



Defence Innovation Redesigned

What the 2016 Defence White Paper
means for Industry

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New opportunities for the defence industry as Defence taps into the Innovation Agenda

The Turnbull Government's 2016 Defence White Paper (DWP) has been a long time coming, but its delivery on 25 February represents an important milestone towards a new export-orientated and innovation-led relationship with the Australian defence industry.

The accompanying Defence Industry Policy Statement (DIPS) signposts a complete redesign of the relationship between Defence and businesses that operate in the defence industry or those looking to enter. This includes prime system integrators (Primes), small to medium sized enterprises (SMEs), start-ups, innovators and entrepreneurs, as well as infrastructure and information, communication and technology (ICT) providers. Industry will now have a seat at the head table in Defence equipment decision making through the announcement of Fundamental Input to Capability status.

Who can benefit?

While AU\$195 billion of capital expenditure over the next 10 years – a material increase on recent promises – will reassure international Primes, it's the smaller Australian innovators that should take the most from this new Industry Policy.

The Government's National Innovation and Science Agenda has significantly impacted this White Paper. While the detail is still to come, AU\$230 million for the Centre for Defence Industry Capability (CDIC), AU\$640 million for a Defence Innovation Hub (DIH) and a further AU\$730 million for the Next Generation Technologies Fund (NGTF) represents a AU\$1.6 billion, 10-year investment which should largely flow to Australian companies and entrepreneurs prepared to collaborate and deliver Defence outcomes.

These initiatives align well with the anticipated new Capability Life Cycle, scheduled to launch on 1 April as part of the First Principles Review implementation. This is expected to provide a simpler and more streamlined approach to capability acquisition, with greater opportunities for industry to insert unsolicited ideas.

How will we get there?

It's a plan not without risks. There are plenty of signals and new structures to support the redesign of the relationship, but the implementation will be critical. Slow or ineffective



"This White Paper is good for Australian industry, but in particular businesses that are innovative, collaborative and internationally focused."

Mike Kalms
Defence Industry Lead Partner

execution by Defence will be front of mind for industry leaders who have witnessed years of low growth. Exactly how the new NGTF will operate under the Defence Science and Technology Group (DSTG) is not clear. What – if anything – replaces the Strategic and Priority Industry Capability Programs, is also unclear. And the final piece of the puzzle, the 'Naval Shipbuilding Plan' is yet to come which will leave parts of defence industry nervous.

But risk and opportunity are different for each business.

In this report we highlight the changes, impacts and strategic questions for leaders of defence industry organisations and Australian businesses keen to enter the sector.

We think the direction the Government has taken is good for Defence and industry and that there is genuine ambition to better leverage innovative Australian business. Through closer collaboration, this new relationship will ensure our warfighters can meet the challenges of the 21st century.

Actions for Industry

Six key themes emerged from this suite of Defence policy that all players in the sector must engage with for future growth.



INNOVATION

The Defence innovation ecosystem is about to radically evolve with far greater support for start-ups and academia to foster innovation. Companies able to support, contribute to and engage with this new system will benefit.

- What is your role in this new ecosystem?
- What strategic advantages can your company derive from a broader ecosystem?



FUNDING & SUPPORT

The traditional support programs the defence industry has grown to know are fundamentally changing. If industry players are slow to navigate the new structures they risk losing funding to faster, more nimble market entrants.

- How well do you understand the new support structures and processes?
- What new areas of support will you tap into?



CYBER

The Defence White Paper (DWP) signals a clear shift to new capabilities (both people and technology) to support new fronts of national security. All parts of industry must understand what this trend means for them.

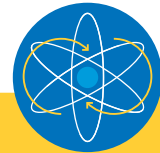
- How can industry help Defence to up-skill?
- How can industry build the skills that Defence will demand?
- What cyber related markets should industry players look to enter?
- What measures do companies need to take themselves to be a trusted and secure Defence partner?



COLLABORATION

An Integrated Investment Plan (IIP) signals a much greater need to collaborate with customers, suppliers and competitors. Those that can adopt a more collaborative mindset will benefit.

- Are there new partnering models your company can explore?
- What frameworks and measurements can you adopt to support collaboration?



AGILITY

A major underlying message is for a more diversified and export-orientated defence industry in Australia to support more joined-up Defence outcomes aligned to six key capabilities.

- How can your organisation move beyond traditional products and services?
- Is your client base as stable and diversified as it could be?
- What export markets are growing and provide real opportunities for the long term?
- What are the growth areas for accessible Defence funding?



FIRST PRINCIPLES REVIEW

The implementation of the First Principles Review (FPR) must still be your first consideration. The seismic shifts it represents in how Defence operates will impact your business well before the DWP.

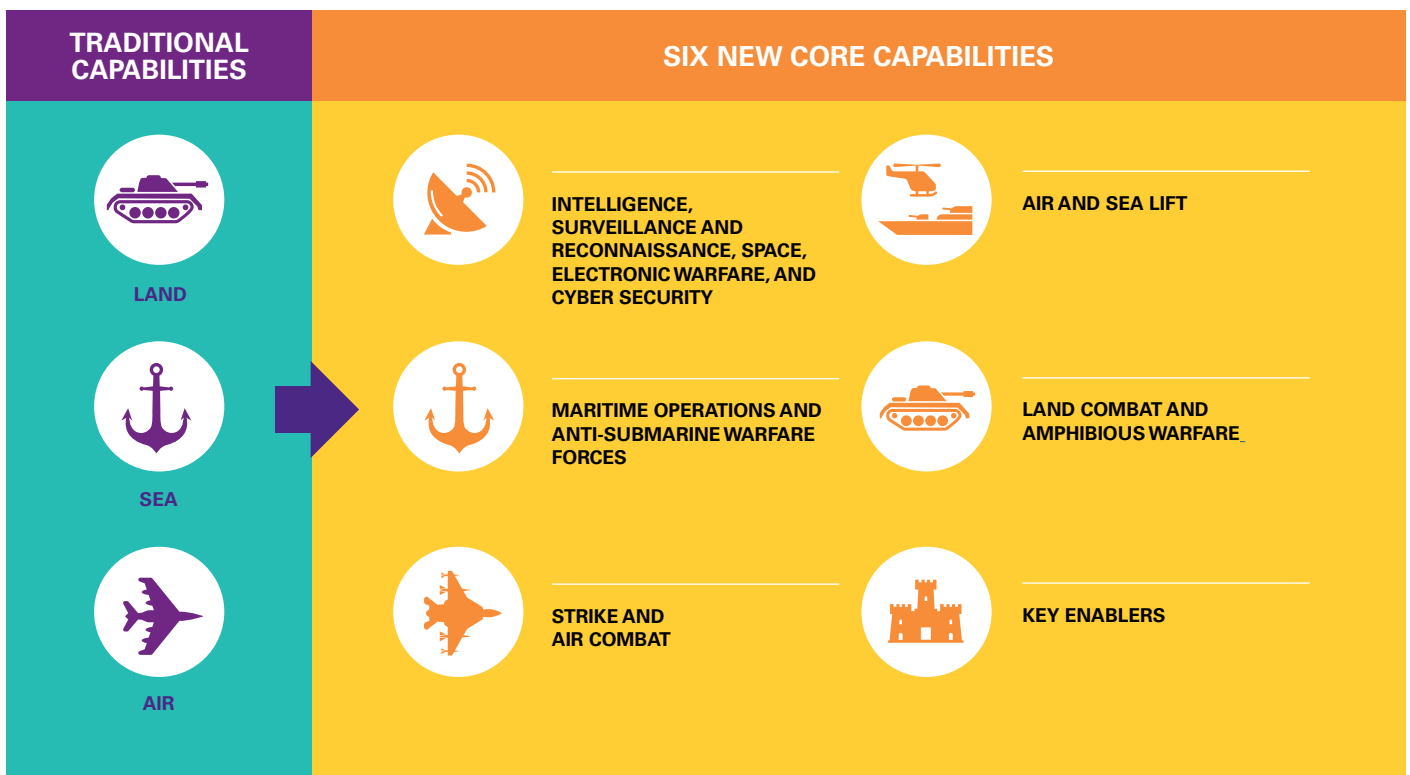
- Has your company fully understood the changes and timings of the FPR implementation?
- How can your company be proactive and use this period of change to support Defence?

What's new?

A Joint Force

Government is placing even more emphasis on a 'joint force' – a combined approach to command of traditional land, sea and air forces. This will be facilitated by a new future force design function and encapsulated in the IIP.

This presents a major opportunity for Australian industry, which is well placed to provide enabling and integrating systems that maximise the performance of the platforms. It can achieve this through strong connections with critical infrastructure, logistics systems, training, testing and ICT.



What Happened to the Defence Capability Plan (DCP)?

- The old DCP has been incorporated into the new Integrated Investment Plan (IIP).
- 'Land', 'Sea' and 'Air' descriptors are largely gone, in their place are six core capability areas – see graphic.

The IIP provides:

- a more holistic view of capability investment by adding infrastructure, ICT and training investments *as well as* the capital equipment cost;
- more certainty around timing and sequencing;
- a focus on finding the balance between capability, risk and cost; and
- confidence through contestability.

The intention is that Defence industry will apply the IIP to better plan investments against funding lines.

Defence Increased Spending Accessibility

To fully appreciate the scale of change planned for the next 20 years, and the opportunities open to companies in, and keen to enter, the defence industry, it's important to understand where and how accessible funding will grow.

The analysis below provides a high-level classification of proposed Defence investment from the IIP and provides a view of the potential level of investment that remains accessible to industry.

In considering this analysis, it is important to keep in mind that the majority of potentially accessible funding over the first 10 years of this plan relates to Land, Maritime and Cyber programs that have been known to industry for some time. As such, access to this funding may remain a challenge for

Defence Industry that are not already positioned to provide support in these areas.

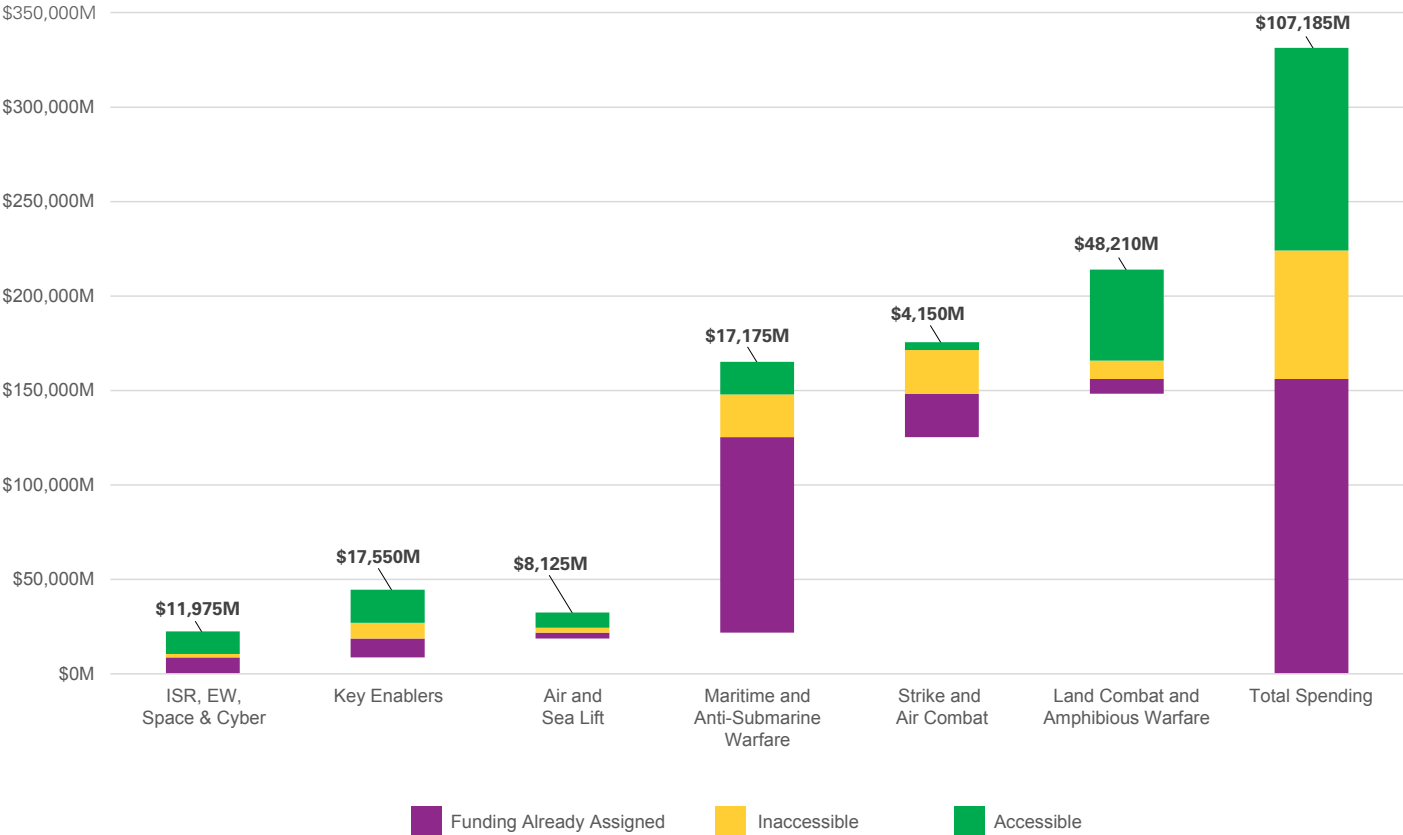
More positively, the many investments planned by Defence are now beginning to ramp up and will extend to 2035 (and beyond). For industry players not already aligned with Land, Maritime and Cyber programs, a suggested strategic option would be to position for these longer term Maritime and Anti-Submarine Warfare programs.

Regardless of which sector Defence industry is focused on, the key message is that this is a time to reflect on targeted investment strategies to align with where new opportunities are expected to arise.

The three largest opportunities for activity sit within the following Defence capabilities:

- Land Combat and Amphibious Warfare – AU\$48,210M
- Key Enablers – AU\$17,550M
- Maritime and Anti-Submarine Warfare – AU\$17,175M

Defence Spending Accessibility (2016 – 2035)



Source: Integrated Investment Plan, Department of Defence. KPMG analysis

Disclaimer - The graph above reflects independent analysis conducted by KPMG solely for the purpose of this publication and does not in any way reflect Federal Government policy or direction. Source data supporting this analysis has been extracted from the IIP.

Where the IIP has not referenced specific program investment levels, the average of the funding range has been applied to support the above analysis. The categorisation of programs as accessible or inaccessible is based on KPMG’s industry knowledge and insights. Proposed Defence investment is considered as “accessible” to Defence Industry where it relates to program that have not yet commenced, and are not expected to be sole source or FMS procurements.

Prime System Integrators



“Industry can help Defence better understand the full lifecycle cost, capability and risk of owning and operating its assets.”

Col Thorne

Lead Partner, Engineering Advisory

The IIP has significantly increased visibility of Defence budgets and plans. The key enhancements are that the IIP:

- better describes the entire budget for a new capability, not just the equipment cost; and
- includes the cost of infrastructure, information technology, and training (defence and contractors).

As a result of this move to an IIP, the pricing calculations that Primes will need to perform are expected to be more complex than the calculations under the DCP. Already we are seeing complex scopes requiring Primes to work outside their traditional equipment manufacture or sustainment business lines. This DWP accelerates that trend.

An important consequence is the need for more collaboration. Primes will no longer be able to simply focus on delivering the equipment. The IIP reinforces signals already in the market, that Primes will need to work increasingly with infrastructure, ICT, Defence services and SMEs to address the full scope of Defence requirements.

Perhaps the Primes’ most important role will be to expand on the idea of industry as a Fundamental Input to Capability. The consequence of this is not yet explored, but likely will be a key discussion point when leaders of the industry associations meet with their Defence counterparts.

Actions for Primes

1. The Global Supply Chain (GSC) program and similar local development programs are seen as successful and will grow. Use these for competitive advantage and push even further for closer supply chain collaboration and integration.
2. Timing your investments will be difficult, as how quickly Defence ‘moves out’ on this IIP is made more complex by the FPR and the new Capability Life Cycle. Primes must be on the front foot and revisit previous costing assumptions.
3. Forget ‘swim lanes’. You will be forced into non-traditional segments, above and below the line thinking will not work going forward, but effective conflict management and independence will.
4. Defence will be seeking long-term collaborative and trusted industry partners. This will be a significant opportunity for industry but will require Primes to step up to share in Defence outcomes and associated risks. Defence may look to leadership from industry, especially the Primes, in what will be a significant cultural adjustment.

Where is the Naval Shipbuilding Plan?

Absent from the Government's suite of strategic policy documents was the separate and detailed shipbuilding plan some commentators had been anticipating. The DIPS had little to say regarding the shipbuilding industry, so the deduction for industry is that this Naval Shipbuilding Plan is yet to be finalised, and will emerge once key internal-to-Government decisions are made.

However, while the Government has stated that it will bring forward a continuous build of the future frigate to replace the ANZAC Class frigates to commence in 2020, with South Australia as the preferred location for frigate construction and an open option for submarine builders, there is a wide open question regarding naval maintenance or construction of smaller naval vessels. This uncertainty and lack of clarity will provide further angst for industry seeking to make longer term investments and decisions in this domain.

The lack of reference to Australian Submarine Corporation (ASC), a key current player in the maritime construction and maintenance context, in particular raises eyebrows and questions into the Government's thinking.

The future frigate and offshore patrol vessel projects have been positioned to stop the freefall of naval shipbuilding jobs. This will stabilise to a level of about 1,000 as current shipbuilding programs complete, before rising to a 'guaranteed' long-term level of around 3,000 Australian surface shipbuilding jobs for decades to come.

Exactly where these roles would be located, and the skills mix, will be unclear to industry for some time yet. With the submissions for the design and construction of Australia's new submarine currently in evaluation, the DWP understandably provides little clarification on issues including how and where they will be built. The Government has committed to implement a 'rolling acquisition' of submarines, leaving open the full spectrum of build options.



Small to Medium Sized Enterprises



“As well as a focus on new market opportunities, it will be important for SME’s to look inwardly to ensure they are equipped to adapt and take on the growth, and to do so efficiently.”

Toni Jones
Partner, Private Enterprise Advisory

The redesign of the industry engagement programs will most benefit SMEs. The move from some 35 disparate Defence support programs (not including various other Federal Government and state industry support programs), to two streamlined avenues for the defence industry to interact and collaborate with Defence is a significant change.

Australian SMEs should see a key benefit of the Centre for Defence Industry Capability (CDIC) as providing increased assistance and opportunity to enter global markets. The GSC program will continue, and has been flagged as the preferred future delivery model to facilitate this important outcome. Further, the DWP indicates Australian Industry Capability Plans will remain an important element of the capability picture. However, the ability to upskill, particularly with science, technology, engineering and maths (STEM) skills, are a threat to Australian SMEs seeking to deliver defence projects in country and, accordingly, a focus for the CDIC.

Within this framework SMEs must look for opportunities to expand existing products and services to cater to Defence requirements. This in turn can assist SMEs to attract key talent, with the benefit of an expanded customer portfolio to engage with skill sets and professionals suited to Defence.

Actions for SMEs

1. The increasing focus and investment on facilitating innovation with SMEs provides an opportunity for businesses to build closer engagement with Defence. It’s a chance to accelerate growth, however SMEs will need the right capabilities and structure to offer effective products and services, in a timely manner, as part of a total solution.
2. If Defence Support Programs are important to your business, invest time now learning where it will migrate to, how its budget will change and who the key participants are moving forward.
3. The Defence sector has become more attractive. Readyng your business for a new wave of competition could require changes to your business model to allow for partnering and broader collaboration.
4. The war for talent continues to heat up. SME must become even more attractive to talent by diversifying their customers, both locally and internationally.



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How will the Centre for Defence Industry Capability operate?

Objective: Strategic leadership to build Australian defence industry capability and capacity. Dual role servicing both Defence and Australian defence industry.

Budget: AU\$23m per year (commencing from second half of 2016).

Leadership: Defence and industry representatives. Board co-chaired by a senior Defence executive and a senior private sector representative.

Key attributes:

- CDIC to sit administratively within AusIndustry agency.
- Will incorporate key existing industry support initiatives.
- Initiatives focused on:
 - sector-wide industry development;
 - facilitating SME innovation
 - enhancing defence industry global competitiveness.

Sovereign Industrial Capability Assessment Framework

Intent: To ensure strategically critical capabilities remain within Australia's exclusive control, with an improved system for identifying and managing these capabilities.

Purpose: To improve the identification and management of sovereign industrial capabilities that develop and support ADF capabilities.

Application: Defence and the CDIC will apply the framework to identify and assess industrial elements that provide a sovereign industrial capability.

Assessment Criteria: The framework applies the following criteria, collectively, to identify and assess industrial elements:

- protection of intent;
- independence of action;
- assurance of supply;
- essential skills retention;
- interoperability limits and benefits;
- leveraging competitive advantage.

Source: Defence White Paper 2016

Innovators and Entrepreneurs

It is not typical to describe an innovation and enterprise segment – including start-ups and academia – in the Australian defence industry, but this Industry Policy may be remembered for being the document that laid the groundwork for a revitalised defence innovation ecosystem.

If the CDIC is well led, the DIH and NGTF are well managed and the cultural change described in the FPR is delivered, Australia could witness the growth of an export focused, collaboration-orientated group of national security entrepreneurs. There may soon be a wave of traditionally 'defence-averse' agile players entering the sector – with associated benefits for the broader Australian economy. New Defence investment could provide the catalyst to realise the economic and capability value in the abundance of high-technology, high-growth businesses already active across multiple industries in the private sector.

This could be the most exciting aspect of the entire DWP. The start-up community is beginning to gain traction in the Australian economy with industries including financial services, health and energy finding success through incubators to foster emerging entrepreneurs. If Defence can effectively inject hundreds of millions of dollars and support better collaborative research and commercialisation then bold national security entrepreneurs will emerge.

Start-ups can look to Israel and the United States to see examples of how a national security innovation ecosystem is well embedded into the wider innovation agenda, helping to foster world leading security companies.

Challenges?

Access to capital has often been cited as a barrier to the growth of innovators and entrepreneurs in early stage businesses. A customer that is willing to 'take a chance' on innovative new products and services has been a cross-sectoral challenge for Australian entrepreneurs. Moreover, defence procurement policies, regulatory issues, long and uncertain timeframes and dealing with large multinational organisations amplify the barriers that even high growth SMEs often experience. The new support structures and policies could help to alleviate these potential barriers.

Actions for Innovators and Entrepreneurs

1. Defence is not used to dealing with small and early-stage businesses. Investors, owners and entrepreneurs will have to work closely with Defence so that procurement challenges can be overcome.
2. Be conscious that Defence will broadly not be accustomed to, or be able to facilitate, your quest for early capital injection. Innovators and entrepreneurs will have to consider multi-track funding arrangements.
3. Industry and academia must collaborate to better understand the strategic drivers, define more informed research agendas and agree on joint research programs.



“The investment envisaged in the DWP has the potential to kick-start not just a Defence-orientated entrepreneurial ecosystem but underpin the development of technologies that ignite innovation and entrepreneurship on a national level across all sectors.”

James Mabbott
Head of KPMG Innovate

What is the Next Generation Technologies Fund?

Objective: To investigate next generation technologies relevant to Australia's national security, by identifying potential future threats and the capabilities required to defeat them, providing Defence with a technological 'edge' and the ability to better respond to strategic challenges.

Budget: AU\$730m over ten years (commencing 1 July 2016).

Administration: Through DSTG, with oversight from the Defence Investment Committee (DIC).

Key Attributes:

DSTG will work in collaboration with specialists from within Defence and the Australian Government, drawing also on the expertise of international allies, and publicly-funded research agencies, industry and academia.

Initial set of transformational technology areas of interest include space capabilities, enhanced human performance, medical countermeasure products and trusted autonomous systems.



Infrastructure and ICT Providers



“Industry must continue to set the bar high and do what is right by the warfighter, the Defence organisation and the taxpayer.”

Peter Sexton
Defence Partner

Like the Primes, the IIP makes the planning and costing analysis work for Infrastructure (i.e. engineering, construction and building) and ICT providers supporting Defence a little harder. A consequence of the IIP is that the flexibility normally enjoyed by those Defence officials responsible for facilities and IT will be reduced.

While this DWP invests in the enablers (25% of the AU\$195 billion), additional funds limited by a more restrictive process may not be welcomed by all in this segment. For more than 10-years, the building and construction industry has been asking Defence to publish a plan. The onus now appears to be on industry to grow the capacity and capability to deliver against it.

For established industry players, this means continuing to invest in recruiting and retaining talent into the sector. For others, there’s a plan to support the investment required to enter the sector and certainly room for more players.

Through the 2016 IIP the building and construction and ICT sectors now have transparency on planned future Defence projects over the next decade. Like the ‘Green Book’ of past, the plan retains appropriate budget and schedule flexibility, with the value of most projects expressed in a band over a longer period of time than would appear necessary to deliver them. Outside of the forward 10-year period, the 2016 IIP also flags significant, longer-term infrastructure priorities.

The trade-off of increased budget and schedule transparency is likely to be less flexibility in how Defence prioritises its infrastructure investment, compared to what the Major Capital Facilities Program has had in the past. So while the publication of the investment program creates opportunity, it also poses challenges for the building and construction industry.

Actions for Infrastructure and ICT Providers

1. Build capacity to deliver against the program. Established industry providers must attract and retain new talent from other sectors to meet the clearer demands of Defence.
2. Establish a culture of costing realism not optimism. Provide the highest quality advice on the cost of a project, and the cashflow required to implement and deliver against it. Conservative estimates unnecessarily quarantine budgets which could fund other projects driving down the sector’s overall productivity.
3. Look for opportunities to collaborate. The scale and complexity of the programs creates opportunities to work more closely with other ICT and Infrastructure providers, plus the Primes to ensure the infrastructure is developed and delivered in unison with the capability.

What is the Defence Innovation Hub?

Objective: To nurture and mature industry proposals through a single pipeline, providing support to collaborative innovation activities throughout the capability lifecycle.

Budget: AU\$640m over ten years (commencing second half of 2016).

Administration: Through Defence Strategic Policy and Intelligence Group.

Key Attributes:

- A strong virtual presence, working closely with industry, academia and research institutions.
- Streamlined management of a portfolio of funded investments in innovation, including continuing many existing Defence innovation programs (e.g. RPDE, CTD).
- Informed by Defence capability priorities, the DIH will assess, support and fund collaborative innovations ranging from small 'concept' exploration projects through to large-scale prototypes.



Defence Services



“Defence’s relationship with service providers will increasingly shift from routine tasking to strategic partnerships where both parties share goals to maximise value, share risks and rewards.”

Jane Gunn

Partner, Talent Management and People Development

The defence services sector (such as advisory firms, logistics and facilities management companies) will closely monitor the headcount and skillset changes in Defence. The steady reduction in the number of public servants will be halted by this DWP, and the total number of Defence employees will rise from 75,900 to 80,600 (ADF and APS permanent positions).

However, while the detail is still emerging, it seems clear that the goal is to reduce headcount in some administrative areas to enable increases in others. The areas that should benefit include intelligence, maritime and anti-submarine, strike and air combat and land and amphibious capabilities.

Defence Services can therefore reason that the agenda of ‘contractorisation’ in project management, engineering, logistics and supply chain services across the Department will continue. Just as in the ICT and Infrastructure sector, Defence Services companies must grow (through internal development or acquisition) the necessary capacity to satisfy this new demand.

As well as headcount reduction in key enabling capabilities that will need to be supplemented by industry, it is likely that Defence will require assistance in learning to work in an environment where contractors are a part of the integrated workforce required to deliver capability.

In addition to the guidance in the DWP, the First Principles Review indicates to this sector the requirements of Defence to enhance many of its enabling capabilities. The services sector has a key role in partnering with Defence to enhance these capabilities, including bringing innovation from other industries and helping Defence to identify how these experiences can be implemented in the Defence context.

Actions for Defence Services

1. Build capacity and the right talent to meet the needs of Defence spending on services aligned to the six new capabilities. Are there opportunities to diversify into new markets?
2. Believe the rhetoric in the DWP. There is a genuine desire at senior levels of Government and Defence to discover new ways of working, learning from sectors outside of the national security space. Services companies can be proactive and bring insights from the other sectors they support to help Defence.
3. Partner respectfully. Part of the defence services challenge is to work with Defence and other industry stakeholders as they journey to new ways of working. Defence is not ready to jump to a mature end state, weigh points are required.
4. The Integrated Support Contractor model (and similar arrangements) will evolve to become a more pervasive mechanism – not just for those above-the-line. Primes, SMEs, Infrastructure and ICT providers will all need to understand how to operate under this model.



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- Why are big businesses turning to start-ups?
- Six key factors to Israel's innovation success
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