

Final Report:



Defence Agile Procurement Insights and Analysis

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Section 1

Introduction



The Defence Agile Procurement Insights and Analysis (DAPIA) project is an initiative led by researchers from the Canadian Defence and Security Network (CDSN) at Carleton University, in collaboration with The EXA Consulting Group, to enhance the ability of the Department of National Defence (DND) and the Canadian Armed Forces (CAF) to procure advanced solutions more effectively through agile procurement. Under contract to DND through a Mobilizing Insights in Defence and Security (MINDS) targeted engagement grant, DAPIA studied agile procurement within the Canadian government from an industry perspective, including engagements with Indigenous business leaders.

The DAPIA project proceeded in the following four phases:

1. DAPIA interviewed defence procurement experts in Canada and its allies, as well as representatives from industry, to gather relevant and meaningful information, lessons learned, and best practices in agile procurement.¹
2. DAPIA then identified and catalogued the challenges and gaps that Canada faces in implementing agile procurement in the defence sector. As part of this process, DAPIA reviewed its findings with the DND and CAF and sought their input to prioritize objectives that will maximize the likelihood of accomplishing realistic and concrete outcomes.
3. DAPIA convened a workshop¹ in Ottawa on May 5, 2025, where we presented our initial findings to stakeholders in government, industry, and academia, and invited further discussion and input.
4. DAPIA will present a briefing to DND/CAF (this document) that reports the results in agile procurement in the defence acquisition of rapidly changing technologies.

Throughout the project, DAPIA identified means to maximize opportunities in agile defence procurement for Indigenous-owned or led businesses.

DAPIA is a CDSN/Carleton MINDS project in collaboration with The EXA Consulting Group (EXA). The project is led by Philippe Lagassé and Alex McPhail. Lagassé is an Associate Professor and the Barton Chair at the Norman Paterson School of International Affairs, Carleton University, and a CDSN co-director. McPhail is EXA's President and author of *Win Big The EXA Way – The Comprehensive Guide to Capture and Proposal Leadership*. Lagassé and McPhail collectively led and oversaw the DAPIA project. The project was supported by Alexander Rudolph as a writer and research assistant, and by Irina Alengoz and Lea Fazio as research administrators.

1.1 Purpose

The DAPIA project seeks to establish a vehicle for productive discussion that allows DND, together with its stakeholder organizations, such as Innovation, Science and Economic Development (ISED), Public Services and Procurement Canada (PSPC), the Treasury Board, and Cabinet, to contemplate and experiment with the implementation of agile procurement.

The guiding principles for DAPIA are:

1. **Realistic.** Seek achievable outcomes given the organizational, institutional, legal, and political realities.
2. **Helpful.** Identify ways that DND and the federal government can experiment with an agile procurement pilot project that maximizes the lessons and insights it can later harness on larger-scale projects.
3. **Relevant.** Observe and respect the Government of Canada's defence procurement and social mandates and priorities.
4. **Valuable.** Deliver expert guidance and recommendations based on real-world best practices and success stories.

1.2 Agile Procurement

The term **agile procurement** means different things to different people, and the term is already in use within the Government of Canada. PSPC defines agile procurement as:

“a new collaborative approach that focuses on outcomes. It brings together government and industry to design procurements in an iterative manner to achieve results. This includes multi-phased procurement processes that enable Canada to award multiple contracts to invite industry to build, customize and configure their solutions to meet the short-term and long-term requirements. This process enables Canada to test and course correct through shorter project delivery timeframes and to identify quickly the challenges and successes in order to achieve best value for Canadians.”²

DAPIA seeks to establish a more precise definition of agile procurement. A more workable description of agile procurement has evolved in DAPIA’s discussions with government and industry in Canada and with Canada’s allies. In short, agile procurement is a process in which the buyer and supplier work collaboratively to achieve mutually beneficial outcomes, namely:

- Deliver exactly what the buyer needs (no less and no more).
- Deliver the optimal compromise between capability, cost, risk, and time-to-market.
- Define and refine requirements in an ongoing process that addresses shifts in market forces, operational requirements, and technologies, throughout the procurement and development cycles.

The DAPIA agile procurement model emphasizes flexibility, speed, and collaboration. Unlike traditional procurement methods that often involve lengthy and rigid processes, agile procurement seeks to adapt and respond to changing needs and market conditions as a procurement project evolves. The major differences between agile procurement and traditional procurement appear in the table below.

Agile vs. Traditional Procurement

Factor	Agile Procurement	Traditional Procurement
Factor	Uses iterative cycles (sprints) that allow for continuous feedback and adjustments.	Follows a predefined, linear, sequential process in specific stages and with fixed milestones.
Phases	Procurement and development proceed through iterative sprints, each one building upon the lessons learned from the earlier sprint.	Distinct procurement phase precedes development phase with limited opportunity for modification without contract negotiation.
Collaboration	Involves close, continuous collaboration with stakeholders, internal teams, and suppliers.	Stakeholder involvement is restricted to specific stages, with limited interaction.
Flexibility	Highly flexible and adaptable to changes in market conditions, technology, evolving requirements, and stakeholder needs.	Rigid and not easily receptive to changes, which typically require formal change requests, negotiations, and approvals.
Focus	Prioritizes value. Delivers optimal combination of quality, innovation, and speed-to-market.	Inflexible “best value” criteria set early in the cycle to evaluate cost and technical capability.
Proposal Evaluation	Focuses on capabilities and successes in undertaking agile projects.	Focuses on demonstrating the ability to deliver predefined outcomes.
Technology	Leverages digital tools and software to streamline processes and enhance decision-making.	May rely more on legacy processes and tools, with slower adoption of new technologies.
Risk Management	Proactively identifies and mitigates risks through monitoring and adaptive strategies continually throughout the program.	Addresses risk through predefined contingency plans set out at the outset of the program.

It is important to set realistic expectations for agile procurement—a successful agile procurement process will not necessarily reduce costs or time-to-market compared to a well-designed and managed traditional procurement.

Agile procurements will help to ensure that the CAF will receive the most relevant and capable equipment and services that it needs at the time it takes delivery of those products. In other words, agile procurement seeks to minimize design and development deficiencies, including mitigating deficiencies that could not have been anticipated at the outset of the procurement project. It also seeks to minimize overdesign and excessive costs that can arise from well-meaning procurement agencies that specify everything the resulting system might conceivably need over the fifteen years of its operational life.

The key benefits of agile procurement (compared to traditional procurement) are the following:³

- **Speed and efficiency.** Faster decision making and quicker interpretation of changing factors that influence the procurement outcome.
- **Flexibility and adaptability.** Responsive to changing market conditions, operational needs, and technologies during the procurement and development process.
- **Enhanced collaboration.** Better transparency, integration, communication, and collaboration among stakeholders.
- **Unified focus.** All stakeholders pledge that they will collaboratively promote, protect, and enhance the end users by delivering a product that maximizes the end users' needs.
- **Improved risk management.** Risks are identified and treated sooner, more effectively, and more efficiently.

In the cyclical process of agile procurement, the contractor will initially develop a minimum viable product (MVP) and then apply iterative improvements until it delivers the final product. It is important to note that the MVP is not a prototype or mock-up. It is a fully functional, working, serviceable product with reduced capability. The end customer has the option of deploying the MVP, either in a trial setting or as a fielded product. In either case, the contractor will service the MVP while continuing to work on the product's development, delivering incrementally evolved versions of the product in successive iterations.

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Section 2

Findings



The findings below reflect discussions and recommendations from both DAPIA interviews and a workshop held with industry and government representatives.

2.1 Organizational and Institutional Factors

1. Canadian defence procurement spans several dozen government organizations, including the Cabinet, Treasury Board, DND, the CAF, ISED, and PSPC, including all their respective agencies, branches, divisions, directorates, secretariats, sections, and groups. There are too many organizations involved to adopt a sweeping agile procurement program, at least initially. A pilot program should seek to identify a project with a minimum cross section across the myriad of government organizations.
2. Canada's firmly segregated distribution of Vote 1 and Vote 5 defence spending does not lend itself to an equitable agile procurement approach that includes both Vote 1 and Vote 5 costs. An agile procurement in the current procurement framework could span both an acquisition phase and a support phase, thus implying both Vote 1 and Vote 5 funding blended into a single procurement. Indeed, the Vote 1 and Vote 5 distinction is becoming increasingly difficult to sustain in an era of rapid technological change. There is a growing need to reevaluate this construct as the pace of technological change erases the distinction between maintenance and improvement, services, and acquisitions.
3. Agile procurement sounds risky. There is a (false) perception that agile procurement starts with a blank page that could go in any direction at any cost without any control. Part of a pilot program should include an educational component that illustrates the advantages and features of agile procurement. Specifically, during the DAPIA workshop, a consensus arose that agile procurement is not inherently riskier, but the opposite: it actually manages risk in a more proactive and continual approach.
4. Government and industry do not always consider each other's needs and perspectives. Agile procurement must proceed collaboratively to achieve a unified goal and must not operate in a combative environment or with hostile parties.



Participants in the DAPIA workshop expressed concern that measuring success and handling performance payments will become a key factor in an agile procurement contractual framework. When the final deliverable product continually changes through successive iterations, both the procurement authority and the contractor must build and collaborate upon a trustworthy framework that honours the goals and realities of the agile procurement process.

Based on interviews with United States procurement authorities, it may be useful to establish innovation teams that spearhead agile efforts and provide guidance throughout agile processes. These innovation teams would focus on agile principles, rather than the acquisition itself. This approach permits an independent assessment of how the agile processes unfolds. The US Customs and Border Protection agency has had notable success using this model as part of its agile procurement initiatives.

2.2 Procurement Factors

1. As much as possible, work within the existing defence procurement framework.
2. An in-service support (ISS) project shares common traits with agile procurement, especially in its cyclical nature. Many ISS projects set out annual spending and outcome targets and then monitor and manage the achievement of those targets over the coming year, similar to the way an agile procurement process works in sprints. Consider adapting an ISS framework to implement an agile procurement process to minimize any overhaul to the existing defence procurement processes.
3. Connected with the ISS approach above, consider integrating an agile procurement approach within the existing Continuous Capability Sustainment (CCS) program, which shares comparable processes to agile procurement:
 - a. Assessment and planning
 - b. Maintenance and upgrades
 - c. Industry collaboration
 - d. Continuous improvement
4. An agile process spans what we currently define as the procurement, development, and support phases. Therefore, for agile procurement to work, it must apply to a project in which the supplier is both the acquisition contractor and the in-service support contractor. During the DAPIA workshop, industry and government representatives agreed on the following:
 - a. The agile procurement process must be flexible enough to integrate the three traditional phases (procurement, development, support) into a single framework.
 - b. While flexible, the agile procurement process must also be robust enough to allow the contractor to develop and deliver the optimal solution to the end user, in successive sprints⁴, through a mutually satisfactory arrangement.
 - c. The stakeholders must work together in an environment of trust.
 - d. Early planning and integration are essential to build trust and ensure program success.
5. The United States Other Transaction Authority (OTA) procurement methodology, with less rigid rules, was often cited during the DAPIA workshop as a tool that the Canadian government should review as a model for Canadian agile procurement. Our interviews in the US echoed this point, particularly for smaller scale projects. OTAs allow for far more flexible procurement and contracting for novel technologies and approaches. As explained in a US Department of Defense document: “The OT authorities were created to give DoD the flexibility necessary to adopt and incorporate business practices that reflect commercial industry standards and best practices into its award instruments. When leveraged appropriately, OTs provide the government with access to state-of-the-art technology solutions from traditional and non-traditional defense contractors (NDCs), through a multitude of potential teaming arrangements tailored to the particular project and the needs of the participants.”⁵
6. The current administration and implementation of the Industrial and Technological Benefits Policy/ Value Proposition (ITB/VP) strategy is too rigid in its definitions and application of the resulting contracts. Therefore, initially at least, an agile procurement pilot program should be free of ITB/VP obligations.
7. Contract development and management will be a key success factor. Failures occur because the contract does not align with the program.⁶ An agile procurement contract cannot be cut and pasted from a normal acquisition contract. The resulting contract must reflect a clear meeting of minds of the buyer and the seller in the context of an iterative and progressive agile development program. Indeed, the contract itself must also be agile. It must be capable of adapting to evolving factors as stakeholders recursively evaluate and adjust the end goal and the means to achieve it.
8. A competitive solicitation to secure an agile procurement supplier should seek a contractor that demonstrates its capability and successful experience in:
 - a. Performing complex projects with initially incomplete and evolving requirements, and
 - b. Collaborating with clients, subcontractors, and other stakeholders to learn lessons, evolve requirements, address deficiencies, manage obsolescence, and treat risks.

9. Agile procurement will not be business-as-usual for DND and PSPC. They should adapt their contracting and project management approach and practices to accommodate the unique cyclical aspects of agile procurement. During the DAPIA workshop, participants noted that the challenge in many cases is not creating new technology or innovation, but the rigid rules or unclear decision making that can cause difficulty procuring commercial solutions that are already available.

2.3 Management and Technical Factors

1. Build a management capability that rapidly and comprehensively detects, investigates, and addresses technical obsolescence throughout the lifecycle of the agile program.
2. Build in a risk management and treatment capability that continuously monitors and treats risks throughout the lifecycle of the agile program.
3. Build in a capability that allows requirements to evolve over the lifecycle of the agile program. DAPIA workshop participants suggested that, instead of listing hundreds of requirements in an RFP, it would be better to focus on high-level outcomes, trade-offs, and mission scenarios, and work out the details during successive iterative reviews.
4. Measuring program success will be a challenge, because the goals and requirements will change throughout the life of the program. Performance metrics should include factors such as:
 - a. Velocity. How quickly and effectively the team successfully completes each sprint.
 - b. Progress. How closely each sprint meets its defined targets.
 - c. Time-to-Market. The time from contract award to the MVP, and the time from contract award to the final product, which is a function of velocity, progress, and number of sprints.

2.4 Indigenous Participation

DAPIA spoke with several Indigenous business leaders about their role in Canadian defence procurement. Easily 80% of the comments reflected the following themes:

- Being an Indigenous-owned or led organization carries virtually no weight or benefit when seeking work with prime contractors, notwithstanding the 5% mandate for Indigenous participation in Canadian federal government procurement.
- The impediments that small and medium-sized businesses (SMB) face apply equally to most Indigenous companies.
- Industry representatives participating in a DAPIA workshop reinforced the comments by Indigenous business leaders. The DAPIA workshop participants added that the current lack of consistency, direction, and governance of the Indigenous Participation Program (IPP) leads to inefficiencies and disarray.

Indigenous Factors

A universal perception expressed by all indigenous companies we interviewed indicated that very few Indigenous companies have successfully positioned themselves as “go-to” organizations through skillful marketing and negotiations with prime defence contractors. These preferred Indigenous suppliers dominate the bulk of services contracted through the 5% IPP mandate. When prime contractors or first-tier contractors seek to fulfill their 5% IPP obligation, they approach a small cadre of preferred Indigenous contractors first. These preferred Indigenous suppliers have, in effect, established themselves as “Indigenous prime” subcontractors that collectively monopolize the Indigenous workshare.

According to the Indigenous companies we interviewed, the Indigenous workshare tends to lean toward the lower end of the technology spectrum, such as warehousing, construction, and facilities management. Many of the Indigenous companies we spoke with are firmly positioned in the high-technology market, with products such as drones and AI, and they experience difficulties securing prime contractors that would consider their product offerings.



IMG // SKY CANOE | SKY CANOE IS AN INDIGENOUS-OWNED CANADIAN COMPANY PRODUCING ADVANCED UNMANNED AERIAL SYSTEMS

All Indigenous suppliers we spoke with claimed that they have been approached by prime or second-tier contractors to participate in a scheme in which the company was invited to front a workshare under the guise of an Indigenous-owned company. In this arrangement, the prime contractor establishes the Indigenous contractor as a token Indigenous supplier by funneling subcontracts through the Indigenous subcontractor. Every Indigenous company we spoke with refused to participate in such schemes, partly out of pragmatism, and partly out of pride. This Indigenous contract fronting and funneling scheme is so prevalent that the Indigenous community members we spoke with have a moniker for the practice: “Rent-a-feather.” As one Indigenous leader pointed out to us, they claim the 5% Indigenous mandate is “like a ploy—it attracts Indigenous companies to participate, but in the end it does not deliver.”

DAPIA has neither the mandate nor the funding to verify these claims. However, we note that the universality of the claims across all Indigenous companies we spoke with should, in itself, sound alarms about the fairness and effectiveness of the implementation of the IPP. The feedback and comments from industry representatives during the DAPIA workshop did not dispute these claims and agreed with many of the critiques.

Many of the Indigenous companies we spoke with are firmly positioned in the high-technology market, with products such as drones and AI, and they experience difficulties securing prime contractors that would consider their product offerings.

During the DAPIA workshop, industry representatives voiced support and interest in the 5% Indigenous participation in principle but stressed that there remained widespread confusion regarding the implementation of the IPP Indigenous Skill and Employment Training (ISET). Multiple participants expressed concerns that the lack of clear government rules, with ad hoc program-by-program application, risks an imbalanced playing field where only a few Indigenous firms benefit from the bulk of the IPP. Industry representatives also noted that a lack of structure to connect Indigenous partners with industry makes

meaningful collaboration difficult. Top defence contractors stressed that they want to build meaningful collaboration, but recognized there is still much work to be done to address institutional limitations that prevent the building of these connections with Indigenous-owned or led businesses and communities.

It is important to note that DAPIA fully endorses the goals of the 5% Indigenous procurement policy. While the IPP has laudable goals, our observations indicate that it is not coming close to achieving those goals. DAPIA is neither mandated nor competent to delve into this matter further. We recommend that Canada conduct a broader review of the IPP and explore interconnected avenues, beyond merely flowing contractual terms and conditions down to prime contractors. DAPIA considers that a more effective and holistic Indigenous participation strategy, leveraging a strategic arrangement of economic, social, and organizational factors, might better meet the IPP goals.

Small and Medium Sized Business Factors

The significant impediment to SMBs engaging in Canadian defence contracts is well understood and documented.⁷ All Indigenous organizations we spoke with reported that, in addition to the Indigenous-related issues described above, they faced the same hurdles all SMBs face in the Canadian defence markets. During the DAPIA workshop, some industry representatives voiced similar concerns about the poor integration of Canadian SMBs into the defence industry, including Indigenous-owned and led businesses. It was suggested that improving the ability to integrate SMBs into the Canadian defence industry ecosystem overall would also help to integrate more Indigenous SMBs.

The amount of time, effort, and money that individual SMBs expend on attempting to penetrate the defence market—with little to no success—gives rise to the universal opinion that, notwithstanding ISED's strategies, the Canadian defence market will remain out of reach to the vast majority of otherwise qualified SMBs. This includes Indigenous-owned and led companies.

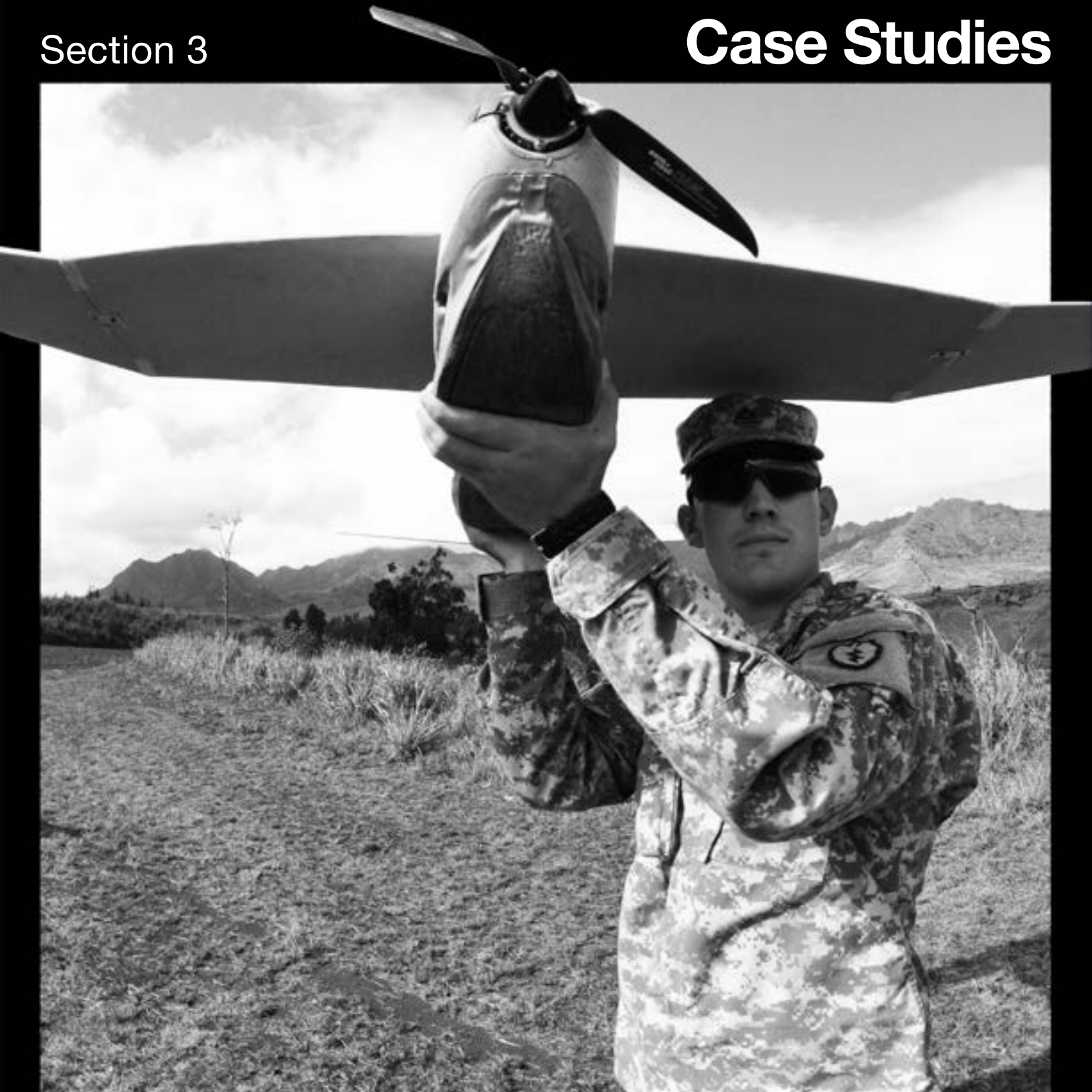
Overall

DAPIA warns that Indigenous and SMBs will continue to suffer limited access to defence procurement opportunities, whether those opportunities arise out of agile procurements or traditional procurements. During the DAPIA workshop, industry representatives voiced their support for mechanisms to build meaningful Indigenous collaboration in defence, but many agreed that current rules to encourage Indigenous participation only help a select few. Further, industry representatives agreed that the lack of both clear rules to guide industry and a structure to help bridge the gap between Indigenous businesses and the defence industry hinders their ability to overcome their institutional limitations.



Section 3

Case Studies



DAPIA reviewed several cases involving agile procurement in the defence sector. These case studies describe how other jurisdictions applied agile procurement to certain defence procurement projects, and they provide insights into how Canada may adapt agile procurement in its own procurement projects.

3.1 United States Air Force (USAF) – Kinetica DB Inc.

In 2019, Kinetica DB Inc. (Kinetica), an active analytics database management provider, partnered with the US Defence Innovation Unit (DIU) to provide the North American Aerospace Defence Command (NORAD) with a situational awareness platform. The platform would “help operators and commanders identify and swiftly respond to radar tracks that represent threats to North American airspace”⁸. Kinetica built a data ecosystem that aggregates incoming feeds from hundreds of sources—including radar, aircraft beacons, flight plans, and weather data—into a common operational picture. One key indicator of success was identifying smaller aircraft, such as gyrocopters or remotely operated vehicles, which the software easily managed. The capability at the time was called the Pathfinder or Pathfinder Initiative, which is now subsumed in the broader NORAD cloud-based command and control (CBC2) capability.

Pathfinder first began as a prototype through the DIU’s Commercial Solutions Opening (CSO). The prototyping phase took place between September 2019 and August 2020 and cost approximately \$8M USD, ending with the prototype’s acceptance by the USAF. In February 2021, the USAF awarded Kinetica a \$100M USD five-year contract to deliver a cloud-based streaming data warehouse for NORAD⁹. This streaming data warehouse would be used for NORAD’s Pathfinder Initiative and was envisioned as a cloud-based programmatic framework for ingesting, integrating, storing, and enabling analysis of archived and real-time command and control (C2) data.¹⁰ This dual-use technology is also applicable to public and private entities because the core capability simply requires data from the user to function. As a result, Kinetica has deployed “near exact” capabilities as Pathfinder for NORAD, USAF, and the US Federal Aviation Administration, with differences largely based on the data supplied to the technology.¹¹

To ensure the timely and effective procurement of this capability, the USAF adopted multiple elements of agile methodology. One key agile method used an OTA contract¹². An OTA contract allows for greater flexibility and innovation in procurement because it does not follow the same rules and regulations governing Federal Acquisition Regulation (FAR) contracts, the primary means by which the US government procures goods and services. The OTA enabled the USAF to adopt agile approaches, including prototyping, iterative processes, and scrum¹³. The scope of the contract required an iterative process for software delivery, which it refers to as a “modern” approach. This approach was an important success factor in developing the software and building a foundation for future work that included modifications and additional end-user applications. The iterative approach refined the user’s needs in successive iterative cycles, and proved to be a critical success factor as Pathfinder’s mandate expanded to accommodate broader NORAD CBC2 infrastructures and capabilities.



IMG // KINETICA

3.2 US Department of Defense Healthcare Management System Modernization

In 2015, the US DoD Healthcare Management System Modernization (DHMSM) awarded the \$4.3B USD Military Healthcare System (MHS) GENESIS contract to the Leidos Partnership for Defense Health (LPDH)¹⁴ to upgrade the military health system with a “state-of-the-market” electronic health record (EHR). The LPDH comprised four core partners: Leidos, Oracle Health, Accenture, and Henry Schein One, and approximately 30 subcontractors¹⁵.

The contract has the following four overarching requirements:

1. Unify and increase the accessibility of healthcare delivery and decision making.
2. Support the availability of longitudinal medical records for DoD beneficiaries and MHS personnel.
3. Enable the application of standardized workflows, integrated healthcare delivery, and data standards for improved and secure electronic exchange of medical and patient data.
4. Leverage data exchange capabilities for standards-based health data interoperability and secure information sharing with external partners.

The program included 95 capability-specific requirements across four concepts of operation:

1. Health service delivery
2. Health system support
3. Health readiness
4. Force health protection

The enormity of the DHMSM project called for an agile procurement approach with an iterative, phased development and end-user collaboration to guide and inform each phase.

The deployment of MHS GENESIS proceeded across two stages. The initial operating capability (IOC) of MHS GENESIS underwent testing from 2017 to 2018 in the Pacific Northwest to verify usability, interoperability, and cyber security. During this initial deployment, several issues were identified, including slow issue resolution and ticket backlog, inadequate training, and some capability gaps and limitations. DoD worked with LPDH in the iterative development process to optimize the system for users, with specific areas of improvement in network optimization, change management, and training. Initial operational tests and evaluation deemed MHS GENESIS “not operationally suitable” because of these problems, and recommended delaying further deployments.¹⁶ LPDH collaborated with DoD to address the outstanding issues, and together they succeeded in achieving full deployment in 2019. Following this achievement, DoD increased the project budget by \$1.2B USD to include the Coast Guard and to provide additional functionalities and capabilities that were not available at the time of the original project definition.¹⁷

The second stage called for an incremental deployment of the full MHS GENESIS, planned to proceed in 23 overlapping waves from 2019 to 2024. Each wave spanned approximately 18 months, with a new wave starting about every three months at designated facilities, meaning that up to six waves could be active at one time. Despite a short pause during the COVID-19 pandemic in 2020, DoD and LPDH maintained its schedule and began the full deployment of MHS GENESIS, including overseas facilities¹⁸, with completion of full deployment in 2024.¹⁹ Leidos was subsequently awarded a follow-on \$1.5B USD contract as an integrator, and was tasked with migrating MHS GENESIS to a cloud-based system due to the challenges and enormity of having it on-premises and to ensure the ability to maintain growth of the system.

3.3 Australian Department of Defence – Diggerworks²⁰

In 2011, the Australian Army, Defence Materiel Organisation (DMO), and Defence Science and Technology Organisation (DSTO) agreed to overhaul the procurement and supply chain arrangements for the equipment and clothing used by Australian soldiers through a program called Diggerworks.²¹ Diggerworks is a virtual organization with joint collaboration from the Integrated Soldier System Development Directorate, which included embedded staff (predominantly Colonel-level) from the Land Systems Division, DSTO, and links to Army HQ, Capability Development Group, Electronic Systems Division, and Joint Operations Command.

Diggerworks has three primary responsibilities:

- Ensure that components of the soldier combat system are most appropriate based on knowledge, technology, mission, and budget.
- Configure components to meet the needs of soldiers.
- Drive innovation as needs are identified.

To accomplish these goals, Diggerworks adopted four business rules consistent with agile procurement:

1. Develop an operating model to provide front-line troops with up-to-date equipment without increasing costs dramatically.
2. Technically evolve new components, from conception to deployment, rapidly and without exposing end users to undue risk.
3. Break down institutional stovepipes by making the needs of the soldiers in the field the primary driver of all decisions among all collaborative participants.
4. Meet the needs of stakeholders, including politicians, industry, and casualty care providers.

To accomplish these objectives, DMO revised how it issued equipment to soldiers to ensure that those in active combat received the most up-to-date equipment. In addition, the DMO developed a more adaptive acquisition process by leveraging the features of the traditional sustainment initiatives into this acquisition process. The adaptive acquisition approach allowed for re specification every year to accommodate rapidly changing requirements and every two years for less urgent requirements. DMO tailored this approach to receive direct feedback from end users.

The loss of economies of scale from more frequent re-specification did see an uptick in costs; however, the savings that DMO gained from significantly reduced technological obsolescence and mismatched configurations more than offset those increased expenses. This iterative re specification process permitted the DMO to purchase fewer units annually that were specifically tailored to meet immediate operational needs, thus reducing overall costs. Management and administrative costs did rise to accommodate this customization process; however, the operational advantages at the soldier level, and the ability to customize gear to accommodate future missions, created an overwhelming advantage.

Information gathering and end-user feedback were critical to Diggerworks' success and central to decision making. This process included sending teams to the field (East Timor and Afghanistan) to survey returning soldiers, conducting market surveys, trialing equipment, and conducting bench research. DMO incorporated these feedback streams into its iterative enhancement processes and it integrated this real-world feedback into decisions that both drove innovation and allowed greater mission customization.



IMG // DIGGERWORKS



IMG // AUSTRALIA DEPARTMENT OF DEFENCE

3.4 United States Defense Innovation Unit

In 2015, the US DoD created the DIU²² to accelerate DoD adoption of commercial technology, transform military capacity and capabilities, and strengthen the national security innovation base. While initially created to perform outreach and engagement with innovative technology companies in the commercial sector, particularly in the Silicon Valley, it has since become a success story of the ability to integrate new and emerging commercial technologies into the DoD. DIU focuses on technological readiness levels (TRLs) 6–9 that are ready for production.²³ DIU also operates the National Security Innovation Capital (NSIC) to fund TRL 3–5 startups in the angel or seed stage. It also supports the National Security Innovation Network (NSIN) to connect academia, startups, and DoD labs to co-develop solutions.



IMG // DEFENCE INNOVATION UNIT

In 2016, the DoD expanded DIU, dubbed DIU 2.0, and developed an acquisition mechanism called the Commercial Solutions Opening (CSO) process.²⁴ In the CSO process, DoD sponsors present proposals to address a problem to DIU, and proposals are selected based on their viability to address the issue. Once a DoD sponsor has been selected, DIU solicits proposals from industry and awards prototype agreements within 60–90 days under an OTA. DIU proposals to DoD tend to be very short, typically no more than five pages or 15 slides, enabling a quick solicitation process.²⁵ A successful proponent requires a DoD sponsor that provides the funds for the prototype via a Military Interdepartmental Purchase Request, which is directly applied to the OTA award.²⁶ Prototype development typically takes 12–24 months from contract award to delivery. The DoD awards a Success Memo to vendors that successfully complete a project. The Success Memo enables vendors to conduct business with any federal government agency without a competitive bid, not unlike a sole-source contract. A prototype is considered transitioned when acquired through a follow-on OTA or federal acquisition regulation-based contract for a wider deployment in the DoD or federal government. The DIU website lists successful and transitioned prototypes.²⁷

In 2023, the US implemented DIU 3.0 to focus on transitioning more commercial technology for DoD use and repeating DIU's successes across the DoD. DIU was elevated to report directly to the Secretary of Defense and the organization expanded with a 431% increase in its budget (\$983M USD total). This additional funding enabled DIU staff to work directly with combatant commands and elsewhere in the DoD, creating a more integrated work environment that better addressed solutions to operational requirements. A key success factor for the DIU and the CSO process is a dual-fluency workforce, one which has experience in both defence and cutting-edge commercial technology. DIU officials have observed that the quick prototyping process allows them to identify and mitigate risks early in the procurement process so that the military does not inherit those risks on the battlefield. On March 6, 2025, the US DoD issued a memorandum directing all DoD components to adopt the DIU's CSO as the preferred pathway for all software development for both business and weapon system programs.



Section 4

Recommendations



In consideration of its scope, interviews, findings, and workshop, DAPIA presents the following recommendations to the Canadian Department of National Defence.

1. Consider a program for agile procurement that can accommodate both an acquisition and ISS component, and that does not have ITB/VP obligations. The acquisition portion of the contract will develop the MVP. The ISS component will conduct iterative cycles in evolved stages of the product until the ISS contractor delivers the final product.
2. Establish criteria to qualify potential projects for agile procurement. Not every procurement should be agile. Some factors to consider include the following:
 - a. Complexity. Agile procurements are especially well suited to highly complex projects.
 - b. Size. Extremely large projects tend to bog down any procurement, but can be managed through a mature, skilled, and robust agile management framework.
 - c. Stability and Predictability. Projects with stable, well-defined requirements are better suited to traditional procurements. On the other hand, a volatile market or environment is better suited to agile procurement.
 - d. Stakeholder Commitment. If you cannot secure stakeholders' commitment, you should avoid an agile procurement.
 - e. Risk Tolerance. Risk-averse organizations with immature risk management capabilities should avoid agile procurement.
 - f. Cultural Fit. The organization should already be practicing agile procurement or should be confident in its change management capabilities to embrace it.
 - g. Pilot Study. Initially, apply an agile procurement approach on a trial or case study basis. Create a "fail-free zone" for a non-critical procurement that allows you to learn how to apply agile procurement across a more structured and permanent basis.
3. When seeking an agile procurement contractor, seek one supplier that delivers the MVP under the acquisition contract and the remaining sprints under the ISS contract. The same contractor must perform both the acquisition project and the ISS project. Furthermore, you must issue the ISS contract and the acquisition contract at the same time to the same supplier. The RFP to source such a supplier may include the following requirements:
 - a. Corporate Assessment
 - Technical expertise and experience in agile methodology
 - Relevant project experience
 - Team member qualifications
 - b. Methodology and Approach
 - Agile implementation plan and process
 - Flexibility and adaptability to customer's changing needs, market forces, technologies
 - Integrated obsolescence management
 - c. Cost
 - Cost of MVP development
 - Costing approach to sprints
 - Quality, reliability, schedule measured against cost
 - d. Collaboration
 - Stakeholder engagement
 - Tools and practices
 - e. Risk Management
 - Risk management process specific to an agile project
 - Past risk management performance
 - f. Innovation and Continuous Improvement
 - Demonstrated evidence of innovative approaches in past projects
 - Experience in continuous improvement programs
 - Innovation in technology, processes, and contracting
4. Recognize that collaboration and flexibility cut across multiple dimensions and will impact the procurement authority, the contracting authority, the end user, the contractor, and other stakeholders.



Section 5

Conclusion



Canada has firmly committed to meet its 2% of Gross Domestic Product (GDP) defence spending target in this fiscal year and seeks to increase its defence spending to 5% of GDP within ten years. Achieving these defence spending targets will require not only increased fiscal allocation but also a fundamental shift in how Canada conducts procurement. One part of this shift must include agile procurement. Agile procurement departs from traditional, rigid, linear models by enabling iterative development, modular contracting, early industry engagement, and faster delivery cycles. In the defence context, this means breaking down large, multi-year capital projects into smaller, manageable components that can be rapidly deployed, tested, and scaled. By prioritizing outcomes over process, agile procurement allows DND to respond more nimbly to operational needs, accelerate acquisition timelines, and reduce the risk of project failure—all while contributing to higher, more visible in-year spending.

In the long term, institutionalizing agile procurement requires organizational adaptation. Canada's procurement authorities—primarily PSPC, DND, and ISED—must be empowered and encouraged to delegate authority, revise Treasury Board thresholds, and adopt new risk-tolerant governance mechanisms.

The Defence Procurement Secretariat and the Agile Procurement Initiative, including programs co-led with Carleton University and the Canadian Defence and Security Network (CDSN), are laying groundwork for this shift. By embedding agile principles across procurement lifecycles, Canada can convert its defence spending commitments into timely contracts and fielded capabilities, thus materially contributing to the NATO spending target while building a more responsive and resilient procurement system.

In the short term, Canada must identify agile pilot procurements that allow Canadian procurement authorities to understand, practice, and hone agile procurement capabilities. This report identifies and recommends the characteristics and prerequisites of such an agile procurement pilot project.

¹ Both the interviews we conducted and the workshop we convened were held under Chatham House Rule. Accordingly, the facts and opinions presented in this document are not attributed to any individual or organization.

² PSPC, “Agile procurement,” last modified March 16, 2023, available online at: <https://www.canada.ca/en/public-services-procurement/services/acquisitions/better-buying/simplifying-procurement-process/agile.html>

³ Overvest, Marijn, “Agile Procurement – Everything You Need to Know for Procurement 2025,” last modified February 13, 2025, available online at: <https://procurementtactics.com/agile-procurement/>

⁴ We borrow the term “sprint” from the software agile development methodology, which involves a cross-functional collaborative team that progresses through successive cycles (“sprints”), with each sprint including: planning for the upcoming cycle, performing the planned work, reviewing the progress and outcomes of the executed sprint, and re-aligning and reprioritizing the overall project based on factors both internal and external to the project. In agile procurement, sprints are much longer in duration than in software development. Agile procurement also uses the term “wave”.

⁵ United States, Department of Defense, Office of the Under Secretary of Defense for Acquisition and Sustainment, “Other Transactions Guide”, July 2023, 4. Accessed June 24, 2025: <https://www.acq.osd.mil/asda/dpc/cp/policy/docs/guidebook/TAB%20A1%20-%20DoD%20OT%20Guide%20JUL%202023%20final.pdf>

⁶ This is not the only cause for program failures, but misalignment of the contract with the program is a recipe for program failure.

⁷ McPhail, Alex, “The Small and Medium Business Development Plan, Chapter 13: Industrial and Technological Benefits/Value Proposition”, “Win Big The EXA Way: The Comprehensive Guide to Capture and Proposal Leadership”, pp 301-303, Ottawa, Canada, Page Two, 2023.

⁸ Defense Innovation Unit, “Kinetic DB Inc – Air Threat Response”, Accessed June 11, 2025, <https://www.diu.mil/solutions/portfolio/catalog/a0Tt0000009En2aEAC-a0ht000000AYgyLAAT>

⁹ Kinetica DB Inc., “Air Force’s Digital Directorate Awards Kinetica Contract with \$100M Ceiling for Real-Time Intelligence”, Accessed June 11, 2025 <https://www.kinetica.com/blog/air-force-contract/>

¹⁰ Air Force Materiel Command and Kinetica DB, “Other Transaction Authority between US and Kinetica,” September 30, 2020, found online at: <https://techinquiry.org/FOIA/NORAD-KineticaDB.pdf>

¹¹ Kinetica DB, “Kinetic – The Database for Time and Space,” available online at: <https://www.kinetica.com/wp-content/uploads/2023/09/Data-AI-at-the-Edge.pdf>

¹² See <https://govmates.com/ota/> for information about Other Transaction Authority.

¹³ Scrum is an agile framework for developing, delivering, and sustaining complex products and systems. A scrum has defined roles, processes, events, and artifacts that the agile leadership manages and monitors during the system development.

¹⁴ Congressional Research Service, “MHS Genesis: Background and Issues for Congress,” October 28, 2019, found online at: <https://sgp.fas.org/crs/natsec/R45987.pdf>

¹⁵ MHS Genesis, “Transforming the delivery of care for millions of service members and their families”, 2025, found online at <https://www.leidos.com/markets/health/military-health/mhs-genesis-program>

¹⁶ Office of the Secretary of Defense, “Military Healthcare System (MHS) GENESIS Initial Operation Test and Evaluation (IOT&E) Report”, April 30, 2018, found online at [https://ehrintelligence.com/images/site/attachments/MHSGENESIS_IOTANDE_\(1\).pdf](https://ehrintelligence.com/images/site/attachments/MHSGENESIS_IOTANDE_(1).pdf)

¹⁷ Healthcare Information and Management Systems Society, Inc., “DoD raises budget on Leidos contract for Cerner EHR project by \$1.2 billion”, July 25, 2018, found online at <https://www.healthcareitnews.com/news/dod-raises-budget-leidos-contract-cerner-ehr-project-12-billion>

¹⁸ Leidos, “Leidos Partnership Deploys MHS GENESIS Overseas in First of Two Planned OCONUS Waves”, October 17, 2023, found online at <https://investors.leidos.com/news-releases/news-release-details/leidos-partnership-deploys-mhs-genesis-overseas-first-two>

¹⁹ Health.mil, “Federal EHR Status as of September 2024”, October 18, 2024, found online at <https://health.mil/News/Dvids-Articles/2024/10/18/news483461>

²⁰ Cebon, Peter and Danney Samson, “Diggerworks: Driving Innovation and Effectiveness in the Defence Sector,” June 2013, found online at: <https://www.dst.defence.gov.au/publication/diggerworks-driving-innovation-and-effectiveness-defence-sector>

²¹ Australian Department of Defence, Diggerworks, found online at <https://www.dst.defence.gov.au/sites/default/files/publications/documents/Diggerworks-booklet.pdf>

²² Defence Innovation Unit, “Who We Are”, found online on June 16, 2025, at: <https://www.diu.mil/about>

²³ The Technology Readiness Level (TRL) is a systematic metric used to assess the maturity of a particular technology throughout its development lifecycle, ranging from 1 (exists in concept only) to 9 (proven technology through real-world successful mission operations).

²⁴ Defense Innovation Unit, “Work with Us – Open Solicitations – Commercial”, found online on June 16, 2025, at: <https://www.diu.mil/work-with-us/open-solicitations>

²⁵ US Government Accountability Office, “Defense Innovation Unit: Actions Needed to Assess Progress and Further Enhance Collaboration,” February 2025, available online at: <https://www.gao.gov/assets/gao-25-106856.pdf>

²⁶ National Contract Management Association, “Innovations: How the DIU Delivers Commercial Capabilities at Speed”, found online on June 16, 2025 at https://ncmahq.org/Web/Shared_Content/CM-Magazine/CM-Magazine-June-2022/Innovations--How-the-DIU-Delivers-Commercial-Capabilities-at-Speed.aspx

²⁷ Defense Innovation Unit, “Commercial Solutions Catalog,” available online at: <https://www.diu.mil/solutions/portfolio/catalog>