EUROPEAN HELICOPTER ASSOCIATION

LUFTTRANSPORT RW

FDM
Stabilised approach to SAR

ANDREW ROGNMO-HODGE

DIRECTOR FLIGHT OPS RW

FDM

SAR OPS in the Arctic

Stabilised approach to Dynamic SAR

FDM Equipment

Setting the right parameters

Blending Outputs

Enhancing Safety Culture

Partnership for Analysis

Supervisory Team

Actions on events

External Players

HELICOPTER FLIGHT DATA MONITORING
INDUSTRY BEST PRACTICES
01 Apr 2012
Version 1.1

HELICOPTER
FLIGHT DATA MONITORING

INDUSTRY BEST PRACTICE

GLOBAL HFDM STEERING GROUP

01 April 2012

www.HFDM.org

www.hfdm.org
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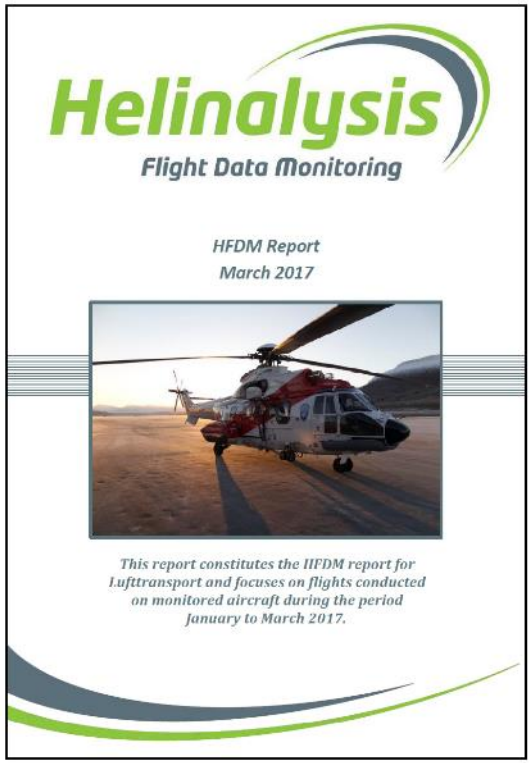

Helinalysis
Flight Data Monitoring

HFDM Report
March 2017

This report constitutes the IIFDM report for Lufttransport and focuses on flights conducted on monitored aircraft during the period January to March 2017.

LOCATION –SVALBARD 78’N

LUFTTRANSPORT

Andrew Rognmo-Ho...

Backoffice / Flykart /

- Flykart
- Adressebok
- Amicosrapporter
- Crew Utilization
- EmergencyResponse
- Ettersyn
- FKS
- FKS-logg
- Flymaskinstatus
- GIB/SIB/OTIB
- Hovedside
- Inn- / Utmeldinger
- Intranett
- Kvitteringslister
- Publikasjon

Playback

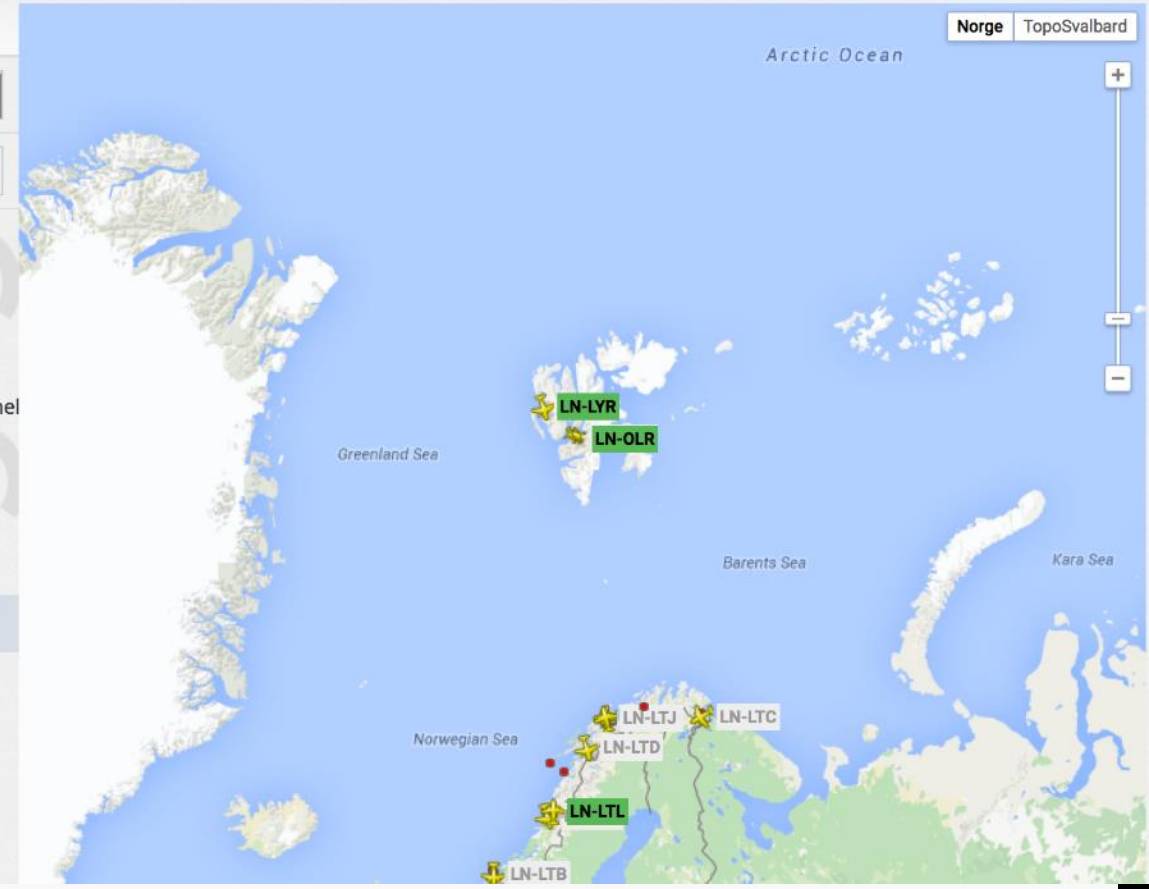
LN-OLR

DDMMÅÅ TTMM

Flykart BlueSky WebSentinel

Oppdateringsfrekvens i sekunder

REG 120	Lat 120	Long
Heading	Speed	Altitude
LN-LTA	69.6831	18.9181
		197
LN-LTB	62.5585	6.11099
		333
LN-LTC	69.7211	29.8970
		453
LN-LTD	68.4920	16.6781
		263



SAR OPS

Aircraft upgraded in 2014 with CVFDR

Acquisition Unit for FDM with QAR

FDM Experience on type from Offshore

Yet Diverse Operations

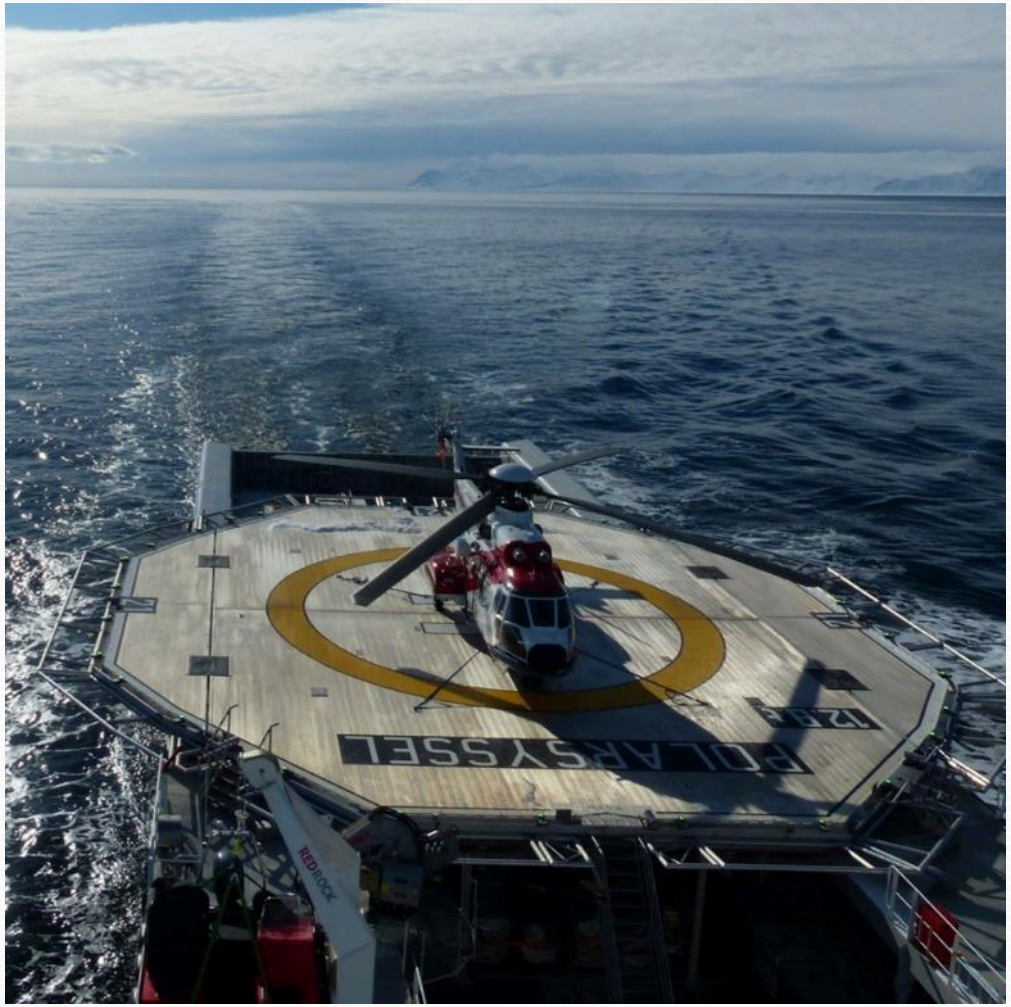
EASA CAT Approx 20%

SAR & Police Missions

Coastal & Mountain

MIXED FLIGHT – FDM CHALLENGE

Many Phases to one Flight e.g Night Mountains, Helideck, SAR



STABILISED APPROACH

An approach is stabilized when all of the following conditions are met:

1. The helicopter is on the desired flight path;

2. Only small changes in heading/pitch are required to maintain the correct flight path;

3. The airspeed is the correct approach speed for the helicopter type and conditions;

4. Sink rate is not greater than 1000 fpm. If an approach requires a sink rate greater than 1000 fpm, a special briefing should be conducted;

5. All briefings and checklists have been completed.

SAR APPROACH

Algorithms setup for Offshore

Clear deviations

Optimal FDM Output

SAR

- **Dynamic flight requiring greater data separations**
- **Algorithm shift e.g offshore, mountain flying, glacier**
- **Greater analysis and competence of FDM personnel**
- **More FDM equipment e.g hoist selector, Cabin door , AP functions**

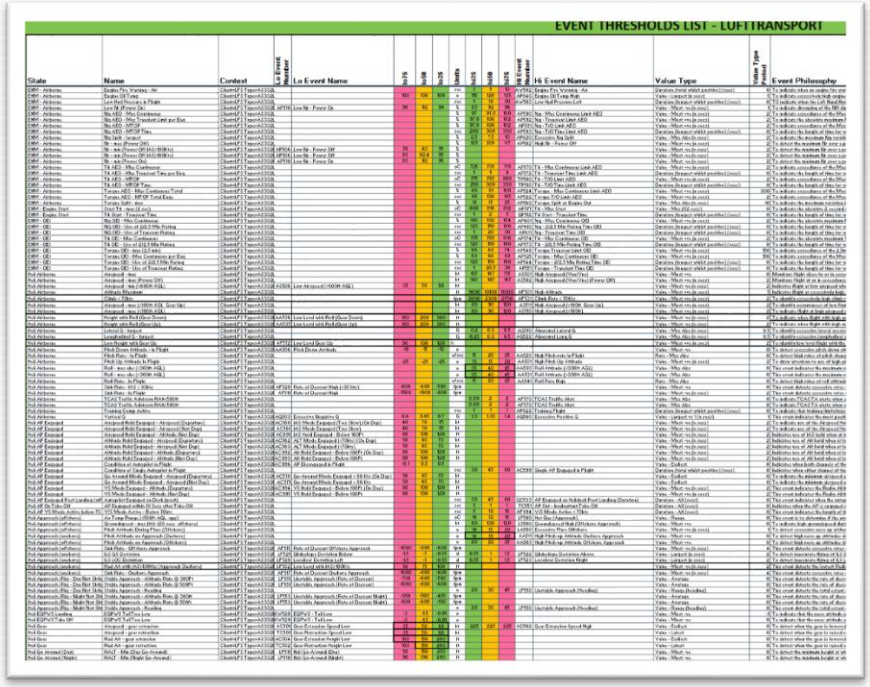
FDM EQUIPMENT

Acquisition unit – lacking some crucial SAR input

- **Hoist, cabin door, WOW**

Event threshold list is a challenge to categorise

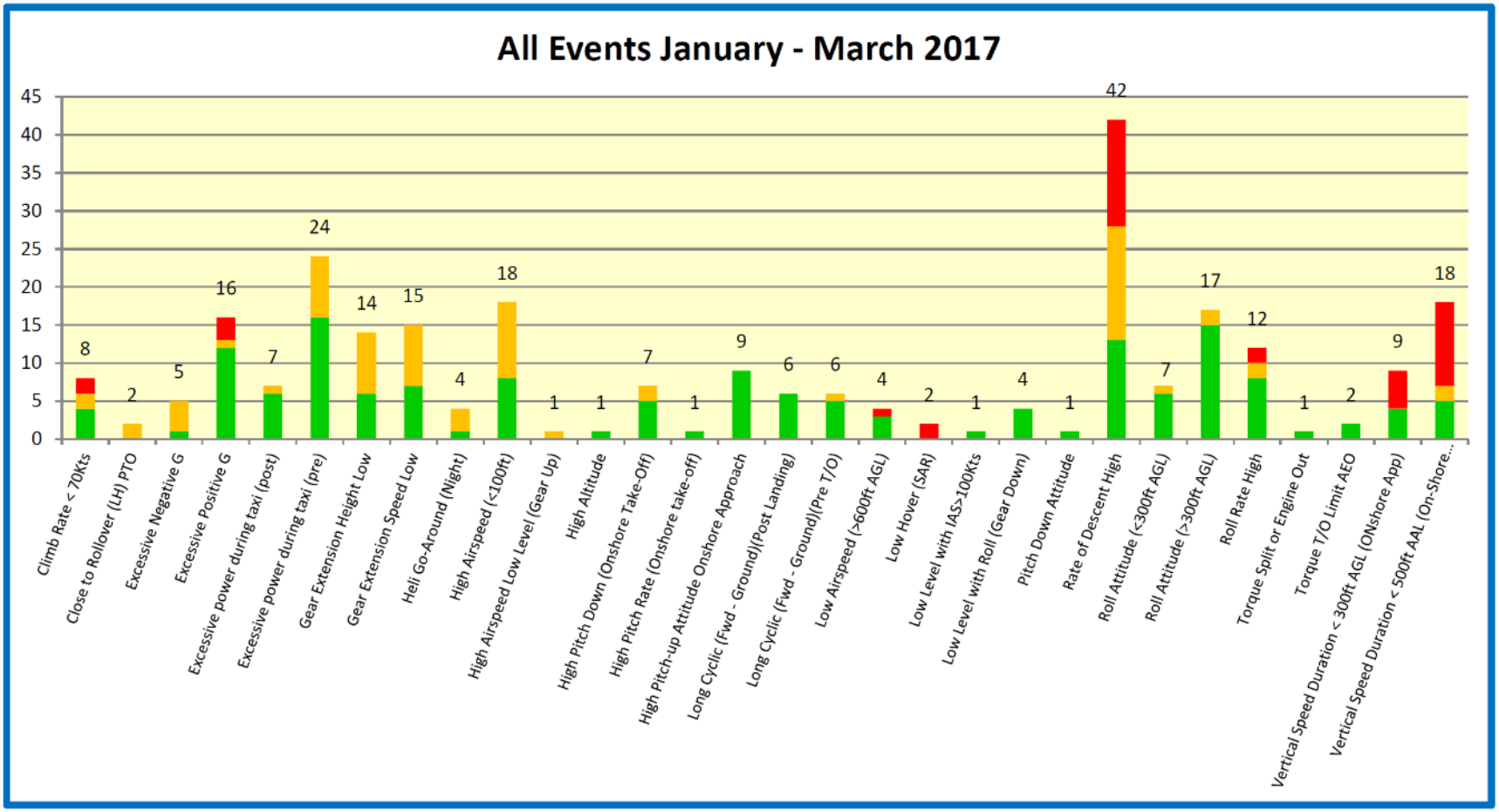
- **Many phases**
- **Varried flight profile**
  - Season,
  - weight
  - Task
  - Risk


EVENT THRESHOLDS LIST - LUFTTRANSPORT

State	Name	Context	Lo Event Number	Lo Event Name	Hi Event Number	Hi Event Name	Value Type	Value Type Period	Event Philosophy
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

FDM PARAMETERS

Categorised over 150 Event Thresholds (2 yrs mature)



FDM PARAMETERS

Categorised over 150 Event Thresholds

Seasonal rates help for analysis in Arctic (DAY/NIGHT)

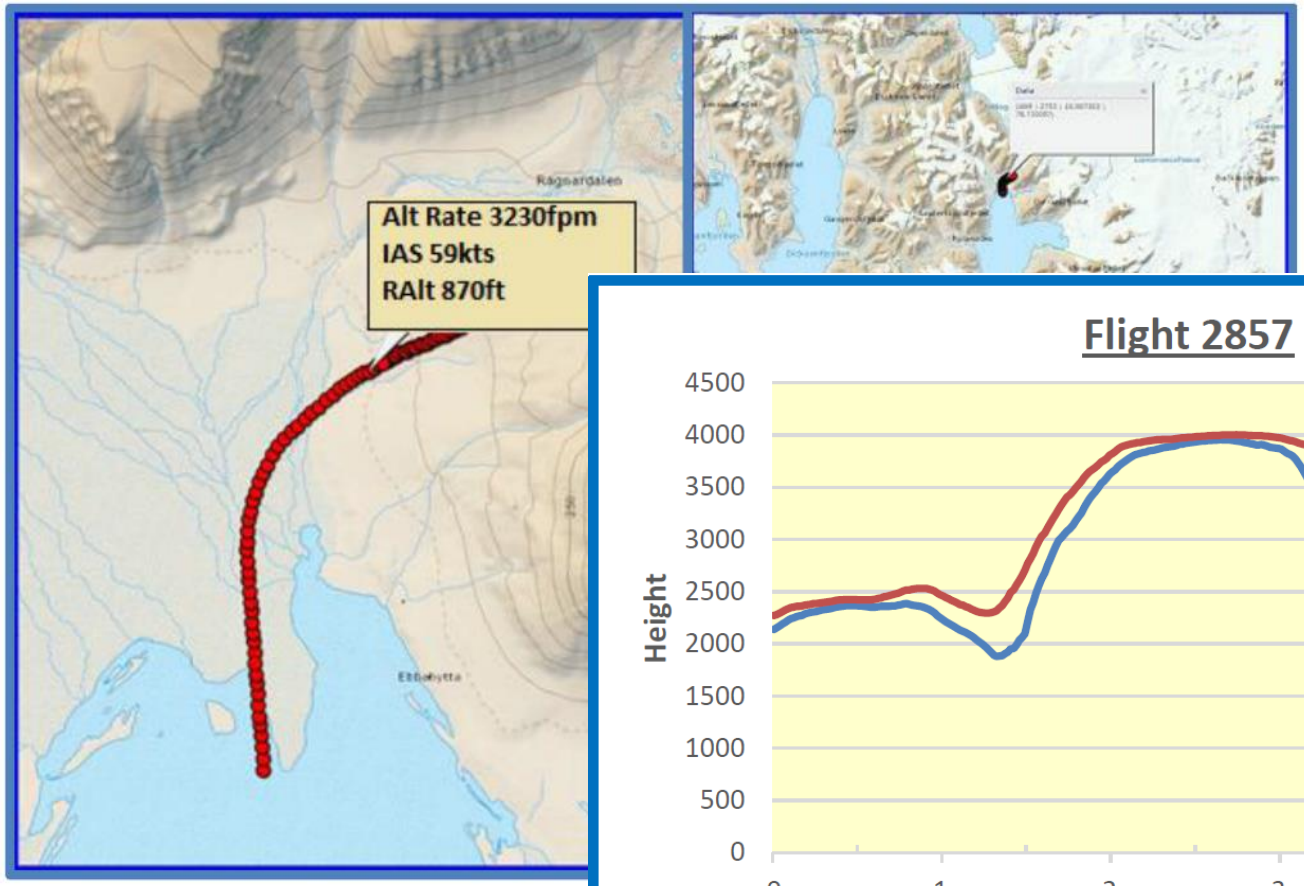
Mountains must consider GPS/Iridium Flight Following

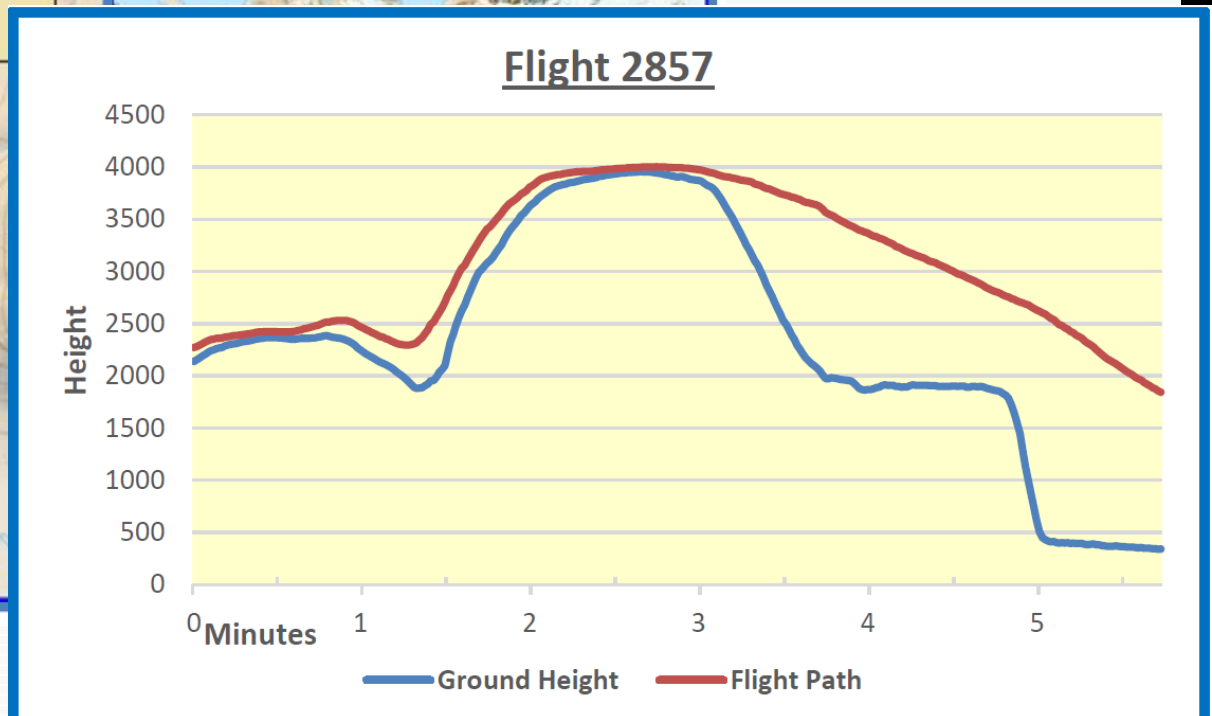
Roll Angle Of Bank (AOB) in Safe Mountain Flying

	Events	Numbers of Event							Rates		
		Total	Level 1	Level 1 Rate	Level 2	Level 2 Rate	Level 3	Level 3 Rate	January	February	March
1	**Rate of Descent High**	**9**	**3**	**4.1%**	**3**	**4.1%**	**3**	**4.1%**	**13.3%**	**15.6%**	**12.2%**
2	Vertical Speed Duration < 500ft AAL (On-Shore App)	3	1	2.1%	1	2.1%	1	2.1%	8.7%	7.6%	6.3%
3	**Climb Rate < 70Kts**	**3**	**1**	**1.4%**	**1**	**1.4%**	**1**	**1.4%**	**2.5%**	**1.8%**	**4.1%**
4	**Gear Extension Height Low**	**7**	**3**	**4.1%**	**4**	**5.4%**	**0**	**0.0%**	**3.3%**	**2.8%**	**9.5%**
5	**High Airspeed (<100ft)**	**5**	**1**	**1.4%**	**4**	**5.4%**	**0**	**0.0%**	**5.8%**	**5.5%**	**6.8%**
6	Roll Attitude (>300ft AGL)	7	5	6.8%	2	2.7%	0	0.0%	1.7%	7.3%	9.5%
7	Roll Rate High	5	4	5.4%	1	1.4%	0	0.0%	0.8%	5.5%	6.8%
8	Gear Extension Speed Low	4	3	4.1%	1	1.4%	0	0.0%	4.2%	5.5%	5.4%

BLENDED OUTPUT

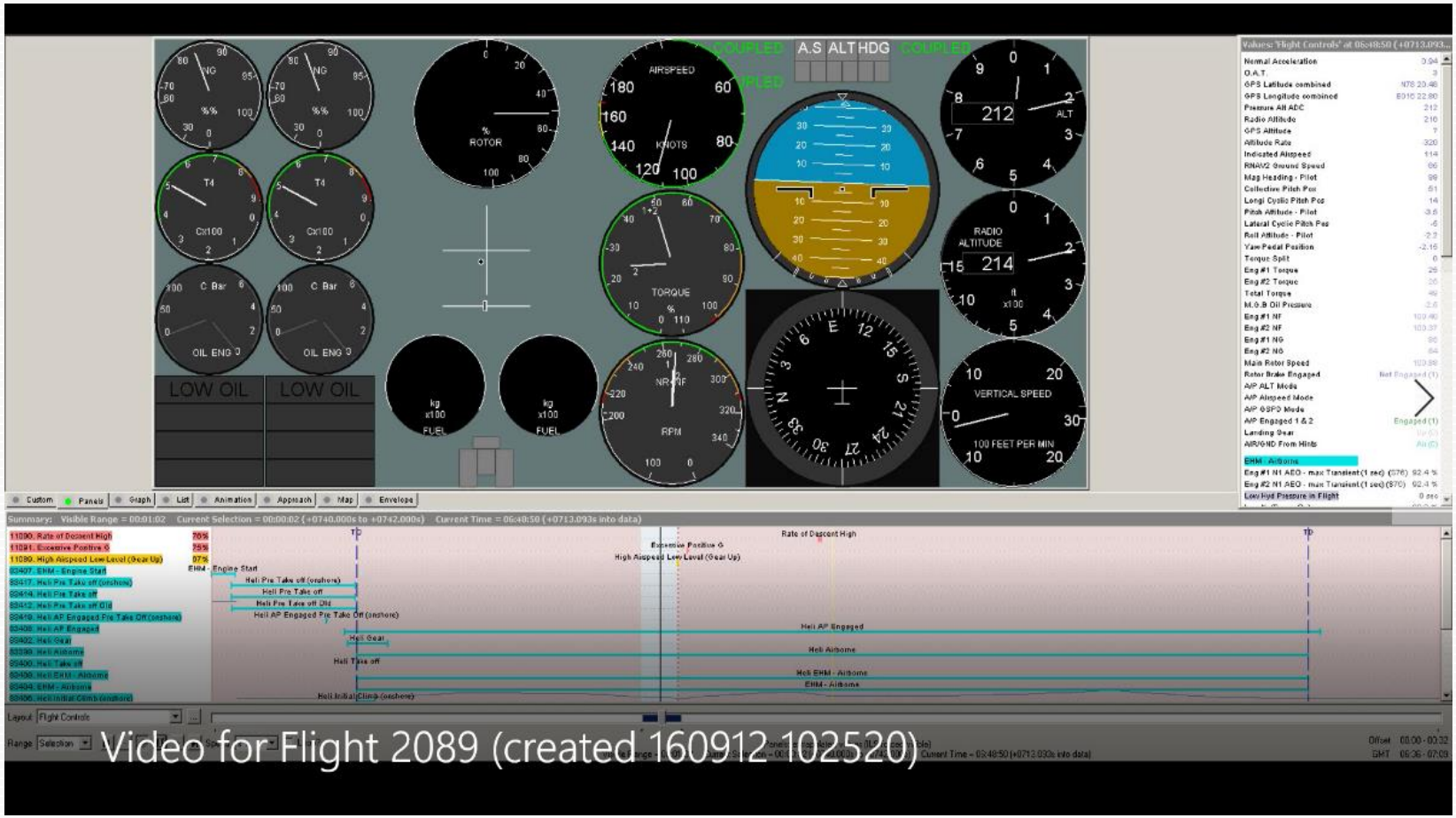
Flight Following access allows deeper analysis





BLENDED OUTPUT

Good Helicopter tools for analysis and action



ENHANCING SAFETY CULTURE

Hostile Operations with demanding task

Operation Culture vs Company Culture

SAR – risk of Mission creep

Close team with tight relationships in crew

Communication Policy

Training & Education

Simulator

Unions

Just Culture - KEY

PARTNERSHIP

Understanding the operation

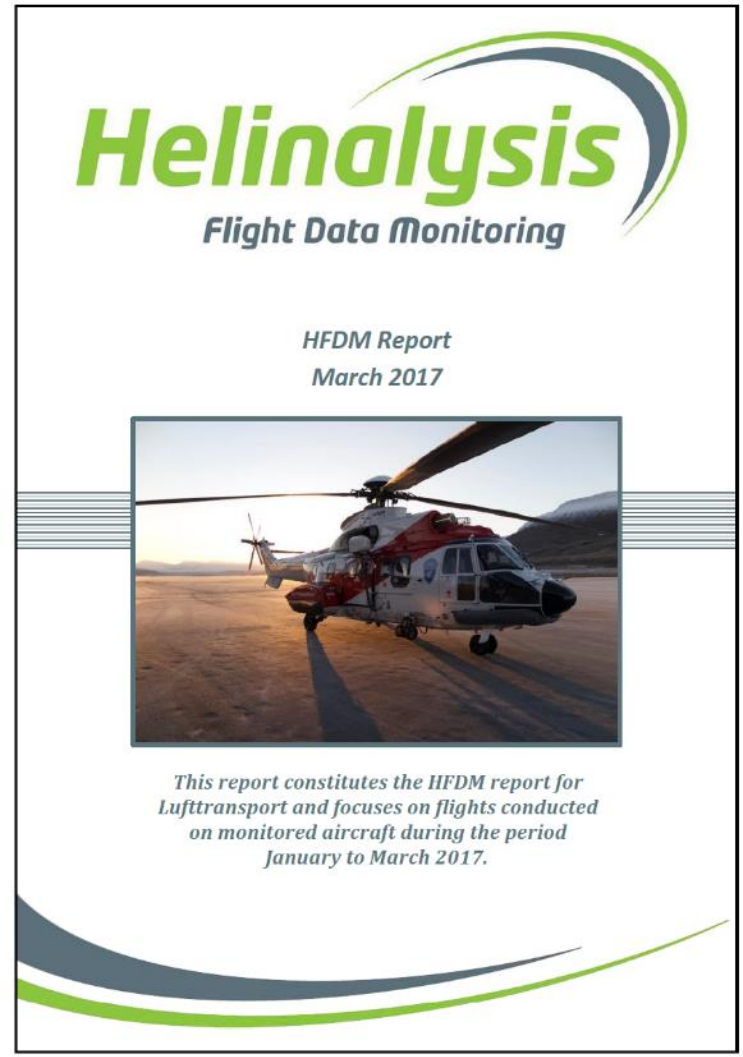
Reviewing the output

Updating parameters

Core team relationships

Experience

Takes time..



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SUPERVISORY TEAM

Crew

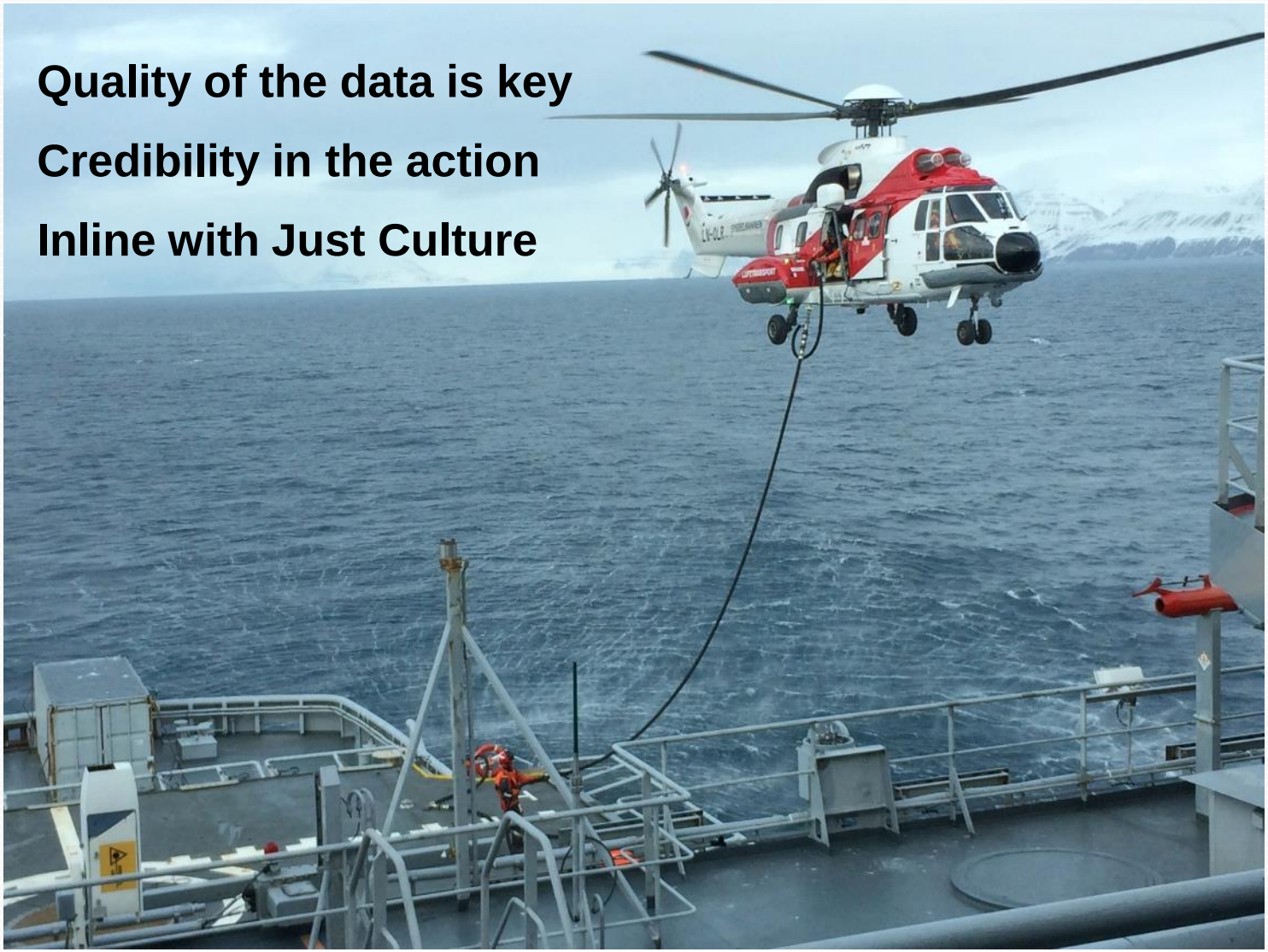
Outside of the operation

Credibility

Trust

Compliance

ACTIONS



Quality of the data is key

Credibility in the action

Inline with Just Culture

EXTERNAL PLAYERS

Data Protection

Police Investigations

Management support

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