

DEFENCE WEEK PREMIUM EDITION



HMS Queen Elizabeth is the largest vessel ever built for the Royal Navy.

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DOES UK DEFENCE SPENDING HERALD A RETURN TO ASIA?

British Prime Minister Boris Johnson has announced the largest increase in British military funding in 30 years, but questions remain over Britain's future in the Indo-Pacific region.

EWEN LEVICK | SYDNEY

In a speech to the House of Commons last week, PM Johnson set out a £16.5 billion increase above the manifesto commitment over four years. That manifesto commitment was an increase to defence spending by 0.5 per cent above inflation for every year of the current parliament, which represents an overall cash increase of £24.1 billion over four years compared to last year's budget (on current forecasts).

"I have taken this decision in the teeth of the pandemic because the defence of the realm must come first," PM Johnson said. "The international situation

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is more perilous and more intensely competitive than at any time since the Cold War and Britain must be true to our history and stand alongside our allies. To achieve this we need to upgrade our capabilities across the board."

Johnson also announced a new agency dedicated to Artificial Intelligence (AI), the creation of a National Cyber Force, and a new Space Command, capable of launching its first rocket in 2022. The British government says this is supported by a record investment of at least £1.5 billion extra and £5.8 billion total on military research and development, and a commitment to invest further in the Future Combat Air System.

"WHAT CAPACITY DOES BRITAIN
HAVE TO SHAPE THE INDOPACIFIC IF IT STRUGGLES TO KEEP
TABS ON RUSSIAN SUBMARINES
IN ITS OWN BACKYARD?"

The funding increase also means the UK will confirm its Type 26 and Type 31 frigate orders, commit to the Type 32, build two multi-role research vessels and construct fleet solid support ships to supply its Carrier Strike Group.

"Our extra defence spending will restore Britain's position as the foremost naval power in Europe," PM Johnson said.

The announcement comes ahead of a possible deployment of a British carrier strike group to Asia next year, which would be the largest British naval

force assembled in a long time.

A recent report prepared by British politicians for a think tank is placing pressure on London to allocate more resources to countering China's influence in the Indo-Pacific. The report was overseen by former Canadian PM Stephen Harper and is endorsed by former Japanese leader Shinzo Abe. Prime Minister Scott Morrison is also understood to be supportive.

However, there are questions around the extent of Britain's capacity to shape and contribute to the democratic coalition of countries acting as a counter-weight to China in the Indo-Pacific.

The main question, of course, is Brexit. It is difficult for Britain to argue the case for free trade when it is voluntarily leaving the world's largest single market.

The economic cost of Brexit also looms, which some have said will be more severe than the effect of the pandemic. Will a post-Brexit Britain be more strategically influential in the Indo-Pacific then, say, France? Paris has sent nuclear carrier groups to the Pacific and is rapidly expanding its military and intelligence ties with Australia.

The second question is the future of Diego Garcia, a disputed Indian Ocean territory that underpins much of Britain's power in the Indo-Pacific. The territory is leased to the US for a strategically-vital military base.

The territory was taken from Mauritius before independence, and Mauritius is now



finding diplomatic success in its effort to regain sovereignty. This year, the UN General Assembly voted in an overwhelming majority on a deadline for Britain to return the islands. That deadline passed this week without a response from London. Australia was one of only six countries that voted against the motion.

Crucially, India supports Mauritius in the dispute (although it also quietly supports the US military base), which puts Britain in a diplomatic bind: India will be central to any British effort to be more relevant in the Indo-Pacific.

The final question is Russia, which is becoming more active across the North Sea. ADM understands that Russian submarines regularly operate in western British coastal waters, perhaps mapping key communications cables, and London was forced to borrow NATO aircraft to monitor them until the arrival of Britain's first P-8A Poseidon earlier this year. What capacity does Britain have to shape the Indo-Pacific if it struggles to keep tabs on Russian submarines in its own backyard?

In short, Johnson's commitment to expand British military spending will certainly be welcomed in our region. But whether that spending makes London a more attractive partner than Paris, let alone New Delhi or Tokyo, remains an open question.

GILMOUR SPACE PARTNERS WITH NORTHROP GRUMMAN

Gilmour Space Technologies has signed a Memorandum of Understanding (MOU) with Northrop Grumman to work on developing sovereign space capabilities in Australia.

an initial task under the MOU, Northrop Grumman will join Gilmour Space as an industry partner on a previously announced Cooperative Research Centre Project (CRC-P) to develop composite rocket tanks for low-cost space transport.

The CRC-P, which includes Griffith University and Etamax Engineering, will manu-

"IT IS GREAT TO GAIN
THE SUPPORT OF
NORTHROP GRUMMAN"

facture composite tanks up to two metres in diameter and trial them in rocket flights, in an effort to reduce weight and increase reliability.

"Northrop Grumman aims to lead industry support in developing Australian sovereign space capabilities to help meet the needs of defence and realise the Australian Space Agency vision," Chris Deeble, chief executive, Northrop Grumman





Australia, said. "Our approach is consistent with the Australian government's recently announced Modern Manufacturing Strategy, to make space hardware in Australia while securing sovereign capabilities in priority areas that includes defence and space."

Gilmour Space CEO Adam Gilmour said the company is excited to work with Northrop Grumman on this opportunity.

"It is great to gain the support of Northrop Grumman who, through this investment, have further demonstrated their commitment to grow Australian space capability," Gilmour said "With the right support, we will see innovative, well capitalised, and highly capable Australian space companies like Gilmour Space emerge as future Australian space primes.

"We look forward to working with Northrop Grumman as we work to launch our first commercial payloads to orbit in 2022."

BOEING AND SABER AIM TO TROUBLESHOOT SATELLITES UNDER JP 9102

Boeing is collaborating with Sydney-based Saber Astronautics to deliver a proof of concept for a sophisticated diagnostic technology to support its satellite programs.

Using advanced artificial intelligence (AI) and machine learning, Saber has developed technology to predict the impact of unexpected events and erratic space weather on spacecraft, enabling operators to quickly address issues when they are encountered.

This capability has been proven on smaller, less complex spacecraft and Boeing says its investment will enable Saber to investigate the technology's application to Boeing 702 Geostationary (GEO) satellites.

"Satellites are incredibly complex platforms operating in a remote environment, which can make it difficult to diagnose and address anomalies on-orbit," Boeing Defence Australia director of emerging markets, Matt Buckle, said. "The proof of concept will explore the potential for Saber's technology to monitor changes in the state of the satellite, hypothesise the most probable cause of the problem and predict how the satellite will respond in specific situations.

"BOEING IS INTERESTED IN
LEVERAGING OUR SPACECRAFT
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UNIQUE ALGORITHMS TO
PREDICT ANOMALIES AND

DIAGNOSE SPACECRAFT ISSUES"

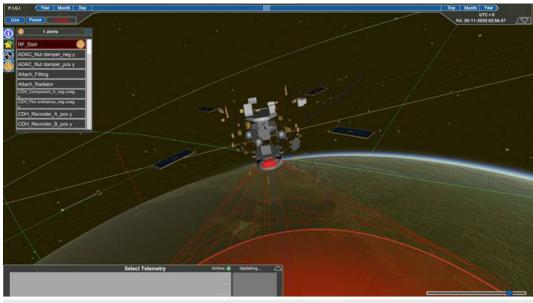
"We look forward to establishing an ongoing relationship with Saber to further develop a diagnostic capability for GEO satellites which has the potential to significantly prolong the life of spacecraft through the early detection, analysis and quick implementation of countermeasures."

The technology is a key capability for JP 9102, which requires the use of machine learning to increase the speed, quality and agility of the conduct of SATCOM operations as compared to legacy systems.

"Boeing is interested in leveraging our spacecraft

expertise along with our unique algorithms to predict anomalies and diagnose space-craft issues more quickly on-orbit. Applying machine learning to diagnostics will reduce operator workload, and can improve spacecraft longevity and performance," Saber Astronautics CEO, Dr Jason Held, said. "Being a part of Boeing's supply chain is a great opportunity for us to apply our work to support larger and more complex missions and we are excited to be a part of this family."

This project is part of broader efforts within Boeing focused on applying cutting-edge technologies to the development and operation of space systems, including efforts on advanced autonomy, predictive analytics, on-board processing and Al-enabled networking.



JP 9102 requires the use of machine learning to increase the speed, quality and agility of the conduct of SATCOM operations. SUPPLIED



Air 6500 aims to connect disparate ADF systems and platforms across all domains.

LOCKHEED MARTIN

LOCKHEED MARTIN ANNOUNCES SME CONTRACTS FOR AIR 6500

Lockheed Martin Australia (LMA) has announced contracts with five Australian SMEs to explore Australian sovereign technologies that may be incorporated into the Air 6500 system solution.

MA, together with SMEs Consilium Technology, Consunet, Shoal, Silentium Defence and Ultra, will investigate and develop capabilities that can be integrated into an open architecture framework to support 5th generation concepts and application development.

A key focus of the SMEs will be to explore technologies ranging from electronic warfare battle management, contested communications, cyber protection, advanced systems engineering and passive sensing.

"Over the past four years, the LMA Air 6500 team has been steadily adding to our sovereign presence and expanding our Australian team," Steve Froelich, Lockheed Martin Australia Air 6500 Program Executive, said. "Critical to that effort has been our focus on proactively engaging and establishing partnerships with Australian industry to identify and invest in 'best of breed' local capabilities to deliver a truly sovereign capability solution for Australia."



"THE LMA AIR 6500 TEAM HAS BEEN STEADILY ADDING TO OUR SOVEREIGN PRESENCE AND EXPANDING OUR AUSTRALIAN TEAM"

LMA has conducted roadshows in every capital city and across large regional centres in Australia, and due to COVID-19 restrictions, most recently held a virtual industry session with NZ's defence industry to investigate partnerships for Air 6500.

From these engagements LMA has identified and validated more than 130 Australian SMEs as potential industry partners with technologies that could be incorporated into the program.

"Consilium Technology is excited by this terrific opportunity to contribute to this major defence program that will strengthen Australia's national security," Nick Cooper, Consilium Technology's chief information officer, said. "We are pleased to be collaborating with Lockheed Martin Australia to explore and create advanced technologies that will support our nation's ability to protect against future threats."

NZDF TAPS BECA AND EY FOR ESTATE REGENERATION

The NZ Defence Force has formed an alliance with professional service companies EY and Beca to help deliver the NZ\$2.1 billion regeneration of the Defence estate.

TZDF is four years into its 15-year plan to regenerate the Defence estate. The professional services alliance is for five years with options to extend by up to six years. "This a game-changer for the way we partner with industry to deliver infrastructure in NZ," Head of Estate and Infrastructure Mark Brunton said. "The alliance will improve our resilience and self-sufficiency, and maximise technology and innovation. It will also reduce the risk created by the scale and pace of this regeneration.

"NZ has a world-class Defence Force. To support this we need a Defence estate that has the right infrastructure, in the right places, that is safe and supports the delivery of the important work that is delivered by our personnel every day of the year.

"This alliance is an innovative way to deliver estate infrastructure both effectively and efficiently which will result in greater public value."

"We are incredibly excited about the opportunity to work with the NZDF to develop innovative solutions and deliver a Defence estate that supports the 14,000 men and

MOST READ ONLINE AT WWW.AUSTRALIANDEFENCE.COM.AU



- 1. Brereton IGADF redacted report released
- 2. Chief of Army disbands 2 Squadron SASR
- 3. Javelin vs Spike for ADF
- 4. Defence minister rebuffs submarine critics
- Lockheed Martin issues new contracts for sub combat system



The professional services alliance is for five years with options to extend by up to six years.

SUPPLIED

"THE WHAKATAUKĪ (MAORI PROVERB) THAT UNDERPINS OUR APPROACH SPEAKS TO BRINGING THE BEST OF ALL PARTIES IN THE ALLIANCE" women who work and live on the Defence estate," Grant Hodges, EY Partner, said. "The whakataukī (Maori proverb) that underpins our approach speaks to bringing the best of all parties in the alliance to achieve this: Nāku te rourou, nōu te rourou, ka ora ai te iwi – with your food basket and my food basket, the people will thrive."

"We are absolutely thrilled to be working with the Defence Estate and Infrastructure team to deliver this

important regeneration programme for the NZDF," Thomas Hyde, Beca Group Director said. "Investment on this scale will fundamentally change the way we can deliver large scale infrastructure transformation programmes in NZ."

The list of projects being worked on in the first 12 months of the alliance is extensive and supports new and upgraded facilities across most camps and bases. Ohakea Air Base and Burnham Military Camp will benefit most in the first phase.

A key role of the alliance will be to leverage the scale of the regeneration to deliver a sustainable Defence estate. Tuku Iho, the Defence estate's sustainability strategy, will see the enhancement and protection of Defence estate's natural, financial, manufactured, intellectual, social and human capital.

"Defence Estate and Infrastructure, with EY and Beca are rapidly mobilising to start building a better future for NZDF – one with better infrastructure, better camps and bases, and better workplaces for our 14,000 military and civilian staff so that we continue to protect and enhance the security of Kiwis and our neighbours," Brunton said.





PMB CHOSEN FOR SWEDISH SUB BATTERIES

PMB Defence (PMB) have been assigned the contract to supply main storage batteries to Saab for Sweden's next generation submarines.

PMB will manufacture the battery systems at its new production, research and development and engineering facilities situated adjacent to the Osborne Naval Shipyard in Adelaide.

PMB Defence's Chief Executive Officer, Stephen Faulkner said that PMB have had a long and collaborative relationship with Saab.

"This contract supplements our parallel development work with Saab and we are proud to apply our capability to battery systems for Sweden's world leading conven-

"WE ARE PROUD TO APPLY OUR CAPABILITY TO BATTERY SYSTEMS FOR SWEDEN'S WORLD LEADING CONVENTIONAL SUBMARINES"

tional submarines. Delivery of battery systems to a new submarine class is consistent with our objective to be the world's most credible designer and supplier of submarine battery systems," Faulkner said.

Saab Australia's Managing Director, Andy Keough said fostering partnerships with quality Australian



Learn how a Generic Soldier Architecture could future-proof capability for Australian soldiers.

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suppliers was a key focus for Saab in both its Australian and global operations.

"Australian industry innovation helps drive our sovereign capability, so it's great to see local defence industry businesses such as PMB, succeeding in the global market with technology designed and built here in Australia," Keough said. "PMB has an established reputation for delivering innovative battery solutions to Australian defence, and this new contract with Saab will broaden their international reach in the supply of cutting-edge technology for the Royal Swedish Navy's revolutionary submarines."

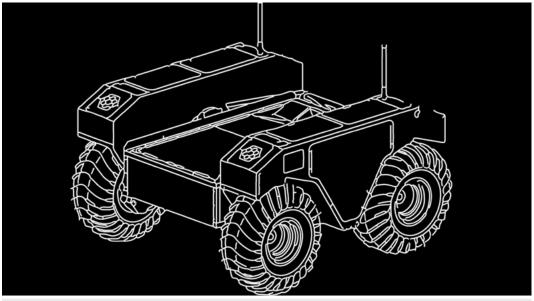
PERTH ROBOTICS COMPANY LOOKS TO SAVE LIVES ON THE BATTLEFIELD

A Perth technology company is working with Defence to develop a robotic command and control system that would enable casualties to be evacuated from the battlefield on an autonomous vehicle.

Chironix's system, which is at the proof-of-concept stage, would also enable deployed soldiers to call for supplies or perform other logistical tasks using robots. The company develops software for robots that tailors them for use not only in defence, but across a range of sectors including mining, construction and oil and gas.

Minister for Defence Industry Melissa Price said Chironix would help research what role robots could play in providing advanced casualty care and treatment to soldiers injured on the battlefield.

The agreement with Defence, valued at almost \$160,000, would also include looking at the use of driverless technology in vehicle convoys across a range of difficult military environments.



The system is at the proof-of-concept stage.

"CHIRONIX'S SYSTEM WOULD ALSO ENABLE DEPLOYED SOLDIERS TO CALL FOR SUPPLIES"

Minister Price said Chironix had demonstrated its advanced skills in robotics and software engineering through its engagements with Defence and the US Office of Naval Research.

"Technological evolution and innovation in land combat and protected vehicle capability is integral

to giving Australia a warfighting edge," Minister Price said.

"This sort of technology has the potential to be a game-changer for our soldiers on the front line and I am so impressed that is being developed here in Osborne Park," Federal Member for Curtin, Celia Hammond said.

PEOPLE ON THE MOVE

Enrico Palermo, Virgin Galactic's Chief Operating Officer, will return to Australia to replace the Australian Space Agency's inaugural Head, Dr Megan Clark. Dr Clark will finish in the role at the end of December, before commencing as the Chair of the Australian Space Agency Advisory Board in the New Year.

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FORTHCOMING EVENTS

ADM EVENTS

More detail on ADM Events can be found on our dedicated website.

- ADM Space Summit 2 December 2020, Hyatt Hotel | Canberra and online
- ADM Congress 3 February 2021, Hyatt Hotel | Canberra and Online
- ADM Defence Estate and Base Services Summit 23 February 2021,
 Hotel Realm | Canberra and Online

NAVY WARFARE INNOVATION WORKSHOP

DATE 7-10 December 2020
LOCATION Hybrid online/in person
WEBSITE navyinnovation.org

The NWIW actualises CN Navy Industry Engagement Strategy and the deep transformational relationships that it calls for beyond Industry as a FIC. In CN's words in the recent Commander's Intent (update 2020) "Australians are called to be part of something bigger, to see in our Navy the attributes of a unique, representative, an inclusive organisation worthy of their commitment and service." It is in that spirit that Navy asks Industry, Academia, Science, Technologists, Start-ups and the wider Defence Innovation ecosystem to join their personnel for 3 days to co-design proposals in response to a potential future 2030 scenario.

DEFENCE AND SECURITY SYMPOSIUM 2020

DATE 08 December 2020

LOCATION Online

WEBSITE www.deakin.edu.au/defence

The symposium topics encompass strategic and operational issues related to government priority, industrial complexity, and research intricacy on sovereign defence and security capabilities in the land, sea, air, space and cyber domains. With rapid advances in smart technologies, the emerging and disruptive cyber-physical threats toward the established sovereign capabilities stand as one of the critical problems to be addressed.

43RD COSPAR SCIENTIFIC ASSEMBLY

DATE 28 Jan-4 Feb 2021

LOCATION International Convention Centre Sydney

WEBSITE cospar2020.org

The Australian space research community enthusiastically extends the invitation to you, to meet with us for COSPAR 2020, and in so doing to forge the friendships and opportunities that will connect space research for global impact. The 2020 Assembly will combine the latest in space research findings with activities designed to enrich the global space research community – including helping equip our future leaders, and workshopping with space industry – and inspire the next generation of scientists and engineers.

LOCATE21

DATE 30 March – 1 April 2021 (rescheduled dates)
LOCATION Brisbane Convention and Exhibition Centre

WEBSITE locateconference.com/2021

Due to COVID-19, Locate20 has been rescheduled for Locate21 happening in Brisbane March 30 – 1 April 2021. The event will focus on how geospatial technologies are intersecting with business, Government and defence to address national challenges. It's Australia's premier spatial conference with the inclusion of over 50 inspiring thought-leaders including speakers from government, academia, the defence force, technology, mining, natural resources and more. We believe this conference is of interest to defence personnel.

LAND FORCES 2021

DATE June 1-3 2021

LOCATION Brisbane Convention Centre

WEBSITE landforces.com.au

The biennial LAND FORCES exposition is an international industry event to show-case equipment, technology and services for the armies of Australia and the Indo-Asia-Pacific. The Land Forces 2020 team is now setting about ensuring the event will achieve its goals of providing an effective platform for the exchange of ideas on key land forces issues and of taking Australian industry to the world.

ROTORTECH 2021

DATE 15-17 June 2021

LOCATION Royal International Convention Centre, Brisbane

WEBSITE rotortech.com.au

The new dates for Rotortech will be Tuesday 15 June to Thursday 17 June 2021. The venue, the Royal International Convention Centre in Brisbane, is unchanged. Rotortech is the region's premier helicopter and unmanned flight systems showcase and forum, featuring more than 100 participating companies and key speakers from industry and government. We believe that deferring Rotortech to its new June 2021 dates will achieve this goal by moving the event to a time where the COVID situation will have improved and the current uncertainties will have passed.

PROJECT AND PROGRAM MANAGEMENT SYMPOSIUM

DATE 10 – 12 August 2021 (rescheduled dates)

LOCATION Canberra Rex Hotel
WEBSITE pgcsymposium.org.au

Foresight is more valuable then hindsight! PGCS 2020 is designed to help project and program managers, and their sponsors and senior managers, develop the skills and understanding needed to deliver projects success in the next decade. Creating the organisational capability needed to underpin the consistent delivery of successful projects in the 2020's starts at the top. Now in its 8th year, PGCS 2020 will focus on ways to build the foundations needed to create project and program success

AVALON 2021

DATE 23-28 November 2021

LOCATION Avalon Airport

The Australian International Airshow and Aerospace & Defence Exposition is one of Asia-Pacific's most prestigious aviation and aerospace events and the most comprehensive aviation, aerospace and defence exposition in the southern hemisphere. Avalon hosts multiple concurrent conferences and expo streams, across the spectrum of Defence, Airlines, Business and General Aviation, Sport and Recreational Aviation, Airports, MRO, Space, Unmanned Systems, Air Safety and Ground Equipment.

2022

INDO PACIFIC 2022

DATE 12 May 2022 LOCATION ICC Sydney

WEBSITE pacificexpo.com.au

INDO PACIFIC, the biennial International Maritime Exposition, will combine an extensive exhibition presence, a comprehensive conference program and a schedule of networking and promotional opportunities. It will be the 12th iteration of this internationally renowned event, and will be a critical link event for Defence, government and industry as Australia defines how it will invest \$90 billion on new ships, submarines and their systems and support.

VARIOUS DATES

ASDEFCON TD /IP ONLINE COURSES

DATE Various **LOCATION** Online

WEBSITE defence@majortraining.com.au

Defence have begun online delivery of its short course on the Technical Data / Intellectual Property (TD/IP) clauses in its ASDEFCON suite of templates. These clauses provide far more flexibility and scope to deal with TD/IP issues than the previous ones. Defence will offer a number of spaces to Defence Industry on each online course to ensure the new TD/IP regime is successfully adopted by industry. These positions are centrally funded by Defence.

NSW DEFENCE INNOVATION NETWORK'S REGIONAL ROAD SHOW

DATE: Various **LOCATION:** Various

WEBSITE: defenceinnovationnetwork.com/din-regional-road-show-2019-20

NSW Defence Innovation Network and AIDN will be undertaking a series of small business focused regional forums across NSW. Register to attend and hear about the programs, grants, opportunities and services the NSW Defence Innovation Network (DIN) provides to the small business community across NSW. We encourage small businesses to engage with us and participate in opportunities across our networks, including DIN's seven partner universities, as well as with other state and federal agencies.

ICCPM ONLINE WORKSHOPS

DATE Various **LOCATION** Online

WEBSITE iccpm.com/online-workshop-webinars

Designed to support project teams who are experiencing new challenges due to COVID-19 concerns – Learn how to mitigate new risk levels, effectively deploy virtual teams, manage messy problems and more. ICCPM Online Workshops and Webinars provide you with an easily accessible and engaging option to continue your training from anywhere in the world. These options provide you and your team with a conducive learning environment to support your complex project success.

ICCPM ROUNDTABLE WORKSHOPS

DATE Various LOCATION Various

WEBSITE iccpm.com/2020-rs

ICCPM, with Series Partner QUTeX, is pleased to confirm the upcoming Workshops for the 2020 International Roundtable Series Harnessing Emergence in Complex Projects: Risk, Uncertainty and Opportunity. The International Roundtable Series is an exciting Thought Leadership initiative where senior practitioners and leading academics come together and discuss the Series Theme to produce new insights and practical steps to improve complex project success. Registrations for in-person workshops are strictly limited to comply with COVID-19 venue safety guidelines. Please refer to each event page for more details.