

# **Build-up of Regional Cooperation in Air Accident Investigation**



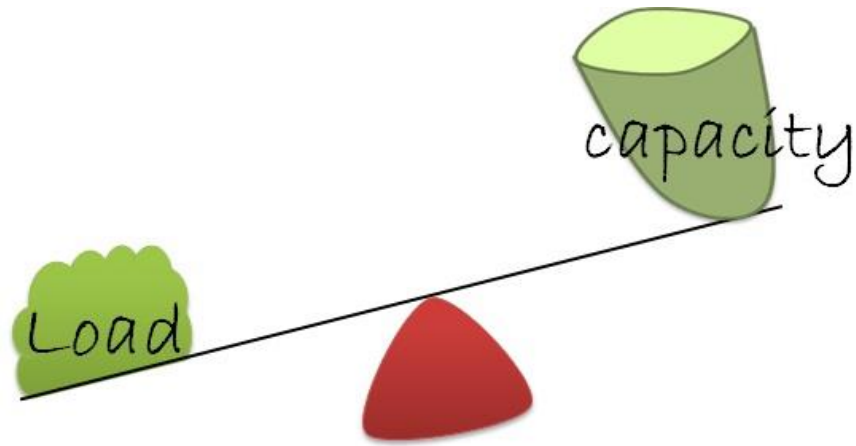
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Aviation Investigation Bureau  
Kingdom of Saudi Arabia  
GMA Riyadh 2016**

# Introduction



- States are obliged to investigate Aviation accidents;
- Safety enhancements in aviation resulted from accident investigations;
- Not all states have the capability to conduct an effective investigation due to lack of resources;
- USOAP Audit results show a lag in the AIG area;
- Varying capabilities complement each other.

# What is Critical



To provide the investigation process with the resources required to complete an effective and accurate investigation

# Resources



SKILLS



+ DATA

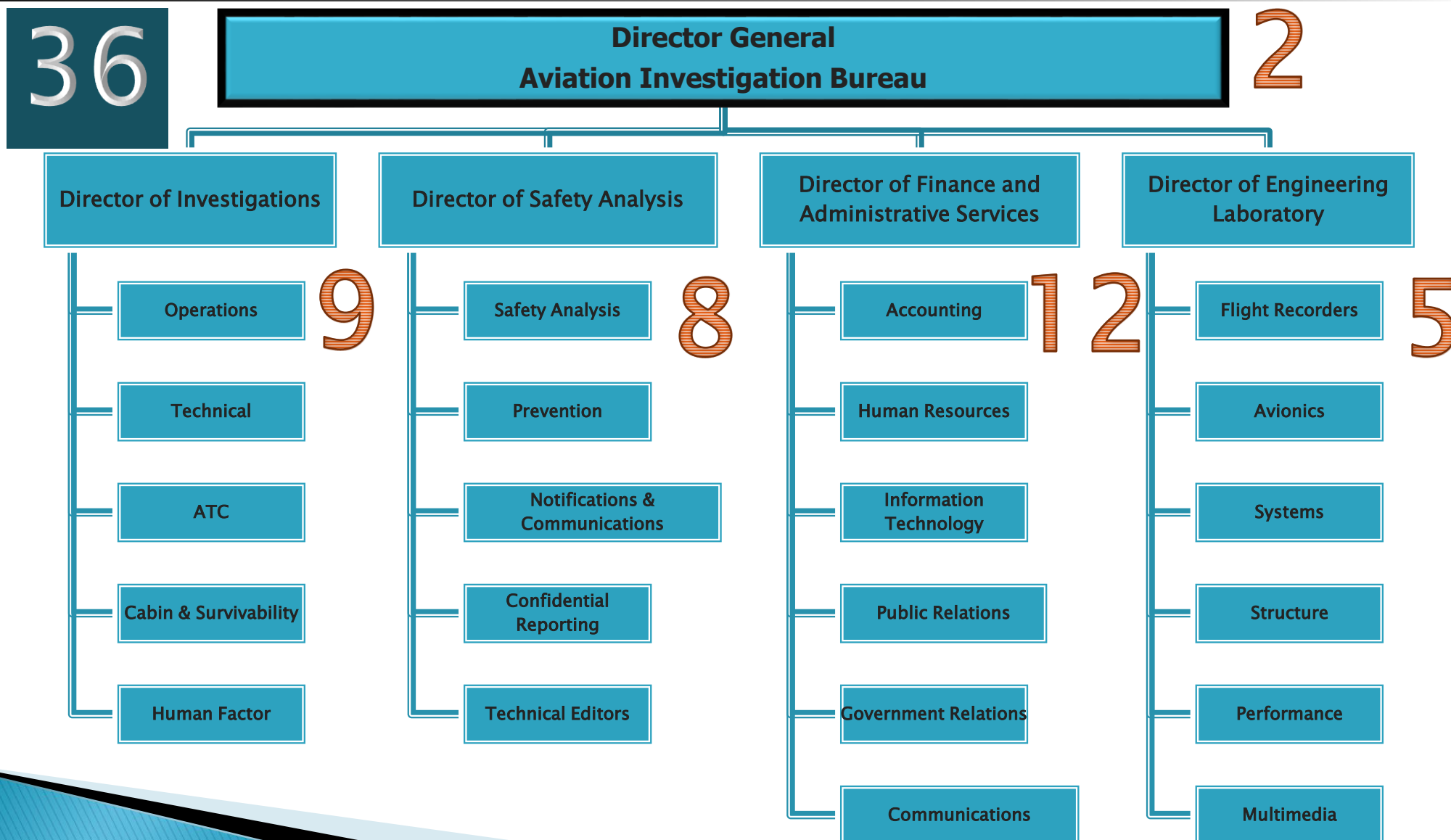


+ TOOLS

**Independent Investigation Function**



- Knowledge
- Experience
- Training
- International/regional networking
- Hands on



# Tools & Equipment

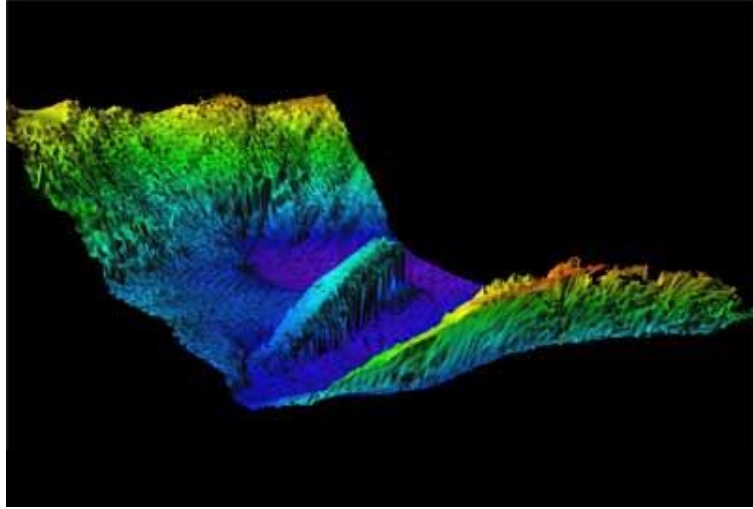


## Site



## Base

# Site: Water Search & Recovery



# Site: Land Search & Recovery



[http://app.nts.gov/investigations/fulltext/AAB1301/Wreckage\\_AAB1301.jpg](http://app.nts.gov/investigations/fulltext/AAB1301/Wreckage_AAB1301.jpg)



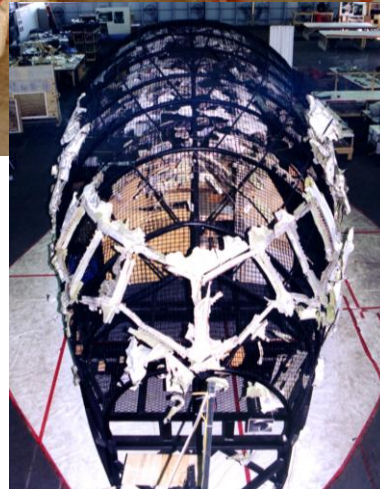
# Wreckage Handling



## Mechanical Laboratory



*Courtesy TSB/Canada*



- ▶ Sample collection and preservation
- ▶ Transportation to designated area
- ▶ Sample preparation for inspection
- ▶ Wreckage storage
- ▶ Wreckage return to owner



# Material Analysis Lab

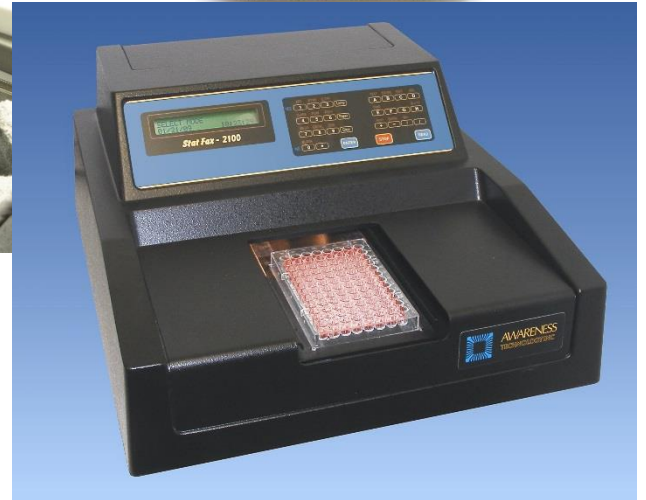
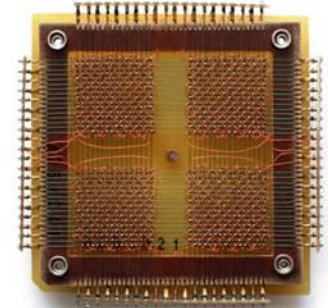


Metal Analysis Laboratory  
and material identification.





## Avionics & System laboratory



# FDR/CVR Lab



## The Flight Recorder Laboratory



**direct MARS**  
memory access retrieval system

Plane Sciences  
flight data in motion

MARS Hardware (provided)

Memory Mode Switch  
Download  
Test  
Output Voltage  
Universal Pin-Out Test Port  
Pin-Out Multimeter Test Unit

Crash Survivable Memory Unit (CSMU)

Crash damaged flight recorder

Memory Module

DIRECT CONNECT MEMORY MODULE  
(Cable for plug to Memory Module Type)

Optional FAS-INV Data/Voice Analysis Software

MARS Software (provided)

Eliminates need for cumbersome inventory of 'Golden Chassis' Bench Units  
Integrated and expandable recorder family specific modules for all recorder types (ARINC717/767)  
Teardown e-manuals with loop-back memory test protocols provided  
Memory structure/format source documentation provided (for future chip level retrieval)  
Bit editor for problematic source data provided  
Circumvents CVR erase logic (per EUROCAE ED112)  
Eliminates reliance on recorder OEM  
(accident investigation recovery is not recorder OEM core business)

MARS is only available to  
ACCIDENT INVESTIGATION AUTHORITIES  
(system contains recorder OEM proprietary memory structure documentation)

Plane Sciences Inc.  
400-205 Catherine Street  
Ottawa, Ontario K2P 1C3  
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sales@planesciences.com  
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MARS development is sponsored by the  
Aviation Investigation Bureau of Saudi Arabia

# Important Note on Cooperation



Cooperation in this respect does not mean that governments should give up their sovereignty, authority or responsibilities. However, participation in a regional arrangement may present an effective and efficient means for a State to achieve the desired level of accident and incident investigation.

(Doc 9946/RAIO 2.4.8)

# Objectives

- Enhance regional AIG implementation;
- Utilization of regional resources;
- Development of standardized procedures;
- Enhance provision of specialized training;
- Broaden experience of investigators; and
- to promote the use of best practices concerning accident prevention and sharing of safety information.

# What's Accomplished?

DGCA-  
MID/1  
meeting  
2011

- cooperate towards establishment of RAIO

ACAC/I  
CAO  
Seminar  
2012

- draft strategy for RAIO;

DGCA-  
MID/2  
2013

- endorsed the draft strategy and agreed on phased approach

DGCA-  
MID/3  
2015

- urged states to provide feedback on in implementation of phased approach stage A;

RASG-  
MID  
RSC/4  
Dec  
2015

- Revised strategy to focus on enhancement of regional cooperation prior to consideration of RAIO;

- Revised strategy disseminated to states for review, expected feedback March 2016.

# The initiative



- Define scope of cooperation and collaboration
- Develop a detailed implementation plan (DPI)
- Develop database of available resources amongst interested states
- Develop mechanisms and procedures for interstate support
- Draft a multi lateral cooperation agreement
- Develop regional Accident/Incident data analysis

## AAI Cooperation



## Invitation

- Expression of interest by regional states;
- Establish working group (WG) represented by interested states in the region;



## Agenda

## Workshop

May 2017 in KSA –  
ICAO/MID & ACAC

- To endorse the revised Regional RAIO strategy;
- Develop terms of reference for WG and define deliverables
- Structure WG functioning

# Expectation from the Forum

- ▶ To be informed of the initiative;
- ▶ Encourage your State Investigative Authority to participate in the effort; and
- ▶ Support the Initiative.

# Thank You

