

Airworthiness and Utilising Safety Data for Enhanced Decision-Making in Military Aviation

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Organisation



Scope

- Introduction
- Overview of Military Aviation Organisation
- Safety Data for Surveillance and Oversight
- Safety Data for Decision Making
- Challenges and Considerations
- Aviation SMS/QMS Implementation
- Data Collection and Analysis Methods
- Future Directions



Introduction



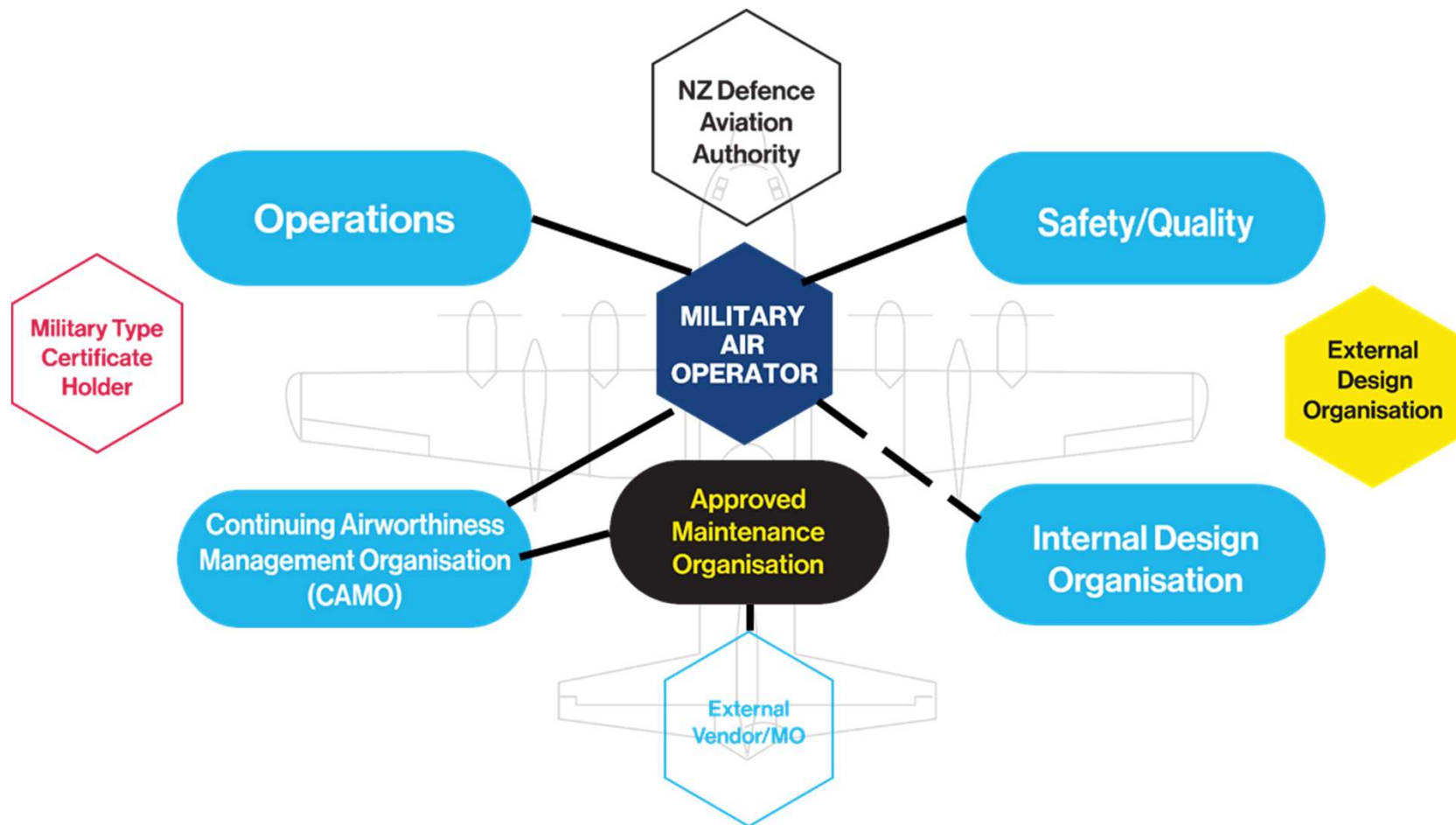
Overview of Military Aviation Organisation



THE NIMROD REVIEW

An independent review into the broader issues
surrounding the loss of the RAF Nimrod MR2
Aircraft XV230 in Afghanistan in 2006

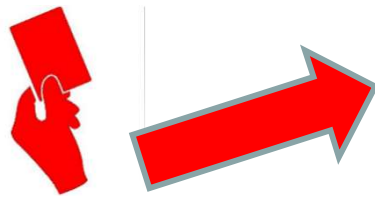
Overview of Military Aviation Organisation



Overview of Military Aviation Organisation



CDF



DDAA

Operating

Technical

Safety

Regulator (Authority)

NZ Defence Aviation Authority 'The Authority'
– Establishes and maintains the NZDF Aviation Safety Programme which assures safe military air operations.

MAO(AM)

OHAKA

AUCKLAND

Regulated (Operator)

The Operator ensures safe operations through compliance with the NZDF Aviation Safety Programme.

Overview of Military Aviation Organisation



Overview of Military Aviation Organisation



Regulated Community



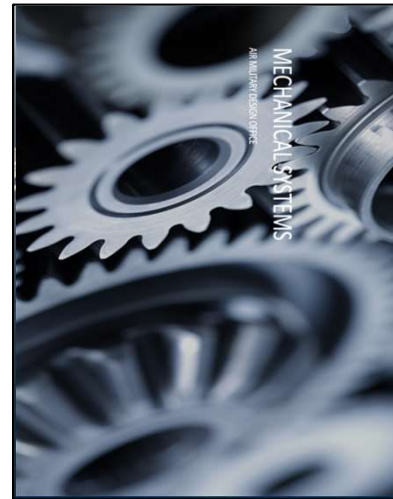
Military Air
Operator
/ CAMO



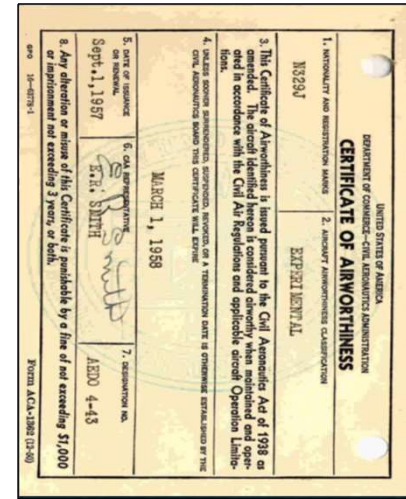
Approved
Maintenance
Organisation



Approved
Training
Organisation



Military
Design
Organisation

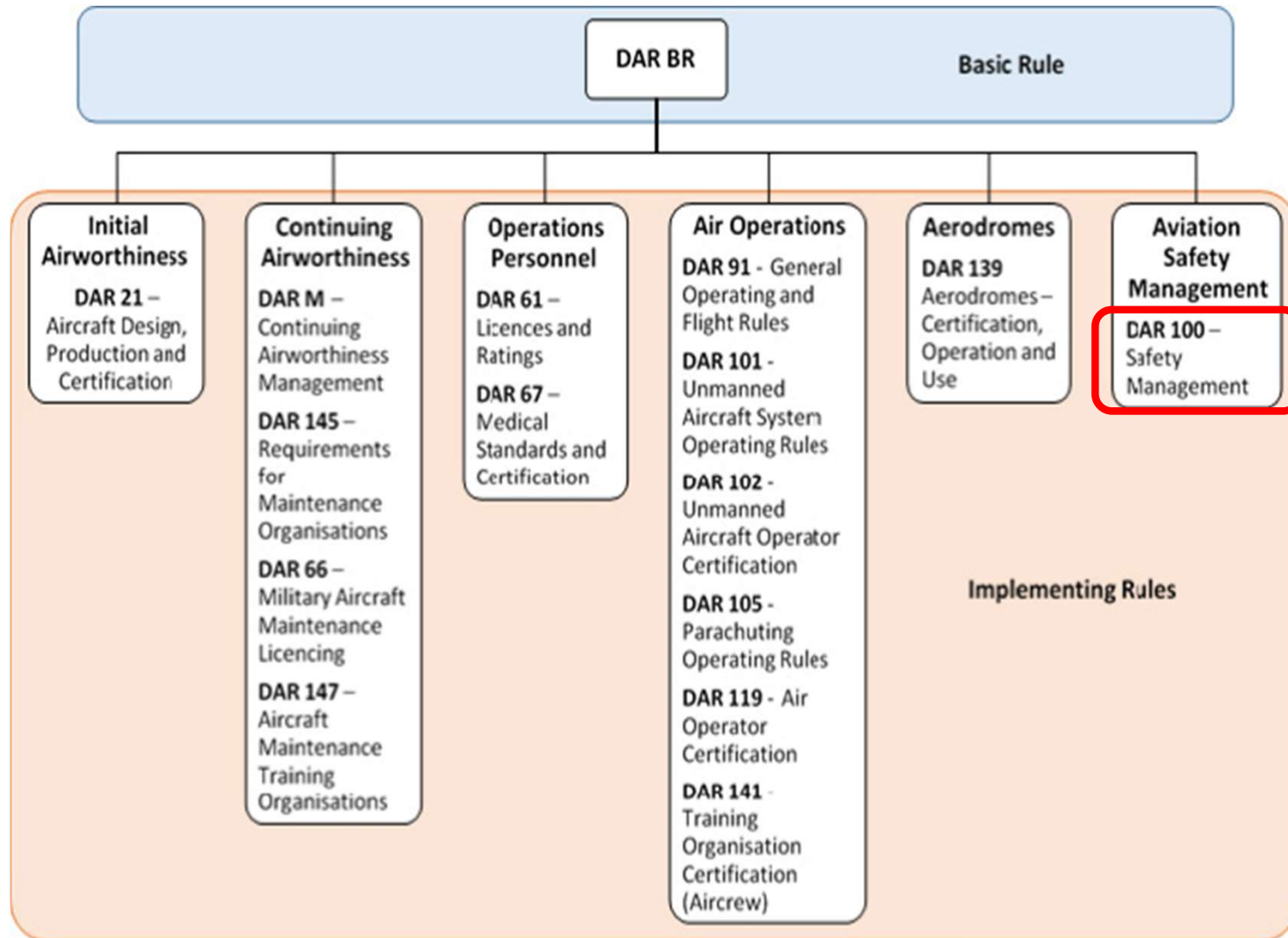


Military
Type
Certificate
Holder

Overview of Military Aviation Organisation



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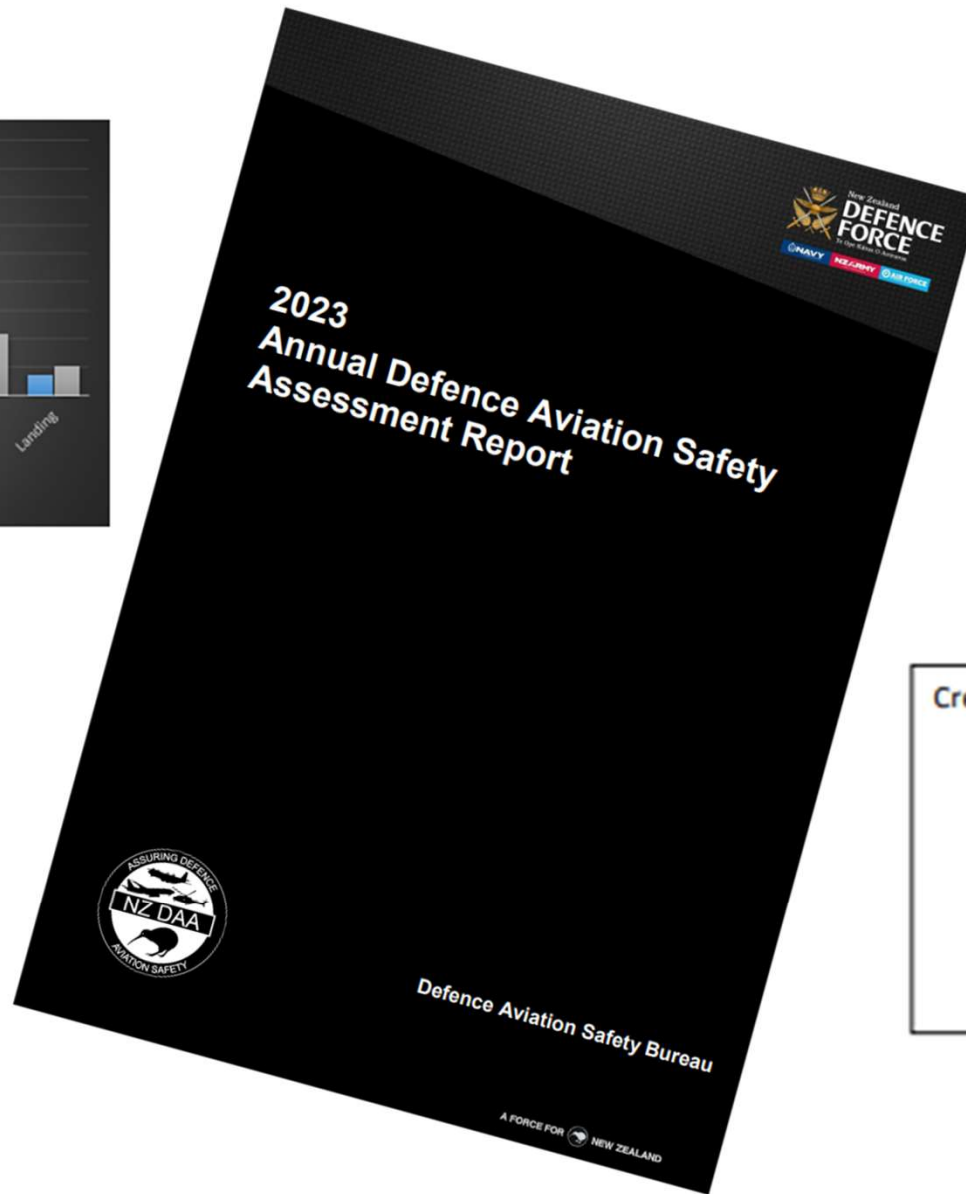
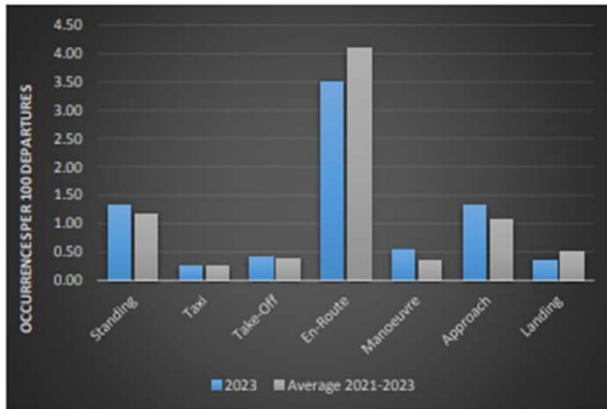
Safety Data for Surveillance and Oversight



- Unique access to regulated community data
- Review Boards
- Independent analysis and oversight
- Military Air operator Monthly Aviation Safety report
- Independent Reports by Aviation System



Safety Data for Surveillance and Oversight



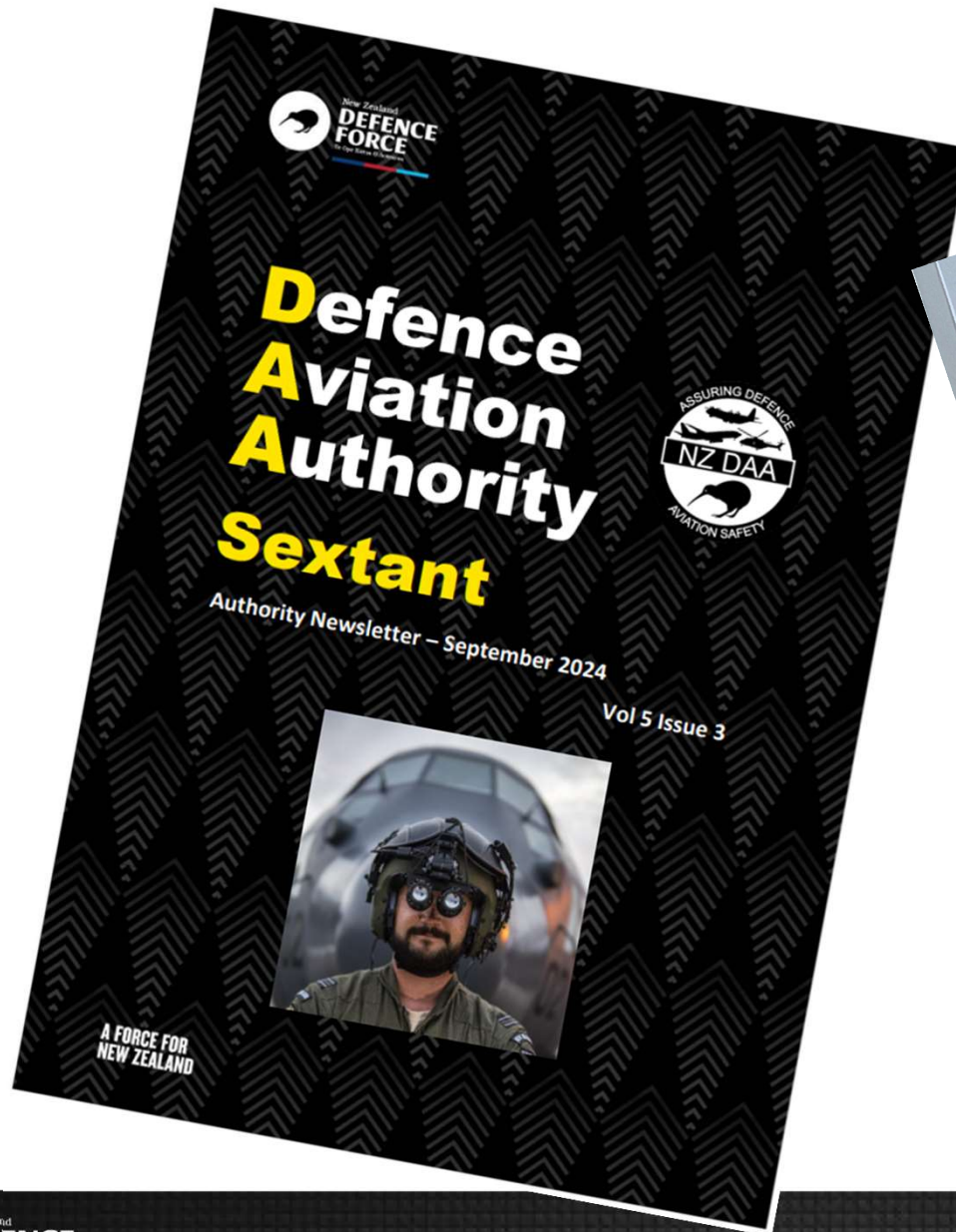
Credible accident scenarios

- Mid-air collision
- CFIT
- Runway excursions
- Runway incursions
- Dangerous Air Cargo

Safety Data for Promotion



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Challenges and Considerations



- Challenges and Considerations
 - Data consistency
 - Healthy reporting cultures
 - Small data sets



Challenges and Considerations



- Challenges and Considerations
 - Data consistency
 - Healthy reporting cultures
 - Small data sets
- Information management tools
- Overreliance on data
- Privacy and security
- Cost and complexity





The RNZAF ASMS Journey



Data Collection and Analysis Methods



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1.3 Aviation Safety Management System

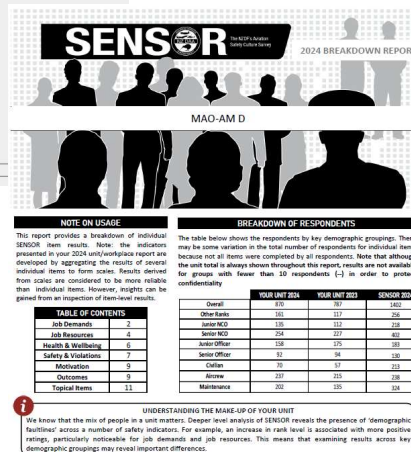
RNZAF AVIATION SAFETY EVENT DATABASE

AvSE User Guides NZAP 202 ISMS HFACS 8.0

Enter a New AvSE Work on an AvSE Search AvSEs Aviation Safety Office Only



People First, Mission Always



MAO Monthly Aviation Safety Dashboard

	Safety Policy and Objectives	Risk Management (and reporting)	Oversight and Improvement			Safety Promotion (and Training)	
	SMS Plans reviewed, ERP's reviewed and exercised	BASMC meetings, Trend analysis completed	AvSE Mean Days	AvSE Overdue	Unit SMS Completion	Training and promotion activities completed	
JAN	83%	100%	81.7	33.0	78%	80%	JAN
FEB	83%	100%	84.1	35.0	80%	88%	FEB
MAR	83%	100%	84.9	29.0	80%	88%	MAR
APR	83%	100%	87.2	24.0	88%	75%	APR
MAY	83%	100%	91.2	26.0	87%	88%	MAY
JUN	83%	100%	93.9	27.0	87%	88%	JUN
JUL	83%	100%	93.2	23.0	81%	88%	JUL
AUG	83%	100%	91.3	29.0	82%	88%	AUG

Current Month

Summary Comments

Safety Policy and Objectives	OH BAST still to attend an ERP (there has been difficulty finding one to attend). ASMs for Managers Part 2 training has been developed, and is being organised in both Ohakea and Auckland for units to attend.
Risk Management (and reporting)	Reporting remains high. There is work being completed to ensure accuracy of reporting for when the Power BI Dashboard is introduced. There has also been a significant increase of reports for the rotary sector - this is due to the NH90 cabin sliding door frequently becoming unlatched during flight.
Oversight and Improvement	OH AvSE mean days to completion continues to decline. However, overdue AvSE's have increased due to key personnel being away. AK AvSE mean days to completion and overdue AvSE's have slightly increased by 1-2 days. Pan-fleet precursor events: There has been a slight increase in CFIT, mid-air, excursion and parachute packing occurrences. Incursion and LOCI precursor events remain steady.
Safety Promotion (and Training)	All aspects have been completed apart from producing an article for DASH. First ASI course was successfully run in Ohakea on 21 Aug 24. Auckland is running their ASI course on 08 Oct 24.





Safety Data for Decision Making



Department of the Air Force Guide

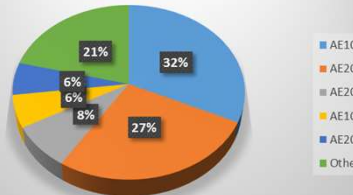
Department of Defense

HFACS 8.0

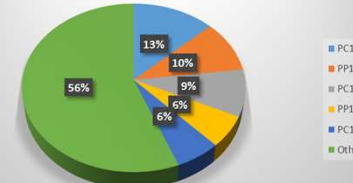
Human Factors Analysis and Classification System



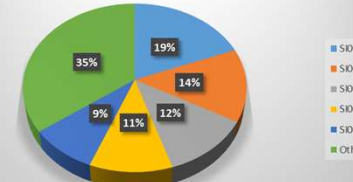
Unsafe Acts



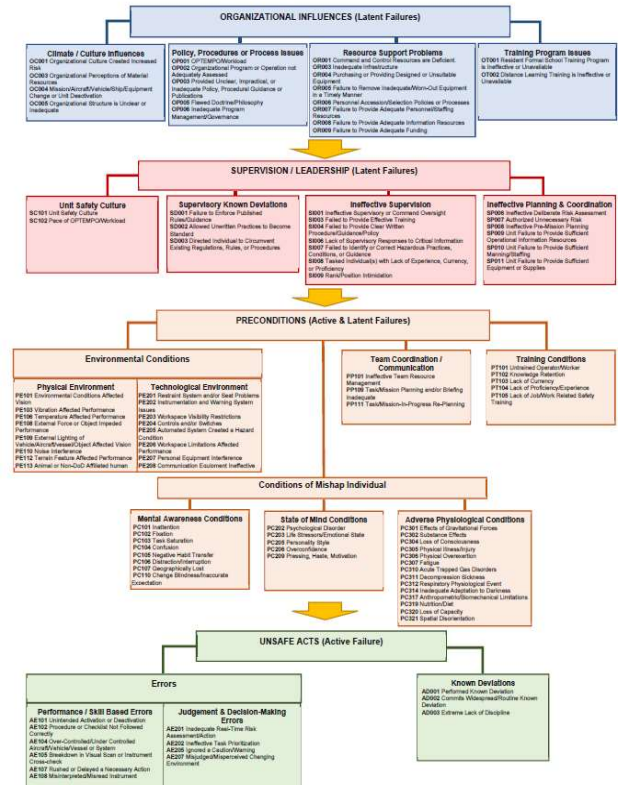
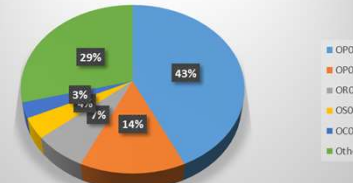
Pre Conditions



supervisory issues

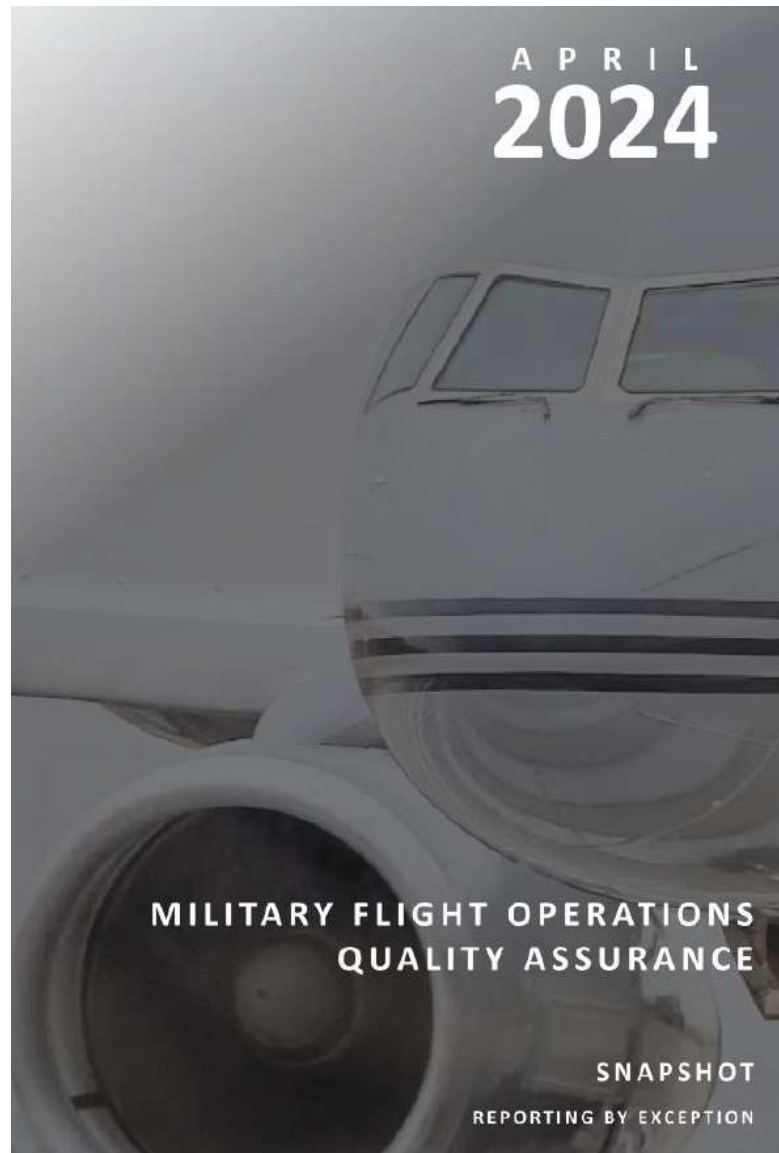


organisational issues



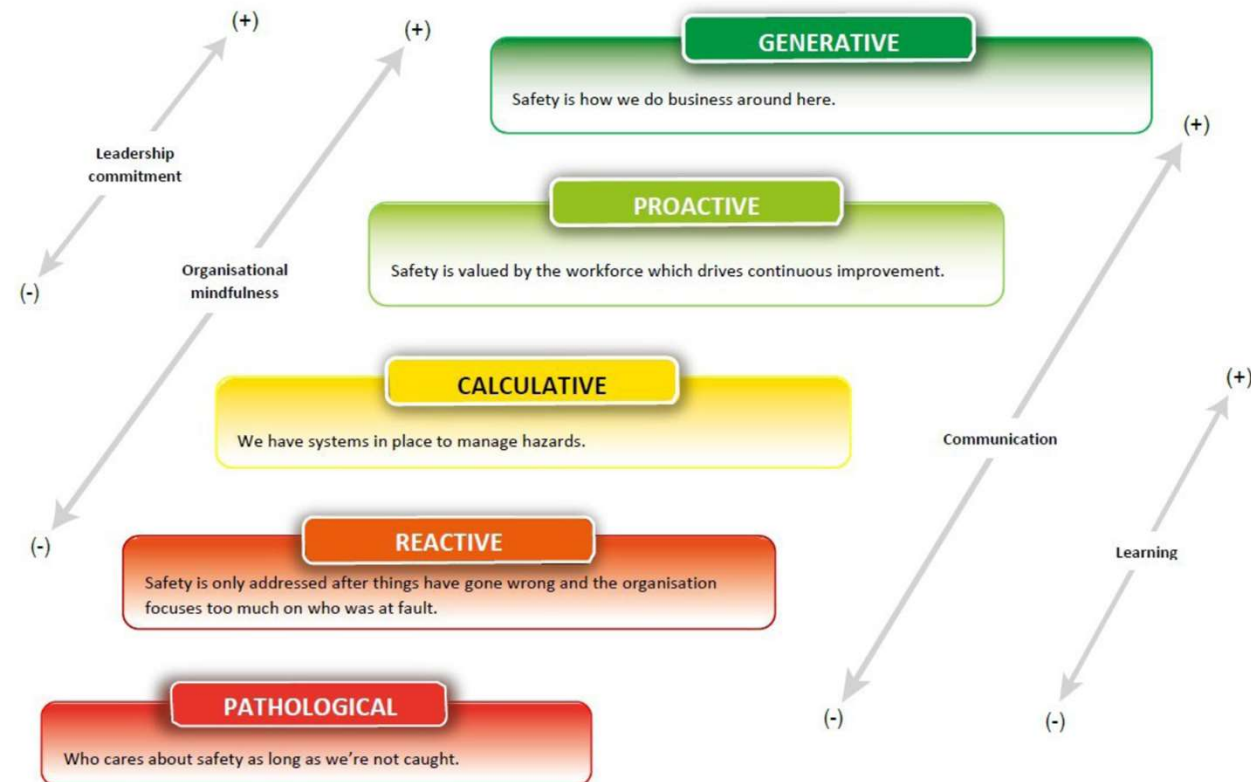


Case Studies and Examples



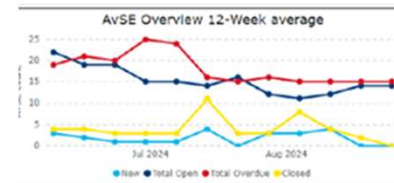
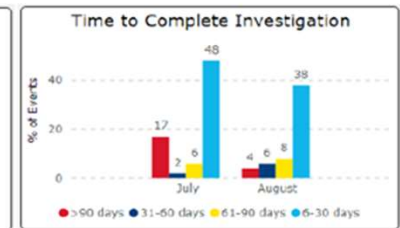
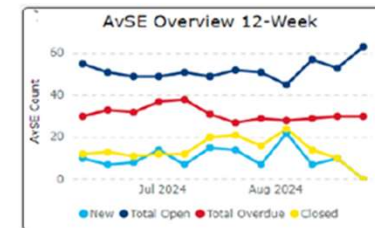
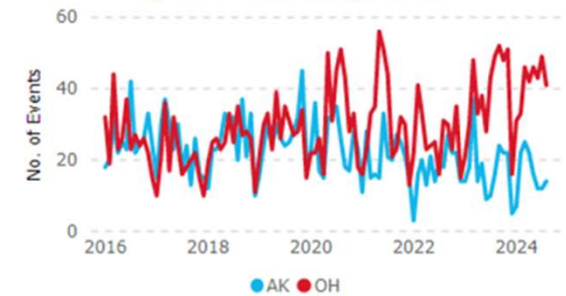


Future Directions

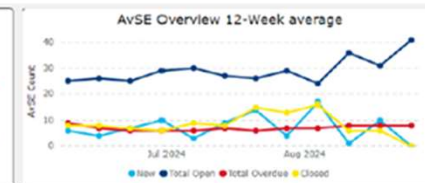


1.3.1 ASMS Hazard reporting

Historical Monthly Trend



Auckland AvSE throughput

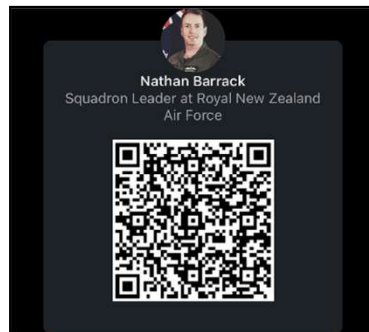


Ohakea AvSE throughput

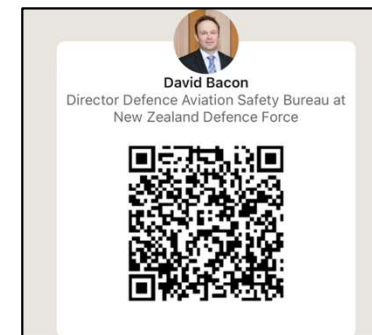


Microsoft

Conclusion



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Questions?



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