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# Make Them Cry: The Need For Increased Prioritization in DI Capability Modernization

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## AIM

1. The current operating environment, Canada's strategy for defence[1], and ongoing operational commitments have never demanded so much from the Defence Intelligence Enterprise (DIE). In addition to intelligence being critical to enabling the operationalization of many priorities outlined in Our North Strong and Free (ONSF), the CAF's new Pan-Domain Command and Control (PDC2) concept paper articulates a bold new vision for C2 that relies heavily on a revolutionized intelligence function.[2] Despite this, these and other critical CAF strategies do not meaningfully refer to the DIE, the intelligence function or indicate that its advancement is a priority.[3] Despite significant attention on renewal and modernization at the L1-level through CFINTCOM's recent Defence Intelligence Enterprise Renewal (DIER) programme, many critical gaps remain. This service paper will highlight some critical gaps that remain largely unaddressed; discuss the risks of delay or inaction with respect to CAF-wide priorities delineated in ONSF and PDC2 and propose recommendations.

## INTRODUCTION

2. The current and evolving threat and operating environment should need no explanation. Descriptions preface every significant DND document and publication and communicate similar assessments. Climate change is driving global instability and threatens arctic security. Our adversaries are posing greater dilemmas during competition and the risk of conflict with major powers continues to rise. This is concurrent to ongoing, rapid, technological evolution offering potentially game-changing advantages to those who innovate and iterate the fastest. Violent Extremist Organizations (VEOs) continue to threaten global instability and Canada.

3. The CAF recognized this new and ever-shifting global context and began efforts to adapt several years ago, largely by prioritizing digitization and through the former defence policy Strong Secure Engaged (SSE).[4] An appraisal of efforts and progress is

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[1] National Defence, Canada "Our North Strong and Free: A Renewed Vision for Canada's Defence," (Ottawa, ON: Defence Policy, 2024) https://www.canada.ca/en/department-national-defence/corporate/reports-publications/north-strong-free-2024.html.

[2] National Defence, Canada "Pan-Domain Command & Control Concept Paper," (Ottawa, ON: Report, 2024) https://www.canada.ca/en/department-national-defence/corporate/reports-publications/pan-domain-command-control.html.

[3] Examples include: "The CAF AI Strategy," "DND and CAF's Data Strategy" and its follow-on governance, framework and implementation documents. "Support to the Intelligence Enterprise" is the last named priority of many described in "Data Strategy Implementation Plan 2022-2025."

[4] National Defence, Canada "Strong, Secure, Engaged," (Ottawa, ON: Defence Policy, 2017) https://www.canada.ca/en/department-national-defence/corporate/reports-publications/canada-defence-policy.html.

outside the scope of this paper. However, despite significant funding commitments, new L1s, strategy documents and governance frameworks published and hard work, the CAF continues to seriously lag in modernization through technology adoption, integration and related procurement/development. The military continues to be challenged in very basic areas such as data management, storage, access and visualization. The majority of aims laid out in the CAF's 2019 Data Strategy have yet to be accomplished.[5]

4. The DIE encompasses all Defence Intelligence (DI) capabilities, functions and personnel within DND and CAF. CFINTCOM recognizes that the evolving security environment and growth in demand for DI currently outpaces CAF intelligence resources. Additionally, intelligence operations are becoming increasingly complex and pan-domain, necessitating enterprise restructuring, modernization of processes and technology and increased integration from the strategic to tactical levels and across all operational domains.[6] The breadth and depth of tasks are significant, but common to the tactical, operational and strategic levels is the role intelligence plays in command and control (C2). In the simplest of terms, intelligence informs planning and supports operational execution and assessment. Without timely and accurate intelligence, C2 is forced into the realm of guesswork, instinct with increased risk of surprise instead of more informed judgement and risk acceptance.

5. The CDS directed a review of the CAF DIE in 2018 to ensure it was capable to deliver SSE and the growing demands for the function. Initiated in 2019, the DIER programme conducted an enterprise-wide analysis over the following years. It identified eight specific challenges and developed twenty-three optimization measures. Two challenges are relevant for this discussion: "DI is not leveraging technology effectively," and "DI is underinvested in the force development of DI capabilities."[7] Despite prioritizing many necessary capability and technology investments and updates, an intelligence processing tool (IPT) and its associated data environment was not listed. Measures which were analysed, but not further developed due to resource constraints included OSINT, GEOINT, HUMINT/CI and Intelligence Mission Data (IMD), the modernization or development of which are necessary to enable 5th Generation platforms and other major platform procurements outlined in SSE and ONSF.[8] It is possible that an IPT will be considered as part of a future requirement under IMD, but it is necessary for far more than IMD and is needed today.

6. While the DIE has made progress in modernization through DIER, something CFINTCOM controls or directly influences, DI is conspicuously absent or only implied

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[5] National Defence, Canada, "The Department of National Defence and Canadian Armed Forces Data Strategy," (Ottawa, ON: Report, 2019) https://www.canada.ca/en/department-national-defence/corporate/reports-publications/data-strategy.html, 8-9.
[6] CFINTCOM, National Defence, "CDI Operation Order – Defence Intelligence Enterprise Annual Strategic Direction Planning Process Jan 23," (Ottawa, ON: Operation Order, Jan 2023).
[7] CFINTCOM, National Defence, "Finale Report and Programme Termination Defence Intelligence Enterprise Renewal," (Ottawa, ON: Report, 2024) 2.
[8] CFINTCOM, National Defence, "Finale Report and Programme Termination DIER," 6.

within ONSF, PDC2 and CAF digitization strategies. These documents mention requirements or efforts relating to C4ISR systems, data architectures, AI for C2, etc. However, given the results of DIER and the current drive towards PDC2, 5th Generation platforms and other major platform/sensor procurements, there is cause for concern if intelligence IT infrastructure and processing is not also a priority.

7. This service paper will discuss why the current lack of a national, flexible and deployable intelligence processing tool (IPT) is a current risk to DI's mission. It will further discuss the risk posed by delay in relation to future support to 5th Gen platforms, sensors, weapons systems and the realization of PDC2. It recommends prioritizing the procurement of a flexible IPT immediately and modernizing and developing the associated network and data architecture in consultation with stakeholder L1s, while ensuring DI's unique requirements are factored into CAF-wide C4ISR and PDC2 planning.

**DISCUSSION**

8. Establishing pan-domain situational awareness is essential to conducting current operations. It will become more complex within the future joint operating environment with the integration of 5th Gen fighters and other sensors and systems. CAF C2 will require the continuous fusion and interpretation of all available sensors and data sources to plan and operate effectively.[9] While future processing, visualization and interpretation of information may be enabled and assisted by AI, Commanders and decision makers will still rely on final human judgement for the foreseeable future. The role of the intelligence staff from the strategic to tactical levels will fundamentally be the same: analyse data and information and produce assessments based on a Commander's priorities. Technology will not entirely replace the analyst, but it is essential to enabling the current and future professional. Just as BGen Oscar Koch and his staff analysed every piece of information they could acquire about the enemy, weather and terrain to inform General Patton's operational planning during WWII, DI professionals must still do the same.[10]

9. While technology has always promised to simplify workflows, the current job of a DI professional is arguably more complex and cumbersome at present. Analysts and operators today and for the foreseeable future must work on multiple, legacy systems, use legacy tools, search varied and incomplete databases for unstructured data (to include email inboxes) and form assessments without the reliable use of analytical tools. Technology is not being leveraged effectively or efficiently. While this is a CAF-wide challenge, the DIE cannot solve it alone. Despite significant progress made through DIER and other initiatives to improve DIE Intelligence Requirements Management and Collection Management (IRMCM) SOPs and processes, little attention has been paid to

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[9] National Defence, Canada, "Pan-Domain Command & Control Concept Paper," (Ottawa, ON: Report, 2024) https://www.canada.ca/en/department-national-defence/corporate/reports-publications/pan-domain-command-control.html, 5.

[10] Oscar W. Koch and Robert G. Hays, *G-2: Intelligence for Patton* (Atglen, PA: Schiffer Military History, 1999.)

challenges which plague all phases of the intelligence cycle: IT infrastructure and tools. However, this is largely understandable as CFINTCOM and the wider DIE relies on other L1s, trades and GoC departments to support its IT requirements.

10. It is positive that the CAF currently retains control of its classified IT networks, and even more so that CFINTCOM can directly influence certain network infrastructure. Despite this, and all the emphasis placed on C4ISR modernization and digitization over the past two decades, there are almost no useful[11] CAF-owned intelligence tools or databases residing on accessible networks. Most of DI work is conducted leveraging classified GoC or Allied databases and tools. This presents limitations. These include the fact that access to these are reliant upon MOUs, agreements and trust which can be revoked and lost. Additionally, the CAF or CFINTCOM has no flexibility to modify or expand these, based on CAF requirements. Users are forced to adapt to systems designed for other nations or departments and leverage multiple networks and applications concurrently to conduct work. Another significant challenge is that major intelligence analysis applications require training and assistance to effectively leverage. It can be provided by partners and Allies infrequently, but this is not a long-term or reliable strategy.

11. In addition to the limitations posed by classified systems, OSINT is also seriously underleveraged, which was noted within DIER's final report.[12] A major part of the issue is the availability of managed attribution systems (MAS) on which to conduct OSINT activities. Apart from this collection activity, OSINT data could be procured against PIRs in addition to the conduct of classified collection. To ensure this investment is worthwhile, it would necessitate investment and modernization of IT to facilitate the transfer of data from unclassified networks to CAF classified systems. Without this, analysts would still be forced to conduct their work on multiple systems, risking pan-domain situational awareness and OPSEC. Examples of OSINT data available for procurement include Radio Frequency (RF), ADTECH ID, satellite video and imagery, news streams, social media streams and live event monitoring data.

12. The current situation challenges the capacity of the DI professional at a time where the DIE and CAF is under-strength and under-funded. It is inefficient. Digitization has brought the DIE to a midpoint where it is more difficult to conduct intelligence work due to the disorganization of data, lack of consistent or cohesive access and lack of a CAF-owned, industry-standard application on which to visualize all accessible and quarriable data sources and perform analysis within. There is not a one-size fits all solution, nor is there a quick and simple one. Trade-offs must be made, in addition to decisions about which capabilities, data and networks to prioritize. However, there are numerous examples and lessons to draw from Allies and GoC partners who have already implemented their own data standards, architectures and applications.

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[11] Useful is a subjective term but is used here to describe those which are used routinely for the production and dissemination of intelligence assessments and reporting.

[12] CFINTCOM, National Defence, "Finale Report and Programme Termination DIER," 5.

13. Delay in acquiring a CAF-owned intelligence processing tool concurrent to establishing data governance structures and IT architectures risks current operations and the support of future platforms and implementation of PDC2. Data is ubiquitous today, even if CAF-owned platforms and collection capabilities are lagging. The DIE has access to far more than organic collection and reporting. To be able to effectively support plans, operations and senior decision makers, analysts must be confident they have access to all pertinent available data. They do not have the time to do this on multiple applications and search through a myriad of databases. The DIE will never have all the data it requires, but it can certainly optimize the status quo through investment in its IT infrastructure and associated processes and workflows.

14. Investment, procurement and then the implementation, experimentation, workflow adaptation and training will take time. If a commercially procured IPT was somehow chosen tomorrow, it would take the workforce time to figure out how to adopt it. While this is generalizing, and major procurement is conducted in terms of years, it is imperative that further delay is minimized. With 5th Gen platforms, new sensors and PDC2 on the horizon, the DIE cannot afford to wait. Modernizing in this way means training the workforce to think about intelligence data and intelligence workflows differently. It will mean updating training and developing new policies, updating existing ones and establishing governance frameworks. The CAF needs a DIE that is data-literate and can effectively fuse data and information today, but short of that, it needs the DIE to prioritize this for when the GoC's ONSF priorities are delivered.

15. The lack of CAF-level emphasis on DIE modernization is therefore cause for concern. CFINTCOM cannot succeed in building the enterprise data structures and implementing an IPT without assistance from other L1s. These efforts are interdependent on other L1 ARAs who have their own priorities.[13] However, the DIE can be an effective champion, drawing the requirements back to the greater CAF vision for PDC2 and integration of major new platforms outlined in ONSF.

## CONCLUSION

16. In conclusion, the DIE has already made significant strides to identify internal areas for modernization and optimization through DIER. Recognizing the current limitations facing the entire CAF in terms of budget and personnel, this is progress. Though it has identified technology and capability development as priority areas, intelligence processing tools and the essential related data architectures are not a current focus for the DIE or the CAF. Considering the current operating and threat environments and proliferation of technology, data and systems, the DI professional is challenged to support their mandate today. The ever-increasing demand for DI will only compound this. Additionally, the planned procurement and introduction of 5th Gen platforms, new sensors and weapons systems outlined in SSE and ONSF as well as the vision for PDC2 are further catalysts for action. The DIE must prioritize the modernization of its

[13] See CAF Data Strategy and CAF Digitization Strategy.

enterprise data infrastructure and identify an IPT solution that is flexible, deployable and customizable. It is essential that the DIE workforce begins to experiment with how an IPT and proper data management would change their workflows and training requirements as this will form the foundation for how they support the CAF's pan-domain operations of the future.

## RECOMMENDATIONS

17. It is recommended that CFINTCOM prioritize the funding and procurement of a commercial IPT immediately, through key stakeholder engagement and consultation with GoC partners and Allies for lessons learned. Intelligence sub-units could be selected to trial options and better define use-cases. Requirements must clearly be defined utilizing current use-cases and considering how PDC2 and new platforms may change them. Work with ADM(IM) and other key stakeholders within CAF and GoC to determine network and other associated IT requirements. Consider forming an empowered and funded cross-functional team to be accountable for project delivery. Avoid initiating the project with a long-term procurement vehicle as this will impose further delay. A major capital project could be pursued once an IPT has been selected, trailed, and is on its way to implementation.

18. It is recommended that the resulting scope of requirements and lessons from this project form part of the wider PDC2 C4ISR estimate and that CFINTCOM remains consistently engaged at L1 and L0 level with CAF digitization efforts. The intelligence effort must continue to have a consistent champion in this area.

19. It is recommended that CFINTCOM empowers DI leaders and professionals to communicate DI's unique modernization requirements in tailored ways, depending on the audience. It is possible that the lack of DI representation in high-level CAF strategies is due to a lack of visibility or understanding of the DIE's requirements, in comparison to the rest of the force. Consider telling the story of what the intelligence enterprise needs in terms that will resonate with each specific audience. Explain what a relatively small investment in the DIE is worth in terms of HVTs located and destroyed or strategic warning provided in time to preposition forces for crisis. Describe how the long-awaited new platforms will be delivered with no ability to leverage or support them analytically without limited action now. Articulate the risk of inaction in a way that will 'make them cry.' Perhaps data architecture and network investments, commercially procured OSINT and intelligence processing tools could mean something different to those controlling major budgets and other roadblocks if translated. Do not settle for the bare minimum investment as half an IPT with no processing power or training staff is no IPT.

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