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HAS COVID-19 CHANGED THE WORLD FOREVER?

KYM BERGMANN // CANBERRA

The full impact of cataclysmic effects often takes time to play out. In contemporary times things such as the 2003 invasion of Iraq or the disintegration of the Soviet Union in 1991 are still being played out with few people at the time able to predict the consequences of what they were witnessing. As we reach what might be the midway point in the COVID-19 pandemic, it is equally difficult to anticipate the long-term consequences of it, but they are likely to be severe.

Australia is faring reasonably well, but as current events are demonstrating, there is no room for complacency.

In detailing the Defence Strategic Update and associated Force Structure Plan released on July 1, both Prime Minister Scott Morrison and Defence Minister Linda Reynolds spoke in apocalyptic terms. They made references to the 1930s: turbulence, instability and the march towards war with the rise of Germany and Japan. Substitute China in today’s context and that seems to be a similar scenario – a powerful, rapidly growing presence in our region with a military build up seemingly completely out of proportion for self-defence and to meet legitimate security needs.

There are a number of other worrying parallels, such as a breakdown in international institutions. The League of Nations set up after the First World War was a pandemic – though it can be argued that the earlier Spanish Flu of 1918 had a long term destabilising effect. Nevertheless, what we are looking at is clearly an extremely volatile mix of enormous Chinese military growth coupled with belligerent rhetoric and actions to match. These include aggression in the South China Sea, border clashes with India, the security crackdown in Hong Kong and a myriad of cyber attacks. Why China is behaving in this manner is speculative, but we are undeniably living in a world of greater risk.

One of the first and most obvious results of COVID-19 is to accelerate the relative decline of the U.S. with a death toll that shows no sign of slowing and which might reach 200,000 by the Presidential election of November 3. The consequences of this for the nation are unpredictable and grow more alarming every day.

Donald Trump has indicated – not for the first time – that he might not accept the result of the vote unless it is in his favour. Because of the virus the election itself is likely to be even more chaotic than usual with many mail-in ballots and huge lines of people for fewer polling booths. The vote count is likely to be slow and the result might not be known for days or even weeks.

When we first started questioning the stability of the U.S. system under Trump, many thought we were being alarmist and that the situation would somehow right itself. Nothing could now be further removed from reality. Accelerated by COVID-19, society seems to have become more polarised not less, with even measures such as the wearing of facemasks turned into a highly political issue. No less a figure than the President himself misleads the public about the severity of the illness, the death rate and the likelihood of its spread, continuing to insist that it will somehow magically just go away. Tens of millions continue to believe him, while the majority watch on with a mixture of fear and disbelief.

In a worst case scenario, Trump will refuse to leave office, declaring the result invalid and blame China and others for outside interference – along with all of those fake postal ballots. The U.S. will enter a period of extreme danger between then and when the Electoral College meets sometime in December. Once that body signs off on the result – assuming that it is in favour of Democrat Joe Biden – Trump can be legally removed from the White House by Federal Marshals. However even that cannot be guaranteed as the Federal Marshals are part of the Justice Department, which has been highly politicised under William Barr and whose impartiality is now very much open to question.

One of the possible causes of the Chinese aggression referred to earlier is that they are doing it because they can. While the U.S. and Europe are still preoccupied with COVID-19, China has won the battle with their outbreak, possibly confirming in the eyes of President Xi and others the superiority of the one party system. The economy has taken a big hit but is recovering – unlike the western world where it looks like the worst is yet to come.

Australia is faring reasonably well, but as current events are demonstrating, there is no room for complacency. Apart from anything else, we live in an interconnected world and our economy to a large extent depends on how our major trading partners are doing. We tackled the virus relatively early and have had a number of natural advantages – including that we are an island and have a highly dispersed population. We also have good health care and a robust education system, which means that the vast majority of people recognise sensible medical advice when they hear it. Another advantage is a generally bipartisan approach to tackling the issues.

To conclude on a brighter note: a vaccine is on the way. Several vaccines, actually – so sometime in 2021 the medical nightmare will be coming to an end. But the international political consequences could just be starting.
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NORTHROP GRUMMAN AWARDED TRITON NITE CONTRACT

– CANBERRA, Australia, 15 July 2020 –

Northrop Grumman Corporation has been awarded AUD $8 million to build the MQ-4C Triton Network Integration Test Environment, which will be located at RAAF Base Edinburgh in South Australia.

The NITE signals the start of growth in the Australian workforce necessary to support the Triton program. It is expected that the Triton program will deliver more than 75 jobs for Australian workers.

“The NITE will enable the Royal Australian Air Force to develop networks for test and engineering, as well as operations, ahead of Australia receiving its first Triton ground control stations and air vehicles,” said Chris Deeble, chief executive, Northrop Grumman Australia. “This is a significant milestone as the Australian Triton program continues to mature.”

The NITE will be developed in three phases, allowing the RAAF to progress from basic continuity testing between distributed environments to advanced integration capability development environment via server farm, network storage and virtualization.

Australia is currently scheduled to receive their first ground control station in 2022 and their first of six to seven Triton air vehicles in 2023. Northrop Grumman is already building long lead items and is scheduled to begin building the airframe for Australia’s first air vehicle later this year.

MORRISON GOVERNMENT ACQUIRES EOS DEFENCE SYSTEMS REMOTE WEAPON STATIONS

– Canberra, Australia, Thursday 2 July 2020 –

Electro Optic Systems Holdings welcomes today’s announcement that the Morrison Government will acquire 251 Remote Weapon Stations (RWS) to equip the Australian Army’s Bushmaster and Hawkei protected mobility vehicles.

EOS Defence Systems’ RWS will significantly enhance the protection of Australian Defence Force personnel operating in high-risk areas, by offering improved targeting and allowing weapons to be remotely operated.

Dr Ben Greene, EOS Group CEO said:

“This morning’s announcement from Prime Minister Scott Morrison and Minister for Defence Industry Melissa Price has secured ongoing work for 146 Australian businesses in our supply chain, for which EOS and its suppliers are very grateful.

I would like to congratulate the Morrison Government on their commitment to improve Australia’s strategic defence capability, and their recognition of the critical role of the Australian industry to meet this objective. EOS Defence Systems welcomes the opportunity to partner with the Department of Defence to deliver world-class capability to our armed forces, in turn securing over 1,300 high-value, high-technology Australian jobs.”

EOS Defence Systems has been exporting the RWS since 2007 to Australian partners and allies such as the United States, Singapore and the Netherlands. Over 35 years, EOS has grown to become Australia’s largest defence exporter with $160 million of exports in 2019, exporting over 95% of its products and services.
MORRISON GOVERNMENT INVESTS IN A NEW SOVEREIGN CONTROLLED SATELLITE CAPABILITY

– 13 July 2020 –

As announced in the Defence Strategic Update and Force Structure Plan, the Morrison Government is taking the first step towards investing in Australia’s first fully owned and controlled military satellite communication constellation, as part of its $7 billion investment in space capabilities over the next 10 years.

Minister for Defence, Senator the Hon Linda Reynolds CSC said the significant investment demonstrates the Morrison Government’s commitment to protecting Australia’s space assets and increasing our self reliance and resilience.

“Over the next 15 years, Defence, in cooperation with the Australian Space Agency, will invest $50 million in the Australian Space Industry for research and innovation in satellite communication technologies for future consideration.”

Minister for Industry, Science and Technology Karen Andrews said it was an important investment that would support Australian industry more broadly than just the space sector.

“In our increasingly information-dependent warfighting domains, it will provide Australian controlled communications and assured access for the ADF and for others including Emergency Services.”

The new future satellite communications capability will supplement, and then replace, the existing Defence satellite communications system, with a focus on supporting operations within the Indo-Pacific region.

The sovereign controlled system will be augmented by contracted commercial satellite communications and industry partners, to assure resilient communications globally for the ADF across a range of space operations.

“This Government recognises the importance of developing technologies locally, to protect our space assets while also offering opportunities to export these space capabilities to our allies and international partners,” Minister Reynolds said.

“Investments like this is in our sovereign capability have a substantial flow-on effect through our supply chains – and that means jobs for Australians,” Minister Andrews said.

That is what is so powerful about space. You’re creating opportunities for a broad range of industries to be involved in the projects, as well as developing technologies and capability that will support the advancement of those very same industries and beyond.”

A Request for Tender is set to be released in late 2020 for the sovereign controlled satellite communications capability, which aims to engage a single prime contractor to deliver, upgrade and sustain the capability over its life of type.

Potential opportunities for Australian industry involvement include software development, systems integration, facilities construction, system operators, sustainment, and participation in the supply chain through manufacture and supply of sub-systems and components.
GOVERNMENT BUYS ADDITIONAL EF88 RIFLES
– 13 July 2020 –

The Morrison Government will boost Army’s weapon systems capability with the purchase of an additional 8,500 world-class, Australian made Enhanced F88 (EF88) weapon systems.

This will supplement the 30,000 weapons that Thales Australia will deliver to Defence.

Minister for Defence, Senator the Hon Linda Reynolds CSC said this additional acquisition of rifles will not only improve the overall capability of the Australian Defence Force, but will also provide a welcome boost to the workforce in regional Australia.

“The rifles will be manufactured at the Thales Australia site in Lithgow, New South Wales which employs around 130 Australians,” Minister Reynolds said.

“This acquisition is just another example of the nationwide benefits of the Morrison Government’s unprecedented investment in defence capability, particularly in rural and regional Australia.

“It also demonstrates our ongoing commitment to building a strong and sustainable defence industry.

“This Government is doing all we can to help the Australian economy recover from COVID-19. The purchase of these additional EF88 weapon systems will provide certainty to the workforce at Lithgow and support jobs in regional Australia.”

This acquisition will allow the retirement of older weapons, reducing the cost of sustainment, maintenance and training.

Compared with previous systems, the EF88 rifle has significantly improved the capability of the soldier through improved range, accuracy, ergonomics and reduced system weight

These additional weapons, which are being delivered under the lethality element of the Soldier Modernisation Program, will enable increased access to the EF88 across the full and part-time force, particularly Army’s 2nd Division.

ROHDE & SCHWARZ TO OUTFIT CAPE CLASS PATROL BOATS WITH NAVAL COMMUNICATIONS
– Sydney/Munich, 13 July 2020 –

Rohde & Schwarz (Australia) signed a contract with Austal Limited to deliver integrated communications systems for six Cape class patrol boats (CCPB) contracted by the Department of Defence for use by the Royal Australian Navy (RAN). CCPBs are currently in production at Austal’s Henderson shipyard in Western Australia and are to be delivered from September 2021.

The new RAN CCPBs will include a number of enhancements that include Rohde & Schwarz communications equipment, including the company’s Naval Integrated Communications System (NAVICS) with multi-layer security and secure external line of sight (V/UHF) and beyond line of sight communications (HF).

Managing Director of Rohde & Schwarz Australia, Gareth Evans, said that, “As a communications systems integrator, we have unique perspective and capability along with clear technical superiority of our solutions, particularly NAVICS.

“One of the exciting aspects of this system is its true VoIP switching, it's not a hybrid TDM solution. This makes it both future-proof and scalable. NAVICS also reduces the integration effort and risk associated with incorporating third party components using its versatile IP gateways.

“Rohde & Schwarz (Australia) established a very competent integration capability for Australian industry in Sydney to complement our existing maintenance and world-class calibration facilities. This opportunity ensures Australian jobs are created and supply chain opportunities continue for Australia's shipbuilding industry.”

Ben Wardle, General Manager Australian Shipbuilding at Austal said the company was looking forward to working with Rohde & Schwarz (Australia) to deliver an effective
integrated communications system for the Cape class patrol boats.

“For the new Cape class patrol boat contract with the Department of Defence, Austal conducted extensive market testing for a new, proven partner that would be able to meet or exceed the technical scope of the project, whilst maintaining Australian Industry engagement.

“We were very pleased to find Rohde & Schwarz could fulfil this scope and we look forward to working with both the Australian and German based teams to deliver the very best integrated communications system for RAN’s new Capes,” Mr Wardle said.

“This contract represents a clear commitment by Austal and the Australian Government to strengthen the Cape class with Top-of-Class communication solutions by Rohde & Schwarz,” Hansjörg Herrbold, Vice President Market Segment Navy Rohde & Schwarz, says. “NAVICS is being deployed on numerous naval vessels, including the Royal Navy’s Type 26 frigates and was on display at the recent Pacific 2019 exhibition in Sydney.”

NAVICS uses state-of-the-art VoIP and Ethernet standards. Following market tendencies Rohde & Schwarz has decided to abandon outdated TDM technology, which required heavy proprietary hardware. Instead, NAVICS relays on widely spread industry standards and commercial-of-the-shelf hardware, thus eliminating the risk of expensive obsolete equipment. A multilevel security architecture allows secure, trusted and tamper-proof communications between multiple domains with different security classifications.

AUSTRALIAN COMPANY SUPPORTING DEFENCE’S AIR OPERATIONS CAPABILITY – 15 July 2020 –

The Australian Defence Force and its allied forces will draw on Australian ingenuity and expertise to enhance surveillance and air battlespace capability.

Minister for Defence Industry Melissa Price said a new five-year, $65 million contract with Australian-owned Daronmont Technologies is creating 10 new positions and will support the Mobile Control and Reporting Centre based at RAAF Base Darwin.

“This contract will enable the Mobile Control and Reporting Centre to be a deployable system providing vital surveillance, battlespace management, and communications services,” Minister Price said.

“With over 96 per cent Australian industry content, Daronmont’s team of 35 highly skilled software, electronics, IT, mechanical and systems engineers are supporting Defence’s air operations and interoperability with allied and coalition forces.”

The Mobile Control and Reporting Centre is stationed at RAAF Base Darwin, while the simulation system and supporting communications assets are distributed across multiple RAAF sites in Australia.

The Mobile Control and Reporting Centre system has previously deployed to Afghanistan in 2007-2009 and most recently to Papua New Guinea in Dec 2018 in support of operation APEC Assist.

LAST CLASSIC HORNET TAXIS OUT OF SERVICE FACILITY – 9 July 2020 –

The last F/A-18A/B Classic Hornets to undergo deeper maintenance servicing have rolled out of the Boeing Defence Australia facility at RAAF Base Williamtown.

Minister for Defence Industry, Melissa Price, said 150 jobs in the Hunter region had been supported through this important work.

“This was the 163rd and final deeper maintenance servicing for the Air Force Classic Hornet fleet since 2013,” Minister Price said.

“These operations have generated an additional 140,000 flying hours for the Classic Hornets and also contributed $200 million to the Australian economy.”

Deeper maintenance servicing on the Classic Hornet will no longer be required as the capability is progressively replaced by the F-35A Lightning II aircraft.

“To secure these local Hunter jobs, Boeing will continue to provide logistics, engineering and maintenance support through to the planned withdrawal date of December 2021,” Minister Price said.

“Boeing will also assist Defence to prepare retired Classic Hornet aircraft for heritage display within Australia and potential sale to foreign customers.

“This continued effort will assist in retaining a highly skilled Hunter region aviation workforce until there is a requirement for F-35A Lightning II sustainment which will also be based at RAAF Base Williamtown.”

The fleet of 75 Classic Hornet aircraft were introduced into service in 1985 and will see 36 years’ service by the planned withdrawal in December 2021.
The July 2 release of the Defence Strategic Update and associated Force Structure Plan contained a lot of orthodoxy - ships, aircraft and armoured vehicles – but also a number of new and exciting capabilities. There is a lot to unpack in the documents, which despite the claim by Defence Minister Linda Reynolds of unparalleled transparency are somewhat vague in terms of dates and specific spending. Nevertheless, if and when fully implemented, the various acquisitions will see a significant increase in the combat, ISR and support capabilities of the ADF.

On the big picture numbers, during the next decade Defence spending will increase from the current $38.7 billion per annum to $73.7 billion by 2029-30, though no less an Analyst than ASPI’s Marcus Hellyer calculates that about half of this growth will be due to inflation. This will be a total spend of $575 billion over the decade, of which the Government says $270 billion will be on capability – but presumably that includes support costs for existing platforms as well as buying new stuff.

When it comes to platforms, this large amount of money does not seem to be purchasing a great deal more – it’s still 12 submarines; 9 frigates; 72 F-35s and so on. The increase in personnel during the next three years is miniscule: 650 more for the RAN; 50 for Army; 100 for RAAF and 250 extra members of the APS. For all of the tough talk about Australia’s strategic outlook being similar to the 1930s with China now replacing Germany and Japan as an enormous threat – and the U.S. in relative decline – Australia’s expansion looks to be relatively modest and will take place over time.

The absence of significant new platforms from the Plan might be explained by a couple of things. Firstly, there is an understandable emphasis on cyber, intelligence and surveillance capabilities – and these tend to be software and sensor intensive, rather than big shiny objects that can be unveiled. Secondly, many platforms are becoming more expensive rather than less, so cash can be vacuumed up rapidly by adding another squadron of F-35s or an extra frigate. A notable exception are the Arafura class OPVs – and to give Marcus Hellyer a second plug in as many paragraphs, the idea from ASPI of increasing the build from 12 to at least 18, equipping them with canisterised missiles and making them helicopter capable would be a quick and relatively inexpensive way of boosting RAN’s surface combat power.

The hardware centrepiece – in the short term – of the Government’s capability boost was the announcement that the RAAF will acquire AGM-158C Long Range Anti-Ship Missiles (LRASM) to equip Super Hornets for maritime strike. Designed and built by Lockheed Martin, it is a formidable weapon and is derived from the JASSM, already in service on RAAF’s Classic Hornets. LRASM is also compatible with F-35s and can be launched from Mk41 VLS cells such as those on the Air Warfare Destroyers, ANZAC frigates and the future Hunter class. They have a formidable 450kg warhead an estimated range in the 500km bracket – though this is a factor of a number of things, including the height at which the missile is launched. Also trade offs between the amount of fuel carried and the size of the payload could achieve even greater ranges. Asked by Professor Paul Dibb after her ASPI speech outlining the Plan whether these missiles could possibly be manufactured in Australia to increase strategic self-reliance, Minister Reynolds replied somewhat disingenuously: “We are acquiring them from the United States Navy because that is where the capability and very high-end technology rests. Like with many other programs, wherever we can, we are now looking at how do we bring that IP and also that the build and
sustainability and maintenance here to Australia."

The Minister and the Department can look at the possibility all they want, but the U.S. is not going to give Australia sensitive missile IP. Nor will they be built here. Since every other U.S. missile in Australia’s inventory has to be shipped back to their home country for maintenance, modifications and upgrades it seems extremely unlikely that an exception will be made for LRASMs. If so, it would be a world first.

The time when an Australian air-launched long-range strike missile domestic manufacturing capability could have been created was in 2005. If the RAAF had selected the Taurus KEPD 350 rather than JASSM for the Classic Hornets, the company – a combination of MBDA and Saab – had offered full IP transfer as well as local production and support. Instead, as usual, the fully imported U.S. solution was preferred with the old “integration risk” a deciding factor. It should be noted that the Spanish Air Force went on to integrate Taurus onto their Hornets without apparent difficulty, while the Americans charged us a fortune to integrate JASSM onto ours.

Turning to the future, the Minister emphasised the importance of submarines for strategic deterrence, putting them ahead of all other platforms. However, the plan represents no change from the status quo, with a Life of Type Extension (LOTE) of the Collins fleet and a reaffirmation of 12 Attack class. This means that against a rapidly deteriorating strategic background and huge growth in the size and capability of the PLA (N), the RAN will only have a maximum of half a dozen submarines in service until the seventh Attack class becomes available around 2044 – and only in the unlikely event that the program runs exactly to schedule.

This situation has come about basically because the RAN seems to view the Attack class as a one-for-one replacement of Collins, even the LOTE. A better plan would be to bring forward the LOTE and develop a Plan B in the form of a New Generation Collins, as well as the Attack class. As we have reported previously, the Netherlands is looking for new submarines and one of the options is based on an evolved Collins design from Saab – and there is no reason why Australia could not do the same, though time marches on.

In this admittedly Utopian scenario, championed by Professor Hugh White and others, by the late 2020s and early 30s – when our planners tell us we will be in the period of greatest risk of open, high intensity conflict with China – we could have six Collins class with two or three upgraded, one or two New Generation Collins and the Attack class starting to take shape. By the mid-30s the picture would be looking healthier. The navies of the U.S.; Russia; Britain; China; France; Japan; India and South Korea all manage to operate fleets of at least two classes of submarines simultaneously – so why not Australia? Surely we can walk and chew gum at the same time. Such a strategy would involve more money and a great deal more willpower, but it could be done – especially for assets that are so vital for the nation’s future security.

Turning to other things that we are getting, an extremely important one is an expansion of the JORN HF radar network. This is a formidable strategic surveillance asset, able to monitor a huge swath of the earth’s surface far to Australia’s north west. It will now become even more capable, with Minister Reynolds revealing:

“The Jindalee Operational Radar Network – will be expanded to better monitor Australia’s eastern approaches.”

This will involve an expansion of the existing transmitting site at Longreach, with Defence supplying the additional information to APDR:

“To monitor Australia’s eastern approaches, new Jindalee Operational Radar Network (JORN) elements will be constructed with a north-east orientation.

“The Longreach Queensland, Over-the-Horizon Radar (OTHR) will undergo an upgrade to construct a new array arm. The new array will improve surveillance outcomes in our eastern approaches.

“The upgrade to the Longreach OTHR site will increase the field of regard from a 90-degree radar surveillance area to 180 degrees, similar to the Laverton Western Australia site.

“Timings for the new array will be considered through the Defence Capability Life Cycle planning process with an intent to build the system as part of the current JORN Phase 6 upgrade. Defence expects the upgraded Longreach site will be operational as a 180-degree system by the end of the decade.”

Even a decade ago, from a military perspective, no one cared too much about what was happening to Australia’s north east because that part of the world is a few small islands and a great deal of ocean. However, with the PLA(N) in particular becoming far more active in the region – and following Australia’s South Pacific “step up” – this expansion of JORN is a great idea. Without going into the capabilities of the radar, it would also give Australia an important tool for monitoring various illegal activities – particularly fishing – and pass that information on to Australia’s regional friends. In theory, this would allow tiny nations such as the Solomon Islands and Vanuatu to use their new Australian-supplied Guardian class patrol boats to start making some arrests and boost their coffers with heavy fines of those who transgress, including from China, whose huge commercial fishing fleet doubles up as a surveillance asset.

Another part of the Plan is to double the number of Self-Propelled Howitzers Army will acquire to 60. We have predicted for years that this will be the 155mm ‘Huntsman’ SPH from South Korea’s Hanwha – but still there has been no announcement to that effect. At the risk of having a lot of egg on APDR’s face, the evidence for this choice continues to mount. Defence Industry Minister Melissa Price made an announcement on July 2 that contained two elements that seem to be exclusive to the Hanwha offer: 1) they will be built in Geelong; and 2) the tracked SPHs will be accompanied by armoured ammunition resupply vehicles utilising the same chassis. While it is not yet time for Hanwha to be breaking out the Soju, it must be getting close.

It also looks as if the Department and RAAF have formed a positive view of Boeing’s ‘Loyal Wingman’ UCAV concept and have allocated a whopping $7.4 – $11 billion from 2025 onwards. Officially known as Teaming Air Vehicles, these are intended to be uninhabited, semi-autonomous jet powered aircraft that will accompany manned platforms such as F-35s and Super Hornets into combat, potentially being major force multipliers and able to undertake a variety of missions including surveillance, Electronic Warfare and suppression of enemy air defences (SEAD). Three test vehicles have already flown and there is a lot of optimism about the project – which, if successful, will see Australia manufacturing world-leading combat aircraft and potentially exporting them to other Five Eyes nations.

In future editions we will continue to investigate massive and necessary investments being made in cyber capabilities. The scale of threats being faced by Australia is enormous and will continue to grow in scale and complexity. The Government is now open about having an offensive as well as defensive posture. This makes sense because if aggressors – be they countries or non-state actors – start to pay a price for interfering with our sovereignty they might start to think twice before they started hacking our networks.

We shall also investigate numerous mysteries – such as why the fleet of Growler electronic attack aircraft are slated to retire in the late 2020s when they still have plenty of life left in them. Or why the RAAF will continue to purchase Predator B UCAVs all the way out to 2040. Despite these uncertainties and some limitations, the Force Structure Plan shows a determination to meet the security challenges of the years ahead.
Communications has always been a critical element in military operations – and as technology advances so does the potential level of connectivity between dispersed forces. Because of Australia’s vast distances and dispersed population, we were an early adopter of High Frequency radio, which was an important means of communicating with people in the Outback – for example by the Royal Flying Doctor Service from the 1920s onwards. The technology naturally flowed through to military applications and is an important tool for all three services.

However, with communications satellites becoming smaller and more capable, it is worth asking the question why invest in old style technology that in the HF band is very much subject to atmospheric whims as it requires the refraction of radio waves from the constantly fluctuating ionosphere. Major General Marcus Thompson, Head of Information Warfare, provided the explanation to APDR:

"Long-range high frequency communications provide a capability in areas and times where satellite communications may be degraded, unaffordable or unavailable. It's also important for interoperability with our military allies and partners, commercial and emergency response organisations, and with other Government agencies.

"Each of our Five Eyes partners is pursuing similar high frequency communications renewal programs in recognition of the value it represents to maintaining an information warfare edge. Long-range high frequency communications provide the Joint Force a sovereign, resilient, alternate strategic communication capability for command and control, and situational awareness. This is a cost-effective communications solution and enhances the ability of Australian Defence Force (ADF) platforms and headquarters operating in Denied, Disrupted, Intermittent and Limited (D-DIL) communications environments.

According to Major General Thompson Joint Project 9101 Enhanced Defence High Frequency Communications System (JP 9101) seeks to deliver greater capacity, faster speeds, improved reliability and superior interoperability for ADF command and control, and situational awareness. The enhancements sought include:

- Internet protocol communications
- Digital voice traffic
- Support to tactical data links, such as Link 22
- Wide band communications for more capacity
- 3rd and potential 4th generation automatic link establishment for more automation and less user involvement in linking
- Improved interoperability with the application of high frequency-relevant NATO Standardisation Agreements (STANAG) and United States Military Standards (MIL-STD)
- Global coverage (the current system provides coverage across Australia and at least 2,000 nautical miles beyond the coastline).

The Project seeks continued support in:

- Serial data (military messaging)
- Analogue voice traffic
- Interference voice traffic
- Interference management and signal improvement.

The contractor for the current HF communications system is Boeing Australia Limited, which was awarded the original contract way back in 1997. Even this was a long time coming as Defence dithered for years about an earlier program labelled NAVCOMMSTA, which involved relocating huge HF transmitters from the rapidly growing Belconnen region of Canberra. The program struggled in its early years because of a very ambitious specification combined with an inflexible contract and tough schedule – a formula now recognised as being neither in the interests of Defence or industry. The system has been progressively upgraded over time and has undergone several iterations.

In more recent times the system has been performing extremely well, but nevertheless Defence has decided to test the market and
also have another look at available technologies. Two bids are known to have been received by Defence: Boeing are teamed with BAE Systems; and Babcock are partnered with Lockheed Martin Australia. All four companies have considerable HF communications experience.

According to Major General Thompson, the project seeks to deliver sovereign and resilient long-range communications capability to the Joint Force for command and control, and situational awareness. This would be achieved with sovereign ownership of all equipment and high frequency antenna locations.

While the ADF is intended to be the principle user of JP 9101, Major General Thompson emphasised that it will also be available to other government agencies and coalition partners. The system will be used in a range of scenarios such as deployed military operations, search and rescue, and humanitarian and disaster relief missions both domestically and overseas.

THE BABCOCK-LOCKHEED MARTIN TEAM

Asked for an outline of Babcock’s credentials, Managing Director – Land (Australasia) Graeme Nayler explained:

“Our experience in strategic communications traces back to the end of World War II, where we provided a range of communication services to the UK Government and Ministry of Defence (MoD) that included the BBC World Service, a world-wide broadcasting network with hundreds of stations placed across the globe. From that ability to design, install and operate radio stations remotely came other major programs such as the National Time Signal Service providing an accurate timing source across the UK, the eLoran Signal in Space navigation service and multiple communications network enhancements and programs for numerous NATO partners – across both Very Low Frequency (VLF), low Frequency (LF) systems, bands that all remain in operational service today. Additionally, there have been numerous bespoke communications programs for other government agencies along the way, from VLF right through to SATCOM."

All of this is additional to Babcock’s UK MoD Defence High Frequency Communications Service program, where the company provides military HF communications services. They deliver real-time operational services to authorised UK users wherever they are operating in support of the UK MoD.

According to the company, this program is unique because it operates as a service, which means 100% of the delivery risk is transferred to and owned by Babcock.

Neale Prescott, Lockheed Martin Australia’s Director Business Development Rotary and Mission Systems explained the company’s role:

“Lockheed Martin Australia is very proud of our longstanding involvement with the Jindalee Operational Radar Network (JORN), and has retained its capability with respect to research and design, software, engineering and integration. Since the late 1990s Lockheed Martin Australia was responsible for the design and fielding of the HF system. In 2002 it became operational and the company sustained it. Their long association with the JORN program continues through work on research and development programs in high frequency radar and the focus has shifted to supporting JORN through the Engineering Services Contract which will provide substantial work through to mid-2021 and possibly beyond in support of the RAAF.

Mr Prescott says the company is committed to growing local sovereign capabilities. This will occur by working closely with governments, academia and like-minded industry partners to further raise the technology base in Australia.
For their part, Boeing Defence Australia says that it has an enduring history of designing, building, upgrading and sustaining critical sovereign military communications systems for the ADF. High frequency antenna array near Woomera, South Australia. Credit: CoA / Bill Solomou

BOEING DEFENCE AUSTRALIA & BAE SYSTEMS AUSTRALIA.

For their part, Boeing Defence Australia says that it has an enduring history of designing, building, upgrading and sustaining critical sovereign military communications systems for the ADF.

This includes the ADF’s Defence High Frequency Communications System (DHFCS), which recently achieved 10 years since its introduction into service. Highly automated and easy to use, the company says that the system is recognised as a world-leading capability delivering reliable, persistent and resilient beyond line of site communications for the ADF.

Under contract since 2004, Boeing has increased the levels of automation in DHFCS to make it easier for operators to use, reduced physical equipment for more efficient sustainment and completed upgrades that take advantage of developments in technology.

“It has been more than 10 years since Boeing Defence Australia introduced the current DHFCS into service,” said Grant Nicol, Phoenix Program Manager, Boeing Defence Australia. “Since then Boeing has delivered a significant number of upgrade projects to make sure it has remained a world-class capability. No other Australian team can bring the same level of experience to this next phase of high frequency communication.”

Boeing Defence Australia has also architected, designed, built, upgraded and sustained the ADF’s Currawong Battlespace Communications System (Currawong) since 2015. APDR has previously reported on Currawong – a deployable NBN for the military that is one of the most advanced such systems in the world. It allows for faster and more reliable secure communication between deployed Australian land forces and headquarters. Release 3 on this project includes the integration of high frequency (HF) communications.

Currawong is a highly complex system, however the company says that this complexity is simplified for the users because the solution features high levels of automation and an intuitive user interface. One of the ways Boeing Defence Australia achieved this was by fostering extensive collaboration with the ADF. Grant Nicol said:

“Reducing complexity is core to how Boeing develops defence communications systems. Just because the problem and system internals are complex does not mean it should feel that way for the operators and users. In fact, the opposite is true. Our systems leverage the latest technology and sophisticated design to solve complex problems with elegant easy-to-use solutions. If successful on JP9101, we will bring the same approach.”

AND ON SOVEREIGN CAPABILITY

“We have deliberately sought Australian suppliers to retain a strong sovereign core to the system and will continue to engage Australian Industry as the program progresses. Similar to how Currawong has built a sovereign capability in deployable network hardware and software with numerous local suppliers, JP9101 presents the opportunity to design and build communications components using Australian capabilities, and we intend to bring the opportunity to fruition.

“Beyond engagement of Australian businesses it’s worth noting that the DHFCS today offers a critical sovereign communications capability in that it works independently of all other communications systems including satellites. If they are all down, Australia’s DHFCS can continue to provide coverage unaffected and offers similar coverage to mobile phones from a geographical perspective. Future enhancements to DHFCS under JP9101 will increase the user device options as well its utility, performance and coverage.”

BAE Systems Australia bid manager Tom Tizard says that the company possesses a deep understanding and extensive capability in the High Frequency Systems (HFS) domain amassed through more than 35 years’ experience, investment and enhancement. It is seen as a centre of excellence for HF within the wider BAE Systems global business.

The company has other business areas around the globe that also focus on developing radio and high frequency capabilities, for example: in the US, they have a newly established line of the C4ISR business following the recent acquisition of the Raytheon Airborne Tactical Radios division as a result of their merger with UTC.
A common theme to the responses is the speed with which the sector reacted, with many companies able to anticipate the level of disruption that was about to take place. There are several reasons for this. The defence sector is used to sudden changes in direction, with urgent operational requirements occasionally necessitating rapid responses. Companies factor in the need to support their products and systems in all contingencies, including extreme cases such as global disruptions. Finally, many companies are working internationally – either part of larger organisations, or as suppliers into global supply chains, or as exporters in their own right. This has given the sector a level of agility that has seen a continuation of business as usual – or as close to it as conditions allow. There have been no retrenchments, no company collapses – and only minor slowdowns in deliveries. The Department of Defence is to be commended for its support of industry, trying very much to maintain a business as usual approach to projects large and small.

Another common factor for companies is the premium placed on the personal safety of staff and undertaking measures to look after the welfare of all employees – as well as that of subcontractors, suppliers and customers. Whether these are mechanisms such as working remotely, social distancing when required and ongoing consultation and awareness campaigns, the sector has responded with speed and compassion.

The ADF itself has also once again been called upon to provide support for the broader community – particularly in hard hit Victoria, where currently around 1,500 personnel are deployed to help police and emergency services to contain the spread of the virus. Just as during the awful summer bushfires that destroyed much of South Eastern Australia, Operation COVID-Assist is another reminder of the ability of service men and women to not only carry out a variety of military missions – including high end combat – but also to be able to undertake humanitarian tasks as required.

Also before moving on to the contributions from companies, the article immediately following this one describes how the New Zealand Defence Forces have been responding. They, too, have swiftly risen to the challenge.
The pandemic peaked early April with 89 new cases reported on 2 April and again on 5 April, then the curve flattened. By 8 June 2020 there were no active cases, even though a total of 1504 cases had been reported, which sadly resulted in 22 deaths. 38% of cases were imported, 30% were import related, while 26% were community transferred infections and 6% were locally acquired from an unknown source.

The restrictions were then completely eased on 8 June apart from border controls. During June some new cases were reported, caused by arrivals from overseas.

An NZDF spokesperson said the early preparation undertaken for COVID-19 was looking after the health and safety of its personnel.

In mid-March CDF Air Marshall Kevin Short directed the NZDF provide support, permitted by the Defence Act, to the ‘All of Government’ response to COVID-19 in order to minimise the impact of the virus and maintain the well-being of the NZ population.

A planning team assisted the Government’s efforts to repatriate almost 39,000 foreigners to overseas destinations and New Zealanders coming home, including on RNZAF repatriation flights from Vanuatu and Fiji after Cyclone Harold relief supplies had been delivered there.

NAVY

At the end of April, HMNZ Ships MANAWANUI, OTAGO AND HAWEA commenced sea training in the Hauraki Gulf, off Auckland City, to ensure they were ready to conduct operations required by the Government. These include search and rescue, border control, disaster relief, humanitarian aid and supporting other government agencies like the Ministry of Primary Industries, Department of Conservation and the NZ Police. Seasprite helicopters also participated in the training, including flying to and from the ships.

Maintaining readiness is vital, so the ships conducted their own internal training, including a variety of exercises to test responses to emergencies, team work, planning and execution skills.

All sailors on the ships were pre-screened for COVID-19 symptoms before joining their ship’s company, and while at sea maintained extra cleaning routines on board, physical distancing wherever possible and using PPE gear where physical distancing was not possible.

During Level 4 a Navy Seasprite was tasked by Auckland Emergency Management for a two and a half hour flight to record the number of vessels
moored around Great Barrier Island, near Auckland. 75 vessels were spotted. People on board these boats were creating a drain on local shops, leaving shelves bare for residents.

Meanwhile on shore, many Navy personnel with non-critical roles were required to go off base and stay at home, particularly during Level 4 restrictions. Many land-based courses were cancelled or re-scheduled.

**ARMY**

In all camps and bases efforts were made to continue with garrison activities, training and exercises.

In early April Chief of Army Major General John Boswell said that more than two weeks into the lockdown period, there was still much to do. He declared that the NZDF was committed to serving and helping New Zealand through the rapidly developing COVID-19 situation.

‘This is going to be a long patrol. Even if the alert level does drop over the coming weeks, we won’t automatically return to our old daily routine,’ Major General Boswell said.

For Army’s High Readiness Task Unit (HRTU) the Level 4 lockdown announcement presented some unique and uncertain challenges. Could a deployable force be maintained and trained despite the restrictions placed on all citizens? How could the high readiness output be met under these conditions? If COVID-19 spread widely and rapidly, could the New Zealand Army guarantee a deployable force, on short notice, that was completely virus free to support the South West Pacific?

With only two days to prepare before entering Level 4 lockdown, these were the questions the HRTU was required to answer. The High Readiness Platoon Group consisting of an infantry platoon, company headquarters element, medics and enablers from signals and intelligence, moved into company headquarters element, medics and enablers from signals and intelligence, moved into command. They also had to think quickly about how to manage personnel returning from overseas, especially those soldiers within the regiment. However, given the unit’s technical nature and familiarity with using technology to support commanders, the unit was well placed to continue with valuable training. This occurred over a range of platforms, from Zoom and Skype, to Facebook Messenger and Microsoft Teams.

The Army Depot had 181 recruits on two training courses when the Alert Levels rose to 3 then 4. Staff and recruits practised social distancing, with recruits maintaining close contact bubbles within their platoons. Anyone outside their bubble was considered a casual contact.

**AIR FORCE**

During Alert Level 4 restrictions, all Air Force bases, along with the rest of the country, needed to implement plans to keep those living and working on the base safe. All units had to create a Business Continuity Plan so they could operate safely, including creating work bubbles.

They also had to think quickly about how to manage personnel returning from overseas, especially those on repatriation flights, which required them to quarantine for 14 days.

Bases were still operational, with essential personnel required to come in and out for contact tracing, changing into a different uniform when arriving at work, high personal hygiene, as well as being locked in shifts and crews to create bubbles.

**IN CONCLUSION**

At the start of May Australia and New Zealand agreed to further strengthen defence cooperation in the fight against COVID-19 on both sides of the Tasman and in our Pacific neighbourhood. This was agreed when NZ Defence Minister Hon Ron Mark, held a joint teleconference with Senator Hon Linda Reynolds, Australian Minister for Defence, and Hon Melissa Price, Minister for Defence Industry, to discuss responses to the COVID-19 pandemic.

There are opportunities for competitive ANZ suppliers to demonstrate their ability to offer value for money and provide quality goods and services in support of industry capability development in both countries. This also reduces the cost of doing business for both government and industry.

**Bases were still operational, with essential personnel required to come in and keep the aircraft flying. Procedures used included signing in and out for contact tracing, changing into a different uniform when arriving at work, high personal hygiene, as well as being locked in shifts and crews to create bubbles.**

“*The Pacific is our home, and we are committed to working together to support the sovereign capabilities of Pacific countries in our collective response to the COVID-19 crisis,*” Minister Reynolds said.

In mid-June a massive joint effort between New Zealand Government agencies, employers, and the Vanuatu Government got underway to repatriate over 1000 Vanuatu nationals stranded in New Zealand.

“*With no commercial flight options available, the Vanuatu nationals largely made up of Recognised Seasonal Employment workers, will return to Vanuatu on New Zealand Defence Force flights over the coming week,*” said Foreign Affairs Minister Mr Winston Peters.

The RNZAF operated a Boeing 757 Aircraft conducting eight flights over a number of days. These flights were split between Christchurch Airport and Whenuapai Air Force Base in Auckland. Each flight transported approximately 130 people.

(APDR is pleased to acknowledge information from NZDF Service magazines in this article)
At the global level, Airbus Helicopters has mobilised our teams to inform operators of the new and existing solutions for separating the cockpit from the cabin for crew protection. The company has also issued guidance about how to properly clean and disinfect helicopters, workspaces and tools that have been contaminated by COVID-19, including processes to be followed and disinfection material to be used.

During the health crisis, Airbus received multiple requests from local operators to provide advice on Australian standards as the notices from Europe primarily detailed European standards, which are, in some cases, not approved by the CASA. The Safety Systems team engaged with our maintenance organisation and continuing airworthiness departments to identify appropriate cleaning solutions that were compliant to Australian standards.

To support NH90 operators worldwide, which includes Australian Defence Force’s MRH-90 Taipan, the NH90 programme support office has been mobilised, together with NH1 and its partner companies Leonardo and Fokker, to ensure the delivery of spare parts, faster turnaround times for repairs, the development and deployment of new solutions such cabin isolation or disinfection among other measures, to ensure customers can perform their life-saving missions as planned.

To supplement staff who are already working at the ADF bases, Airbus is dispatching teams to perform aircraft and/or component repairs to prevent AOGs and increase reactivity and responsiveness. In these challenging times, it is of utmost importance that the customer receives the right level of support and immediate answers to their technical concerns.

Additionally, Airbus has supported our staff in Australia and New Zealand to work from home where possible. We have also established robust protocols for hygiene and distancing that minimised the risk for our employees who came to work to ensure business continuity. We integrated into our business continuity planning and worked collaboratively with our Defence customers to match local arrangements for team members providing direct support to aircraft systems. We also worked closely with our supplier network to ensure their needs and capacities are well understood.

Beyond ensuring business continuity, employee well-being is a top priority at Airbus. During the COVID-19 crisis, we have in place a dedicated employee assistance programme. In Australia and New Zealand, for our employees to access any time for a confidential discussion with a qualified counsellor.

Airbus has highlighted this to our employees as one of the ways they can find extra support when needed. We also offered online support resources for all employees to access, including well-being information, tips and tricks for working remotely, and encouraging all teams to stay connected virtually, and reach out to colleagues as we all navigate through the crisis.

Like many companies, Airbus considers that there are opportunities and lessons to be taken from the crisis. We plan to continue work from home arrangements for parts of our workforce as part of our broader flexible work policies.

As the manufacturer of their vertical lift solutions, it is our responsibility at Airbus to provide our customers with the elevated levels of service required to keep their operations running, such as technical and logistics support, while supporting them in finding new solutions to protect the health of their pilots and crews.

In Australia and New Zealand, we were fortunate to have reasonable insight into the impact of COVID-19 in other nations. We were able to establish crisis management and business continuity arrangements early and communicate with our teams throughout. I have been very impressed by how our employees have adapted to the new ways of working. As a part of Defence Industry, we have had regular support from, and contact with our customers and Government leaders.

Naturally, there has been some impact on supply chains. In Europe, Airbus has worked throughout the crisis to drive support from supply chains. Freight arrangements and costs have obviously been more challenging with the dramatic reduction in commercial aircraft flights. Airbus has actively worked with industry partners to mitigate impacts.

Airbus has worked hard to ensure that our team has access to effective information systems and establish secure visual and audio communication systems that would prepare us well for any future similar crisis. Despite the challenges presented by this crisis, the connection to the Airbus parent entity and partner companies overseas for technical support, including complex software and design support, has continued throughout.

This crisis has generated a more resilient and flexible culture in the Airbus workforce. The cultural change around working from home is the most valuable outcome from this difficult crisis. It is unlikely we will ever return to the old ways of working. The current crisis has also enabled us to test and enhance our Business Continuity and Crisis Management capacity and consequently, from a communications and planning perspective. We are now better prepared for the elements that are within our control.
While COVID-19 may have stopped some companies in their tracks, that’s not the case for Babcock Australasia. If anything, it has shown how Babcock’s focussed determination to get the job done continues to provide steadfast support to its aviation customers in their vital work.

The recent resurgence of cases in Victoria and New South Wales has highlighted COVID-19’s ongoing impact. Far from eliminating the virus, community transmission has increased - it can reappear anywhere and require a rapid response.

Working in partnership with customers, Babcock Australasia’s aviation team has maintained operations since the start of the pandemic, providing critical services in Victoria, South Australia and Queensland, to ensure emergencies are dealt with promptly and safely, with improved current procedures coupled with the introduction of new rigorous health and hygiene protocols.

Being part of a global organisation, we’ve been part of the global response to COVID-19 and it’s been amazing to see the innovation that has resulted.

We’ve also played an integral role in supporting our customers here in Australia, ensuring they can keep flying and assisting the community safely and efficiently.

Babcock’s customers continue to face the challenges of providing critical services such as air ambulance and search and rescue missions despite COVID-19 adding more layers of complexity, maintaining their operations with increased levels of safety and security.

Having adapted their own practices to ensure the health and safety of their own people and the community, they say Babcock has remained fully aligned with their enhanced measures.

"Babcock has shown enormous flexibility in providing an uninterrupted essential service," said Tracey Tobias, Director Complex Care at Ambulance Victoria.

“I have been particularly impressed at Babcock’s continued collaboration with Ambulance Victoria, drawing on the experience of each organisation to refine, create and adapt processes to ensure the safety of our personnel and our patients.”

Babcock Australasia’s adaptability has also won praise from customers. Ian Rowan, CEO of CQ Rescue on the Capricorn Coast in Queensland, said: “The professionalism and flexibility of the Babcock staff has been outstanding and they have proven they have the resilience and resources to meet the challenges of this pandemic and normal operations.”

Mark Fewtrell, Executive Director of RACQ Capricorn Helicopter Rescue Service, says that Babcock’s willingness to work with his organisation and Queensland Health on evaluating strategies in the event that crews were exposed to the virus was crucial in mitigation planning.

“As a client, Babcock’s response provided me with the necessary information and confidence from which to be able to provide assurance to key stakeholders, the community and the board of directors," he said.

With a decision on LAND2097 on the horizon – Babcock has teamed with BellFlight to deliver the Special Forces Helicopter capability to the Australian Defence Force – Moncrieff says Babcock’s reputation for reliability throughout the COVID-19 pandemic strengthens the company’s bid.

"Babcock is responsive and adaptive, rising to the challenge to meet customer needs and community expectations," he said. “We’re there when it counts.”
Our primary focus is on the safety of our employees, continuing to deliver on our commitments and our supply chain. To that end, and reflecting Government advice, more than half of our employees (almost 3,000) have worked from home. Those who continue to work on site because of the nature of the work they do have been supported with additional safety measures in the workplace. As we now prepare for people to return to sites and offices, I am keen to ensure that we have appropriate systems and process in place to do this safely.

COVID-19 has proved to be a massive global disruptor. It’s important that while it has been devastating on a number of levels, the nation looks to learn from this so that we can be stronger and more resilient in the future. Building greater resilience in industry will be really important as we work on the recovery from COVID. What’s really impressed me is how the people in my business have worked to continue to deliver for our customer.

I expect to see more people working flexibly. A lot of people have enjoyed not having to commute. They are spending the extra time they would normally be travelling with their family. This increased flexibility and agility will bring about greater efficiencies in the way we do things and will result in cost savings.

Technology will continue to play a key role in the cost effective delivery of world-class capabilities. We have demonstrated that we can continue to deliver by doing things differently. Technology has provided people with options so they can do things differently.

Some of our teams have really excelled in thinking of new ways to work and deliver on our commitments …

• We have continued to recruit for example and very quickly adapted our face-to-face inductions and on boarding to online processes.

• Our Maritime Sustainment team has provided “Remote Assistance Capability” to our technicians so they could provide assistance to onboard ship staff while performing maintenance activities.

• In ASC Shipbuilding there were employees coming off the Air Warfare Destroyer construction program, due to start university studies in the Diploma of Digital Technologies just as COVID hit, but they’ve adapted remarkably well. Transitioning to online learning so they can upskill for the Hunter program.

We had been watching the situation evolve at the end of last year and planning in earnest began in January. Because of this, we were able to very quickly roll out our response across our national business. We continue to work closely with each of our suppliers to understand how their business may be impacted now by COVID-19 or may be impacted in the future. This includes understanding any liquidity challenges and material delays they may face and working together to address these.

Our focus includes:

• Establishing ways to ensure our suppliers are paid as early as possible

• Working with suppliers on supply chain risks

• Looking at ways to send out planned procurement orders as soon as possible; and

• To bring future orders forward wherever possible.

By mid-May we had processed around $50m in early payments to suppliers.

We are continuing to deliver on our commitments. We engaged our suppliers early and continue to talk to them to ensure that if there are upcoming issues, we can resolve these ahead of time.

There are many things that you learn in such a situation. The key ones for me:

People and the safety of your people must be at the forefront of your planning – in managing the situation and in the recovery phase.

You cannot ‘over’ plan or ‘over’ practice planning for a crisis - even the most thorough procedures and plans to manage a crisis cannot cover every eventuality.

And, lastly, it is important to embed the innovation delivered.

For example, some of the things that our people have done during the pandemic have been ‘above and beyond’ and enabled the business to deliver to our customer and efforts such as this must be maintained. That innovation will become part of the new way to work.

Developing Australian Industry Capability is fundamental to how we operate in Australia.

We have developed sovereign capabilities that are supporting the ADF, contributing to our exports and sustaining high skilled jobs. For example, autonomous technologies that are used on Nulka, ESSM and are now being leveraged for the optionally crewed M113s.

And we are supporting Australian industry to develop new capabilities through the HCFP and other defence programs. This has always been and will continue to be a strong focus for us. It is incredibly important that some of the very important projects that we are leading help to create and sustain new industrial capabilities that will underpin not only defence but also adjacent industries.

To provide some context around that, developing Australian industry capability is not simply about buying Australian products or using Australian services because that will happen as a matter of course.

It is about growing and developing the capability of Australian industry and enabling industry's participation in other defence programs and facilitating where possible the export of technologies and products developed for major project such as the HCFP or JORN, to the world.

We are also undertaking other activities that will support the development of Australian industry capability including the transfer of knowledge, intellectual property and technology to Australia, developing the physical and digital infrastructure, investing in R&T and developing the workforce.

In the case of the HCFP, as Australian industrial capability grows, so too will the level of involvement that Australian industry has in each batch of frigates. This is maximising Australian industrial capability in action and will form the foundation of continuous naval shipbuilding.
Western Australia is in an enviable position compared to the rest of the world. In our head offices in Bibra Lake, we are fortunate to have a modern large premise with an abundance of space for staff. Our staff’s health and wellbeing are top priority - therefore we applied all government recommendations immediately, adhering to social distancing, extra hygiene practices and being adaptable in the way we work to protect our staff.

Supply chains have been strained during this period, with logistics at a near standstill. Through maintaining good relationships with our suppliers and finding alternate modes of transport we have been able to maintain business operations although tested with the disruption. Communication has been imperative both internal and external with our stakeholders.

Our international offices in the USA and UK, have also embodied strict staff wellbeing practices. Our USA production facility deemed by the US Government as an emergency service, has remained open supporting the American people and their Government.

One of Barrett’s key aims while dealing with the pandemic is to keep the employees supported during the trying times both in their work and personal lives.

Barrett remains committed to providing a supportive culture for all employees.

Our first response was a large part employee focused on employees health and wellbeing. We sought external advice to ensure we were looking after employees both physical and mental wellbeing. Secondly, we looked at the alternative scenarios and the challenges that lay ahead. Major contingency planning was undertaken to ensure Barrett Communications would come out of the pandemic stronger both culturally and financially.

The pandemic has tested the robustness of our supply chain. Logistically, the pandemic has been very challenging, especially since the majority of Barrett Communication’s business is in the export market. Constant communication between suppliers and customers has been key to maintaining good relationships and being adaptable to the ever-changing timeframes. In addition, we will continue to improve supply chain viability.

We have developed Management preparedness plans relating to:
- management of staff
- supply chain efficiencies
- identifying and mitigating risk
- robustness of our IT infrastructure

Barrett believes in constant learning and therefore once the pandemic is completely over, we will learn and improve if a crisis once again happens at short notice.

It is a reality we are challenged with here at Barrett. We feel this pandemic has only further justified the need for the Australian Government to look to Australian business, in the first instance, to supply these critical technologies.

We have identified future expansion options to our US manufacturing facility in the event that the Australian facility was closed. Being diversified in geography helps mitigate risk. We have also identified the need to run the business in hibernation mode on a minimal cost structure until a full re-open was allowed.
At BMT we are ready and committed to the safety and wellbeing of everyone involved in our businesses, and to delivering the highest levels of service to our customers across the global consultancy spectrum. Never have these principles felt more important than in this current climate when responsible action is needed to overcome systemic weaknesses and vulnerabilities exposed by this pandemic.

Supported by our nimble consultancy structure, geographic distribution, and reliable technologies we have been fortunate to continue operating with a ‘business as usual’ service whilst adhering to all guidance from international and local health agencies. As ever, BMT has remained a trusted partner for industry and governments worldwide.

We responded quickly during the early phases of the pandemic to help safeguard our customers, employees, partners, and the communities in which we operate. This meant shifting and mobilising all our employees from office locations and into working from home arrangements within a few weeks. Our pre-COVID investment in technology meant that we could stay seamlessly connected globally to maintain outputs. In fact, some of our customers have used our technology platforms to continue delivering where their own systems have not been adequate.

During the pandemic we have stopped all non-essential travel, asking for meetings to be held virtually, via videoconferencing wherever possible. It was exciting that during this time of business change, we were still able to continue to deliver our engineering excellence and demonstrate our true capability. We have found new ways of working and have achieved some major milestones in the process that can help to strengthen the industry domestically, including:

- Launching a Warships e-learning course, that allows us to share our diverse experience and skills with the world via a secure, digital, game-based/simulation learning platform.
- Switching on a virtual training environment for our intensive 5-day training courses, that have continued to upskill government and industry resources.
- Releasing the Pentamaran, an autonomous patrol vessel that offers a myriad of applications for defence and commercial innovators.
- Appointing Ian “Salty” Salter to lead our Defence Technology, Innovation, Consulting and Advisory services.
- Winning the prestigious Golden Quill Award for our campaign to support our innovation culture.

While current circumstances have disrupted many traditional processes, it has also unleashed new opportunities for us. As a business, we are fortunate that our workforce has the ability to be flexible and agile in the face of uncertainty.

The employees of BMT have demonstrated true resilience during this time. We have all had to change our life routines almost overnight and we have been going from strength to strength for our customers. This prompt action has enabled the regional business to enhance deliverability to its core customer base, and to remain focused on its core markets, during a COVID-19 environment.

As a business that is experienced in helping our customers understand risks, we apply that same thinking to our robust business continuity plans. They help us ensure we can keep delivering for our customers whatever challenges we face.

In this contemporary context of preparedness, we are postured to capture a bigger portion of Australia’s vast and growing expenditure on defence.

Sarah Kenny, Chief Executive, BMT Group

HMAS Anzac departs Fleet Base West in Western Australia. Credit: CoA / Ronnie Baltoft
Necessity is the mother of invention, and the outbreak of COVID-19 has been one of the most significant forcing functions of innovation that our industry – and many others – have experienced in decades.

By the very nature of our mission, defence must constantly innovate and be at the forefront of creative thinking. Innovation is in Boeing’s DNA, and the Defence industry at large has the pedigree to not only navigate but emerge stronger and more capable from crises.

In mid-March, Boeing issued guidance directing all employees who were able to perform their work from home effectively to telecommute until further notice. It was a people-first strategy designed to keep our employees safe, and the guidance remains unchanged.

Around one third of the Boeing Defence Australia workforce remained on-site to provide necessary operational support to our customers or for security reasons. We quickly implemented enhanced cleaning procedures in work spaces, common areas and on high-touch surfaces, and aligned with local, state and national government guidance.

For the remaining employees, we were able to quickly transition them from offices to a home-based working environment. The company’s investment in IT infrastructure and technology; the use of laptops by almost all employees; a suite of virtual collaboration tools to keep teams connected; and an existing policy of flexible working options for employees made this significantly easier. It meant that, within 24 hours of the notice to employees, the majority of our people were set up and working safely and productively.

With the fundamentals of working remotely understood and implemented, the Boeing Defence Australia team embraced it. Seeing how rapidly our team has adapted to delivering in a virtual environment – despite personal upheaval ranging from illness and isolation to family members losing employment and home schooling children – has been inspiring. We’ve entrusted them to embrace flexibility in how they do their job and to execute in the most trying of circumstances and they’ve repaid it in a way that works for them as individuals and us as a company.

Despite the rapid change to our business and how we work, Boeing has still made significant advances on key programs. We rolled off the production line the first Loyal Wingman unmanned aircraft, showcasing the commitment and can-do attitude of our workforce.

We’ve hosted a Project Currawong Mission System Integration & Test event to ensure the program remains on schedule. We’ve developed digital briefing packs for complex, emerging programs when in-person events were cancelled due to international and domestic border closures. And we’ve continued to deliver training, sustainment services, upgrades and enhancements to make our customers more capable.

Throughout, our Australian Defence Force customers have been willing to consider different ways of working with us to ensure we achieve shared objectives, and that has emboldened our thinking around what has been possible.

The impact of this crisis on how and where we work in the future will be significant. We recognise that working flexibly and remotely can foster creativity, encourages greater work-life balance and employee wellbeing, and gives people the space to be their most productive. It can also lower our operating costs and reduce our environmental impact as fewer people transit to and from work each day. However, maintaining a balance with the need for collaboration and the benefits of face-to-face interaction with colleagues is also critical.

Our commitment to flexible work arrangements is specifically aimed to attract and retain the best talent, and allow them to be their best. Embracing flexible work arrangements, whilst still ensuring that we don’t compromise security, productivity or safety is fundamental to how we will work in the future.

While the health and safety of our people and meeting the needs of our customers have been our clear priorities, assuring the viability of our supply chain has also been paramount. The crisis has put into focus how critical a strong, healthy and capable sovereign defence industry is to ensuring uninterrupted supply to our customers. And it’s highlighted more than ever that we must accelerate any plans to implement measures to grow our local SMEs.

As soon as COVID-19 started to spread, Boeing took action on a global scale, establishing a Supply Chain Preparedness Group to conduct risk assessments, analyse potential supply chain impacts and develop mitigations. The information and insights were invaluable in helping us understand and navigate events as they unfolded.

But it wasn’t just our preparedness and mitigations that have seen us through with virtually no program impacts; it’s also the extent of the Australian industry content on some of our key programs. On Project Currawong, we partner with more than 200 Australian suppliers, and on our Super Hornet and Growler sustainment program, 90 percent of our contract is being delivered by Australian industry.

We’ve learned valuable lessons from this global crisis and we’ll be better for it.

That said, like many businesses, Boeing’s success is based on collaboration through deep and genuine relationships, whether they’re with colleagues, customers or suppliers. Investing time and energy into maintaining and building those connections, and restarting travel when possible, is going to be pivotal as we continue to navigate the prolonged impact of COVID-19.

A focus on relationships and trust have helped Boeing become a world leader over the past 100 years. Boeing Defence Australia has navigated this pandemic using that same focus, and we are confident that those values will make us a better business beyond this crisis.
The COVID-19 pandemic has demonstrated the resilience of the defence sector, with much of Australia’s defence industry able to work through the crisis because government not only maintained but also accelerated payments on defence contracts. Obviously, the impact on other industries with a short-term commercial exposure has been much more severe.

The reason Defence responded so well to this crisis is because it trains to cope with the unexpected and industry was able to pivot quickly and assist by manufacturing personal protective equipment and critical medical equipment. A terrific example of this was Axiom Precision Manufacturing who joined forces with Defence Science and Technology to produce face shields for frontline healthcare workers. This partnership highlights the agility of the defence industry and the advantages of sovereign capability with a local company able to undertake the required plastic injection moulding in a short timeframe. This is just one example, and there are many others across the country.

With thoughts now turning to economic recovery, the defence industry can indeed play a crucial role for Australia.

The defence industry has been a shining light for South Australia. Employing 11,000 people, in the last 10 years it has had an annual average growth rate of 3 percent.

Before the COVID-19 pandemic began, we were in the process of updating our strategy as part of South Australia’s broader Growth State Strategy. The aim being to deliver on the opportunities and accelerate industry growth to outperform our historical growth.

This target was set with the obvious impact of naval shipbuilding programs in mind, along with the key role South Australia can play in bolstering the nation’s capabilities in information warfare.

Of course the COVID-19 pandemic also highlights the vulnerabilities of supply chains during unpredictable global events. It has taught the world the sharp reality that the closure or reprioritisation of overseas suppliers or the inability to transport those supplies can have an almost immediate impact on our ability to continue to operate our businesses in a crisis.

Being part of global supply chains comes with risks that we need to understand. The ability to domestically source critical material, even at a premium, needs to be considered in our business continuity planning.

The risk of business disruption will prompt industry and governments all over the world to rethink industry policy to secure critical supply and build greater resilience into the economy to cope better with future shocks.

In the ‘old’ normal, we often looked for products globally that met the narrow needs of a project. When conditions improve, industry may return to the ‘old’ normal, focussing on delivery and winning new work to rebuild revenues and profitability. For many things, that should still be the case but there will be certain things that we must be able to do in Australia when needed.

Now is the time for industry to develop a greater understanding of their own supply chain vulnerabilities and address the impact of a global disruption event such as a pandemic on our ability to independently and decisively respond to military threats. There is a need to establish viable alternatives for critical materials, reconsider levels of stock and to better understand the countries of origin of even the most basic of components.

Supply chain analysis requires a lot of work to uncover the vulnerabilities but with a relatively contained problem set and risk based approach it is feasible, although all analysis is at risk of ‘over engineering’. In addition, opportunities may emerge from the analysis to work across platforms and create economies of scale.

Some may argue that which is necessary to sustain operations is the only sovereign industry capability we should require. They might argue that Australia was able to replenish COVID-19 equipment shortages in a reasonable time and so our current manufacturing capability and capacity is sound. However, that does not address the additional COVID-19 costs we may have borne through our unbalanced economy, nor our ability to respond should we experience a different crisis.

Government will look at our defence supply chains, across both acquisition and sustainment to assess their security. It is opportune to reconsider how defence industry policy can support greater resilience in the broader Australian economy.
Regarding the response to COVID-19, we implemented a series of protective measures to protect our employees including adding shifts and working from home where feasible.

As a critical industry, manufacturing at almost all our facilities around the world continued as planned and we are pleased that, as of today, most of our operations have returned to levels similar to those at the beginning of the year. COVID-19 presented some unique challenges yet also provided Elbit Systems with opportunities to leverage the global market positions we have achieved and advanced technologies we have developed in recent years. We are exploring a range of sales opportunities for products we developed to help combat COVID-19 leveraging our existing technologies and manufacturing capabilities.

Regarding speed and preparedness, Elbit has dedicated contingency plans to deal with a range of emergencies. We activated and adapted these contingency plans to continue our operations and successfully overcome the challenges posed by COVID-19.

We closely monitored and managed our supply chain, particularly as it relates to maintaining adequate inventory of critical components.

We view our suppliers as partners and worked with them to mitigate the impact of the crisis. We utilized some of our financial resources to secure our supply chain and build buffer inventories and we allocated additional resources to secure and support timely delivery of our products in order to overcome possible disruptions related directly or indirectly to the pandemic.

The transport restrictions reduced the number of passenger flights that carry freight and we worked to find alternative solutions for delivering our products to our customers, including chartering dedicated freighter aircraft to meet delivery schedules. All the while we maintained our regular dialogue with our customers to assess their evolving requirements, which were also impacted by the pandemic.

The crisis provided a valuable opportunity to test our contingency plans that were implemented successfully. Our executives and employees rose to the challenges, adapted quickly and were able to overcome a new and challenging situation. That said, it is important that we learn from this experience, so that in future we can respond even better and faster to future crisis if they arise.

The current crisis emphasised the importance of our global presence and the partnerships we have with our suppliers. Looking forward, we plan to work with our suppliers to ensure the robustness and resilience of our supply chain and their ability to address a crisis like this one or others that are difficult to predict.

We believe that the importance of cross-border cooperation and the exchange of technology and information have been emphasised by the pandemic. Elbit Systems’ strategy has prioritized, creating a significant and capable domestic subsidiary in all countries that we operate. These subsidiaries rely on the domestic infrastructure and supply chain, they support the local economies in which they operate and provide our customers with sovereign capabilities and the ability to continue operations through periods of crisis and uncertainty. We believe that the current crisis has validated the importance of our strategy.
The COVID-19 pandemic confirms the need for virtual centres and remote tower concepts and, combined with highly resilient air traffic management (ATM)-grade networks, will enhance the overall resilience of ANSP operations and strengthen contingency planning. Programs like OneSky in Australia also represent a significant improvement to the flexibility and resilience of ATM operations.

The virtual centre concept provides a contingency option not only suited to a pandemic scenario but also in response to cyber threats, natural disasters, hardware failures, software obsolescence, network failures and other potential disruptions. By taking advantage of the latest digital tower technology, ANSPs can quickly deploy additional contingency centres for other airports as well.

Introducing an “always on” framework
The virtualisation of ATC systems empowers air traffic controllers to work from any location, but also to serve any airspace – even beyond national or regional borders. Actually, all of Frequentis products support the virtual centre concept, giving us the ability to provide an “always-on” framework for business continuity. For the military, Frequentis offers a deployable tower solution as well as mobile secure communication, based on mission-critical networks, ensuring continuous provision of civil and military air traffic services. The Frequentis multimedia communication and collaboration software, 3020 LifeX™, dissolves public safety control room borders, allowing call takers and dispatchers to work from home with full functionality and manage multiple communication channels. The integrated maritime control centre solution, MarTRX, was even quickly relocated by operators of a European coast guard during the pandemic and used from home, ensuring rescue coordination centres could operate in three locations.

For us, staff safety was our number one priority, while also considering our responsibility to support the critical infrastructure of our customers and continue project deliveries. Being an international company with staff and customers across the globe, we are no strangers to remote working. This meant we were able to quickly activate our Business Continuity Plan. Frequentis IT systems worked without restriction or interruption and customer acceptance tests in some cases were even completed remotely for the first time. We also managed to quickly secure our supply chains with minimal disruption. However, as we accelerate the ramp-up of our integration and assembly facility in Brisbane we are looking at the expansion of our local supplier portfolio and increasing the independence of global supply and support chains. This also extends to the know-how transfer to Australia, which will now be accelerated.

During the crisis we have seen that it is necessary to react quickly and flexibly and we have now launched a companywide Think Tank and fast track innovations process to allow the accelerated development of solutions based on existing concepts; for example remote digital tower and other use cases for it. Now is the time for innovation to adapt to the changed global environment in the wake of COVID-19.

For life after COVID, when both people and technology will again be closely intertwined, the virtual centre concept offers critical industry a contingency solution to position immediate social and virtual distancing. For organisations undergoing enforced business downtime, this is the chance to analyse and implement vital improvements in operational and business processes.
L3HARRIS

ALAN TITHERIDGE | Managing Director, L3Harris Technologies Australia Group

L3Harris has focused efforts on keeping our employees safe, helping our customers sustain their critical services and supporting community efforts to combat the virus spread.

To protect our employees, we’ve implemented rigorous safety procedures – mandated work from home for those who can work remotely (50% of employees); instituted stringent hygiene protocols, daily temperature testing and survey screening, redesigned workspaces to ensure social distancing and staggered work shifts where critical work was underway; and cancelled all travel and attendance at external events.

For our customers, we’ve dedicated all our resources to support the government agencies, warfighters, first responders, air traffic controllers and others providing vital services during this critical period.

We’ve been assisting our business partners, especially SMEs that are experiencing significant challenges from the pandemic by accelerating payments to small business suppliers.

To support those serving on the front lines of the COVID-19 battle, we’ve offered assistance to CASG to develop solutions to COVID-19 challenges – including leveraging our engineering and manufacturing skill set and facilities in Brisbane and Fremantle, as well as further initiatives at L3Harris across the world to combat the global pandemic. For example company engineers and scientists are assembling positive air pressure respirators and producing medical grade components for respirators. L3Harris has also donated funds and matched employee donations to charitable organisations involved in relief efforts; and supported grass-roots efforts, such as community food drives and volunteering.

As many of our facilities in Australia and across the world have started phase 1 of our return to work plans, we’ve been regularly communicating reminders for our staff not to relax their vigilance; that this is not business as usual. Instead, it is our “new normal.” We are continuing to practice basic safety protocols like social distancing, wearing face coverings when appropriate separation isn’t practical, and regularly assessing our personal health status.

We’ve learned that physical presence, for many employees, isn’t a requirement for productivity. We’ve adopted (and continue to adopt) new tools to enable employees to have better experience for remote work.

We continue to evaluate what a remote working experience could mean to the workforce in a post-pandemic environment.

L3Harris has emergency response procedures with a cross-functional leadership team continuously monitoring new information about the COVID-19 virus and assessing the potential impact on our company. Our sites have Business Continuity Plans that are carefully crafted and practiced to ensure we were able to respond quickly in the event of a crisis. Although we were not necessarily anticipating a global pandemic, we have to be prepared for any crisis, and as such were able to adapt rapidly and embrace change through necessity with innovation and agility.

While some of our sites had explored adopting remote work, the crisis clearly accelerated any small-scale pilot programs to a larger scale than anticipated.

Due to the critical nature of the defence industry, we’ve been fortunate to not experience significant disruption to orders and operations. L3Harris has a broad and diverse supply chain and we’ve been in regular contact with our suppliers to understand current and potential future impacts. To maintain the continued success of customer programs, we’ve been working with suppliers to complete risk assessments for any potential delivery risks, including sub-tier supplier issues. This has ensured we understand, track, and mitigate critical impact to our business plans.

We have experienced minor impacts due to transport restrictions and delays but have worked together with our supply chain and customers to avoid serious impacts and maintain business continuity.

Our response procedures and business continuity plans have proven to be effective, as we’ve managed to maintain operations and production, ensuring our customers continue to receive product, whilst keeping our workforce safe. So we’re comfortable that we have the necessary plans in place to prepare for any future events of this nature.

Crisis is a catalyst for change and although we’ve responded to this pandemic with innovation and agility, there is always more that can be done to prepare for future crisis events.

It is clear that all organisations need to build pandemic planning into business continuity plans to ensure we can continue to provide rapid responses and continuity for critical operations.

This pandemic has highlighted the need to maintain pandemic-specific policies and procedures and maintain the practices we’ve learned over the past few months particularly around employee communications and remote working.
leidos Australia implemented measures to protect staff, contractors and the greater community to help prevent the spread of COVID-19. We leveraged flexible and home based working where possible and increased social distancing and cleaning in work locations where individuals were not able to work remotely. Where possible, meetings became virtual. Even in office locations. Movement between offices and areas within an office were discouraged unless absolutely necessary.

The company undertakes a lot of critical delivery that can only be performed on site with our customers. In these cases we worked with our customers to ensure that social distancing practices and hygiene stations were available across the office and gatherings in common areas and meeting rooms were restricted.

For our suppliers, we ensured that we were fast tracking payments to assist them with cash flow concerns. This has been of particular benefit to our smaller suppliers.

We will likely see a number of meetings and reviews to continue to be undertaken virtually. As a business we will continue to encourage our employees to continue increased hygiene practices. We have experienced a significant reduction in the transition of annual colds and flu as a result of our vaccination program and better hygiene awareness. We hope to see the continuing benefits of this into the future.

We stood up our Coronavirus Response Team (CRT) early and prior to indications that Australia would go into any form of lockdown. The CRT’s responsibility was to track the global and local situation and work through the requirements to support our staff should we require to go into lockdown. As we have operations in many states making staff aware of local restrictions was imperative to our communications and planning. We wanted to prepare regardless of what was coming so it wasn’t a surprise.

Compared to many other organisations, we made the decision to commence remote working early to allow the remaining on-site teams to implement effective social distancing. We also went to shifts at specific sites to split key skills between teams and ensure their availability to meet operational capability for our customers. It was not an easy decision to make, but we felt that we were doing the right thing for our employees, their families and the community. We advised our teams on Monday 16 March that we were implementing remote working practices where possible and had the majority settled by the end of that week.

There were some minor impacts to supply chains but we ensured an open and honest dialogue with our customers to highlight any concerns of potential delays and work together on solutions. Where required, we worked with the customer to utilise alternate equipment in the short term.

Despite the difficulties in seeing a near complete shutdown of domestic and international travel, Leidos Australia has continued its efforts for success on the Australian Government’s Global Supply Chain Program. A key area of focus has been to use available resources in the US to perform security and technical assessments on new technologies for enterprise wide applications. These focussed efforts are allowing us to help a number of Australian SMEs understand and meet required standards in order to contract to the US Government. Additionally, we are undertaking trials at our corporate facilities for novel technologies to demonstrate additional value. Work undertaken earlier in the year to build new links to recently acquired companies Dynetics and L3Harris Security Detection and Automation have seen positive returns with several Australian companies engaging in detailed discussions about capability demonstrations to the new businesses.

As the current situation improves, Leidos Australia is looking forward to providing even more Australian SMEs with opportunities to be a part of our global supply chain.

This is the first time we have dealt with a scenario that has impacted the entire globe in such a drastic way. I think we would inform our customers of our plans earlier. Whilst we did do this on this occasion, we focused on informing our employees first. Noting that we are co-located on several customer sites, we will be best placed to inform concurrently in the future to avoid any confusion or misinformation being received.

What the pandemic has demonstrated is the crucial need for sovereign industrial capability priorities, but in a broader sense than what we currently have. Whilst we presently look at holistic capabilities as the requirement, what has become evident is that it’s the smaller parts of the system; the raw materials, the niche technologies, even componentry such as electronics. These are the building blocks upon which our critical technologies are made. The pandemic has given us an opportunity to assess (and maybe even dry-run) what a trade restricted world might look like. We need to use this to evaluate what the critical capabilities are that need to be brought back into Australian hands.

We’ve learned a lot from this process and now have reference material to fall back on should we face a similar or more severe situation. COVID-19 has tested the work from home services provided by all customers. The addition of further secure collaboration tools, along with work producing shared approaches, has brought a new urgency to mobility. We have a business model and workforce that has adapted well but in a broader sense than what we currently have.

What the pandemic has demonstrated is the crucial need for sovereign industrial capability priorities, but in a broader sense than what we currently have. Whilst we presently look at holistic capabilities as the requirement, what has become evident is that it’s the smaller parts of the system; the raw materials, the niche technologies, even componentry such as electronics. These are the building blocks upon which our critical technologies are made. The pandemic has given us an opportunity to assess (and maybe even dry-run) what a trade restricted world might look like. We need to use this to evaluate what the critical capabilities are that need to be brought back into Australian hands.

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Leidos globally has been in a fortunate position to have a major health business that is heavily engaged in viral research and life sciences and the organisation has been in a position to support efforts fighting COVID-19 across the world. In the US, the NCI Frederick Lab (a Leidos company) has been working on the Adaptive COVID-19 Treatment Trial. In the UK, Leidos has been supporting the Ministry of Defence by assisting with the receipt, integration, storage and distribution of life-saving ventilators and associated ancillaries.
As the Covid-19 pandemic continues to cause widespread disruption, Leonardo’s comprehensive response includes a series of initiatives to support the efforts of health workers and other professionals who are fighting to minimise the spread of the virus all around the world. Leonardo is prioritising the health, safety and wellbeing of its staff, contractors and suppliers, whilst ensuring we continue to deliver critical support to our customers.

We have implemented swift and comprehensive safety procedures across all sites to ensure full operational support capabilities remain open and available to our customers. Where possible, we have encouraged our employees to work remotely to reduce the number of people present at our sites. To protect our employees working on-site, we have implemented social distancing requirements, staggered work shifts, increased cleaning protocols and cancelled all travel and outside events.

Leonardo’s number one priority in these unprecedented circumstances is the health, safety and wellbeing of our employees and their families, as well as our customers, suppliers and partners around Australia.

To achieve this, all our sites across Australia have implemented a number of safety measures:

- Up to 70% of our employees are working remotely to reduce the number of people present at the site.
- For those working at the site, social distancing requirements are in place and reinforced daily.
- Since 1 April, we have implemented a roster for our warehouse team at Essendon Fields to further enhance social distancing.
- We have increased hand sanitiser stations and cleaning and personal hygiene protocols at all sites.

We are strictly following all self-isolation/self-quarantine recommendations issued by the Australian Government, as well as conducting ongoing risk assessments to monitor, review and manage our response.

Leonardo Australia also continues to monitor and adapt operations in line with guidance, restrictions and regulations issued by Leonardo International, the Australian Government Department of Health, State Health Authorities and the Department of Foreign Affairs and Trade.

Leonardo’s industrial activities have been deemed strategic by Governments where the Company has industrial operations, facilities and headquarters such as Italy, UK, Poland and US. All safety measures adopted have been designed and enforced in line with national rules to guarantee the highest safety standards for the employees while keeping operations up and running. During the Covid-19 emergency, Leonardo’s operations have never stopped. This has allowed the organisation to carry out logistics support for security and emergency assets like airplanes and helicopters of operators involved in the emergency response, satellite services and cyber protection/assistance to law enforcement agencies. We have developed together with our customers/operators, healthcare and aviation certification authorities new cleaning guidelines and biocontainment installation integration rules.

We’ve leveraged our digitalised training and support capabilities to support customers remotely offering enhanced or new services, even adopting tools for smart/ digitalised aircraft related deliveries from our plants.

Our engineers in the UK for example have also come up with a unique way to adapt social distancing methods in our helicopter cockpits by modifying helmet and oxygen masks to ensure crew safety.

Through the use of two aircraft, one C-27Js Transport of the Aircraft Division and one ATR 72, and thanks to the Company’s customers who have endorsed the initiative, Leonardo and its flight crews support “The Civil Protection Agency” by carrying out a series of shuttle flights between Italian airports and other destinations as required during the emergency including international airports, to ensure the transportation of medical materials (ventilators, masks, etc.) and personnel.

In addition, the Leonardo Helicopter Division has made available its pilots and 3 helicopters in different configurations providing technical support to the Armed Forces’ helicopter fleet, organisations, institutions, Police Forces and to all Leonardo helicopters engaged in the emergency, including maintenance and other services for “The Civil Protection Agency” during the healthcare operations.

At the Leonardo-Grottaglie site, the Aerostructures Division, has launched the first production batch of respirator valves, through additive manufacturing technology (3D printing) enabling the rapid modification of existing systems to best serve the fight against Covid-19.

In spite of the uncertainty about the Covid-19 pandemic evolution and its effects, the overall digitalised effort is an important lesson learned highlighting the importance of the previously made investments in digitalised customer services, support network size and proximity as well as cyber technology capabilities, for example, and our capability to adapt quickly in respond to emergencies. Moreover, the Smart Working experience will be taken into due account and best practices adopted permanently.

The Covid-19 pandemic and emergency has suddenly impacted the whole aerospace and defence industry worldwide. Important new measures were requested to be promptly designed, evaluated and enforced and so Leonardo did. Leonardo’s response proves that an effective balance and combination between operational and business continuity and employees’ safety requirements is possible.

We implemented prioritising principles in terms of supply chain/parts availability and made sure operations deemed essential and urgent were able to continue while taking into account the effects of the emergency slowing down some of the activities.

We could further increase the versatility and speed of our overall response and leverage the level of innovation and digitalized in-house capabilities. Surveys are currently being carried out throughout the company to gain employees’ views on the best actions to be adopted as standard practice and lessons learned from first-hand experience.

Cyber security, digitalisation, dual-use technologies for a rapid and flexible response are key to face any sudden emergency situation on a national and international basis.

As an example of direct extraordinary support provided by the Company in early April, Leonardo offered in Italy a two months free-of-charge threat Intelligence service to companies to improve their cyber defence due to the large scale of smart-working which poses an exposure risk.

The service, provided by the Leonardo Cyber Division, was supplied to the first 100 companies that requested the assistance and have allowed the monitoring of the main cyber threats and related vulnerabilities.
Supporting defence industry suppliers

Lockheed Martin Australia continues to play an essential role in supporting the ongoing operational readiness of the Australian Defence Force by working hand in glove with Australian industry partners to ensure and sustain sovereign industrial capability across all programs and platforms.

LMA remains dedicated to supporting the critical missions of our Australian customers and those companies supporting our global supply chains and international customers.

Since Friday 8 May 2020, LMA has expedited, within a 10-day timeframe, over 121 payments across our Australian supplier base with a total value of $8.2 million.

Lockheed Martin Australia is ensuring prompt payments are made to our Australian supply chain partners and is seeking to pull forward contracts and expedite purchase orders wherever possible to support our industry partners as they deliver mission-critical work.

Sovereign workforce

It continues to be business as usual for LMA in our efforts to grow a sovereign workforce. Since mid-March 2020, we have conducted interviews for 70 open vacancies, and as a result in that time period have onboarded 40 new employees to join our local workforce. Our Early Careers hiring drive continues with 23 offers accepted for start dates across 2020. We have adapted our recruitment processes in response to the virtual environment we are now facing to ensure we can continue to identify and welcome new talent to the LMA team.

F-35: We are continuing to expand the workforce at Williamtown which includes a number of specialist opportunities for simulator instructor pilots with appropriate backgrounds being employed in the next 6-12 months - typically those could be ex-fighter pilots from the RAAF who have joined Qantas or another commercial sector employer and have now been laid off.

There are also in the order of 100 aircraft maintenance technician opportunities at Williamtown coming on stream in the next 2-3 years, which could include opportunities for ex-airline LAMEs, in competition with existing technician workforces in BAE and Boeing.

MH60R/Nowra: In support of MH60R operations at HMAS Albatross, our Sikorsky Australia/LMA operations at Nowra have recruited 25 staff over the past 2 months with the majority of these positions being filled by applicants who have lost their current jobs (including from Jetstar, Qantas and Airbus) and were keen to join a large defence contractor as Aircraft Maintenance Engineers & Warehouse Officers. Further, we will be undertaking more recruiting later this year as part of our expansion plans – an additional 10 positions.

STEMStart 2020 Launch

Last week, we announced the continuation of the STEMstart program for 2020 in the Hunter region to create genuine career opportunities to support the F-35 program in a regional centre. We have partnered with Regional Development Australia (RDA) Hunter on the STEMstart initiative since 2018, to award grants to develop high-value, job-ready skills needed to create and sustain advanced technologies for defence industry. The first TAFE NSW Newcastle graduate apprenticeship and traineeship has been awarded as part of a program to date. The extended program, which offers an additional grant of $30,000, will be divided between two initiatives. STEMStart will be delivered in partnership with TAFE NSW Newcastle, and Altitude Accord will be conducted in partnership with University of Newcastle.

FSP R&D Grants

As part of the Future Submarine Program, we’re preparing to announce the award of eight contracts to Australian industry and academic organisations totalling $600k to develop White Papers to develop future novel and emerging advanced technologies in support of Australia’s Attack Class Submarine combat system.

This is the second round of R&D under Cycle 2 of the program (funded under FSP).

We saw a positive increase in the number of organisations applying for Cycle 2 R&D White Paper Grants - 54 submissions were received for the second round, which showed an 18% increase in responses over Cycle 1 R&D responses. Further, we saw a greater level of interest in the program across all states and territories with a greater number of universities submitting applications for Cycle 2 R&D.

Philanthropy: Beyond Blue donation

We recently donated $200,000 to Beyond Blue to support their work to promote and protect mental health for the Australian community, especially during the unprecedented challenges we are facing as a result of the COVID-19 pandemic.

Beyond Blue has seen an exponential increase ever since the impact of the COVID-19 reached Australia and Australians began to feel the impact of self-isolation and economic uncertainty.

SEA5000

Through the COVID19 period, LMA has performed several international Aegis firsts resulting in significant sovereign capability demonstration and notice:

- First ever international Aegis Light Offs – Two performed / completed in last two months on HMA Ships Hobart / Brisbane. Including managing other Australian Industry (Thales / Raytheon Australia) and the RAN (Fleet Support Unit (FSU) / Ships staff).
- Deep Level Maintenance on SPY Radar – including wave guide upgrade
- Achieved Navy urgent request for support at sea for HMAS Hobart 3 days in to a 6-month deployment to RIMPAC. Within 12 hours LMA personnel:
  - were notified of help being required,
  - identified personnel to transit to ship
  - Drove to Jervis Bay
  - Boat Transfer on to HMAS Hobart
  - Commenced work on Hobart
- Completed first ever Aegis Computer Program Update activity without MEIT, ITT or flyaway support: HMAS Hobart complete in June; HMAS Brisbane CP update underway.
  - Signed deed with Fleet Support Unit (FSU) enabling LMA techs to transfer knowledge / upskill RAN Maintenance support staff.

It continues to be business as usual for LMA in our efforts to grow a sovereign workforce.
NAVAL GROUP AUSTRALIA

Like all responsible employers, Naval Group Australia instigated a suite of measures consistent with the directions of national health authorities and Naval Group directives at the commencement of the Covid19 crisis.

The health and well-being of personnel is of paramount importance and staff have been encouraged to work from home unless there is a critical business need for them to be in the office. Those reporting to work also respect health measures in the office including social distancing and hand hygiene.

Being a global company, relying on VTC and teleconference is something Naval Group is quite used to. There has been nothing less than a transformation in ICT services as companies have grappled with the challenge of working remotely but securely.

The company has not recorded a known case of Covid19 to date.

It is important to note that for Naval Group Australia it has been business as usual as far as the Attack class submarine program is concerned throughout the Covid19 crisis and there has been minimal disruption to the program activities in Australia.

With the company HQ being located in Adelaide, the relaxing of social restrictions in South Australia has made it possible for more staff to work safely from the Keswick office.

We are in the process of a staged transition to more conventional work practices but accept that more flexible work practices are a feature of the modern workplace and that this trend has been somewhat accelerated by Covid19.

We accept that the virus threat is far from over and staff will need to maintain social distancing and hygiene measures into the future until a vaccine is available.

In France Naval Group has also implemented its response to Covid19 in accordance with health authorities whilst striving to minimise disruption to the Attack class submarine program.

Core teams are respecting strict sanitary measures to access Hughes House in Cherbourg to continue Attack class activities. Robust teleworking measures are also in place in France.

Naval Group Australia will review our response at the end of the pandemic but would like to express appreciation for the economic cooperation and collaboration associated with the Commonwealth’s Covid19 response.

Defence Industry is a stabilising factor in the economy, and it has continued to function during the crisis and create jobs and wealth for Australia.

The effort led by Defence Industry Minister Price, which brought the department, prime contractors and SME’s together, has been crucial in allowing defence industry to function as an essential service and to ensure minimal disruption to the naval shipbuilding enterprise.

Early support for suppliers was crucial in preserving jobs in the defence sector including the initiative led by Defence and CASG to ensure some programs were brought forward and SME’s were paid in a timely manner.

There has been an unprecedented level of collaboration between Primes and SMEs, and it is to be hoped we can build on those improved relationships and that cooperation will be sustained beyond the Covid19 crisis.

Another important facet of the response was ensuring the flow of resources to the Primes so recruitment activities could continue.

Exemptions for efficient freight movement were also greatly appreciated by industry.

It is clear that the Covid19 collaboration model could be applied more broadly to confronting other common challenges facing defence industry in future.

Naval Group has contingency plans in place for emergencies, and these plans were implemented in a timely and consistent fashion. The risk of the occurrence of a global pandemic is not an unknown threat. Clearly the scale and severity of the Covid19 global pandemic is of a scale not seen in some time.

As Naval Group Australia is still in the process of establishing its Attack class supply chains in Australia, the challenges posed by the Covid19 global pandemic have not been the same as for those companies with mature supply chains.

As discussed earlier, where required Naval Group has been able to access exemptions for both travel for essential staff and the movement of freight. Given state and international border closures, the movement of international freight has been surprisingly efficient.

The current Pandemic response strategies put in place have worked effectively. As with all companies, Naval Group undertakes a continuous business improvement process, which will, in turn, review how we can build resilience to events such as global pandemics.

The cyber-attack risk increased substantially during Covid19 and experience has shown that the Commonwealth and the defence sector have to be vigilant.

The sector will need to remain attentive to this risk as cyber actors continue to seek to take advantage of such circumstances.

One of the fundamental tenets of the Attack class submarine program is the transfer of technology from France to Australia and the commitment to developing a sovereign submarine construction and sustainment industry in Australia.

Naval Group has committed to achieving at least 60 per cent Australian capability on the program by contract value as part of efforts to maximise Australian industry involvement.

Such commitments will enhance the capability of Australia’s naval shipbuilding industry and contribute to Australia achieving its sovereignty and defence self-reliance.

The response to Covid19 has shown that despite the social restrictions imposed by health authorities, the continued collaboration between defence agencies and defence industry has ensured not only that staff in the sector are safeguarded but that work on major defence programs has been able to continue with minimal disruption.

The naval shipbuilding sector is a vital contributor to the national economy.

Those procedures will prove effective even if there is a more severe and longer lasting economic and health crisis in future.
Sovereign capability is becoming a popular topic as Australia looks to rebuild its economy and shore up the risks to its self-reliance that have been exposed by COVID-19.

The virus has shown us that we can no longer just rely on other countries for crucial elements of our economy, reshaping the debate over the importance of national sovereignty.

While we still have a bumpy road ahead, government, business and community leaders should be commended for doing their best to mitigate risks, ease the suffering and make people safe.

Apart from the obvious health impacts of COVID-19, there is also the economic shock that is destined to continue long after the virus has been consigned to medical history.

Data out recently from the Australian Bureau of Statistics revealed job vacancies collapsed by 43 per cent in the three months to May – the biggest fall in history. The manufacturing sector shed 68,300 jobs over the period, taking the number of workers to 852,800, its lowest level in records going back to 1984.

Experts are predicting another wave of large-scale bankruptcies and job losses as government support programs are wound back post September.

As a direct consequence of this dire economic outlook, “sovereignty” and “self-sufficiency” have become expressions that we are as likely to hear around the kitchen table or barbecue as the boardroom or halls of government.

Prime Minister Scott Morrison and his National Cabinet are undoubtedly devoting much thought to this, perfectly illustrated by the Federal Government’s recent changes to the foreign investment review framework to “protect Australia’s national interest”.

All proposed foreign investments into Australia now require approval, regardless of the value or the nature of the foreign investor. As Treasurer Frydenberg explained, while foreign investment remains vital to our long-term economic success and stability, the new measures are necessary to “safeguard the national interest as the coronavirus outbreak puts intense pressure on the Australian economy and Australian businesses”.

There is more to this debate than the pure value of foreign investment. There is also the question over the ability of foreign-controlled organisations to have a significant input into critical decisions for our nation. While the demise of Holden as an “Aussie icon” was mourned earlier this year, the decision to close that chapter in Australian history was made in a boardroom in another country.

The government has also established the National COVID-19 Coordination Commission headed by Nev Power to focus on a “whole of economy” strategy that will deliver greater self-reliance.

Hopefully, one of the enduring benefits of this strategy will be the re-emergence of Australian manufacturing.

Many business sectors can play an important role in the post-COVID economic stimulus agenda of the government. Munitions manufacture is one of them.

The development of rocket motor technology, propulsion, guidance and sensor systems, all have crossover benefits to other industry segments including space and academia.

A once in a generation refresh of munitions is occurring in Australia and a corresponding refresh of manufacturing capability needs to occur with it.

We also need to address our supply line vulnerabilities, identify emerging technologies that we can harness, build new infrastructure and adopt a commercial focus on export to deliver the scale required to sustain and evolve the advantage over the long term.

The Coalition government has committed to investing $200 billion over the next decade to supporting sovereign industrial defence capability. As Defence Minister Linda Reynolds said recently this will “support 15,000 companies in the defence supply chain and at least 70,000 direct jobs”.

“And when you multiply that throughout the economy it is a significant contribution to our national economic response to the COVID-19 situation,” she told the AFR.

In the end, Australia’s interests for key defence projects are best served when the control of those projects rests within this country ensuring jobs, know-how and investment stay right here.

As a 100 per cent Australian-owned prime supplier to the defence industry, NIOA is proud of the robust role it plays in building sovereign capability and supporting the nation’s armed forces. This includes:

• A planned expansion of our 8300sqm high-security weapons and munitions logistics, armoury, maintenance and testing facilities in Brisbane.
• Commencement of construction of a 7000sqm artillery shell forging factory in Maryborough, Qld with joint-venture partner, Rheinmetall, that will re-establish Australia’s ability to manufacture in-service Artillery shells. More than 100 ongoing jobs will be created when the $60m facility is fully operational by 2022. 50 per cent of the capacity of the factory is already committed to export.
• The commencement of a 10-year tenancy to refresh manufacturing capability at the Australian Government-owned Benalla munitions facility taking up over half of the output capacity of the facility.
• Private investment in a 120mm tank ammunition loading line.
• Private investment with partner Rheinmetall in a medium calibre ammunition loading line.
• The production and export of 25mm ammunition for the US F-35 Joint Strike Fighter program.
• The opening of new offices in Melbourne to support our expanded workforce.
• The establishment of an export office in the U.S. to support our Australian based initiatives.
• NIOA is one of the shortlisted tenderers for the management of LAND 159 Soldier Lethality Program which, over the next decade, will replace every weapon system that Aussie Diggers carry.

As a nation we can be proud of how we have responded to the challenges posed by COVID-19. It will be a long and hard road to recovery, and NIOA stands ready to play its part in restoring our economy and strengthening our sovereignty.
Northrop Grumman is working together with our Australian employees, customers, partners and suppliers to support each other during the fight against COVID-19. Together we’re protecting the health and safety of our employees and their families, and our communities, while continuing mission-critical work for our customers in support of global security and human discovery. Northrop Grumman takes great pride in our mission to define what is possible, and we are committed to doing what we do best: solving tough problems.

During this challenging time, Northrop Grumman’s highest priority is to keep our employees healthy and safe at work and at home. Across Australia, the company is providing expanded resources to support local employees, customers and suppliers. We frequently communicate the most current information and guidance to employees to ensure they remain informed of changing developments and guidelines associated with COVID-19.

We have taken and continue to take action to protect the well-being of our staff. This includes telecommuting options and providing resources and guidance on how to navigate working from home while staying connected to the larger company culture and the community. For those whose work requires them to come into the workplace, creating a safe environment has remained paramount. Social distancing, staggered shifts, adjusted work areas and stringent sanitisation efforts are just some ways that Northrop Grumman is responding.

As an essential business, Northrop Grumman has continued to deliver support to its customers throughout this crisis. The company is taking extensive measures to support our supply chain ecosystem of thousands of suppliers worldwide. Northrop Grumman’s work depends on our vast global supply base and to ensure our critical industrial supply chain survives and stays healthy beyond this crisis, we are continuing to place orders and accelerate payments. The economic fallout from the coronavirus has been particularly devastating to many small and medium businesses, which is why Northrop Grumman immediately accelerated payments to all Australian suppliers to assure their cash-flows.

The company also recognised the significant impact to the wider community and took steps to support people who have lost their jobs and assist those in need. Northrop Grumman’s Aircraft Modernisation & Sustainment business, with assistance from Defence’s Capability, Acquisition & Sustainment Group, was able to employ dozens of technical personnel from airlines.

Noting also that COVID-19 followed all too closely on the impact of horrendous bushfires, Northrop Grumman took steps to support the broader community affected by both events and was pleased to contribute over $800,000 to a range of Australian charitable organisations and academic institutions undertaking research into COVID-19 issues and their future management.

In an effort to provide a resource for COVID-related supplier information, Northrop Grumman stood up a supplier website to help our suppliers across Australia and the globe to understand regulations surrounding critical infrastructure.

Throughout the crisis and beyond, Northrop Grumman continues to engage with the supply base to address issues and find new opportunities to help. As a result of our engagement, we are assessing strategies, reviewing lessons learned and recommending and areas for improvement.

Throughout the pandemic, Northrop Grumman and our extended team continue to deliver and support our customer base in Australia, working closely with Australian industry and the Australian Defence Force to ensure mission success.
Our immediate response to COVID-19 was to ensure the safety and wellbeing of our people and clients and ensure the continued delivery of the vital services and solutions our clients rely on. Coupled with Government guidance, we established core principles and platforms to safeguard our people, including the launch of our Nova My Status app to monitor the safety and wellbeing of our people across the globe.

Safeguards were put in place for protection, such as hygiene precautions, social distancing, travel, meeting and event restrictions, remote working, and office plans including additional cleaning and rosters, alongside support and education to transition effectively to a virtual environment. We took stringent action to ensure the resilience of our company in the short and medium to long term, while positioning ourselves to emerge strongly to address the challenges resulting from COVID-19. At present, we are focused on safely returning our teams to client and Nova workplaces, and working with our partners and suppliers to ensure that guidance and information is communicated and understood across our workforce as the situation changes.

The COVID-19 pandemic saw us adapt quickly to a virtual working environment and new ways of communicating. We introduced a series of regular town halls during the height of the pandemic with our leadership team to keep everyone informed and to provide the opportunity to engage directly with our leaders through Q&A. The introduction of this forum was highly successful, and the platform has evolved as a critical means of communication. The forum will remain in place as a monthly event moving forward as an effective means to align and unify our company and enable regular engagement with our leaders.

In our client environments, the rapid move to virtual work meant close liaison with leaders at all levels within each site to understand how best to continue to deliver value and remain engaged with the programmes and projects we support. This connection was enabled through the use of common and agreed IT toolsets and communication channels, and established through the co-development of client specific plans, setting the tempo for the work conducted outside of traditional client workplaces. In the majority of instances, project delivery in a distributed environment proved efficient, removing the time, costs, and COVID risks associated with travel to and from site while reducing workspace density.

As a people focused company, we endeavoured to support members of our staff with families to ensure they could work from home to provide care and in some cases, at home education, to their children. We introduced virtual family events which staff could join including an ‘Ask an Astronaut’ engagement with our Director of Space Strategy (and former astronaut) Pam Melroy who briefed attendees on life in space and careers in STEM. We plan to continue to deliver these events to support families during school holiday periods where many will work flexibly from home to care for their children.

As a global organisation, we were able to take advantage of having a clear picture of the escalating health crisis across the planet. This provided us with the insight to prepare for government arrangements in many of our locations. Our people were truly inspiring, mobilising quickly and remaining agile in their transition to remote working while working closely with our clients to support their own transition while continuing to deliver our services.

Our people were working remotely within a week, utilising our digital workplace to support our dispersed organisation to ensure continued and effective communication and information sharing to keep our people informed, engaged, and supported to continue to work productively. We have always led with a flexible approach to working and our teams were able to build and enhance our working practices already in place.

As a professional services firm, our supply chain is our team of SMEs. The strength of our SME networks meant that we weren’t exposed to supply chain impact. However, we did have to manage the impact of travel restrictions on teams delivering services interstate and internationally. With the support of Government and leveraging our national presence we’ve been able to mitigate those impacts through risk managed travel, and effective remote working practices.

We work on many projects that rely on specialised skillsets and individuals from overseas agencies for key certifications or test events. With the introduction of global travel restrictions, we were called on by overseas agencies to provide these specialised skills to support realisation of Australian capability. We stepped up to deliver these locally through our people who have developed and grown our in-country, sovereign capabilities, skills and experience over the last 20 years.

For Nova, the pandemic really highlighted the importance of our relationships with our team and our clients, and the importance of being able to identify and articulate the key risks to business continuity. Having a clear understanding of those risks and being able to develop targeted solutions for our clients to mitigate those risks is essential. The need to transition our entire workforce to remote working also highlighted the benefit of our ongoing investment in our digital workplace and IT infrastructure, renewing our appreciation for its importance.

The pandemic and associated travel restrictions have really shone a light on the things we need ongoing access to in-country and the impact of disrupting that access. Some are specific technologies, however, just as important, is the expertise, experience and knowledge associated with those technologies. Whenever we focus on technology, we need to also focus on growing and having access to people with enabling experience and knowledge. From a Defence perspective, our ongoing ability to operate in the joint environment hinges on communications technology. It is also dependent on having an Australian based workforce that possess the skills and experience to ensure the technology can be fully realised to deliver joint capability.
Penten started discussions around potential responses early and agreed that communication would be a vital component in how we managed our response. We updated our staff regularly on the steps we were taking. These steps included: transitioning almost 65% of our work force to working from home, implemented hygiene and social distancing measures in our office. We focused on staff well-being with regular telephone and video check-ins, virtual team lunches, weekly newsletters, health and safety tips, and we even delivered hampers filled with activities to keep people occupied (they were very much welcomed).

We have always supported a flexible work environment and believe people across our teams will continue to work when and how they want. We will continue to support individual choice and ensure we continue to build on our remote collaboration tools to facilitate this.

We responded quickly and were able to support most of our team working from home within a couple of weeks. We were monitoring the situation closely before it affected Australia and put a plan in place quickly.

Our secure mobility business unit worked harder than ever before to ensure government workers could continue to access information securely while out of the office. Our staff were majority working from home, but the work demand was high. The dedication of our teams to get through their own home-life adjustments during the pandemic, while ensuring Penten’s clients were supported is a testament to their commitment.

Supply chains were affected globally, and this also flowed through to our business. However, with a very clear understanding of our critical goods we have been able to manage the slow-down with confidence. Our logistics director prepared for extended lead times from delayed flights and re-prioritised our workforce to ensure we had a consistent flow of goods as we needed them.

Regarding supply chains, we have learned to look for alternative options from different locations and suppliers to ensure we can continue to deliver. By having this information ready before a crisis hits, we have a back-up plan ready to roll out.

We have also learned from this pandemic how demand for our products can increase in crisis situations, so by being aware of this, we can better prepare if a future crisis should occur.

The pandemic has highlighted the need for self-reliance and sovereignty, especially critical technologies, and the need to maintain a technology edge. Penten has been through a recent period of growth, and COVID-19 accelerated the attention on developing sovereign Australian technology to keep the country functioning throughout crises.

As an Australian owned and operated company, Penten has a clear focus in directly supporting Australia’s industrial capacity and productivity to generate and retain sovereign capability. We actively seek to sustain and develop Australian employment opportunities and to enhance and expand the advanced manufacturing and innovation sectors. As a direct result of our drive, we are not only creating new and exciting roles from sought after skills such as cyber security, network design, engineering and cryptography, but sustaining and challenging our established workforce to deliver better and more effective outcomes.

Throughout the shutdown, Penten has actively evaluated and responded to the changing situation. We have implemented communication strategies and flexibility of workforce so we can ensure our business can continue throughout future shutdowns, even those that may be more severe than the current one.
Since the start of COVID-19, all of Rheinmetall Defence Australia’s actions and decisions have been guided by two priorities:

**Priority 1**: ensure the health and safety of our staff and their families; and

**Priority 2**: ensure that our business operations continue to meet our customer obligations.

On health and safety, we have implemented social distancing and additional hygiene measures in line with Federal and State government directions, plus internal decisions to strengthen the protection of our staff.

At the height of COVID-19 restrictions, approximately 85% of our workforce primarily worked from home. This is unprecedented in our history. At the time of writing, we are now progressively returning staff to our work sites where this is safe to do so. We continue to support our staff through flexible working arrangements and technology to ensure we can all be as effective as possible in these circumstances.

The decision to support our staff working from home has allowed us to protect those that need to continue to work at our facilities, particularly for staff who have ‘hands on’ operations and production roles.

On the business continuity side, we have an ongoing focus on the following activities:

- Commissioning our new Military Vehicle Centre of Excellence (MILVEHCOE) with the installation of plant and equipment into the new production hall. The remaining office, manufacturing and test facilities are being completed and furnished.
- The MILVEHCOE has already been operationalised with a significant number of Medium and Heavy Recovery Vehicles completed along the truck production line. We continue ramp up to full production for our LAND 121 Phase 5B activities. MILVEHCOE is now considered Rheinmetall’s centre of excellence for recovery vehicles globally.
- Integration work is well underway on BOXER Combat Reconnaissance Vehicles (CRV) within the MILVEHCOE. COVID-19 has required activities originally scheduled for Europe to be shifted to Australia to ensure we adhere to our delivery schedule. The BOXER vehicles are at various stages of completion and we continue to deliver vehicles to the Commonwealth. This work is a key component of our knowledge transfer activities for full rate BOXER production in Australia.
- Prototyping activities continue on the MILVEHCOE site for our LAND 400 Phase 3 bid activities.
- Our Autonomous Combat Warrior R&D program has continued. Already the ACW program has a team of more than 50 researchers working across our partner institutions including Defence Science and Technology Group, CSIRO, QUT and RMIT University.

Across all these projects, we have also focused on our network of SME industry partners – both current and prospective. We have established processes to ensure SME companies receive payment for products and services as quickly as possible. And, in cooperation with the Commonwealth project teams, we continue to identify where it is possible to accelerate project activities or accept earlier deliveries from Australian businesses.
We implemented response strategies to help minimise the spread of the virus. We facilitated our employees to be able to work from home and introduced shift work. These changes allowed us to continue to grow our local capability and support the operations of our optronics and navigation systems on board key Australia and New Zealand Defence Force platforms. We took the appropriate hygiene measures and provided staff with locally sourced hand sanitisers and increased our cleaning and disinfection operations.

One of the key changes that we implemented was shift work in our MRO department to ensure that social distancing was adhered to. Moving forward past the height of the crisis, we found that shift work has increased efficiency and allowed the team to easily communicate with time difference barriers with our parent company located in France.

We were continually monitoring the situation closely and following the directives of the government and recommendations from the health authorities. We were able to move quickly when the situation escalated, and we implemented multiple strategies and reorganised our operations to allow business to continue.

We launched a COVID-Safe action plan, which allowed us to easily facilitate our team to work from home through increased use of digital channels and working with our industry partners through video conferencing.

Our rapid response allowed us to continue to do business in Australia and New Zealand, continue to work with our Australian partners and identify opportunities domestically and abroad, and maintain our commitment to grow our own Australian Industry Capability.

Our supply chains were affected, and we are fortunate enough that the defence market is resilient and kept moving forward during the crisis. We were able to easily adapt due to the strong relationships we developed with our supply chain and we stayed in constant communication with both our suppliers and our customers to maintain industrial activity.

Our team’s health and wellbeing was our highest priority and even with the global supply chain affected, we were fortunate enough to equip our staff with locally sourced hand sanitiser and continue working in a safe environment. We all know just how quickly this became in high demand and in short supply!

When the crisis was escalating and the government imposed travel restrictions, we had to cancel an upcoming event where we were demonstrating a number of our key systems to the ADF. This wasn’t an easy decision to make with a lot of interested parties, but we kept the safety of our customers and team at the centre of the decision.

We hope that moving forward, once the crisis ends and travel restrictions are lifted that we are able to safely reschedule the Safran Technology Day.

I think that during the pandemic we reorganised business operations effectively. We would be ready to continue operations with minor changes if another crisis were to present itself. We were able to react quickly and formed a multi-discipline crisis team. If this crisis taught us anything, it is that we have a strong sense of community within SEDA and we are able to band together to handle the obstacle put in front of us. For that, I am very proud of my team.

Fortunately, through foresight at the group level we already have a considerable amount of autonomy here in Australia. Even before COVID-19 Safran had implemented a significant amount of capability in Australia due to simple geography and a need to be close to our customer. Certainly, the pandemic has shown what I think we already knew to be true.

We were fortunate enough not to implement a shutdown of operations during the crisis and we were able to continue with ‘modified business as usual’ and adjusted work hours. If this were to happen again, I think the whole defence sector would be able to transition to this way of working much quicker the second time around. We need to get comfortable with working this way for prolonged periods of time. After all, the needs of the ADF don’t just disappear just because of a pandemic.
As a global enterprise we were fortunate to be able to assess activities across multiple countries when considering our response and our core principle has been alignment with the appropriate state and federal governments’ COVID-19 crisis response, including the changing guidelines and restrictions.

To assist with managing the significant impact across the business our Executive Leadership Team instituted a daily review meeting each morning from mid-March to get updates on developments in our 10 locations, agree actions and policy changes to make sure we could keep our operations going where possible. We were able to use information from the US and Australia to establish our ‘Essential Services’ criteria that allowed us to continue workshop operations, while removing non-operational staff from the workplace.

We knew a decision today may change tomorrow and getting that mindset right and adjusting decisions in short time frames became an important learning.

Communications with our on-site and remote teams was essential. Not to overload the teams, but to keep them up a regular information flow based on government advice and not simply on forwarding the plethora of information shared by everyone else.

Among the workplace health and safety measures, we implemented an online crisis management reporting and logging system for our staff, a significant restriction on face-to-face meetings replaced by on-line/TEAMS technology, introduced regular site sanitising/cleaning, hand sanitisation options, work from home options and, for our on-site essential services staff, we implemented temperature checks and required social distancing in work and lunch spaces through rotating shift arrangements to keep work teams apart.

Suppliers and delivery workers who attended our sites were required to complete a questionnaire and check list before being cleared for entry and mandated temperature checks and hand sanitisation were also required for anyone entering our sites.

We also strictly observed government-enforced travel restrictions and stopped domestic and international travel for all staff.

In the future, we expect an increase in working remotely for non-operational staff that will provide benefits for the business and the individual – less travel time, flexible working hours, increased morale and staff retention. Managing this for back-office and support works well, though there are limited options for operations staff. The next step is to test the benefit of a long-term change and not simply allow the pandemic approach to continue without a good business reason.

We expect our travel will reduce significantly with an expanded use of reliable online platforms and collaboration tools to reduce the employee travel burden.

In line with our COVIDSafe plan, we will continue with implemented safety standards including increased cleaning, personal hygiene requirements and social distancing to help minimise spread of other contagious illnesses.

We have a well prepared and tested Business Continuity Plan, though this is more event driven for local impacts, rather than the scale of the COVID19 pandemic. Operationally, we were able to assess quickly that our existing operations were predominantly essential services using advice from the US Department of Homeland Security. This formed a basis for all our activities and allowed us to continue onsite operations, while removing non-operational staff from the workplace.

Our recent significant ICT investment allowed the business to quickly pivot to a remote working/work from home arrangement for 30% of staff along with using the reliable on-line Microsoft TEAMS meeting platform.

While some customer impacts, such as a direct impact on our support for Qantas, Virgin Australia and the regional airlines, were significant, in terms of our own material/sub-contractor supply chains we did not experience any significant issues, partially managed through good materials/inventory planning and a spread of suppliers in both Australia and the US. Being Defence focussed for 60% of our activity was helpful in this regard.

We have continued to supply our usual services to our Defence clients, regardless of their location; however, the main issue was access to freight. The primary impact to our supply chain was through restrictions on access to timely freight services and also COVID 19 restrictions on our freight handlers that required us to deliver to their depot, rather than their normal collection approach.

The COVID 19 pandemic has provided some great ‘response’ lessons that will be helpful in the future. In terms of changes, there’s not too many things we would alter as we were able to successfully manage our business over the period and actually perform better in some cases. The TAE Aerospace resilience in terms of the business and our people during this event is very satisfying.

On the issue of self-reliance for critical technologies - potentially, this would be a fundamental economic decision shift based on ‘insuring’ for the future. What do you stockpile, what do you focus on and given the ‘recovery’ to the new normal, what would have made a difference under this pandemic needs to be questioned.

To prepare for the next event means spending some time to understand how a domestic economy and industrial base for a population of 25 million people can be self-sustaining. What does no exports, no imports, no resources income mean for Australia?
I have to say I’m incredibly proud of the way our people have responded to the crisis. It really has brought home to me the immense value of having deep industrial and manufacturing expertise here in Australia, and an extensive Australian supply chain. Across all of our manufacturing and industrial sites – Bendigo, Benalla, Mulwala, Lithgow, Rydalmere and Garden Island – production has continued throughout this crisis. In fact, at Bendigo we were able to double the production rate of Hawkei in mid-April in the midst of the crisis. That’s been possible because of the dedication of our people and the timely implementation of the health measures recommended by state and federal authorities.

It was also possible because of the close attention we’ve paid to establishing a reliable supply chain over many years, not just during this emergency. Never has it been more important to have an extensive Australian supply chain than during this ongoing crisis. The recent work we commissioned from AlphaBeta Advisors on the value and impact of our Australian supply chain underlined just how extensive it is – last year we spent $522 million with more than 1300 Australian suppliers, most of them SMEs.

One of the first steps we took when the COVID-19 pandemic hit was to accelerate payments to our small and medium suppliers because we could see the cash crunch that was coming and the most practical assistance we could give to support our supply chain through the crisis was to help their cash flow. The action by CASG to similarly accelerate the payment of invoices to defence suppliers was incredibly important – probably the single most important action by Defence to ensure continuity of supply and jobs.

We had response plans in place before the crisis really escalated so the company’s response was quick and in line with the evolving advice from health authorities and State and Federal Governments.

Very quickly we moved more than half our people – more than 2000 employees – to working from home, with increased IT capacity to support them. This occurred almost seamlessly, something I’m extremely proud of. We have now begun a staged return-to-office but we are approaching this cautiously, in line with the health advice, and we are basing it on customer and business needs.

On our manufacturing and industrial sites, it meant that from early March only essential personnel were allowed to continue on site. Comprehensive measures were put in place to enable continued operation of these sites in accordance with the social distancing and enhanced hygiene recommendations of health experts. This included staggered shifts, staggered breaks, closure of canteen facilities, expanded break rooms, increased hand washing and increased PPE including face masks. Increased cleaning has been put in place on all sites including securing the services of a bio-cleaning company for deep cleaning as necessary. All these measures remain in place, along with restrictions on visitors to sites. We’ve implemented these measures in close co-ordination with Defence, particularly on sites where we’re working side by side.

Many of our teams, particularly on manufacturing sites, have morning team meetings before starting work. These meetings are a highly effective way of ensuring communication is passed on and received, but due to health and safety measures such as staggered shifts and physical distancing, these group meetings were not possible. Instead, our people devised digital Obayas. These have proven to be extremely effective not only in the continued delivery of capability, but also for our people to feel connected to their teams during this unprecedented time of isolation.

Frequent communication to our staff, our customers and our suppliers has been key to success. Because many of our processes and measures implemented were done on a collaborative basis, staff were kept included and understood that any measures put in place were done so as to protect them, their families and the community.

With regard to our suppliers, we continue to closely monitor impacts on our local and international supply chain, and actively seek advice from key suppliers to ensure we have the ability to mitigate any potential impacts.

As restrictions begin to ease Thales will continue to work closely with Defence as we have over these past several months to ensure we continue to deliver capability to Defence.

It is absolutely crucial that the renewed focus on self-reliance in industrial capabilities is maintained after this crisis ends.

From the outset we’ve maintained a focus on continuing to deliver to our customers, particularly Defence and Airservices Australia, while applying all the precautions necessary to protect the health and wellbeing of our staff and the community. Our suppliers have been key to this as well because a break in the supply chain restricts our ability to deliver.

The work we do is important – manufacturing essential products for the ADF and delivering a range of critical services and support to our customers. The COVID-19 pandemic has focussed attention on the significant way in which Australia is globally connected and reliant. From a Defence perspective a lot of Australia’s capability is tied to global supply chains. And when the world is not working normally, either from a pandemic, or any number of disruptive factors, those global supply chains are vulnerable.

This has shown the need for greater self-reliance, and the need for increased industrial capability. From the Thales perspective we’re encouraging investment in the manufacturing sector, encouraging all the policies that will generate the next generation of engineers and scientists that help make Australia’s industrial capability the advanced capability it needs to be. This increased focus on self-reliance in essential sectors like defence industry will probably be the most enduring impact of this crisis.
FUTURE HMNZS AOTEAROA ARRIVES IN NEW ZEALAND

The RNZN’s newest ship, built at Hyundai Heavy Industries in South Korea, entered Auckland’s Waitemata Harbour at 9:30 am Friday 26 June, accompanied by a flotilla of pleasure craft as well as the RNZN’s most recent warship, HMNZS MANWANUI, carrying the official party. She will be commissioned HMNZS AOTEAROA at Devonport Naval Base in late July.

AOTEAROA will provide global sustainment to New Zealand and coalition maritime, land and air units, through resupply of ship and aviation fuel, dry goods, water, spare parts and ammunition.

The largest ship ever in the RNZN, her overall length is 173 metres compared with an ANZAC frigate’s 118 metres. Her ability to carry 14 x twenty-foot shipping containers (or double stacked maximum 22), a Seaspirtre or NH90 helicopter and high capacity fresh water desalination plants will be invaluable in a HADR response. Her reinforced hull permits summer resupply missions to McMurdo Sound and Scott Base in Antarctica.

During April AOTEAROA conducted Replenishment at Sea Station Keeping Trials off the South Korean coast. Accompanied by future Philippine Navy Light Patrol Frigate BRP Jose Rizal, the trials assessed the ability for a ship to approach and remain alongside AOTEAROA as a confirmation of the ship’s pressure and suction zones during refuelling or replenishment. She passed with flying colours.

While the shipbuilding work was completed in South Korea before departure, final fitting and testing of government furnished equipment, including weapons and specialised communication systems, will be completed at Devonport in the coming months.

AIR FORCE FLEET RENEWAL IS MAKING GOOD PROGRESS

The RNZAF’s C-130H(NZ) Hercules missions flown include passenger and cargo movement, combat employment and sustainment including special operations, HADR, aero-medical evacuation and Antarctica NZ support.

The RNZAF currently operates five C-130(NZ) Hercules. It took delivery of the first three Hercules in 1965. These were the first C-130H production models off the Lockheed production line. A further two C-130H were added in 1969.

The aircraft have received a number of modifications and upgrades with the most recent being a Life Extension Programme that ran 2005-17. This involved an extensive avionics upgrade of the flight deck and structural refurbishment.

Now five C-130J-30 Super Hercules have been ordered via Foreign Military Sales in a one-for-one replacement, with the first of the new Hercules to be delivered in 2024. The full fleet will be operating from 2025.

The RNZAF took delivery of five P-3B Orions in 1966, while in 1985 an ex-RAAF P-3B was purchased. All six aircraft had a number of upgrades to extend their service life, most recently in the early 2000s to navigation, mission and communication systems, with the six aircraft then being designated P-3K2.

Four new P-8As Poseidons, training systems and infrastructure, being purchased through Foreign Military Sales, will be delivered and begin operations from 2023.

RNZAF fixed wing pilot training now utilises eleven T6-C Texan II aircraft, delivered in 2014-15, while dual engine pilot and air warfare officer training uses two specially outfitted and two standard KA350 aircraft.

The RNZAF’s two Boeing B757-2K2 combi (passengers, freight, aeromedical evacuation) aircraft are due to be replaced by the end of the 2020s, completing the fleet renewal.

LATEST NZ ROCKET LAUNCH IS LEADING TOWARDS A 2021 LUNAR ORBIT MISSION

At their MahiaPeninsular (NZ) Launch Complex 1 Rocket Lab’s Electron rocket launched the “Don’t Stop Me Now” rideshare mission on Saturday, June 13, 2020 at 5:12 AM (UTC). The mission was named ‘Don’t Stop Me Now’ in recognition of Rocket Lab board member and avid Queen fan Scott Smith, who recently passed away.

Several small satellites were launched in this rideshare mission for Boston University (ELnaNa 32), University of New South Wales Canberra (M2 Pathfinder) and three payloads for United States intelligence agency National Reconnaissance Office.

The M2 Pathfinder satellite is a collaboration between the UNSW Canberra and the Royal Australian Air Force. The M2 Pathfinder will test communications architecture and other technologies that will assist in informing the future space capabilities of Australia. The satellite will demonstrate the ability of an onboard software-based radio to operate and reconfigure while in orbit.

In February 2021 a Rocket Lab Electron rocket is scheduled to launch the CAPSTONE satellite mission from their Launch Complex 2 at Wallops Island, Virginia, USA. This is a NASA funded cubesat pathfinder mission to unique lunar orbit.

NEW FIXED BASE HIGH FREQUENCY RADIOS

The NZDF's current New Zealand-based fixed high frequency radio infrastructure was installed in the 1980s, with some parts of the infrastructure upgraded in the early 2010s. The updated capabilities will be integrated into the NZDF’s network command and control system.

The scope of the project includes upgrading land-based transmitters, receivers, and other equipment and updating their remote control as well as installing cryptographic equipment.

In March 2020 the Minister of Defence, the Hon Ron Mark said: “Our service women and men rely on communications to undertake the tasks required of them, whether it be humanitarian, constabulary or military operations. In undertaking these tasks, they operate in some of the most remote regions on the planet, from deep in the Southern Ocean to the vastness of the Pacific.”

Babcock Australasia CEO, David Ruff, said at the time “Babcock will now provide its specialist technology and know-how to New Zealand as a key Five Eyes partner.”

In June Rohde & Schwarz announced it had signed a deal with Babcock Australasia to support the New Zealand’s Fixed High Frequency Radio Refresh. As a subcontractor, Rohde & Schwarz will provide R&S M3SR Series 4100 high frequency radios, high power amplifiers (5 kW and 10 kW) and spares for the program.
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