

17th Australian International Aerospace Congress

Innovation into Aerospace Future

IN CONJUNCTION WITH THE AUSTRALIAN INTERNATIONAL AIRSHOW AND
AEROSPACE AND DEFENCE EXPOSITION AVALON 26 February - 02 March 2017

Melbourne Cricket Ground - Conference | 26 - 28 February 2017

2017 International Avalon Airshow - Technology Presentations | 01 March - 02 March 2017

HUMS2017



ENGINEERS
AUSTRALIA



ROYAL
AERONAUTICAL
SOCIETY
AUSTRALIAN DIVISION



HUMS2017 Opening Address

A 20-Year Journey to 10th HUMS Conference

Dr. Wenyi Wang

HUMS2017 Chair

Aerospace Division, Defence Science and Technology

A Surprise Start in 1999 – Workshop of Helicopter HUMS

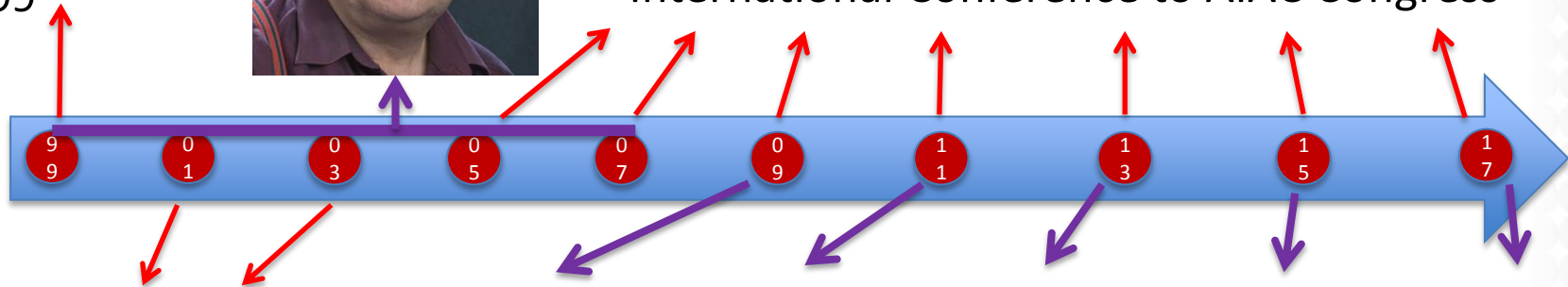
- Planning start in **1996** - a Joint Committee on HUMS (DSTO, RAN, RAAF & Army) meeting recommended a HUMS Conf in 1997
- A workshop to discuss application of HUMS technology to military helicopters was proposed (at the time, civil helicopter HUMS became compulsory, military lagged civil but set to change), didn't occur in 1997
- HUMS Workshop held in AMRL DSTO Fishermans Bend, Melbourne in 16-17/2/**1999**
- **140** participants (40 from overseas) & **26** presentations (18 overseas)
- It coincided with the Australian International Airshow at Avalon
- Participants from HUMS OEM's, research institutions, helicopter operators etc.
- The only one of its kind at the time in HUMS community
- Started with military helicopters HUMS, then widened to include HUMS for ADF fixed-wing aircraft and civil helicopters

HUMS Conference (1999 ~ 2017)

Workshop
on
Helicopter
HUMS
1999



HUMS 2005 ~ 2017 – a participating
International Conference to AIAC Congress



HUMS 2001 ~
2003 – an
independent
International
Conference



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Sponsors



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Bell Helicopter **TEXTRON**
A Subsidiary of Textron

Helitune

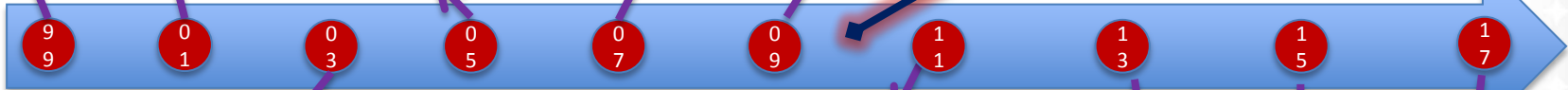
Free Rego

GOLD		SILVER
Australian Government Department of Defence Defence Science and Technology Organisation	Honeywell	GPS Online
BRONZE		
AeroStructures	semia Our purpose: To measure and to control vibrations	ETMC Technologies
Helitune	MoTeC MILITARY SYSTEMS	smiths

PLATINUM	GOLD	
SAAB	Australian Government Department of Defence Defence Science and Technology Organisation	Honeywell
AeroStructures	DYTECNA ASIA PACIFIC	IXAIRCO
semia	HUMS2007	Ultra ELECTRONICS
		smiths

Systems come with HUMS ??

GOLD	SILVER	BRONZE	
Australian Government Department of Defence Defence Science and Technology Organisation	DYTECNA System Engineering	ETMC Technologies	GE
	semia Our purpose: To measure and to control vibrations	QinetiQ	IMPACT
			TAE



Australian Government
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ETMC technologies

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Our purpose: To measure and to control vibrations

smiths

VAMtec
POWER & FLUID MANAGEMENT TECHNOLOGY
SPECIALISTS IN INDUSTRIAL, MARINE & AVIATION

Helitune

AMS

Gold

Australian Government
Department of Defence
Defence Science and
Technology Organisation

Silver

DYTECNA

ETMC
Technologies

Bronze

Honeywell

IMPACT

Australian Government
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Defence Science and
Technology Organisation

ETMC
Technologies

HUMS 2017

- **A Big Question: What do you do with your HUMS data ??**
- With HUMS on-board, Fatal Accidents still occurring (e.g. Super Puma, etc.)
- Where are the shortfalls: Management/policy issue or technological challenges, e.g. challenges of **Big Data**, fault detection techniques??
- Hope we can find answers to some of these questions in HUMS2017

- **Acknowledgement (Sponsors – ETMC & DST Group, EA, AIAC Committee, HUMS Committee – TG, JK & GF in particular)**
- **Welcome to all the participants, enjoy the Conference & City of Melbourne**



Jeff Day's
photo



HUMS2017 1st Keynote

- **So you have a HUMS ... So What:** talking about the path & direction the UK MoD is going in using and exploiting HUMS on its helicopters based on their many years of experience
- **Paul Harding:** **HUMS Manager** within Wildcat Project Team, responsible for all HUMS equipment and software on the Wildcat, Chinook and Sea King helicopter fleets
- **Jeff Day:** **VHUMS leader** within 1710 NAS which provides subject matter expertise in vibration control, vibration analysis and HUMS management