





# THE GLOBALIZED DEFENCE INDUSTRY – A THREAT TO CANADA'S NATIONAL SECURITY?

Maj G.W. Edwards

## **JCSP 41**

## Exercise Solo Flight

## **PCEMI 41**

## Exercice Solo Flight

## Disclaimer

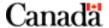
Opinions expressed remain those of the author and do not represent Department of National Defence or Canadian Forces policy. This paper may not be used without written permission.

© Her Majesty the Queen in Right of Canada, as represented by the Minister of National Defence, 2015.

## Avertissement

Les opinons exprimées n'engagent que leurs auteurs et ne reflètent aucunement des politiques du Ministère de la Défense nationale ou des Forces canadiennes. Ce papier ne peut être reproduit sans autorisation écrite.

© Sa Majesté la Reine du Chef du Canada, représentée par le ministre de la Défense nationale, 2015.



## CANADIAN FORCES COLLEGE – COLLÈGE DES FORCES CANADIENNES JCSP 41 – PCEMI 41 2014 – 2015

#### EXERCISE SOLO FLIGHT – EXERCICE SOLO FLIGHT

# THE GLOBALIZED DEFENCE INDUSTRY – A THREAT TO CANADA'S NATIONAL SECURITY?

Maj G.W. Edwards

"This paper was written by a student attending the Canadian Forces College in fulfilment of one of the requirements of the Course of Studies. The paper is a scholastic document, and thus contains facts and opinions, which the author alone considered appropriate and correct for the subject. It does not necessarily reflect the policy or the opinion of any agency, including the of Canada and the Government Canadian Department of National Defence. This paper may not be released, quoted or copied, except with the express permission of the Canadian Department of National Defence."

Word Count: 3223 Compte de mots : 3223

"La présente étude a été rédigée par un stagiaire du Collège des Forces canadiennes pour satisfaire à l'une des exigences du cours. L'étude est un document qui se rapporte au cours et contient donc des faits et des opinions que seul l'auteur considère appropriés et convenables au sujet. Elle ne reflète pas nécessairement la politique ou l'opinion d'un organisme quelconque, y compris le gouvernement du Canada et le ministère de la Défense nationale du Canada. Il est défendu de diffuser, de citer ou de reproduire cette étude sans la permission expresse du ministère de la Défense nationale."

There can be no greater role, no more important obligation for a government, than the protection and safety of its citizens. But as all Canadians know, we live in an increasingly interconnected, complex and often dangerous world.

- Government of Canada, Securing an Open Society: Canada's National Security Policy

## **INTRODUCTION**

Historically, a state's defence industry was regarded as a "national asset" critical to not only its defence but also its manufacturing sector. Armament production was placed outside of free market enterprise where completion, efficiency, and at times profitability were secondary to ensuring the rapidity of mobilizing internal resources to support the nation's defence. This notion of a publicly supported defence industry vanished with the end of Cold War when excess capacity and redundancy led to the inevitable reduction of defence budgets and a commensurate decline in the global arms market. Faced with an ongoing need to maintain a modernized military, while at the same time realize cost savings through the downsizing of production and workforce, governments and defence industry turned to regional consolidation and finally "globalization" as the solution. While globalization of the defence industry promises economy of effort, technological benefits, and international cooperation for larger states it also has the potential to profoundly impact on national security of the small-medium

<sup>&</sup>lt;sup>1</sup> Hugo L.E Meijer, "Post-Cold War Trends in the European Defence Industry: Implications for Transatlantic Industrial Relations," *Journal of Contemporary European Studies* 18, no.1 (2010): 64. K. Hayward, "The Globalisation of Defence Industries," *Survival: Global Politics and Strategy* 43, no.2 (2001): 115.

<sup>&</sup>lt;sup>2</sup> Richard Bitzinger, "Globalization in the Post-Cold War Defense Industry: Challenges and Opportunities," in *Arming for the Future: A Defence Industry for the 21<sup>st</sup> Century*, ed. Ann Markusen and Sean S. Costigan, (New York: Council of Foreign Relations Press, 1999), 305.

<sup>3</sup> *Ibid.*, 305.

size states, like Canada, whose indigenous defence-industrial base (DIB) risks becoming insignificant.<sup>4</sup>

This paper aims to examine the trends associated with the post-Cold War globalization of the defence industry, analyze options available to small-medium states to mitigate the impact of this globalization on their DIB, and based upon these options evaluate Canada's defence-industrial base (CDIB). In this examination it will be argued that the globalization of the world's defence industries was an unavoidable consequence of post-Cold War demilitarization and that the DIB of smaller states risk extinction unless aspects of the proposed mitigating options specific to its the *management of a state's DIB* as well as *foreign affairs and trade policies* are implemented. The paper will conclude with a cursory assessment of the CDIB in regards to the mitigating options proposed.

## THE GLOBALIZATION OF THE DEFENCE INDUSTRY

The end of the Cold War in the early 90's started a globalization process within the defence industry marked by four significant factors. These factors include: a significant reduction in military expenditures, an increased costs of weapon systems associated with the Revolution of Military Affairs (RMA)<sup>5</sup>, a series of mergers and acquisitions (M&A) within the defence industry, and the creation of strategic alliances

<sup>&</sup>lt;sup>4</sup> Richard Bitzinger, "Globalization in the Post-Cold War Defense Industry . . ., 306.

<sup>&</sup>lt;sup>5</sup> Revolution of Military Affairs (RMA) is the term used to explain the ongoing post-Cold War evolution of weapons technology, information technology, military organization, and military doctrine among developed states consisting mostly of advances in intelligence, surveillance and reconnaissance, command, control, communications and intelligence processing, and precision force.

(SAs) among states and industry that pooled resources and improve cooperation.<sup>6</sup> These four factors offered both advantages and challenges especially to small-medium states whose defence industries have the potential to either thrive within this globalization or face economic extinction.<sup>7</sup>

## The Significance of Defence Budget Reductions

The end of the Cold War brought with it a significant reduction in defence spending of approximately 30% in real terms between 1989 and 2001. Figure 1 depicts the declining expenditures of the US, France, UK, Germany, and Canada during the period from 1988 to 2014. Other the then a rapid changes in US spending in 2001 that correspond to an increase after the 9/11 attacks and a subsequent decrease as Afghanistan ramped down these countries appear to be established at stabilized levels of spending.

This reduced and relatively stabilized defence spending has the obvious social benefit of increased spending for other domestic social programmes, but also requires governments to seek alternative strategies to address their evolving national security needs. In addition, defence industries are also compelled to rationalize and internalize their operations. Faced with decreasing budgets militaries must seek out more

<sup>&</sup>lt;sup>6</sup> Marc R Devore, "Arms Production in the Global Village: Options for Adapting to Defense-Industrial Globalization," *Security Studies* 22, no. 3 (2013): 533.

<sup>&</sup>lt;sup>7</sup> *Ibid.*, 539. Hugo L.E Meijer, "Post-Cold War Trends in the European Defence Industry . . ., 65. <sup>8</sup> Stockholm International Peace research Institute (SPIRI). "*SIPRI Military Expenditure Database*"

<sup>2015,&</sup>quot; accessed 25 June 2015, http://milexdata.sipri.org.

<sup>&</sup>lt;sup>9</sup> Masako Ikegami, "The End of a 'National' Defence Industry? Impacts of Globalization on the Swedish Defence Industry," *Scandinavian Journal of History* 38, no. 4 (2013): 437.

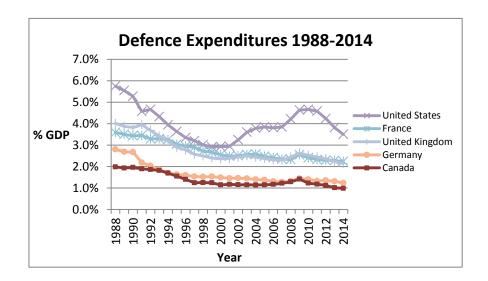


Figure 1: National Defence Expenditure as % of GDP.
Source: Stockholm International Peace Research Institute Milex Data 2015.

competitive defence solutions that are generally associated with cheaper imports rather than domestically produced equipment by smaller indigenous defence industries. <sup>10</sup> Without a domestic market indigenous defence industries are left to compete for dwindling contracts or forced to scale down work forces and close factories. In order to rationalize their existence defence industries must capitalize upon "dual use technologies." These technologies leverage military R&D to promote both civilian and military development and production to generate cost-efficiencies in arms production. <sup>11</sup> They must also seek out a "…cooperative way of thinking about generating the modern defence capabilities." <sup>12</sup> This requires industry to either consolidate capabilities or focusing on niche capabilities to maintain an industrial advantage over competitors. <sup>13</sup>

\_

<sup>&</sup>lt;sup>10</sup> Richard Bitzinger, "Globalization in the Post-Cold War Defense Industry . . ., 306. Masako Ikegami, "The End of a 'National' Defence Industry? . . ., 438-439.

<sup>&</sup>lt;sup>11</sup> Masako Ikegami, "The End of a 'National' Defence Industry . . ., 439.

K. Hayward, "The Globalisation of Defence Industries," *Survival: Global Politics and Strategy* 43, no.2 (2001): 127. Ernie Regehr, *Arms Canada* (Toronto: James Lorimer and Company, 1987), 161.
 Hugo L.E Meijer, "Post-Cold War Trends in the European Defence Industry . . ., 64.

## RMA and the Increasing Cost of Weapon Systems

This rise in the development costs of weapons systems is not a new phenomenon and one that has continued beyond the Cold War. The latest RMA aims to introduce modern information, communication, and space based technologies related to total system integration and system of systems infrastructure to increase efficacy of modern militaries.<sup>14</sup> The benefits of RMA include the resultant increase in sophistication, complexity and integration of weapon systems which leads to a more skilled work force; the development of force multiplying weapon systems; and the increased opportunities for partnering or sharing of RMA developments with like-minded states.<sup>15</sup> However, the associated risk of the RMA includes the significant R&D investment that serves to widen the gap between escalating weapons costs and a state's economic growth. The necessity of a state to maintain a modernized military remains a major incentive for governments to adopt RMA but at the same time they must leverage options to build and support its own defence industries.<sup>16</sup>

## **Industry Mergers and Acquisitions (M&A)**

Between 1993 and 1997 M&A in the US resulted in the consolidation of fifteen prime contracting firms into four. In Europe, a similar process occurred, albeit more multinational, forming conglomerates such as European Aeronautic Defence and Space

<sup>&</sup>lt;sup>14</sup> Hugo L.E Meijer, "Post-Cold War Trends in the European Defence Industry . . ., 64. <sup>15</sup> *Ibid.*, 65.

<sup>&</sup>lt;sup>16</sup> *Ibid.*, 65.

Company (EADS), BAe Systems, Thales, and Augusta-Westland.<sup>17</sup> The result of these mergers produced defence firms with greater financial and human resources than many of the smaller governments they support.<sup>18</sup> The advantages of these mergers are threefold. First, the economy of effort that permits the pooling of production, distribution, management and R&D teams and resources. Next, the capacity to sustain efforts in multiple projects thus minimizing the economic risks posed by the cancellation of a single project. Finally, because states prefer acquiring weapons from domestic producers, international M&A enable better access to markets of partnered states.<sup>19</sup>

There are consequences to M&A as well. A case study in UK procurement found that "...the import content of British-built defense products is 40 percent and that prime contracting firms are cutting inefficient domestic firms from their supply chains and searching globally for alternatives." Findings such as these suggest multinational mergers may produce an undesirable effect on indigenous industry.

## **Strategic Alliances (SA)**

Strategic alliances, also known as minority shareholdings, collaborative projects and joint ventures are more indicative of the European form of consolidation vice the

<sup>&</sup>lt;sup>17</sup> Hugo L.E Meijer, "Post-Cold War Trends in the European Defence Industry . . ., 68.

<sup>&</sup>lt;sup>18</sup> Marc R. Devore, "Arms Production in the Global Village: Options for Adapting to Defense-Industrial Globalization," *Security Studies* 22, no. 3 (2013): 538.

<sup>&</sup>lt;sup>19</sup> *Ibid.*, 538.

<sup>&</sup>lt;sup>20</sup> Marc R. Devore, "Arms Production in the Global Village . . ., 539.

M&A conducted in the US.<sup>21</sup> Strategic alliances provide companies the opportunity to expand their business with access to goods and services through commercial arrangements thus exchanging the high level of control associated with M&A for the flexibility of an alliance. <sup>22</sup> Examples of alliances include European Defence Agency (EDA), European Aeronautic Defence and Space Company (EADS), and NATO, specifically its Smart Defence Initiative where arms collaboration between partnered states aim to "... enhance combat efficiency and effectiveness, eliminate wasteful duplication in arms production, and promote battlefield rationalization, standardization, and interoperability (RSI)."<sup>23</sup>

According to D.J. Neal and T. Taylor there are not many risks associated with SA but one can deduce a few. Larger states or industries within the alliance may have a greater influence on the design, production and distribution of goods and services. This issue would further present itself in the event that the more significant members within the alliance were also the primary customers.

In summary, globalization of defence industries was an unavoidable consequence of post-Cold War demilitarization. The resulting reductions in defence budgets and the rising cost of technology associated with the RMA forced governments to seek alternative strategies to address their national security needs and defence industries to rationalize and internalize their operations. Through M&A and SA defence industries

<sup>&</sup>lt;sup>21</sup> Derrick J. Neal and Trevor Taylor, "Globalisation in the Defence Industry: An Exploration of the Paradigm for US and European Defence Firms and the Implications for Being Global Players," *Defence and Peace Economics* 12 no. 4, (2001): 338.

<sup>&</sup>lt;sup>22</sup> *Ibid.*, 352

<sup>&</sup>lt;sup>23</sup> Richard Bitzinger, "Globalization in the Post-Cold War Defense Industry . . ., 307.

can achieve larger economy of scale and improve their access to foreign markets.<sup>24</sup> However, these activities can also dilute smaller state's DIB capabilities leading to either its extinction or subordination to larger state's defense industry. 25 Accordingly, smallmedium states should look for mitigating options if they intend to maintain their DIB within a globalized arms market.

#### MITIGATING OPTIONS FOR SMALL-MEDIUM STATES

Marc Devore in his paper "Arms Production in the Global Village: Options for Adapting to Defence Industrial Globalization" suggests that "globalization challenges states' ability to achieve their governance objectives on a unilateral basis, but governments can respond effectively through a variety of industrial policies and regulatory changes."<sup>26</sup> In his case studies he presents several options a smaller state can employ to mitigate the risks associated with globalization. These options can be grouped into two main categories, the first are those related to a state's management of its DIB and the second are those related to a state's foreign affairs and trade policies.

## **Management of DIB - Options**

The options specific to the management of a state's DIB include: *maintaining* core defense-industrial capabilities such as those associated with command-and-control

 $<sup>^{24}</sup>$  Marc R. Devore, "Arms Production in the Global Village . . ., 532.  $^{25}$  *Ibid.*, 539.

<sup>&</sup>lt;sup>26</sup> *Ibid.*, 533.

(C2), communications, electronic warfare (EW), stealth technology, and Intelligence, Surveillance and Reconnaissance (ISR) systems; *retaining a systems-integration capability* by placing dependence on sub-components imports vice systems-level imports; and *maintain domestic production of niche armaments* to capitalize on the organizational flexibility of smaller industries.<sup>27</sup> Each of these options has benefits and challenges that vary depending on the national security needs of the state.

For a smaller state maintaining a core defense-industrial capabilities ensures its ability to support defence needs critical to national security requirements and the ability to manage the technology associated them. Much of the equipment associated with core capabilities can be acquired as commercial off the shelf systems (COTS) or dual-use components. However, unique capabilities associated with the needs of the state and management of the databases, networks, and information processing of C2, EW, stealth and ISR systems is critical to a state's security. Once established these industries need to be "... nurtured and defended as core 'national assets', while the bulk of [other] military requirements would be met by open-market goods and technologies. These core capabilities also serve to influence SA, guide R&D efforts, and provide focus for the development and employment of the DIB and its workforce.

A systems-integration capability enhances the state's independence through its reliance on more readily available commercial components and sub-systems vice systems-level imports from the defence industry.<sup>30</sup> This capability supports the state's

<sup>&</sup>lt;sup>27</sup> Marc R. Devore, "Arms Production in the Global Village . . ., 570.

<sup>&</sup>lt;sup>28</sup> K. Hayward, "The Globalisation of Defence Industries . . ., 121.

<sup>&</sup>lt;sup>29</sup> Ibid., 118.

<sup>&</sup>lt;sup>30</sup> *Ibid.*, 122.

ability to rapidly mobilize its industries, helps maintain a highly-skilled workforce, and enhances trade and development efforts with other states. However, maintaining a systems-integration capability, especially in peace-time, is difficult within a domestic market only and requires the generation of export capital, diversification into dual-use systems, or ongoing domestic investment in order to be sustainable.

Finally, the ability to maintain industries with niche capabilities in "...domains where production is skill intensive and organizational flexibility more important than cost efficiencies associated with high volumes of production." <sup>31</sup> Small batch products, such as unmanned vehicles and low-earth satellites, customized one-of units, or scarce components are representative of niche capabilities. <sup>32</sup> Being a supplier of niche capabilities also serves to enhance trade with larger states, such as EU and US, which in turn strengthens reciprocal trade security. <sup>33</sup> However, maintaining niche industries runs the risks of too little business to remain viable and requires niche industries to maintain diversification and avoid long-lead times between contracts in order to remain lucrative.

## Foreign Affairs and Trade Policies - Options

The foreign affairs and trade policies of a state provide the framework within which its DIB can be aligned with its national security requirements. The options relate to

<sup>&</sup>lt;sup>31</sup> Marc R. Devore, "Arms Production in the Global Village . . ., 541.

<sup>&</sup>lt;sup>32</sup> Paul Dowdall, Derek Braddon, and Keith Hartley, "The UK Defence Electronics Industry:

Adjusting to Change," *Defence and Peace Economics* 15, no. 6 (2004): 565.

33 Marc R. Devore, "Arms Production in the Global Village . . ., 570.

foreign affairs and trade policies include *liberalization of procurement*, *relaxation of arms exports*, and opening industry up to *foreign direct investment*.

A liberal procurement policy enables a state that does not maintain an autarkic arms industry to competitively purchase the weapon systems and services it requires from the world market.<sup>34</sup> This policy permits procurement on a lowest-cost compliant basis, supports trade partners, and ensure the most modern systems can be acquired. However, if import policies are too liberal it places domestic defence industries at further risk of minimization. It also renders the state reliant on foreign markets for the provision of critical arms also placing the states national security at risk.<sup>35</sup>

The relaxation of export policies supports the viability of the domestic defence industries while building partnerships with trading states. Open export serves to enhance the profitability of the DIB, supports the domestic employment of highly skilled workers, strengthens ties with trading states, and enables partnered support in R&D efforts. The risks stems from the fact that defence exports are perceived as an extension of foreign policy, accordingly governments need to maintain a level of control over the flow and direction of such goods and services.<sup>36</sup>

Finally, permitting foreign direct investment has many benefits to smaller states

DIB but also risks diminishing the state's control over its own industries. In addition to
capital, foreign investment offers enhanced access to international markets either as a
subsidiaries or component suppliers to multinational corporations, especially within the

<sup>&</sup>lt;sup>34</sup> Marc R. Devore, "Arms Production in the Global Village . . ., 540-541.

<sup>&</sup>lt;sup>35</sup> *Ibid*., 541.

<sup>&</sup>lt;sup>36</sup> K. Hayward, "The Globalisation of Defence Industries . . ., 127.

EU and US markets.<sup>37</sup> Industry partnership through foreign direct investment also provides the smaller-state a voice regarding international issues and potentially a greater influence in global security matters. Foreign investment has the risks of diminishing a state's ability to influence production decisions, decrease control over intellectual property, and the "watering down" of defence capabilities specific to the state's national security. 38

## CANADA'S DIB AND NATIONAL SECURITY CONSIDERATIONS

As depicted in Figure 1 Canada's defence budget underwent significant reductions during the post-Cold War period. In light of these reductions Canada's defence industries were subjected to the pressures of globalization as well as the increasing costs associated with the RMA.<sup>39</sup> These changes challenged not only the Canadian Armed Forces but also the industries that made up the CDIB requiring them to adjust their practices and develop efficiencies in order to compete in the globalized arms trade. This section provides an assessment of the CDIB and evaluates Canada's national security policy considerations with regards to the management of DIB and foreign and trade polices options previously presented.

 $<sup>^{37}</sup>$  Marc R. Devore, "Arms Production in the Global Village . . ., 551.  $^{38}$  *Ibid.*, 554.

<sup>&</sup>lt;sup>39</sup> Craig J. Stone & Binyam Solomon, "Canadian Defence Policy and Spending," in *Defence and* Peace Economics 16, no. 3 (2005): 157.

## Overview of Canada's Defence Industrial Base (CDIB)

A country's DIB must be able to provide for peacetime requirements for the armed forces and have the capability for rapid expansion to meet and sustain the demands of conflict. 40 Canada's national defence budget decreased from \$12 billion in 1993 to \$9.38 billion in 1998 in real terms. Its armed forces personal reduced from 80,000 to 60,000 in the same period. 41 These reduction were reflected in the CDIB as it went from "...having the technical and productive capability of supporting and sustaining its military to a nation with a defence industrial base that provides subsystems and components." <sup>42</sup> The current CDIB consists of over 2,000 companies, with many of them by-products of post-Cold War M&A. The CDIB offers capabilities in "shipbuilding, aerospace, armoured vehicles, electronics, simulation and training, information, cyber and communications technologies, shelters, advanced textiles, in-service support, satellite and space technologies, and munitions." In 2011 the CDIB generated a total of \$12.6 billion in sales revenues consisting of \$6.2 billion in domestic and \$6.4 billion in foreign revenues, in real terms. That same year defence imports of foreign equipment and service was \$2 billion producing a net positive trade balance of \$4.4 billion, in real terms. Notably, the Department of National Defence made up 84.3% of the domestic revenues.<sup>44</sup>

Other than a modest capability to build light armored vehicles the CDIB has a limited capability to maintain an autarkic defence industry and has been effected by

<sup>&</sup>lt;sup>40</sup> John Treddenick, "The Economic Significance of the Canadian Defence Industrial Base," in *Canada's Defence Industrial Base*, ed. David G. Haglund, 16 (Kingston: Ronald P. Frye & Company, 1988).

<sup>&</sup>lt;sup>41</sup> Craig J. Stone & Binyam Solomon, "Canadian Defence Policy and Spending . . ., 150. <sup>42</sup> *Ibid.*. 162.

<sup>&</sup>lt;sup>43</sup> Canadian Association of Defence and Security Industries (CADSI), "Economic Impact of the Defence and Security Industry in Canada," (KPMG LLP - Advisory Services, May 2012), 7.

<sup>44</sup> *Ibid.*, i.

globalization. Accordingly, the CDIB has become "... more export-oriented and less dependent on the domestic market while a large portion of the DND's annual defence expenditures is satisfied by civilian firms and industries." <sup>45</sup> That being said aspect of the three mitigating options exist within the CDIB.

Core defense-industrial competency is demonstrated by companies such as Ultra Electronics TCS Inc. and L3 Westcam that produce state of the art EW and multi-spectral airborne imaging systems, respectively. Systems integration exists with IMP Group International and Irving Shipbuilding Inc. that not only support DND with aircraft modernization and shipbuilding but are well diversified into non-military markets. Finally, niche market capabilities are demonstrated by MacDonald Dettwiler and Associates (MDA) with both space based and state of the art airborne Radar systems. <sup>46</sup> These industries range from fully indigenous to foreign owned and benefit from the foreign affairs and trade policies that enable them.

## **Canada's Foreign Affairs and Trade Policy Considerations**

Historically, Canada's defence procurement policy "...[aimed] to acquire enough weapons to signal engagement but not enough to undermine other important social objectives." More recently it has been proposed that Canada's defence industries "...participate in global value chains as specialized, high-value niche players, aided by

<sup>&</sup>lt;sup>45</sup> Craig J. Stone & Binyam Solomon, "Canadian Defence Policy and Spending . . ., 168.

<sup>&</sup>lt;sup>46</sup> Industry Canada, "Aerospace and Defence: Canadian Company Capabilities," last accessed 04 May 2015, http://www.ic.gc.ca/eic/site/ad-ad.nsf/eng/h\_ad03840.html

<sup>&</sup>lt;sup>47</sup> Ernie Regehr, Arms Canada, (Toronto: James Lorimer and Company, 1987), 173.

liberalized trade and investment regimes." This change in focus suggests Canadian defence industries should be developed to become more export-oriented beyond their current 50% level. Accordingly, this requires them to become more cost competitive, adopt better economies of scale, and improve quality to meet international standards. However, challenges with restrictive national security exemptions in international trade or foreign policy issue like selling "... to Third World countries [unless with in the R2P<sup>50</sup> capacity] ... bodes ill for control of the world's arms and trade and [Canada's policy of] reducing the level of global violence." The challenges and potential loss of trade in these areas can be mitigated by the fact that Canada's largest import and export partners are the EU and US. As such, maintaining SA and partnering through international organizations will further enhance the CDIBs access to import and export opportunities.

Also stemming from M&A and SA is the fact that the CDIB has "... significant foreign ownership, with many being subsidiaries of the large US and European aerospace and defence corporations." <sup>52</sup> These relations afford Canadian industries access to significant trade capital, R&D partnerships, and new technologies. Strategic alliances are also apparent industrially as well as through national agreements like NATO Smart Defence Initiative, North American Air Defence Command (NORAD) and recent efforts with the Comprehensive Economic and Trade Agreement (CETA). <sup>53</sup> However, foreign

\_

<sup>&</sup>lt;sup>48</sup> Ministry of Public Works and Government Services, *Canada First: Leveraging Defence Procurement Through Key Industrial Capabilities* (Ottawa: Canada Communications Group, 2013), 21.
<sup>49</sup> Ibid, 25.

Responsibility to Protect (R2P) indicates a State carries the primary responsibility for protecting populations from genocide, war crimes, crimes against humanity and ethnic cleansing, and their incitement.

Fine Regehr, Arms Canada . . ., 174.

<sup>&</sup>lt;sup>52</sup> Craig J. Stone & Binyam Solomon, "Canadian Defence Policy and Spending . . ., 164.

<sup>&</sup>lt;sup>53</sup> Foreign Affairs, Trade and Development Canada, "Canada's Free Trade Agreements," last accessed 04 May 2015, http://www.international.gc.ca/trade-agreements-accords-commerciaux/agr-acc/fta-ale.aspx?lang=eng.

ownership and partnerships can strain Canada's ability to maintain control over the design, production and ultimately export decision of the indigenous goods and services.<sup>54</sup>

## **CONCLUSION**

This paper examined the post-Cold War trend of globalization of defence industries stemming from the significant decrease in defence spending and increased cost of the technology associated with the latest RMA. The resultant M&A and SA served to dilute the capacity of small-medium states to be autarkic in arms production and as such required mitigating options in order to survive. The options examined relate to the management of the DIB and the policies that guide them. It is recommended that small-medium state place emphasis on maintaining core defense-industrial capabilities, retain systems-integration capabilities, and invest in niche capabilities where the smaller indigenous industries have the advantage of organizational flexibility. From a policy perspective liberalized import, relaxed export, and foreign ownership policies have potential benefits of strengthening an indigenous DIB and building trade partnerships with like-minded nations. However, these options are reflective of foreign policy and as such require close and ongoing scrutiny by the state.

Canada's DIB has shown great resilience throughout its transformation from a primary supporter of its military to a provider of sub-systems and integrated solutions. A cursory review of its 2000 industries provides examples of its industrial capacity to

 $<sup>^{54}</sup>$  Marc R. Devore, "Arms Production in the Global Village . . ., 541. K. Hayward, "The Globalisation of Defence Industries . . ., 127.

support capabilities related to core defence-industrial requirements, the production of niche armament, and system-integration capabilities. However, Canada's moderate domestic defence market is not enough to sustain the industries on its own and as such Canada must maintain liberal import and relaxed export policies along with securing foreign capital to ensure their existence. A strong focus on defence solutions anchored in the CDIB, whether indigenous or foreign owned, is critical to ensuring the best rate of return on the public's defence investment. In addition, efforts to support SA through industrial and governmental lead partnerships will ultimately strengthen trade relations with other like-minded states, specifically the US and Europe.

## **Bibliography**

- Aerospace Industry Association of Canada (AIAC). *The Strategic and Economic Impact of the Canadian Aerospace Industry*. Deloitte and Touche LLP., 2010.
- Bitzinger, Richard. "Globalization in the Post-Cold War Defense Industry: Challenges and Opportunities." In *Arming for the Future: A Defence Industry for the 21*<sup>st</sup> *Century*, edited by Ann Markusen and Sean S. Costigan, 305-333. New York: Council of Foreign Relations Press, 1999.
- Canadian Association of Defence and Security Industries (CADSI). "Economic Impact of the Defence and Security Industry in Canada." KPMG LLP Advisory Services. May 2012.
- Canada. Industry Canada. "Aerospace and Defence: Canadian Company Capabilities." Last accessed 04 May 2015, http://www.ic.gc.ca/eic/site/ad-ad.nsf/eng/h\_ad03840.html
- Canada. Ministry of Public Works and Government Services. *Canada First: Leveraging Defence Procurement Through Key Industrial Capabilities*. Ottawa: Canada Communications Group, 2013.
- Devore, Marc R. "Arms Production in the Global Village: Options for Adapting to Defense-Industrial Globalization." *Security Studies* 22, no. 3 (2013): 532-572.
- Dowdall, Paul, Derek Braddon, and Keith Hartley. "The UK Defence Electronics Industry: Adjusting to Change." *Defence and Peace Economics* 15, no. 6 (2004): 565–86.
- Fjäder, Christian. "The Nation-State, National Security and Resilience in the Age of Globalization." In *Resilience-International Policies, Practices and Discourses* 2, no.2, (May 2014): 114-129.
- Foreign Affairs, Trade and Development Canada. "Canada's Free Trade Agreements." Last accessed 04 May 2015. http://www.international.gc.ca/trade-agreements-accords-commerciaux/agr-acc/fta-ale.aspx?lang=eng.
- Hartley, Keith. *The Economics of Defence Policy*. London: Maxwell Macmillan Pergamon Publishing, 1991.
- Hayward, K. "The Globalisation of Defence Industries." *Survival: Global Politics and Strategy* 43, no.2 (2001): 115-132.
- Hooke, Richard. "The Defence Industry in the 21<sup>st</sup> Century." Pricewaterhouse Coopers, 2005.

- Ikegami, Masako. "The End of a 'National' Defence Industry? Impacts of Globalization on the Swedish Defence Industry." *Scandinavian Journal of History* 38, no. 4 (2013): 436-457.
- MacLean, George. "Canada's Shrinking Defence Industrial Base: Implications for Canadian R&D Competitiveness in the Post-Cold War Era." *The Canadian Institute of Strategic Studies*, Datalink no. 57, July 1996.
- Meijer Hugo L.E. "Post-Cold War Trends in the European Defence Industry: Implications for Transatlantic Industrial Relations." *Journal of Contemporary European Studies* 18, no.1 (2010): 63-77.
- Neal, Derrick J. and Trevor Taylor. "Globalisation in the Defence Industry: An Exploration of the Paradigm for US and European Defence Firms and the Implications for Being Global Players." *Defence and Peace Economics* 12 no. 4, (2001): 337-360.
- Neuman, Stephanie G. "Power, Influence, and Hierarchy: Defense Industries in a Unipolar World." *Defence and Peace Economics* 21, no. 1 (2010): 105-134.
- Perry, Dave. "Putting the 'Armed' Back into the Canadian Armed Forces: Improving the Defence Procurement in Canada." CDA Institute, January 2015.
- Regehr, Ernie. Arms Canada. Toronto: James Lorimer and Company, 1987.
- Reppy, Judith. "Military Research and Development and International Trade Performance." In *The Political Economy of Defence: Issues and Perspectives*, edited by Andrew L. Ross, 91-112. New York: Greenwood Press, 1991.
- Richter, Anke & Natalie J Web. "Can Smart Defense Work? A Suggested Approach to Increasing Risk and Burden Sharing within NATO." *Defense & Security Analysis* 30, no. 4, (2014): 346-359.
- Ross, Andrew. *The International Arms Market: A Structural and Behavioral Analysis*. New York: Greenwood Press, 1991.
- Smith, Ron. *Military Economics: The Interaction of Power and Money*. Great Britain: Palgrave MacMillan, 2009.
- Stockholm International Peace research Institute (SPIRI). "SIPRI Military Expenditure Database 201." Accessed 25 June 2015. http://milexdata.sipri.org.
- Stone, Craig J. & Binyam Solomon. "Canadian Defence Policy and Spending." In *Defence and Peace Economics* 16, no. 3 (2005): 145-169.

- Treddenick, John. "The Economic Significance of the Canadian Defence Industrial Base." In *Canada's Defence Industrial Base*, edited by David G. Haglund, 15-48. Kingston: Ronald P. Frye & Company, 1988.
- United States. Office of the Under Secretary of Defence for Acquisition and Technology. Final Report of the Defence Science Board Task Force on Globalization and Security. Washington, DC: U.S. Printing Government Printing Office, 1999.