The opportunity has been presented for the RFDS to partner with the world’s most recognised team from Cranfield University to deliver a Flight Data Monitoring Short 3 Day Course in Sydney.

Join the RFDS South Eastern Section, the first B200/350 King Air operator in the world to implement an in-house FDM programme.

This course will provide delegates with an advanced appreciation of the technical, operational, management and legal issues surrounding flight data monitoring (FDM) system, also referred to as a flight operational quality assurance (FOQA) programme. FDM/FOQA has become mandatory for all large aircraft operators and this training programme has brought together experts across all respective fields for an intense 3 day course.

Aimed at FDM/FOQA analysts & operators, flight safety officers, aircrew representatives, regulatory auditors, FDM/FOQA system suppliers, aircraft manufacturers and accident investigators.
Further Information

Questions regarding the course content should be directed to the course Director Nicholas Dann. Cranfield Safety & Accident Investigation Centre

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Questions regarding the course booking and logistics should be directed to Alyson Jolly - Event Producer Royal Flying Doctors South Eastern Section

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Course Content

• The history of FDM/ FOQA and an overview of its objectives
• CAP739, EASA and ICAO regulatory frameworks
• Integration of FDM within a safety system
• FDM technology
• Setting Data analysis targets
• Data recovery and analysis tools
• Principles of data validation and assessment
• Trace Interpretation, both theoretical and practical
• The use of statistics in data analysis
• Animation and visualisation
• FDM in accident and incident investigation
• The interface between the analyst and crews
• Legal aspects of FDM stat collection, retention and use
• The use of FDM to justify operational and technical change
• The potential of FDM with maintenance programmes

Date: Monday 21 to Wednesday 23 November
Location: Qantas Corporate Campus Mascot
Capacity: 45 Seats
Cost: $1150 per seat inclusive of all lunch, refreshments and social network dinner on first evening
Hotel: $260 inclusive of full breakfast
To purchase tickets: www.eventbrite.com.au/e/dfm-in-commercial-aviation-tickets-27694657466 or email aly.jolly@rfdsse.org.au
By the end of the course, delegates shall be able to:

- Objectively analyse flight data with due consideration of the quality and source of that data
- Describe a typical FDM programme and where it sits within a safety management system
- Write appropriate protocols and procedures for the successful implementation a FDM programme

In order to meet these learning outcomes, the following syllabus is planned:

**FDM within the Safety System**

Following a brief introduction and welcome, the course starts by describing where FDM fits within an organisation’s safety management system. Drawing on experience from FDM implementation in a major airline, the speaker will describe how FDM is used to identify hazards and manage risk. The session will describe data processing and analysis procedures, safety performance indicators and FDM organisational structures.

**FDM Regulatory Framework and Advisory Material**

This session will provide an overview of the ICAO regulatory framework relating to FDM plus practical advisory material based upon the UK CAA’s CAP739. Reference will be made to Civil Aviation Order 82.5 and CASA CAAP SMS-4(0).

**FDM Technology and Data Recovery**

Flight data recording systems will be described, giving attendees an appreciation of recorder types, data sampling and data recovery. The session will describe the characteristics of raw flight data and how it is converted into useable formats during processing. Knowing the origins of flight data is vital to understanding the applications and limitations of FDM data.

**Animation and Visualisation**

This session will look at the benefits and pitfalls of using animation and visualisation tools to interpret data. It will describe how these tools can be used to great effect in investigations, in training and in providing feedback to pilots as individuals and groups. It will also consider the inherent limitations of data animation.

**FDM in Accident Investigation**

Accident investigation has traditionally relied on the FDR and CVR for providing sources of data to assist in the determining the cause. FDM is however increasingly being used as another source of data allowing investigators to look into the background of events. This presentation discusses how FDM might be used for this purpose, providing specific examples of real life events.

**Flight Data Interpretation Workshop 1**

This interactive session will look at the first principles of interpreting flight data using data listings and graphical traces. Typical characteristics of different flight phases will be described and attendees will be introduced to data quality and validation.

**Analysis Tools and Databases**

There are many different FDM systems available, but they share many features. This session will describe typical functionality of flight data analysis programs or services, covering the setting of event limits, measurement analysis and statistical reporting.
FDM Protocols and Agreements

Every FDM programme will need to establish a workable agreement and protocols between pilot groups and company management. This session will consider the liaison between crews and the FDM programme, methods of providing feedback to individuals, investigating FDM incidents and data security and protection.

Statistics in FDM

Much of the value of FDM lies in conducting statistical analysis of collated data, rather than simply looking for single events. This gives an operator the ability to view its operation as a whole, comparing performance and monitoring the effectiveness of procedures. This presentation will give some basic knowledge of the subject and provide examples of how statistics can be applied in practice in this area.

FDM in Unusual Operations

FDM was developed largely within the airline industry and as a result its use is normally associated with large fixed wing operations. Over recent years its use has however spread to more unconventional types of operation and this presentation will explore the opportunities FDM presents to these users.

Principles of Data Validation and Assessment

Validating FDM data is vital to ensure good information is fed to the SMS. This session explores validation and data assessment techniques.

Flight Data Interpretation Workshop 2

Another interactive session that builds on workshop 1 and the data validation and assessment work.

Flight Data Interpretation Workshop 3

Building on the material from the earlier workshop, this practical session will give students an opportunity to look at flight data from a series of real incidents, ranging from simple events to quite complex serious incidents. Students will work in small groups to evaluate example flight data and generate their own conclusions of what happened, before being led through the event in detail. The session will look at how data can be used to aid engineering fault finding and how it can be used in conjunction with other data sources such as safety reports.

Helicopter FDM

This presentation is intended to explain the different aspects that must be considered when running an FDM programme in a helicopter, as opposed to a fixed wing, operation.

Legal Aspects of FDM

This session explores the legal issues surrounding FDM data and considers topics such as data protection, personal data and whether FDM data could be used for litigious purposes.