How can technology help accelerate the onboarding and integration of sovereign SMEs into the defence supply chain ecosystem?

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Executive summary

Australian defence SMEs when bidding for tenders are wasting large amounts of resources and time on repetitive time-consuming tasks submitting the same statements in various forms in tender applications. For small businesses especially those wanting to get into the defence ecosystem this is a significant financial and opportunity burden that cripples their growth. The question arises why we don't automate some of these aspects so that our businesses don't have to waste their time and money on these tedious processes.

Different sectors such as mining and research, and the defence sector in the UK have technology solutions in form of verified, accredited repositories for streamlining the submission process, storing these repetitive statements, and acting as a source of verified information.

We demonstrated that a solution like this adapted and implemented in Australia will save 10% of the bidding cost across all Australian Defence Industry SMEs. On the national scale, this solution will save SMEs $104M every year - the equivalent of 1,857 FTE admin positions involved in the bidding process. This is a huge saving of time, resources and money that can be re-invested by our businesses, making them more innovative, competitive and resilient.

Background

In recent years, the Australian defence industry has been undergoing dynamic growth and change. The ADF is in the middle of a once-in-a-lifetime acquisition cycle with a major upgrade of land and sea platforms. The geopolitical changes induced by the Covid-19 pandemic, combined with the disruptions of the global supply chains have highlighted the importance of creating and maintaining a diverse and vibrant sovereign supply chain to aid platform acquisition and sustainment. Small-to-Medium Enterprises (SMEs) are also critical for the diversity of the Australian economy. Not only do they create job opportunities for Australians, bringing local knowledge, local identity and tradition into the ecosystem. Creating local capability is an enabler for future developments and Business-to-Business (B2B) collaborations, which has a multiplier effect on the Australian economy.

The Australian Defence industry ecosystem is a highly complex and regulated sector. A new business aspiring to become part of the supply chain needs to meet a number of regulatory and security requirements, in addition to the vetting process by the defence primes. This process is complicated, costly and time-consuming, and can pose a wide set of challenges for SMEs. The sovereign SMEs don't have the same level of a 'safety net' as the daughter businesses of the multinational institution, making the process even more difficult for them.

This project sheds a light on the process that a new business needs to go through to become part of the defence supply chain, identified the barriers, collated opinions and experiences from the local SMEs, and presents a technological solution validated and proven in the other sectors, allowing reduction of the bidding cost, and improvement of the onboarding and integration process into the defence supply chain ecosystem by creating a 'one-stop shop' for the verification of required accreditations.

Disclaimer

This report and its conclusions are the conclusions and opinions of the authors and may not represent the official views and of the author's organisations, the contributors, the contributors'

organisations, Defence Teaming Centre (DTC), the South Australian Defence Industry Leadership Program (DILP), the Australian Government and the Australian Defence Force.

List of acronyms

ADF	Australian Defence Force	**ICN**	Industry Capability Network
AIDN	Australian Industry Defence Network	**JOSCAR**	Joint Supply Chain Accreditation Register
ARC	Australian Research Council	**NGTF**	Next Generation Technology Fund
ASDEFCON	Australian Standard for Defence Contracting	**ORCiD**	Open Researcher and Contributor ID
B2B	Business to Business	**PEP**	Project Execution Plan
CASG	Capability Acquisition and Sustainment Group	**RAAF**	Royal Australian Air Force
DIH	Defence Innovation Hub	**RFP**	Request for Proposal
DILP	Defence Industry Leadership Program	**RFT**	Request For Tender
DISP	Defence Industry Security Program	**RMS**	Research Management System
DTC	Defence Teaming Centre	**SA**	South Australia
EoI	Expression of Interest	**SME**	Small and Medium-sized Enterprises
GCMS	Global Contract Management System	**TRL**	Technology Readiness Level

Methodology

The concepts and findings presented in this document are the results of discussions based on the professional experiences of the authors, a literature search and interviews with industry experts. During this project, the interviewed experts included: 9 experts from the Defence Primes, 8 experts from the SMEs and 2 from the related organisations. After the concept solution was formed we came back to the experts from 1 SME, 3 Primes and 1 organisation to gather further feedback and to validate the concept. To comply with the ethics guidelines, unless specific businesses agreed to use their names, the outcomes of these discussions were anonymised as per Chatham House rules and their opinions and recommendations were presented in this document.

Australian Defence Industry Ecosystem

The changes in the Australian Government policies over the last decade, including 2016 Defence Industry Policy Statement, Defence Industrial Capability plan 2018, and Defence Policy for Industry Participation, recognised the importance of the Defence Industry in defence acquisition and sustainment.

The Australian business landscape is dominated by **Small Businesses** (0-19 employees) contributing to over **97%** of all registered businesses, employing 41% of the workforce and making up over 32% of Australia's total economy. The **Medium-Size Enterprises** (20-199 employees) contribute to approx. **2.4%** of all businesses, while Large Organisations are only approx. 0.6% of all Australian businesses. [1] These statistics are significant in the defence industry context as they demonstrate that Small Businesses are effectively the workhorse of the Australian economy and all improvements made to their performance have direct benefits to the sectors they provide to.

Defence businesses typically form three types of arrangements within the Australian defence industry ecosystem:

Defence Primes – these are typically large to medium enterprises directly leading the delivery of defence tenders to the Commonwealth Of Australia (COA), usually subcontracting work packages to the SMEs. These often are independent Australian branches or daughter companies of multinational defence corporations (i.e. BAE Systems, Rheinmetall, Raytheon Technologies), although some Australian-owned and locally established businesses are also found in this category.

The defence SMEs either act as subcontractors for Defence Primes, providing a contribution to the programs, or in a few cases, providing their services directly to the ADF and COA - typically through smaller tenders or purchase orders. The defence tenders are standardised by the ASDEFCON (Australian Standard for Defence Contracting) defining the bidding process and realised through several bidding platforms. Many defence primes use their own bidding portals, and there are also external platforms combining the tenders: the ICN (Industry Capability Network) Gateway, AusTender, and Illion TenderLink. A special case is SMEs directly involved in the technology development programs financed through DIH or NGTF or directly funded by ADF (i.e. through RAAF Air Warfare Centre or Special Forces).

From a business standpoint, the defence is a challenging customer. Firstly, if an enterprise is completely focused on defence, they have one customer, creating high business risk with a single point of failure. In manufacturing terms, the orders are of very low volume and large product variety with no 'economies of scale' benefits characteristic to the other sectors such as automotive. This is reflected in the way banks assess the financial viability of the SMEs - where often to be considered viable, a business needs to have different revenue streams from just defence. Finally, the information security within the defence makes it very challenging to regular customer validation practices – identifying customer pain points, needs, and receiving feedback. Overall, the defence industry is a challenging, highly regulated sector where a new business aspiring to enter this segment, needs to overcome a range of barriers.

Challenges to the SMEs entering the defence ecosystem

To better understand the challenges faced by the SMEs working in the Defence Industry sector, including the entry barriers they faced, we enquired experts from the local SMEs and Primes. This allowed us to understand their pain points from both perspectives – the SME entering the ecosystem, and the Prime onboarding the SME. The key findings from these interviews are presented below:

Defence Primes:

- Primes interested in long-term partnerships – is the SME still going to be in business in 5 years. The Defence Industry is built on trust – formed between the suppliers, SMEs, Primes and the Defence customer. Building trust is a long game, and the primes are interested in long-term business relationships.
  These relationships have many spill-over effects on the Primes, i.e., access to new suppliers through the contact network of SMEs, and assistance with urgent defect orders or services.

- The maturity of the business is a big issue. This comes in a few aspects: the local knowledge of the Defence Industry – how businesses operate in the sector, expectations of SMEs on the processes and knowledge of the requirements;
- Risk and Time Management concerns with bringing in a new SME – i.e. due to Extensive procurement cycle timelines
- Cybersecurity, IP Management (a very important aspect for the primes, licencing their IP to SMEs comes with additional risk)
- 1/3 of the interviewed primes were not aware of the Office of Defence Industry Support (ODIS) and Defence Business Readiness Tool (DBRT) – tools and services used to improve the onboarding process
- Often the delivered tender documentation is not correct – i.e. with regards to compliance to ASDEFCON; Making improvements to ASDEFCON would possibly reduce procurement times by 25%
- An appetite from the Primes to bring most of the work in-house:
    o Primes doing commissioning of subcontractor's systems,
    o getting training from the subcontractors on how to do it, hence hindering capability development

Defence SMEs:

- Access to the right information is limited, especially for an SME that is completely new to the sector; it is difficult to find the requirements and even more so to get access to the right person; -even when talking to a person in defence about their needs and requirements, this may not be the person that has money or can take decisions
- The processes and requirements are inconsistent and it takes much time and effort to gain experience
- one typical way to 'get the foot in the door' of the Defence Industry is hiring an ADF veteran or a reservist with the local knowledge and network of contacts
- It is very important for an SME to have another source of revenue; working with the defence has long dwell times, long processing times and it takes many resources
- **The cost of bidding for defence projects, work packages within the primes is significant for the SMEs and cuts deep into the profit margins. Most of the primes ask for very similar requirements but in a different form and shape and every application needs to be customised.**

One of the solutions in assisting businesses with the onboarding and integration into the defence industry, are teaming organisations or industry focus groups such as DTC and AIDN. They organise info sessions, and workshops, they award performance prizes to the businesses and organise networking events assisting with broadening the network of contacts and providing the know-how on the details of working within the sector. Their operations are effective and provide many benefits to the industry, although they cannot address all of the issues highlighted by the SMEs and Primes.

A rather disturbing finding we came across is that there is a present solution allowing new businesses to assess their maturity level for the Defence Industry sector. This is the Defence Business Readiness Tool (DBTR) [5]. Despite its relative usefulness, it is not well known, even by the interviewed experts from the primes, and not advertised. The same can be said about the organisation governing DBRT – the Office of Defence Industry Support (ODIS), which primary role is the assistance of SMEs into the integration into the defence ecosystem.

This means that an SME new to the Defence Industry sector for which it would be most useful, is unlikely going to come across this organisation and the assessment tool. We initially discovered that in 2018 there was a tender for the development of the Defence Business Maturity Framework [6]. One of the interviewees knew about the tender as they were somewhat interested in it although didn't know the outcome which was the establishment of DBTR.

Cost of bidding for defence tenders

One of the key pain points that SMEs face – both during the integration and in regular operations with the Defence projects, is the cost of bidding when preparing the tender documentation. This is especially problematic for SMEs new to the sector as there are no good sources of information on the document requirements, accreditations and certifications.

During the bidding process, the document management process that involves drafting, editing, and collecting information for the submission presents significant cost in the time allocated for this task by the administrative personnel.
In extreme cases, in Small Businesses, we have been told that the senior management and CEO had to be directly involved in this process, reducing their ability to perform the tasks more appropriate for their roles.

Streamlining, standardising and simplifying these processes would directly translate into savings in time, resources and costs that will allow the SMEs to direct this money into other areas, allowing faster growth of the business, or to bid for more projects – in either case, benefiting the business.

During our interviewing process, we established two case studies with accurately calculated costs of the bids from a defence prime bidding on a large program and annual costs from all bids submitted by a local SME.

The person interviewed from the defence prime was at the time directly involved in the bidding process for a large tender with a total value of $150M. They estimated that a team of 20 people were involved over 4 months which incurred a human capital cost of $2M. As a matter of perspective – in Australia, a Small Business is defined as a business employing fewer than 20 people, while this was a tender bidding operation. In addition, the members of the bidding team were involved in multiple trips around the country and international visits, adding a significant travel cost component. This is an example of a relatively large tender where the cost of bidding was above 2% of the value of the project.

For smaller to medium-value tenders, such as those on which almost all SMEs apply, the per-cent cost is significantly larger, as the amount of work to prepare these bids is considerably large compared to the return.

Such is the case with another case study at Intract Australia (Intract Indigenous Contractors, further referred to as Intract). Intract, a company associated with McMahon Services, is an Indigenous Australian construction and building maintenance Medium Enterprise employing approx. 70 employees, providing services predominantly to defence and mining sectors across mainland Australia. McMahon Services – the partnering organisation classifies at the upper end of the Medium Business segment.

Intract over the last 12 years has streamlined the tender bidding processes to reduce the bidding cost. In the 2022 – 2023 Financial Year till November, Intract & McMahon applied for 29 Defence tenders

(See Fig 1) with a total value of approx. $64.5M with a total bidding cost of $841k. With 35% of the projects won the total bidding cost that year was 3.7% of the total value of the won projects. With relatively narrow profit margins on the defence contracts, this cost had to be absorbed and reduced the company's profits. It was estimated that **10% of the bidding cost** alone was the administrative cost of **the re-submission of the same types of** documents into subsequent tenders. This cost was the **equivalent of 1.5 FTE administrative staff** that could have been otherwise delegated to other tasks. It is important to mention that Intract has 12 years of experience in this sector and these costs have been reduced over the years. An SME new to the sector has to absorb costs much larger than that while gaining experience and learning the processes.

Figure 1: The statistics of Defence tenders of Intract & McMahon Services in 22/23 Financial Year till Nov 2022. **10% of the bidding cost** was the cost of re-submission of repetitive statements into subsequent tender applications.

A possible solution to this problem could be the establishment of a document repository system, that would be used during the document submission process. Some documents such as the Capability Statement, Financial Statement, and WHS compliance that are common to all RFTs could be stored in this system and imported into the tender documentation during the submission process.

It is important to mention that some of these functionalities exist in the ICN Gateway portal used for defence tenders, although in the current state this is not a fully functional solution. Many responders **didn't know about this functionality** at all and the others that did know it found it **too complicated** to use and they don't use it for this reason. The other drawback is that this functionality exists only in the ICN portal while there are numerous other defence tender systems each requiring these documents in different forms and with different levels of detail. As such, a better solution needs to be developed to make use of similar functionality.

Such a solution would require a multi-partisan and private/public industry-wide participation and agreement, standardisation of the required documentation and most probably would need to be managed by the Commonwealth, to add credibility and to provide security for the technology solution.

Technology Divergence
Working Solutions from the Mining and Research sectors and from the UK Defence Industry Sector

The problem of duplication and repetition of certain types of documents for consequent tender/grant application is not unique to the Defence Industry sector and is present virtually in any other sector where a tendering process of a kind exists. The following examples are presented as technology divergence – solutions proven in the other sectors that validate the concept and upon modification can be implemented to the specific requirements of the Australian Defence Industry Sector.

ORCiD and ARC RMS

A similar solution to this problem exists in the research sector, although referring to different aspects of the application, such as research outputs and the applicant's biography exists in the form of the ORCiD repository (See Fig 2). [2] ORCiD (Open Researcher and Contributor ID) is a type of 'academic resume' system storing information about an individual's biography, qualifications, work history, projects and outputs – publications, patents, presentations etc. It is used by publishing houses, academic institutions and researchers as a form of networking or credibility verification tool. Much of this information is automatically updated by the publishing houses and institutional libraries, reducing the load on the researcher. It is also used by numerous international funding bodies in research grants applications, and also the ARC (Australian Research Council) which is the Australian Government body for the distribution of research grants.
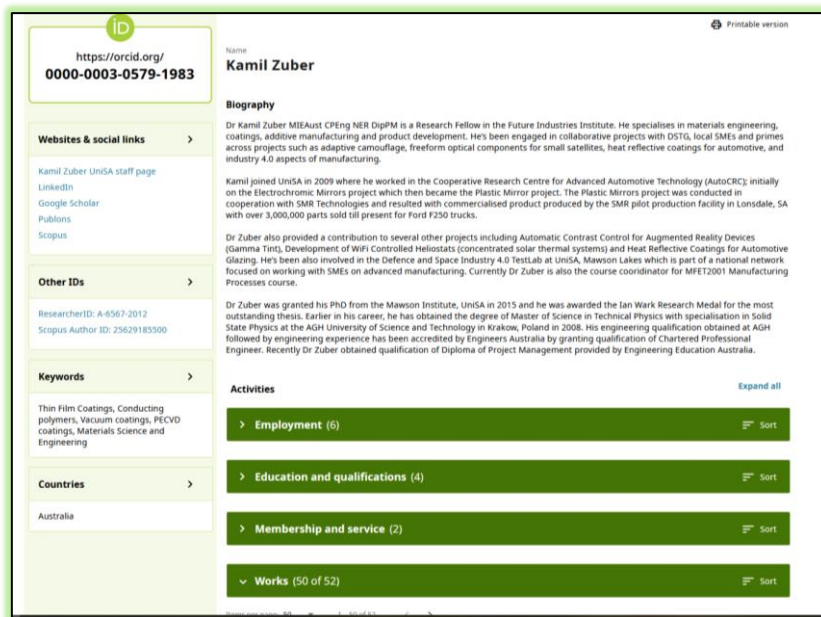

Figure 2: ORCiD – a repository system for academic records used by funding bodies, publishing houses and universities.

During the grant preparation process, the ARC requires the use of the Research Management System (RMS) to submit all required information. The RMS also stores information from previous grant submissions, such as the expertise statement, employment history, and some compliance checks. In addition, it links with the ORCiD system (see Fig 3) and allows to import of the most up-to-date information into the grant submission. ARC implemented this system in 2019 and based on several

enquiries from local academics, it's been estimated that **ORCiD reduces the time required for the preparation of the grant by at least 1 day per researcher**. For larger grant applications with multiple people involved these savings are proportionally scaled up.
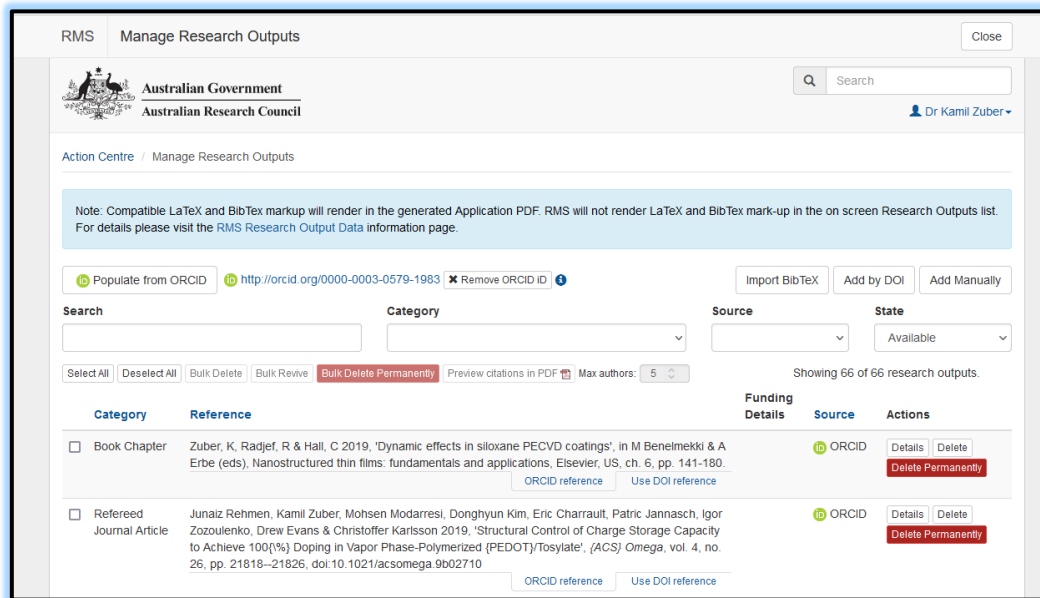

Figure 3: The ARC (Australian Research Council) RMS (Research Management System) – a system used by the ARC for the submission of research grants, allowing for importing information from ORCiD.

DIH

A contrasting example to the ARC RMS system is a funding body for the defence technology procurement programs: the Defence Innovation Hub (DIH) typically funds technology development programs bringing innovations from TRL 3 to TRL 8 through phased projects. DIH has two classes of tenders – in one case it releases a call for application for a specified targeted outcome, in the other case – an Expression of Interest (EoI) can be submitted to DIH and if approved, a call for a full submission is made. A typical tender to DIH calls for RFP (Response to Request for Proposal), PEP (Project Execution Plan), Draft Innovation Contract, Budget calculator and some additional annexures and schedules.
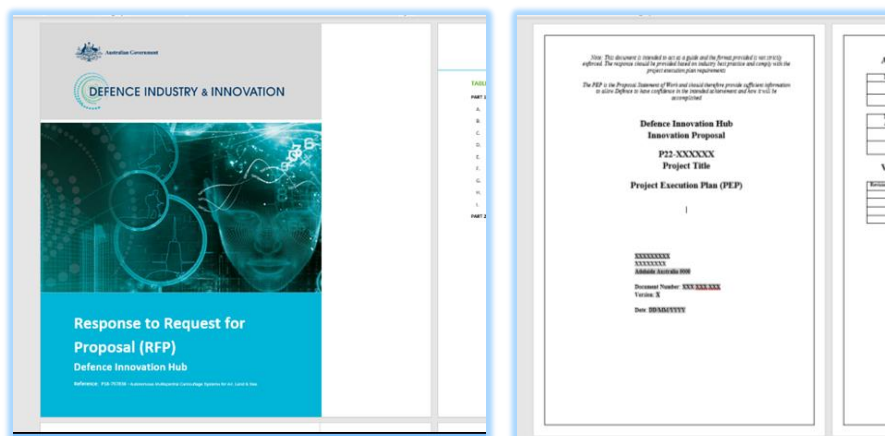

Figure 4: RFP (Response to Request for Proposal) and PEP (Project Execution Plan) templates for the submission of project proposal for the Defence Innovation Hub.

MS Word templates of these documents are available from the portal (See Fig 4) and typically a full submission will consist of 60 – 100 page documents requested to be drafted and submitted within 3-week window. Each of these documents is made by the bidding team and if a subsequent phase of the technology development is to be considered, the full submission process starts over again, with the bidding team manually preparing all the documents.

BHP GCMS

BHP Group Limited (BHP) is an Australian multinational mining company, considered the largest mining company in the world based on market capitalisation. Intract provides services to BHP delivering construction projects on mining sites. The tendering process for these projects is done through BHP Supplier portal: GCMS (Global Contract Management System) (See Fig 5). All businesses wanting to bid for BHP tenders need to create a GCMS account where they provide all relevant information about their business including financial information, acceptance of Terms and Conditions, compliance statements, anti-corruption statements and other documents used across all Requests for Tenders (RFT) (See Fig 5).
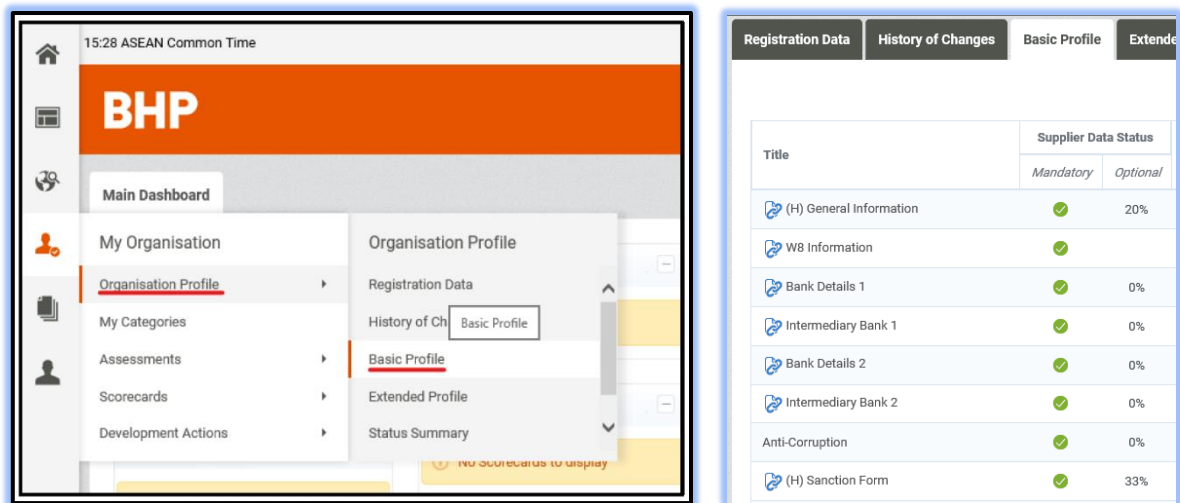

Figure 5: BHP GCMS Supplier Portal – repository of information required for multiple RFTs. [*3*]

Based on the experiences of Intract & McMahon Services – the BHP GCMS portal due to re-use of some elements of the previous bids allows for reducing the bidding cost in a measurable way. As a reference – another large prime to which Intract provides very similar types of services and bids for the same types of tenders is BAE Systems. Although there are some subtle differences in the location of the projects, as BHP projects due to the location of the mining sites are in remote areas, which has an impact on the cost structure and workforce availability, the bidding process requires a similar type of documentation. The key difference is that the BHP uses the GCMS portal, storing and re-using some of the documentation while the tender submission to the BAE Systems requires the submission of all documentation every time the bid is submitted. For this reason, when bidding for similar types of projects, the **cost of the BHP bids is 7% lower than BAE Systems**.

7% lower bidding cost!

Figure 6: Due to the use of BHP GCMS Supplier Portal that allows to re-use some of the project documents the cost of the bidding is 7% lower than similar projects tendered to BAE Systems

JOSCAR

As presented above, the other sectors have demonstrated technology solutions aiding the bidding process, and the organisations such as ICN provide some functionalities aiding the ICN Gateway tender submissions, although no sector-wide solution currently exists in the Australian Defence Industry sector. Such a solution, however, exists in the UK. This is the JOSCAR system provided by Helios. [*4*] It is a type of repository for pre-qualifications and compliance for tenders from the aerospace, defence and security sectors.
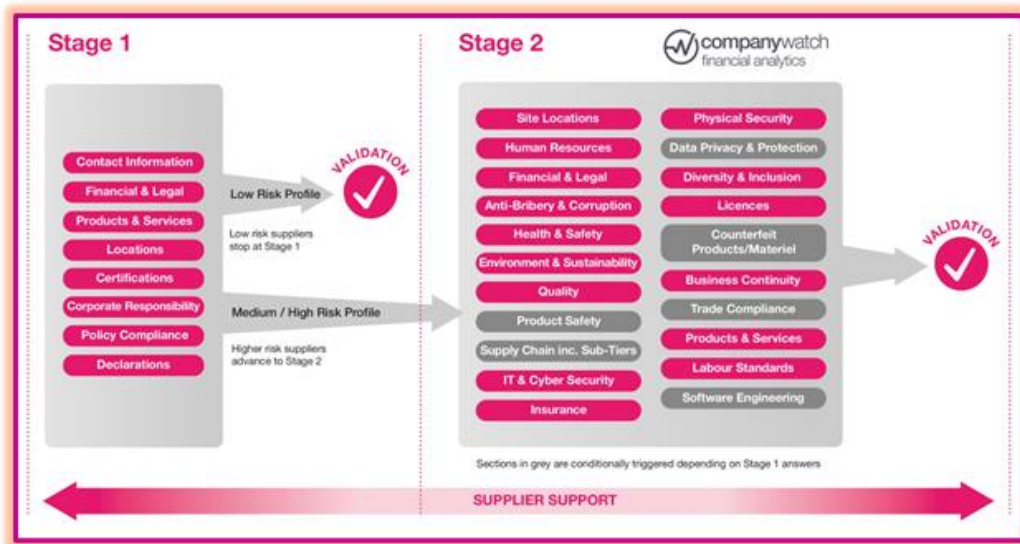

Figure 7: The framework of the Hellios JOSCAR supplier accreditation for the defence tender repository system used in the UK [*4*]

JOSCAR (Joint Supply Chain Accreditation Register) is used as a pre-qualification and repository tool. The system has been endorsed by the British Ministry of Defence, and the key defence primes, with these entities acting as the Governance Group Members. JOSCAR is a 'closed' system where a new member needs to be invited to participate. A new supplier has to go through a two-step accreditation process verifying compliance with defence tenders (See Fig 7). The cost of the tool is shared across the users and in return, it offers saving time and money in the bidding process, in addition to acting as a trusted source of validation and verification. In the UK there are currently over **6,500 suppliers registered** on the system including large primes, some of which, having Australian counterparts include: BAE Systems, Babcock International, QinetiQ, Leonardo, General Dynamics, Leidos, Rayteon, Chemring Countermeasures and Elbit Systems UK.

The framework and the business model of the Joscar system could act as a reference for the local solution adapted to the Australian conditions and can be further expanded with added functionalities.

These functionalities, which are beyond the system acting as a repository, will address additional pain points of the new SMEs wanting to get into the Australian Defence Industry Ecosystem. By providing easily accessible information on all requirements in one place, it will reduce time, cost and remove the information availability barrier.

Further feedback to the implementation of the technology solution

Following the discovery phase, we enquired a range of SMEs and Primes, gathering their opinions and feedback, and validating the proposed solution, to include them in the final recommendations. The key responses included:

- We had similar issues as a prime and on large tenders ($150M) the bidding process would require a team of 20 people for 4 months that would cost approx. $2M.
  "I had a similar idea [for the tech solution] 10 years ago" and it would help our business
- Some aspects of the proposed solution can already be found in the ICN portal in the form of pre-qualifications for tenders, although it is very basic, and not well known and there is a need for making something applied across different tender systems
- A system like this would need to be mandated to be used in defence tenders, an open solution most likely wouldn't be recognised by primes
- The solution needs to be developed by an independent body (consultant, tech business or similar), although consulted with the key stakeholders "If prime *X* develops it, more likely than not, prime *Y* wouldn't implement it as it wasn't their solution"
- All 'repetitive' documentation needs to be standardised across the sector. Different primes have their own nuances across the documents which makes it difficult for the SMEs to have one suit of responses
- The solution should be endorsed by the key defence industry stakeholders – similar to the JOSCAR system where the UK defence primes are the Governance Group Members of the system

Recommendations

Based on the case studies, expert opinions and examples from the other sectors and allied countries, there is strong evidence that the repository system with elements of accreditation, deployed across the suit of Australian defence tender platforms and internal bidding portals would benefit the SMEs across the whole sector. For simplicity, the concept solution will be further referred as the Australian Defence Supply Chain Accreditation Register (ADSCAR).

For this system to be viable the following conditions need to be met:

- The solution needs to be mandated by the government – possibly through ASDEFCON
- Implementation needs to be consulted with the key stakeholders – defence primes, Commonwealth, ICN, AusTender, DIH, some SME representatives, etc., and form an advisory group to the ADSCAR

- Standardise key repetitive documentation for being able to be re-used
- Review in what specific form and shape the ADSCAR system could operate in the Australian Defence Industry Ecosystem – i.e. is it a direct copy of JOSCAR or what needs to be modified, can ICN Gateway repository be expanded to serve as a industry wide solution, what is the best business model for the system

Similar to the JOSCAR system, the creation of the ADSCAR will open new opportunities to create further benefits to the local SMEs, and the Defence Industry Ecosystem. It will allow for better capability mapping within the sector, using smart business tools and could enable integration with the banking system, proving the maturity of the SMEs for easier financing of the projects. Some of these additional benefits can be unlocked in the later phases of the implementation of the system.
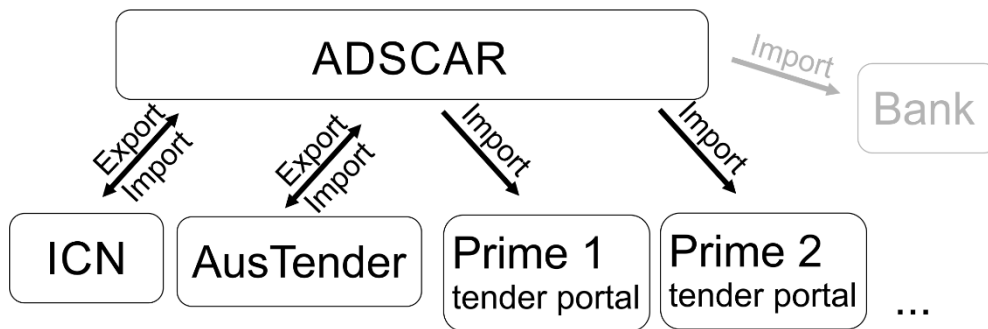

Figure 8: High-level concept of the Australian Defence Tender Document Register (ADSCAR)

Figure 9: An example of verification of requirements based on the current criteria of the business

ADSCAR Implementation Roadmap

Phase 1:

Create a minimum viable product – making it functional within a minimal timeframe
Import documents from existing portals
Standardisation of requirements
Implementation into the currently used tendering portals

Phase 2

Add smart business tools: capability mapping, AI
Add company profiles for easier networking and a smart Defence Directory
Integrate with the Maturity Assessment tools (i.e. DBRT)

Phase 3

Integrate into the banking system for easier credit rating assessment

Integrate with the DISP accreditation

Additional Recommendations

During the discovery phase of the project we came across a number of issues that if resolved, could make some of the existing solutions more functional:

- Wider promotion of the ODIS DBRT Tool – the assessment tool has been developed with public funds and it is available, although it is very difficult to find. Given the main target group – new SMEs getting into the defence ecosystem are unlikely going to come across this tool in its current form, it is necessary to advertise and promote it better
- More clarity in the tender documents: standardisation and simplification of some aspects of the tender documentation is one of the proposed actions for the development of the ADSCAR system, although it could start in parallel. In the current form, convoluted tender documents increase the time required for preparation, and create opportunities for errors

Alternative technology solutions

During the research, we performed our interviewees presented us with a range of other ideas where a technology solution of a kind could benefit the sovereign SMEs in the integration and onboarding into the defence supply chain ecosystem. These haven't been considered as the main scope of this concept paper and as such haven't been explored in depth such as the solution presented above. Although with more research performed they could potentially be considered as other solutions to the problem.

- ICN has a vast amount of data on the types of tenders and the applicants. Creating a capability heat map along the value chain and the supply chain could assist the SMEs in identifying the 'hot' segments in the market, allowing to position their business to the arising opportunities.
- The development of the AUKUS creates the opportunity to create a standardised platform for UK, US and Australian defence tenders, addressing the challenge of different standards and requirements existing across the three allied countries.
- A working example where a technology or a suite of technology platforms assisting with the onboarding of the new SMEs into the supply chain is the Line Zero / The factory of the future as a collaborative effort between the BAE Systems and Flinders University located at the Tonsley Innovation District in South Australia. Line Zero is a non-restricted site allowing the demonstration of new technologies and solutions in shipbuilding and maritime manufacturing before all accreditation and security clearances are obtained. A scaled version of a ship hull allows to demonstrate and de-risk of new technologies brought into large shipbuilding projects, removing the entry barriers for SMEs wanting to work with BAE Systems.

Benefits

The annual benefits from the implementation of the proposed technology solution can be estimated based on the Australian Government's annual defence budget. The recently announced budget figures state the defence spending rising to $52.162 billion in 2023-24, $54.232 billion in 2024-25 and $56.554 billion in 2025-26. [7]

Based on the interview outcomes we estimated the cost of the bidding process to be in the order of 2% - 5% of the total value of the project (smaller projects and less mature SMEs with less streamlined processes in general have higher bidding costs). For simplicity, we used 2% in the estimates which accounts for the fact that not all of the defence budget is spent on defence projects. The estimated savings coming from the implementation of the proposed technological solution are 10% of the bidding cost. In the calculations of the human capital cost, we estimated the cost of 1 FTE of admin staff of $56,000 p/a.

With the conservative scenario of 2% bidding cost, 10% savings on the bids and $52B total annual value of the project, **the implementation of the proposed solutions will save the SMEs $104M every year - the equivalent of 1,857 FTE admin positions involved in the bidding process.**

References

[1]   Australian Small Business and Family Enterprise Ombudsman;   Small Business Counts December 2020. *https://www.ausbanking.org.au/wp-content/uploads/2022/06/Small-Business-Counts-ASBFEO-2020.pdf*, (2020)
[2]   https://orcid.org/
[3]   BHP, BHP Global Contract Management Systems (GCMS) Supplier Guide Work Instructions. *GCMS Supplier Guide_ V2.0 July 2020 1*, (2020)
[4]   https://hellios.com/joscar/, accessed Sep 2022.
[5]   Defence Business Readiness Tool https://www.dbrt.online/
[6]   Defence Business Maturity Framework; Tender #:PRI-00003880 https://www.australiantenders.com.au/tenders/346678/defence-business-maturity-framework/
[7]   https://www.australiandefence.com.au/defence/budget-policy/labor-reveals-new-defence-budget