



Civil Aviation Authority Norway

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Director General

Agenda

1. Introduction to CAA Norway
2. Norwegian aviation status
3. Safety Risk Management
4. Offshore regulations
5. Offshore challenges and future outlook





1. Introduction to CAA Norway

CAA Norway

CAA:

- Independent administrative authority – under the Ministry of Transport - responsible competent authority and regulator in the field of civil aviation
- CAA Norway coordinates together with the Norwegian MoT participation in international bodies/organizations.

Human resources:

- 182 highly qualified staff

Finance:

- Total budget 2018: 222 MNOK
 - Fees and charges: 138 MNOK.



CAA Norway

The main task of CAA Norway is to contribute to a high level of safety and security for Norwegian aviation according to main goals of the governments transportpolicy.



CAA Norway

- Oversight (risk based)
- Regulations
- Approvals
- Safety promotion/Information

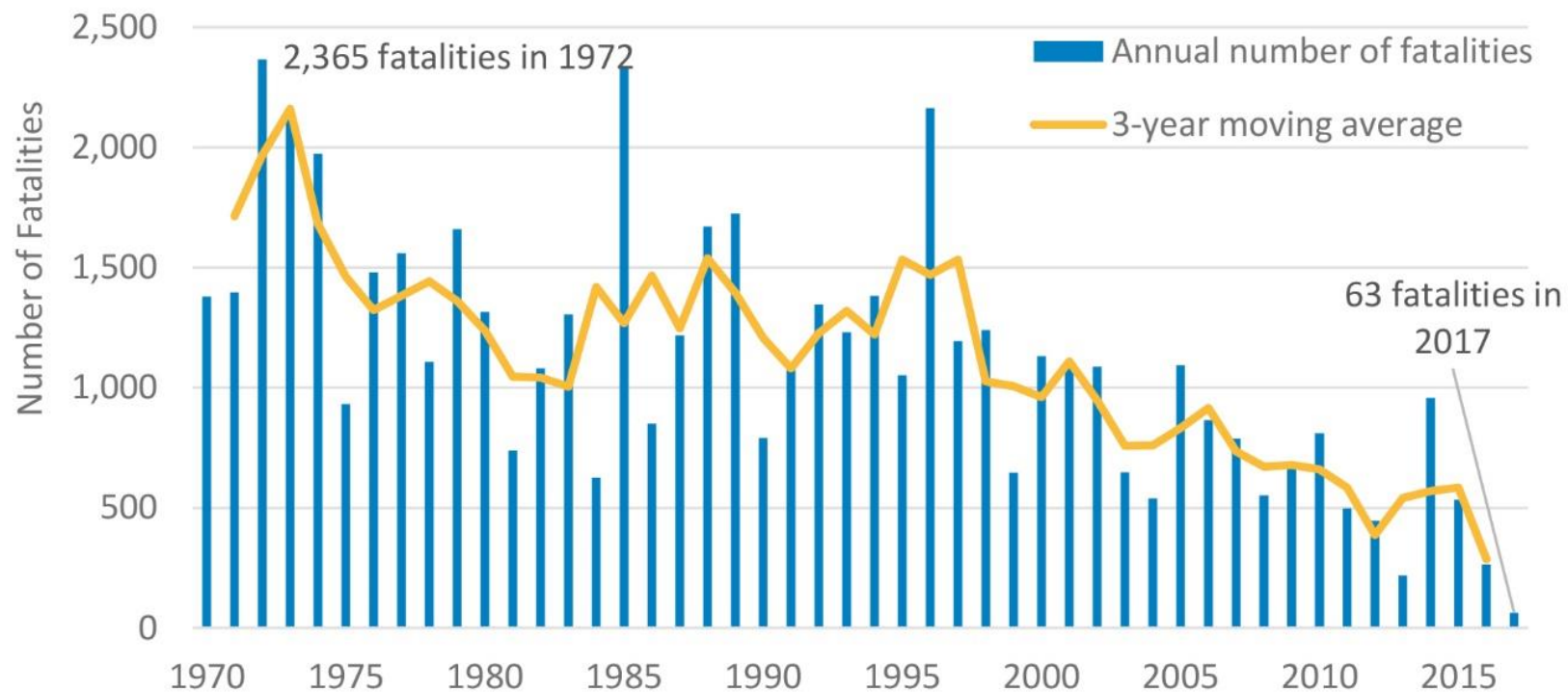




2. Norwegian aviation status

Fatalities since 1970

Worldwide Fatalities Since 1970



But...

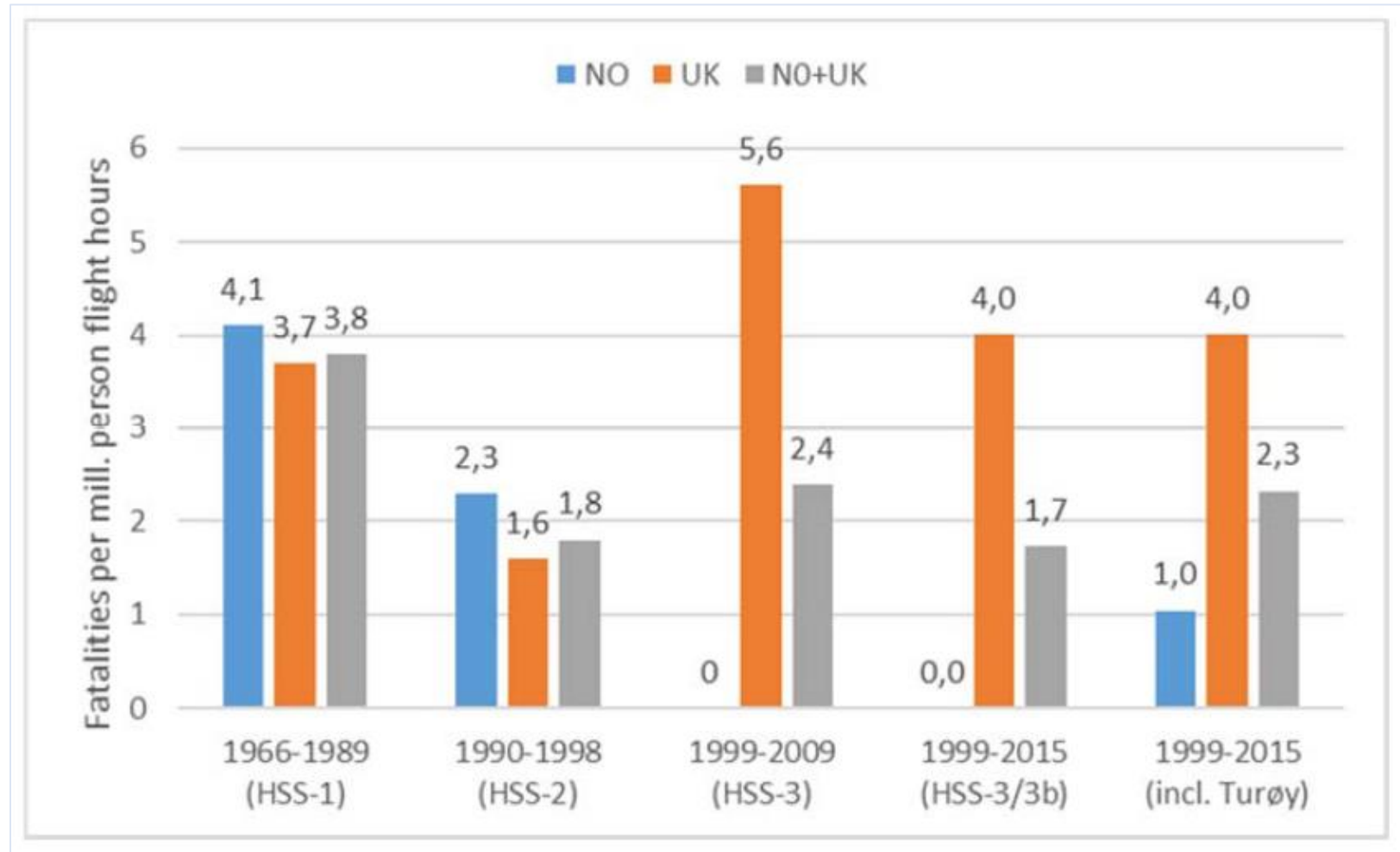


Accidents and incidents in Norway

	Accidents		Personal injuries					
	Jan-Aug 2018	2017	Jan-Aug 2018	2017	Jan-Aug 2018	2017	Jan-Aug 2018	2017
			Fatality	Fatality	Seriously injured	Seriously injured	Easily injured	Easily injured
Scheduled flights	1				1		11	
Commercial operators	1	1						
Offshore								
Onshore helicopter	2	3		8			1	
Private aviation	9	13	5	5		1	3	
RPAS	1	2						
Total	14	19	5	13	1	1	15	30

Accident statistics

The statistics for helicopter transport accidents on the Norwegian continental shelf shows that the Norwegian sector has significantly better numbers than the North Sea average.



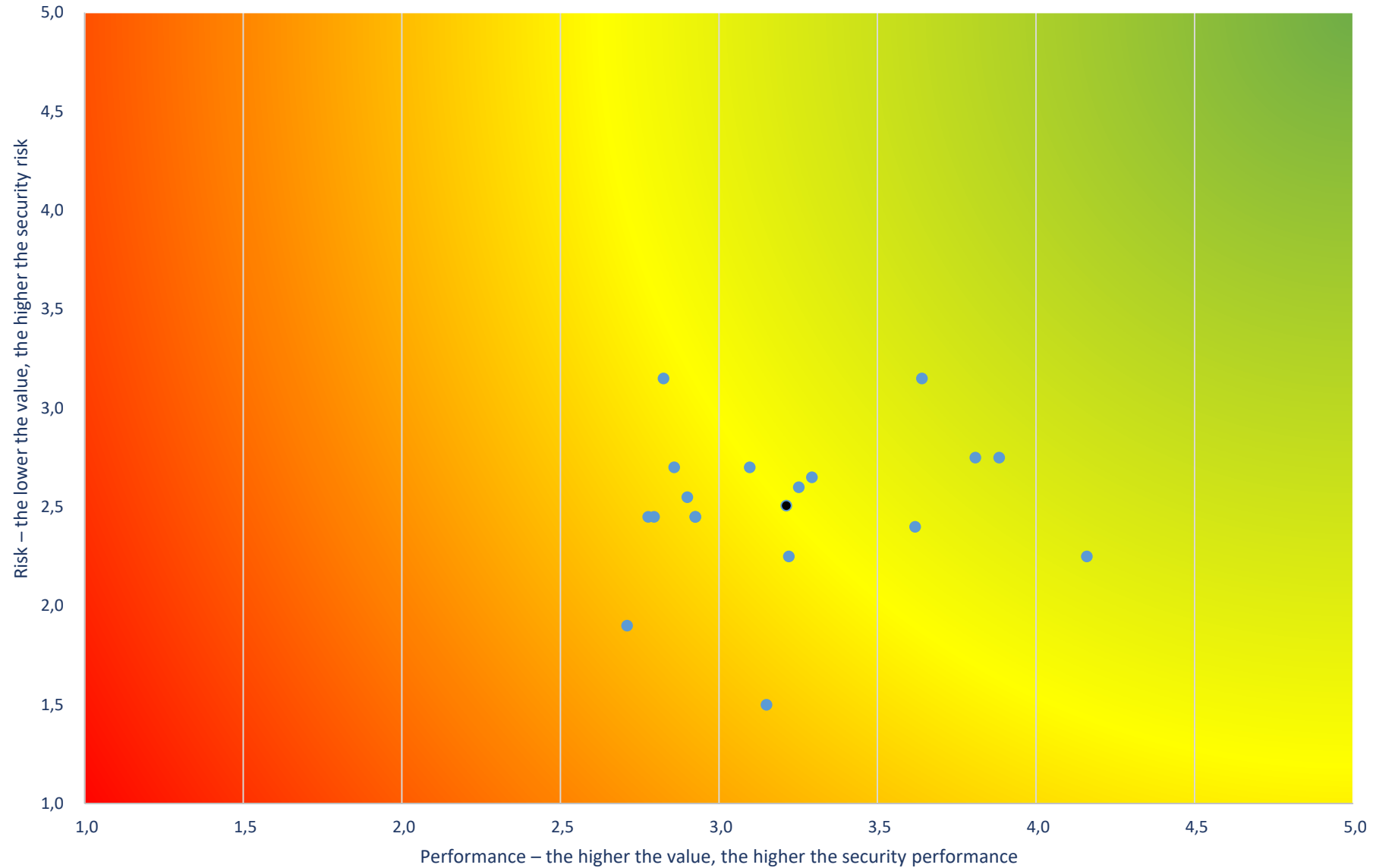
Risk profiling

Operator	Name
Date	
1 Organisation Complexity	2,3
2 Operations Complexity	2,7
Average value - risk exposure	2,5
3 Oversight	2
4 Management System	2,1
5 Training	2,7
6 Economy	2,5
7 Accidents/Incidents	2
8 Other	2,1
Average value - performance	1,9
Sum Total	2,2

- Indicators for both complexity (1 and 2) and performance (3-8)
- Each indicator is evaluated between 1 and 5
- Index 3 is the starting point. An operator who has index 3 is assessed according to «Baseline» for inspection.
- The assessment is done by the inspection leader or the inspection team (after the meeting in the audit team)

Risk profile norwegian aviation

Heatmap





Priority safety themes 2018:
Priority safety themes 2018:

- Runway incursion
- Runway incursion
- Dangerous goods
- Dangerous goods
- Deicing/Anti-icing
- Deicing/Anti-icing
- Fatigue
- Fatigue

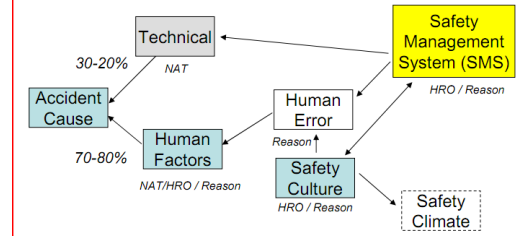
3. Safety Risk Management

What is SRM?



Safety Management Theories

- Three theories currently dominate
 - Normal Accident Theory (NAT)
 - Reasons model of human error (Reason)
 - High Reliability Organisations (HRO)

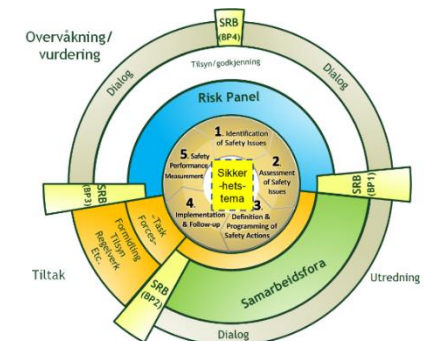
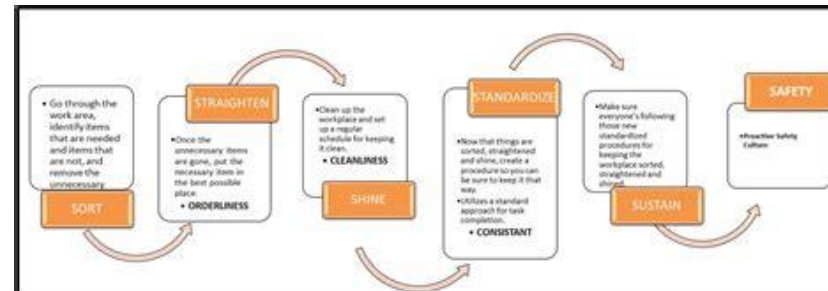
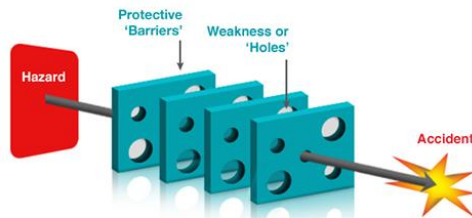
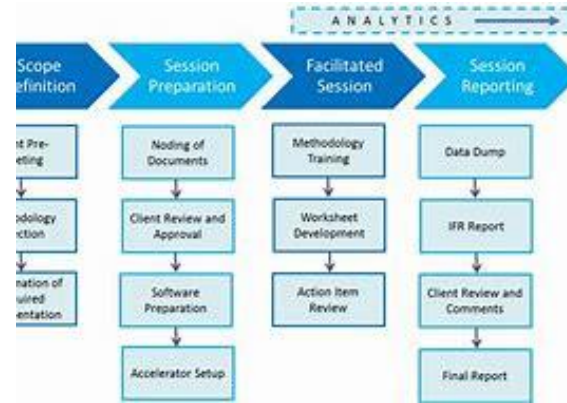


Risk Analysis Matrix

Severity	Minor	Minor	Major	Hazardous	Catastrophic
Very Frequent	High Risk	High Risk	High Risk	High Risk	High Risk
Frequent	High Risk	High Risk	High Risk	High Risk	High Risk
Probable	High Risk	High Risk	High Risk	High Risk	High Risk
Rare	High Risk	High Risk	High Risk	High Risk	High Risk
Extremely Rare	High Risk	High Risk	High Risk	High Risk	High Risk
Extremely Improbable	High Risk	High Risk	High Risk	High Risk	High Risk

Legend: High Risk (Red), Medium Risk (Yellow), Low Risk (Green). * Unacceptable with Single Point and/or Common Cause Failures.

Figure 3.9: Risk Matrix

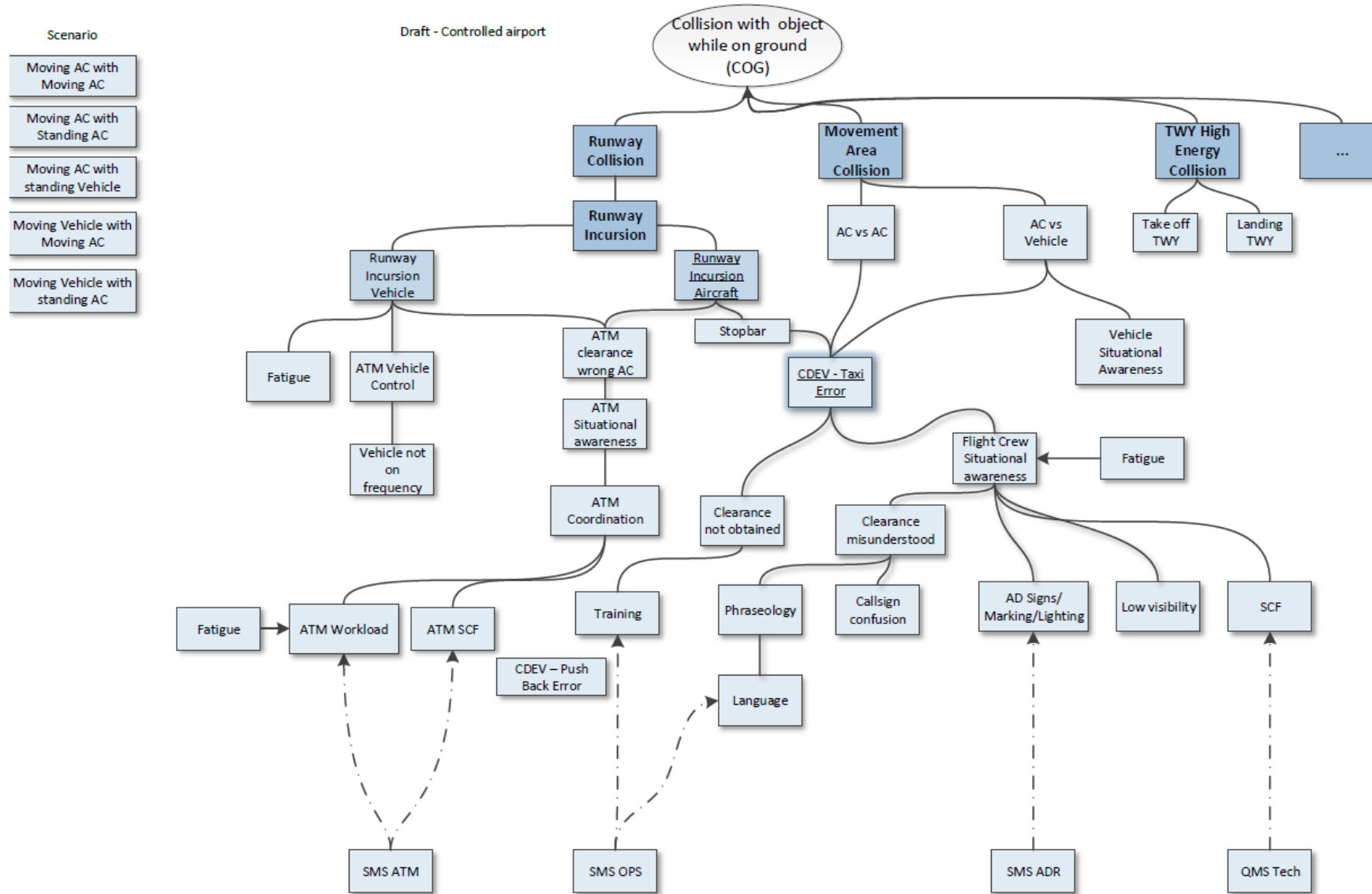


What is SRM?

- Create a common understanding between CAA and the operators in regards to how key factors can affect flight safety
- Identify who contributes and who is exposed to different risks and to what extent this applies to an individual operator
- To agree on measures – effect and ownership (who will do what to improve flight safety in the agreed upon area)
- Establish a common safety target for Norwegian aviation as a whole and per. sector, in the short and long term



SRM - how?



- Collision with object while airborne
- Collision with object while on ground
- Collision with terrain/obstacle while on ground
- Collision with terrain/obstacle while airborne
- Unsurvivable aircraft environment

Safety topics

Safety topics:

- Identification and delimitation of something that affects flight safety
- Something we want to observe and analyze or improve on behalf of Norwegian aviation
- Issues that has a link to different types of accidents
- Important in a national perspective

Criteria:

- Contribute to developing our ability to communicate with the operators
- Can further develop interdisciplinary work in CAA
- Setting ongoing activities into a more structured and comprehensive form
- Based on accident and incident information
- Can help us develop mechanisms and methods for flight safety



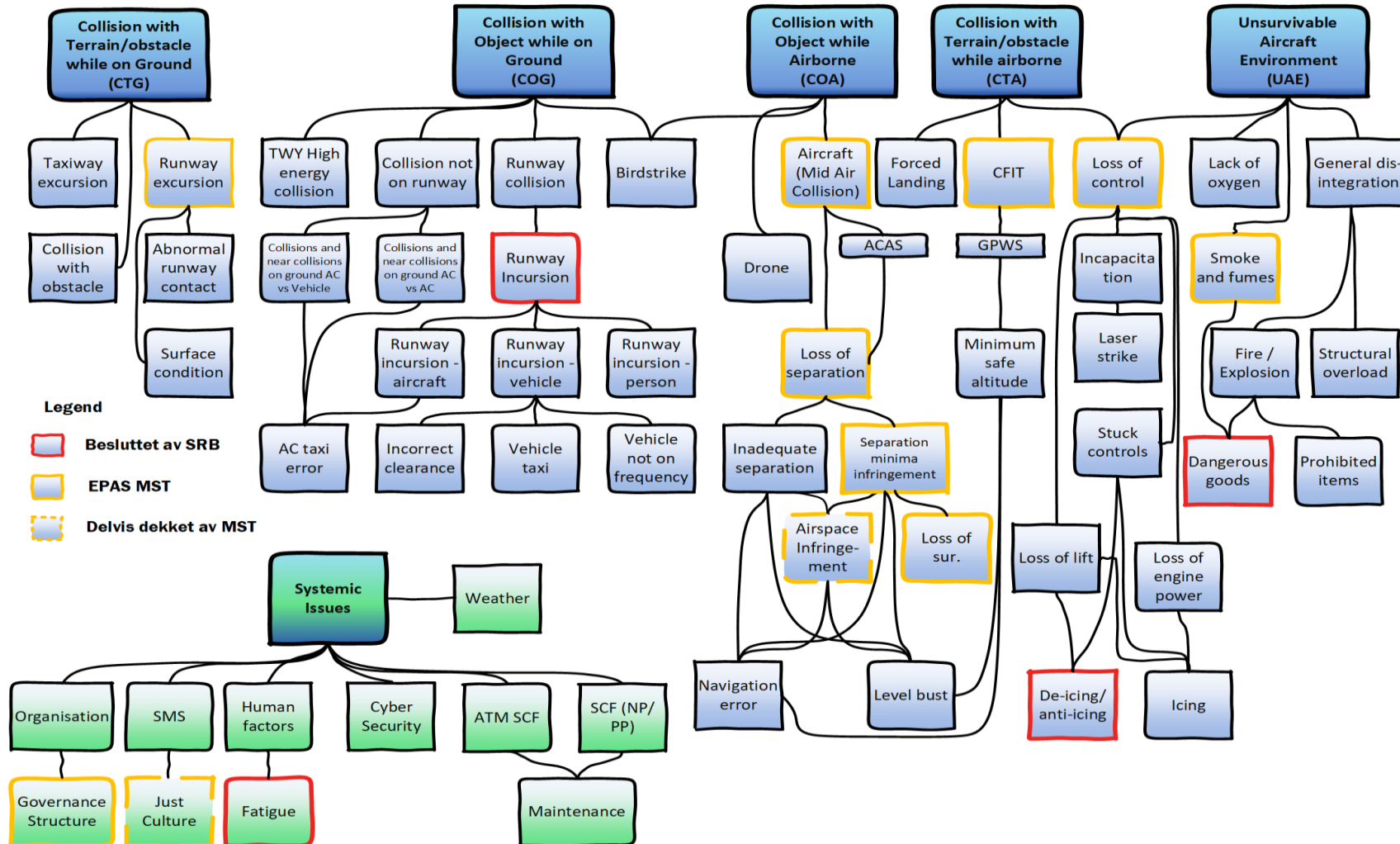
Safety topics

Safety themes 2018:

- Runway incursion
- Dangerous goods
- Deicing/Antiiceing
- Fatigue



4 Safety topics





4. Offshore regulations

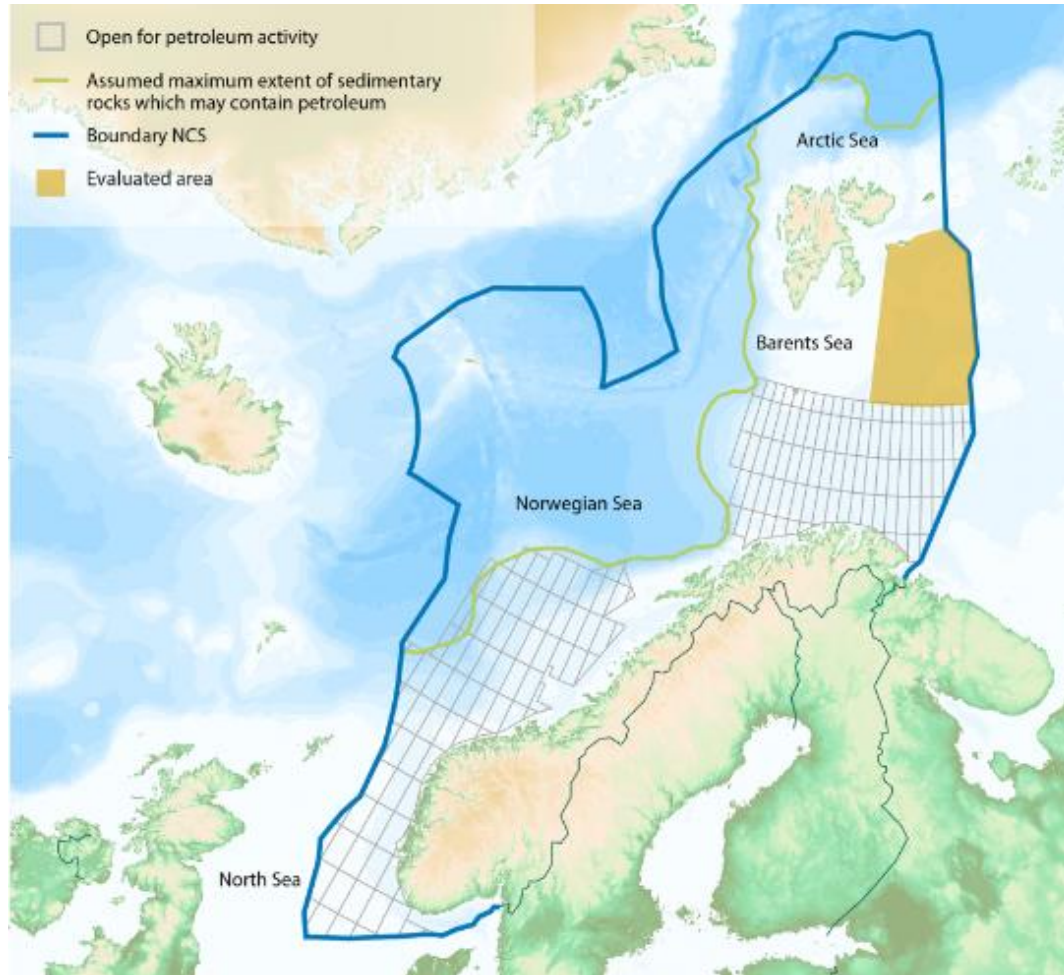
Regulations

- New rules for offshore helicopter operations enforced from 1st of July 2018
- The regulation implements the EU HOFO regulation (Regulation 965/2012, SPA.HOFO) as national rules in Norway
- The background for this regulatory change is Norway's position that the EU HOFO regulations are not covered by the EEA agreement but that we also benefit from following the same regulations as our neighboring countries. In addition, it is a recognition of the good safety work that has been done by the industry, which has been incorporated into industry standards. By taking important parts of this into the regulatory framework, robustness is increased to ensure that safety requirements can be put under pressure in the future.



4. Offshore challenges and future outlook

The Barents Sea



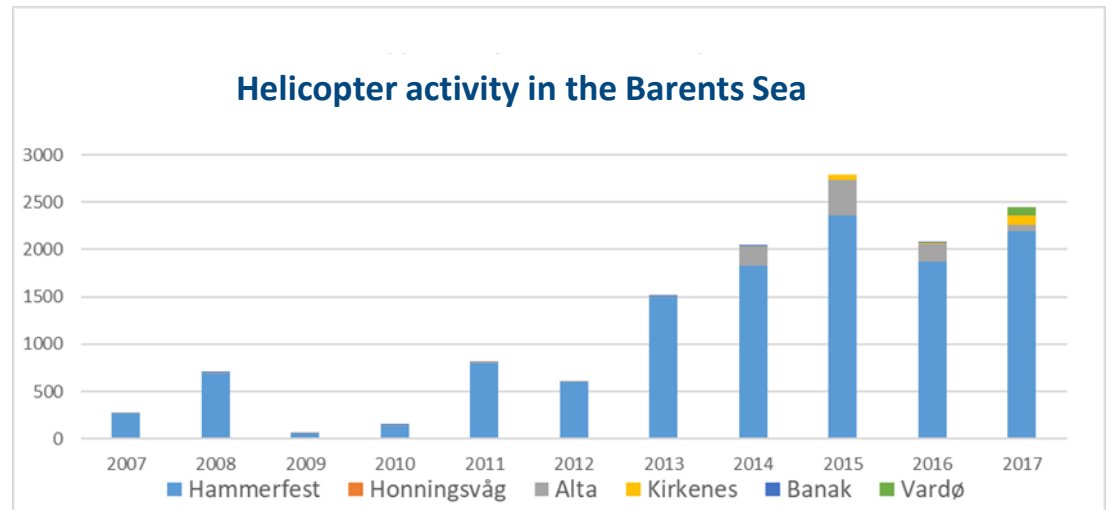
➤ Snøhvit, Goliat og Johan Castberg: the production has and will lead to even more air traffic, both rotor- and fixed-wing airplanes

➤ Flights in 2017:

Barents Sea: 2 456

Norwegian Sea: 4 484

Norwegian shelf: 34 704



Barnets Sea – in the long run

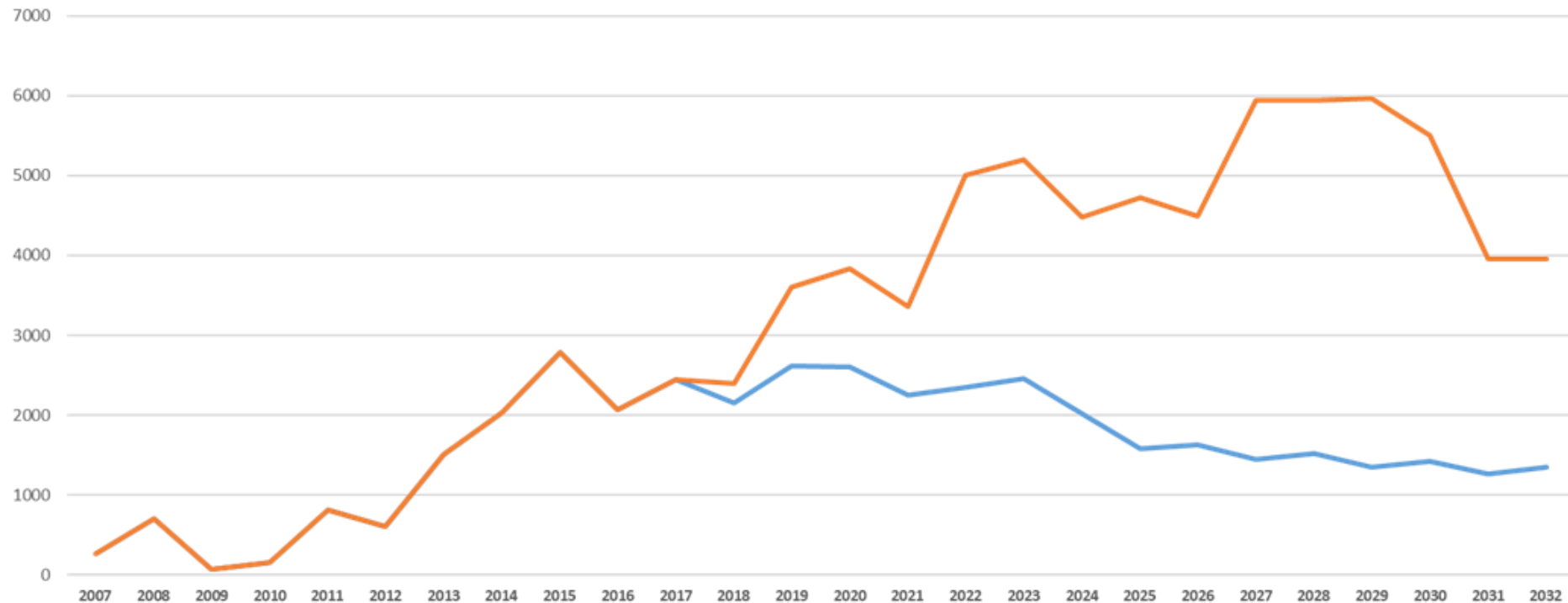
- Oil price
- Development costs
- Technology
- Risk - long investment horizon
- Large international companies have withdrawn
- Few explorations
- Norwegian climate policy



Estimated future flights

Estimated flights in the Barents Sea

Red curve: highest estimate - Blue curve: lowest estimate



Flights in the Barents Sea = search activity + field exploration + operation phase

Future challenges

- Petroleum industry - major changes and uncertainty
- Today it is mainly one helicopter type: Sikorsky-S92
- The market is regulated by two helicopter operators only: CHC and Bristow



Thank you for your attention

Any questions?