

AIR MOBILITY DISPATCH

#10

June 2014

AIR FORCE

SPARTAN RISING

New Battlefield Airlifter takes first flight in Italy



This Issue:
Air Mobility Group takes over
Operation Aslan
Cope North
Cambodia 1971
Centenary of Military Aviation

Snapshots



Above: Members of 36SQN enjoy Christmas Day Lunch at 34,000 feet on a C-17A bound for the Middle East.
Below: FLTLTs Luke Ridgeway and Stephen Maunder from 36SQN enjoy Christmas lunch onboard a C-17A Globemaster while in transit to the Middle East.



Above: FLG OFF Adam Gunthorpe shows members of the public through a 37SQN C-130J cockpit at the Centenary of Military Aviation Air Show.
Below: Then Chief of Defence Force, General David Hurley, with 36SQN pilot FLTLT Ashley Kissock in the C-17A Globemaster III at the Centenary of Military Aviation Air Show.



Above: Chief of Air Force, AIRMSHL Geoff Brown, addresses personnel from 84WG Detachment A Fitter School during a visit to the base on 6 February 2014.
Right: Crew Attendant CPL Amy White, and KC-30A pilot FLTLT Simon Press, both of 33SQN, wash their hands after helping to clean up the grounds around a local school located on the Northern Marianas Island of Tinian during Exercise Cope North '14.





Adieu, Air Lift Group

For the past 27 years, the title of 'Air Lift Group' has been synonymous with a record of achievements shared across different aircraft types and musters. From February 1987 to March 2014, the era of 'ALG' spans one of the most significant periods of operations and physical change for RAAF transport since the Vietnam War, and perhaps even long before.

It is therefore appropriate that the curtain should fall on the name 'Air Lift Group' now, as the organisation embarks on a new period. Since 2006, there's been staggering change in the physical platforms operated by our organisation, and there are still some new capabilities to come online. Operationally, we have spent the past decade of supporting personnel in the Middle East, and we are now on the cusp of seeing what will come following this period - even if our commitment to supporting activities in Afghanistan is set to continue.

After three decades, the term 'Air Lift Group' is not an accurate description of our full spectrum of our work. Indeed, 'Air Lift Group' was conceived in February 1987, but barely three years later, four of the Boeing 707 fleet were modified to introduce an air-to-air refuelling capability – a role which sits outside of 'airlift' and within the broader aegis of 'air mobility'.

The change in name is not for change's own sake. As explained on Page 6 of this edition, 'air mobility' has been in widespread use in recent years to more accurately describe Air Lift Group's work, and is already reflected both internationally and within our own organisation. Even the name of this magazine – Air Mobility Dispatch – reflects the reality of what it is that we do for a living.

It will be a hard adjustment for some to make (it is just one letter's difference between L to M). But given the degree of change that the organisation has experienced in the past decade, it's about time our identity caught up.

Editors Note: For sake of continuity, references to 'Air Lift Group' in this publication have been substituted for 'Air Mobility Group' - even where the older term would have necessarily applied.

Contents

Snapshots	2
Pre-Flight	3
Commander AMG	4
Executive WOFF	5
Around the Community	6
Exercises	**
Operations	**
Air Mobility Improvement	**
History	**
International	**

The Air Mobility Community comprises of Air Mobility Group, all Defence organisations involved supporting its core business, and our Industry partners. Air Mobility Dispatch is a quarterly newsletter intended for distribution amongst all members of the Air Mobility Community.

Its focus is to:

- Promote awareness and identity of the Air Mobility Community.
- Inform you of the changes occurring within our Community.
- Promote discussion about what we do.
- Recognise our achievements and milestones.

Air Mobility Dispatch relies upon the submissions, story ideas and news of the wider community. Please send to Eamon Hamilton, Air Mobility Group Communications Advisor, through eamon.hamilton1@defence.gov.au or call (02) 4587 3844.

See the Air Mobility Community at work:

- www.youtube.com/airforcehq
- www.defence.gov.au/
- images.airforce.gov.au

Commander Air Mobility Group

From the Commander's Desk

After reading this edition of *Air Mobility Dispatch* you will gain an appreciation of the expanse of Air Mobility Group's operations. This is set to further increase as we introduce new aircraft and unlock latent capability from existing platforms.

From January 2014, Air Mobility Group (AMG) has focused on three primary priorities - the realisation of KC-30A capability, the introduction of the C-27J Spartan, and the remediation of C-130J Hercules training. The achievement of all three priorities is not only essential to AMG, but to Air Force and the wider Australian Defence Force. In particular, the full capability of the KC-30A is required to support the introduction of F-35A Joint Strike Fighter and the P-8A Poseidon, both of which require the use of the KC-30A's boom for air-to-air refuelling.

The KC-30A boom remediation program in Spain is showing steady progress with testing scheduled for completion in August. Hose-and-drogue performance is also consolidating gains and will further do so as a pod upgrade program is realised before the end of 2014. Air-to-air refuelling is a key air combat enabler for Defence, therefore, Defence Materiel Organisation and AMG remain focused on delivering this capability to the warfighter.

Aircrew and maintenance training on the C-27J Spartan is scheduled to begin in the last quarter of 2014. The first aircraft is on track to return to Australia in March 2015. AMG aims to introduce this capability without delay so as to provide flexible and operationally-focused air mobility options to the Australian Defence Force. No. 35 Squadron is well prepared for this task.

C-130J Hercules training remediation is well underway. Changes to both aircrew and maintenance training will provide a more flexible and sustainable system from January 2015. AMG is focused on resolving past C-130J training challenges, and I am confident that we have the right professionals on this task.

There are numerous other changes taking place throughout AMG such as maintenance reform, adjusting No. 38 Squadron to expediently train aircrew for conversions to other types, Loadmaster and Crew Attendant sustainability projects, the drive to connect our warfighting platforms through broadband communications, improving our training systems, and providing Air Mobility Control Centre with better tools to book and manage passengers. All these and other planned changes are necessary to extract the best possible performance from AMG, so that we can collectively project over 30,000 hours of air mobility from 2017.



“All these and other planned changes are necessary to extract the best possible performance from AMG, so that we can collectively project over 30,000 hours of air mobility from 2017.”

Regards,

Air Commodore Warren McDonald
Commander
Air Mobility Group

Executive Warrant Officer

Around the Traps at Air Mobility Group

Ladies and Gentleman of Air Mobility Group, more and more as I visit AMG units the question of morale is raised - I'm asked how morale is measured and recorded (and often with a snigger). Last week during our Reach workshop I took some time to explain the FEG approach to ensuring reliable morale reporting and thought I'd dedicate some space in this month's AM Dispatch to share the morale topic with you.

The Macquarie Dictionary defines morale as "moral or mental condition with respect to cheerfulness confidence, zeal". There is a multitude of definitions depending on where you look however, I like the term 'it's the vibe'. When you walk into a unit and speak to the workforce, how are you spoken to; what's the level of energy in the people; how positive are they on the way ahead?

Probably the most difficult organisational challenge that many will face is to be asked to accurately measure the morale of a unit, or section, or workgroup - and then to justify that measurement. It doesn't mean it can't be done, in fact it can be and quite effectively. The challenge within the Air Mobility Group environment is that being such a dynamic organisation, responsive to short notice tasks or task changes including HA/DR activities, the level of consistency in the workforce morale will vary. This is not unhealthy and as long as there are mechanisms to monitor and respond to potential 'over speeds', morale remains manageable.

At monthly AMG Strategy Capability meetings, attended by all FEG Senior Executives, morale reports are monitored and inputted to ACCF, the Air Command Capability Framework. These morale reports are generated by unit COs to provide a snapshot of unit morale based on a number of inputs; such as leave opportunities, work tempo, logistics and aircraft availability challenges, opportunity for respite noting future scheduled commitments, and many others. In addition to the reports submitted, I provide input to represent a more tactical level feel of the organisation in concert with COs. I can only gain this 'feel' by visiting and meeting unit personnel, an enjoyable part of my role as I welcome your input and enjoy discussing / challenging issues raised.

I believe for each and every one of us, the greatest opportunity to improve morale is to take the discussion out of the tea rooms. Raise concerns through your chain of command appropriately, ie begin with an email to allow them to consider the issue with a clear mind, and then invite you for a more detailed discussion. Offer sensible solutions if you're aware of any, speak to your Unit Continuous Improvement Team (UCIT) Reps seeking their ideas on how to quantify opportunities for improvement.

Additionally, AMG offers its personnel several development initiatives that also assist with morale, either directly or indirectly. The AMG Reach Program, offering personal and professional development through interactive workshops, and more recently, the Junior Officer Leadership Workshop and the AMG Mentoring Programs - designed to develop a confident, informed and empowered AMG workforce. Our organisation will continue to face challenges; I believe our workforce is made up of intelligent, educated members of a team that does some incredibly enviable tasks - utilising some of the most specialised equipment available. We are well remunerated, with secure employment prospects and opportunities. Being cognisant of these aspects, whilst providing safe and effective capability; albeit challenging at times, is the centre post in maintaining a positive workplace.

**Keep safe,
Warrant Officer Cary Thompson
Executive Warrant Officer
Air Mobility Group**



Air Mobility Group takes over



WITH effect April 2014, Air Lift Group was formally re-titled as Air Mobility Group, reflecting changes to one of Defence's busiest organisations.

As per its predecessor, Air Mobility Group will remain headquartered at RAAF Base Richmond and will continue to be responsible for squadrons and units under Nos. 84 and 86 Wings. The organisation comprises of 1515 personnel and 36 aircraft at four bases across Australia.

AIRCDRE Warren McDonald, Commander Air Mobility Group, said the organisation's core mission would remain focused on the movement of personnel, materiel and forces using a range of airborne platforms. "Air Lift Group was formed in February 1987 when Air Force created its original Force Element Groups," AIRCDRE McDonald said.

"The name 'Air Lift Group' served us well for the last 27 years and provided a ready identity to our missions which included Air Logistics Support, Airborne Operations and Aero-medical Evacuation."

When Air Lift Group was established as a Force Element Group

in February of 1987, it operated two squadrons of Hercules, two squadrons of Caribous, a VIP Squadron and another of Boeing 707s—which had not yet been converted for air-to-air refuelling.

Air Lift Group continued through the 1990s and into the new millennium, with a series of capabilities being retired (including the Boeing 707, DHC-4 Caribou, and C-130H Hercules). In 2011 Air Lift Group re-introduced the air-to-air refuelling role through the arrival of the KC-30A Multi-Role Tanker Transport aircraft. "The function of air-to-air refueling is to extend range, payload and endurance and is not adequately described by the term 'airlift'," AIRCDRE McDonald said.

"As such, 'air mobility' more closely describes our expanded scope of operations and is consistent with the current RAAF Air Power doctrine."

"This change in terminology has been reflected in a number of our newer organisations including the formation of the Air Mobility Control Centre in 2005 and the Air Mobility Improvement Program in 2010."

The 'air mobility' name is reflected in a number of international

organizations. In 1992, the United States Air Force's established its Air Mobility Command to operate a fleet of tactical and strategic cargo and air-to-air refueling aircraft. Previously, these types were operated by Military Airlift Command and Strategic Air Command respectively. Likewise, the Royal Air Force's No. 1 Air Mobility Wing is much akin to the Royal Australian Air Force's Air Mobility Group, both operating a fleet of C-17As, C-130Js, and Airbus A330 Multi-Role Tanker Transports.

"The adoption of an Air Mobility Group identity aligns our terminology with our allied partners assisting with coalition integration and improving interoperability," Air Commodore McDonald said.

"This name change, while symbolic, comes at the perfect time to reinforce the fundamental capability transition Air Force has experienced with the introduction of the C-17A and ongoing support provided by the C-130J, Special Purpose Aircraft and B300 Kingairs," AIRCDRE McDonald said.

"This transition will continue as we fully realize the potential of these platforms along with the KC-30A and C-27J Spartan."

Governor-General's Banner for AMTDU



An honour was bestowed on Air Movements Training and Development Unit (AMTDU) on May 15 with the presentation of the Governor-General's Banner.

In a parade and ceremony at RAAF Base Richmond, Governor-General His Excellency General the Honourable Sir Peter Cosgrove AK MC (Retd) presented the banner, which was consecrated by Air Force Chaplains. The Governor-General's Banner is presented to non-operational Air Force units in recognition of more than 25 years' service.

CO of AMTDU, WGCDR Stephen Crawford, said the banner had been warmly welcomed.

"The significance of this banner extends back thousands of years to when they were used by commanders as a rallying point for their units on the battlefield," WGCDR Crawford said.

"Their role continues today, with this banner to be displayed in our unit headquarters, on parades and at ceremonies, continuing to 'rally' our personnel wherever they may be."

Amongst the parade highlights included a three-ship formation flypast by C-130Js followed by a single C-17A; and a static display backdrop of a C-17A, two Army S70A Black Hawks, and a Navy S70B Sea Hawk. The parade was attended by Assistant Minister for

Defence, the Hon. Stuart Robert MP; Chief of Air Force, AIRMSHL Geoff Brown; and Air Commander Australia, AVM Mel Hupfeld. While the Governor-General's Banner is presented to non-operational units, the work of AMTDU in recent years has sent its members across the globe.

"Our role is to develop new techniques of carrying cargo on board all ADF aircraft, and teach those techniques to ADF personnel," Wing Commander Crawford said. "In recent years, that duty has seen our personnel help return battle-damaged vehicles from Afghanistan, as well as deploy a desalination plant to New Zealand and support moving equipment to Japan following natural disasters in those countries.

"It takes a team of dedicated engineers, loadmasters, air dispatchers and other specialists to ensure that Defence can deliver cargo to a destination safely, often at short notice," Wing Commander Crawford said.

AMTDU was established in October 1965 at RAAF Base Richmond, at a time when Air Force was rapidly expanding its airlift capability with the Caribou and Hercules transports, and the Iroquois helicopter. It remains very busy today, assisting with the introduction of the Air Force's C-17A Globemaster and C-27J Spartan, and the MRH-90 helicopter to Army and Navy service.

Op Slipper Changes



From 1 July 2014, Operation Slipper will split into three separate operations to more accurately reflect the evolving nature of Australia's military contribution in the MEAO.

Defence efforts in Afghanistan will continue under Operation Slipper, but efforts in supporting Persian Gulf states will be re-titled Operation Accordion.

Air Mobility Group activities at Al Minhad Air Base in the United Arab Emirates are expected to fall under the auspices of Operation Accordion, with Operation Slipper covering those activities conducted by deployed Air Mobility Group within Afghanistan.

Elsewhere, the Maritime Security Operations in the MEAO and counter piracy in the Gulf of Aden will be conducted under Operation Manitou. Operation Slipper will continue to be classified as 'warlike' service, while Operations Accordion and Manitou will be classified as 'non-warlike' service.

In line with this reassessment of operations, Defence has also reviewed Field Allowance, which is paid to compensate for the requirement to live and work in arduous conditions in the field, with limited access to basic provisions and amenities.

From 1 March 2014, members deployed on Operation Slipper, required to live and work in conditions that make them eligible for Field Allowance, will continue to receive an 'on occurrence' payment at the appropriate daily allowance rate, and accrue Field Leave for their field service.

Final Operational Capability announced for C-17A fleet



On 28 February 2014, Chief of Air Force AIRMSHL Geoff Brown announced the fleet of C-17A Globemasters at 36SQN had achieved their Final Operational Capability (FOC).

The definition of FOC has included the requirement to train personnel to operate the aircraft as well as delivery of support and training equipment.

The first four C-17A Globemasters achieved FOC in 2011, how-

ever, due to the staged acquisition, the fifth and sixth C-17As did not achieve FOC until recently.

Announcing the achievement, AIRMSHL Brown said he was pleased to see the FOC achieved within budget and on schedule.

“I am thankful for the efforts by the men and women of the Royal Australian Air Force – as well as the Defence organisation and the Defence Materiel Organisation – who have worked together to

achieve this great outcome,” AIRMSHL Brown said.

“The Government’s purchase of two additional C-17A Globemasters has greatly increased our ability to respond with strategic airlift in our region, when and where Air Force is needed most.”

The announcement was made immediately prior to the aircraft’s appearance at the Centenary of Military Aviation Air Show at Point Cook (pictured above).

Air Mobility community members recognised with Australia Day Honours

The 2014 Australia Day Honours List saw a number of Australian Air Mobility Community members recognised for their achievements. The Conspicuous Service Cross (CSC) was awarded to SQNLDR Anthony Kay, a C-130J pilot with 37SQN, who was recognised in light of his outstanding achievement as Staff Officer Force Generation at HQ84WG.

SQNLDR Phillip Mackie, and Engineer with Air Lift Systems Program Office, was awarded

the CSC for outstanding devotion to duty as leader of the Pro-pulsions Integrated Project Team within ALSPO, in support of operational capability.

WGCDR Colin O’Neil, who is currently Commanding Officer of the Central Flying School, was awarded the CSC for outstanding achievement as Deputy Director for Air Mobility in Capability Development Group. During WGCDR O’Neil’s tenure with Capability Development Group, the Federal Government

moved to purchase the C-27J Spartan through a Foreign Military Sales agreement with the United States.

Australia Day Medallions were awarded to LACW Nathan Pel-low of 285SQN; Mr Troy Slen-der of AMTDU; FLTLT Aaron Jones of 33SQN; and CPL Christopher Greenall of 36SQN. The Medallion is intended to recognise outstanding performance by an individual, including noteworthy service within their workplace.

QDS hands goes to Northrop Grumman



Qantas Defence Services has been sold from Qantas to Northrop Grumman Australia under an \$80 million deal.

First raised in mid-2013, the deal will see those arms of Qantas Defence Services that used to support the Air Mobility Community now renamed as Northrop Grumman Integrated Defence Services (IDS).

Existing arrangements with Air Mobility Group will continue to be served by a number of arrangements under Northrop Grumman IDS, including the maintenance and logistics support arrangements for its fleet of three CL604 and two Boeing Business Jet Special Purpose Aircraft, operated by 34SQN. The new arrangement will also encompass the logistics support arrangement for the 33SQN

fleet of KC-30As, as well as refurbishment of Air Force's retired fleet of C-130H Hercules.

Northrop Grumman said in a statement that "IDS operates as a part of Northrop Grumman Australia and is strategically aligned with the Integrated Logistics and Modernization division of Northrop Grumman Technical Services".

"Northrop Grumman IDS enhances our in-country footprint and local capabilities, and demonstrates our commitment to the Australian and regional defence markets."

"We expect this to be an important platform for international growth in our key focus areas of unmanned, cyber, C4ISR, and logistics and modernisation," said Ian Irving, Northrop Grumman chief executive for Australia."

Turboprop contract

An contract for AE2100D3 Propulsion Systems Maintenance Support has been signed between Air Lift System Program Office (ALSPO) and Standard Aero (Australia) Pty Ltd (SAL).

Signed in December 2013, the contract will carry on SAL's work to sustain the AE2100D3 turboprop which powers the C-130J Hercules fleet, and will deliver deeper maintenance, logistics, engineering and field representative support for the



powerplant, propellers and auxiliary power unit).

It follows on from joint efforts between ALSPO, SAL, 84WG and 37SQN to improve the reliability and time-on-wing for AE2100D3 powerplants.

Integrated Maintenance Workforce for C-130J



An Integrated Maintenance Workforce (IMW) has been established between Australian Aerospace and 37SQN to conduct R20, R30 and R80 scheduled servicing of the C-130J Hercules at RAAF Base Richmond.

In a first-time arrangement between Air Force and industry, the IMW will see Australian Aerospace take an increased responsibility for the R20 and R30 scheduled servicings which were previously performed by 37SQN. This is in addition to the R80 deeper maintenance servicings which they were already responsible for. In return, a 22-strong workforce of 37SQN technicians will be integrated within the Australian Aerospace to increase its capacity for work, and further increase the availability of Air Force C-130Js. The involvement of 37SQN technicians in R801servicings is expected to provide increased technical mastery.

The day-to-day aspects of C-130J Hercules maintenance will continue to be conducted by Air Force's No. 37 Squadron, including flightline maintenance and support to operational tasking.

38SQN assists injured sailor



An injured solo yachtsman was rescued from off the coast of Papua New Guinea on 23 January 2014, thanks largely to the efforts of a King Air crew from 38SQN.

The crew, FLTLT Ben Quirke and FLGOFF Nathan Gorman, were returning to Townsville from Port Moresby when they received a call from Brisbane Centre, asking if they could support a Search and Rescue near PNG. The crew were tasked to find a Locator Beacon that had been tracked to approximately 27 nautical miles off the coast of Port Moresby.

Arriving on station, the King Air crew homed on the beacon and soon located a 10-metre vessel some 5 nautical miles from the initial coordinates supplied by AusSAR. The King Air descended to 500 feet and the crew lowered their landing gear and flashed their landing lights to signal themselves to the occupant of the vessel. During this pass a signal mirror was observed from within the vessel.

The vessel appeared to have torn sails and the boom was on the deck, and during multiple passes, the 38SQN crew continued to monitor the vessel. After an hour of remaining on station, the King Air handed over on-site monitoring duties to an AusSAR aircraft that had been launched

from Cairns. The King Air crew recovered back to Port Moresby to refuel before they completed their return journey to Townsville.

Members of the Royal Port Moresby Yacht Club joined a Papua New Guinea National Fisheries Authority vessel to rescue the solo yachtsman, who was found to have suffered a serious injury when his vessel had been damaged.

The sailor was recovered to a hospital in Port Moresby where he received medical attention.

Spartans go Pink



35SQN personnel took a turn for the pink on Thursday, 6 March 2014, holding a Pink Stumps Day cricket match at RAAF Base Richmond. Over a 33-Over match, the squadron members managed to raise over \$674.70 for the McGrath Foundation, which generates donations and awareness for the treatment of breast cancer and its victims.



Herc takes Cadets to NZ



A contingent of 60 young people from Air Force, Army and Navy Cadets had the opportunity to travel to New Zealand with 37SQN for the 150th Anniversary of the New Zealand Cadet Forces.

They joined 1000 Cadets from various nations at Waiouru Military Camp from 25 January—1 February for the event, providing an opportunity experience how other countries conduct Cadet activities.

34SQN carries CAFs



34SQN carried the Republic of Singapore's Chief of Air Force, MAJGEN Hoo Cher Mou, during a visit to RAAF Base Williamtown on 5 March 2014. MAJGEN Hoo Cher Mou was accompanied by RAAF Chief of Air Force, AIRMSHL Geoff Brown. The Republic of Singapore Air Force conducts a number of visits and exercises within Australia, including air-to-air refuelling deployments to RAAF Base Amberley and Darwin, and airlift deployments to Rockhampton and RAAF Base Richmond. Singapore also recently announced its purchase of the Airbus Defence and Space A330 Multi-Role Tanker Transport to replace its ageing KC-135Rs.

Lifter catches a lift

As part of Operation Nostos, the Defence effort to withdraw equipment and personnel from the Oruzgan Province of Afghanistan, a C-17A completed the removal of a Kalmar lifter from Kandahar Air Base.

The crane weighs 115,000 pounds, or just over 52 tonnes. The Kalmar had previously been used to move shipping containers at the base. A 15-strong Australian Air Load Team, assisted by the US Air Force's 451st Expeditionary Logistics Readiness Squadron, successfully brought the Kalmar out by a C-17A from Kandahar.

After weighing the Kalmar and calculating its centre of gravity, a load plan was prepared and the crane was brought onto the C-17A – with two attempts being required to position the Kalmar

Reunion for 50 years of the Caribou



To mark 50 years since the arrival of the Caribou in Australia, retired Air Force personnel who worked on the aircraft are holding a reunion from 8-10 August 2014 in Coffs Harbour.

The event will be held at the Opal Cove Resort and will involve a BBQ and sit down dinner.

The first three DHC-4 Caribou arrived in Australia in April 1964. The Reunion at Coffs Harbour will be held 50 years to the day since Caribous were deployed to South Vietnam, where they provided airlift support under the RAAF Transport Flight—Vietnam.

Air Force operated a total of 29 Caribous, and retired its remaining examples from service in 2009.

Several aircraft have been kept by museums, with two Caribou flying with the Historic Aircraft Restoration Society.

Those who wish to attend this reunion may contact Stew Bonett on (02) 9652 1653 or by email on stew.b@bigpond.net.au.

More information about this event, including accommodation details, are available from http://www.airmanaircrew.com/html/homepage_02.html.



Above: The Kalmar lifter is loaded on board a RAAF C-17A

inside the cargo bay. Once on board, 54 separate restraints were required to secure the crane. FLGOFF Laura Bishop with the Air Load Team said “this was to ensure the forward, aft, vertical and lateral restraint

requirements were met before flight”.

The successful operation was a major achievement for the 15 Australian Air Load Team members and their US Air Force counterparts.

Helping hand for UAE C-17A



Above: GPCAPT Guy Wilson with a UAEAF C-17A crew member

Global support arrangements for the C-17A have helped an aircraft from the United Arab Emirates Air Force (UAEAF) to get back in the air at RAAF Base Amberley.

In January 2014, the UAEAF C-17A was passing through Australia when its crew was presented with an issue with the aircraft's fuel tanks.

Because all C-17As around the world are alike, the UAEAF crew were able to access the local Boeing Field Service Representative to resolve the issue, and were further assisted by maintainers from

the RAAF's own C-17A unit, 36SQN.

A fuel tank entry was conducted to resolve the issue, and the UAEAF C-17A departed Amberley on Australia Day.

GPCAPT Guy Wilson, OC86WG, explained that the RAAF's 36SQN had in past lent its assistance to C-17As from the United States, United Kingdom, and Canada when they visited Amberley.

"Likewise, when we fly our C-17As overseas, we try to operate from bases where there is a local C-17A unit."

37SQN Association launch



Past and present members of 37SQN and its affiliate units are invited to join a newly-formed association, following its inaugural meeting on 1 March 2014.

The meeting was attended by 26 past and present serving members of 37SQN, with another 121 past and present serving members expressing their enthusiasm to join the Association. The association went on to march in the Sydney Anzac Day March on April 25th. A webpage for the Association can be found at http://www.airmanaircrew.com/html/homepage_02.html.

The Association can be contacted through 37sqnas-soc@gmail.com.

285SQN carries Army Rugby League and Footy Show



The Australian Army's Rugby League Team had a helping hand from 285SQN as it travelled to Coffs Harbour on the New South Wales north coast.

The team played the 'SGT Matthew Locke, MG Charity Match' against the Bellingen Magpies on 1 March 2014, raising funds for Legacy.

A 285SQN crew also carried members of the Nine Network's NRL 'The Footy Show' television programme (pictured above).

The Hercules is a linchpin of air mobility for the Australian Army when it conducts exercises and operations within Australia and around the globe, and 285SQN was happy to use unit hours to support Army for its Charity Match.

SGT Matthew Locke, MG was a Bellingen native who enlisted in the Army in 1991, and later served with the Special Air Service Regiment.

On 25 October 2007, Sergeant Matthew Locke, MG was killed during an engagement with insurgents in Afghanistan.

38SQN helps monitor Woomera



38SQN had lent a hand to the team responsible for monitoring the Woomera Prohibited Area, conducting air patrols for the first time with the unit's King Airs.

The Woomera Test Range Compliance Monitoring Team is responsible for ensuring civilians sharing the massive 124,000sqkm range with Defence are acting in accordance with their access permits.

The sheer space of the Woomera Prohibited Area meant the group could often only reach small sections of the range each trip. The joint effort with 38SQN, conducted in late 2013, allowed for a patrol of wide areas of the range in record time.

Woomera Test Range Trials Security Manager SQNLDR Darren Shorter said information gained through the air operations was used to tailor ground patrols to investigate specific sites.

"Air operations also allow us to gain a better understanding of 'patterns of normalcy' within the prohibited area," SQNLDR Shorter said. "These patterns can be analysed and the information used to tailor ground-based effects to ensure the team inspects and investigates any areas of interest."

The remoteness also provides significant challenges for the team, with patrols travelling thousands of

kilometres to observe a small portion of a patrol sector. "The use of air power in direct support of the team's mission extends its reach and persistence across the Woomera Prohibited Area – something that could not be achieved by ground-based patrols alone," SQNLDR Shorter said.

"Coupled with our engagement program to help educate non-Defence users of the range, air operations help shape people's expectations of our presence and gives us the ability to deploy rapidly to all parts of the range."

"Air-ground operations heighten the perception of our sustained presence throughout the range, which in turn helps promote voluntary compliance."

FLTLT Benjamin Quirke of 38SQN took part in the activity and said it was a great opportunity for the pilots and crew to expand their skill set.

"The mission profiles required to achieve Compliance Monitoring Team objectives presented some unique challenges and excellent training opportunities for the crews involved," FLTLT Quirke said. "This task was very different from the day-to-day operations that 38SQN is usually involved in and provided the crews the opportunity to further enhance the capability of the squadron and the King Air."

Advanced Airlift Tactics symposium in Missouri



The annual Advanced Airlift Tactical Training Centre (AATTC) Symposium was held in St Joseph Missouri from 27-30 January 2014, with SQNLDR Rob Crawford, Staff Officer Force Generation for 84WG (pictured above with LTGEN Stanley E. Clarke, Director of the Air National Guard) representing Australia.

The role of the AATTC is to provide academic and airborne training to combat airlift crews, predominantly within the United States Air Force and Air National Guard Units, but also for foreign Air Forces including Australia. This year's symposium was held with the theme "Bringing it all together", and featured over 240 members from the tactical airlift and intelligence communities in attendance.

"The annual AATTC symposium is an excellent forum to network with our international partners in tactical airlift and learn from each other," SQNLDR Crawford said.

SQNLDR Crawford chaired the International Partners Working Group, speaking with US counterparts on 'breaking down the barriers' and the importance of greater collaboration between allies during technical system acquisition and test programs. This linked with current work being done to equip the RAAF's fleet of C-130J Hercules with the ALR-56M Radar Warning Receiver, with test work currently taking place in the United States.

TAMEX takes Navy cross-country



Navy helicopters and personnel from 816SQN have caught a lift with 36SQN from Nowra in New South Wales to RAAF Base Pearce in Western Australia for Exercise TAMEX. On February 21, a C-17A flew to Nowra to pick up the first of two S70B Seahawks to carry across to Pearce.

Ordinarily, it would take three days and 20 flying hours for the S70B to travel across Australia. The C-17A can deliver the helicopters and crew in just over four hours. TAMEX is a joint maritime training exercise for personnel, helicopters and fixed wing aircraft in Anti-Submarine Warfare skills,

bringing Navy S70B Sea Hawks together with RAAF AP-3C Orions and United States Navy P-8A Poseidons. The TAMEX deployment will also assist Navy's 816SQN in a rapid response to a potential submarine threat anywhere around Australia's coastline.

Navy Sea Hawks have been continuously embarked on Royal Australian Navy warships since 1992, and are routinely deployed to the Persian Gulf and Arabian Sea. In January, the first MH60R Sea Hawk - which will replace the current S70Bs—was handed over to the Navy, with aircraft being delivered later in 2014.

37SQN carries Timor Leste Defence Force Officers

A 37SQN C-130J Hercules aircraft transported soldiers of the Falintil Foca de Defesa de Timor Leste (F-FDTL) from Dili, Timor Leste to Townsville on 9 March 2014 (pictured right).

The Timorese platoon visited Australia to participate in a Junior Officer Close Country Instructor Training (JOCIT) course held by the Australian Army at the Combat Training Centre – Jungle Training (CTC-JT) in Tully, Queensland.

By the end of the two week course, the Timorese trainees gained significant individual



and collective skills in jungle tactics techniques and procedures, battle fitness and junior leadership. The course aims to enable F-FDTL members to teach these skills to others on return to their home units.

C-130 Carbon Brakes

A contract was awarded in February 2014 for UTS Aerospace Systems to supply upgraded wheels and brakes to be fitted to RAAF C-130J Hercules. The wheels and brakes feature carbon heat sink material which is predicted to provide eight times longer life than the current steel brakes, as well as improved brake cooling time.

New boltless wheels employ a lock-ring design which is also intended to substantially lower maintenance time and cost, in addition to reduced parts count, when compared to traditional bolted aircraft wheels. UTS Aerospace Systems has already provided the same brakes and wheel system to the United States Air Force C-130 fleet.

Shave for a cure



Members of 37SQN 'let their hair down' to raise **** in support of the Leukaemia Foundation's 'World's Greatest Shave' on the 14 March 2014. Pictured here is FLTLT Liesl Franklin applying the clippers to SQNLDR Tony Kay. 37SQN raised money for the cause by auctioning off the opportunity to colour or shave a colleague's hair. The World's Greatest Shave is an annual event where participants come together to raise money and support people with blood cancers. The money raised helps the Leukaemia Foundation provide emotional and practical support free of charge to people with leukaemia, lymphoma and myeloma. It is also used to fund critical blood cancer research into better treatments and cures.

34SQN farewells Governor-General



The outgoing Governor-General, Her Excellency Dame Quentin Bryce, AC, CVO was farewelled from Canberra on 26 March 2014 with a flight to Brisbane on board a 34SQN Boeing Business Jet (pictured above).

Prior to her departure, the outgoing Governor-General laid a wreath at the Tomb of the Unknown Australian Soldier at the Australian War Memorial before inspecting a royal guard formed by

Australia's Federation Guard at Fairbairn.

Dame Quentin Bryce served as Governor-General to Australia from June 2008, and during her service she was supported by 34SQN on numerous visits throughout Australia as well as to Asia, the Pacific, Africa, and Europe. General Sir Peter Cosgrove AC, MC took over as Governor-General on 28 March 2014.

Girls flight camp at Sale



36SQN has supported a Girls Flight Camp at RAAF Base East Sale which was held from 3-6 March 2014. Pictured here inside a C-17A cockpit are Shannon Woodhead, Barooga, NSW; Brittany Brayshaw, Geelong Vic; Jade Bosnich, Wangaratta, Vic; Brooke Anderson, Tumbarumba, NSW; FLGOFF Nick Tickner of 36SQN; and Chief of Air Force, AIRMSHL Geoff Brown. The flight camp at East Sale gave 12 young women from Victoria, NSW and South Australia an overview of RAAF careers. Aged between 16-18, the girls also received flying experience on CT-4s operated by the Central Flying School. A similar flight camp was held at RAAF Base Amberley in 2013.

37SQN supports Exercise Night Leopard in Brunei



Special Forces units from Australia and Brunei have been assisted by 37SQN during Exercise Night Leopard, held from 25 October to 4 November 2013. The exercise featured the Australian Army's 1 Commando Regiment and Brunei's Regimen Pasukan Khas conducting parachute operations with a 37SQN C-130J (pictured above), along with airdrop of inflatable boats and other mission essential equipment. Night Leopard is the product of 16 years of close work between both countries, sharing knowledge on parachuting, close quarter battle, jungle warfare and amphibious operations.

Investigation into C-130J landing incident at Kabul

An investigation with the Department of Defence Aviation and Air Force Safety is being conducted into an incident where a C-130J Hercules left the runway during a landing at Kabul International Airport on April 24. No one was injured in the incident, during which the aircraft came to a rest approximately 70 metres from the runway. The Hercules was subsequently towed to a parking apron for examination and repair.

The aircraft stopped about 70 metres from the runway, but has since been towed to a safe area for examination, as part of the investigation. The incident is said to have had minimal impact to operations in the Middle East Area of Operations (MEAO).

Hercules Cold Weather Trainer



An opportunity to conduct cold weather training was taken by 37SQN from January 26 – February 9, when aircrew and maintainers flew with a C-130J to Canada.

Following on from a support task to bring 77SQN to Nellis Air Force Base, the C-130J continued on to Colorado Springs and then Canadian Forces Base (CFB) Trenton to begin the cold weather training. The Squadron is sometimes required to respond to events in colder climates, and indeed, Afghanistan is often subjected to winter-time snowfalls that complicate Hercules operations.

SQNLDR Simon Kerr, Safety and Standards Flight Commander at 37SQN, explained that the aircraft continued on to Colorado Springs and then Canadian Forces Base (CFB) Trenton in Ontario (pictured above). "We then flew from Trenton to Winnipeg as well as Iqaluit in Nunavut and St John's in Newfoundland," SQNLDR Kerr said. "We faced wet, icy, cold, and snowy conditions on the trip, with temperatures down to -30 degrees Celsius."

Iqaluit Airfield is situated in the far northeast of Canada, and is a frequently-used location for new aircraft designs to test their cold weather performance. For the 37SQN maintenance team, nor-

mally routine tasks become much more difficult in extreme cold and with several feet of snow around the aircraft.

CFB Trenton is a major airlift base for Royal Canadian Air Force (RCAF), hosting that country's C-130J fleet under 436SQN. The Australian contingent shared its experiences of their Canadian counterparts, according to FLTLT Gary Harvie, an Engineering Officer with 37SQN. "Canada has operated the C-130J since 2010, whereas Australia has been flying it since 1999," FLTLT Harvie said.

"We were able to impart a lot of our technical knowledge for the way we maintain the aircraft, and what technical issues they may face during the life-of-type," FLTLT Harvie said. "We also looked at

their maintenance practices to see what we can learn from them."

"We found increased issues for hydraulic and fuel systems, as seals became cold and brittle, which we were briefed on from the Canadians," FLTLT Harvie said. "We also learned the safety considerations for operating on frozen surfaces, wearing appropriate clothing, and ground handling of aircraft in these conditions." "There are significantly longer before-flight preparation times to warm hydraulics, fuel systems, and the overall aircraft with the C-130J's air-conditioning heat." "We learnt about the vulnerable systems, including the Mission Computers, Avionic Displays, and the Batteries, and how to work-around these," FLTLT Harvie said.



Above: The 37SQN contingent pose for a photo with their aircraft during their visit to Iqaluit Airport, in the northern province of Nunavut.

Search for MH370



Air Mobility Group has provided support to Operation Southern Indian Ocean, the search and locate efforts in the Indian Ocean for missing Malaysian Airlines Boeing 777, flight MH370.

Search efforts were led by the Australian Maritime Safety Authority (AMSA), under former Chief of Defence Force, ACM Angus Houston (ret'd). Flight MH370 departed Kuala Lumpur for Beijing late in the evening on 8 March 2014, carrying 239 people on board.

During the course of the flight, the aircraft turned over the Malaysian Peninsula and then flew through the Straits of Malacca before flying south over Sumatra and over the Indian Ocean. Search efforts have been concentrated in a zone more than 2000km west and southwest of Perth.

Air logistics support for 92WG AP-3C Orions engaged in the search has been provided by C-130J Hercules, while 38SQN King Airs has likewise provided air logistics support as RAAF Base Learmonth was activated to assist in the search efforts. To assist Navy efforts, 36SQN moved a S70B Sea Hawk from Nowra to RAAF Base Pearce.

The C-130J also took on more active role in the search. On 24 March 2014, a 37SQN Hercules departed RAAF Base Pearce for an 11.5 hour round trip over the Indian Ocean to deliver a series of data buoys. Once dropped by a loadmaster out of the aircraft, the buoys measure net water movement and provide information to AMSA that assists plotting the possible location of the missing aircraft.

FLTLT Brett said the crew, from No. 37 Squadron at RAAF Base

Richmond, was excited about the mission. "AMSA has requested our support in deploying these buoys and we are happy to support in whatever capacity," he said.

"The C-130J is an excellent aircraft for this mission as we have the capacity to travel the required distance and the capability to deploy the buoys."

FLTLT Brett said the crew was proud to help in the search. "The search for Malaysian Airlines Flight MH370 is one of the biggest ever undertaken by the international community and to be involved, even in some small way, is a great honour," he said. "We want to do our bit to help provide answers to the families and friends of people on board MH370."

Several other air forces deployed transport aircraft to Pearce to assist with the search, including two Chinese Air Force IL-76 Candid jet transports, and a Republic of Korea Air Force C-130 Hercules, which provided airlift support to a P-3C Orion from that country's Navy.

The effort also called upon other RAAF assets including E-7A Wedgetail to provide airspace control in the search area.



Above: 38SQN King Air Co-pilot, FLG OFF Benjamin Howlett, on a flight from RAAF Base Pearce to RAAF Base Learmonth, during Operation Southern Indian Ocean

Mercy flights follow Solomon Islands floods



Flash floods swept through the Solomon Islands capital of Honiara on April 3-4, leading to a response from a C-130J and C-17A to deliver relief.

Hours after Honiara's airport reopened, a C-130J Hercules had landed with the first 11 members of a Defence Assessment Team and critical supplies. Soon after their arrival on April 6, Army engineers had developed a plan to reopen the Mataniko bridge to heavy vehicle traffic.

This significant achievement allowed vital supplies to be transported along the main supply route linking key east and west Honiara nodes for the first time in five days, according to Maj Karl Reynolds, of the Brisbane-based Deployable Joint Force Headquarters. "It was important we quickly came up with a design solution to increase the load capacity of the damaged bridge," he said.

"Without heavy vehicle traffic flowing between key infrastructure nodes on both sides of the Mataniko River, it was going to be almost impossible for Honiara to get back on its feet."

"It was an absolute priority to get the bridge reopened, and it was a great combined effort by engineers from Solomon Islands, Australian Civilian Corps and counterparts in the New Zealand Defence Force."

A C-17A Globemaster arrived in Solomon Islands on April 9 with further Defence, Australian Federal Police and Fire Rescue Service specialists to assist in relief efforts. The aircraft also delivered several tonnes of humanitarian aid stores. Sixteen members comprised the Defence Assessment Team, which was sent to Solomon Islands at short notice.

The role of the team was to provide specialist assessment and planning support to the Department of Foreign Affairs and Trade-led humanitarian relief and reconstruction efforts, after a request for assistance from the Government of Solomon Islands.

The flash flooding that followed several days of sustained heavy rainfall resulted in significant loss of life, damage to homes and infrastructure, and displaced many thousands of residents in and around Honiara. Defence Adviser in Honiara LtCol Richard Watson said apart from the Defence Assessment Team, the ADF provided strategic airlift to transport military and civilian specialists, as well as vital Australian humanitarian aid stores.

"The ADF has well-developed rapid response mechanisms, and our ability to bring across unique skills and expertise, and to seamlessly integrate into joint efforts on the ground, is well regarded and appreciated," he said.

RAF CAS Visit



The Royal Air Force Chief of the Air Staff, Air Chief Marshal Sir Andrew Pulford, KCB CBE ADC, visited RAAF Base Amberley on 10 March 2014, where he experienced the KC-30A Full Mission System Simulator (pictured above). Air Chief Marshal Sir Andrew Pulford was escorted by RAAF Chief of Air Force, AIRMSHL Geoff Brown during the visit, which also took in briefs at 82WG regarding the F/A-18F Super Hornet. The Royal Air Force and the RAAF both operate similar variants of the Airbus Defence and Space A330 Multi-Role Tanker Transport.

RWR Testing in America



Testing of C-130J Radar Warning Receiver (RWR) took place over February and March utilising aircraft A97-464 in the United States (pictured above following a snowfall). The crew conducted a series of flights at test ranges to certify the RWR system which has been installed across the 37SQN fleet. Once approved, the RWR will offer a greater level of awareness for crews operating in higher threat areas.

Awards

Strong showing in 2013 Air Force Awards



Air Mobility Group personnel and units were well represented within the 2013 Air Force Awards, which were announced to coincide with Air Force Birthday celebrations in March 2014.

SGT Amanda Campbell, formerly of RAAF 28 Squadron Richmond detachment (now with the School of Postgraduate Studies) was awarded the **SQNLDR WT Riggs Trophy** for the above image. It was taken on the Flightline of RAAF Base Richmond in November 2012, and depicts C-130H A97-005 in its retirement scheme. The photo was taken with long exposure, during which a 34SQN Boeing Business Jet conducted an overshoot of the runway and created the lighting affect above the Hercules.

CPL Alana Divett of 84WG Detachment was awarded the **Lipshut Family Bursary**, which is accorded to ranks of CPL and below who wish to undertake tertiary study, with a view towards commissioning. CPL Divett (top right image) accepted the trophy from Lipshut Family representative, Mr Daniel Lipshut.

FLTLT Christine Tiedemann (second right image) was awarded the **Air Vice-Marshal Dietz Memorial Medallion** and a Chief of

Air Force Commendation for her exemplary performance in carrying out her responsibilities as the No. 2 Security Forces Squadron Logistics Officer. Awarded both of these honours by AIRCDRE Tim Innes, Senior ADF Officer for RAAF Base Amberley, FLTLT Tiedemann is currently posted to 86WG Logistics Cell.

The **RAAF Maintenance Trophy** went to 36SQN, recognising the unit's efforts in supporting the expanded fleet of six C-17As on near non-stop global operations throughout 2013. The award was presented by AIRCDRE Innes and accepted by 36SQN maintenance representatives, LAC Joseph Kelly and FSGT Russell Henrichs (middle right image).

The **Markowski Cup** is presented to Air Force's most proficient non-flying unit, and was presented to Air Movements Training Development Unit (with the award, fourth right image). Finally, the **Duke of Gloucester Cup**, recognising Air Force's most proficient flying unit, was presented to 37SQN. CO 37SQN, WGCDR Darren Goldie, accepted the award from Senior ADF Officer RAAF Base Richmond, AIRCDRE Warren McDonald (bottom right image), marking the 5th time 37SQN has won the award.



Pacific Synchronisation



Exercise Cope North grows in Guam

From 14-28 February 2014, Exercise Cope North was held at Andersen Air Force Base in Guam, with four Asia-Pacific nations cooperating on a series of exercise scenarios. This year's iteration of the exercise saw an increase in size, participants, and mission scope.

In 2014, the exercise featured more than 100 aircraft and 1800 personnel. Since 1978, Cope North has traditionally involved units from the United State and Japan. In 2011, Australia joined the fold, and in 2014, the Republic of Korea was included as a participant nation, with the Philippines and New Zealand sending observers and signalling their intention to send participants in future.

Whereas most large exercises such as Red Flag and Pitch Black are concentrated on Large Force Employment (LFE) with combat and surveillance aircraft, Cope North has grown to also include a considerable focus on conducting Humanitarian Assistance and Disaster Relief (HADR) operations. Following the international response to natural disasters such

as Typhoon Haiyan in the Philippines and the Tōhoku Earthquake in Japan, the emphasis on HADR operations can be expected to remain.

Air Mobility Group in Guam

Air Mobility Group units participated in both the LFE and HADR elements of Cope North, sending a 33SQN KC-30A Multi-Role Tanker Transport and a 37SQN C-130J Hercules. Both aircraft types were returning following participation at previous Cope North exercises. The KC-30A deployed

RAAF 75SQN F/A-18As to and from Guam, as well as flying several air-to-air refuelling missions towards the exercise's conclusion. Australia also contributed E-7A Wedgetail from 2SQN.

The United States and Japan likewise sent a mix of combat, surveillance, and tanker aircraft to participate in the LFE. Cope North's exercise area covers large swathes of airspace over the Pacific Ocean and calls on participants attending from around the Pacific Rim, making it a very



Above: A 33SQN KC-30A pictured on approach to Andersen Air Force Base in Guam during Exercise Cope North '14.

unique operating environment. This was exemplified by Fighters from the United States Air Force's 18th Aggressor Squadron, comprising of F-16 Falcons, attended the exercise from their home base at Eielson Air Force Base in Alaska. Following the exercise, 33SQN KC-30As assisted 18AGS maintainers deploy to Australia to participate in Exercise Lightning Viper against 1SQN at RAAF Base Amberley.

The RAAF's C-130J detachment was certainly grateful for the opportunity to participate in Cope North's LFE. SQNLDR Cam Clark was Detachment Commander for 37SQN as well as the 4SQN and Army 176 Air Dispatch Squadron elements at the exercise. "The kinds of missions we flew were in the LFE were simulated airdrop and airland in the exercise area," SQNLDR Clark said. "We had the majority of the exercise participants in the airspace above us, leading us to evade attack from Red Air, similar to what we might fly at Pitch Black or Red Flag."

For Cope North's HADR component, 37SQN was initially inserted a 4SQN Combat Control Team on the neighbouring island of Tinian. The CCT conducted a tactical assault zone survey of North Field (the airfield that the Enola Gay departed from on its mission to Hiroshima) and transmitted the results to the Air Mobility Control Centre's Mobile Airfield Engineering Team at RAAF Base Richmond.

Assessing these results, North Field at Tinian was declared suitable for C-130 operations, allowing Hercules from the United States, Japan and Australia (along with a CN235 from the Republic of Korea) to fly missions to the airfield. "The subsequent flights to Tinian included airdrop and airland to the airfield by day and by NVG at night" SQNLDR Clark said.

Aero-Medical Evacuation rehearsals with Australian and American teams were also conducted. To complete the HADR

event, all exercise participants joined in a Search and Rescue scenario where a helicopter had notionally ditched in the water.

Assisted by local United States Coast Guard units, the RAAF Crew were able to airdrop rescue kits to the downed crew and guide a United States Navy helicopter to the rescue.

Against the HADR exercise, a real world emergency developed. The nearby island of Rota in the Northern Mariana Islands declared a 'State of Significant Emergency' due to the shortage of food. Dangerous weather conditions made the island's harbour temporarily inaccessible, and with Rota less than 100 kilometres from Guam, the C-130J and 4SQN CCT was called upon to assist, working alongside other exercise participants to do so.

Future Prospects

In just three years, the scope of Cope North has grown significantly, and can further growth potential exists at future iterations of the exercise. While Air Mobility Group participation has been limited to the C-130 and KC-30A thus far, there is no cause for the C-27J, C-17A or even King Air 350 to not participate in future.

The KC-30A's future at the exercise will be largely tied to participation from RAAF F/A-18s, although this year saw 33SQN in the unique position of redeploying American participants following the exercise (albeit in a strictly air logistics support capacity). The majority of Exercise Cope North's participants from the United States and Japan are boom-refuelling compatible, and future Cope North exercises may be an opportunity to increase 33SQN's experience in conducting boom refuelling operations once the role is cleared.

At 37SQN, there is enthusiasm for the training that Cope North could provide C-130J crews. In 2013, the unit sent one aircraft and one crew, and in 2014, expanded its participation to one aircraft and four crews. SQNLDR Clark said that 2015 could further expand the scope of missions to be exercised. "There was a significant expansion of the HADR scenario at Cope North 14, and next year we want to likewise evolve our participation in the LFE," SQNLDR Clark said. With a role expansion currently being embarked upon with the C-130J, increased participation from 37SQN at future Cope North exercises seems likely.



Above: A pair of RAAF F/A-18 Hornets depart Andersen Air Force Base as a 37SQN C-130J refuels in the foreground. At Cope North 14, 37SQN participated in both the Large Force Employment as well as the Humanitarian Assistance and Disaster Relief element of the exercise.

Returning to Africa

Supporting United Nations Mission in South Sudan

The African continent is one seldom visited by Air Mobility Group. Aside from 34SQN tasking to carry Australian politicians and heads of state across the Indian Ocean, the last major activities conducted by RAAF transport aircraft to Africa were peacekeeping efforts to Somalia and Rwanda in the 1990s.

These deployments entailed the use of Boeing 707s and C-130s, and were largely to support sustained deployments of Australian Defence Force (ADF) personnel in those countries. Since then, much of Air Mobility Group's international focus in support of peacekeeping operations has remained within the Asia Pacific region. This changed in December 2013 however, when unrest in the west African country of South Sudan led Air Force to deploy a C-130J and C-17A in support of the United Nations.

Operation Aslan

In September 2011, the ADF launched Operation Aslan, consisting of 20 personnel attached to the United Nations Mission in South Sudan (UNMISS). The Re-

public of South Sudan was formed out of territory formerly belonging to Sudan in July 2011, following years of bloody conflict and a hard-fought peace settlement. Prior to South Sudan's independence, the ADF conducted support to the United Nations Mission in Sudan under Operation Azure.

The ADF personnel deployed to UNMISS under Operation Aslan worked largely out of the South Sudanese capital of Juba, and are engaged in key headquarters positions, aviation and logistics support roles, as well as acting as military liaison officers. While Air Mobility Group may not have contributed many aircraft to Operations Aslan or Azure previously, several number of Air Mobility Group personnel have participated in both operations.

Violence returned to South Sudan in December 2013 when the country's President, Salva Kiir Mayardit, accused his ex-deputy Riek Machar of coordinating a coup d'etat. This led to an outbreak of fighting between the South Sudanese Army and rebel forces, with an estimated 10,000 killed and

more than 600,000 people being displaced from their homes.

Several nations moved quickly to evacuate foreign citizens from areas of South Sudan, with the United Kingdom and United States both having sent C-17As in mid-December. On one mission, a United States Air Force C-17A evacuated four personnel who were injured when their CV-22 Osprey tilt-rotors were fired upon during an evacuation mission. Meanwhile, the United Nations called on the international community to help carry equipment, supplies and personnel to South Sudan in a effort to restore security within the country.

Globemaster by nature

At the time, United Nations Global Service Centre Director Nicholas Von Ruben said the equipment required for South Sudan was vital.

"We have thousands of displaced people in South Sudan," Mr Von Ruben said. "Flying [relief supplies] in is by far the quickest and safest way to deliver the equipment. "We're grateful to the

Australian Government for providing this support at such short notice.”

The RAAF responded to this call from the United Nations by placing a C-17A Globemaster and C-130J Hercules on a notice to move. The C-17A was dispatched from Australia on Boxing Day, whilst the C-130J was already in relative proximity at Al Minhad Air Base in the United Arab Emirates.

Several days past before a task was forthcoming from the United Nations, before a formal request was raised to transport equipment and personnel from across Africa and Europe to South Sudan. Between 3-12 January 2014, Air Force delivered 200 tonnes of cargo and equipment into Juba with eight C-17A missions and another two C-130J missions.

The C-17A tasks took 36SQN to Djibouti on the east coast of Africa, as well as Brindisi in Italy, with more than 175 tonnes of supplies, including tents, water purification and sanitation equipment being carried.

Brindisi carries special significance, with its central location in the Mediterranean and its airport and seaport making it a major United Nations Logistics Hub for supporting peacekeeping and



Above: A 36SQN C-17A is unloaded at Juba in South Sudan.

peace enforcement operations around the globe. Over the course of 36SQN’s flights from Brindisi to Juba, the C-17A was operated almost completely around the clock.

C-17A captain FLTLT Luke Ridgway said while in Italy the crew had a large amount of support from the UN and Italian military. “To use our skills to deliver aid to people who really need it is very humbling,” FLTLT Ridgway said.

UNMISS Air Operations Officer FLTLT Kirsty Winter, said the ADF support was important for the UN mission. “These supplies are ex-

tremely important and they will be distributed across the country to provide support to the outlying bases and towns,” FLTLT Winter said.

Heavy-weight Herc

Support from the C-130J was conducted by crews and aircraft already attached to Operation Slipper at Al Minhad Air Base in the United Arab Emirates, cutting out the need to ferry an aircraft across the Indian Ocean.

The C-130J contingent carried out two flights into Juba via Monrovia in Liberia on Africa’s west coast, and Yaounde in Cameroon. Both flights carried United Nations personnel and equipment.

The first Hercules flight arrived in Juba on January 11 carrying six Nepalese police officers and cargo, with the second flight arriving on January 12 with UN cargo to support peacekeeping operations.

The support took 75 hours of flying with no unserviceabilities, and delivered 58,000lbs (26t) of cargo—including food, generators, police and weapons.

FLTLT Mark Keritz, a co-pilot with 37SQN, said “after a week of broad planning for possible tasking in an unfamiliar and unique part of the world, an augmented crew was launched (from AMAB) to Djibouti, completing two trips



Above: A member of the United States Marine Corps guards a 36SQN C-17A on the tarmac in Juba. The United States responded to the violence in South Sudan in mid-December 2013 by evacuating a number of American and foreign citizens, which included the use of its own C-17As as well as CV-22 Ospreys.

from January 5-7.”

“On January 8, two crews were launched after some rapid planning to create an air bridge between Monrovia in Liberia, and Juba in South Sudan utilising Cameroon (utilising Yaounde as a hub).”

Liberia sits on the African continent’s West Coast, with South Sudan located to the far east.

“One crew flew from AMAB to Yaounde in Cameroon via Djibouti, and stayed there while the other crew remained on the aircraft to fly from Yaounde to Monrovia and back.”

“The initial crew then flew from Yaounde to Juba to complete the leg, and back to Yaounde. This process was repeated with the final tap out of Juba ending up in Djibouti overnight before returning to base.”

“The plan went smoothly and relied heavily on tight timelines with periods of minimum crew rest and flying through the night to achieve the aims.”

For junior pilots with 37SQN, the experience of deploying to the Middle East Area of Operations would have been unique of itself, without the addition of supporting the United Nations in Africa. “The trip offered some amazing experiences for the crews and gave them a chance to see a very different part of the world,” FLTLT Keritz said. “A mission requirement of no night ops into Juba created some interesting flying experiences.”

Since 2012, the upgrading of the C-130J fleet to a Block 6.1 standard has allowed an increase in maximum take off weight - from 155,000lbs (70t) to 164,000lbs (74t). This allowed more fuel and cargo to be carried on efforts like Operation Aslan. “Maximum weight take offs from Yaounde at 1am were required to allow for a sunrise tactical arrivals into Juba 5 hours later,” FLTLT Keritz explained.



Above: Flight Lieutenant Luke Ridgway hands over his humanitarian stores manifest to a United Nations official at Juba.

“The crew that travelled to Monrovia also had the opportunity to work alongside the UN while loading the aircraft.”

FLTLT Nick Bourke, a junior captain with 37SQN, flew one of the loads into South Sudan and likewise found the task rewarding.

“Personally, (I found) the experience was amazing - I have had my C-130J captaincy about six months, and I find myself in a foreign country departing at 0100hrs, at maximum take off weight, to arrive just after the sunrise, carrying cargo in support of the UN.”

“Across the two crews, we car-

ried four pilots, two loadmasters, five maintenance personnel, two air load team members, two aviation safety officers and an intelligence officer, sixteen people in all,” FLTLT Bourke said.

“Each person was essential, and that list doesn’t cover the many people who worked hard to support the mission. The memory will stay for many years.”

Thanks from United Nations

Recognition for Australia’s support to efforts in South Sudan - and specifically, the RAAF’s service in Operation Aslan - was forthcoming from the United Nations. Under-Secretary-General for Field Sup-



Above: A 37SQN C-130J is loaded with United Nations supplies at Monrovia, capital of Liberia, on Africa’s west coast.

port, Mr Ameerah Haq, wrote to the Chief of Defence Force, GEN David Hurley, thanking Defence and Air Force for their timely assistance.

Mr Haq wrote in part “In providing these two aircraft, Australia has gone above and beyond the call of duty and has set an excellent example of how Member States may contribute to the execution of our missions...I would like to thank all those individuals who worked tirelessly to make these flights happen, including all crews, planners, ground staff, those who worked to obtain the many over-flight clearances and your military staff here in New York.”

Chief of Air Force, AIRMSHL Geoff Brown, added his own personal thanks to those involved express my pride in you all for representing Australia so well in this vital humanitarian activity and for upholding the finest traditions of our Air Force.”

Chief of Joint Operations LTGEN Ash Power praised all personnel for their efforts. “Each year our personnel are required to sacrifice their traditional holiday period and assist with a task either at home or somewhere else in the world where our capability and expertise is needed,” LTGEN



Above: Members of the 37SQN and CTU633.2.2 element who supported the C-130J tasking to Africa.

Power said.

“Personnel deployed at Al Minhad Air Base also provided valuable logistical and technical support to ensure the mission could be carried out successfully.”

The Global Picture

Peacekeeping and humanitarian efforts in Africa are hardly a new endeavour, and with the many array of unresolved conflicts on the continent, these operations are destined to be a reality for some time to come. In the past two years alone, European and North American air forces have provided significant airlift assets to assist

peacekeeping and counter-terrorism efforts in Mali and the Central African Republic.

What has changed for Australia in recent years is the capacity to respond to events at short notice, and to respond as a strategic ‘heavy-hitter’ within the international community. As illustrated by Operation Aslan, Australia’s newly-introduced strategic airlift assets can be deployed internationally and make an almost immediate effect Likewise, positioning of airlift assets (like the C-130J) in the Middle East allows it to respond to events far outside our normal sphere of operations.

Foreign air forces have likewise demonstrated a similar global capacity in recent months, by reaching into the Asia Pacific region. During the recovery efforts following of Typhoon Haiyan in the Philippines, the Royal Air Force dispatched a C-130J and C-17A. Should Australia be called upon to provide support to future operations in Africa, an obvious balance needs to be struck against our regional obligations to security in the Asia Pacific. After 36SQN and 37SQN moved 200 tonnes of cargo from around Africa and Europe and into South Sudan, the international community is now well aware of what difference the RAAF can make.



Above: United Nations Global Service Centre staff join 36SQN members in celebrating another successful loading of humanitarian supplies into a RAAF C-17A Brindisi, Italy.

Meet the Spartan



The next generation of Battlefield Airlift

Few flights in Australian military aviation have been longer coming than the first C-27J Spartan. On 18 December 2013, the first C-27J for Australia - serial A34-001 - conducted its maiden flight from Casselle Airport in Turin, Italy, marking a milestone whose origins date back to 1960.

For the past 54 years, numerous turbine-powered light transport aircraft had been suggested as alternatives or replacements for the DHC-4 Caribou in Australian service. At various times, these options included the Fokker F.27; the DHC-5 Buffalo; supplementary Hercules and Chinooks; and even a joint Canadian/Australian design which would be powered by two vectored-thrust Spey turbofans.

In 1995, the G.222 - predecessor to the C-27J - was pitched to the RAAF by Alenia and Aerospace Technologies Australia (ASTA) as a Caribou replacement. In 1999, Alenia banded with local Defence company Tenix to offer the proposed C-27J to the RAAF under Project

AIR5190. This program was later delayed indefinitely in 2000, leading the ageing Caribou fleet to soldier through its fifth decade of service.

Enter the Spartan

The realities of operations in Iraq, Afghanistan and East Timor led AIR5190 to become AIR8000 Phase Two - a program to acquire a 'Battlefield Airlifter' that could complement existing Defence airlift platforms by operating into airfields with an elevated threat level. In May 2012, the C-27J Spartans was announced as the winner of AIR8000 Phase Two, with 10 aircraft to be acquired under a Foreign Military Sales agreement with the United States. These aircraft will be operated by 35SQN at RAAF Base Richmond.

Much like all other C-27Js, components for each aircraft are manufactured at plants across Italy before being shipped to Turin for final assembly. After their first flight, each of Australia's Spartans will be ferried to a plant at Waco, Texas, where L-3 Communications will fit additional bal-

istic protection, communications equipment, and electronic warfare self-protection systems. This process takes approximately three months.

Aircraft deliveries will see A34-001 and -002 delivered in the United States in mid 2014; -003 and -004 in March 2015 (and likely the first to arrive in Australia); with all remaining C-27Js completed by mid-2016. Within the Australian Defence Force, the Spartan will fulfil a Battlefield Airlift role between Army's CH-47 Chinook and Air Force's C-130J Hercules, possessing a lower per-hour operating cost than either type.

Compared to the C-130J, the C-27J is significantly lighter, with a maximum take off weight of 67,200lbs (30.5t) - more than three tonnes less than the empty weight of a C-130J. This allows considerable freedom to operate from runways, tarmacs and natural ground surfaces which normally prohibit C-130J or C-17A operations. Runway take off distance for the C-27J is between 2100-3200 feet, depending on

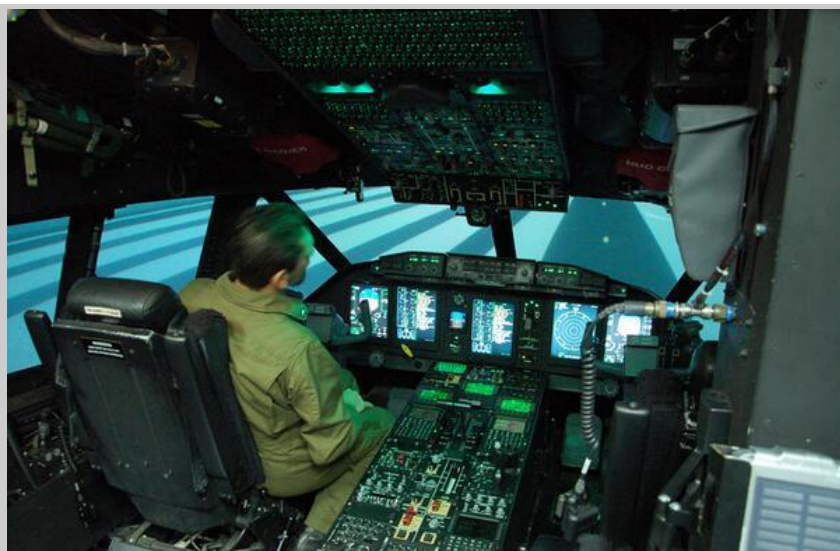
the loaded weight. The aircraft has a 33 per cent smaller ground footprint than the C-130J, further increasing its utility at airfields where taxiway and parking apron space is limited.

The Spartan can airlift up to 17,600lbs (8t), or can transport a 11,000lb (5t) payload over 3000km. The cargo bay can accommodate three 463L military pallets along with vehicles or CDS loads. During Defence's selection process for the Battlefield Airlifter, 47 loads were identified for carriage; the C-27J could carry 42 of these loads, whilst the nearest competitor could manage only seven.

The aircraft will come equipped with four VHF/UHF radios, two HF and datalinks, SATCOM, and a low-power colour radar. Self-protection in the form of ballistic matting, Radar Warning Receivers, Missile Alert Warning Systems and countermeasure dispensers will be fitted to the RAAF's aircraft, offering a level of protection comparable to other RAAF transports.

Initial C-27J training will require 35SQN personnel to undergo a 15-week course in the United States, with technicians and aircrew departing from October 2014. By January 2018, all Australian-based training infrastructure is anticipated to have been completed, including a cockpit simulator, cargo compartment trainer, and maintenance training device. A decision has been made to relocate the Squadron to RAAF Base Amberley, including installing all training infrastructure at the base.

The RAAF's C-27Js will initially be delivered to 35SQN's present home of RAAF Base Richmond. Much like other newly introduced types such as the C-17A and KC-30A, a Special Flight Permit will cover the aircraft for its first two years of service (between mid-2014-2016). IOC is envisaged for January 2016 and will enable the aircraft to conduct Air Logistics Support, some Airborne Operations, and Search and Rescue.



Above: The Italian Air Force C-27J simulator. Defence is procuring a similar cockpit simulator, and also plans to acquire a cargo compartment trainer and maintenance training device.

Aero-Medical Evacuation will be rolled out in mid-2017. Amongst the planned upgrades for the C-27J once in service are a galley, and a Digimap.

Strong ties are being established with the Italian Air Force to capitalise on its C-27J experience, including reciprocal visits by the Chief of Air Force for both Australia and Italy, and the intent to establish a C-27J Joint User Group later in 2014 to assist with role development and knowledge sharing. Italy's own C-27J unit, 98° Gruppo, shares a similar role and composition to the 35SQN, and like-

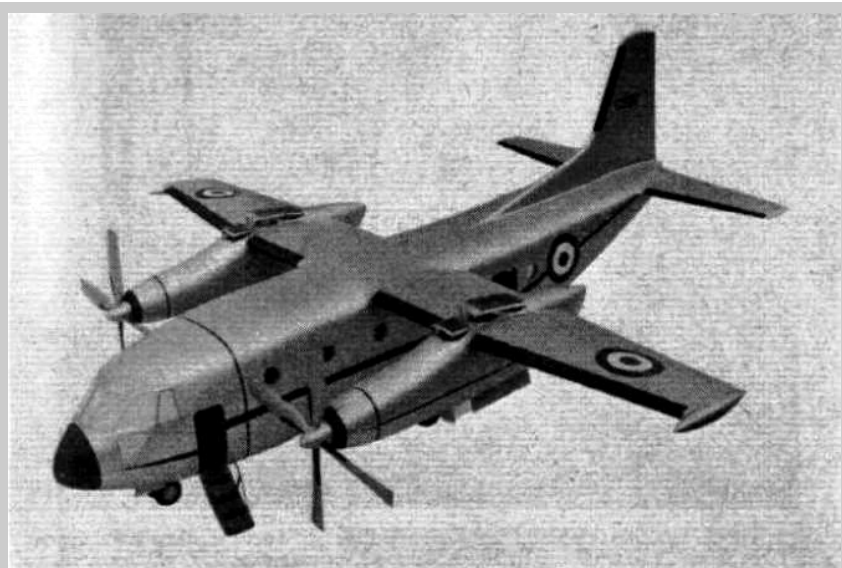
wise fills an airlift role between Italy's CH-47F Chinooks and C-130J Hercules.

Spartan Origins

The origins of Australia's requirements for the C-27J Australia can be traced as far back as 1960. RAAF Historian Dr Alan Stephens recounts in his book 'Going Solo—The Royal Australian Air Force 1946-71' the standoff between Army and Air Force over replacement of 38SQN's C-47 Dakotas, for which Air Force wanted an aircraft whose performance is broadly similar to today's C-27J. Back then, the RAAF desired a



Above: Director of the C-27J Transition Team, GPCAPT Steve Young (left), with GPCAPT Jim Ghee, OC84WG, after taking over command of 35SQN at RAAF Base Richmond. 35SQN will remain under the command of the C-27J Transition Team until returning to 84WG as it nears Initial Operational Capability with the Spartan.



Above: The design of the original Fiat G.222 - intended for Vertical/Short Take Off and Landing, it featured a smaller fuselage and clipped wing for operations from European highways, and was powered by a combination of Rolls-Royce Dart turboprops and between 6-8 lift jets mounted in the engine nacelle.

transport that could complement the newly-introduced C-130A, carrying 9000lbs (4000kgs) of cargo over 1300km between bases in South East Asia. It needed to be high-performance, have a pressurised fuselage, and be powered by twin turboprops. In 1960, no such aircraft existed to meet Air Force's requirement.

The Australian Army's requirements were far simpler - carry 40 troops to an austere airfield 400 kilometres away. Coincidentally, DeHavilland exhibited exactly this capability with a DHC-4 Caribou during a marketing tour of Australia in 1960. Air Force was therefore forced to concede the Dakota replacement to the Caribou, which entering service in 1964 and would only be retired in 2009.

In the early 1960s, NATO announced its own requirement for a light transport with far more ambitious performance goals - the ability to conduct Vertical/Short Take Off and Landing (V/STOL) operations. NATO air forces required light transports that were independent of runways that might be vulnerable to attack from Warsaw Pact, and in 1962, Italian manufacturer Fiat proposed the G.222.

The aircraft would be powered by two Rolls Royce Dart turboprops (the same powerplant as the Hawker Siddeley 748) for forward flight, but would feature between 6-8 Rolls Royce RB162 lift engines to provide vertical lift. It was foreseen the aircraft could undertake a fully-laden take off roll in 600-feet, and allow a vertical landing at the frontline. This goal proved to be wildly optimistic, and NATO soon scrapped its V/STOL transport requirement. Fiat redesigned the G.222 as a conventional STOL transport, intended to replace Italy's C-119 'Flying Boxcar' transports.

The revised Fiat G.222 design would feature increased fuselage

and wingspan dimensions, and was powered by a pair of General Electric T64 turboprops, each delivering 3400 shaft horsepower.

A contract for a prototype G.222 and development aircraft was signed in 1968, and the first prototype conducted its maiden flight on 18 July 1970. The first of 50 aircraft was handed over to the Italian Air Force in 1978, and in Italian service, the G.222 saw extensive use on peacekeeping operations in the former Yugoslavia, Somalia, and East Timor. Subsequent export orders included the United States, Argentina, Nigeria, Somalia, Venezuela and Thailand, with a total of 106 G.222s manufactured.

From G.222 to C-27J

By the 1990s, the G.222 design had fallen under the responsibility of Alenia Aeronautica, and in 1995, Alenia and Lockheed Martin partnered to upgrade the G.222 with technology developed for the C-130J Hercules. This would include a new glass-cockpit with Heads-Up Display, and the Rolls Royce AE2100 turboprop powerplant. The pairing was called Lockheed Martin Alenia Tactical Transport System (LLMATTSS), and was established as an industrial offset to allow Lockheed Martin to sell 22 C-130Js to the Italian Air Force. The first C-27J was a modified G.222, and flew in 1999.

Italy and Greece were the first to operate the C-27J, introducing the aircraft in 2006. Italy subse-



Above: Following a re-design, the Fiat G.222 prototype emerged in 1970 as a more conventional Short Take Off and Landing transport with a larger fuselage and wingspan.

quently replaced its fleet of transport G.222s with C-27Js. A total of 76 C-27Js have been ordered from operators in Italy, the United States, Australia, as well as Lithuania, Mexico, Bulgaria, Peru, Chad, Morocco, and Romania.

Australia's C-27Js are linked to the United States Joint Cargo Aircraft (JCA) program, which was established in June 2006. Under JCA, the United States Army joined with the Air National Guard to replace their respective light transport fleets. Lockheed Martin withdrew from LMATTS so that it could bid the C-130J to JCA, leaving Alenia to band with L-3 Communications on the C-27J Spartan, while Raytheon paired with EADS North America to offer the C295.

Almost immediately, the C-130J bid eliminated by the Army, and in June 2007, the C-27J was announced as the winner of the JCA program. A protest was almost immediately filed by Raytheon and EADS North America, but overturned, and an order for 78 Spartans was soon submitted. The first American C-27J was received in September 2008, but in 2009, control of JCA was given exclusively to the United States Air Force. The purchase was clipped to 38 aircraft and then capped at 21 in May 2012, at which point the USAF killed off the JCA program. Of the 21 C-27Js, seven aircraft were transferred to the United States Army Special Operations Command, while the United States Coast Guard will soon take on the remaining 14 aircraft.

Spare a Herc - Ride a Spartan

On the eve of the Spartan's introduction to Australian service, the RAAF's demands of a 'light transport' remain little different in 2014 than they did in 1960 - supplement the work being done by larger RAAF transports). Furthermore, the geographic expanse of the Asia-Pacific, and the nature of many of the airfields in the region, require some flexibility in the transports that Defence can use. Even today, inefficient use of



Above: The United States Army Special Operations Command will receive seven C-27Js, the first of which is seen here being inducted during a ceremony at Fort Bragg in North Carolina. The aircraft will replace an existing fleet of Casa C-212 Aviocars utilised for paratroop training.

transports like the Hercules occurs when payload or fuel load is compromised to allow the aircraft to operate from smaller, 'softer' airfields. The reality of Australia's recent operational experience is that a Hercules should not be the smallest tactical transport in the fleet. The Spartan is anticipated to provide access to four times the number of airfields in Australia than are accessible by Hercules. Use of the Spartan will also ensure that larger assets like the Hercules, C-17A and even King Air and KC-30A can be matched against more efficient tasking.

What has changed for the RAAF since 1960 is the operating environment and the technology available. The 'Battlefield Airlift' role to be fulfilled by the Spartan is a reflection of Australia's experiences in Iraq, Afghanistan and East Timor over the past 15 years. This period largely showcased the strengths and shortfalls of an aircraft like the Caribou in a modern transport fleet; and likewise, these theatres played a large role in how the ADF evolved its Hercules, Chinook and Globemaster capability.

While the RAAF is purchasing a mature design in the Spartan, its impact on Defence operations may not be fully appreciated until

the type enters service. That being said, the experiences of foreign C-27J operators illustrate that the aircraft is a match for some of the environments that Australia can expect to work within. Italy and the United States have both conducted sustained deployments with the aircraft in Afghanistan for intra-theatre airlift, and both were satisfied with the aircraft's performance. The United States Army Special Operations Command has a strong emphasis on airborne operations (particularly with the US Special Forces Command [Airborne], the 75th Ranger Regiment), and while its C-27Js will ostensibly fulfil a training role, it will no doubt yield useful data in how the Spartan can be fielded. Likewise, Italy has employed the Spartan on humanitarian efforts in the Philippines and Africa.

It is easy to imagine that Australia will operate the Spartan similar to the roles already demonstrated by these international air forces. With an enthusiastic international operating base, and Alenia Aermacchi remaining bullish on the type's development and export prospects, there's good cause to be optimistic about the Spartan's future - especially once it enters RAAF service.

Celebrating a Centenary



Air Mobility Group and the centenary of military aviation

On 1 March 1914, a Bristol Boxkite took off from Point Cook in Victoria, heralding a new age of military innovation in Australia. At the time, the prospects of military 'heavier-than-air' flight appeared to be limited to just reconnaissance, with the First World War significantly opening the applications for these new flyers.

It wasn't until 1942 that dedicated transport units were formed within the Royal Australian Air Force, but for the last 72 years, air mobility has been a significant part of Defence operations, and a role that was celebrated in an air show at Point Cook on 1-2 March 2014. Approximately 33,000 people attended the air show, which featured a mix of vintage and antique aircraft (including a Bristol Boxkite replica), as well as current-serving aircraft of the Air Force, Army, and Navy.

Buzzing Melbourne

To publicise the Air Show ahead of time, a media flight with two C-130J Hercules was conducted from Point Cook on February 7 (pictured above). The flight was

an opportunity to celebrate the C-130's 55-year association with military aviation in Australia, as well as saluting Melbourne's contribution to aviation.

RAAF Museum director David Gardner said the formation highlighted the role played by generations of Hercules to Air Force. "This type has served Australia well for more than 55 years in the roles of humanitarian aid, civil aid and the transport of personnel and equipment into those areas in which the Defence personnel

serve throughout the region and beyond," Mr Gardner said. "It was absolutely outstanding being part of the operation of these aircraft at Point Cook for the occasion."

Military aviation had been synonymous with Victoria since the first flight of an Australian Flying Corps Bristol Boxkite at Point Cook on March 1, 1914. As well as hosting RAAF Bases at Point Cook and Laverton, Melbourne was an important centre of aircraft production during the Second World War.



Above: Defence personnel in the Middle East recognised the Centenary of Military Aviation on 1 March 2014 with a routine task between Al Minhad Air Base and Kandahar Airfield.

One of the future capabilities of Australian Military Aviation was also acknowledged during the flight. The Navy's forthcoming Landing Helicopter Docks, HMAS Canberra Adelaide, were overflowed at Williamstown Shipyard and in Port Phillip Bay. HMAS Canberra will enter Navy service in 2014 and will be an important part of Navy and Army Aviation's ability to conduct maritime operations.

Honest work

To prepare for the Air Show at Point Cook on March 1-2, no small amount of 'honest work' was required by Air Mobility Group units. Key amongst these was the coordination between 36SQN and AM-TDU to deliver a mock-up of the F-35A Lightning II—also known as the Joint Strike Fighter—to Point Cook.

The mock-up's appearance was an essential part of the Air Show's static display, with the first two RAAF F-35A pilots being announced during the event. The F-35A mock-up belongs to Lockheed Martin and, prior to the Air Show, had been on display at the Singapore Air Show.

Ordinarily, the mock-up is transported in shipping containers by sea, however the C-17A was brought in to allow it to be present for the Point Cook show. Landing at Point Cook marked the C-17A becoming the biggest aircraft to ever operate from the airfield, and a unique perspective on just how far aviation has progressed in a century.

On Display

For the Air Show itself, Air Mobility Group was well-represented in the static and flying display. The Hercules and Globemaster conducted handling displays that were visually striking for such a small airfield as Point Cook.

The KC-30A conducted a flypast with trailing F/A-18 Hornets on both days of the Air Show, operating directly from RAAF Base Amberley. On March 2, the KC-30A



Above: A 33SQN KC-30A with four F/A-18 Hornets during Centenary of Military Aviation Air Show.

conducted its flypast and then flew *non-stop* to Guam, where it proceeded to support the return of RAAF units from Exercise Cope North 14.

While not an Air Mobility Group unit, 32SQN appeared in the flying display with a four-ship formation of King Airs. Past Air Mobility Group types were represented in the flying display program.

The Lockheed Hudson from the Temora Aviation Museum flew, along with the Caribou and Dakota from the Historic Aircraft Restoration Society. Of particular note was the fact that 2014 marks the 50th anniversary of the Caribou in Australian service, and the 50th

anniversary of its deployment to Vietnam.

In the static display, the C-130J and C-17A were both featured and drew large crowd numbers. Retired types were also featured, including the Air Force Museum's C-130H and Caribou. The Air Force Museum collection includes deHavilland DH.84 Dragon A34-92, which served with 33SQN during the Second World War.

Further to this, 38SQN's King Airs provided air logistics support for a number of VIPs who attended the Air Show. C-130Js were also instrumental in delivering other participants to the show.



Above: A 36SQN C-17A delivering F-35A to Point Cook for Centenary of Military Aviation Air Show.

Thirsty Work



36SQN implements a C-17A fuel-saving programme

FOR THE fleet of six C-17As at 36SQN, supporting global operations for Defence can be thirsty work.

Whether it be conducting work in the Middle East Area of Operations or training in Australia, the C-17A's typical fuel burn averages a rate of 16,000 pounds per hour.

An Air Mobility Improvement Program initiative was launched in the second half of 2013 to reduce the cost to Defence of operating the C-17A.

During the C-17A integration in to Australian service, the operating procedures have been continually evolving. Derived initially from established USAF guidelines it has been continually refined to reflect the unique Australian requirements. Recently, the unit's fuel planning policy has been amended under a fuel optimisation program at 36SQN.

The first initiative was to mandate reduced fuel loads for local training sorties. Previously C-17 aircraft would be fuelled for a day of multiple local training sorties. The sortie profiles are now broken down to allow for refuel between

sorties and modified to minimise high fuel landing weight events.

Fuel landing weight is a critical parameter in C-17A wing root fatigue management, and has a significant impact on aircraft Life-of-Type (LOT). Therefore reducing the fuel onboard at landing to less than 40,000lbs, has reduced the stress on the aircraft wings.

"Aircraft fatigue modelling suggests this initiative alone will extend the LOT by five years" WGCCDR Steven Pesce, Commanding Officer of 36 Squadron explained.

A second initiative entailed a review of fuel policy for long haul missions, specifically looking at how alternate diversion and holding fuel is calculated. Previously, the aircrew used standard planning figures for fuel holding. This change in policy has resulted in an average reduction of 30 per cent of the amount of reserve fuel being carried, the benefits of which are two-fold.

"The first benefit is that reducing how much fuel a C-17 is required to carry directly leads to lighter fuel landing weights and further

reduces airframe fatigue" WGCCDR Pesce explained, "I am also confident we have achieved this without any impact on the mission, legal holding requirements and safety."

The second benefit is that reducing the amount of reserve fuel carried, directly reduces the fuel flow in the cruise, and therefore the amount of fuel burnt on an average mission.

"Reducing how much fuel we need to carry directly leads to lighter fuel landing weights, and reduces a contributor to aircraft fatigue, without any impact on the mission, legal holding requirements and safety."

"The alternate and holding fuel requirements were overly conservative, but without first updating the process of determining fuel requirements, there would be little ability to validate or implement the



Above: Australia's geography all but guarantees that 36SQN C-17A tasking will be medium-to-long range airlift missions. Smarter fuel management in this environment has potential to generate substantial fuel savings.

change." SQNLDR Freebairn said. "Our review of these figures has provided greater confidence that our fuel policy is more accurate and reflects operating procedures."

Initial analysis of the data before and after the implementation of these changes shows that 36SQN has been able to reduce fuel consumption per hour by 1.3 per cent, which equates to savings of over \$500,000 annually. While this saving is impressive, 36 Squadron is progressing a number of operational initiatives, which complement Air Mobility Group improvement efforts.

These include; initiatives that will reduce the aircraft operating weight and fuel consumption, a review of simulator and aircraft training competencies to rationalise aircraft flight training hours, management protocols for Engine Fuel Flow Factors for more accurate flight planning, and Centre of Gravity management protocols to further reduce fuel burn in cruise flight.

"I am very proud of the efforts of our team. I believe it is a great example of 36SQN personnel embracing the cost conscious and continuous improvement cultures valued by Air Force." WGCDR Pesce said.

AMIP launches 2014 Induction Video

The Air Mobility Improvement Program (AMIP) has launched a 2014 Induction Video, aimed at spurring projects within Air Mobility Group to cut waste and increase output.

Displayed to all Air Mobility Group members during the 2014 Induction program, the video illustrates past examples of improvement initiatives that were driven by units as well as the Defence Materiel Organisation.

Cost conscious behaviours within the Air Mobility Community have significant potential to prevent waste and allow reinvestment of savings.

Examples featured within the Induction Video include a number of improvement measures conducted within the Air Mobility Control Centre, Air Lift Systems Program Office, and throughout 37SQN.

The Video also encourages Air Mobility Community members to access Air Force Improvement teams and its improvement tools to conduct analysis within their own workplace, and share good ideas with similar cells and sections across the organisation.

The video is intended to encourage more personnel within Air Mobility Group to consider workplace changes and improvements to their practices that can be implemented in the coming year.

A copy of the video is available from the AMIP page, which can be found by searching 'AMIP' on the Defence Intranet or at <http://intranet.defence.gov.au/raafweb/sites/AMG/comeweb.asp?page=1225466&Title=AMIP>.

Special Delivery



An uncertain journey into Cambodia

The recent airlift of United Nations supplies and personnel into South Sudan demonstrated that Air Mobility Group's units can be re-tasked at short notice and sent into unfamiliar territory.

For the crews involved in the South Sudan airlift, there was correspondence available with Defence personnel deployed to the capital of Juba with Operation Aslan, and some confirmation that the city has been stabilised by local and international security forces. On some occasions, RAAF transport crews were required to develop a plan for 'battleworthiness' on the fly, as retired Flight Engineer, Jack 'Jockey' Fordyce recounts.

In 1971, 37SQN was deeply involved with regular courier flights between Australia and South Vietnam, flying from Richmond to Butterworth in Malaysia and then on to bases in South Vietnam. At the time, a number of Australian units were deployed throughout the country, including Caribous with 35SQN at Vung Tau, and 2SQN Canberras at Phan Rang.

An unusual task

On 20 January 1971, C-130E A97-171 departed Richmond for Fairbairn and Darwin before arriving in Butterworth. The crew, assuming they would conduct a one-day task into South Vietnam, left their personal belongings at Butterworth and departed to Vung Tau on January 22, heading on to Phan Rang and returning to Vung Tau. On landing, they were told to remain in Vung Tau overnight.

On January 23, CO35SQN WGCCDR Stan Clark briefed the C-130E crew on a 'special mis-

sion' that would see them delivering pallets of small arms to the Cambodian capital of Phnom Penh. At the time, the country was undergoing a Civil War between government-backed forces and a communist insurgency backed by the North Vietnamese Government.

The small arms resupply mission had come after Pochentong Airport in Phnom Penh had come under attack on the night of January 21-22 from a group of 100 commandos from the People's Army of Vietnam. Armed with AK-47 rifles and rocket-propelled gre-



Above: A RAAF C-130E on the tarmac at Vung Tau, South Vietnam.

nades, the group quickly overwhelmed the base's security, with sappers attacking military communications and a stores depot at the Airport, along with Cambodian Air Force counter-insurgency aircraft, helicopters, and a Caravelle jet airliner.

The attack on Pochentong had wiped out the base's napalm supply depot and a considerable number of small arms. To resupply the Cambodians, Australia unloaded arms from the supply ship HMAS Jeparit in Vung Tau for the Hercules to carry to Phnom Penh.

For the 37SQN crew, there was still an open question as to who controlled the airport. The trip from Vung Tau to Phnom Penh was a brief 250 kilometres, during which time Jockey Fordyce recalls little apparent information about the security in Phnom Penh. "There was still no radio contact with Pochentong," Jockey Fordyce said. "It was a bit disconcerting that there were no other aircraft in the air and no radio traffic. Rising smoke was dispersed around the airport vicinity."

"On the way round we could see the devastation; smoke was still issuing from the wrecked aircraft and the gutted control tower and other buildings, and there was a large blackened crater with flames and smoke still emitting on the tarmac nearby. There was no activity being made to extinguish the fires and no personnel appeared when we flew over."

The crew reasoned that no signs of life could mean the airport was still under siege, although none of the overflights drew fire. Several low passes of the runway were flown at low level to inspect for mines - or even set them off prior to landing.

Touch Down

With no mines 'detected', the C-130E landed, and used short bursts of reverse thrust to blow air in front of the aircraft - again,



Above: The scene that confronted the Hercules crew at Pochentong. Communist Sappers had effectively destroyed every aircraft at the airport, along with numerous hangars and other infrastructure.

hoping to discharge mines on the tarmac. From the C-130E's overhead escape hatch, a RAAF member provided defensive cover with a rifle, and as the aircraft taxied into a hardstand and was approached by two men in civilian clothes. The loadmaster disembarked the C-130E with his long-lead headset, and was met by a 'military adviser' who told the loadmaster that the airport was secured and it was safe to shut the engines down.

The C-130E was unloaded amidst the sound of artillery booming across Phnom Penh. Thereafter, the C-130E departed back to Vung Tau for another run to Phnom Penh that afternoon before the crew conducted the remainder of their task to Australia. Another 37SQN crew - led by FLTLT Dave Marland - conducted two more flights to Phnom Penh with more arms.

Landing in the unknown

Present day RAAF Hercules crews (along with C-17As) are arguably better equipped to avoid flying into the unknown as 37SQN did in 1971. It would be hard to imagine the RAAF risking a C-17A at an airfield where the crew—much less a higher government or Defence body—had not made contact with a local liaison or airport authority. In the case of the recent South Sudan airlift, Australia was 'plugged in' to the local United Nations Mission, and operated from Juba's International Airport once security

had been largely restored to the capital.

The case of the Cambodia 1971 airlift demonstrates that RAAF transport crews are inclined to be in the 'right place at the right time' to conduct this manner of short-notice airlift, where an imperative exists to conduct the task soon as possible. The present-day disposition of Air Mobility Group calls for support to global operations - including a deployment of aircraft to the Middle East - which yields opportunity for these circumstances to be repeated.

Even within Australia's immediate region, there has been cause for RAAF airlift to respond at short notice on behalf of the international community. Taking Cambodia as an example, RAAF Hercules evacuated Australian and Malaysian citizens from Phnom Penh in March 1975, and unloaded aid at gunpoint under a Red Cross mission in 1979.

Perhaps the most remarkable demonstration came in July 1997, as Cambodia experienced a military coup. Four 36SQN C-130Hs carried upon to extract foreign citizens—including Australians—from Phnom Penh to Butterworth in a single day. Despite some uncertainty in aspects of the airlift, the C-130Hs and their crews were well-equipped and well-trained for the role, and were able to transport 455 people (including more than 200 Australians) to safety.

USAF targets fuel efficiency in future airlift



The United States Air Force Research Laboratory (AFRL) is working with aircraft manufacturers on a program to produce new air mobility types that will dramatically reduce fuel consumption. Already, the fleet of airlift and tanker aircraft in the United States consumes two-thirds of aviation fuel used by the United States Air Force.

In a February 2014 edition of *Aviation Week*, details of new design proposals were released from Boeing and Lockheed Martin. Boeing has initially responded to the AFRL with a mixed fleet of hybrid-electric types to carry pay-

loads of 20, 40 and 100 tonnes respectively.

Lockheed Martin meanwhile is proposing hybrid blended wing body aircraft (artist impression above and below) with a 220,000lb (100t) payload capacity. The inclusion of a conventional tail section on the aircraft would allow it to be loaded and operated like a conventional cargo aircraft (including paratroop operations and allowing the crew better control of the aircraft's pitch and change in centre of gravity during airdrop missions).

The twin-engine design is intended to have a 6500ft take off

distance and carry outsized cargo from the Lockheed C-5. A combination of aircraft design, new structures and lighter materials would allow it to burn 70 per cent less fuel than the Boeing C-17. Cargo would be carried inside a circular pressurised fuselage as well as unpressurised outer bays within the blended wing, allowing the fuselage to be lighter than current designs whilst sharing a similar cargo capacity.

The powerplant would likely be a next-generation turbofan being developed for a commercial airliner, and could potentially include open rotor design.



Singapore confirms MRTT buy

The Republic of Singapore Air Force (RSAF) has confirmed its intent to purchase six Airbus A330 Multi-Role Tanker Transports. The RSAF currently operates a fleet of four Boeing KC-135R Stratotankers, along with a handful of KC-130B tankers.

Manas Air Base wrapped up

The United States military has wrapped up its operations at Manas Air Base in Kyrgyzstan, relocating its transit operations for Afghanistan to Romania. Manas was established as a transit point for American operations in Afghanistan shortly after the commencement of operations in that country in late 2001, and during 2002 the RAAF's own 84WG conducted two rotations at the base with the Boeing 707 providing tanker support. In recent years, the cost of the United States' lease on Manas has been increased significantly, with Kyrgyzstan also hosting an increased number of Russian military units in its country.

Second Chinese Y-20 flies

A second prototype of the Chinese Y-20 strategic transport flew on 16 December 2013. Powered by four Russian-supplied turbofan engines, the Y-20 is intended to carry payloads up to 60 tonnes. An indigenously-designed high-bypass engine is currently undergoing airborne testing in China, and may be fitted to future Y-20s.

RAF Voyager starts air-bridge

As of November 2013, Royal Air Force Voyagers (the local variant of the A330 MRTT) have begun flying air bridge missions to Afghanistan, although a brief operational pause was experienced by the type in February 2014 following a loss of altitude by an aircraft over Turkey. The Royal Air Force operates the aircraft from RAF Brize Norton to Camp Bastion in the Helmand Province of Afghanistan. The aircraft are operated by Nos. 10 and 101 Squadron

675+ People on Board—A C-17A Record



During a single airlift in the Philippines, a United States Air Force C-17A carried more than 675 people, the majority of whom were residents of the city of Tacloban who were being evacuated to Manila following Typhoon Haiyan. The C-17A, operated by the 535th Airlift Squadron at Joint Base Pearl Harbor-Hickam, also delivered more than 100,000lbs of aid cargo to the Philippines.

Royal Air Force, and supported by the AirTanker consortium. By May 2014, nine of a total 14 MRTTs will be delivered to the Royal Air Force. Since introduction to service in April 2012, the aircraft have clocked more than 5400 flying hours and carried more than 110,000 passengers, and 6300 tonnes of cargo.

Rolls Royce USAF sustainment

Rolls Royce has announced a \$182.7 million contract with the United States Air Force (USAF) to expand its support to that service's C-130J fleet. The company will provide expanded logistics and program management support, engineering services, spares and technical data support to the

First C-17A for Kuwait



Kuwait has taken delivery of the first of two C-17A Globemasters for its Air Force, the aircraft painted in a distinctive colour scheme to better identify Kuwait's efforts during humanitarian operations. Boeing is currently building 13 'white-tail' C-17As with no confirmed customers, with Saudi Arabia rumoured to be a potential customer.

AE2100D3 turboprop for USAF C-130Js, as well as providing Field Service Representatives at two additional bases.

KC-46A Tanker assembly

Boeing has commenced assembly of the last of four KC-46A test aircraft. A derivative of the 767-2C, the KC-46A is intended as the United States Air Force's next-generation air-to-air refuelling tanker. Flight testing of a 767-2C will occur in mid-2014, with the first KC-46A flying in early 2015. An initial 18 tankers will be delivered to the USAF by 2017. The USAF has orders and options to acquire a total of 179 KC-46As through 2027.

Israel greenlights Ospreys

Israel has requested a fleet of six V-22 Osprey tilt-rotor aircraft and could potentially buy as many as 12 aircraft, as part of a plan to introduce an increased search and rescue capability as well as support special operations forces. The country evaluated the aircraft with the United States Marine Corps in 2011, and submitted a US\$1B request in January this year. Israel will soon operate a fleet of C-130H and J Hercules, along with the CH-53 helicopter.

Two-tier MRTT buy for France

The French Air Force will purchase two versions of the A330 Multi-Role Tanker Transport (MRTT), allowing it to introduce a 'lite' version to service more quickly, and pursue a more robust MRTT design at a later date. France has been cleared to purchase 12 MRTTs to replace its 14-

strong fleet of C-135FR tankers. The first tranche of MRTTs will be equipped with similar avionics and tanking systems to the KC-30A fleet operated by the RAAF. The second tranche of MRTTs for the French Air Force will feature a cargo door and SATCOM datalink, with the first tranche of MRTTs being retrofitted at a later date.

India requests MRTT bid delay

At the request of the Indian Government, Airbus Defence and Space and extended the validity of its bid to offer six A330 Multi-Role Tanker Transports to mid-2014. If the bid is successful, the first A330 MRTT would be delivered by 2017. The country presently relies on a fleet of Ilyushin Il-78 Midas tankers for its air-to-air refuelling requirements.

Twilight of Tristar

The Royal Air Force has retired its fleet of Lockheed Tristars, with the last aircraft due out of service by April 2014. A fleet of nine Tristars were acquired second-hand from 1984 in the wake of the Falklands War, and utilised for a mix of cargo, passenger and air-to-air refuelling missions.

Japanese XC-2 flare dispense



The prototype of the Kawasaki XC-2 transport aircraft demonstrated its angel-flare dispensing during a recent test flight. Prototype aircraft are currently in development, and the Japanese Air Self Defense Force intends to purchase 40 of the type to replace its fleet of C-1 and C-130 transports. The aircraft is intended to have an 84,000lb (37 tonne) cargo payload.

LM delivers 300th C-130J

Lockheed Martin has completed delivery of its 300th C-130J Hercules, an MC-130J Commando II variant delivered in December 2013 to the United States Air Force. The service's 200th example, another MC-130J, was delivered earlier that month.

Malaysia seeks C-130 upgrade

The Royal Malaysian Air Force fleet of C-130 Hercules has been earmarked for upgrade, with the service reportedly investigating potential suppliers to retrofit its fleet of 15 aircraft. It is expected the upgrade will include glass cockpits, upgraded communications, and air traffic systems. The country operates a mixed fleet of 'stretched' and 'stubby' C-130Hs, as well as four KC-130T tankers. A fleet of four A400M Atlas will be operated by the country from 2015.

Civilian C-130J launched

A civilian variant of the C-130J has been launched by Lockheed Martin, which expects to receive an order in 2014. Titled the LM-100J, the aircraft would achieve first flight in 2017 and FAA certification the following year.

Algerian Hercules lost

Poor weather may have played a role in the loss of an Algerian Air Force C-130H-30 Hercules that claimed the lives of 77 people on board in a crash in the country's north east on 11 February 2014. The aircraft was carrying Defence personnel and their families when it came down in high terrain amidst falling snow and poor visibility. The Algerian Air Force had 16 H-model Hercules at the time of the crash. Miraculously, there was one sole survivor from the crash.

Turkey refuses A400M delivery

The Turkish Air Force has taken delivery of the first of 10 A400M Airbus Defence and Space in April, after initially having refused to accept the aircraft. The aircraft had originally been scheduled for delivery in September 2013, and

A400M goes to Mali



The first operational task for an A400M Atlas has been completed by the French Air Force, delivering 22t of supplies from France to Mali in Africa on 29 December 2013. Launched from Orléans Air Base, the outbound flight took a little under seven hours and also carried French Defence Minister, Jean-Yves Le Drian, as part of a visit which also included Chad and Niger. France will eventually operate 50 A400Ms, replacing a fleet of C-160 Transalls and C-130H Hercules.

officials on both sides have remained tight-lipped about the delay. Further A400M deliveries in 2014 will go to France, Germany, and the United Kingdom.

Boom-less tanking study

A 'boom-less' air-to-air refuelling system is being evaluated

by Israel Aerospace Industries' Bedek division, with the intent being to replace a tanker's tail boom with a flexible hose connected to three aerodynamic surfaces. The design could allow simultaneous refuelling of three compatible receivers.

USAF H-models farewell Afghanistan



The United States Air Force (USAF) has marked the 'end of an era' by concluding C-130H intra-theatre lift operations in Afghanistan. From January 2014, it will solely use C-130Js from Bagram Air Base for its intra-theatre airlift. Several of the C-130Hs in Afghanistan will be transferred to the Afghan Air Force, while others will be transferred to United States Air National Guard and Air Force Reserve Units.

