



International  
Association  
of Oil & Gas  
Producers

# IOGP Aviation Sub Committee – Opportunities & Challenges

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Tony Cramp – Chairman ASC



# Scope

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- IOGP ASC Overview
- Activity and Safety Performance
- Industry Challenges & Opportunities
- .... and what are we doing about them.

# We speak on behalf of a global membership

**North America**

API	Husky Energy
Baker Hughes	IADC
CAPP	IAGC
Chevron	Kosmos Energy
ConocoPhillips	Schlumberger
ExxonMobil	Suncor

**Europe**

Aker BP	Chrysaor Holdings	NOGEPA	SBM Offshore
Aker Solutions	Energy Institute	Norwegian Oil & Gas	Shell
Assala Energy	Eni	OGUK	Spirit Energy
bp	Equinor	OMV	TechnipFMC
BVEG	HeliOffshore	OPITO	Total
BW Energy	IPIECA	PGNiG	Tullow Oil
Cairn Energy	MOL	Premier Oil	Vår Energi
Cepsa EP	Neptune Energy	Repsol	Wintershall Dea

**Africa**

Egyptian General Petroleum Corporation
Sonangol

**Russia & Central Asia**

KMG
NCOC
SOCAR

**South & Central America**

Arpel	Petrobras
IBP	Pluspetrol
Pan Energy	YPF SA

**Middle East**

ADNOC	Kuwait Oil
CC Energy Development	North Oil Company
Dolphin Energy	Qatar Petroleum
Dragon Oil	Qatargas
Genel Energy	Saudi Aramco
Gulf Keystone Petroleum	ZADCO

**Asia / Australasia**

APPEA
Beach Energy
BHP
CNOOC International
Inpex
Oil Search
Pertamina
Petronas Carigali
PTTEP
Woodside

The map above shows the division of the world into seven regions on which subscription shares are based. The delineation of zones is not intended to reflect offshore boundaries.

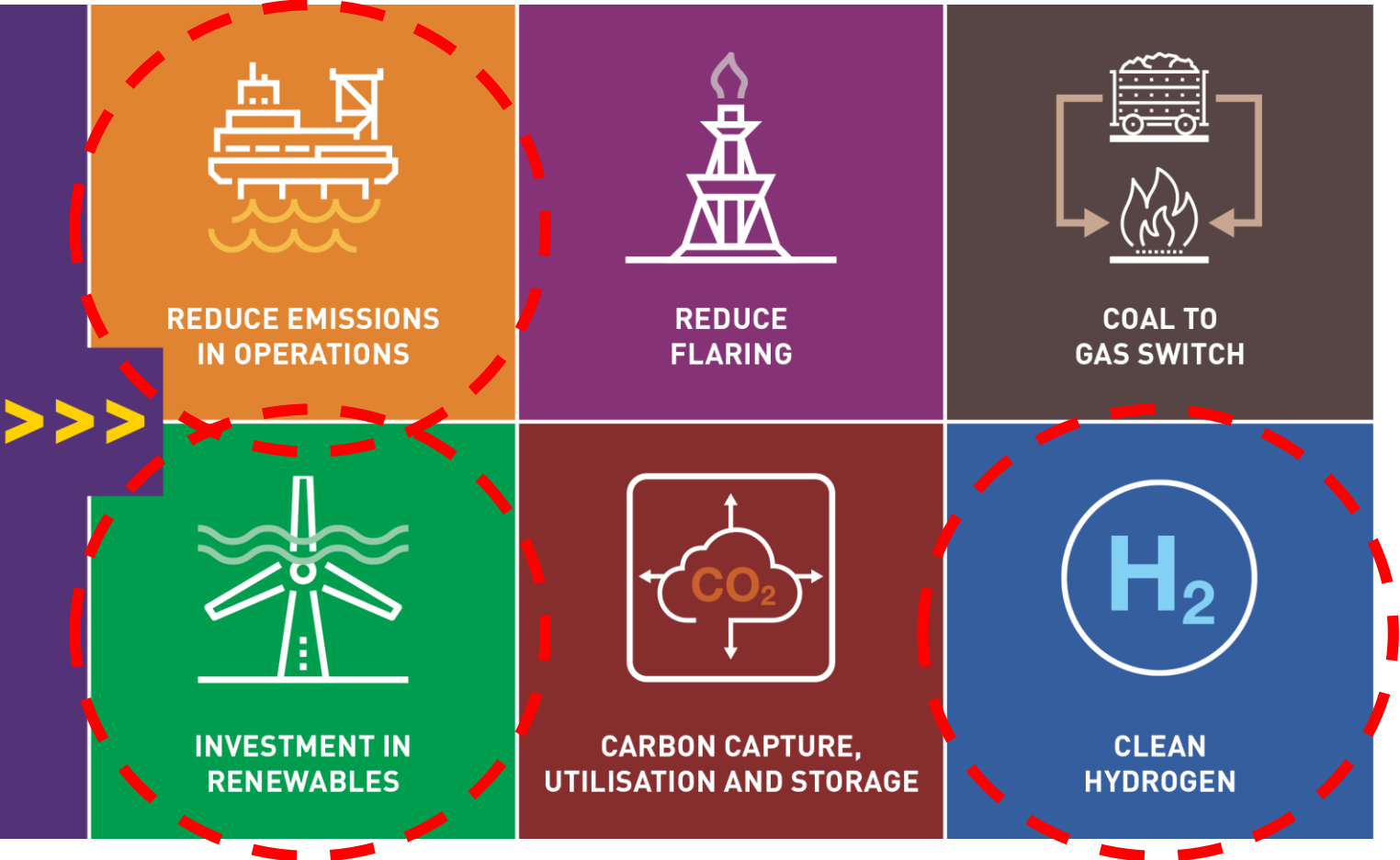
Map shows locations of Member Head Offices. Many operate globally

# Oil and gas industry contributing to lower carbon future

## How the oil and gas industry contributes to a lower carbon future

There is no single pathway to a lower carbon future.

The oil and gas industry contributes in many ways to achieve the goals of the Paris Agreement.



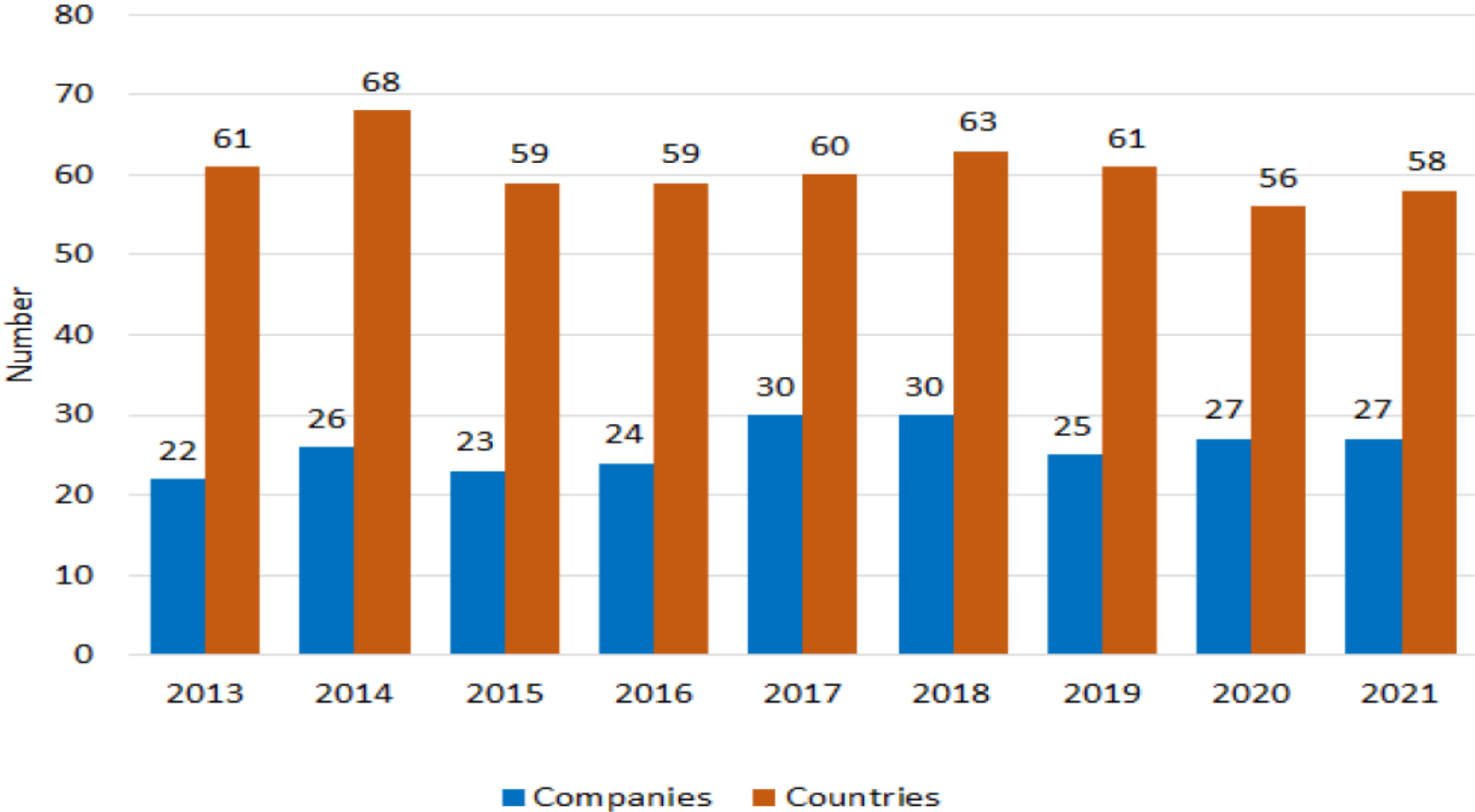
# What is the ASC's purpose?

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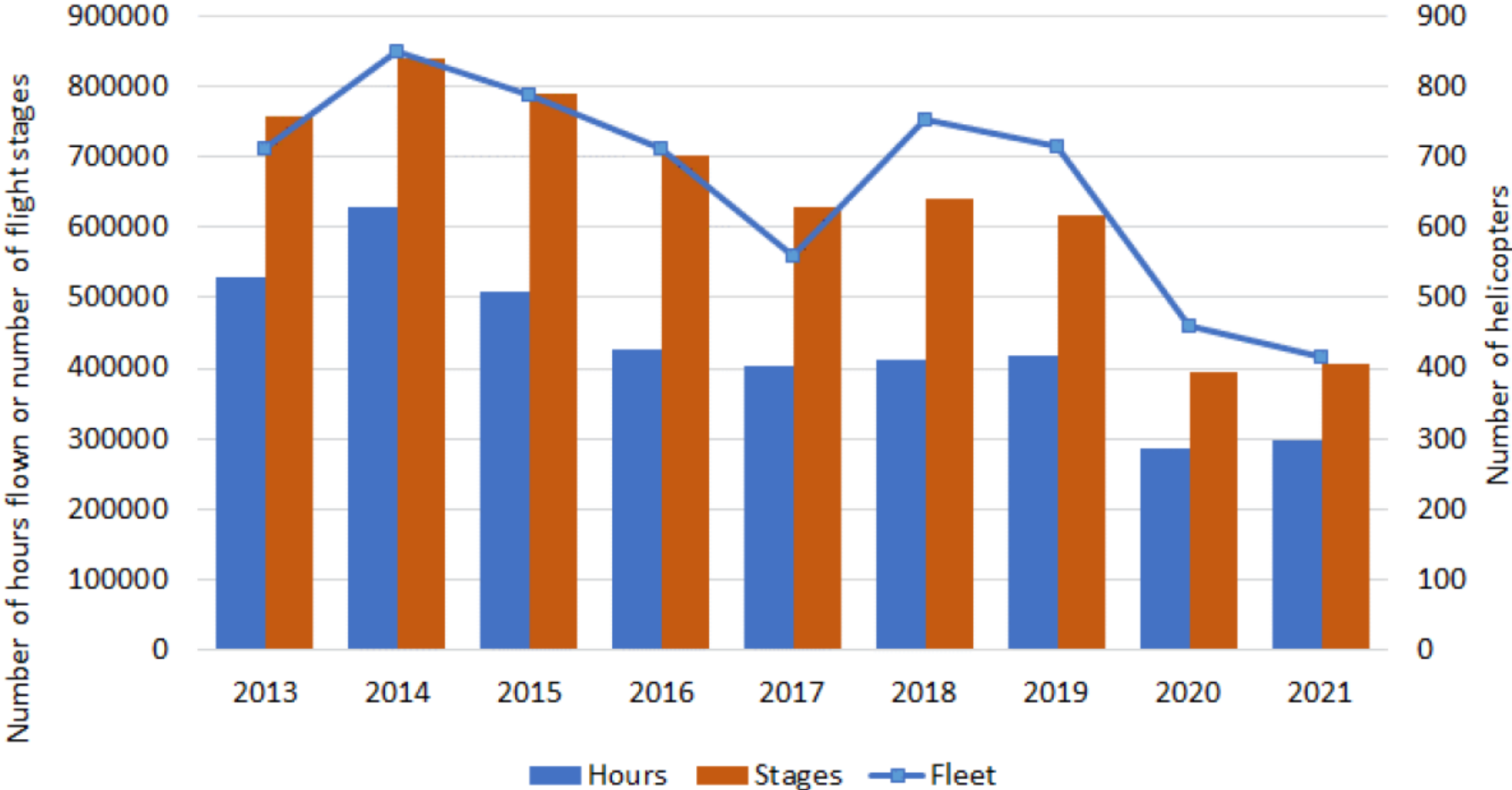
The purpose of the **Aviation Sub Committee (ASC)** is to use the combined knowledge, experience and resources of its members to achieve the following:

- **Develop and maintain a strategy for continuous improvement in safety and to achieve the stated goal of **zero fatalities in air operations.****
- **Develop and maintain guidelines reflecting best practice for all aircraft operations.**
- Promote and support contractual compliance by O&G companies and aircraft operators.
- Maintain a safety information database, covering all aviation activities, available as a resource to all members.
- Maintain a safety communication process to inform members of events, share learning and promote best practice tools, materials and procedures.
- Stimulate and support the development and introduction of new technology for oil industry aviation needs.
- Champion the ASC goals and IOGP best practice guidelines, through representation on selected industry, national and international bodies.

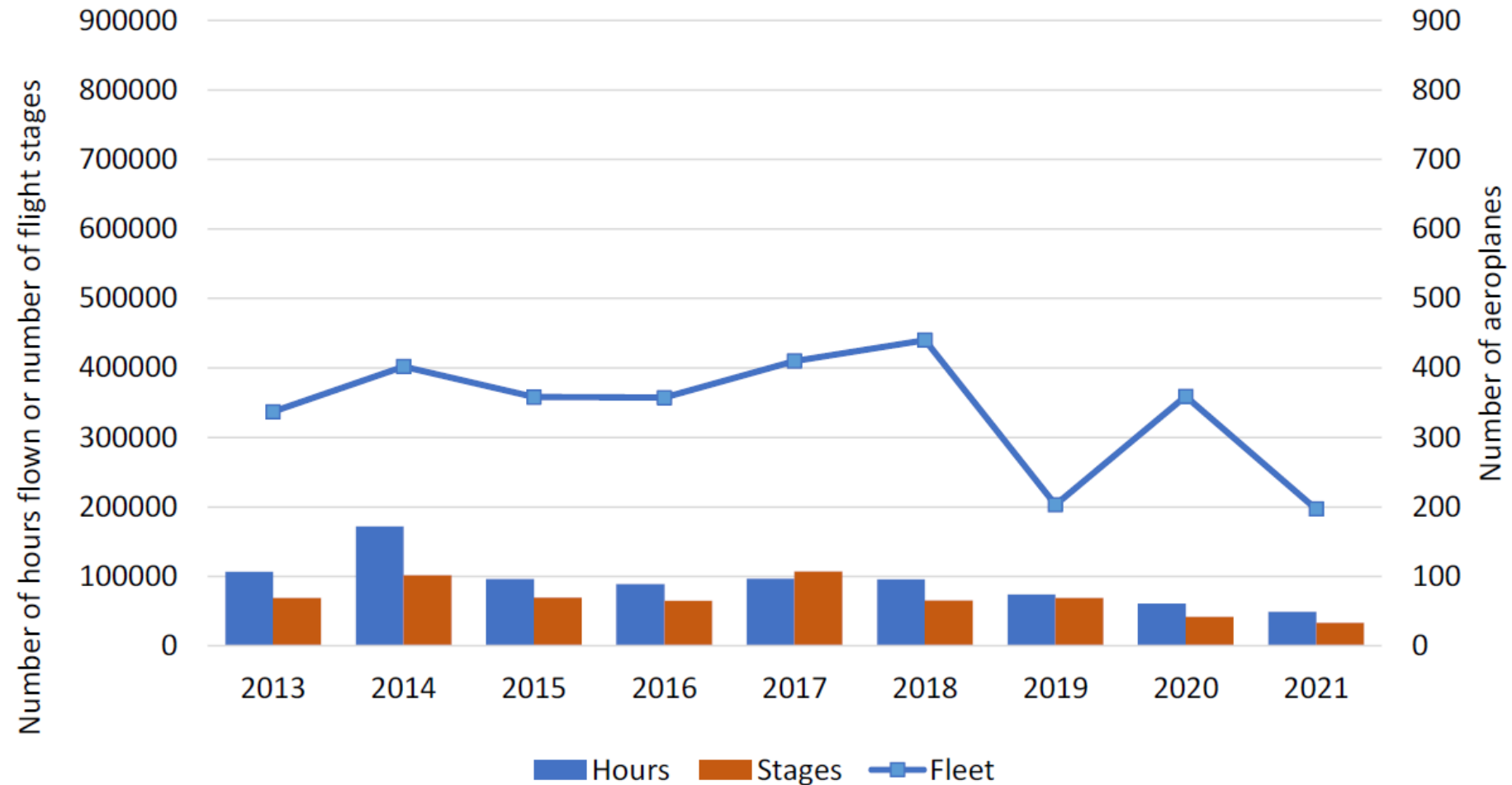
# Contributing Companies



# IOGP Activity Indicators - Helicopter




# IOGP Activity Indicator – Fixed Wing





# IOGP Activity Indicator – RPAS (Not yet compiled by IOGP)



Air Safety Analytics


Q&A

**61**  
RPAS Events

**0**  
Actual RAM 3+

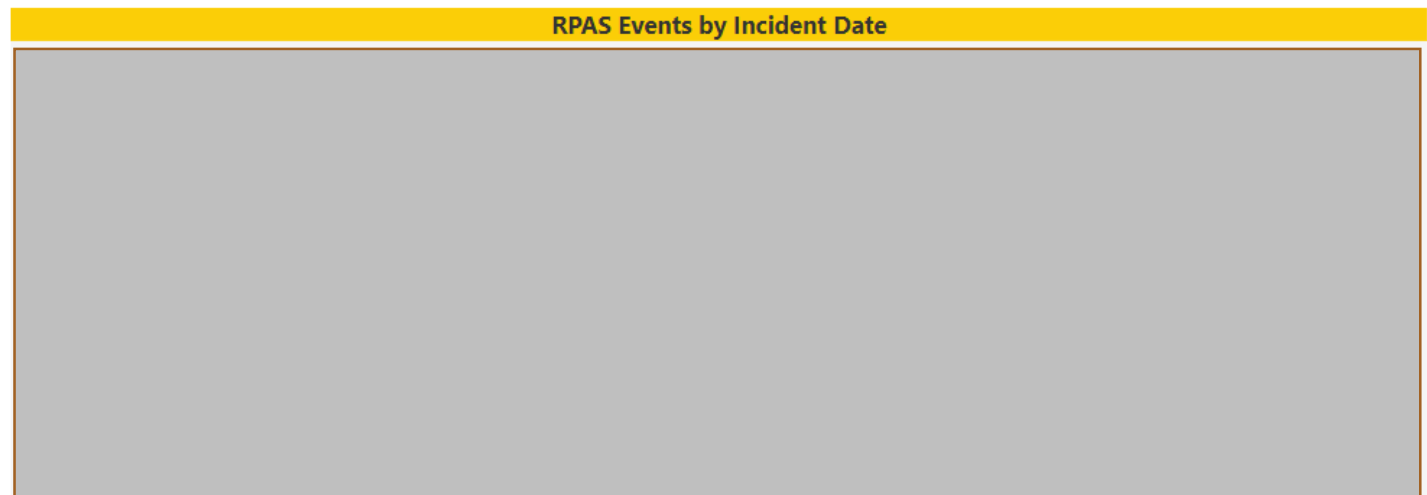
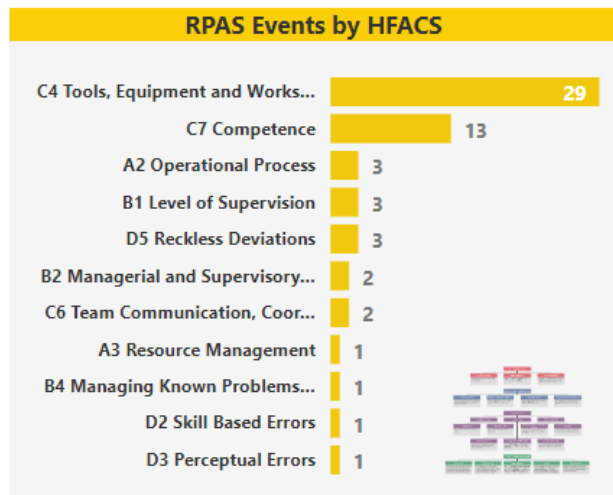
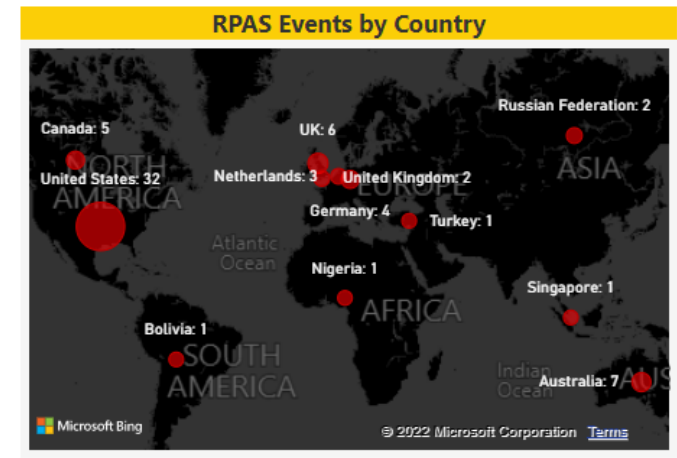
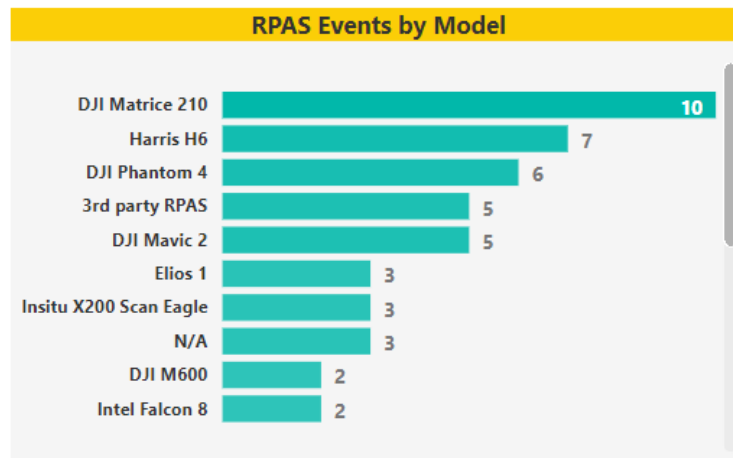
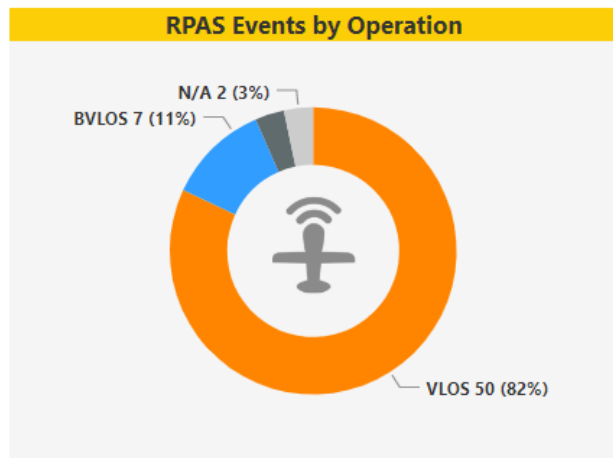
**2**  
Potential RAM 4+

Data Entry

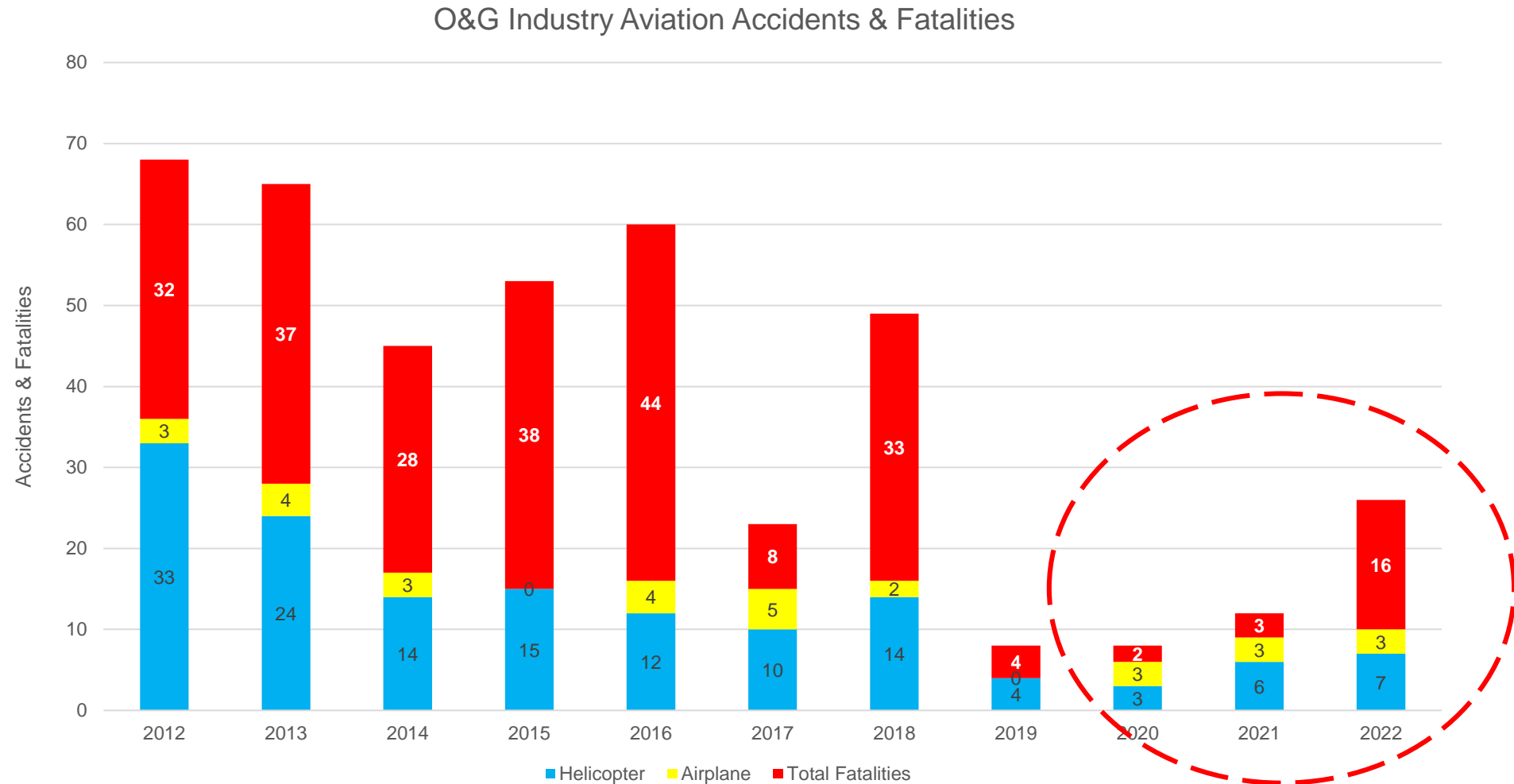


Year

All
v



# O&G Industry Aviation Accidents & Fatalities



# 2020-22 Accidents/Sig Incidents – O&G Industry

## 2020

### Helicopter:

- 14 Feb – Mi8 AMT – Russia – 2 fatalities – impacted ground in poor weather
- 25 Apr – Mi26 – Russia – non-fatal – tail boom contacted the snow
- 25 Sep – AW139 – Malaysia – non-fatal – excessive torque, night offshore training near CFIT

### Airplane:

- 21 May 20 – C172S – US – non-fatal – struck REILS on landing
- 24 Jun 20 – C182 – US – non-fatal - 1 injury – loss of power – fuel starvation
- 27 Oct 20 – C185 – US – non-fatal – training – aircraft overturned

## 2021

### Helicopter:

- 11 Mar - EC145 – Mexico - non-fatal - hard landing at airport
- 2 Jun - AW139 – Brazil - non-fatal - hit structure/crashed on helideck during night training
- 20 Jul - S76C++ – Indonesia - non-fatal - rollover on helideck during landing
- 25 Sept – B407 – US – non-fatal - Rotor strike while ground maneuvering.
- 27 Dec - Mi 2 - Russia - 1 fatality - CFIT during pipeline patrol

## 2021 Cont

### Airplane

- Jan – C172 – US – non-fatal – engine failure
- Feb - C172 – US – non-fatal – engine failure
- 17 May – C182 – US – 1 fatality – struck tower guide wire
- 19 Nov – C182 – US - 1 fatality struck tower

## 2022

### Helicopter:

- 14 Jan – B407 – US – 2 fatalities – Unknown
- 16 Mar – S76C++ - Brazil – 1 fatality – CFIT on rig approach
- 27 Jun – S76D – India – 4 fatalities – CFIT on rig approach
- 22 Jul – H175 – Mexico – non-fatal – brown out rotor strike

### Airplane:

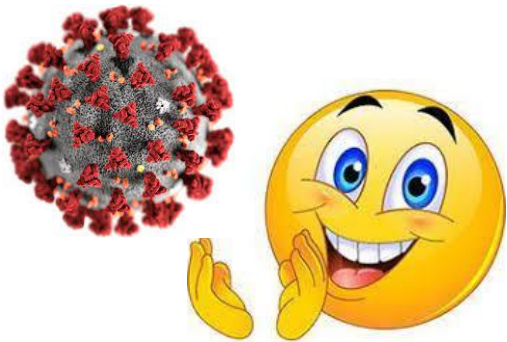
- 16 May – DHC6 – Cameroon – 11 fatalities – Unknown
- 13 Jun – DHC6 – Nigeria – non-fatal – runway excursion

# Some Common Causes

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- Not aircraft system failures.
  - But B407, S76 not equipped with latest tech or meeting IOGP 690 Requirements.
- Client factors
  - Perceived pressure to perform mission
  - Helideck availability
- Crew factors
  - Ineffective pilot monitoring & intervention

# Current challenges



**Human Perf negative factors**



# What can we do?

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- **Pro-active**

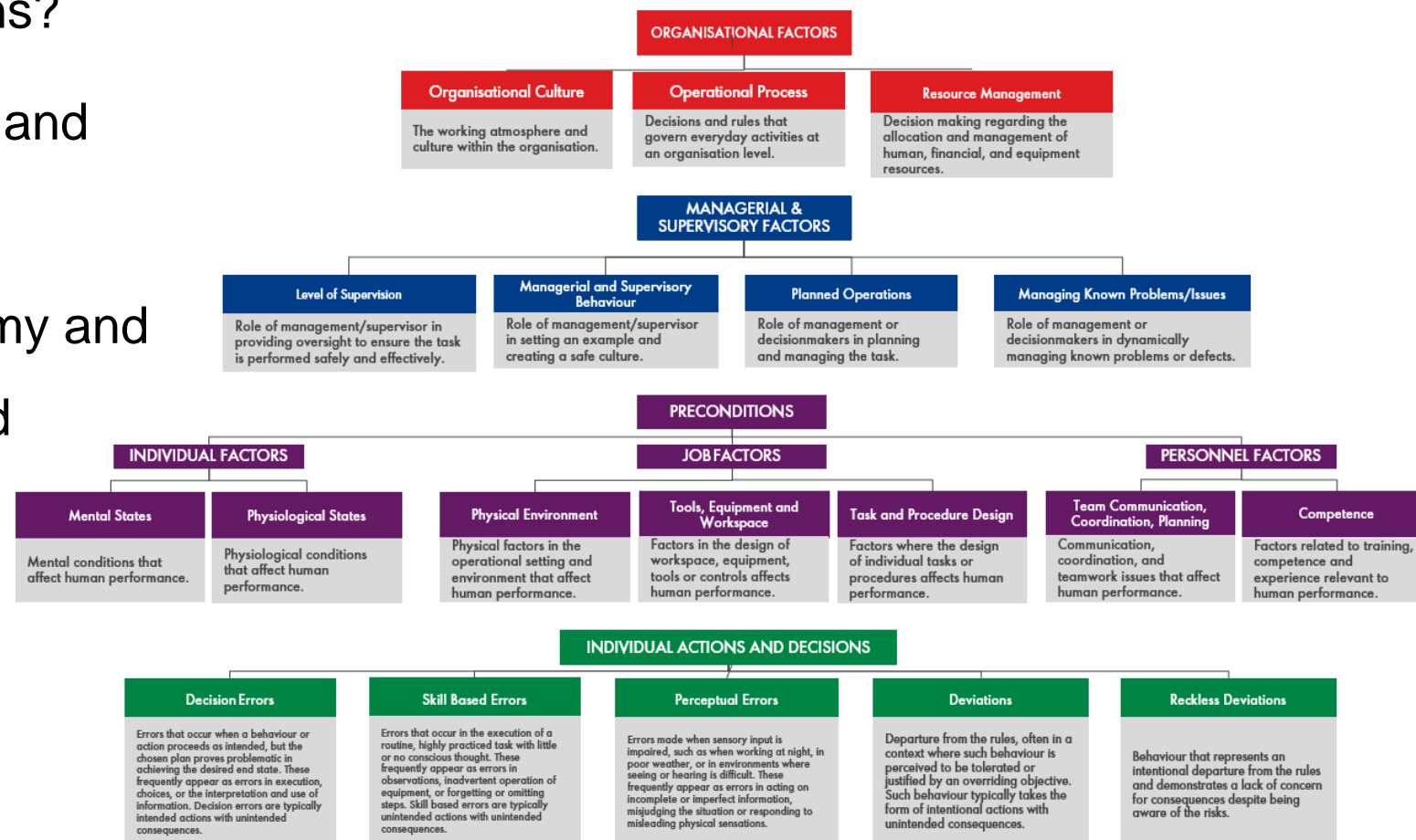
- Resilience building - Employee welfare/Mental health programmes
- Training – CRM & TEM

- **Monitoring** – FDM, LOSA, Maintenance Observation Prog

- **Learning** – Sharing incident data, developing leading indicators, Human factor analysis (HFACS)

# Human Factors – are we taking it seriously?

- Is it used routinely in investigations?
- HF analysis delivers deep insight and supports Just/Fair culture.
- HFACS preferred to align taxonomy and enable more effective sharing and trending.





# Human Factors – are we taking it seriously?



## HFACS Analytics

Q&A

364  
Accidents/Incidents

DISCLAIMER

This HFACS demo is based on sample data of 364 railway accident/incident reports in China between 2003-2014. The methodology is based on research by Jian-Lan Zhou, Shappell and Wiegmann to highlight significant interdependences between human factors.

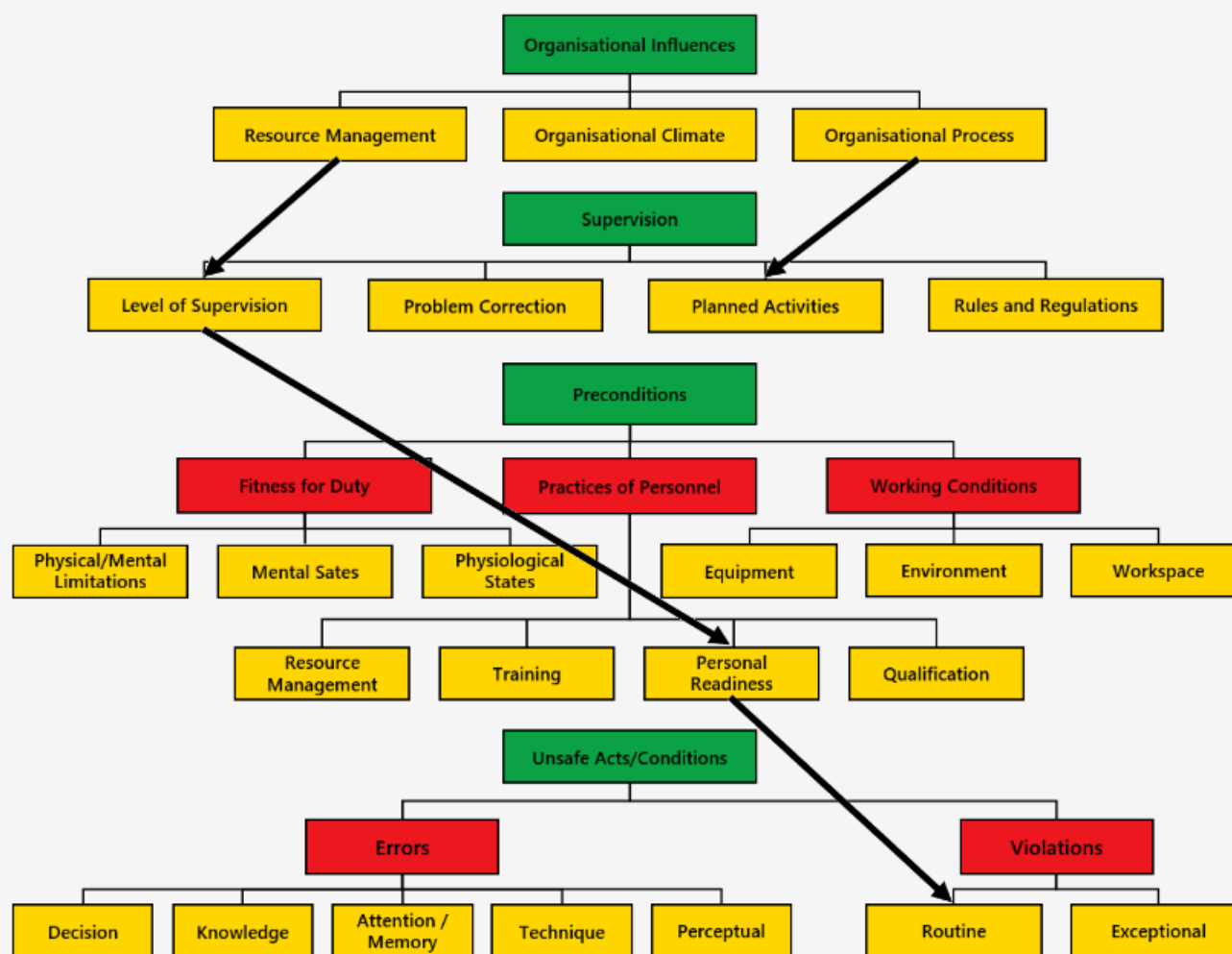
### Highlight Correlations by Condition

- Neutral graph
- Indicates Chi-square is significant but Lambda zero
- Indicates Chi-square is significant and Lambda > 0
- Indicates Chi-square is significant and Lambda > 50%

### Association Strength of Human Factors

Correlating Factors	Chi-square	Lambda	Odds ratio
Level of Supervision x Personal Readiness	174.58	0.60	26.92
Level of Supervision x Physical/Mental Limitations	7.59	0.00	10.12
Mental States x Decision	8.52	0.00	0.26
Organisational Process x Level of Supervision	189.48	0.20	9.04
Organisational Process x Planned Activities	144.59	0.63	0.11
Organisational Process x Problem Correction	9.74	0.00	2.09
Organisational Process x Rules and Regulations	11.20	0.00	2.21
Personal Readiness x Routine	132.40	0.52	17.59
Personal Readiness x Technique	53.32	0.28	5.06
Physical/Mental Limitations x Perceptual	4.88	0.00	0.14
Physiological States x Perceptual	29.32	0.05	4.66
Planned Activities x Resource Management	12.35	0.00	3.03

### HFACS Correlation Graph





# Opportunities

Exponential RPAS growth:  
Asset inspections, emissions monitoring, ROW surveillance, Offshore and onshore cargo delivery.



New energies support

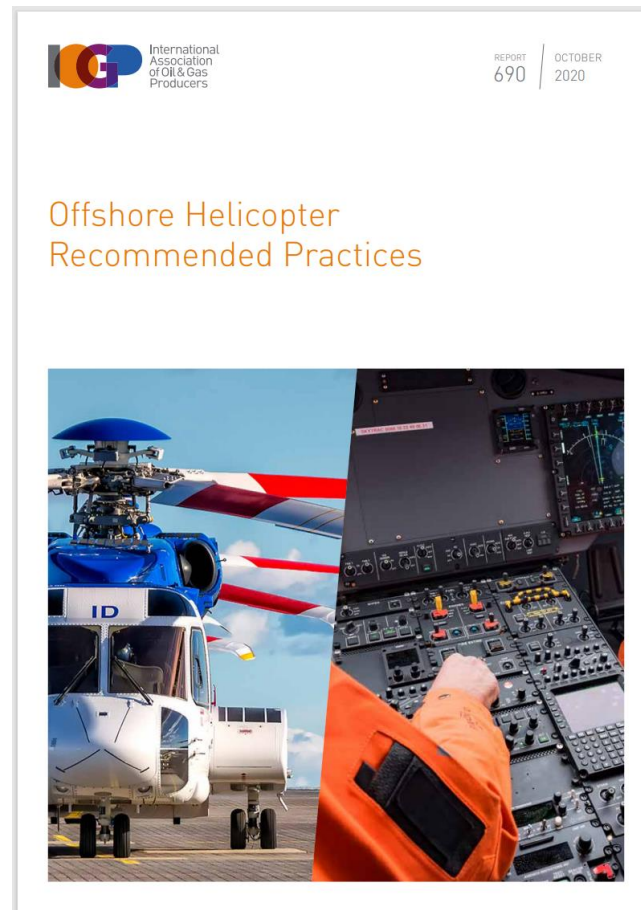


Net Zero Flight



# Continue raising the bar!

- Effective implementation of IOGP R690 and the HeliOffshore RPs



# QUESTIONS



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