident Categories Count & Fatalities – LOC-I incurred the highest number of fatalities

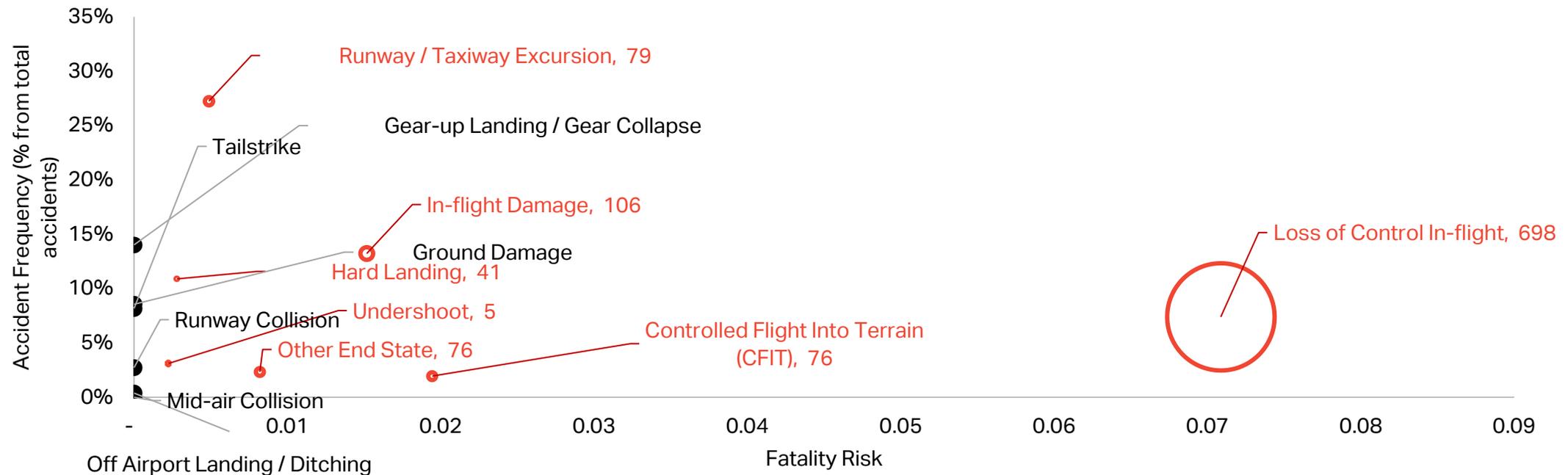### Accident Categories and Fatalities 2016-2020

- Five accidents could not be assigned an End State due to insufficient data

Chart legend: ■ NumberOfAccidents ● Fatalities

Fatalities data points:
- Runway / Taxiway Excursion: 79
- Gear-up Landing / Gear Collapse: 0
- In-flight Damage: 106
- Hard Landing: 41
- Ground Damage: 0
- Tailstrike: 0
- Loss of Control In-flight: 698
- Undershoot: 5
- Runway Collision: 0
- Other End State: 76
- Controlled Flight Into Terrain (CFIT): 76
- Off Airport Landing / Ditching: 0

Accidents Update: as of 31st December 2020

LOC-I Caused the Most Fatalities from 2016 to 2020, with zero accidents in 2020

Fatality Risk by Accident Category from 2016 to 2020

2016 - 2020

Runway / Taxiway Excursion, 79

Gear-up Landing / Gear Collapse

Tailstrike

In-flight Damage, 106

Loss of Control In-flight, 698

Ground Damage

Hard Landing, 41

Runway Collision

Undershoot, 5

Controlled Flight Into Terrain (CFIT), 76

Other End State, 76

Mid-air Collision

Off Airport Landing / Ditching

Accident Frequency (% from total accidents) — y-axis: 0%, 5%, 10%, 15%, 20%, 25%, 30%, 35%

Fatality Risk — x-axis: -, 0.01, 0.02, 0.03, 0.04, 0.05, 0.06, 0.07, 0.08, 0.09

Note:
(1) The area of the bubble indicates the number of fatalities associated with the particular accident category, the value is displayed
(2) Fatality Risk: number of full-loss equivalents per 1 million flights
(3) Accidents not involving fatalities are displayed on this graph as black circles

*Five accidents that incurred in 31 fatalities did not have sufficient information about the event to assign an end state
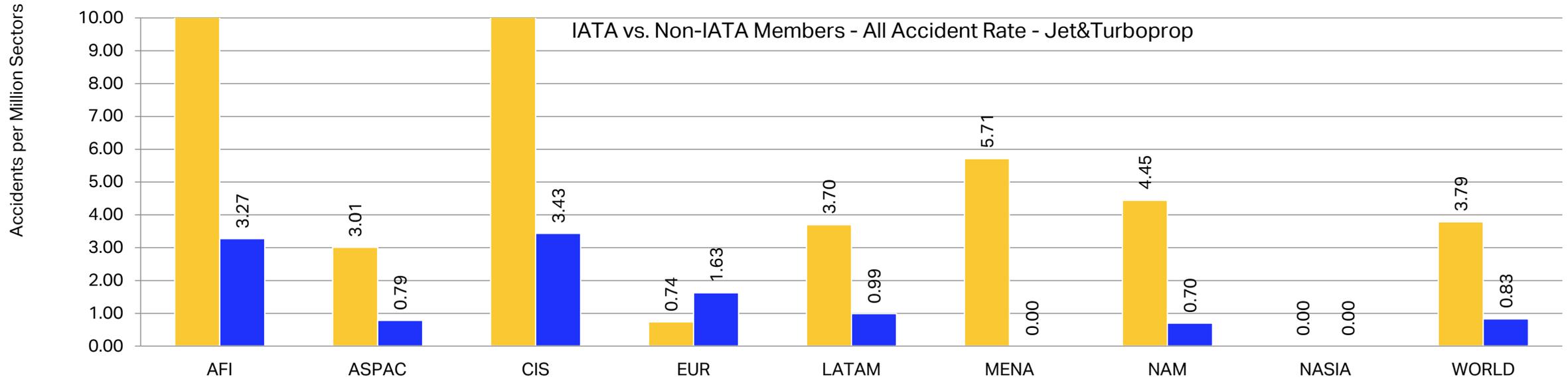
Source: IATA GADM

Accidents Update: as of 31st December 2020
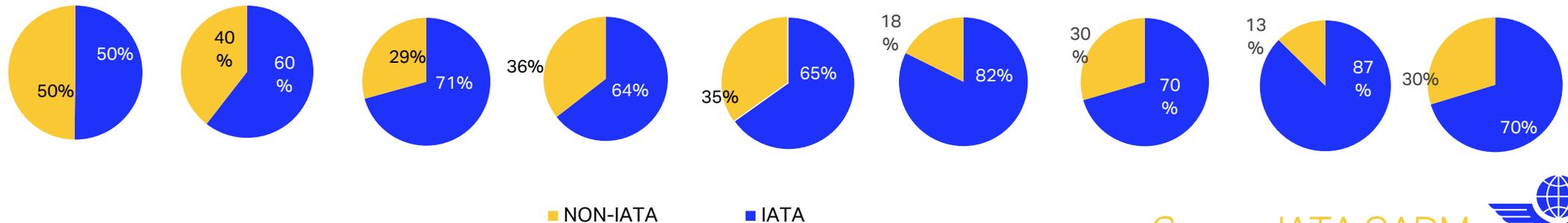
IATA/ IOSA Accidents

The IATA Member Accident Rate is lower in 7 out of 8 regions

All Accident Rate (Jet & Turboprop) for IATA Members vs. Non-Members, 2020
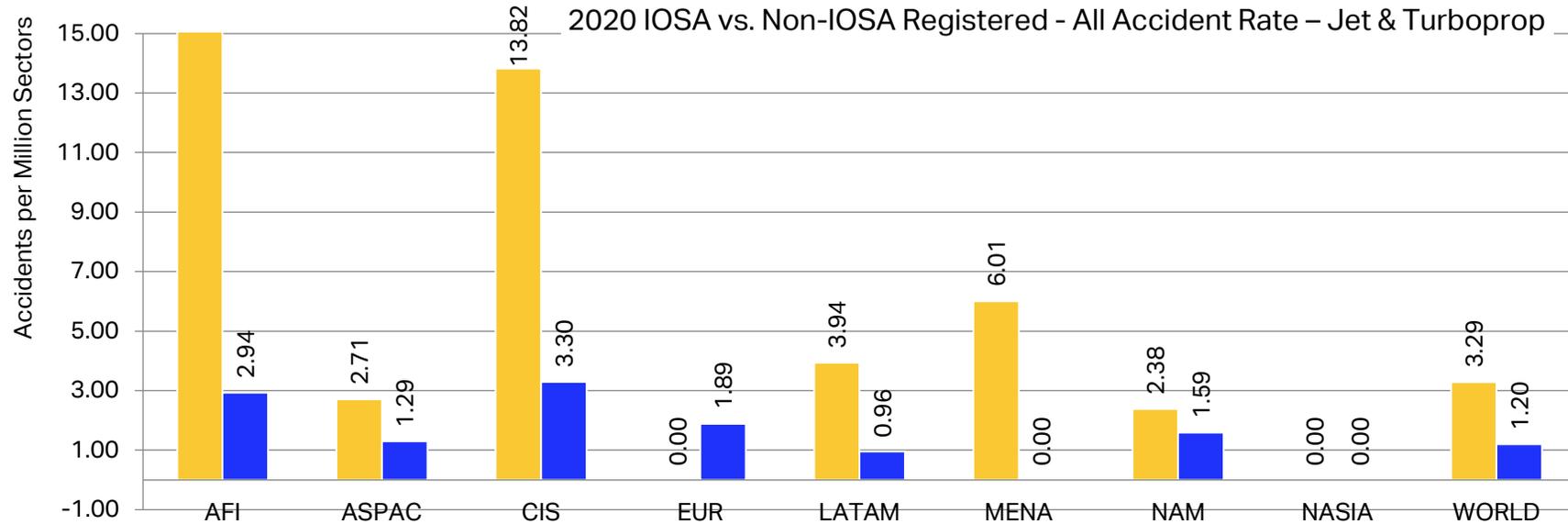
2020

IATA vs. Non-IATA Members - All Accident Rate - Jet&Turboprop

Accidents per Million Sectors

Region	NON-IATA	IATA
AFI	10.00+	3.27
ASPAC	3.01	0.79
CIS	10.00+	3.43
EUR	0.74	1.63
LATAM	3.70	0.99
MENA	5.71	0.00
NAM	4.45	0.70
NASIA	0.00	0.00
WORLD	3.79	0.83

Regional Sector Count Distribution (Percentage)

Region	NON-IATA	IATA
AFI	50%	50%
ASPAC	40%	60%
CIS	29%	71%
EUR	36%	64%
LATAM	35%	65%
MENA	18%	82%
NAM	30%	70%
NASIA	13%	87%
WORLD	30%	70%

■ NON-IATA   ■ IATA

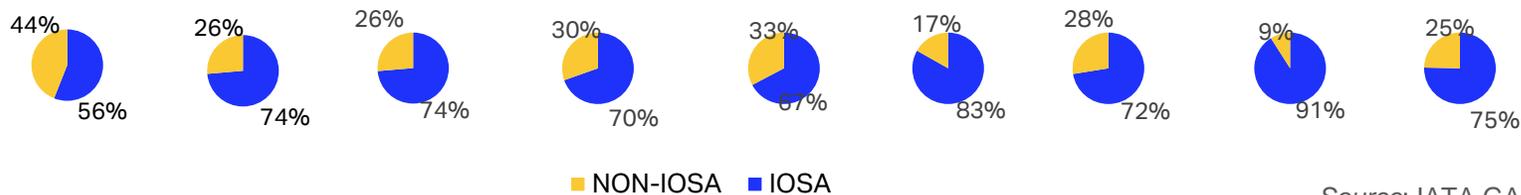*Source:* IATA GADM

Accidents Update: as of 31st December 2020

IOSA Operators Accident Rate is lower than that of non-IOSA Operators

All Accident Rate (Jet & Turboprop) for IOSA Operators vs. Non-IOSA

2020 IOSA vs. Non-IOSA Registered - All Accident Rate – Jet & Turboprop

Accidents per Million Sectors

Region	NON-IOSA	IOSA
AFI	15.00	2.94
ASPAC	2.71	1.29
CIS	13.82	3.30
EUR	0.00	1.89
LATAM	3.94	0.96
MENA	6.01	0.00
NAM	2.38	1.59
NASIA	0.00	0.00
WORLD	3.29	1.20

Regional Sector Count Distribution (Percentage)

AFI	ASPAC	CIS	EUR	LATAM	MENA	NAM	NASIA	WORLD
44% / 56%	26% / 74%	26% / 74%	30% / 70%	33% / 67%	17% / 83%	28% / 72%	9% / 91%	25% / 75%

■ NON-IOSA ■ IOSA

- The full year accident rate for IOSA carriers in 2020 is lower than the rate for non-IOSA carriers (1.20 vs. 3.29)

Source: IATA GADM

Source: IATA GADM

Accidents Update: as of 31st December 2020
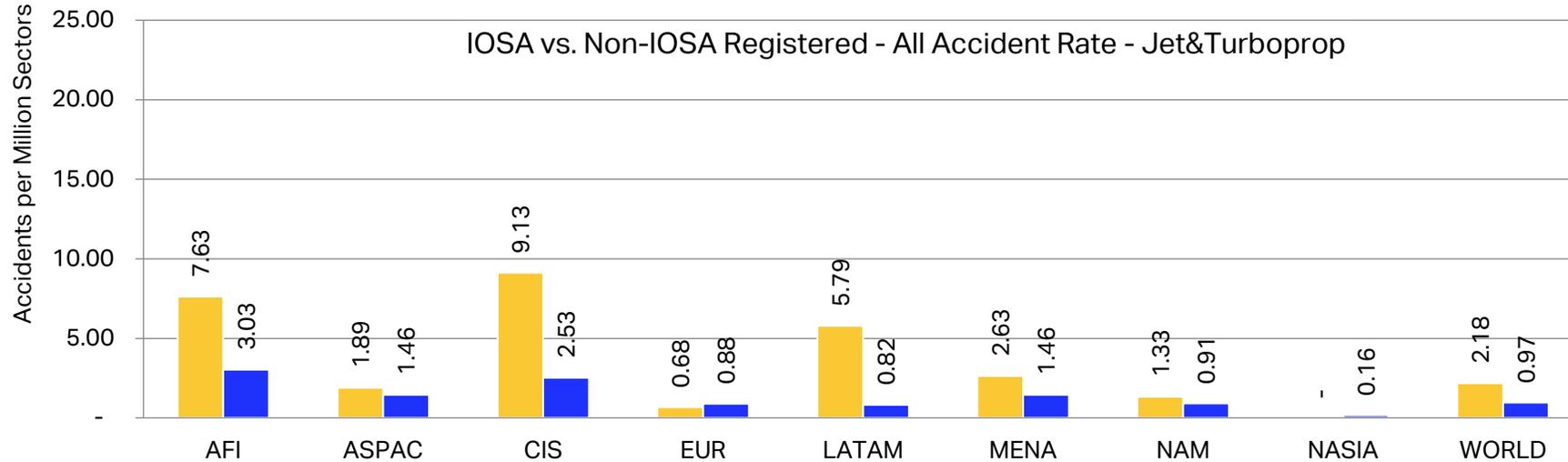
The 5-Year IOSA Operators Accident Rate Is Lower than Non IOSA

All Accident Rate (Jet & Turboprop) for IOSA Operators vs. Non-IOSA, 2016-2020

2016-2020

IOSA vs. Non-IOSA Registered - All Accident Rate - Jet&Turboprop

Accidents per Million Sectors

	AFI	ASPAC	CIS	EUR	LATAM	MENA	NAM	NASIA	WORLD
NON-IOSA	7.63	1.89	9.13	0.68	5.79	2.63	1.33	-	2.18
IOSA	3.03	1.46	2.53	0.88	0.82	1.46	0.91	0.16	0.97

- IOSA registered airlines keep outperforming non-IOSA airlines (0.97 vs. 2.18)

Regional Sector Count Distribution (Percentage)

Region	NON-IOSA	IOSA
AFI	50%	50%
ASPAC	38%	62%
CIS	36%	64%
EUR	35%	65%
LATAM	27%	73%
MENA	20%	80%
NAM	31%	69%
NASIA	10%	90%
WORLD	30%	70%

■ NON-IOSA ■ IOSA

Source: IATA GADM

IATA

Accidents Update: as of 31st December 2020
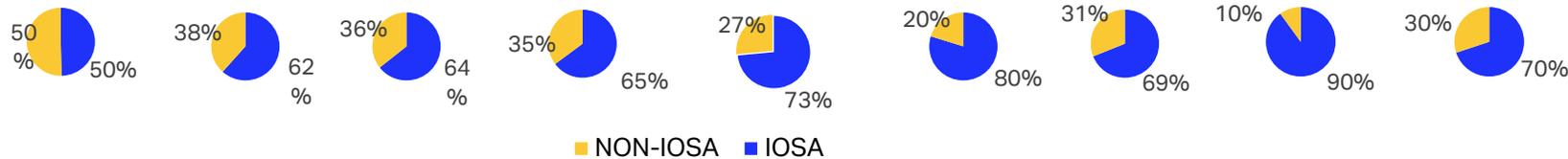
Executive Summary

- During 2020, there were a total of 38 accidents worldwide, of which five incurred fatalities.

- The global COVID-19 pandemic has had a severe impact on the aviation industry in 2020, causing a significant drop in the number of commercial flights operated. Just **over 22 million flights were operated last year**, which is about the same number as were flown in the 1990s'. Commercial flights tracked worldwide in 2020 fell about **53%** when compared to 2019 due to travel restrictions imposed by government and health officials worldwide to control the spread of COVID-19.

- As a result, even with the lower number of accidents in 2020 when compared to 2019, the industry witnessed an **increase** in the global accident rate in 2020, up from **1.11 per million** sectors in 2019 to **1.71 in 2020**.

- The 2020 industry accident rate of 1.71 was higher than the five-year average rate (2016-2020) **of 1.38.**

IATA

Executive Summary

- IATA member airlines suffered a total of 13 accidents, two of which resulted in 100 fatalities.

- LOC-I had zero accidents and fatalities for the first time in over 15 years

- Inflight Damage incurred the highest number of fatalities, two of which were fatal, resulting in 104 fatalities. Inflight Damage had the highest number of fatalities in this category since 2005.

- The highest frequency of accidents was Runway / Taxiway Excursions

- The full-year accident rate for IATA Operational Safety Audit (IOSA)-registered carriers in 2020 was lower than the rate for non-IOSA carriers (1.20 vs. 3.29).

IOSA Update Program performance

IOSA Registry

**431
IOSA Operators**

**293
IATA Members**

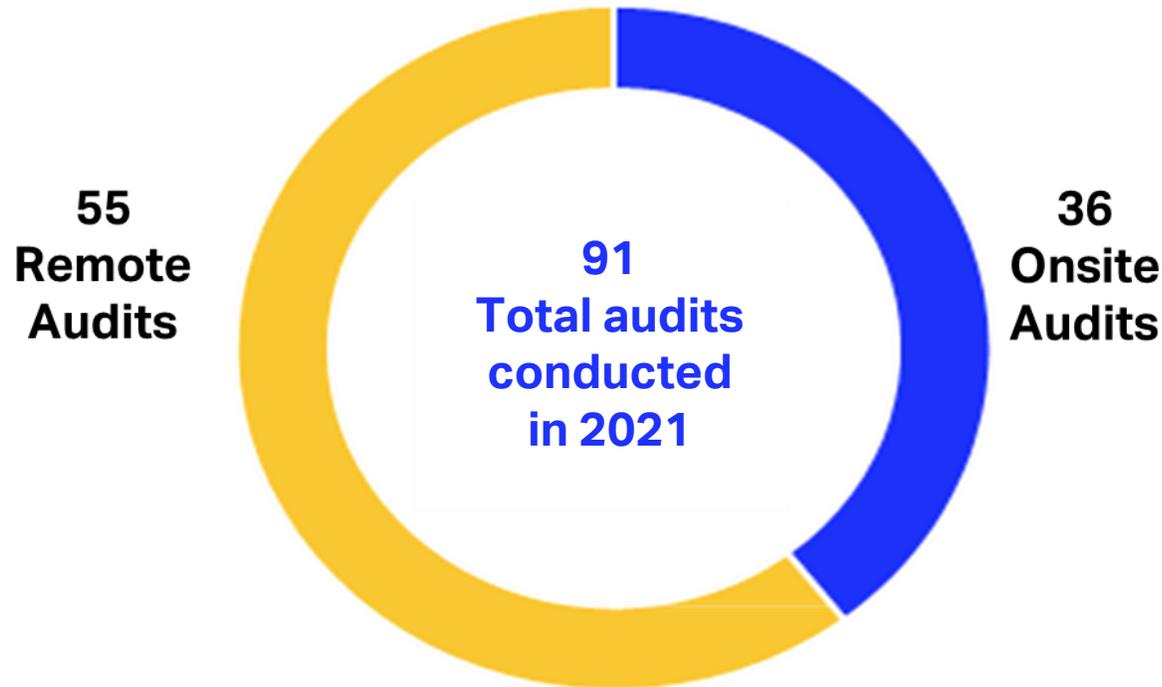**138**

Non-IATA Members (34%)
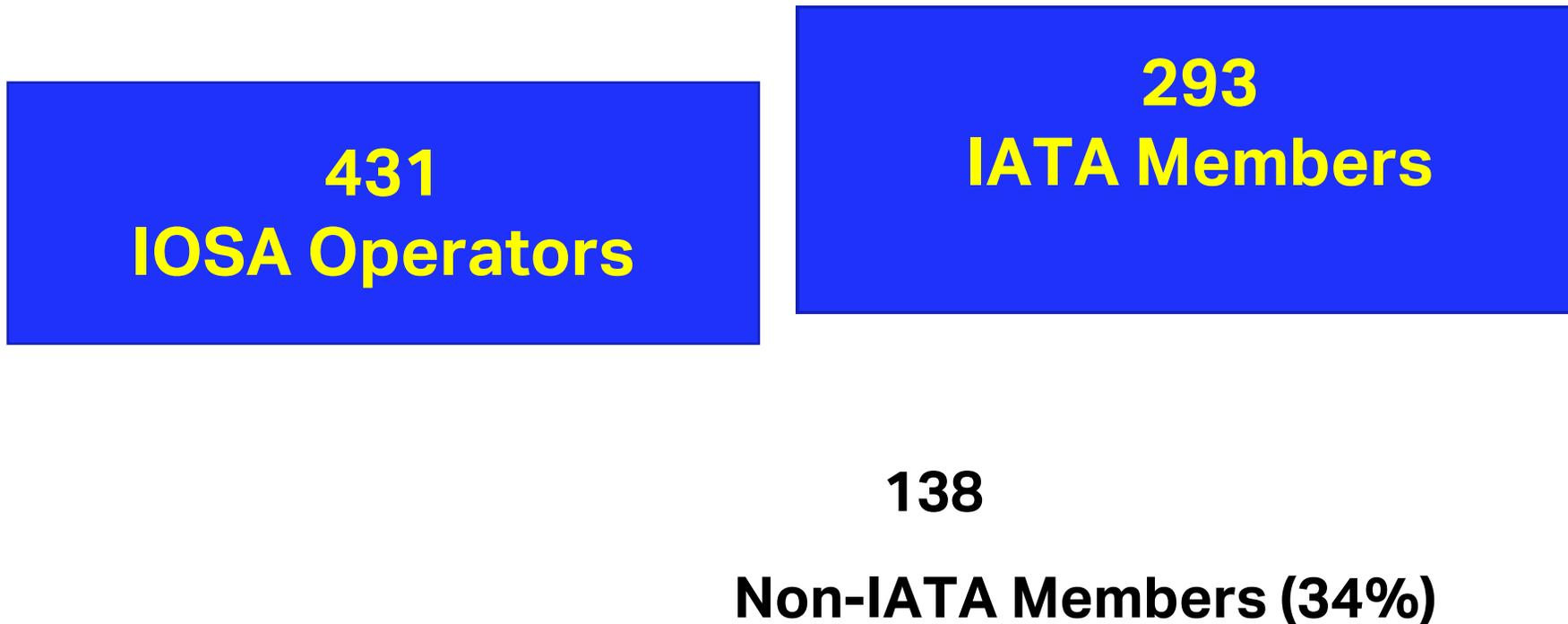
Q1 2019 vs Q1 2020 vs Q1 2021 – Audits conducted

Q1 2019
57
Total IOSA audits

Q1 2020
34 (-40%)
Total IOSA audits

Q1 2021
91 (+167%)
Total IOSA audits

**55
Remote
Audits**

**91
Total audits
conducted
in 2021**

**36
Onsite
Audits**

Remote Audit Feedback from Operators

Lesson learnt:

- Availability of internet (stability and bandwidth) and remote meeting platform shall be checked and double confirmed,

Recommendation:

- Designate an alternate remote meeting app;

Good practice:

- If interpreters are needed for the remote audit, the cooperation between the interviewee and the interpreter are very important.

IATA

Top 10 Findings

ISARP Code	Finding (#)	ISARP Subject
ORG 1.1.10	16	SMS – Umbrella ISARP conformity dependent on conformity of all [SMS] marked ISARPs
ORG 2.1.1	9	Management and control system for documentation and/or data
CAB 1.5.1	7	CAB - Management and control system for documentation and/or data
FLT 1.6.1	7	FLT - Management and control system for documentation and/or data
MNT 1.6.1	6	MNT - Management and control system for documentation and/or data
CGO 1.5.1	5	CGO - Management and control system for documentation and/or data
GRH 1.5.1	5	GRH - Management and control system for documentation and/or data
ORG 1.6.5	5	Training for SMS duties – Umbrella ISARP conformity dependent on all repeats of this ORG standard in
ORG 4.1.14	5	Corporate ERP
SEC 1.6.1	5	SEC - Management and control system for documentation and/or data

IATA

IOSA Update Program performance

SAR.F23 Operators' questionnaire

Since beginning of 2021, in total, **1520** requests for sharing received.

342 (23%)

# of IAR exchange requests

1178 (77%)

# of SAR.F23 operators' questionnaire exchange requests

IATA

Thank you

www.iata.org

IATA