



Submission of the
Canadian Association of Defence and Security Industries
Association des industries canadiennes de defense et de
securite

(CADSI-AICDS)

to the
Aerospace Review

June 29, 2012

CADSI is pleased to contribute to the federal government's Aerospace and Space Review. The report below is submitted with the support of our Board of Directors which gave its approval for the content of this report and more particularly its recommendations at its meeting on June 27th. As you might expect, the focus of our submission is on the military aerospace and security side of space rather than on the commercial issues associated with companies in these sectors. And, while we offer thoughts on a number of issues, we are pre-occupied at CADSI with the impact of Canada's defence procurement system on the performance of Canadian companies in our sector and our recommendations reflect that pre-occupation.

We thank the Review for having afforded us the opportunity to contribute to this important initiative.

Section 1: THE OUTLOOK

CADSI believes it is prudent for planning purposes to assume that the global economic outlook to 2020 will continue to be shaped by two primordial forces - continuing strong growth in emerging market economies, especially China, and continuing weak growth in the developed economies of Europe and the United States.

The growth of the emerging market economies (particularly China), has boosted both global demand for a wide range of commodities and the global supply of competitively-priced manufactured goods and services. The impact has been a marked shift in relative prices away from manufactured goods and services to natural resources – a trend which is likely to be maintained, (if not necessarily enhanced), into the medium term. This shift has been to the general benefit of Canada as a whole, but with very different regional impacts within Canada.

A second important factor is continuing weak US (and European) demand in the aftermath of the crisis of 2008. In the EU, it remains to be seen whether the current (weak) level of demand will be sustained, or further weakened by a catastrophic loss of confidence in the Euro. In the addition to the threat of a EU-induced global recession, the next major challenge in the US will be whether US legislators are willing and able to make the political compromises in 2013 that will allow the US to put in place a credible deficit reduction plan, and avoid a plunge over the fiscal precipice.

The negative impact on Canadian manufacturers of a "strong China" has been reinforced by a "weak US". Beyond the general malaise of slow US growth and high unemployment, of particular importance to manufacturers in Ontario is the continuing southward shift in the locus of North American automotive assembling, compounded by a loss of competitiveness by Ontario-based suppliers due to the appreciation of the dollar and unit labour cost differentials.

The cumulative impact of these forces within Canada will likely be a continuing divergence of fiscal capacities between the resource-rich provinces and the rest of Canada; and a continuing fall in Ontario's share of the national economy below its share of the population.

The twin forces of a "strong China" and "weak US" are also driving both the civil and military aerospace markets, which each constitute approximately ½ of the global aerospace industry.

Demand in emerging markets (especially China) is driving a record order backlog and rising passenger traffic in the civil sector. The high cost of aviation fuel is also driving airlines in the developed civil aviation markets of North America and Europe to replace their fleets with more fuel-efficient aircraft, since fuel accounts for 1/3 of total operating costs. Meanwhile, high oil prices increase the risk of a global economic slowdown that will depress airline traffic.

In the military segment, the US defence market accounts for over 50% of the total world market, with annual US Department of Defense (DoD) expenditures on Research and Development, Testing and Evaluation (RDTE) of approximately \$75 billion being larger than the cumulative total defence budgets of EU nations. The fundamental backdrop for the defence sector is therefore large (or larger) cutbacks in US defence spending that will take place as the Americans begin to face their deficit reduction challenge.

After growing steadily over the past decade, the US defence budget is expected to decline in the foreseeable future. Of particular importance to aerospace suppliers is the procurement and RDTE budget. Procurement and R&D in the US defence budget is expected to fall by 9% in FY 2013 after a decade of 7% annual growth. The fiscal imperative to reduce spending will be somewhat offset by the necessity to replace aging military aircraft fleets that are becoming increasingly expensive to maintain and operate.

Behind the looming revenue crunch caused by shrinking defence budgets in the US and EU are a variety of longer-term market trends that show no sign of abatement. These include:

- Ongoing industry consolidation, leading to fewer, larger suppliers;
- Programs that are fewer in number, larger in scale and more global in scope; (For example, the F-35 is a US-led, multinational program to build one aircraft, with 3 variants, that will replace 4 American military aircraft.);
- An offloading of risk and responsibility down the supply chain; and
- Competition for traditional MRO service providers from OEMs looking beyond the production and sale of products to the provision of in-service support as a new source of revenue.

Section 2: UNDERSTANDING THE CANADIAN AEROSPACE INDUSTRY

The Canadian aerospace industry as a whole generates approximately \$22 billion in annual revenue. It is estimated that the industry directly accounted for nearly 7% of Canada's total manufacturing GDP in 2009, with direct, indirect and induced GDP impacts of some \$17.5 billion. Employment in the aerospace sector totals approximately 80,000, with 90% of aerospace jobs located in the 6 "Have-Not" provinces of Ontario, Quebec, New Brunswick, Nova Scotia, PEI and Manitoba.

The Canadian space sector generated total revenues of approximately \$3.4 billion in 2010, with a 50-50 split between domestic and foreign activities. The strongest performing export markets were the US (50%) and EU (31%). Areas of particular Canadian expertise are satellite communications, earth observation/satellite surveillance and robotics – all of which have a security element.

Over 8,000 Canadians are employed in space-related work. Importantly, the Canadian Space Program is the only federal program with specified targets for the long-term regional distribution of the overall

space procurement budget. As a result, *there are now world-class internationally competitive space companies in virtually all regions of the country* – a fact reflected in the employment figures.

It follows that *building and maintaining a competitive Canadian aerospace and space industry can play a key role in the creation of employment opportunities and the building of fiscal capacity in those regions of Canada most negatively impacted by global economic and financial developments.*

Canadian Aerospace industry: An exception to the general rule

The global aerospace industry generates its revenues on a roughly 50-50 basis from civilian and military aerospace. The Canadian aerospace industry is an exception, generating approximately 80-85% of its revenue from *civil* aviation.

Revenue in the Canadian *military* aerospace segment is divided about 50-50 between domestic and foreign sales, with about 80% of the foreign sales (i.e. 40% of total military related revenues) generated in the US market. This 90% "North American revenue" statistic reflects the deeply integrated nature of the North American aerospace industry. However, it also tends to mask the value of "Canadian exports" to third countries, many of which take place *indirectly*, in the form of a part or system installed on an American finished product that is subsequently sold in a foreign market.

Canada: An Integral Part of an Integrated North American Industry

The production and sale of defence products are political activities. They take place within managed markets that are not subject to the general rule of non-discrimination in international trade. A constant in all trade agreements is the explicit recognition that a nation (including Canada) enjoys the right to "take any action" it considers necessary to protect an essential security interest. It is this unilateral right that gives governments the ability to design preferential policies that support domestic technology development and production.

Fortunately (given Canada's small domestic market), Canadian companies have long been allowed to generally compete for US defence acquisitions on the same terms as US companies, with duty-free access, and normally no requirement for a Canadian export permit for goods to be delivered for use in the US DoD. Contracts over the simplified acquisition threshold are normally awarded through the Canadian Commercial Corporation (CCC) which implements a back-to-back contract with the winning Canadian supplier and acts as guarantor.

This preferential Canadian status within the deeply integrated North American aerospace industry is the result of conscious political decisions taken in both the US and Canada, as reflected in the bilateral Defence Production Sharing Arrangement (DPSA) and complementary Defence Development Sharing Agreement (DDSA) - agreements signed during the mid-1950's following the extensive bilateral cooperation during WWII, and developed concurrently with the decision to defend North American airspace in a coordinated fashion via NORAD.

In practical terms, the result of this "relatively free trade" in defence products over the past half-century is that Canadian companies participating in the military aviation sector primarily (i) supply parts and systems to American Original Equipment Manufacturers (Boeing, Lockheed Martin etc), or (ii) provide in-service support (ISS) services to Canada's Department of National Defence (DND) following DND's acquisition of original equipment (that may or may not contain Canadian-made parts or systems).

Constrained defence spending in both the US and Canada will undoubtedly impact on Canadian-based aerospace companies. In addition, there are three other significant obstacles that impede the competitiveness of Canadian-based firms. These are

Obstacle #1: Asymmetrical Procurement Approaches discourage Canadian-based Innovation

The North American aerospace market may be integrated, but the approach taken by the American and Canadian governments to military procurement is *not*, with the asymmetrical approaches taken by the US Department of Defense and Canada's DND having major implications for Canadian suppliers.

The US Department of Defense is a major promoter of technology innovation, to ensure continuing American military superiority. As noted earlier, America's RDTE budget totals approximately \$75 billion per annum.

This ability and willingness to fund the development of cutting-edge technologies is coupled with a policy bias towards supporting US-based firms, most of which are embodied in the Defense Federal Acquisitions Regulations Supplement (DFARS). Among these are restrictions related to national security; (ii) small business/minority business set-asides; and (iii) Buy American applications initiated in the annual Authorization and Appropriations Acts that are subsequently added in the DFARS.

In sharp contrast, Canada's DND has chosen to take a more risk-averse approach, preferring to purchase proven commercial off-the-shelf (COTS) products (which invariably means proven in a recent Department of Defense program), and to then customize them (sometimes at great expense, time and project risk) for Canadian conditions. Not only does this approach, in principle, allow DND to purchase inter-operable products developed at American expense, but the possibility also exists to exploit American-generated economies of scale, by piggybacking a relatively small DND order on a longer US Defense production run.

Achieving this desired result is accomplished by:

- consciously avoiding Canadian content rules in the actual competition; and limiting the use of the Government's procurement power to promote the use of Canadian technologies and products (including some that have been developed with Industry Canada support); and instead...
- relying on the post-award negotiation of industrial and regional offsets with the winning supplier.

Unfortunately, this asymmetrical approach to technology development and procurement means there is a strong argument for a Canadian-based company with a promising technology or product to move across the border to the US, in order to (i) gain better access to DoD technology development support and (ii) secure a role within a US program. Indeed, not only is there an incentive to move, but there is no disincentive, since the company will actually be *better positioned* to secure a role in a later Canadian program as a proven American COTS product, rather than as a promising, unproven Canadian product.

In short, Canadian firms must compete on a playing field that has been *unduly* tilted in favour of the US by *Canadian* policies, practices and attitudes – a tilt that is being accentuated with the Canadian dollar at par, and the danger of growing American protectionism.

This asymmetrical approach to procurement means that the best way for a supplier to secure a role on an OEM global supply chain from a *Canadian* production location lies through becoming a vehicle by which an OEM can fulfill Industrial and Regional Benefit obligations incurred in the act of winning a *prior* Canadian procurement. Put another way in this environment, the future prospects of many Canadian firms will depend on the Government of Canada *optimizing the effectiveness of Canada's IRB strategy by building on the 2009 IRB policy reforms.*

Obstacle #2: Risk-averse DND puts Canadian MRO service providers at risk

A second major obstacle impeding the development of Canadian-based service providers is the extension of DND's risk-averse approach to a preference for a single point of accountability for post-award "in-service support". This preference to "deal with the OEM" puts at risk the future of a number of world-class maintenance, repair and overhaul (MRO) service providers located across the country who, if allowed access to the necessary IP, can service not only Canadian aircraft, but foreign fleets.

Obstacle #3: Excessively restrictive Canadian control of "Controlled Goods"

Cutbacks in the US and EU are causing defence suppliers, both large and small, to aggressively pursue opportunities in emerging markets. Of importance and concern to Canadian-based participants therefore is a third major obstacle - the excessive and needless control of so-called "controlled goods" within the context of American security concerns regarding the international traffic in arms.

Canada's Controlled Goods Program (CGP) was introduced in 2001 to address US Government concerns that goods and technology listed on the US Munitions List (USML) under the International Traffic in Arms Regulations (ITAR) were not being adequately protected from unauthorized access in, and export from, Canada.

The Canadian Schedule of "Controlled Goods" has remained static over the past 12 years, while the USML no longer covers many items (and in fact, some items in Canada's Group 6 were never listed in the USML). Controlled goods in Canada that are *not* covered by the USML include major pieces of industrial equipment, test and production equipment covering broad, commercial applications and numerous chemicals with both commercial and defence-related applications.

The inconsistency of the two national lists creates a situation where many Canadian companies who must register under the CGP (and incur significant administrative and operational costs) would escape USML/ITAR if they were US-resident companies. The removal from the Canadian schedule of goods and technology that are not listed on the USML would result in an immediate benefit to many Canadian companies. Maintaining a list that is competitive with the US and other global defence leaders would permit Canadian companies to compete on a more level playing field with foreign companies that are not encumbered by similar constraints.

Section 3: CADSI RECOMMENDATIONS

Accordingly, CADSI wishes to make the following "concrete, fiscally-neutral" recommendations.

The Government of Canada should:

(1) ESTABLISH AND IMPLEMENT A DEFENCE INDUSTRIAL POLICY

The Government of Canada (GoC) should realize its intention, as stated in the 2011 budget, "to create a defence procurement strategy, in consultation with Canadian industry, that maximizes job creation, supports Canadian manufacturing capabilities and innovation, and bolsters economic growth".

This strategy should seek to align relevant tax, technology, procurement and trade policies so that they promote the development of Key Industrial Capabilities in areas of national economic, security and sovereign interest to Canada. (The concept of a Defence Industrial Policy is also explored in Annex A, while Key Industrial Capabilities are identified in Annex B)

Specifically, the Government should...

- (i) identify the key industrial capabilities (KIC) that support defence, security, sovereignty and economic objectives so industry can make appropriate R&D investments and establish human resource strategies and partnering relationships to support future defence requirements in Canada and internationally;
- (ii) redeploy savings generated from the stream-lined SR&ED tax expenditure into direct program expenditures supporting the development of strategic technologies and key industrial capabilities;
- (iii) allow the utilization of unused SR&ED credits as a means of SADI co-financing and/or repayment;
- (iv) publish a defence investment plan and adopt a cash forecasting system at DND.

(2) IMPROVE DEFENCE PROCUREMENT PROCESSES, PRACTICES AND PREFERENCES

The GoC should reform its procurement processes, practices and preferences to achieve more effective program delivery and to optimize economic value to Canada. Consistent with recommendations in the "Jenkins Report" (*Innovation Canada: A Call to Arms*) the GoC should make better use of its purchasing power in military procurements to maximize the competitiveness of Canadian companies involved in defence aerospace and related defence and security technologies, products and services (see Annex B as a starting reference point). Specifically, the GoC should:

- (i) articulate domestic industrial objectives before a procurement strategy is chosen for a particular procurement, and as the program requirement is being defined;
- (ii) introduce effective "challenge" windows at the options analysis and project definition phases (conducted by individuals with extensive industry experience) to address cost, risk, schedule, and domestic industrial participation issues thereby increasing the prospect of delivering a successful procurement.
- (iii) draft requirements defined by performance, rather than platform specifications;

(iv) limit competition to Canadian suppliers if there are 2 or more that meet the operational requirements;

(v) allow the sole-sourcing of a contract to a Canadian KIC area supplier if the supplier meets the operational requirement;

(vi) use rated, rather than mandatory requirements, to (i) ensure qualified competitors while (ii) measuring "best value for Canada";

(vii) rate Canadian economic benefits in the scoring of "best value for Canada", with higher potential scores for direct benefits, Canadian-sourced strategic technologies and Canadian-based "KIC" suppliers.

(viii) at a minimum, rate the positive economic value and fiscal impacts of purchasing those products/technologies that the Government has co-developed with Canadian industry via the SADI and IRAP programs.

(3) PROMOTE CANADIAN IN-SERVICE SUPPORT (ISS) CAPABILITIES

The GoC should follow the Australian and British models for IP transfer and ISS contract awards (when the OEM is not teamed with a Canadian ISS provider). This essentially means:

(i) mandating the OEM supplier to provide ISS during the warranty period, while

(ii) running a competition during the warranty period (and requiring sufficient IP transfer) to enable a domestic prime contractor(s) to manage and maintain the purchased fleet through its full life-cycle.

(4) BUILD ON THE 2009 IRB POLICY CHANGES

In addition to making appropriate policy changes throughout the procurement process to optimize the participation of Canadian suppliers in the actual contract award (as outlined in Recommendations 2(i) through 2(viii) above), the GoC should build on the 2009 IRB policy changes to continue leveraging the entrance of Canada's defence and security companies into global OEM supply chains across the OEM's full business lines/capabilities.

Improvements to the Industrial and Regional Benefits program proposed by CADSI are detailed in Annex C.

(5) RE-AFFIRM SUCCESSFUL SPACE PROCUREMENT POLICIES AND PRACTICES

The GoC should re-affirm the long-standing "Canada First" policy for space procurements and continue the "Team Canada" concept in major space procurements, with a requirement that the Canadian prime contractor utilize the subsystem and component supplier base in Canada.

(6) KEEP CANADIAN DEFENCE TRADE POLICIES AND PRACTICES UP-TO-DATE AND INTERNATIONALLY COMPETITIVE

The GoC should immediately remove from the Schedule of the Canadian Controlled Goods Program (CGP) those goods and technologies that are not longer part of the US Munitions List (USML); maintain a

harmonized CGP/USML list into the future; and, establish internal processes at PWGSC to ever green the Schedule of 'controlled goods' on a regular basis.

(7) ESTABLISH MORE EFFECTIVE AND ACCOUNTABLE GOVERNANCE

The GoC should create a single point of accountability at the Cabinet level responsible for devising and maintaining an integrated approach to defence-related production, procurement, industrial security and trade. (This subject is examined in more detail in CADSI's *Military Procurement Report* of late 2009, which can be found in Annex D.)

Appendices:

Appendix A – CADSI's advice to Government in response to the June, 2011 Budget

Appendix B - CADSI's 2011 Key Industrial Capabilities (KICs) list

Appendix C – CADSI's 2012 Report on Canada's IRB Program

Appendix D – CADSI's 2009 Military Procurement Report