



International
Association
of Oil & Gas
Producers

IOGP Aviation Sub Committee – Challenges & direction.

Solakonferansen
21 Sept 2021

Tony Cramp – Chairman ASC



Scope

- IOGP Strategy
- Current status – activity and safety stats
- Direction of travel
- Industry challenges..
- and what are we doing about them.
- We're in it together!

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	NOGPA	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

Safety Committee

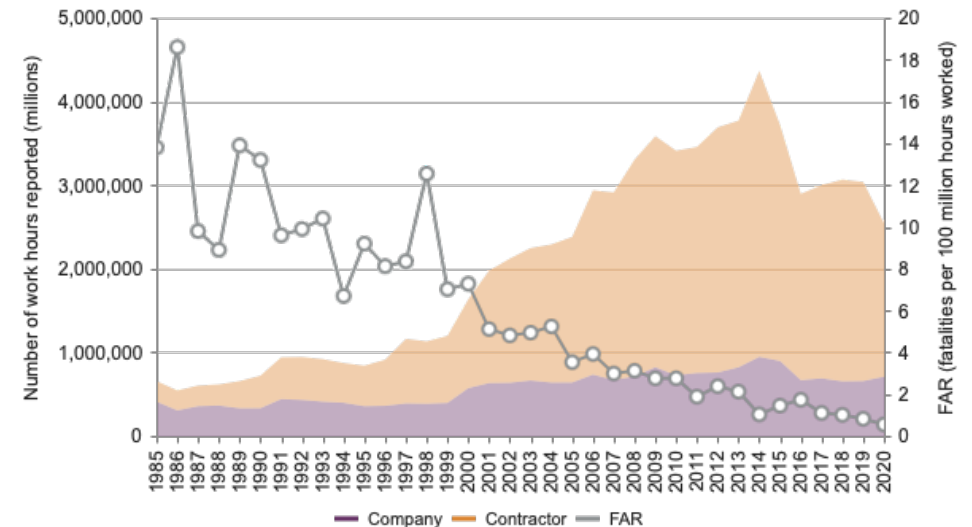


Promotes the integration of safety in industry and is focused on eliminating fatalities

- The majority of our workforce, and of our fatalities, are contractors.
- Standardisation of safety practices simplifies training, aids compliance and understanding of critical safeguards, and helps transfer of experience and lessons learned.
- **IOGP Project Safira** aims to eliminate fatalities starting with 4 focus areas: **Process Safety Events**, **Aviation**, **Land Transportation** and implementation of common industry **Life-Saving Rules**.

www.iogp.org/project-safira

Reported work hours and fatal accident rate (1985–2020)



For our database of Safety alerts, fatal incidents, high potential events and causal factors visit <http://safetyzone.iogp.org/>

IOGP Strategy Update

It is critical that the Association adapts to the magnitude of changes stemming from the Energy Transition



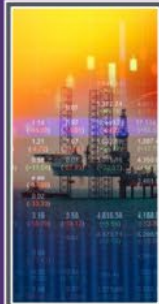
Increase and acceleration of scrutiny and expectations



Tightening regulations and expected standards



Digitalisation of operations, and transformation of ways of working



Market economics pose a potential threat to industry economics



The industry needs to collectively improve its response

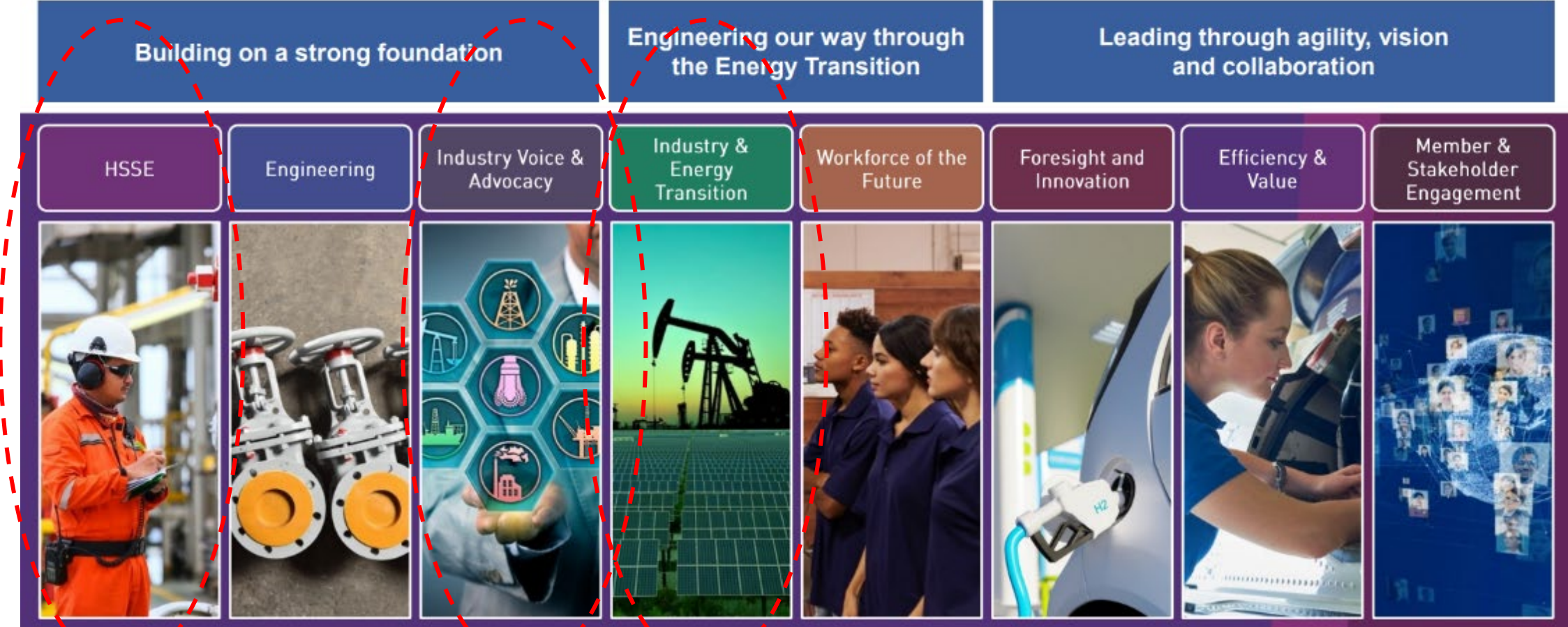


Industry economics will force Associations to further improve efficiency

Acceleration of the energy transition requires more radical change in Association scope and ways of working

IOGP Strategy Update

To get all of this done, we need to do it together



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.



REDUCE EMISSIONS
IN OPERATIONS



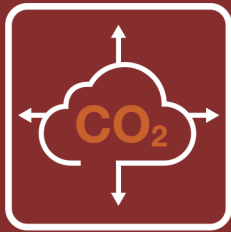
REDUCE
FLARING



COAL TO
GAS SWITCH



INVESTMENT IN
RENEWABLES



CARBON CAPTURE,
UTILISATION AND STORAGE



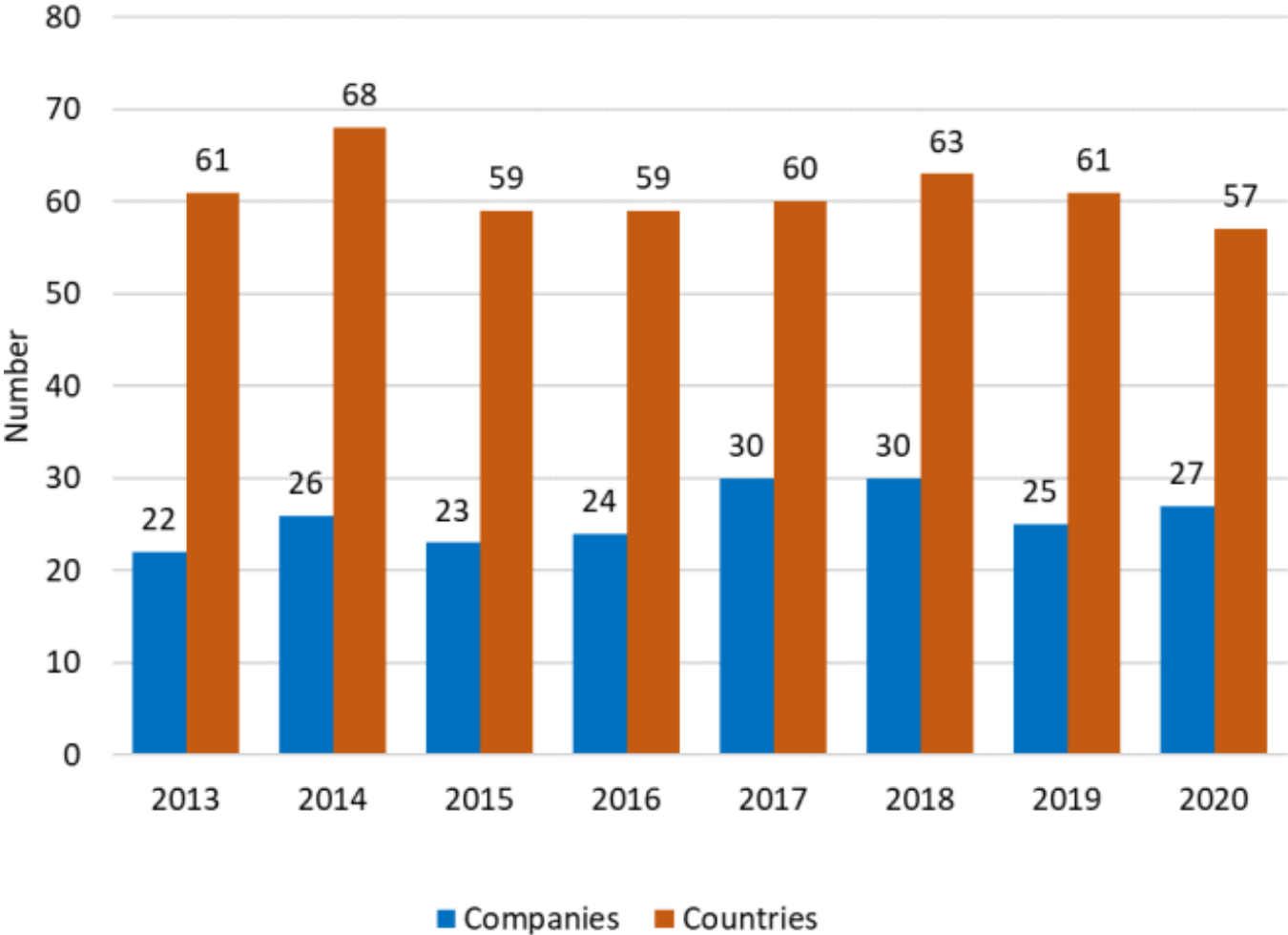
CLEAN
HYDROGEN

What is the ASC's purpose?

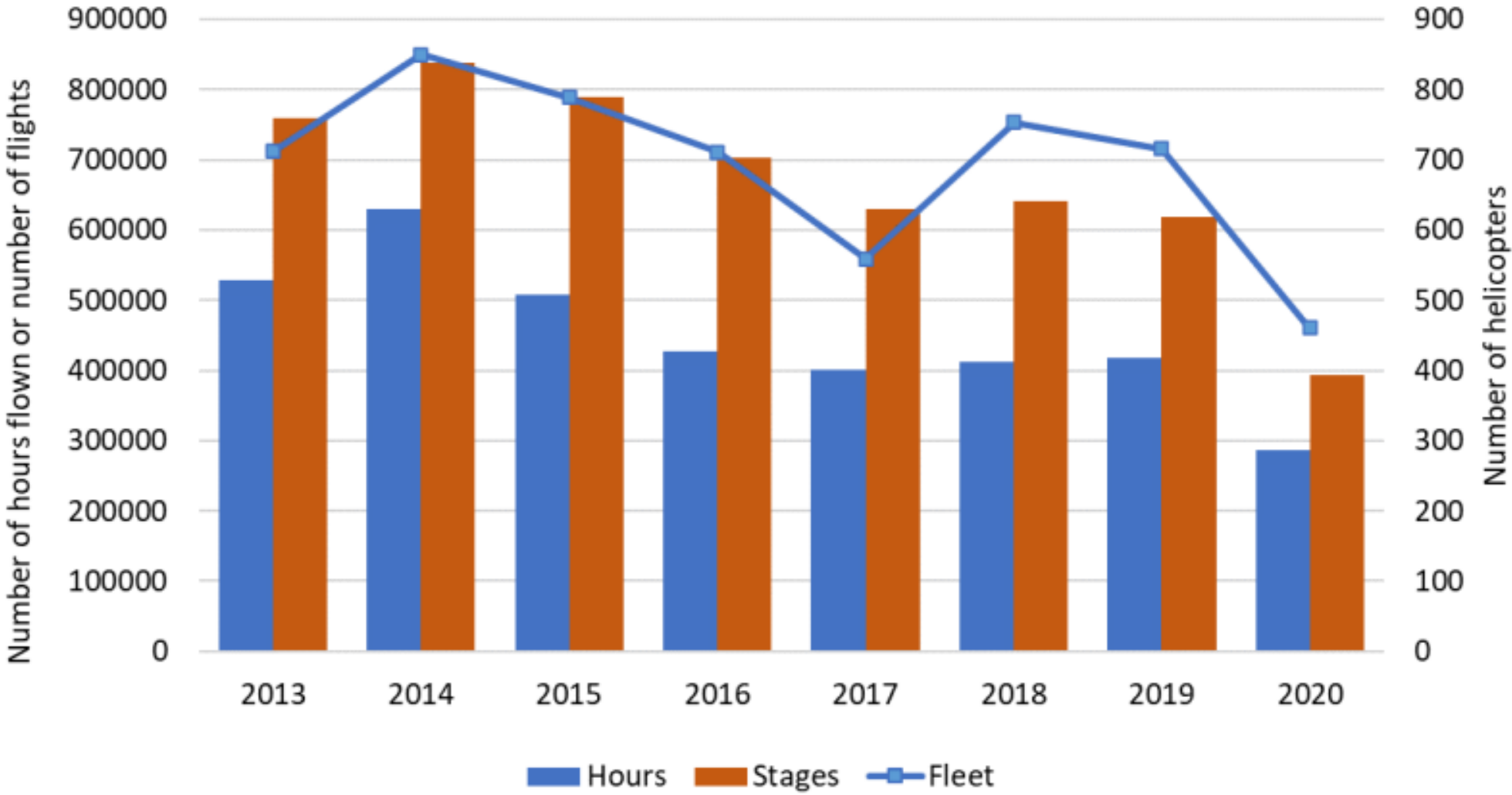
The purpose of the **Aviation Sub Committee (ASC)** is to use the combined knowledge, experience and resources of its members to achieve the following:

- 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.

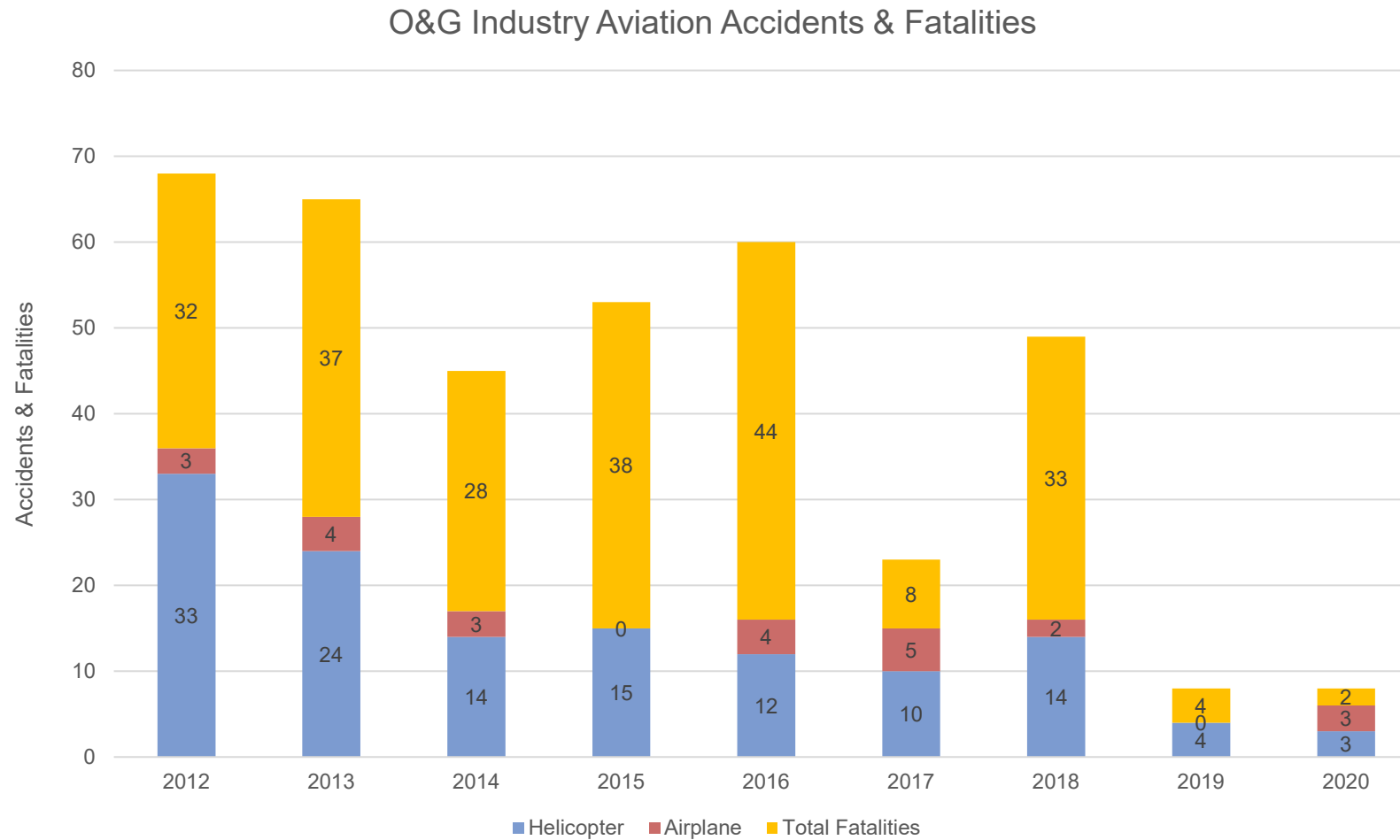
Contributing Companies



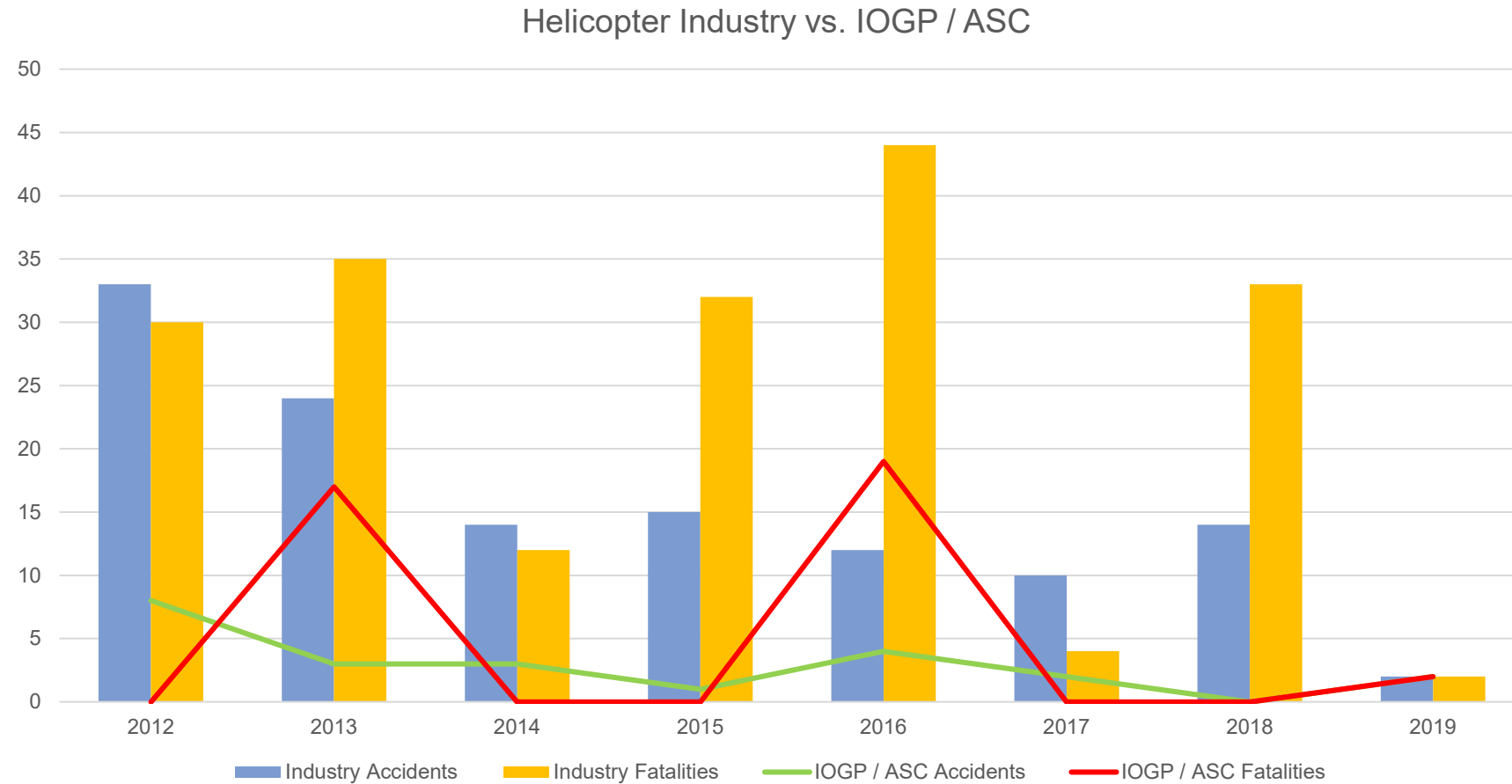
IOGP Activity Indicators - Helicopter



O&G Industry Aviation Accidents & Fatalities



O&G Industry Aviation Accidents & Fatalities



2020/2021 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 (accident?)

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

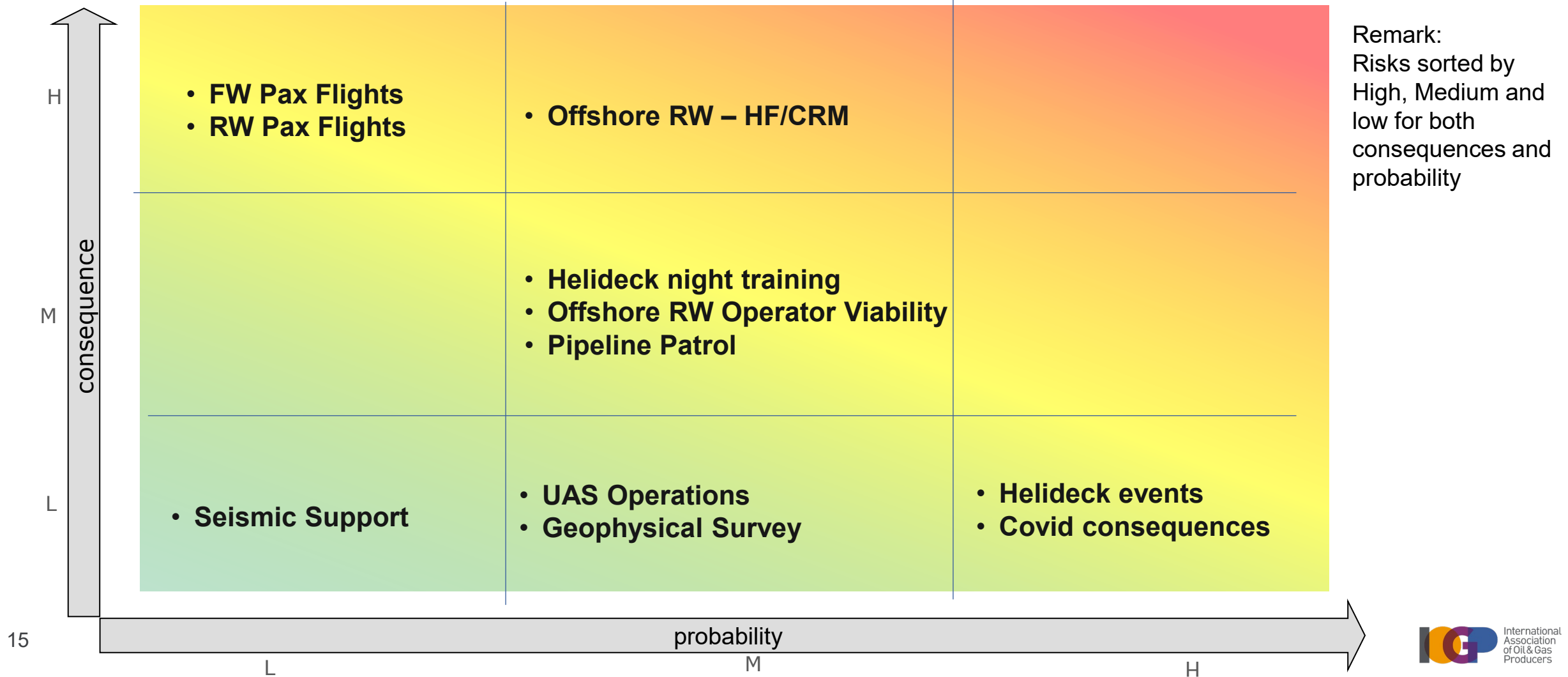
Helicopter:

- 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

Airplane:

- None

IOGP ASC - Heat map - Sept 2021



Direction of travel – traditional areas



Deep Water activity remains core



Direction of travel – new areas

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



New energies support



Challenges

- Incomplete safety picture.
- Operator resilience.
- Normalised Covid related risks.
- The energy transition.

Do we have a complete safety picture?

- No!
- We know about the accidents and have access to some investigations.
- We don't have enough useful incident data.



We lack useful incident data

Helicopter type	Serious Incidents	Serious Incidents Per 100k Hours	Serious Incidents Per 100k Flight Stages	Serious Incidents For Normalised Results By Hours	Serious Incidents For Normalised Results By Stages	Hours Flown	Flight Stages
Part 27 Single	0	0	0	0	0	16,487	49,688
Part 27 Multi-engine	0	0	0	0	0	30,132	33,650
Part 29	3	1.26	0.99	3	3	237,556	304,216
Russian	0	0	0	0	0	2,181	5,625
OVERALL	3	1.05	0.76	3	3	286,358	393,179

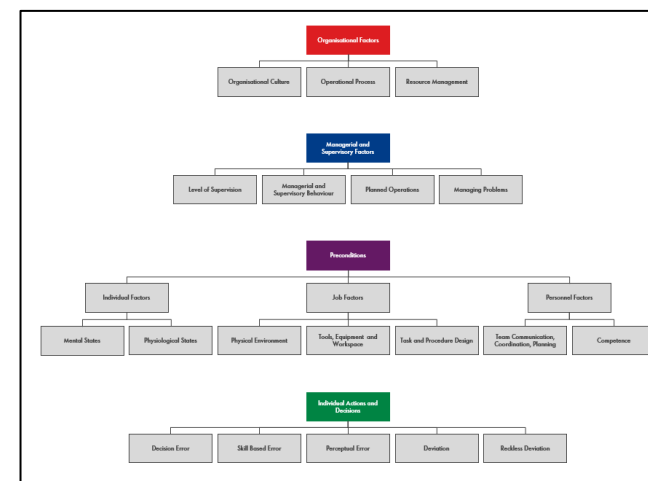
Aeroplane type	Serious Incidents	Serious Incidents Per 100k Hours	Serious Incidents Per 100k Flight Stages	Serious Incidents For Normalised Results By Hours	Serious Incidents For Normalised Results By Stages	Hours Flown	Flight Stages
Single Piston	0	0	0	0	0	8,726	996
Single Turboprop	0	0	0	0	0	5,982	195
Twin Piston	0	0	0	0	0	1,003	338
Twin Turboprop	3	8.47	3.29	3	1	35,440	30,413
Jet	0	0	0	0	0	17,965	10,133
OVERALL	3	4.34	2.38	3	1	69,117	42,075

Do we have a complete safety picture?

- No!
- We know about the accidents and have access to some investigations.
- We don't have enough useful incident data.
- We don't have anything on leading indicators.
- Human factors analysis is not yet common in all investigations.
 - We have no common taxonomy – therefore an inability to trend, share effectively and learn from others.
- We conduct a lot of audits, but don't systematically share the insights.

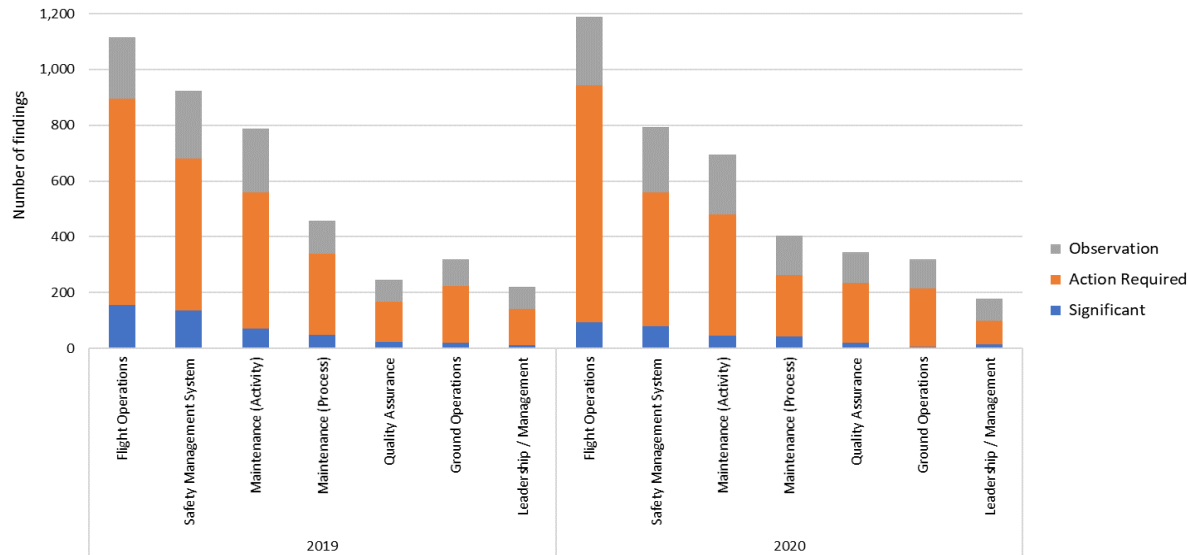
What are we doing about it?

- Working with our partner organisations – we don't have all the answers.
- Supporting the development of an incident database and common leading indicators.
 - HeliOffshore and operators.
- Increasing awareness of Human performance – enhancing existing barrier controls, expanding workplace learning, learning from good practice.
- Promoting HF analysis in investigations using common tools.
- Identifying common themes from assurance.



We are starting to collate and analyse audit data

Aircraft operator audits - number of findings

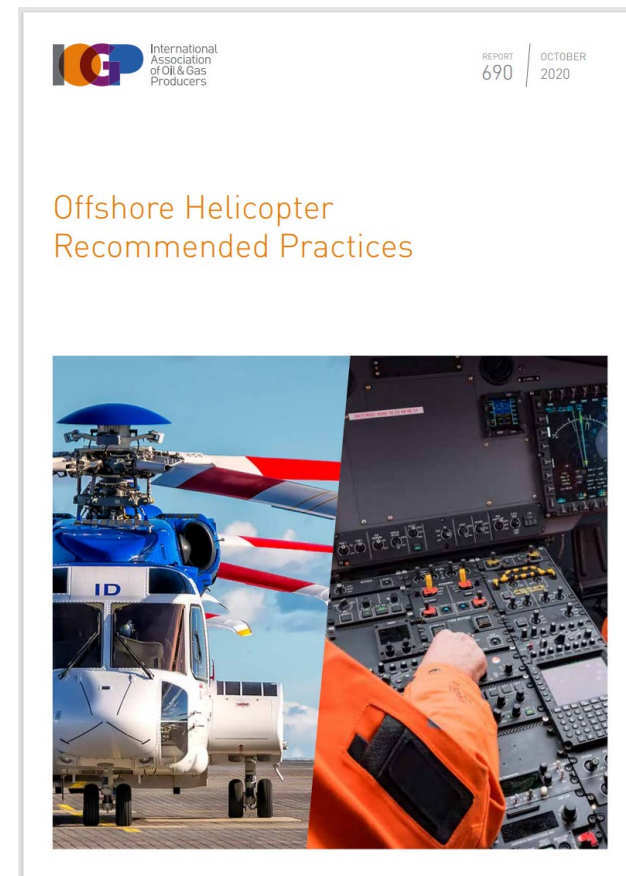


Year	Companies	Audits
2019	18	344
2020	23	505



Aircraft Operator Resilience

- Commercial viability – contracting behaviours.
- Requirements Standardisation
 - The bar was set too low: inconsistent use and application caused complexity, costs and ineffectiveness.
- R690 Series – Offshore first
 - Reflects agreed major accident causes and industry best practice.
 - New standards set for : design certification, SMS alignment, with safety leadership focus, 6 monthly simulator training, flight path management, HFDM & HUMS, LOSA, HTAWS.
 - Onshore, fixed wing, SAR, pipeline, seismic, geophysical in development.



Normalised Covid related risks

- Cumulative fatigue/stress
 - Is it being monitored and addressed.
 - Worker welfare and family absence.
- Simulator recency – now approaching 30 months in some countries!
 - Regulator complacency and inconsistency vs airline
- LOSA – now an R690 requirement.
 - Inhibited by covid screens.
- Assurance access for internal and external
 - Significant limitations of virtual.

The energy transition

- We are part of the problem. And the solutions.
- Areas for emission reduction action:
 - Quantify.
 - Operational measures (5 – 10%)
 - Promote and be ready for SAF (40%)
 - Champion New technology – Hybrid electrical – Hydrogen (80 – 100%)
- As both energy producers and energy users we have a significant role to play in the aviation sector decarbonisation.

Summary

- The IOGP ASC will continue to pursue its goals through working with partner organisations and associations.
- We will continue to support industry resilience through improved learning, HP focus & standardisation.
- We need to address the increasing risks associated with normalisation of Covid measures.
- We need to maintain the sharp safety focus.
- We need to actively contribute to the energy transition.

QUESTIONS



International
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