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**Canada's Defence Supply Chain Requires One Organization to  
Manage the Canadian Armed Forces Supply and Distribution Networks**

**JCSP 47**

**Exercise Solo Flight**

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## Title

# **CANADA'S DEFENCE SUPPLY CHAIN REQUIRES ONE ORGANIZATION TO MANAGE THE CANADIAN ARMED FORCES SUPPLY AND DISTRIBUTION NETWORKS**

## INTRODUCTION

The Canadian Armed Forces Defence Supply Chain (DSC) is a complex operation which involves numerous stakeholders who each play a vital role of equipping and sustaining forces for operations. While there has been numerous initiatives and projects which all aim to improve upon the performance and efficiency of how the Canadian Armed Forces orders, stores, tracks, moves and issues material, various organizations have the lead for the successful implementation and because it is disjointed, direction and communication is being disseminated inadequately. With technological advancements occurring at an increased pace the Canadian Armed Forces lack a single organization which is responsible for centralizing and institutionalizing the Defence Supply Chain. The Canadian Defence Policy, Strong, Secure, Engaged highlights the vision in which Canada is strong at home, secure in North America and engaged in the world.<sup>1</sup> This paper will argue that in order to be strong at home the department must establish a single organization responsible for the institutionalization of the Defence Supply Chain. In order to achieve an institutionalized Defence Supply Chain, it will require significant organizational change along with the establishment of a Level 1 organization which is responsible for championing Defence Supply chain initiatives and procedures. Improving how the department is able to supply the Canadian Armed Forces will ensure that they can continue to operate and be able to receive the necessary equipment at the required time.

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<sup>1</sup> Canada, Department of National Defence, Strong, Secure, Engaged: Canada's Defence Policy, Ottawa: Department of National Defence, 2017.

This paper will illustrate the complexities and issues which are inherent with the current Defence Supply chain highlighting the some of the roles of the various stakeholders. By defining the defence supply chain as a wicked problem, the Department of National Defence can approach the greater community differently. From there this paper will present some of key finding from various reports that have been tasked with examining the effectiveness of the defence supply chain. These reports highlight the issues and the fact that the current defence supply chain is not performing effectively nor efficiently and that it is costly to both maintain status quo and does not adequately support Canadian Armed Forces operations. These reports illustrate that on average the defence supply chain is not able to react quickly to customer demands which ultimately result in equipment and material not being ready and available in a timely manner for soldiers when required. Thirdly this paper will demonstrate that a single organization responsible for managing the defences supply chain will be able to appropriately champion the current initiatives aimed at improving supply chain performance but also highlight the continued growth of personnel within the organization to continue to develop these new tools. The various stakeholders with various roles and responsibilities involved in the defence supply chain has led to its complexity and one where if there was a single organization responsible for the management of the defence supply chain would have better commanding control.

#### DEFINING THE DEFENCE SUPPLY CHAIN AS A WICKED PROBLEM

The Defence supply chain is such a complex system that while trying to specifically define what exactly it entails it can sometimes be more preferred to break it down into its respective systems. The Defence Supply Chain as defined by the Supply Administration Manual is “the end-to-end system of interdependent activities that function horizontally across, and housed within, National

Defence organizations, other government departments and industry, to deliver the material requirements of the Canadian Armed Forces both domestically and overseas.”<sup>2</sup> This definition also falls short as it simplifies the issue as being only system of interdependent activities. This definition of the Defence Supply Chain has many elements, and it encompasses numerous organizations and as such involves many stakeholders to work together while all have different objectives. As such classifying the defence supply chain as a wicked problem would likely move towards resolving many of the inherent issues. “By definition a wicked problem has no optimal solution, but more or better collaboration and coordination is often seen as a key precondition for governments to address complex governance challenges and therefore also as the way forward.”<sup>3</sup> When trying to address wicked problems they “require leadership where the role of leaders is to ask questions and collaborate with others on finding the best ways to approach the problem. [And] all of those who have discussed wicked problems agree that they can only be resolved through collaboration.”<sup>4</sup> While having multiple stakeholders who are interesting in developing a solution is critical for successful resolution, equally critical is the appropriate leadership who will ensure guided collaboration and necessary engagements but also make required decisions.

Of the numerous stakeholders within the Defence Supply Chain there are several organizations who play a critical role to its success and limitations. The first key stakeholder is Assistant Deputy Minister (Materiel) also known as ADM(Mat). Within this organization are the three Equipment Project Management Directors who are responsible for the in-service equipment for each of the Army, Navy and Air Force. Along with the three Equipment Project

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<sup>2</sup> Department of National Defence, A-LM-007-100/AG-001 Supply Administration Manual (Ottawa: DND Canada, 2021) Section 1.3 para 4/38

<sup>3</sup> Lagreid, Per, and Lise H. Rykkja, “Organizing for ‘Wicked Problems’ — analyzing Coordination Arrangements in Two Policy Areas,” *The International Journal of Public Sector Management* 28,no.6 (2015)

<sup>4</sup> Morrison, Val, “Wicked Problems and Public Policy,” *National Collaborating Centre for Healthy Public Policy*, June 2013

Management Directors is the Director of General Material Systems and Supply Chain (DGMSSC) who within their organization has the director of Supply Chain Operations (DSCO). This organizational structure has resulted in ADM (Mat) being responsible for a large portion of the defence supply chain but far removed from the performance. Along with ADM (Mat) the Combined Joint Operations Command (CJOC) plays a critical role as they have command of Canadian Material Support Group (CMSG), who is responsible for the two supply depots in Montreal and Edmonton as well as the four Canadian Forces Ammo Depots as well is responsible for the national distribution network. A third major player are each of the three Environmental Commands who are then responsible for the various second line storage locations at all of the bases across the country. The Canadian Army is responsible for the various Army bases located across the country with the larger bases being Gagetown, Valcartier, Petawawa and Edmonton, Kingston, Shilo and Suffield which are also the locations for a large concentration of Army units. The Royal Canadian Navy is responsible for the Navy Bases on each coast located in Halifax and Esquimalt. The Royal Canadian Air Force are responsible for 11 bases with the larger ones being located in Bagotville, Cold Lake, Comox, Trenton and Winnipeg. Military Personnel Command has the responsibility for CFB Borden<sup>5</sup>. A major issue with the complexity of the Defence Supply Chain is that there are multiple stakeholders involved and there is not one organization which speaks as the authority for the Defence Supply Chain.

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<sup>5</sup> Government of Canada, National Defence, "Bases and infrastructure: Canadian Armed Forces bases and support units," Last accessed 25 May 2022, <https://www.canada.ca/en/department-national-defence/services/bases-support-units.html>

## REPORTS AND FINDING OF THE DEFENCE SUPPLY CHAIN PERFORMANCE

While there are few peer reviewed articles documenting the the effectiveness of the Canadian Defence Supply Chain there have been several reports completed to determine its performance. The Assistant Deputy Minister of Review Services (ADM RS) conducted an evaluation of the sustainment of operations program. One of the findings was that “Inefficiencies in defence sustainment organizations and processes impact the efficient operational sustainment of ops.” They recommended that “the Defence Supply Chain (DSC) modernization efforts currently underway through the Defence Supply Chain Oversight Committee continue to progress in order to optimize sustainment of ops<sup>6</sup>” While the majority of the report on the sustainment of operations programs was focused at the operational support level which is primarily led by CJOC as the lead for all CAF deployment operations, the evaluation did highlight that “an area of sustainment inefficiency exists related to the national approach to sustainment activities”.<sup>7</sup> These findings clearly highlight that due to the complexity of the Defence Supply Chain that the current solution is not well suited the ensure best value to Canadian society. While the Canadian Armed Forces are able to execute Operational Sustainment and effectively prepare, plan, conduct engage and sustain all operations, the higher-level or institutional sustainment was found to be inefficient. The current Defence Supply Chain along with the numerous stakeholders in executing the procurement, stocking, warehousing, and distribution have created a complex situation where accessing support can be difficult and convoluted.

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<sup>6</sup> Government of Canada, National Defence, “Audit and Evaluation Reports:Evaluation of Sustianment of Operations,” Last Accessed 27 May 2022, <https://www.canada.ca/en/department-national-defence/corporate/reports-publications/audit-evaluation/eval-sustain-operations.html>

<sup>7</sup> Government of Canada, National Defence, “Audit and Evaluation Reports:Evaluation of Sustianment of Operations,” Last Accessed 27 May 2022, <https://www.canada.ca/en/department-national-defence/corporate/reports-publications/audit-evaluation/eval-sustain-operations.html>

As second report, conducted by The Office of the Auditor General reviewed the Department of National Defence where they examined the effectiveness of how well the Defence Supply Chain was at supply the Canadian Armed Forces. In the Report the major finding was that “National Defences’ systems and processes often did not ensure the timely and efficient delivery of military supplies to the Canadian Armed Forces.”<sup>8</sup> The report further went to highlight the major areas affecting the Defence Supply Chain. “Stock shortages often caused delays. [the Report] found that National Defence inefficiently managed priorities when fulfilling the demand for materiel and did not have rigorous controls to manage the costs for transporting materiel.”<sup>9</sup> These highlights from the report demonstrate that the Defence Supply chain is currently not able to meet the demands of the Canadian Armed Forces and “that poor supply chain management often prevented National Defence from supplying the Canadian Armed Forces with materiel when it was needed.”<sup>10</sup> The Report from the Office of the Auditor General further highlights the shortcoming of the Defence Supply Chain which resulted in increased cost to the department and reduction in available service.

The two reports, one conducted internal to the department of National Defence by (ADM(RS) and one external of the department, clearly illustrates the issues that while capable of planning and sustaining operations of Canadian Armed Forces while on deployments, the department is lacking with regards to a national or institutional defence supply chain. In response to the reports the Canadian Armed Forces and the Department of National Defence

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<sup>8</sup> Office of the Auditor General of Canada, “Report 3 – Supplying the Canadian Armed Forces – National Defence,” 2020 Spring Reports of the Auditor General of Canada to the Parliament of Canada, Last Accessed 27 May 2022, [https://www.oag-bvg.gc.ca/internet/English/parl\\_oag\\_202007\\_03\\_e\\_43574.html#hd4a](https://www.oag-bvg.gc.ca/internet/English/parl_oag_202007_03_e_43574.html#hd4a)

<sup>9</sup> Office of the Auditor General of Canada, “Report 3 – Supplying the Canadian Armed Forces – National Defence,” 2020 Spring Reports of the Auditor General of Canada to the Parliament of Canada, Last Accessed 27 May 2022, [https://www.oag-bvg.gc.ca/internet/English/parl\\_oag\\_202007\\_03\\_e\\_43574.html#hd4a](https://www.oag-bvg.gc.ca/internet/English/parl_oag_202007_03_e_43574.html#hd4a)

<sup>10</sup> Office of the Auditor General of Canada, “Report 3 – Supplying the Canadian Armed Forces – National Defence,” 2020 Spring Reports of the Auditor General of Canada to the Parliament of Canada, Last Accessed 27 May 2022, [https://www.oag-bvg.gc.ca/internet/English/parl\\_oag\\_202007\\_03\\_e\\_43574.html#hd4a](https://www.oag-bvg.gc.ca/internet/English/parl_oag_202007_03_e_43574.html#hd4a)



have established committees and have initiated projects and studies aimed at identifying and improving upon the issues currently addressed in these reports. On 18 October 2018, the department created the Defence Supply Chain Governance which is Co-Sponsored by Assistant Deputy Minister (Materiel) and Director of Staff-Strategic Joint Staff (DOS-SJS) following an extensive review.<sup>11</sup> Of the proposed options the shared accountability for the Defence supply chain was recommended over a single point of accountability. The decision to share accountability creates additional confusion and coordination and leave the Defence supply chain without the necessary clear leadership to manage and direct. This simply creates a situation where more of the same inefficiencies are able to exist as there is no organizational change.

#### BENEFITS OF THE INSTITUTIONALIZATION OF THE DEFENCE SUPPLY CHAIN TO THRIVE FROM EMERGING TECHNOLOGIES

As emerging technologies continue to improve and create efficiencies in the conduct of business, the Department of National Defence will require that it is well situated to meet this new operating environment. While the Defence Supply Chain has been identified as a critical strategic asset it requires that an appropriate organization take responsibility for ensuring it is successfully managed. The current solution of it being Co-Led by both ADM(MAT) and DOS SJS is too simplistic and does not allow for any organizational change but rather assigns two already busy and organizations additional responsibilities and one that has been repeatedly identified as not performing adequately. Reorganization and institutionalization are necessary so that the Defence Supply chain is properly managed, and that projects and initiatives have the appropriate oversight. This would require establishing a Level 1 organization which would be

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<sup>11</sup> Government of Canada, National Defence “Results: what we achieved – Procurement of Capabilities,” Last Accessed 27 May 2022, <https://www.canada.ca/en/department-national-defence/corporate/reports-publications/departmental-results-report/2018-19-index/results-achieved/procurement-of-capabilities.html>

responsible for domestic activities related to managing the Defence Supply Chain. ADM(Mat) would maintain the authority on the technical aspects and introduction of new equipment into service along with the engineering and maintenance of the equipment. A separate Level 1 Organization would be responsible for stocking, storing and distribution of the material while developing and responding to the needs to supply the CAF. Using industry as an example many corporations will employ a Vice president or Chief Supply Chain Officer as is the case for the Canadian Tire Corporation.<sup>12</sup> As demonstrated recently by the Russian War in Ukraine<sup>13</sup>, the ability for a nation to sustain its forces is critical for prolonged operations. Having a defence supply chain that is overly complex that requires numerous organizations to be involved and no clear oversight leads to inefficiencies and equipment not being available when it is required.

The department of National Defence currently have many of the necessary organizations which would be necessary to make up an organization responsible for the management of the Defence Supply chain. Moving Director General Material Systems and Supply Chain (DGMSSC) from ADM (Mat) would allow the organization to then be responsible for the forecasting and planning of materiel and establishing the appropriate levels of material across the various national supply organizations. Within Director General Material Systems and Supply Chain are the organization Director Supply Chain Operations and Director Materiel Policy and Procedures. These two organizations would then be able to establish the policy and procedures for the Defence Supply chain and develop and manage the operations of the Defence Supply chain. Along with DGMSSC the transfer of Canadian Material Support Group (CMSG) from

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<sup>12</sup> Canadian Tire Corporation, Our Leadership Team, Last accessed 25 May 2022, <https://corp.canadiantire.ca/English/about-us/executive-management/default.aspx>

<sup>13</sup> The Cove, "Logistic Lessons in the Russia-Ukraine War" Last Accessed 28 May 2022, <https://cove.army.gov.au/article/logistic-lessons-russia-ukraine-war>

Canadian Joint Operations Command (CJOC) will allow direct control of the two Supply depots in Edmonton and Montreal, the four Ammo Depots and also be directly responsible for the distribution of materiel through the National Freight Run (NFR). Utilizing emerging technologies and a more robust analytics capabilities this Level 1 organization are then able to ensure they have the resources, plans and ability to ensure all regional warehouses are properly stocked with the required equipment. ADM (Mat), through the respective environmental project management Directors, would still be responsible for the sourcing of the parts and equipment, whether with Canadian industry or internationally. Once the technical equipment has been sourced, the internal movement and distribution would then be responsible to the newly created defence supply chain organization.

Establishing a level 1 organization solely responsible for the Supply chain of the department would allow for greater sponsorship in developing supply chain expertise amongst both department of defence personnel and military personnel. Currently the Canadian Forces Logistics Training Center has developed a partnership with Supply Chain Canada where Logistics Officers are able to fast track to the Supply Chain Management Professional Designation.<sup>14</sup> Establishing an organization responsible for Defence Supply Chain will establish greater emphases amongst Logistic Officers to pursue professional designation and be able to be employed within positions which would continue to provide challenging opportunities within the supply chain. Capitalizing and developing on industry best practices, the Defence Supply chain would then be able to grow and evolve and benefit from new and emerging technologies including Automatic Identification Technologies and digitalization of our system of record.

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<sup>14</sup> Supply Chain Canada, Supply Chain Canada and Canadian Armed Forces Announcement, Last Accessed 26 May 2022, <https://www.supplychaincanada.com/news/supply-chain-canada-and-canadian-armed-forces-announcement-2019-11-26?q=cfltc>

## CONCLUSION

Canada's Defence Policy Strong, Secured, Engaged highlights the need that primarily Canada needs to be strong at home. This is also true to with regards to the Defence Supply Chain and by ensuring that the department of National Defence has a resilient and efficient Supply chain will ensure that the Canadian Armed forces receive the necessary equipment when required. Throughout it was articulated that the defence supply chain as it currently exists is a complex system and one that involves numerous stakeholders and involving various commands for the delivery of equipment and supplies to the Canadian Armed Forces. The Major stakeholders involved include Assistant Deputy Minister (Material), each of the environmental commands (Army, Navy and Air Force along with Military Personnel Command and Canadian Joint Operations Command). Many of these organization play a critical role is sustaining the Forces and there is an argument that a realignment would improve the efficiency of communication and processes. Canadian Material Support Group, a sub-unit of Canadian Joint Operations Command is responsible for the management of the two supply depots and four ammo depots along with the national distribution of materiel amongst the various regional supply organization located at the major bases. The primary focus of Canadian Material Support Group is storage and distribution of equipment domestically while Canadian Joint Operations Command is focused on active deployments. Historically the Defence Supply chain has been criticized as being inefficient and when compared to industry, does not provide the best value to Canadian society. The findings from the office of the Auditor General's report on the supplying the Canadian Armed Forces highlighted that "that poor supply chain management often prevented National Defence from supplying the Canadian Armed Forces with materiel when it

was needed”<sup>15</sup> The Canadian Armed Forces and the department have addressed the issues related to the poor performance of the Defence Supply chain by commissioning a study and instituting the Defence supply chain governance. This governance, it was determined to be the joint responsibility of ADM(Material) and Director of Staff – Strategic Joint Staff. These actions fail to address any organizational change and have placed one more take on organizations which are otherwise extremely occupied. The creation of a separate level one organization, on par with the environmental Commands and ADM(Materiel), whose primary responsibility is the management of the defence supply chain would provide the necessary leadership and oversight to ensure the Canadian Armed Forces are properly sustained. Following a regrouping from various Level ones, primarily DGMSSC from ADM(Mat) and CMSG from CJOC, this new organization would be able to champion the numerous supply improvement initiatives and also continue to develop the supply chain expertise amongst the CAF and department. Differentiating the roles of ADM(Materiel), Director of Staff – Strategic Joint Staff and the newly created organization primarily responsible for the Defence supply chain will be critical. ADM(Materiel) would maintain technical expertise and procurement of material into the system whereas the DSC organization would be responsible from the point of receiving the materiel, handling, warehousing, and distribution of materiel through the various regional supply locations across Canada.

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<sup>15</sup> Office of the Auditor General of Canada, “Report 3 – Supplying the Canadian Armed Forces – National Defence,” 2020 Spring Reports of the Auditor General of Canada to the Parliament of Canada, Last Accessed 27 May 2022, [https://www.oag-bvg.gc.ca/internet/English/parl\\_oag\\_202007\\_03\\_e\\_43574.html#hd4a](https://www.oag-bvg.gc.ca/internet/English/parl_oag_202007_03_e_43574.html#hd4a)

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