

AUSTRALIAN INTERNATIONAL AEROSPACE & DEFENCE EXPOSITION

AVALON 2019

OFFICIAL SHOW DAILY

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The most successful Airshow yet

As the Mercury nudged 40C out on the airfield yesterday afternoon, things were equally warm inside the three large exhibition halls at the 2019 Avalon Airshow.

The gates will open to the general public later this afternoon, adding to the buzz that has been the hallmark of the temporary tent city for the previous three days as some of the biggest names in the world of aviation, defence and industry descended on Avalon to talk business.

And there has been plenty to discuss, from new commercial aircraft orders and new partnerships on space research to the news Australia would

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Global Reach: the US Air Force Global Hawk - a rare visitor to Australia. PETER CHRISMAS

FULL STORY PAGE 3

SHOW HIGHLIGHTS

THERE is nothing like a drone as the racers battle it out **PAGE 4**

ANALOG to digital: the \$1bn refresh for our detection Crown Jewels **PAGE 6**

HOW the Avalon heavy metal puts the sun into the shade **PAGE 8**

AIRBUS delivers new helicopters aimed at Special Forces **PAGE 16**

PC-24 marks opening of a new era for RFDS service **PAGE 18**

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Lighting up the sky: the night spectacular is a much-loved feature of the show

CONTINUED FROM PAGE 1 design and build a high-performance unmanned military aircraft.

In between, there have been contracts signed for training, maintenance and logistics services, and partnerships announced for upcoming defence tenders.

And over in the conference centre, industry experts and military leaders have offered insight and debate on a diverse range of topics.

Avalon Airshow chief executive Ian Honnery said he was thrilled with how the first three days of the biennial event have unfolded.

"We began AVALON 2019 with a record 699 exhibitors and 346 participating aircraft, and more than 50 scheduled conferences, seminars and symposia," Honnery said in a statement.

"The industry visitor numbers have been strong, there's a buzz of activity in the exhibition halls, and feedback from exhibitors so far has been very positive.

"We're also seeing good attendance levels in the various conferences, so we believe that from all aspects, AVALON 2019 is one of the most successful yet."

Beyond the exhibition halls, there has been a steady stream of people checking

out the latest and greatest business jets and general aviation aircraft on static display. Some were curious how the other half lived, while others were possibly considering an upgrade from their current models in the hangar at home.

Of course, the flying displays have been a feature of Avalon, with a range of military and civil aircraft taking to the skies each of the first three days.

And the action continues this evening, with the traditional Friday night spectacular that is always a popular feature of every Avalon program.

The Australian Defence Force has, as is the custom, a huge presence, with assets including F-35A Joint Strike Fighter, F/A-18A Hornet and P-8A Poseidon, as well as the PC-21 Roulettes, among other aircraft, at the airshow.

Those with a fondness for nostalgia have also been kept in mind, with aircraft from the Royal Australian Air Force (RAAF) Museum and Temora Museum on the program as well.

So while the trade show will end today, there promises to be plenty of action for aviation enthusiasts as Avalon 2019 heads into the weekend. 📍



A rare beast: the Global Hawk touches down mid-afternoon yesterday.
DANIEL FRAWLEY

Touchdown! Long reach of the Global Hawk

From the southern sky it loomed, touching down gracefully before an appreciative Avalon crowd, the first time ever a Northrop Grumman Global Hawk unmanned aircraft has landed during an airshow.

The aircraft, with a wingspan greater than a Boeing 737 departed the US base on Guam, in the northern Pacific, and flew nonstop for 5,700 kilometres, arriving at Avalon at 3.30pm.

Global Hawk is no stranger to Australia. One aircraft visited Avalon in 2015 but arrived late at night. Others staged through Australia on route to surveillance missions over Afghanistan early in the war on terror.

Global Hawk is the parent to Triton which Australia is buying to perform high-altitude long-range surveillance out into the Indian and Pacific Oceans.

Global Hawk was developed by Ryan Aeronautical, now part of Northrop Grumman, to meet a US Air Force requirement for broad area overland surveillance, akin to the job done by the Lockheed U-2.

The first Global Hawk flew in February 1998. The aircraft's ability to fly intercontinental distances was amply demonstrated in April 2001 with a nonstop flight from Edwards USAF base to RAAF Edinburgh, covering 13,219 kilometres in 22 hours.

That was the first pilotless aircraft to cross the Pacific and a world record for absolute distance flown by a UAV and this impressive capability piqued Australia's interest in an unmanned aircraft able to conduct broad area maritime surveillance (BAMS).

So too did the US Navy and in 2008, a "navalised" Global Hawk won the US Navy BAMS contest against contenders from Boeing and Lockheed Martin.

Global Hawk and Triton perform different jobs but look similar. They can easily be told apart – Global Hawk is operated by the US Air Force and is painted all grey while Triton is flown by the US Navy and is white on top and grey on lower surfaces. 📍

Sky Aces hope to inspire the next generation

📍 There is more than entertainment of the crowd in mind for the Paul Bennet Sky Aces Formation Aerobatic Team which will be performing at the show. According to Sky Aces lead Paul Bennet the team hopes their skills will inspire young boys and girls to take up flying or other aspects of aviation as a career.

Bennet will be flying the Wolf Pitts Pro, the highest performing biplane in the world, with Glen Graham and Ben Lapham each flying Pitts S1s on his wing. "We will be doing quite a bit of head to head synchro aerobatics and some very cool solo moves," Bennet said.

"It is a privilege to fly the biggest airshow in the southern hemisphere." 📍



A taste of the Sky Aces aerobatic display, a feature of the airshow. MARK JESSOP

STEM in defence in the drone battle arena

The ADF drone racing team are supercharging recruitment into the STEM careers of tomorrow with the emergence of this rapidly growing and innovative sport.

The Avalon International Air Show hosted the first ever Drone Racing Arena which saw teams from the Australian Army, Australian Air Force, the New Zealand Defence Force team and a Defence Industry team pitted against each other over five days of fierce competition.

The tournament also attracted stars of the civilian drone racing scene with both the current and former World Champion Drone Racers, Australian 15 year old Rudi Browning and 19 year old Tom Bitmatta coming along to race the track.

Tom has competed in several of the military drone racing events since its inception and has enjoyed passing on his knowledge and advice to all the drone racers, he commented "It speaks to the amazing personnel of the Defence Force as the racing was excellent, they work so hard as military personnel but also as racers."

The tournament not only gave drone racers the chance to display their flying skills on the race circuit but additionally highlights the importance of this innovative sport and its relevance to soldiers of the future. The drone pilots must navigate their drone (or quad as it is known) in and around air gates and flags at speeds up to 140 kmh in real time using the First Person View (FPV).

The benefits of drone racing are far-reaching for Defence as it

attracts new audiences, encourages soldiers to develop and enhance their knowledge of STEM related activities whilst encouraging teamwork, critical thinking and robotic skills.

President of the Army Drone Racing Association Lieutenant Colonel Keirin Joyce

describes drone racing as an emerging sport with new audiences. "The Drone Racing Association are very pleased to be at the forefront of activities that encourage greater interest in Science,

Technology, Engineering and Mathematics (STEM) for our soldiers," said Lieutenant Colonel Joyce.

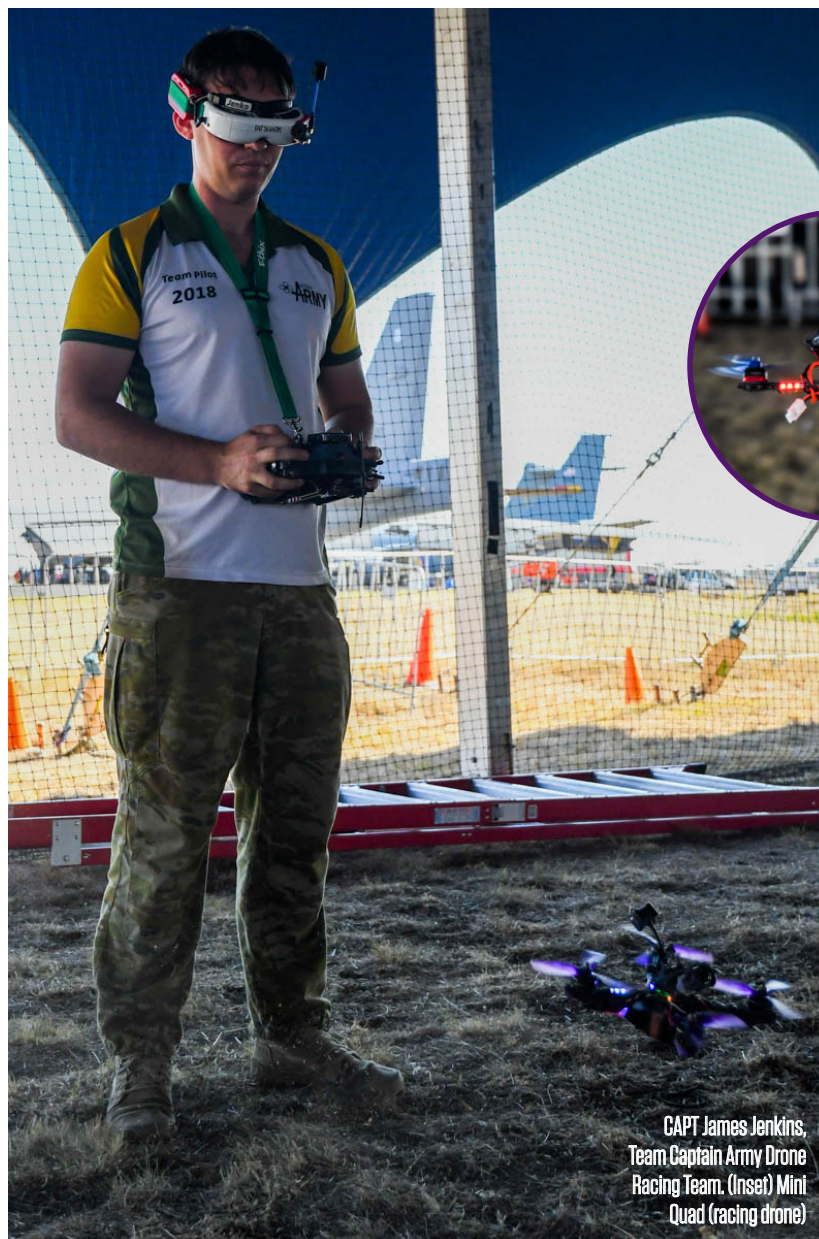
"Our drone racers are encouraged to race whilst serving in the Australian Army as this is a serious sport for the Army."

Captain Tirrell Morris manages the Army team commenting, "We continue to forge strong relationships with the Australian drone racing community, CASA, the world drone racing champions and teams flying in from New Zealand."

"We had a lot of people following the event on Twitter and on Facebook, on the live stream tracking the leader board, also having schools and cadets here we really generated a conversation."

"The activity also started a conversation with the adaptive sports community, we had the Governor General here who commented that it would be good to see a wounded, injured or ill soldier do this as we offer a lot to those soldiers with permanent transition due to injury. It can help with long term rehabilitation of bringing a soldier back up to full speed", Lieutenant Colonel Joyce said.

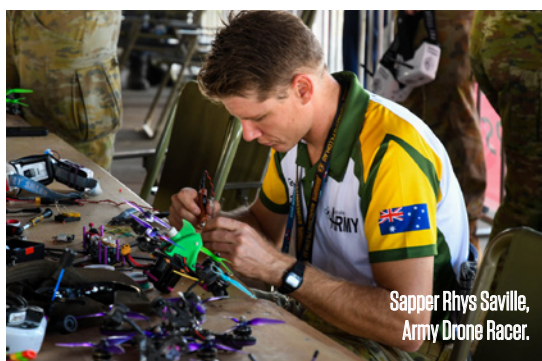
Drone racing is an authorised and encouraged adaptive sport in the Australian Army. Drone racing is a rapidly emerging motorsport made exciting and accessible by the low cost of equipment and first person 'pilot' view of the race action. 🇦🇺



CAPT James Jenkins,
Team Captain Army Drone
Racing Team. (Inset) Mini
Quad (racing drone)



LT Mark Sheppard,
Army Drone Racer.



Sapper Rhys Saville,
Army Drone Racer.

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\$1bn refresh for the detection crown jewels

Australia's technological crown jewels, the Jindalee over-the-horizon radar system, is undergoing a \$1 billion refresh to convert its dated analog systems to digital.

This is a very major project as the underlying technology and software is uniquely Australian.

Digitisation will make the system far more versatile and more useful, with operators better able to distinguish targets from the background noise.

"This is a complex program and it's a difficult technology," said Steve Wynd, BAE Systems Australia program director for the upgrade.

Australia's over-the horizon radar system, known as the Jindalee operational radar network (JORN), stemmed from research conducted after World War 2, with the go-ahead for construction given in the 1990s.

JORN was only achieved after substantial technical problems which

resulted in delay and cost overruns.

It works by bouncing high frequency radio signals off the layer of the atmosphere known as the ionosphere. That means the radar can detect objects far out into the Indian Ocean and up into the Indonesian archipelago.

JORN's massive antenna arrays are located at Laverton, Western Australia, Longreach, Queensland and Alice Springs in the Northern Territory.

The control centre is at RAAF Base Edinburgh in South Australia.

Officially it can detect targets around the size of a Hawk fighter or patrol boat but its real

capabilities remain classified.

As a radar operating in the HF band, JORN is reportedly able to detect stealth aircraft.

Last year BAE Systems Australia defeated Lockheed Martin Australia to win the contract to upgrade JORN, replacing 1990s receiver units, software and dated architecture with a contemporary digital system with open architecture.

That will make JORN a much more versatile and adaptable system, allowing greater speed of coverage.

But it's still a complex and highly

developmental process, involving 1.5 million lines of software across the system, 12 new hardware boxes being designed from scratch and 1,500 servers in the JORN computer system.

"That introduces complexity and complexity introduces risk and there is a very strong risk management program around it," he said.

"It's not often in Australia do you do things like this. In terms of the technology and the diversity it is a very complex program."

On the plus side, key algorithms have already been written by the Defence Science and Technology Group.

"It is a privilege to implement it but the science is done by DST," he said.

"That takes away a lot of the technology risk. What we have to do is make sure it works as a system and make sure it meets the timing and performance around that." ⁴



The JORN array at Alice Springs.

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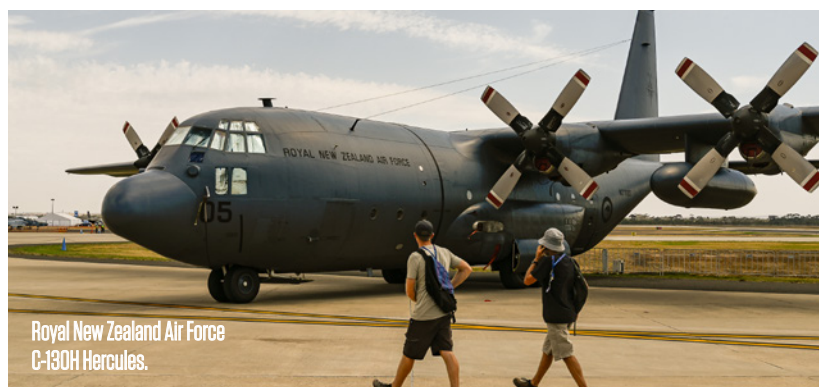
With scorching weather forecast for this weekend, visitors to the 2019 Avalon Airshow might try hiding in the shade of the 56-metre wing span of a B-52 Stratofortress, or could seek shelter from the sun in the cargo hold of a Kawasaki C-2.

Operated by the US Air Force's 23rd Bomb Squadron out of Minot Air Force Base, North Dakota, the iconic eight-engine heavy bomber is visiting Australia from Guam, where it is currently stationed.

Meanwhile, the Japan Air Self-Defense Force transport aircraft has flown into Avalon for the first time from its home at Miho Air Base.

The C-2's participation in the flying display at Avalon is a world-first as the Japanese aircraft has previously only been seen at an airshow on static display.

Other sizeable military aircraft visiting from overseas include an



Royal New Zealand Air Force
C-130H Hercules.



Japan Air Self-Defense Force Kawasaki C-2.



The A400M airlifter operated by the
Royal Malaysian Air Force (left).

A400M airlifter operated by the Royal Malaysian Air Force.

And one of five C-130H Hercules aircraft flown by the Royal New Zealand Air Force is on show at Avalon, where a number of companies have been keen to talk up their respective candidates to replace the ageing fleet.

The trip down to Australia was certainly a busy one for the crew of the KC-135R Stratotanker from the 336th Air Refueling Squadron that began its journey at March Air Reserve Base in California.

From there, the tanker flew to Alaska to meet up with a pair of F-22 Raptor fighter aircraft. But bad weather meant a diversion from their intended destination of Guam to Yokota Air Base in Japan, from where the Stratotanker and Raptors came here to Avalon.

Visitors to the Avalon Airshow also have the chance to get a close look at an MQ-9 Reaper medium-altitude long-endurance remotely piloted aircraft.

Operated by the 432nd Wing out of Creech Air Force Base, Nevada, the 'drone' was transported to Australia packed inside a C-17 Globemaster cargo aircraft.

Given the recent selection of the Reaper as the basis for what will be Australia's first armed unmanned system, the aircraft is generating a lot of interest.

So, if you've ever wanted to turn the tables on the 'eye in the sky', grab your selfie stick and head down to the viewing area. 📸

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STELaRLab taps into talent

Back in 2016, Lockheed Martin opened its first multi-disciplinary research lab outside the US in Melbourne, with the challenge to conduct world-leading research.

What has emerged is that Australians are very good at really difficult problems, says Dr Tony Lindsay, director of what's called STELaRLab.

STELaRLab has its own staff and works with a number of students in areas such as artificial intelligence, machine learning and reasoning, and data analytics.

"It is really hard, but Australians are great at it. Australians are absolutely brilliant, world-class. Our students are very talented. There is absolutely no doubt our students have the talent to compete



worldwide. It is hugely competitive but we can compete with the best," he said.

Using advanced data processing, STELaRLab has achieved extraordinary results in observing orbiting space debris.

"We can see things that one metre telescopes can't see. Even from a single camera, we can see small objects out past geo (geostationary orbit 36,000 kilometres)," he said.

STELaRLab is working with Adelaide University's Australian

Institute for Machine Learning on this exceedingly complex challenge.

The current state of machine learning is impressive and produces capabilities such as Apple's Siri.

But Dr Lindsay said computers can't handle change and don't understand context.

"Statistically they will make a guess. There is no consequence to getting it right 80 per cent of the time. They are used in areas where the consequences

of failure don't matter but of course in the military and national security, you can't afford that," he said.

Dr Lindsay said the challenge was to create machine reasoning so the computers reason rather than just learn, making logical inferences – and admit when they don't know.

He said there was no more globally competitive area than machine learning and he wanted Australians to know that given the opportunity, they were up there with the world's best.

STELaRLab now has 15 fulltime staff and is aiming at 20 by the end of the year. Fifteen students have passed through STELaRLab since its inception in 2016.

Awards have come along the way. A student team won the Melbourne University mechatronics award for the best Masters project. That was a power line inspection drone able to recharge itself from the lines.

Another came second in the people's choice award for "coolest project".

Their challenge was to show how to re-establish communications following a natural disaster by delivering a satellite phone handset from low earth orbit to any point on earth in under two hours. 

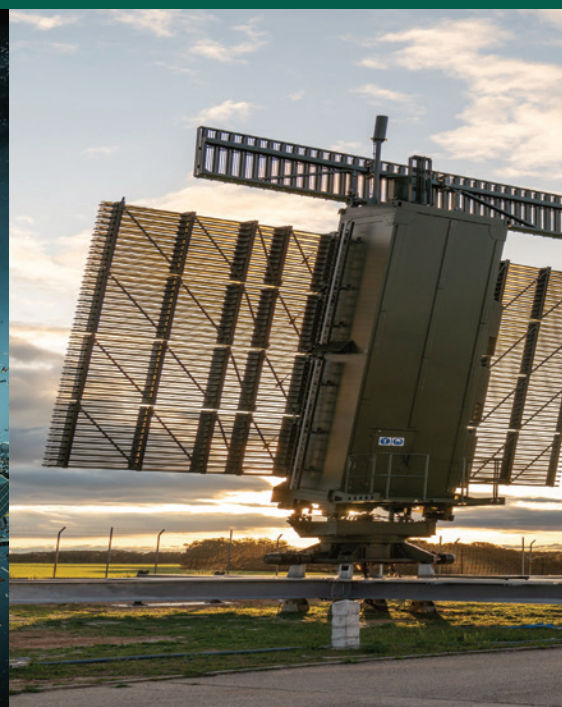
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Watch this space: Thales aims high

Thales is a major player in Australian defence industry but it hasn't been seen as a force in Australia's growing space industry - until now.

Outside Australia, the French-owned company is one of the world's leaders in space technology, building among much else, a major part of the International Space Station.

Thales builds satellites for earth observation and for communications. It's the prime contractor for the European mission to land a rover on Mars.

The only aspect of space Thales doesn't do is the launch but it has arrangements with companies that do.

"We believe that space is absolutely key to the future of humanity," said Thales director of strategic initiatives Josh Polette.



Thales director of strategic initiatives Josh Polette.

"We really haven't got the presence in Australia but there is a big push to grow and develop the space industry. But it's happening. What we want to do is much like what we did with sonars and air traffic management is bring technology from Thales overseas to Australia top support Australian industry."

Thales is part of the SmartSat Cooperative Research Centre at the University of Adelaide, a collaborate venture to develop smart satellite-related technology. That includes communications, payloads, autonomous systems and satellite management systems.

Thales is showcasing its Stratobus, a 100 metre unmanned lighter than

air vehicle designed to operate in the stratosphere around 20 kilometres into the atmosphere.

At that altitude Stratobus is well above airline routes and above most weather. Solar panels provide power for small engines to keep it on station and for mission systems.

Stratobus can carry a payload of up to 250 kilograms which could be pretty much anything - communications, surveillance or even a mobile phone tower. That could be used in event of natural disasters, providing immediate mobile phone services to assist in relief operations.

Stratobus has a similar operational concept as the Airbus Zephyr, a lightweight unmanned aircraft able to stay airborne for around a month, albeit with a much smaller payload than Stratobus.

Mr Polette said Stratobus was a fraction of the cost of a satellite, with the versatility to return to earth as needed to change out payloads.

"Where we see the opportunity for Australia is in the payloads," he said.

"If Australia has unique sensors or communications payloads, that's a real opportunity for Australian industry to participate." ☺

Northrop Grumman signs AIC deed

Northrop Grumman has signed the company's first Australian Industry Capability (AIC) Deed with the Australian government.

Australian Minister for Defence Industry, Steven Ciobo signed the deed with the chairman of Northrop Grumman Australia's Advisory Board, Warren King during a ceremony at the Avalon airshow.

The AIC Deed establishes a framework to deliver real opportunities for Australian industry in major defence programs including the MQ-4C Triton program with the RAAF. The company says it is committed to working with government to develop a skilled workforce to build a sustainable, sovereign industrial base. ☺





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PICTURES FROM AN EXHIBITION
PHOTOS: MARK JESSOP & PETER CHRISMAS





Airbus targets special ops helicopter project

Airbus has delivered the first two of 12 MRH90 helicopters equipped for special operations to the Australian Army's 6th Aviation Regiment, and is looking to expand its support for the Special Forces with a new platform.

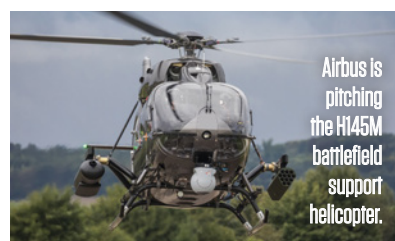
The remaining MRH90 helicopters are expected to be progressively received by Army to replace the Black Hawk by the second quarter of next year under a program that is a high priority



The MRH90 – two more set for special operations.

for the company, said Andrew Mathewson, managing director of Airbus in Australia Pacific.

On its website, Airbus says the MRH90 is a fly-by-wire, all-composite construction, medium-lift helicopter with a rear ramp, weather radar and forward-looking infrared.



Airbus is pitching the H145M battlefield support helicopter.


Being a true multi-role machine, the MRH90 can undertake troop transport, search and rescue, special operations and counter-terrorism missions.

Airbus says it is capable of carrying two pilots, two loadmasters and 18 combat troops up to 900km at speeds of up to 300km/h (160kts).

Meanwhile, Airbus is offering the H145M battlefield support helicopter for the LAND 2097 Phase 4 Special Operations Rotary Wing Capability project that will deliver a light deployable helicopter capability.

Mathewson assumed the role of managing director in early January.

"It's a great honour to be selected by the company to continue with my passion, which is delivering capability for the Defence Force," he said, speaking to the media at the 2019 Avalon Airshow on Wednesday.

"I'm incredibly impressed with the company, and also the opportunities that sit outside the helicopter realm, particularly in the areas of space and commercial aircraft." 




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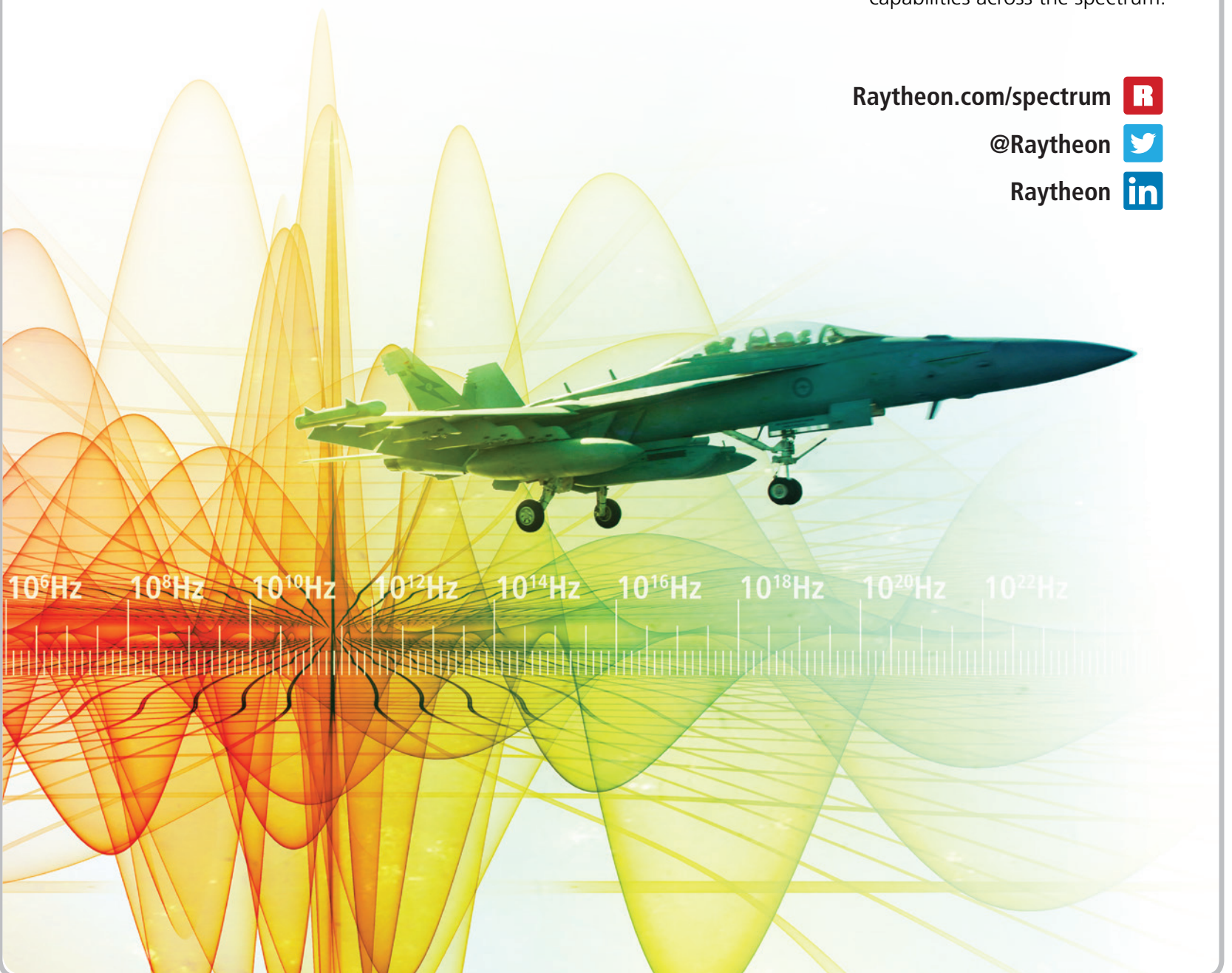
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It's a business jet turned lifesaver

WRITER: CHRIS FRAME*

There is a new lifesaver making its mark across the vast State of Western Australia – and it's turning heads at the Avalon Airshow.

Built in Switzerland and entering Australian service in December last year, it can usually be found as high as 45,000ft travelling at speeds of more than 400kts.

This lifesaver is the Pilatus PC-24, the newest member of the Royal Flying Doctor Service fleet serving the most remote health jurisdiction in the world.

Joining the RFDS during its 90th anniversary celebrations, the PC-24's arrival in Broome on December 2 marked the culmination of a major transformation project that saw RFDS and Pilatus collaborate to create a world-class intensive care unit in the sky.

"The ... PC-24 jet epitomises the continued evolution of RFDS as the pre-eminent and most trusted provider of aeromedical services in Western Australia," RFDS WA's General Manager Aviation Geoff Horsley told Australian Aviation at the time.

"The arrival of the PC-24 jets signal the next era for RFDS in Western Australia as we continue to evolve and adapt to patient demand – since our first Fox Moth in 1935 to our more recent fleet of Pilatus PC-12s which were introduced in 2009."

Named *Victory*, the PC-24 on display at Avalon has been dubbed the world's first super-versatile jet by Pilatus.

It has been re-purposed with a state-of-the-art aeromedical fitout to serve as an inflight emergency ward.

According to the RFDS, the aircraft will make a significant impact in long-haul and time-critical scenarios, carrying multiple patients on a single flight and enabling critically ill patients to get to specialist care faster.

The PC-24 will be deployed on time-critical missions where the speed of a Pilatus PC-12 from the 16-strong turboprop fleet is insufficient.

What's more, it is capable of operating in and out of short and unsealed airstrips.



Home base

The RFDS's Perth base with fully operational medical facility is located at Jandakot Airport.

Alongside the medical facility, a state-of-the-art hangar and aircraft maintenance centre has been constructed, allowing the RFDS to undertake in-house maintenance on its PC-12s. These aircraft link the Jandakot facility with all corners of the state thanks to a network of regional bases in Broome, Port Hedland, Kalgoorlie and Meekatharra.

The service of the Swiss-built jet in an aeromedical environment is a world-first, with the majority of existing PC-24s operating in a standard passenger or luxury jet fitout.

"We have repurposed the PC-24 jet with state-of-the-art aeromedical fitout that serves as an inflight emergency ward, and the aircraft is regarded as the 'off-road' aeromedical jet," Horsley said.

Unlike the turboprops, which receive their custom interiors at the Jandakot base, the PC-24s undergo their aeromedical fitout on Pilatus's Swiss premises before arriving in Western Australia.

The complexity of the fitout gives some insight into the range of medical situations these aircraft are expected to handle. Such features include a large cargo door (1,295mm x 1,245mm), allowing for the rapid transfer of patients, including those with bariatric requirements.

Horsley explained: "We have improved the stretcher design, creating a lightweight design with 1.95m length and an extra comfortable mattress.

Additionally, we've added a specially engineered auto-stabilising stretcher loading device that loads patients in a horizontal position, as opposed to other aircraft with inclined stretcher slides."

The interior also boasts an enhanced load capability medical electrical system with both 28VDC and 240VAC supplied. Wall-mounted supply panels are coupled with ceiling rails that support IV-hooks, enhancing the care delivery on board.

Dimmable cabin lights improve patient comfort and ambiance, while dedicated working lights have been installed above the three stretchers. Further improvements see a separate cabin intercom system that allows hand-held Satcom and VHF access for medical staff, enabling easy communication between the aircraft and the operations centre at Jandakot.

The design also facilitates improved storage, including cabinets with drawers, ample shelves and worktables, much to the delight of the doctors and nurses who make a career serving patients high above the ground.

RFDS Western Operations CEO Rebecca Tomkinson said: "The innovative aeromedical interior is the first of its kind in the world and is a game-changer for patient outcomes and health care delivery to people living, working and travelling across regional and remote areas."

New facilities

The increased size and complexity of the Pilatus jet meant a new facility was required before the aircraft could begin services in WA. Work started on this building in 2015

and was completed in 2017.

It sports a large maintenance hangar, capable of servicing both the PC-24s and the existing PC-12 fleet. Additionally, it provides a pilot base, training facilities, workshops and storage area as well as office space.

With the hangar complete, the focus narrowed on the introduction of the PC-24. The RFDS team had been hard at work through 2018, both in Western Australia and overseas, readying medical teams to work in the new environment along with training to enable safe flight operations across the network.

A recent milestone was the advanced training of RFDS's team of engineers and pilots. During this program four RFDS engineers travelled to Stans, Switzerland and Detroit.

"Fifteen of our pilots have completed PC-24 training in Dallas, USA and our doctors and nurses will participate in practical training on board the aircraft in WA before going into service," Horsley told Australian Aviation.

Flightdeck

Another major advantage of the PC-24 is its flightdeck arrangement. As with the PC-12s, the aircraft has been manufactured for single-pilot certification with a cockpit layout that Horsley said is efficient and intuitive.

"The environment has been designed specifically to reduce workload, improve safety while providing full situational awareness. The transition for our pilots will be easier (than to other types) given that avionics and flight management systems are almost identical between the PC-12 and PC-24." ^A

* With Australian Aviation and the RFDS.





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Centre to help grow aerospace and defence industries

A newly expanded centre at RMIT University is set to support the transformational growth of Australia's defence and aerospace industries.

The Sir Lawrence Wackett Centre, launched officially at the Avalon Airshow, will specialise in innovative capability development, policy advice, industry-focused courses and workforce training.

Centre Director, Professor Michelle Gee, said the university's experts will work closely with industry and government to help grow Australia's high-tech economy.



① Royal Australian Air Force Air Vice-Marshal Gavin Turnbull AM; RMIT Director Sir Lawrence Wackett Centre, Professor Michelle Gee; RMIT Vice-Chancellor and President Martin Bean CBE; Acting Chief Defence Scientist Dr Todd Mansell and RMIT Professor Industry Fellow (Defence) Dr Ken Anderson at the launch.

"Australia is in an excellent position to become a world leader in developing niche, high-tech capability to support the growth of industries such as aerospace and defence.

"We're living in an exciting era for these fields, spurred on by incredible technological advances

from artificial intelligence, innovative satellite systems and energy harvesting to advanced materials and manufacturing.

"I'm delighted to say we offer a wealth of expertise in all of these areas at the Sir Lawrence Wackett Centre, which will focus on every stage of

product development from concept, design and testing through to policy and implementation.

"A key strength will be to bring together expertise from across multiple disciplines including science and engineering, architecture, business, industrial design, policy, law and ethics."

Vice-Chancellor of RMIT University, Martin Bean, said the Centre's priorities to address the full range of Australian defence interests would also include a big focus on training and development.

"The Centre will strategically align our support of the sector and enable us to more comprehensively deliver trusted technology, policy and business solutions, expert advice, industry-focused micro-credentials, cross-disciplinary courses and workforce training.

"At the same time, it will leverage research and innovation expertise in support of business development and commercialisation.

"This holistic approach provides government and industry with support that is unique and puts RMIT proudly at the forefront of Australian aerospace and defence." ②

INVITATION ... we look forward to welcoming you to the
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The Defence Aviation Safety Authority (DASA) is pursuing an integrated approach to Australian aviation State Safety Programs (SSP), through closer engagement and increased cooperation with all agencies responsible for aviation safety. DASA and the Civil Aviation Safety Authority (CASA) will be exhibiting side by side during the Australian International Air Show at Avalon in 2019.

DASA welcomes the opportunity for members of the Aviation community to join us for a complimentary coffee and an opportunity to discuss how the integrated approach to SSP may affect them. Further Information can be found at www.defence.gov.au/dasp



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Dassault extends global MRO reach

Dassault has further extended its global MRO reach with the announcement that it has acquired the European maintenance activities of the TAG Aviation Group.

The move comes just weeks after Dassault snapped up aviation company ExecuJet's worldwide maintenance, repair and overhaul (MRO) operations in 42 countries across the Asia Pacific, Oceania, the Middle East and Africa.

The integration of TAG into Dassault operations will take place over the next few months, once all necessary authorisations have been received.

"The acquisition of the maintenance activities of TAG Aviation, a major MRO provider,

will allow Dassault Aviation to reinforce its European service centre network," Eric Trappier, President and CEO of Dassault Aviation said.

"With TAG Maintenance Services, we intend to develop further a network of excellence, and to support TAG's different aircraft clients with the same commitment to service quality while expanding the share of Falcon maintenance activities controlled by the Dassault Group. Mansour Ojjeh, President of TAG Group, the majority shareholder of TAG Aviation said the company had been working hard over the past 20 years to build up a high quality maintenance organisation, specialising in the Dassault and Bombardier product lines"

"During that time we have built a strong relationship with Dassault



The TAG Aviation maintenance business is being acquired by Dassault.

Aviation, based upon mutual trust and respect. Given the many challenges faced by independent MROs in the current industry environment, we are pleased to sell this segment of TAG Aviation to a respected OEM who values its employees and shares TAG's high business standards."

Meanwhile, other manufacturers and operators are keeping a weather eye on developments given Dassault's increasing grip on the MRO space.

In Australia, for example ExecuJet's base at Melbourne Essendon Airport is an FBO and offers MRO services under an Australian Civil Aviation Safety Authority (CASA) Certificate of Approval and New Zealand Civil Aviation Authority (CAA) approval. It is also a United States Federal Aviation Administration (FAA) Part 145 Repair Station.

Further, ExecuJet is an authorised service centre for Hawker Beechcraft,

Gulfstream, Bombardier and Embraer at Melbourne. It also conducts maintenance work at its Sydney and Perth facilities.

The company had about 100 staff in Australia across aircraft operations, pilots, flight attendants, engineers, administration and sales. There were a further 50 people working at its Asian bases, including in Bali, Jakarta, Kuala Lumpur, Hong Kong and Singapore.

Some of its facilities around the world also had European Aviation Safety Agency (EASA) certification.

Speaking at the Avalon Airshow earlier this week, Embraer Executive Jets vice-president for sales for the Middle East and Asia Pacific, Claudio Camelier, said the company was in talks with ExecuJet in light of the Dassault purchase.

ExecuJet also supports Embraer's business jets in the Middle East and Europe.


"Of course it is a point of concern to us the acquisition by Dassault," Camelier said. "But our team is in discussions with them and making sure that we have the proper setup in place so they can continue supporting us in a positive way."

"We are good partners with ExecuJet. They have always provided very good service to our customers and we have always worked quite well together."

"But it is a big change in the company, so of course we are monitoring the situation. We are confident that we will have a positive outcome."

Meanwhile, Airflite also provides service to Embraer in Australia out of its base in Perth.

The two Dassault MRO acquisitions come less than a year after United States-based Jet Aviation bought aircraft sales and support company Hawker Pacific for US\$250 million.

Jet Aviation is part of aerospace and defence giant General Dynamics, the parent company of Gulfstream. 



The ExecuJet hangar in Sydney – ExecuJet has come under the Dassault umbrella.



THE SIR RICHARD
WILLIAMS
FOUNDATION

The Central Blue: call for submissions

The Sir Richard Williams Foundation is calling for submissions for its *The Central Blue* forum.

Designed to promote informed discussion and debate about airpower issues affecting Australia, *The Central Blue* covers topics from tactical integration to strategic theory,

and from historical lessons to future capabilities.

The Williams Foundation welcomes submissions from any source, but particularly encourages serving military practitioners to contribute in order to foster a new generation of airpower thinkers.

Posts should be between 500 and 1,000 words long, comply with standard publishing guidelines, and be accompanied by a brief author's bio.

For more information, email thecentralblue@gmail.com, or visit centralblue.williamsfoundation.org.au

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