

Error Management in the Royal Air Force

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Scope

- Why
- What
- How
- Results !



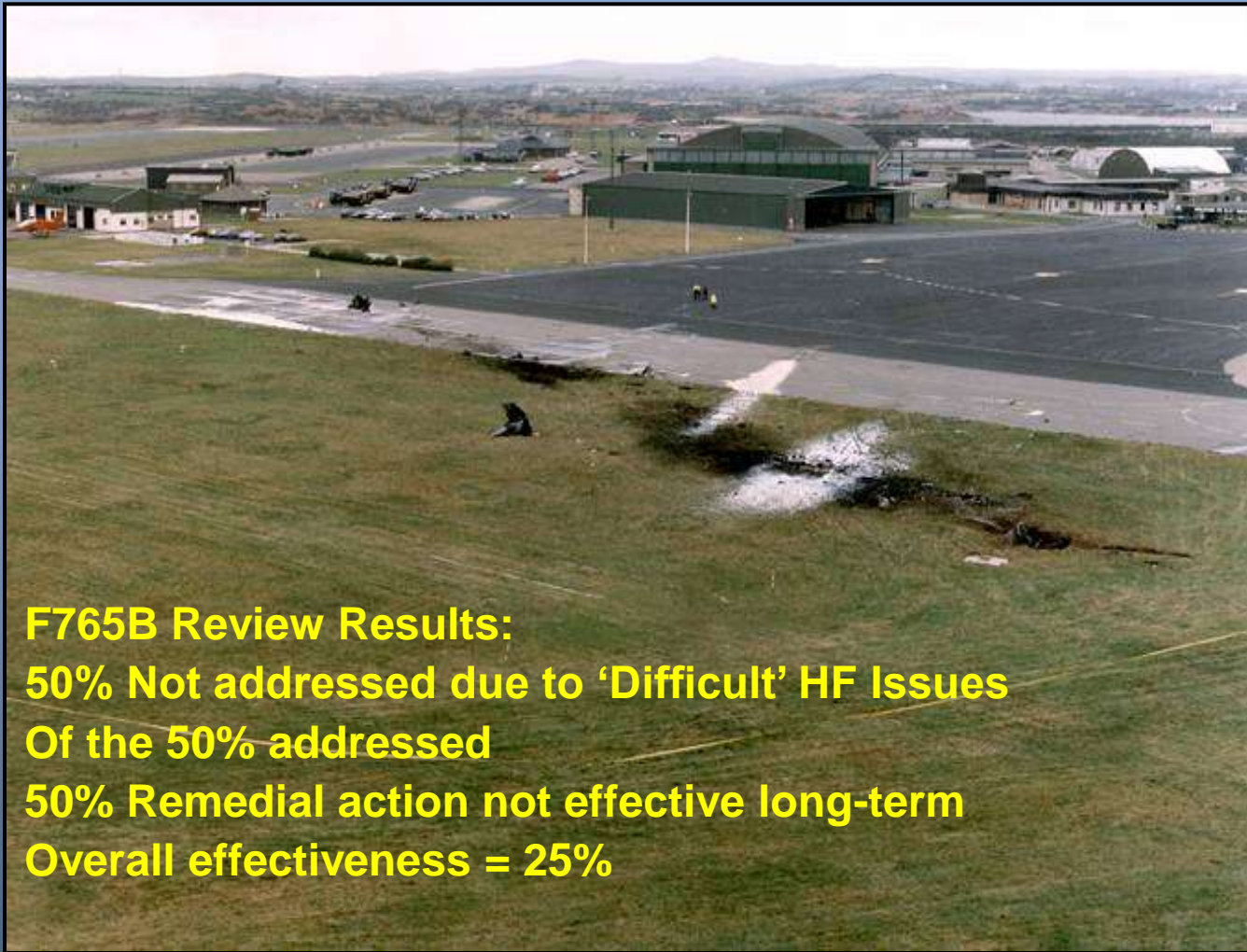


Understand and Train to Mitigate Risk



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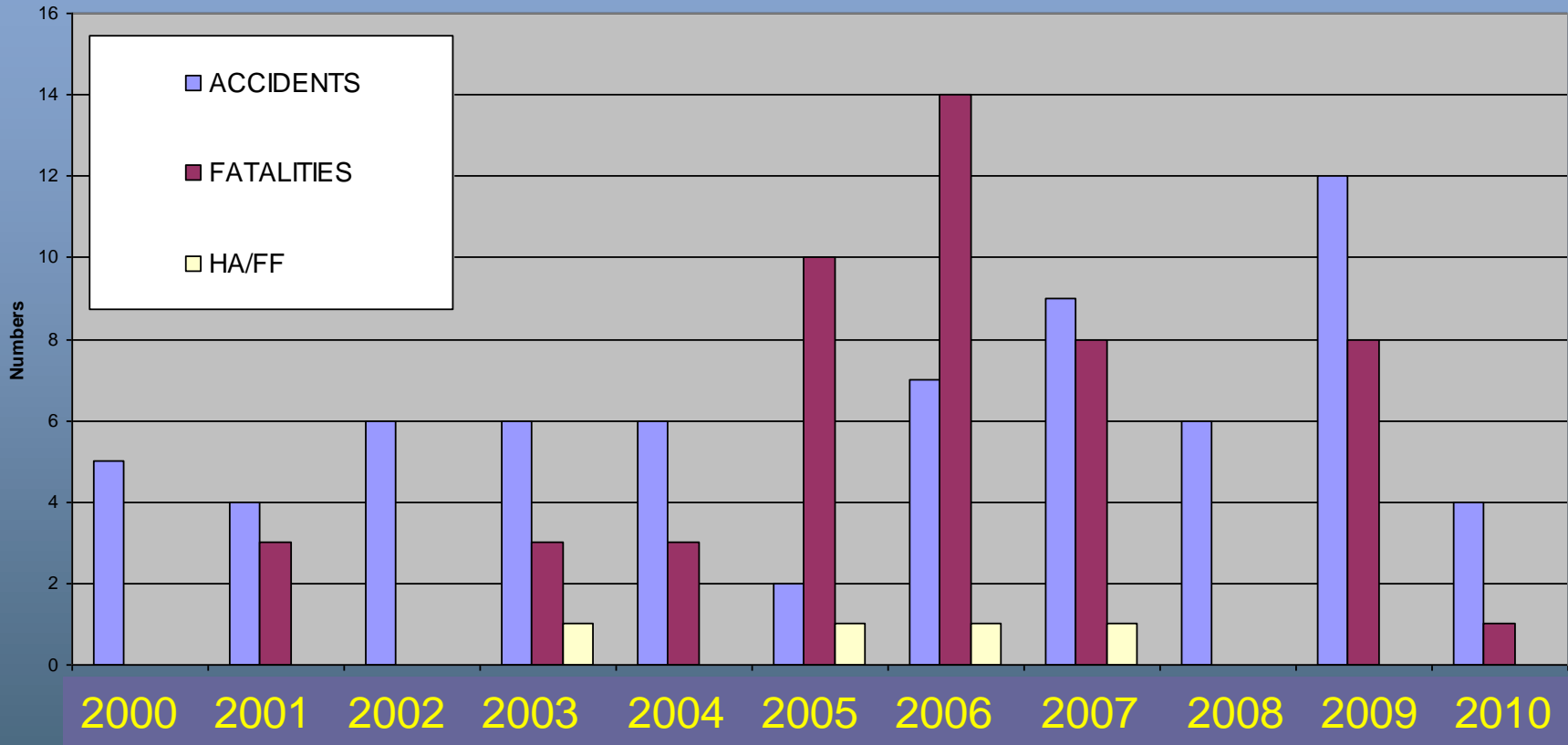
Engineering Investigation Reports - 2008 Review



F765B Review Results:
50% Not addressed due to 'Difficult' HF Issues
Of the 50% addressed
50% Remedial action not effective long-term
Overall effectiveness = 25%

Do we really understand HF ?

RAF Accident Statistics



Human Factors



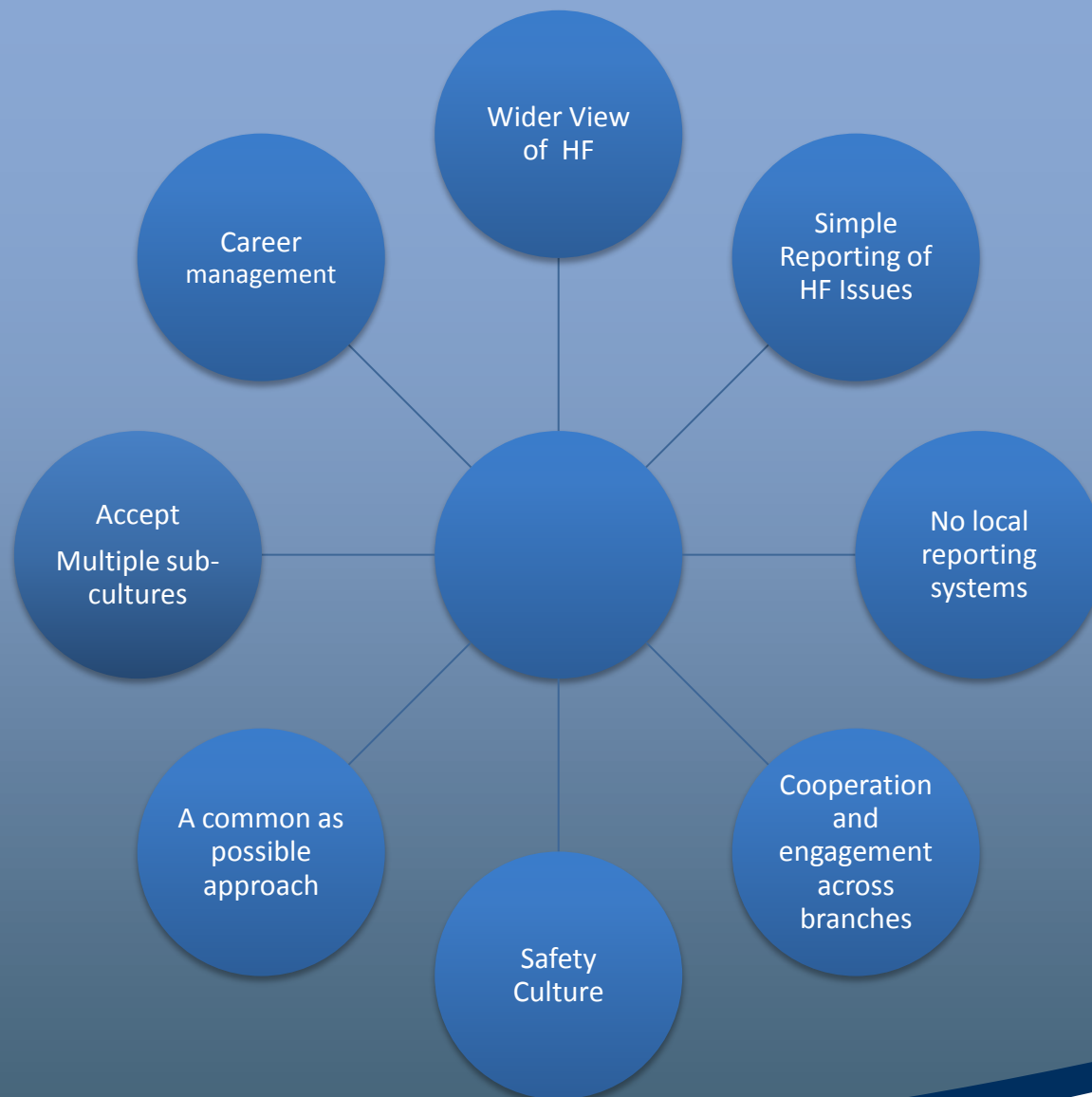
Every aviation accident (non-combat) in the RAF in the past 18 months was primarily attributable to Human Factors

What

- Violation
- Cognitive Failure
- Confirmation Bias







Challenges

- Extreme Environment – hot/cold and dusty airfields (Theatre Ops)
- Foreign Object Debris
- Antiquity of airfields – surfaces breaking up
- Legacy equipment - experience/ skill fade
- Proximity of aircraft – formation take-offs/ operational airfields
- Air-to-air refuelling – complex and interdependent
- Military airfields – large diverse populous – diluted knowledge
- Works programmes – unfamiliar contractors – diluted knowledge

How

- Establishing a 'Just Culture'
 - Reporting Culture – we need to know about things
 - Flexible Culture – we need to be able to do something
- Error Reporting
 - Tripled in the last year
 - Now need the 'near-misses'
 - Iceberg Principle
- MEMS transition to AEMS and 'Four Worlds'
 - Engineers, Aircrew, Air Traffic and Direct Sp Services
 - RAF already ahead of MOD in transition

Analysis

Analysis of HF and Error Reports

- One common defence wide system
- Consistent coding
- Multiple levels of analysis
- Effectively shared lessons
- Quality feedback
- Effective interventions

Drive the need for full-time specialist posts

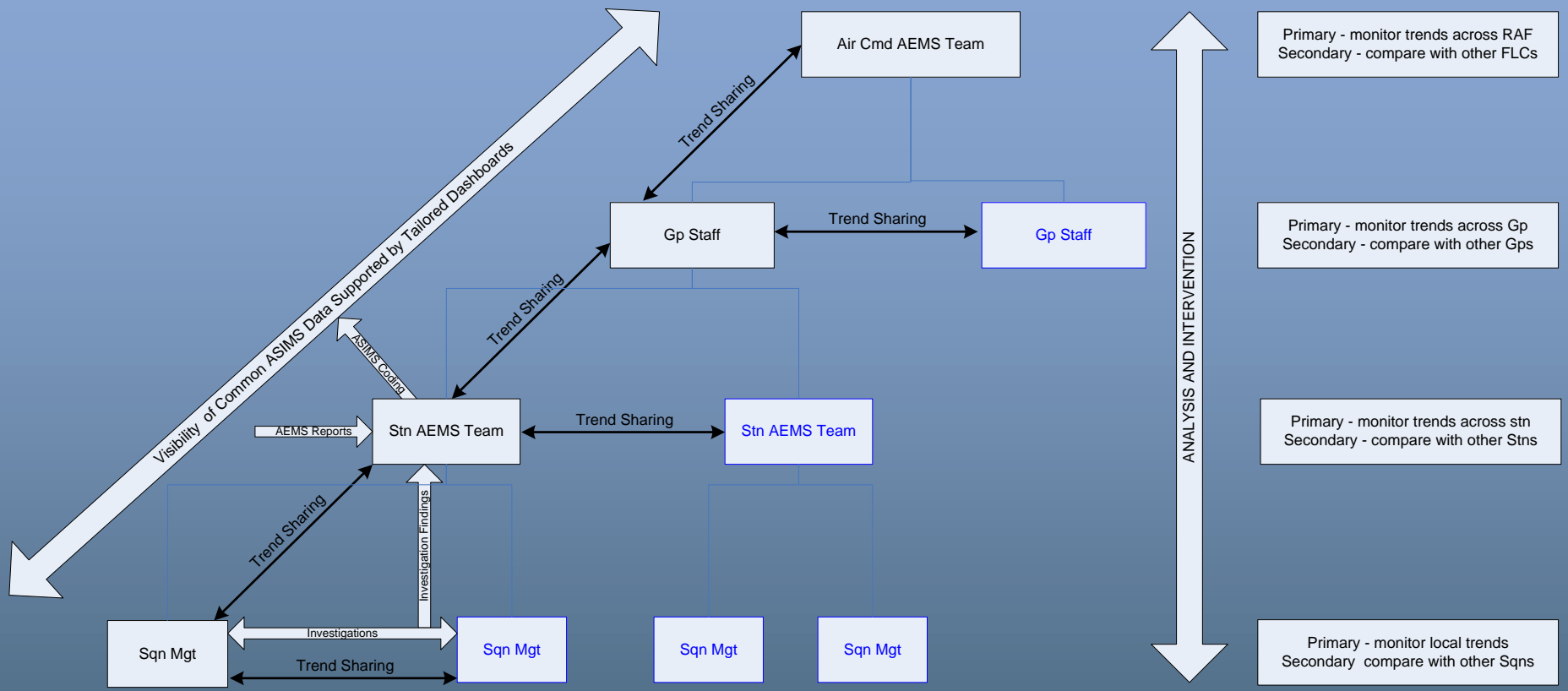


Figure 1 AEMS Data Analysis and Trending

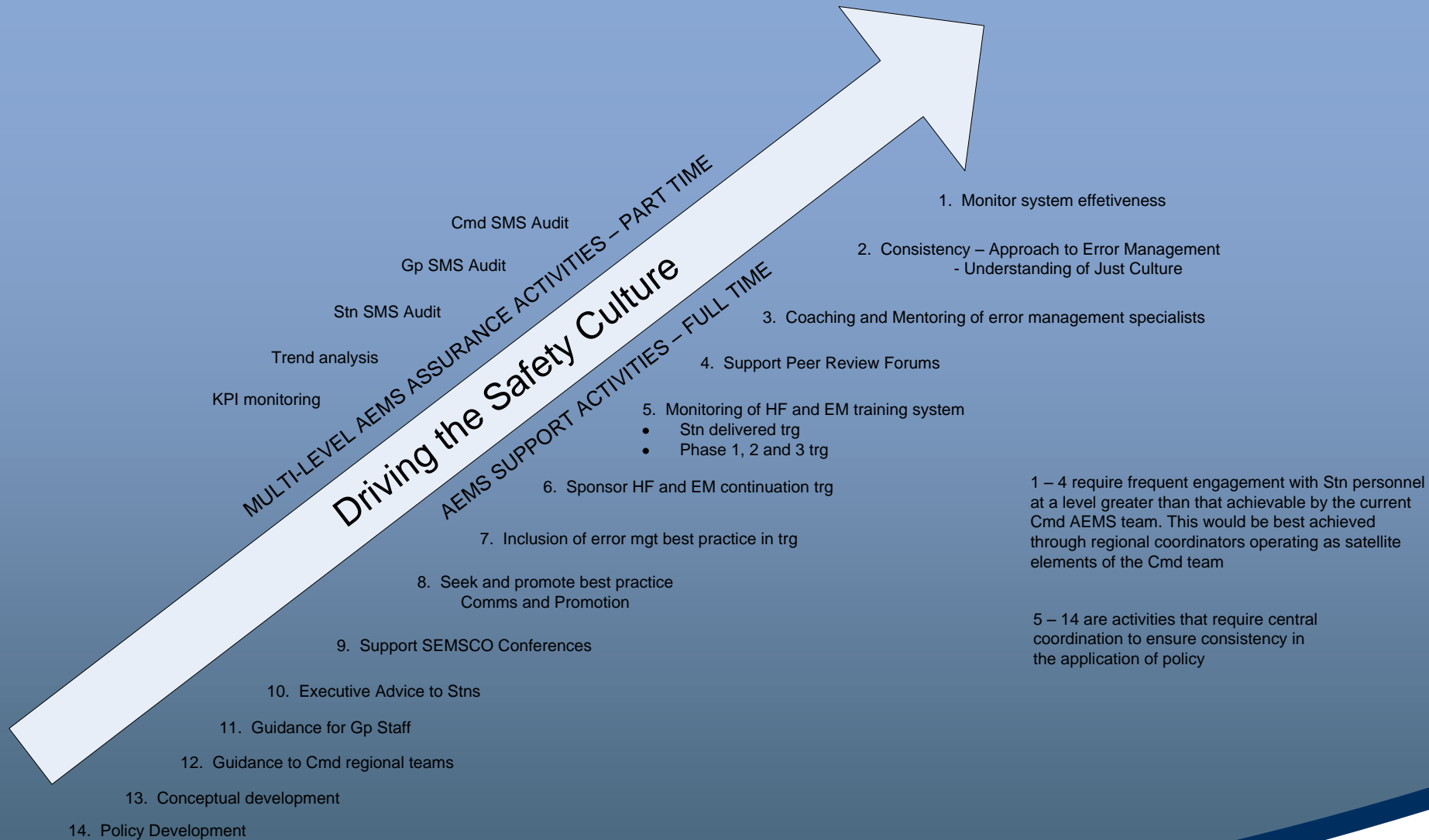


Figure 2 AEMS Activities as Drivers for a Safety Culture

Resource

People are key:

- Specialist Coordinators.
- HF Investigators
- Properly trained review group personnel
- Suitably Qualified and Experienced Personnel (SQEP)

HF Investigation

Part-time investigators:

- Part of the workforce
- Current experience
- Already busy people - primary duties, station diversions
- Management resistance – perceived duration of investigations

Full-time investigators:

- Increased level of independence
- Not be impacted by duties or diversions
- Broader multi-aircraft/Station experience
- Improved consistency and effectiveness of investigations
- Coaching and mentoring of part-time investigators

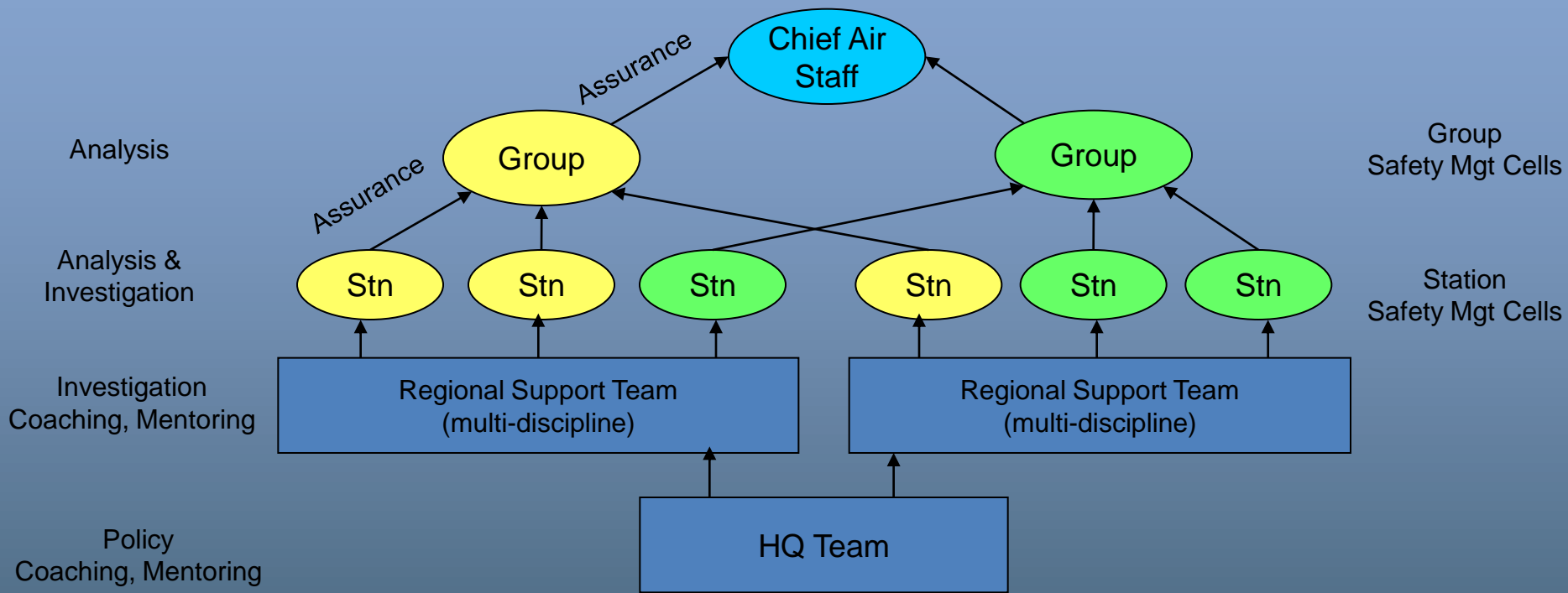
Assurance & Support

Assurance:

- System assurance is underpinned by policy, the adherence to which is checked through audit .
- The EMS should be integral to the SMS of the organisation.
- Tiered assurance through duty holder construct.

Support

- Direct support to the stations in the form of coaching and mentoring of the Error Management specialists.
- Frequent engagement with the stations
- Aims to mitigate some of the challenges faced, particularly system drift and experience dilution through churn.

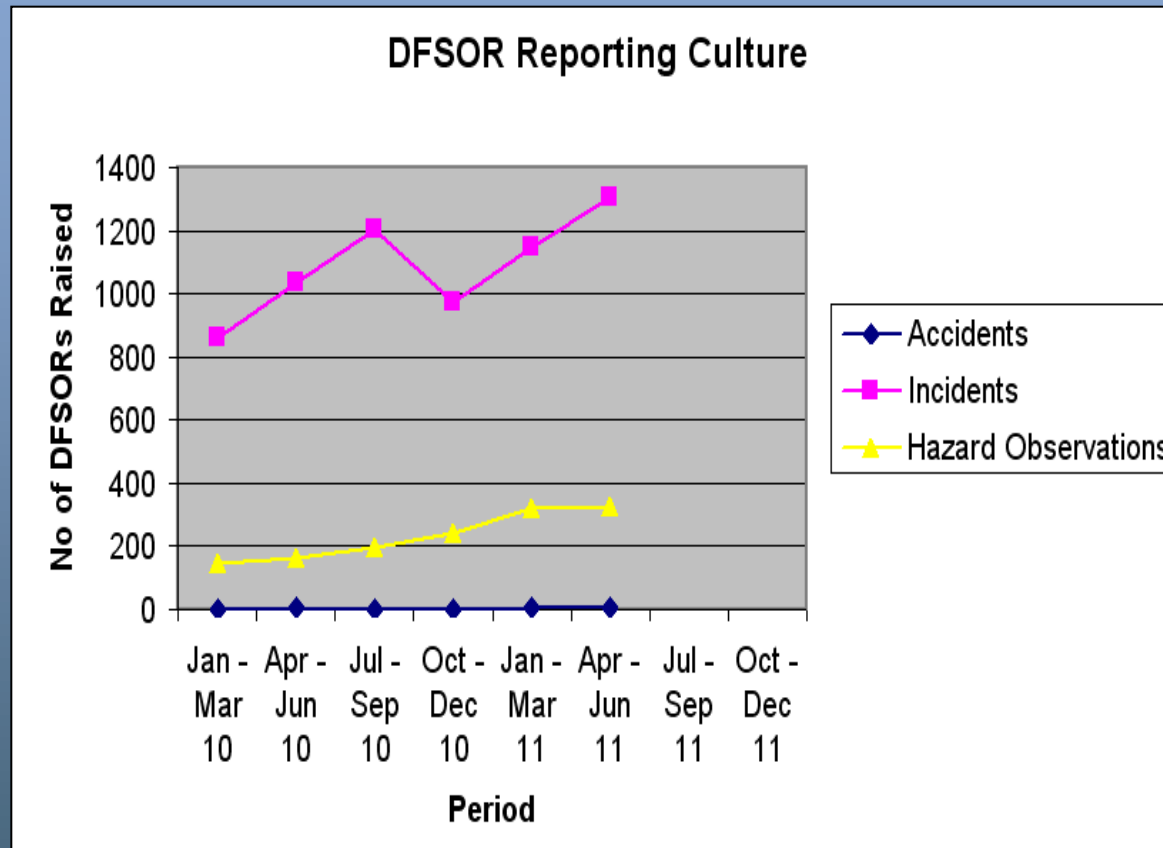


Reporting

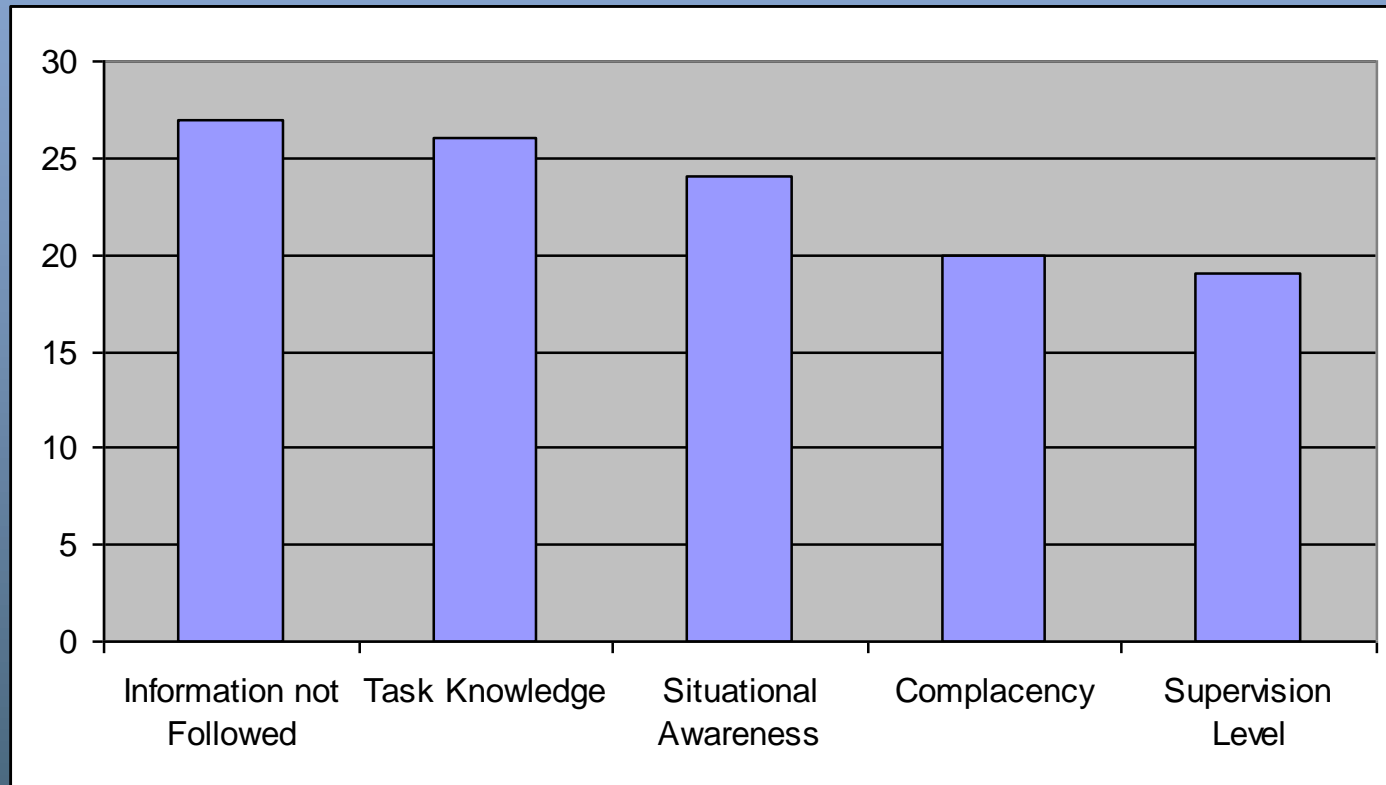
- Defence Air Safety Occurrence Report (D-ASOR/ D-FSOR)
- Defence Confidential Occurrence Reporting
- Aviation Error Management System



Reporting Trends



Top 5 Contributory Factors



718 Reports, 98 Investigations

Interventions

- Elevated Flight Safety Focus
- HF Training (Phase 1, 2, through life)
- Enhanced Analysis Tools
- Refresher Training
- Publicity
- Identifying & Utilising Best Practice, CI

Data Source



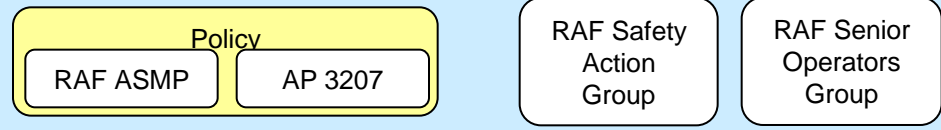
Data Analysis



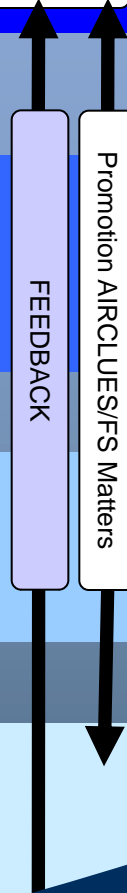
Reporting



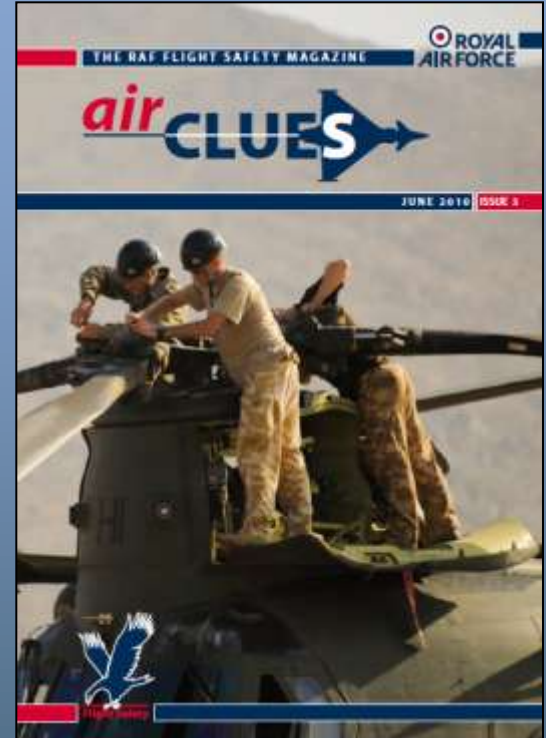
Safety Planning



Assurance Mechanism



Feedback



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RAF Flight Safety Homepage

Welcome to the Royal Air Force Flight Safety intranet site. We are here to advise all Air Command staff, including the Group HQ staff, their commanders and all AIR SFSOs, on all aviation safety related topics. We are also the Operational Sponsors for Post Crash Management for the RAF.

The RAF Flight Safety Team at HQ Air Command are also responsible for the staffing of all aviation safety Service Inquiries convened by DG MAA for any air accident involving RAF personnel or material. We are located in Lancaster Block, however if you are unable to make a personal visit, we can be contacted via Df, the World Wide Web or telephone.

If you have any comments about the website please contact us at:
075221 Ext 6666 or RAF.Flight.Safety@MOD.UK

WHAT HAVE YOU DONE FOR FLIGHT SAFETY TODAY?

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Hercules XV 304 RAF Brize Norton



Simple Error – Huge Consequence



Missed on AF and BF

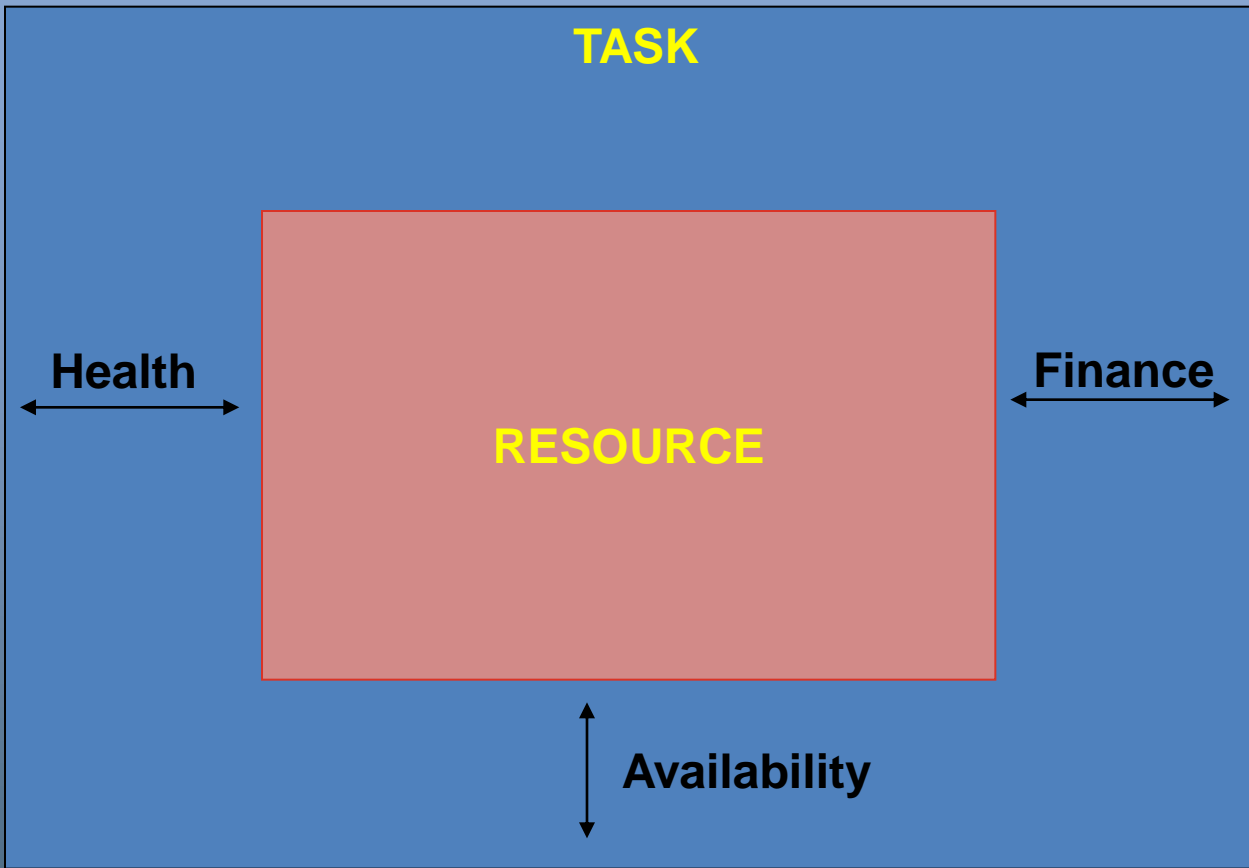




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Thoughts

- Education
- Financial commitment
- Passion – Just knowing it is the right thing to do should be enough.
- Growing an SMS
- Coherent safety management plans
- Bringing together Airworthiness and Flight Safety
- Aspiration for Total Safety approach



Maximizing

Air Safety Starts with



!



See it, Own it, **Report it**