



Accident and incident risk analysis challenges and opportunities

11th and 12th of July 2023



Service Center



AGUSTAWESTLAND PRODUCTS
AUTHORIZED SERVICE CENTRE





- Since 2008;
- HELICONIA has operated in 12 different countries;
- 2023 : 60 m\$, 15 helicopters, staff of 150
 - **Offshore & SAR**
 - ✓ Headquarters in Casablanca;
 - ✓ AOC in Senegal & Ghana with 9 x AW139;
 - **Onshore**
 - ✓ Headquarters in Marrakch
 - ✓ Moroccan AOC with 5 x AS350 & 1 x EC135



Offshore
(oil & gas, SAR)



PETRONAS



galp energia ExxonMobil

Critical industries



Medical evacuation



Morocco radiance



5 months, 2 helicopters, powerlines supplied with electrical current, summer temperatures, remote areas, fuel and water to be supplied on the operating sites, paid on a productivity criteria :

- Pilot adequacy : 3 over 7;
- Fatigue management;
- Specific training to the electrical risks;
- Maintenance on remote (moving) operating sites.



State-of-the-art IT system

Office 365

- **SharePoint:** Used for document storage and sharing platform
- **OneDrive for Business:** Used for document collaboration
- **Teams:** Used for online meetings
- **Exchange:** Company emails hosted in MS Office 365 platform
- **Excel:** Used for analysis, reports, KPIs and internal applications

Power BI

Used for data analysis and visualization, decision support through dashboards

TSPlus

Remote access and application delivery software that ensures secured remote connections to the servers for unlimited users

MagicFax

Sending and receiving faxes online

MantisHub

Ticketing system for user support

AD Software

CAMO/MRO Software for Onshore & Offshore fleet

OEM Technical Publications (Non exhaustive)

Leonardo AW139 IETP | PWC – Maintenance Manual & IPC | O.R.I.O.N. (Airbus interactive online viewer) - access to the complete range of up-to-date Airbus technical documentation

SmartSheet

Project management tool used for all project (Commercial meetings, Audits schedule, Tenders, Operator Gap assessments, New base start-up...)

Sage 100 COMMERCIAL 100c

Manages the entire commercial chain (prospects, leads, quotations, orders, invoices...)

Sage 100 ACCOUNTING

Accounting and financial management solution used for both Offshore & Onshore businesses

Sage 100 PAYROLL & HR 100c

Production of pay slips and social statements

Intra Links

Creation of a Virtual Data Room within the due diligence process

KONTA

Purchase order management and supplier invoice management

IQSMS

Safety, Quality and Risk Management System. Included modules: Quality Management, Reporting, Risk Management, Document Distribution

Visual Planning

Planning software with several environments: Commercial, A/C allocation, accommodation follow-up, vehicles follow up, rostering (both pilots and engineers), qualifications follow-up with automatic reminders

Helinanalysis

FDM (Flight Data Monitoring) service provider used to monitor our Offshore fleet. Data are being uploaded by Engineers using PCMCIA card at the base after each flight

SkyTrac / Helisafe

Flight following for resp. Offshore & Onshore fleet

● All Departments

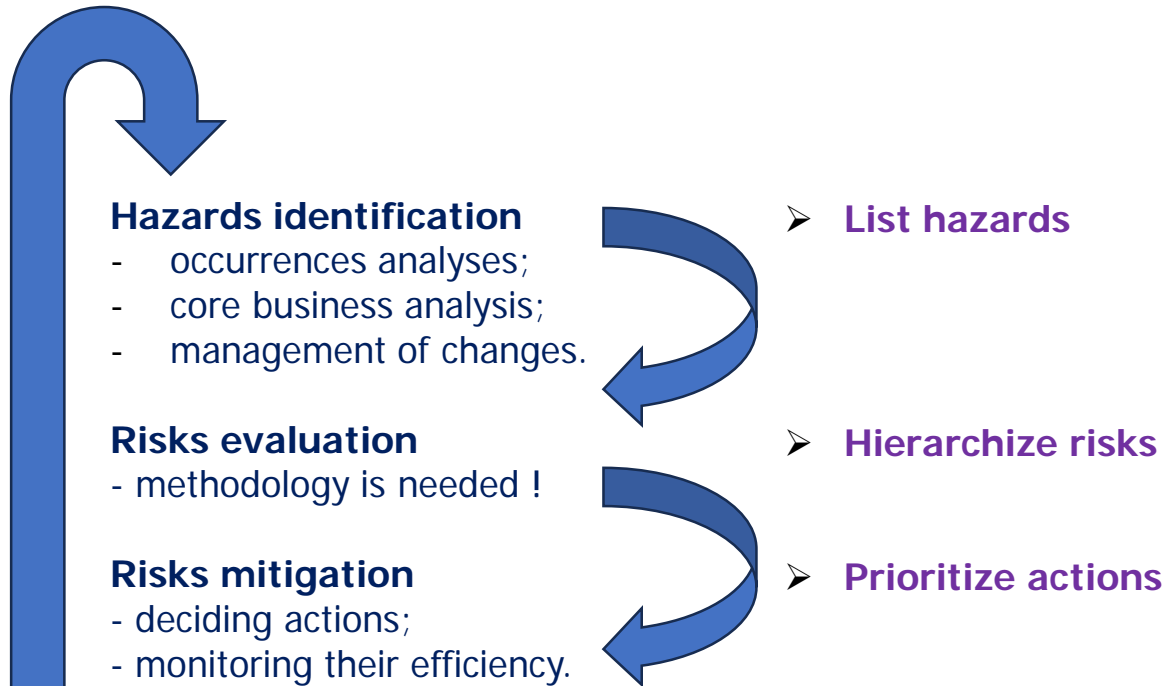
● Finance

● HR

● Safety & Quality

● Operations

● Tech. Services



Compliance of regulation is the basis of Safety.

But regulation is focused on “airfield to airfield” public transport and does not address the variety of the helicopter missions and environments.

As a consequence, an helicopter operator *Safety Management System* MUST give great importance to its **“missions specific” risk assessment.**

Challenges & opportunities :

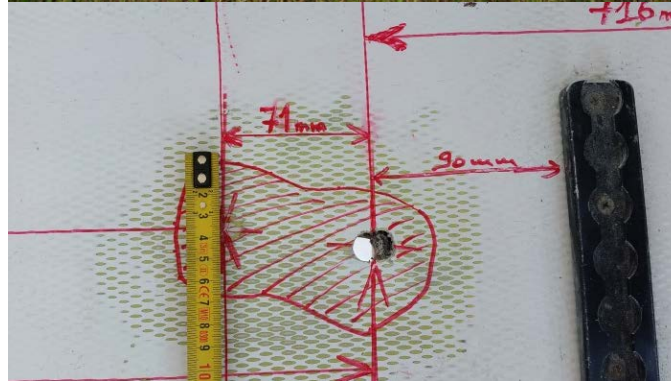
- ✓ size of most helicopter operators versus the versatility of their missions does not enable to learn from their own experience, sharing experience with other operators and reading accident reports worldwide is key to identify its own hazards;
- ✓ a good internal reporting culture will translate in # 250 occurrence or hazard reports per 10.000 flying hours, # 10% from ground staff, 30 % from maintenance and 60% from aircrews;
- ✓ coming accident is maybe not revealed by past occurrences, brainstorming and mobilizing staff experience is essential.

The “universal” helicopter pilot, capable of all missions, does not exist :

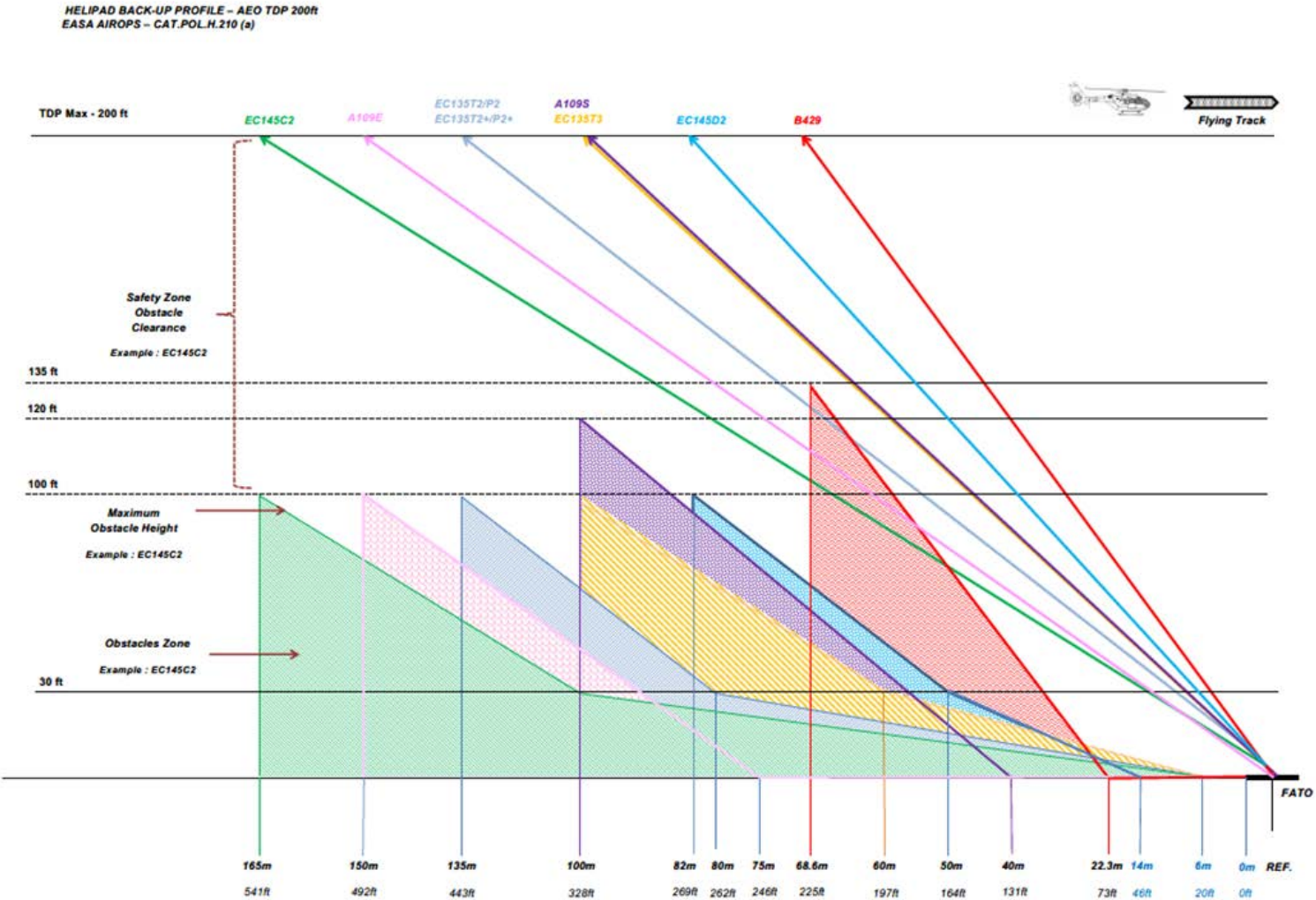
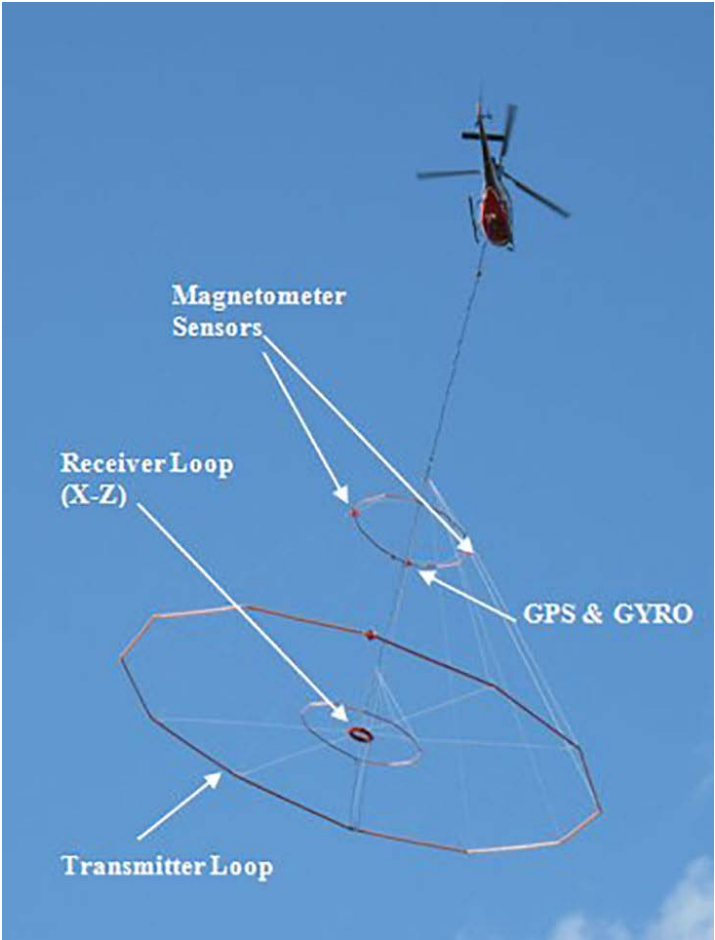
- champions of single engine sling works converting to twin engine HEMS : 100% failed during selection or training;
- long line versus short line;
- vertical window / bubble window versus mirror;
- logging with radio guidance versus visual sight;
- specific systems.



- Hovering on a tiny island with sea waves for reference : one pilot over hundred;
- Taking off by night from a small island :
 - IFR skills required;
- Evaluating the slope;
- Identifying the ground hazards.



- PC1 HEMS : operator mapping of the obstacles is needed for each and every hospital helipad;
- geophysics in mountainous terrain : critical performance is not on take-off and landing, complying with OGE hover not enough;
- external loads never comply with the contract !



Conditions of line maintenance is frequently adverse because helicopters are frequently operating from remote areas with no infrastructure.

But they are very mechanical with several critical parts subject to vibratory fatigue, enabling rapid propagation of failures.

- Attention given to low interval checks is critical on helicopters.
- Engineers must be protected from time / mission pressure;

3 times in my (25 years) career an engineer saved the helo from a likely crash at next flight :

- post flight inspection of a Super-Puma after first flight after overhaul : loosed rotating scissor;
- daily check of a Dauphin : fractured rotating scissor;
- 50 hours check of an 109 carried out by night on the roof helipad of an hospital : major crack below a tail rotor transmission shaft bearing.



THANK YOU !

