

ADBR

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LAND FORCES 2018 SHOW DAILY

DAY ONE
TUESDAY SEPTEMBER 4

SHOW HIGHLIGHTS

- » LAND 400 Phase 3 tender released
- » Rheinmetall launches Lynx KF41 for LAND 400 Phase 3
- » New Zealand appoints new Defence chiefs
- » Australian SMEs look to the Horizon
- » Future Force Symposium to focus on protection
- » Army to acquire more unmanned ground vehicles



New Chief of Army LTGEN Rick Burr (left), is looking forward to LAND FORCES. DEFENCE

Chief of Army looks forward to LAND FORCES

New Chief of Army LTGEN Rick Burr is enthusiastic about this week's LAND FORCES 2018 conference in Adelaide.

Having just taken over the role from new Chief of Defence Force GEN Angus Campbell in July, LTGEN Burr told reporters in Canberra on August 17 that

LAND FORCES is a "tremendous opportunity for Army to engage with our partners in the region."

"We have about 15 Chief of Army-equivalents coming, and a range of other representatives from another 15 or so countries around the world," he said.

"Obviously a key focus of the



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WELCOME TO LAND FORCES 2018

As the presenter of the LAND FORCES 2018 Exposition, Industry Defence and Security Limited (IDSAL) welcomes you to the event and trusts that your time at LAND FORCES 2018 will be productive.

We invite you to attend the specialist conferences, network at events and attend the major international industry exhibition held in conjunction with the conference program. We have more than 620 companies participating from 26 countries, 67 Defence, Government and Trade Delegations and 16 Conferences, Symposia and Seminars over the three days.

Supported by the Australian Army, the Defence Science and Technology Group (DST Group) and the Capability Acquisition and Sustainment Group (CASG) of the Australian Department of Defence, this will be the third LAND FORCES Exposition presented by Industry Defence and Security Australia.

LAND FORCES 2018 is a core element in our organisation's mission to promote development of Australia's industrial, manufacturing and information/communications technology resources. We also conduct the biennial Pacific International

Maritime Exposition in Sydney (with support from the Royal Australian Navy), the CivSec Civil Security Congress and Exposition in Melbourne (with support from the Australian and New Zealand Policing Advisory Agency and the National Security Science and Technology Centre) Melbourne and the Rotortech Helicopter Industry Exposition in Queensland.



Our organisation is part of the not-for-profit Aerospace Maritime Defence and Security Foundation of Australia Limited (AMDSFA), whose other not-for-profit affiliate, Aerospace Australia Limited, conducts the biennial Australian International Aerospace and Defence Exposition at Avalon Airport (with support from the Royal Australian Air Force). The Foundation also conducts comprehensive industry development programs, including a series of Innovation Awards, SME promotional activities and careers and skills promotional events.

I sincerely hope you will find time to see all that LAND FORCES 2018 has to offer.

Ian Honnery
Chief Executive Officer
LAND FORCES 2018

exhibition is industry showcasing its wares," he said. And there is the academic component where we have a series of sessions where we'll explore topics of interest for our militaries, our nations in the region, and the role of land forces in helping with security and stability in the region."

LTGEN Burr said the various forums associated with LAND FORCES would contribute greatly to meeting future challenges Army is likely to face.

"Together, the academic and the industry piece allow us to really explore the challenges, but also the response to those challenges through different ways of operating, and also what technology industry can provide in terms of new capabilities and new ways of meeting these challenges.

"For me, that is a great way to start in a job," he said.

"We're getting literally the best thinking, and the best demonstrations of where people are going, and their understanding of that space. And that will allow us to think about, as an Army, where we want to go over the next decade."

LTGEN Burr is certainly enthusiastic about Army's recent equipment acquisitions.

"We're very excited about the range of vehicles we've got now," he said.

"We have Hawkei and Bushmaster, the Boxer coming in, Phase 3 of LAND 400, the LAND 121 trucks...I mean, they are all incredibly capable land vehicles.

"For government and for the ADF, 'Versatility' is now our mantra," he added. "We have multiple options that we can deploy in all sorts of environments, and that's exactly the sort of option that a small modest-sized defence force should provide. From flood relief in Australia through to the more difficult ends of the spectrum, we've got a pretty balanced force that we're building and that's a great Army.

But LTGEN Burr is under no illusions about the challenges that

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Rheinmetall says the Lynx KF41 is a tracked, highly protected IFV designed to meet the stringent military requirements of LAND 400 Phase 3. RHEINMETALL



remain.

“What’s our greatest challenge and risk? Integration...no doubt,” he said.

“Going forward, a very deliberate and conscious choice that everything can plug into the network [will be made], whilst dealing with the legacy pieces of retro-fitting.

“So, LAND 200, the land combat system is where Army is really focused on as a core endeavour to make sure that we can all realise the full potential of these systems across the joint force,” he added.

“So that we can communicate and use data more effectively and to enable decision making, and generate options more decisively – that remains priority one.”

LAND 400 Phase 3 tender released

The Commonwealth has released the tender for the next phases of the Australian Army’s vehicle replacement program, LAND 400 Phase 3 – Mounted Close Combat Capability.

Designed to replace Army’s M113AS4 armoured personnel carriers (APC), the new vehicle will

be significantly more capable in terms of protection, firepower, and its ability to be networked. Army aims to acquire 450 infantry fighting vehicles (IFVs) and 17 manoeuvre support vehicles.

“This will be the largest investment in Army’s capability ever undertaken and will provide our troops with a modern close combat capability,” then Defence Minister Senator Marise Payne said on August 24.

“The vehicles will be equipped with high levels of protection, firepower and mobility that will enable sustained operations, varying from peacekeeping to close combat.”

Phase 3 is the follow-on to the LAND 400 Phase 2 combat reconnaissance vehicle (CRV) project which was signed last week with Rheinmetall for 211 Boxer 8×8 vehicles. Phase 3 deliveries are expected to commence in 2024.

Key contenders for Phase 3 are expected to be Rheinmetall with its new Lynx IFV, the Hanwha KF21/AS21 IFV, BAE Systems with its CV90 IFV, and General Dynamics with an IFV variant of its Ajax CRV.

In order to better facilitate the acquisition and service entry of the new armoured vehicles, Defence has created a new Armoured Vehicle Division within CASG to consolidate LAND 400, Project LAND 907 –

Main Battle Tank Replacement, and Project LAND 8160 – Enhanced Gap Crossing Capability.

An Industry briefing session is scheduled to be held during the LAND FORCES Conference in Adelaide on Wednesday September 5, and details of the briefing and the tender (CASG/ LSD/RFT0056/18) can be viewed on the AusTender website.

Max Blenkin takes a closer look at the Lynx IFV and other Phase 3 contenders in the Sept-Oct 2018 issue of *ADBR* which will be available to delegates at LAND FORCES.

Rheinmetall launches Lynx KF41 for LAND 400 Phase 3

Rheinmetall has launched its bid campaign for the Australian Army’s LAND 400 Phase 3 infantry fighting vehicle to replace the M113AS4 in Army service.

Following the unveiling on the Lynx KF41 at June’s Eurosatory conference in Paris and the release of the Phase 3 RFT in late August, Rheinmetall officially launched its campaign with the arrival of a Lynx in Adelaide on August 28 aboard an Antonov An-124 transport. The Lynx

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Rheinmetall says the Lynx KF41 is a tracked, highly protected IFV designed to meet the stringent military requirements of LAND 400 Phase 3.

“Design, development and manufacture of the LYNX in Australia for the Australian Defence Force will also build on the advanced manufacturing jobs at our new military vehicle centre of excellence being built at Ipswich in Queensland, as well as a strong industrial network of SMEs across Australia,” Rheinmetall Defence Australia Managing Director Gary Stewart said on August 28.

“The LYNX that landed in Australia today already includes Australian-designed and manufactured parts and products supplied by local SMEs including Adelaide’s Supashock, Albury’s Milspec Manufacturing and Melbourne-based Calex.”

Lynx will be offered with the Lance turret common to the Boxer, but has the flexibility to be integrated with another turret should the Commonwealth go another way.

“We believe LYNX is the best vehicle in its class that sets a new standard in protection and the lethality needed to survive and defeat any adversary,” Mr Stewart said.

“Rheinmetall has developed this vehicle so it is positioned at an ideal level of maturity when Australia needs it to enter service in 2026 – and it will have a growth path to extend these capabilities through its 40-year life.”

Hanwha to offer AS21 Redback for LAND 400/3

Hanwha Defense Systems has revealed its offering for the LAND 400 Phase 3 infantry fighting vehicle (IFV) requirement to replace Army’s M113AS4 armoured personnel carrier (APC).



BRIG John Boswell is the incoming NZ Chief of Army.

Dubbed the AS21 Redback for Phase 3, the vehicle is a development of the K21 IFV Hanwha developed for the Republic of Korea Army. The AS21 will offer enhanced survivability against higher threat levels and matching peer enemy armoured fighting vehicles, and will be able to accommodate eight dismounts plus three crew.

A Hanwha spokesman said, “With such heritage, Hanwha Defense Systems is able to customise its armoured solutions to a variety of specifications in order to meet future warfare requirements of any country.”

The September-October 2018 issue of *ADBR* which is available at LAND FORCES takes an in-depth look at LAND 400 Phase 3.

New Zealand appoints new Defence chiefs

The New Zealand Defence Force (NZDF) has appointed three new service chiefs to its Army, Air Force and Navy.

The announcement on August 21 was made by NZ Minister of Defence Ron Mark, and NZ Chief of Defence Force AIRMSHL Kevin Short who was previously Vice Chief of Defence Force until he assumed the CDF role on July 1.

BRIG John Boswell, DSD, will be promoted to Major General and will succeed MAJGEN Peter Kelly as Chief of Army; CMDRE David Proctor will be promoted to Rear Admiral and

will succeed RADM John Martin as Chief of Navy; and AIRCDRE Andrew Clark will be promoted to Air Vice-Marshal and will succeed AVM Tony Davies as Chief of Air Force. AVM Davies will become the new Vice Chief of Defence Force.

The Change of Command ceremonies are scheduled to occur September 7 for the new Chief of Air Force, September 10 for the new Chief of Army, and in late November for the new Chief of Navy.

“This is a major change to the leadership of the New Zealand Defence Force,” Air Marshal Short said. “It follows the change of command of Chief of Defence Force earlier this year, and the announcement of a new Vice Chief of Defence Force, Air Vice-Marshal Davies, recently.

“I want to congratulate all the successful candidates, and those who were interviewed for these very important positions. It reinforced to me the depth of talent in the ranks of the Defence Force.”

Boxer CRV contract signed

The Commonwealth and Rheinmetall signed the contract for the production and delivery of 211 Boxer combat reconnaissance vehicles for the Australian Army on August 17.

The contract was signed at Parliament House in Canberra by then Prime Minister Malcolm Turnbull

and the Managing Director of Rheinmetall Defence Australia Gary Stewart. The contract signature is valued at \$3.3 billion and comes just five months after the March announcement of the selection of the Boxer over the rival BAE Systems AMV35 under Project LAND 400 Phase 2.

Deliveries are expected to commence in 2019 and be completed by 2026.

The Boxer will replace the Australian Light Armoured Vehicle (ASLAV) in Army service. It will be delivered in several different configurations and will fill seven different roles including reconnaissance, command and control, joint fires, surveillance, ambulance, battlefield repair and recovery.

The reconnaissance version will be the most common, comprising 133 of the 211 vehicles to be produced.

Defence says the Australian industry content on the vehicles will be more than 50 per cent during production, and more than 75 per cent in sustainment.

“This demonstrates, in no uncertain terms, the continued

successful cooperation between Rheinmetall and the Government and armed forces of Australia,” Rheinmetall AG Chief Executive Armin Papperger said.

“As a company, we are extremely pleased to have secured one of the biggest orders in the recent history of Rheinmetall.”

Head of Rheinmetall’s Vehicle Systems Division Ben Hudson added, “The Boxer CRV is highly protected against both asymmetric threats that have been faced by Australian soldiers in recent operations, while also being highly protected against conventional battlefield threats that our soldiers may face one day in a conventional war-fighting scenario.

“We look forward to building on our successful LAND 121 program and extending the trustful partnership we have with the Australian Government and our Australian suppliers and partners into LAND 400 to deliver an outstanding combat vehicle to the Australian Army.”

A majority of the vehicles will be built at a new facility near Ipswich in Queensland.

“This will allow us to establish a

sovereign military vehicle industry in Australia that will underpin the enduring partnership with the Government to design, manufacture, deliver, support and modernise this world-leading capability,” Mr Stewart said.

Schiebel establishes Australian base

Austrian vertical takeoff UAS manufacturer Schiebel has announced the establishment of a local base in the NSW Shoalhaven region with the formation of Schiebel Pacific Pty Ltd (SPL).

The new entity will provide the Pacific region with a permanent and comprehensive program, logistics and sales hub for its S-100 Camcopter VTUAS and future products. The company says it sees considerable potential in Australia and in the wider region, and is committed to developing a lasting and mutually beneficial presence.

The Commonwealth and Rheinmetall have signed contracts for the production of 211 Boxer combat reconnaissance vehicles. DEFENCE



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“Establishing a permanent base in Australia, managed and run by Australians, is a logical next step for Schiebel as the Pacific region is of significant strategic interest to us,” Chairman of the Schiebel Group Hans Georg Schiebel said in a statement.

“We already have a strong working relationship with customers in the area and are committed to growing our footprint, delivering outstanding support for our current contracts, providing end-to-end servicing to potential clients, and backing local value creation.”

The Camcopter is in operation with the RAN on a trial basis under Navy Minor Program (NMP)1942, and is also being trialled by the Australian Army to inform it for its future LAND 129 Phase 3 requirement.

Australian SMEs look to the Horizon

A group of Australian firms is hoping their collective expertise will give them an edge in bidding for Defence contracts against some of the world’s largest players in the field.

Some 14 small to medium enterprises have established the Horizon Defence Systems Alliance. They include companies that make caps for Australian cricket to those that build world-class rifles and design sophisticated software systems. And almost all things in between.

Formed just over a year ago in June 2017, the alliance describes itself as the “new Australian” in prime systems integration that brings together the best in ideas, skills and technologies to enhance soldier performance and safety within the delivery of sovereign capabilities to the Australian Defence Force.

Membership currently stands at 14 small to medium enterprises that together generate more than A\$125 million in annual turnover and employ more than 400 full-time staff.

The coming together of these



SMEs as part of an alliance is, partly, a response to the federal government’s First Principles Review (FPR) in 2015.

The FPR’s recommendations included having its military materiel supply contracts focused on single, or prime, vendor contracts under a “Smart Procurement” initiative.

As a consequence, it would be more difficult for SMEs and other such specialist military technology or product suppliers to bid for these contracts unless they teamed up with prime vendors as subcontractors, or undertake the task of becoming prime vendors themselves.

The Horizon Defence Systems Alliance aims to offer an alternative to either of those two options, bringing together expertise across different industries to contest Defence prime vendor supply opportunities.

Members of the alliance work together under a formal collaboration agreement and corporate structure to contest specialist materiel supply contract opportunities put to tender by the Australian Department of Defence and related Australian national security agencies.

The initial focus will be on the Land domain, with opportunities such as LAND 125/4 – Soldier Combat Systems, LAND 1508/1 – Special Forces/Project Greyfin, LAND 159 – Small Arms Replacement, LAND 3025/2 – Deployable CBRNE Capability, and LAND 200/5 – Land Forces Communications being considered.

The current membership of the Horizon Defence Alliance

comprises Albion Sports Technology, Benelec, CCA Protect, Daronmont Technologies, Imagine Intelligent Materials, Kremford, LHD Group Australia, MMC Learning and Development, Precision Technic Defence, Redback Boot Company, SORD Australia, Systematic and Warwick Firearms Australia.

Australian-based enterprises are eligible to join the Horizon Defence Alliance, subject to agreement by existing members that their skills and technologies are relevant to the business development strategy.

Future Force Symposium to focus on protection

With the lethality of modern weapons and the proliferation of unconventional weapons such as Improvised Explosive Devices (IEDs) and chemical, biological and radiological (CBR), greater protection is required for both front-line troops and rear-echelon personnel.

The LAND FORCES 2018 Future Force: Protection Symposium will provide a forum for discussion on the operational and technical challenges facing protection of defence forces in the future, on both the conventional battlefield and in counter insurgency (COIN) campaigns.

With a keynote address from MAJGEN Paul McLachlan, Commander 1st Division, Australian Army, the Thursday morning

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Exercise Chong Ju

Across the rolling fields they charged, the M1A1 Abrams' 120mm guns booming, red tracer marking the path of armour-piercing projectiles.

Overhead, an RAAF Hawk released two pairs of 500lb bombs on enemy positions. Then a pair of Tiger armed reconnaissance helicopters blasted the targets, first with 30mm gunfire and then with a barrage of Hydra 2.75in rockets.

Local kangaroos scattered in alarm, but the spectators were impressed.

This was Exercise Chong Ju, the Australian Army's annual firepower demonstration staged at the Puckapunyal training area in country Victoria.

Once called Exercise El Alamein, it is now named after the Korean War Battle of Chong Ju, fought by soldiers of 3RAR in October 1950. In this action, 3RAR conducted a masterful attack on strong North

Korean positions, then withstood ferocious counter-attacks.

This was well inside what is modern day North Korea during the advance of United Nations forces to the Yalu River. Less than a week later, Chinese forces counter-attacked in overwhelming strength, and the UN forces were soon heading south again.

The Battle of Chong Ju was a multinational combined arms operation with Australian soldiers supported by US tanks, artillery and air strikes. Australian losses at Chong Ju were nine dead, including the 3RAR commanding officer LTCOL Charles Green who was fatally wounded by a random enemy shell.

Exercise Chong Ju 2018 was a demonstration of key army capabilities conducted by the Combined Arms Training Centre (CATC). It ranged from a concealed sniper pair firing aimed shots, right up to artillery and air strikes, and

culminated with a combined-arms attack on an enemy position – all with live ammunition.

A large group of onlookers, including officer cadets, representatives of foreign military forces, politicians and defence company CEOs observed proceedings from grandstand-style seating on a hill overlooking the exercise area.

This year the exercise also featured static displays of current and new equipment, of which the absolute newest was a Rheinmetall Boxer Combat Reconnaissance Vehicle (CRV), recently contracted for Project LAND 400 Phase 2.

The Army plans to acquire 211 Boxers to replace the fleet of ageing Australian Light Armoured Vehicles (ASLAVs).

MAJGEN McLachlan said the Request for Tender (RFT) for Phase 2, with its complex matrix of capabilities, was one of the best they had ever run. "Industry didn't like it at all. They wanted to tell us the answer.

"The answer is, 'colour as many of those squares in the order that you think is appropriate to meet our requirement'," he said. "I think we will take a similar approach with Phase 3 – here are our problems, the combinations of turret, remote weapon station, active protection system, weight, track." ■

Max Blenkin





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symposium will explore the roles that situational awareness, artificial intelligence and enhanced intelligence, surveillance and reconnaissance systems may play in protecting a deployed force and civilian population.

A panel discussion will feature Northrop Grumman Australia CEO Ian Irving, Australian Defence Apparel CEO Matt Graham, Rheinmetall Defence Global Head of Vehicle Systems Ben Hudson and Qinetiq Australia's Peter Clay, and will be moderated by Andrew Fullgrabe, Director of the Defence Innovation Partnership.

Organised by Industry Defence and Security Australia Limited and sponsored by Northrop Grumman, this free symposium will address emergent threats, emergent technologies and the enduring and joint defence/industry construct required to respond rapidly to these threats by harnessing and applying technology in an efficient and affordable way.

Skeldar announces V-200B

UMS SKELDAR launched a development of its V-200 unmanned aerial system (UAS) at the Farnborough Airshow in the UK.

Dubbed V-200B, the new UAS continues the primary maritime focus of the system, but adds additional endurance, and new engine management and payload capabilities.

"It is no secret that more players are attempting to enter the maritime market for rotary UAVs," Head of Business Development at UMS SKELDAR David Willems said.

"Recent navy contracts have stipulated the role and specification, and this has confirmed our strategy of development is absolutely the right move at the right time.

"We are able to fly longer, over five hours, at maximum payload capacity through weight savings from design modifications and our



Seven of Army's M88A2 Hercules Armoured Recovery Vehicles have recently undergone a major technical refresh, with work carried out by the Joint Logistics Unit-North (JLU-N) in Darwin. DEFENCE

two-stroke engine configuration provides significantly unmatched time between overhauls (TBO), all of which are vital to maritime operations by military and civilian customers."

The V-200B completed its flight trials earlier this year. Other initiatives have included the alignment of production and supply chain management at Linköping in Sweden, the acquisition of German engine supplier Hirth, a partnership program with QinetiQ for a Canadian requirement, and a declared intent to bid for the Royal Australian Navy's SEA 129 Phase 5/6 UAS requirement.

"The major difference between the V-200 engine and those of our competitors is that our engine is more tolerant of the JP-5 quality and that is a big advantage," Willems said.

"Our maintenance schedules and ease of access to engine compartments mean that we outperform and stay longer in the air before any need for overhaul. These are non-negotiable advantages for operational commanders."

Meanwhile, UMS SKELDAR has affirmed its commitment to Australia.

Describing Australia and Pacific Rim "as a key strategic building block for expansion of the V-200 in land and sea domains", UMS SKELDAR has conducted a tour of ADF facilities in Perth, Adelaide, Melbourne and Sydney and conducted meetings with senior ADF personnel in Canberra in recent months.

SKELDAR says Australia has been designated as the launchpad for the "newly-configured next-generation NATO-compliant" V-200B, and that it will partner with Adelaide-based Orbital Corporation, Melbourne-based Sentient Vision Systems, and Saab Australia for SEA 129 Phase 5/6.

"As part of the requirements of the RAN Maritime Tactical Unmanned Aircraft System (MTUAS) tender, the SKELDAR V-200 is unmatched in its ability to provide the OPVs with an embedded, eye in the sky ISR capability to enhance their ability to perform primary and secondary missions," Willems said.

"With a track record worldwide, including the Indian and Pacific Oceans, specifically Horn of Africa and Singapore, the APAC and Pacific Rim region provides a major opportunity for us to offer both land and maritime variants of the newly modified SKELDAR V-200."

"The Pacific Rim is unquestionably a top priority for our business. Our strategy of developing core market opportunities with military and civilian blue light customers is supported by our key differentiators," added UMS SKELDAR CEO, Axel Cavalli-Björkman.

"Already unmatched in heavy fuel engine and maintenance regimes, now we are able to increase our advantage in terms of endurance and improved engine management system, with increased range of sensors including ViDAR (Visual Detection and Ranging), the only

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Varley Rafael Australia launches with new missiles

Israeli defence company Rafael and its Australian joint venture partner Varley are set to pitch some of the world's most advanced technology to the Australian Defence Force.

Included in a lengthy list currently in operation with or being adopted by the Israeli Defence Force (IDF), is the Trophy MV active protection system for the Abrams tanks and other combat vehicles, and the Fire Weaver networked targeting control system.

The latest offerings follow the success of Rafael and Varley in the contest to provide a new anti-tank guided missile (ATGM) for the new Rheinmetall Boxer Combat Reconnaissance Vehicles (CRVs) being acquired under Project LAND 400 Phase 2.

Rafael's Spike LR2, the latest version of the widely used Spike series of ATGMs, was chosen over the European MBDA MMP – the successor to the widely used Milan – which is now entering service with the French Army.

In late August, then Defence Industry Minister Christopher Pyne confirmed Spike had been chosen for the Australian Army. Announced at the same time was the new joint venture Varley Rafael Australia Systems (VRA) which will manufacture Spike in Australia.

But Spike is just the start. "We are here to stay. From our point of view, it is a strategic step," Rafael president and chief executive officer Major General Yoav Har-Even (ret) told *ADBR* when he visited Australia for the launch.

"It is not something we are doing only for LAND 400. The moment that we start operating and producing, the sky is the limit. It is only a question of what will be the operational requirement."

Varley chairman Jeff Phillips said no ATGM had been built in Australia since 1952. That was Malkara, a 1st generation wire-guided missile jointly developed with the UK but never adopted into Australian service. It was speedily superseded.

"We are building an indigenous



capability in Australia that doesn't currently exist," Phillips said. "We are here for the long haul. We are not here for one project or one product. Rafael's technology gives us access to be able to bid and compete on quite a few projects coming up in the near term. There are those coming up in the medium term."

More than 30,000 Spike missiles have been produced by Rafael in Israel and by joint-venture partners around the world. That makes it one of the most prolific modern ATGMs. And there is a Spike user club which meets every two years to discuss use of the missile, training support and upgrades.

Under the joint venture deal, Rafael will provide Australia with a full Spike engineering data pack to enable local production. That will require a skilled workforce plus suppliers.

"The skillsets we are looking at are professional engineers and technicians," said VRA chief executive officer Jacob Blitman. "We will be looking at people from the former automotive industry in terms of quality assurance.

"We are also looking at people who are ex-Defence with the technical skills to support introduction to service, in-service through life support, integrated logistics support. It is all going to be Australian."

After LAND 400 Phase 2 comes LAND 400 Phase 3 – infantry fighting vehicles, LAND 4108 – direct fire support weapons, LAND 1508 – special forces capability, and LAND 9000 Phase 3 – Tiger

helicopter upgrade or replacement, all with a requirement for a 5th generation ATGM.

Rafael's Trophy active protection system employs a 360 degree radar mounted on the vehicle which detects incoming rockets and missiles and destroys them with blasts of pellets fired from an on-vehicle projector.

The IDF has fielded more than 1,000 Trophy systems and these have proven effective against even the latest Soviet RPG and ATGM systems.

Trophy was initially designed for IDF Merkava main battle tanks, making it suitable for Australia's Abrams M1A1 tanks which are set to be upgraded under Project LAND 907 Phase 2. Rafael has also developed Trophy MV for smaller armoured vehicles, which could make it of interest for the LAND 400 vehicles.

Should the Australian Army adopt Trophy, this too would be supplied and supported by VRA.

Also of possible interest is Fire Weaver, an advanced target acquisition and precision engagement now being fielded by the IDF.

General Har-Even said this wasn't a replacement for a battle management system (BMS). For the Australian Army that's actually an Israeli Elbit system.

Instead, Fire Weaver connects all sensors and effectors, allowing real time exchange of targeting information and speedy engagement by the most appropriate effector, whether that be a Spike missile or a soldier with a sniper rifle.

"This is more than command and control system," he said. "Imagine that you pull the trigger here and that a Spike missile will come from somewhere else and hit a target in less than a few seconds.

"It is a new concept," he added. "It is not replacing the BMS. BMS can have a delay of minutes. Here you will have a delay of less than few seconds." ■

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proven airborne persistent wide area maritime search system.”

Accenture opens Defence Innovation Hub in Canberra

Accenture's new Defence Innovation Hub was officially opened by then Minister for Defence Industry Christopher Pyne in Canberra on August 1.

The hub is designed to provide defence and national security organisations in Australia and New Zealand with access to the latest technology innovations and digital solutions to help them innovate and stay ahead of an evolving threat landscape.

Designed with a human-centric focus, the company describes the hub as “a vibrant collaborative environment that encourages co-creation and breakthrough thinking between employees, defence and security agencies, and other digital innovators. Focusing on new technologies including blockchain, artificial intelligence, internet of things, cyber, robotics and advanced analytics, the hub will help clients stay ahead of adversaries through technology innovation.”

“Defence organisations need to increase their resilience to emerging threats and require secure, innovative and flexible delivery capabilities, often on tight turnaround,” Matt Gollings, Accenture's defence & national security lead in Australia and New Zealand, said.

“Through on-site demonstrations of how innovative and often disruptive digital technologies can enhance mission readiness, deliver better operational outcomes and ultimately help deliver mission success, our innovation hub addresses this need while maximising innovation and delivering the defence agency of the future.”



Separately, Minister Pyne remarked, “The Government welcomes Accenture's investment in building a local ICT capability, which will help foster ongoing innovation and allow projects to transition into business operations quickly and seamlessly.

“Defence is proud to have a long standing partnership with Accenture, having collaborated on the update and support of Defence human resource and air safety systems, as well as the delivery of ICT infrastructure modernisation projects.”

Have you downloaded the LAND FORCES app?

As part of LAND FORCES 2018, trade visitors, conference delegates and exhibitors will have access to the LAND FORCES 2018 App sponsored by Thales, designed to enhance networking opportunities and help gain the most out of the event experience.

The LAND FORCES 2018 App is available as a free download to all smartphone users.

The LAND FORCES 2018 App contains up-to-date event information including floor plans, stand locations, exhibitor profiles, sponsor profiles and the LAND FORCES 2018 trade directory as well as conference and associated functions schedules.

Exhibiting companies will be listed in the App as part of an online trade directory with company information and contact details available to exhibitors and trade visitors at the touch of a button. To download the LAND FORCES 2018 App go to either iTunes or Google Play stores and search for LAND FORCES 2018.

Army to acquire more unmanned ground vehicles

The Australian Army will acquire four more Unmanned Ground Vehicles (UGVs) from Praesidium Global at a cost of \$2 million as part of a 12-month user evaluation trial.

Which of the Sunshine Coast, Queensland-based Praesidium Global UGVs will be acquired has not been specified, but the company offers a range of different UGV capabilities.

These include the MAPS (Mission Adaptable Platform System) which is a medium semi-autonomous platform with different modules which can support a variety of missions; the smaller Scout UGV which has been designed for internal carriage in armoured vehicles; and the Pathfinder air-droppable UGV for operations in non-permissive areas.

“We are committed to building stronger relationships with defence industry and encouraging new innovative technology,” then Minister for Defence Industry, Christopher Pyne said.

“Unmanned Ground Vehicles will enhance the Army's capability

through assisting our soldiers with a range of manual handling tasks, such as moving heavy loads and field equipment, and casualty evacuations.”

BMT offers new Caimen landing craft

UK-based BMT Defence and Security has unveiled an advanced derivative of its Caimen-90 landing craft.

Designed to meet the US Army’s Maneuver Support Vessel Light (MSV(L)) requirement to replace the Landing Craft Mechanized 8 (LCM-8), the new version of the Caimen is an aluminium fast landing craft with a tri-bow monohull.

“As littoral zones are becoming one of the most important areas of operation for our defence forces, it’s so important to have fast and adaptable landing craft,” BMT Managing Director, Peter Behrendt said.

“After many long and drawn out land campaigns early this century, our national security leaders are looking more and more to maritime capability to project power and meet operational needs while also adhering to operational budgets.”

The 100ft long Caimen is capable of 18kt, and can carry one M1A1



BMT Defence and Security has unveiled an advanced derivative of its Caimen-90 landing craft.

Abrams MBT or two Stryker class armoured vehicles. The US Army selected the Caimen design in September 2017, and five prototypes are due to be delivered starting in 2019.

BMT will be showcasing the Caimen at LAND FORCES with a model, video and virtual reality experience.

company has already been selected as the preferred supplier of steel for the Rheinmetall Boxer CRV selected earlier this year for LAND 400 Phase 2, and has also signed a contract with Naval Group Australia to produce steel for a trial for the SEA 1000 Future Submarine program.

“Bisalloy is also providing innovative products to a number of Defence projects, such as the Army’s Hawkei vehicle,” new Defence Minister Christopher Pyne said in an August 29 statement. “Bisalloy is also leveraging its success to seek out export opportunities and has already secured several large volume, international orders for its innovative armour plates.

“This success demonstrates the Australian Government’s commitment to increasing defence exports is achieving tangible

Bisalloy sees big increase in defence exports

Australian steel manufacturer Bisalloy has recorded a 56 per cent increase in exports of defence grade steel in 2017/18, its best result in more than a decade.

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results,” he added. “The Australian economy is benefitting from the record investment in Defence capabilities, and more is yet to come.”

Bisalloy has added 17 new staff in 2018, and is investing in its research, development, laboratory and export capabilities.

Crossfire Australia’s DG Frame lightens the load

Australian company Crossfire has developed an adjustable soldier load carriage frame that flexes at the same rate as the human back, to improve comfort and reduce fatigue.

Feedback from combat and training has shown that a frame with too little flex forces a carrier’s hips and shoulders to fight their

load, while overflexing forces the shoulders to fight angular moment as the load swings wide with each step.

Austest to host open day

Adelaide-based Austest Laboratories will be holding an open day at its new Para Hills facility in September.

The company will be showing its EMC and Environmental test facilities and will conduct free seminars on EMC and Environmental Product testing related to Defence and Aerospace standards.

Seminar topics include electromagnetic compatibility testing of components, and vibration and shock qualification of naval equipment.

The event will be held on Wednesday September 19 at 13 Newfield Rd, Para Hills West. Places

are limited, so ensure your place at the open day by registering at <https://mailchi.mp/austest.com.au/adelaideopenday>.

Slingshot offers Beyond Line Of Sight On The Move

Communications company Spectra Group will showcase its new lightweight Slingshot system that enables in-service UHF and VHF radios to securely use the Inmarsat L-TAC satellite network for Beyond Line of Sight Communications on the Move.

Slingshot requires minimal training and no new radios, so it is a quick and straightforward option for voice and data in applications from single soldier to land, sea and air vehicles. ■

IAI highlights counter-UAS capabilities

On the night of January 6, Syrian rebels conducted what might have been a world first, a massed drone attack on a pair of Russian military bases.

Thirteen remote-controlled model aircraft armed, with small sub-munitions, approached the Hmeimim air base and the Tartus naval base in Latakia, Syria. Ten drones attacked Hmeimim while three attacked Tartus.

The attack was a total failure – all were downed, six by electronic means and seven by the air defence system, an expensive but maybe necessary response to very low-cost drones purchased in the local markets.

But what if the attack had involved dozens or even hundreds of drones? Just a few would be sufficient to cause substantial damage to expensive aircraft.

The proliferation of small over-the-counter unmanned aerial systems (UASs) of growing sophistication means these are likely to be an increasingly common element of future conflict, either in a surveillance role or weaponised.

Plenty of work has been done on drone countermeasures, ranging from electronics – most commercial drones operate on known frequency bands with common command protocols – through to net throwers, guns, missiles, and even hunter killer drones and trained birds-of-prey.

At land Forces Israel Aerospace

Industries (IAI) will show off its Drone Guard counter-UAS systems which it describes as a mature capability with significant growth potential, and a list of (unspecified) foreign customers.

Drone Guard provides defence to sensitive facilities, using electronic means to jam UAV GPS and communication. It uses a portable three-dimensional radar which can detect and track low slow objects. Confirmation is by an optical sensor, and the jamming keeps the drone in a fixed area until power runs out.

IAI is also displaying a number of other capabilities at Land Forces, including its small loitering munitions Rotem L and Green Dragon. While the ADF has no specific requirement yet for a loitering munition, it is keeping watch on this emerging capability.

Rotem L is a 4.5kg quadcopter with day/night camera and a datalink transmitting to a tablet computer. It has a practical range of around 1,500 metres and endurance of up to 45 minutes. Two can be carried in a

special backpack.

In basic configuration, it has a useful tactical ISR capability but, depending on mission requirement, it can readily be weaponised though installation of one or two standard Mk 26 hand grenades. If told to attack, it will dive onto a target at up to 50 knots.

Perhaps alone amongst small loitering munitions, if not expended it can safely return to its operator for use another day.

Green Dragon is a much larger fixed-wing tactical loitering munition, weighing 15kg including a 3kg warhead. It features a day/night camera and datalink to stream imagery to its operator, providing a substantial ISR capability.

Green Dragon can stay aloft for 90 minutes and range out to 40km and, if not used, can also be recovered. Individual Green Dragons are transported in and launched from a sealed canister, with 12-16 canisters carried by a vehicle such as a Hawkei or Humvee. ■



AIDN 2018 YOUNG ACHIEVER AWARD

Driven and talented young people are the key to the future of the defence support industry. Since 2008, AIDN has conducted the Young Achiever Award (YAA) to recognise individuals who may be future industry leaders. The award is held at the Chapter level, and each Chapter winner will compete for the National award.

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