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ADVISORY SERVICES

Economic Impact of the Defence and Security Industry in Canada

May, 2012

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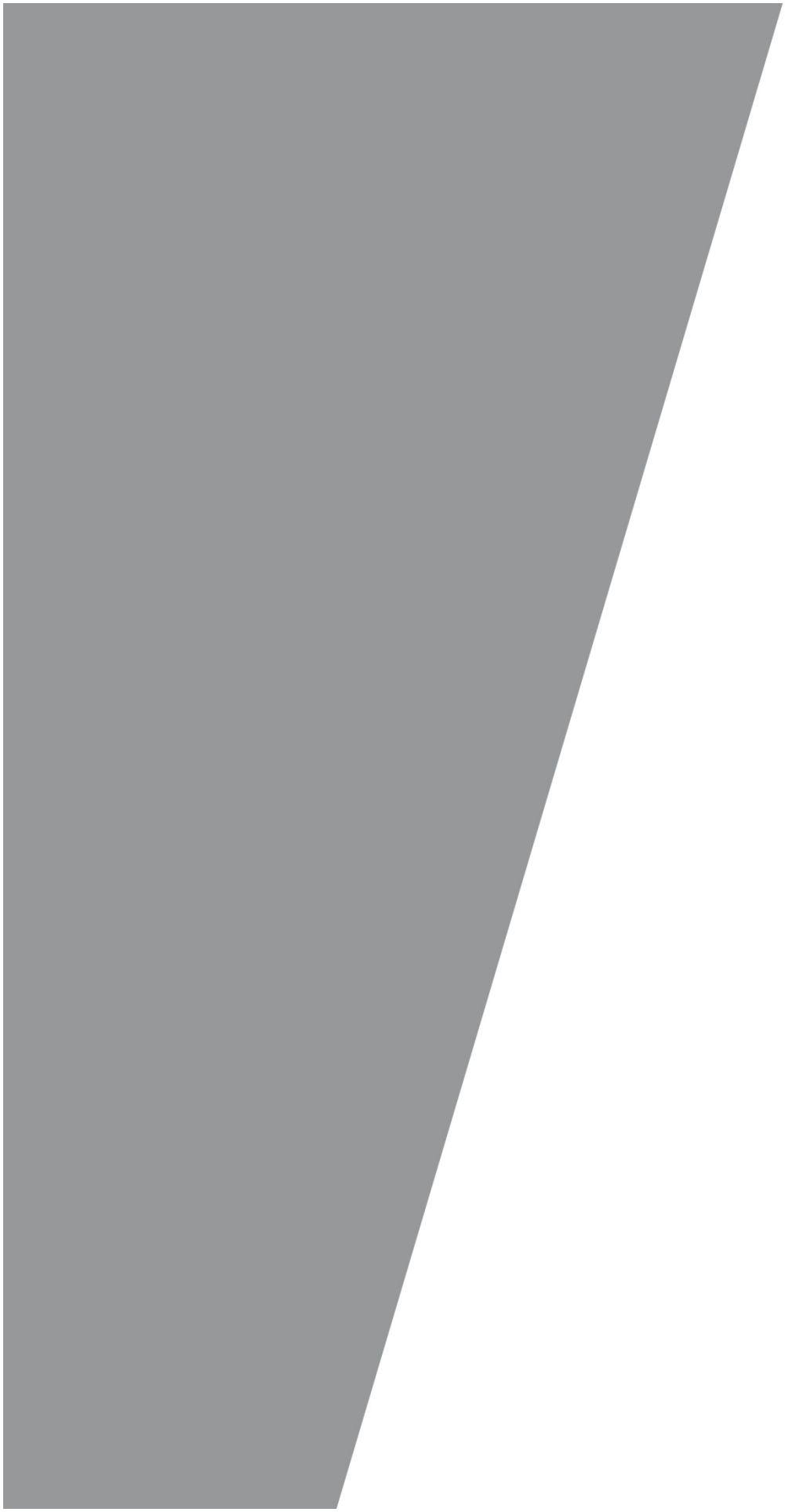

Highlights – The Industry in 2011

KPMG LLP (KPMG) was retained by the Canadian Association of Defence and Security Industries (CADSI) to assess the economic impact of the Canadian defence and security industry (the Industry) and to develop an economic impact model for use by CADSI.

Summary

The primary findings of this study indicate, that for 2011:

- The Canadian defence and security industrial base consists of over 2,000 firms. The Industry generated a total of $12.6B of economic activity, which was split between domestic revenues of $6.2B (49%), and foreign revenues of $6.4B (51%).

$12.6B
Industry Revenues

- There is a significant defence and security market in Canada. The major government entities reviewed in this study had total expenditures on capital, operations, and maintenance of $7.9B. Of this total, 75.1% ($5.9B) was spent on domestic suppliers, and 24.9% ($2.0B) on foreign suppliers. The Department of National Defence (DND) is the largest spender in this market, representing 84.3%, or $5.0B of the $5.9B spent on domestic suppliers.

$7.9B
Market in Canada

- The $5.9B of defence and security spending by selected government entities with Canadian firms is consistent with the $6.2B of domestic Canadian revenues reported by the Industry.

50%
Exports

- The Industry shows a net positive trade balance of $4.4 billion, i.e., the Industry exported $6.4B compared to government entities which imported $2.0B.

$4.4B
Positive Trade Balance

Economic Impact Assessment

Gross Domestic Product (GDP)

Industry Revenues ($)	Direct Impact ($)	Direct and Indirect Impact ($)	
12.6B	**5.6B**	**9.0B**	**Impact**
1	**0.44**	**0.71**	**Multiplier**

- The economic impact assessment shows that $12.6 billion of industry revenues has a direct and indirect contribution to Canadian GDP of $9.0B. Therefore, every $1 of industry revenue has a direct and indirect contribution of $0.71 to Canadian GDP.

Full Time Equivalent (FTE) Jobs

Industry Revenues ($)	Direct Impact (FTE jobs)	Direct and Indirect Impact (FTE jobs)	
12.6B	**71,000**	**109,000**	**Impact**
1M	**5.60**	**8.68**	**Multiplier**

- The economic impact assessment shows that $12.6 billion of industry revenues directly and indirectly creates or sustains 109,000 FTE jobs in the Canadian economy. Therefore, every $1 million of industry revenue directly and indirectly creates or sustains 8.68 FTE jobs.

Government Revenues

Industry Revenues ($)	Type	Direct and Indirect Impact ($)
12.6B	Personal Taxes	**1.7B**
12.6B	Corporate Taxes	**693M**
12.6B	Indirect Taxes	**321M**
12.6B	Total	**2.7B**

- The study shows that $12.6 billion of industry revenues has a direct and indirect contribution to personal income taxes of $1.7 billion, to corporate income taxes of $693 million, and to indirect taxes of $321 million, for a total direct and indirect contribution to government revenues of $2.7 billion.

Sensitivity Analysis – Government Procurement Strategies

Based on the study findings, the results of the economic impact assessment were applied to alternative defence and security procurement strategies that might be used by government entities within Canada (See Section 6). For example, based on the procurement of a $1B solution, with both the program ($500 M) and in-service support (ISS) ($500 M) being delivered by Canadian firms, the impact on the Canadian GDP and FTE jobs would be as follows:

Procurement Characterization	GDP Direct & Indirect Impact ($M)	Export Direct & Indirect Impact ($M)	Total GDP Direct & Indirect Impact ($M)	FTE Direct & Indirect Impact (# Jobs)
Management, Engineering & Design (25%)	$87.5M	$87.5M	$175M	1,499
Manufacturing (50%)	$125M	$125M	$250M	1,250
C4ISR Solution (25%)	$95M	$95M	$190M	1,169
Through Life ISS	$445M		$445M	7,000

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Glossary and Definitions

Glossary	
ATI	Access to Information request
Bottom-up approach	Survey used to estimate the total revenues of firms in the industry
C4ISR	Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance
CADSI	Canadian Association of Defence and Security Industries
CBSA	Canada Border Services Agency
CSC	Correctional Service Canada
DND	Department of National Defence
DRMIS	Defence Resource Management Information System
FTE	Full-time Equivalent Jobs
GDP	Gross Domestic Product
GST	Goods and Services Tax
HST	Harmonized Sales Tax
IC-CCC	Industry Canada – Canadian Companies Capabilities
Industry	Canadian Defence and Security Industry
I-O	Input-output model
IRB	Industrial and Regional Benefits
ISR	Intelligence, Surveillance, Reconnaissance
ISS	Integrated System Support
NAICS	North America Industrial Classification System
OPP	Ontario Provincial Police
PST	Provincial Sales Tax
RCMP	Royal Canadian Mounted Police
Shock	Statistical term for an economic event that changes inputs, causing a corresponding shift in outputs
Top-down approach	Estimates total expenditures of key purchasers to validate the results from the bottom-up approach

Definitions

GDP:

GDP is a measure of the value-added (the unduplicated total value of goods and services) to the Canadian economy by current productive activities attributable to the industries under study. It includes household income from current productive activities (wages, salaries and unincorporated business income) as well as profits and other income earned by corporations. For an individual company, value-added is the difference between the value of its sales and the cost of its purchases from suppliers. GDP is the total value-added produced in a country and is measured in dollars. It is the most appropriate measure of the overall economic impact since the value of the work done by each industry is attributed to the producing industry, and is counted only once.

FTE Jobs:

Employment impact is measured in terms of full-year equivalent positions for ongoing employment (i.e., employment impact associated with annual expenditures). Full-year equivalent positions are counted according to their duration and not according to whether they were full-time or part-time. Accordingly, an individual who is permanently employed for the entire year in a part-time capacity (e.g., hotel service staff) represents one full-year equivalent position or job.

Taxes:

Overall government revenues (at the municipal, provincial and federal levels) consist of direct, indirect and property taxes. Direct taxes comprise federal and provincial personal and corporation income taxes. Indirect taxes comprise PST, GST, HST and other commodity taxes such as gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes.

Multipliers:

Simple multipliers capture the sum of direct and indirect impacts. They are based on the assumption that households are exogenous and that there is no feedback between wages and production. Total multipliers capture the sum of direct, indirect and induced impacts. Households are treated as endogenous and the payments for labour services, i.e. wages, are redirected in the economy through consumer expenditures.

Direct Impacts:

Refer to the employment and value-added directly associated with the industry. They refer to the total value of goods and services used in the production of goods and services within the specific industry being studied.

Indirect Impacts:

Represent the employment and value-added associated with suppliers to the industry. Suppliers both employ their own workers and earn their own business income, and also generate demands for labour and goods and services produced by other industries.

Induced Impacts:

Measure the employment and value-added impacts associated with the re-spending of direct and indirect labour income. As the employees of the direct and indirect industrial firms take home their pay, they will spend within the broader economy creating a further induced impact of the revenues generated by the defence and security industry.

1. Introduction

KPMG LLP (KPMG) was retained by the Canadian Association of Defence and Security Industries (CADSI) to assess the economic impact of the Canadian Defence and Security industry (the Industry) and to develop an economic impact model for use by CADSI.

CADSI is a not-for-profit national business association representing the Canadian Defence and Security industries and counting 880 member companies selling to the defence and public security markets. Member companies are of all sizes and offer a wide spectrum of goods and services to its customers, and to business partners in Canada, the United States, and internationally.

CADSI is the voice for the Industry, supporting its member firms through advocacy, business development, networking, and member services. Its mandate is to strengthen the relationship and dialogue between government and industry and to maximize the contribution the members can make to national defence and security. As the primary advocate for the Industry, CADSI represents the interests of industry to governments, politicians, the media, special interest groups, opinion leaders, and the public.

Bottom-up approach

To undertake this economic impact analysis, KPMG primarily used a "bottom up" approach which included a survey to gather economic activity data from members of the Industry. The results of this survey were then used to estimate total industry revenues. This data set was used as the input to Statistics Canada's Input-Output Model (I-O Model) to measure the direct, indirect and induced economic impacts of the Industry on Gross Domestic Product (GDP), employment, government revenues and international trade.

It should be noted that the private security sector (i.e., companies owning and operating 'critical infrastructure' including banks, stock exchanges, transportation hubs and power utilities, which purchase security goods and services) was voluntarily excluded from the scope of study. Certain limitations were encountered in collecting data from the private sector firms engaged in public security activities, which may underestimate the size of the industry, as some members were *de facto* excluded from the scope of the study.

Top-down validation

KPMG also used a "top down" method to gather economic activity data through an analysis of the total capital, operations, and maintenance expenditures of selected federal, provincial, and municipal defence and security government entities. This data set was used to provide a snapshot of the Canadian defence and security market in 2011, and as control numbers to validate the data obtained through the "bottom up" approach. Certain limitations were encountered in collecting data from the government entities engaged in public security activities, which may underestimate the size of the industry

The completion of both "bottom up" and "top down" analyses, resulting in similar economic activity computations, provides confidence in the inputs imputed into Statistics Canada I-O Model. The use of Statistics Canada's model to generate the economic impact assessment provides confidence in the results obtained for the year 2011. The resulting economic model framework can be re-used by CADSI on an annual basis using data gathered from their membership as inputs to calculate updated economic impact metrics.

Future updates

It is recommended that the overall model framework, and associated multipliers, be re-assessed through the Statistics Canada I-O Model at least every 3 years (or sooner should there be significant events in the industry), to ensure that any changes to the economic structure of the sub-sectors or regions across Canada are accurately reflected.

2. The Canadian Market

The Canadian Market

The Canadian Defence and Security marketplace is primarily driven by government procurement of defence and security goods and services, which occurs at the federal, provincial, and municipal levels across Canada. As noted, above, the scope of this study is centred on government procurement and specifically excluded the private security sector.The government based defence and security marketplace is comprised of a number of government entities, such as:

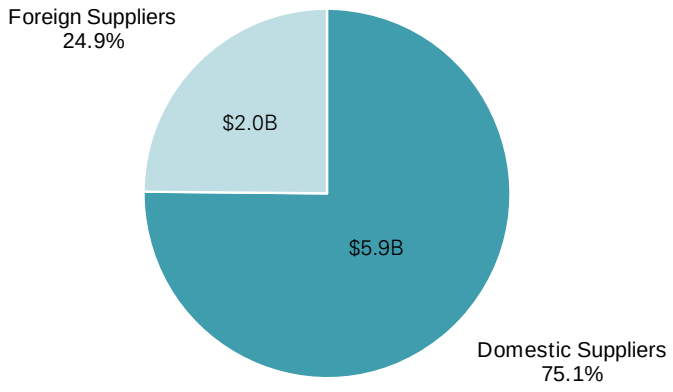
- Department of National Defence (DND)
- Royal Canadian Mounted Police (RCMP)
- Canada Border Services Agency (CBSA)
- Correctional Services Canada (CSC)
- Ontario Provincial Police (OPP)
- Other municipal and provincial police services.

Canadian Market Size

The ''Top down'' approach was used to analyze the spending patterns of these government entities through a review of public accounts, and identified their capital, operating and maintenance expenditures for the year 2011. It should be noted that selected government entities have broader overall expenditures that were not included in the analysis.

The analysis indicates that selected Canadian government entities spent $7.9 billion on defence and security in 2011. Based on an Access to Information (ATI) request response from DND, it was estimated that 75.1% ($5.9B) of these expenditures are domestic, while 24.9 % ($2.0B) are foreign.

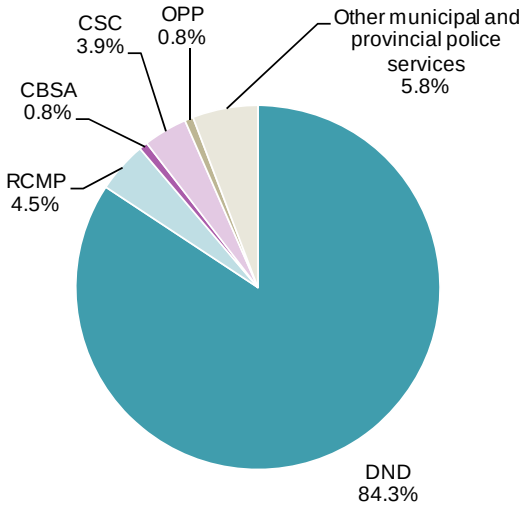
Defence and Security Expenditures by Selected Government Entities, 2011



$7.9B
Government Entities Expenditures

Across these selected government entities, DND is by far the largest purchaser of defence and security goods and services, responsible for over $5.0B of the $5.9B expenditures spent on supply from Canadian firms.

Defence and Security Expenditures by Selected Government Entities, 2011



$5.0B

DND is Largest Spender

3. The Canadian Industry

3.1 Defence and Security Industry

The defence and security industrial base supplies the broader defence and security market, including federal, provincial, and municipal government entities, as well as private sector purchasers of security goods and services.

The Industry is often referred to as a "managed" market because of the spending patterns of government entities. In fact, the domestic buyer is a large "first buyer" of the goods and services provided by the domestic defence industrial base. That proven capability is then exported to foreign governments. Consequently, there is a link between the level of foreign success by the national Industry, and the level of local procurement by domestic government entities.

The defence component occurs at the federal level (DND), while security is a shared federal, provincial and municipal responsibility. In both cases, the public and private sectors collaborate to enhance national defence and public security to create an environment that contributes to overall economic stability in Canada.

Defence

Canada's defence industrial base contributes to jobs, innovation and wealth creation in Canada and export opportunities abroad. With the majority of companies in the defence sector also selling to commercial markets and supporting domestic supply chains, their direct and indirect contribution to the Canadian economy is greater than their sales to defence and security customers.

Canada's defence industrial base includes, but is not limited to, shipbuilding and marine industries, aerospace industry, automotive sector, munitions, electronics, simulation and training, information and communications technologies, textile industry, in-service support and satellite and space technologies. This industrial base produces products, technologies and services across the industrial spectrum that serve to equip, enable, support and protect men and women in Canada's Armed Forces and security agencies to perform the duties assigned to them by the Federal Government as effectively as possible. Some of the key domestic industrial capabilities with economic value to Canada include the following:

- Shipbuilding, due to its contribution to regional shipyard employment and to the engagement of hundreds of companies in the domestic marine industry supply chain and in-service support market.
- A strong aerospace industry including avionics, composites, engines and landing gear;
- Robotics and unmanned vehicles, given its market growth potential and applicability to Canadian geography;
- Command, Control, Communications, Computing, Intelligence, Surveillance, and Reconnaissance (C4ISR), due to its diverse contribution to a strong communications and electronics base, and the resulting capability which provides sovereignty as a Canadian Forces interoperability enabler.
- Cross-platform simulation and training;
- Armoured land vehicles, due to the military effectiveness of current Canadian capability and its popularity in international markets and to the support it provides to hundreds of companies in the domestic supply chain of Canada's automotive sector from acquisition through life cycle support; and,
- In-service support.

Defence and the economy are critically important to Canada and are inter-dependent, not mutually exclusive – the defence industrial base provides vital support to Canada's defence and economic interests. Industry is playing a growing role as direct operators in military missions, and a continuing role as suppliers of key products, technologies and services. It plays an increasingly vital role as 'stewards' of defence equipment, given the rotational nature of the federal public service and the Canadian Forces and the length of time and use of Canada's fleets in service.

Key drivers of the competitiveness of Canada's defence industrial base include government entities as a first buyer, exports and R&D (as a market heavily influenced by technology-based solutions).

Public Security

The public security industry includes many private sector enterprises in Canada, which supply government and related agencies with goods and services to protect people, property, and public institutions from threats such as crime, terrorism, severe accidents, and environmental disasters.

The public security sector includes the following services:

- Border and port control (including coast guard);
- Law enforcement (national, provincial and municipal police services);
- Emergency management (including first responders of all types);
- Intelligence and information sharing; and
- Justice (including correctional establishments).

While there is a private sector element of the security market involved in protecting critical infrastructure (utilities, banking, transportation, etc.), this sector falls outside the scope of this study.

In summary, the Canadian defence and security industry boasts a broad industrial base, providing a wide range of goods and services to both the public and private sectors.

3.2 Canadian Industry Size

A ''Bottom up'' approach was used to estimate total revenues for Canadian industrial performers. This approach consisted in gathering data through the use of an industry survey. Two sources of information were used to construct the survey sample:

- CADSI's membership database
- Industry Canada's list of Canadian Company Capabilities (IC-CCC), which included identification of Canadian firms involved in defence and security.

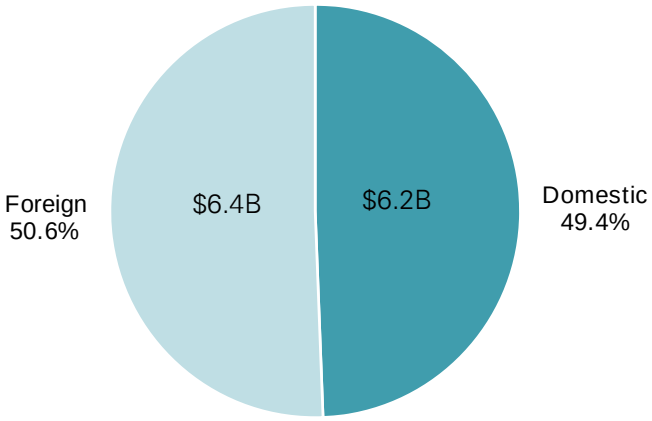
These two databases were compared, with duplicates eliminated, resulting in the identification of over 2,000 Canadian firms involved in the Industry.

2,000 Firms
In Canadian Industry

Through this analysis, it is estimated that the overall economic activity of the Industry, in 2011, was $12.6B. Of this total, 49% ($6.2B) was generated from domestic revenues, primarily to Canadian government entities, while 51% or ($6.4B) was generated from foreign revenues.

$12.6B
Industry Revenue

Canadian versus Foreign Defence and Security Sales, 2011



51%
Of Revenue Generated from Exports

4. Economic Impact of the Industry

Contribution to GDP

Based on overall industry revenues of $12.6 billion, for 2011, the Industry has directly and indirectly contributed $9.0 billion in Gross Domestic Product (GDP).

$9.0B
GDP

The economic impact model indicates that the Industry's contribution to GDP has a direct and indirect impact multiplier of 0.71, meaning that every dollar of industry revenue generates a direct and indirect impact of $0.71 on Canadian GDP. Explained in another way, every $1 of direct GDP contribution generates $0.62 of indirect GDP contribution, or, for every $1 of value added directly created by the Industry, $1.62 is subsequently generated directly and indirectly.

0.71
GDP Multiplier

GDP - Economic Impact Assessment

Industry Revenues ($)	Direct Impact ($)	Direct and Indirect Impact ($)	
12.6B	**5.6B**	**9.0B**	**Impact**
1	**0.44**	**0.71**	**Multiplier**
	1	**1.62**	**Multiplier**

Contribution to GDP by Sub-sectors

In order to utilize the standard I-O model, the Industry members were categorized into subsectors. The table below compares the membership categories used by CADSI to the classifications used in the KPMG survey and the Statistics Canada model.

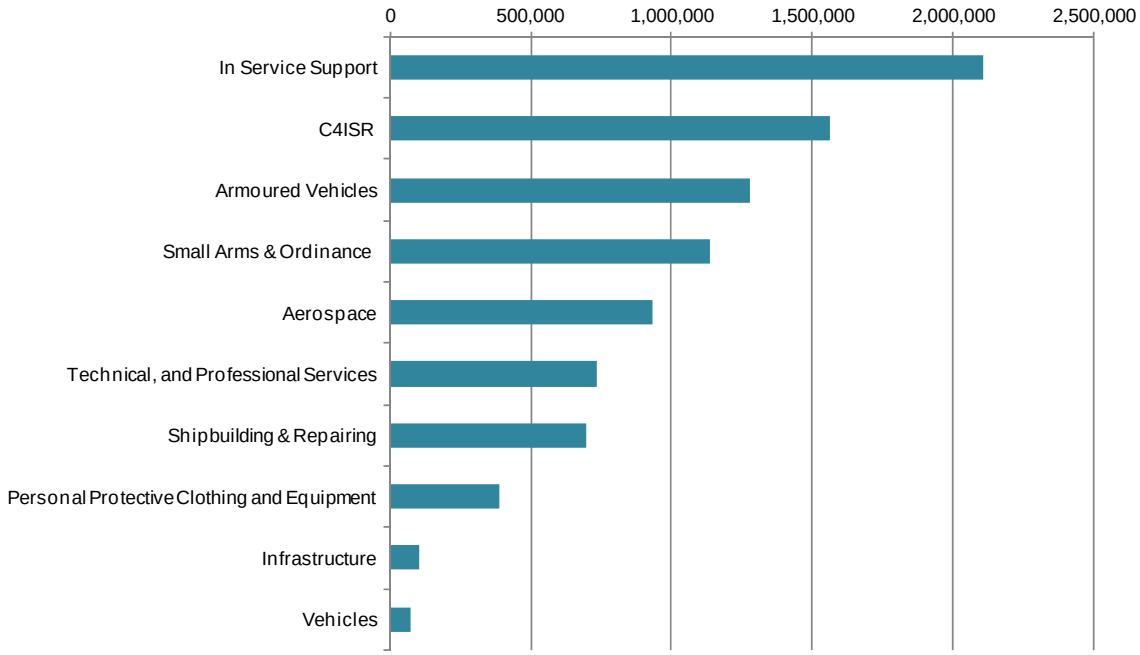
Defence and Security Industry Sub-sector Classification	
CADSI Member Trade Term	**KPMG Survey/Statistics Canada Classification**
Shipbuilding	Shipbuilding and Repairing
Aerospace	Aerospace Product and Parts Manufacturing
Vehicles	Land Vehicles
Armoured Vehicles	Armoured and Specialized Military Vehicles
Infrastructure	Infrastructure
Personal Protective Clothing & Equipment	Textile and Clothing Manufacturing
	Personal Safety
Command, Control, Computing, Intelligence, Surveillance, and Reconnaissance (C4ISR)	Hi-tech Electronic Components
	Computer Systems Design and Related Services
In Service Support (ISS)	Integrated System Support Management
	Platform Maintenance, Repair and Overhaul
Technical and Professional Services	Other Professional Services
Small Arms and Ordnance	Arms and Ammunition

The various sub-sectors in the Industry contribute differently to GDP, based on the overall volume of economic activity, as well as the amount of activity conducted domestically. Typically, labour-based sub-sectors, such as In Service Support, in which the bulk of the work is done domestically, will exhibit a higher GDP impact multiplier. Sub-sectors reliant on manufacturing which import materials from other countries will exhibit a lower GDP impact, i.e., the more domestic a sub-sector's activity is, the higher its impact on GDP.

The chart below illustrates the GDP contribution (in $M) of the various Industry sub-sectors, as well as their GDP impact multipliers, based on industry revenues of $12.6 billion (using the CADSI member categories). This chart indicates that In-Service Support and C4ISR are the largest Canadian GDP contributors by dollar value.

ISS
C4ISR
Largest GDP Contributors

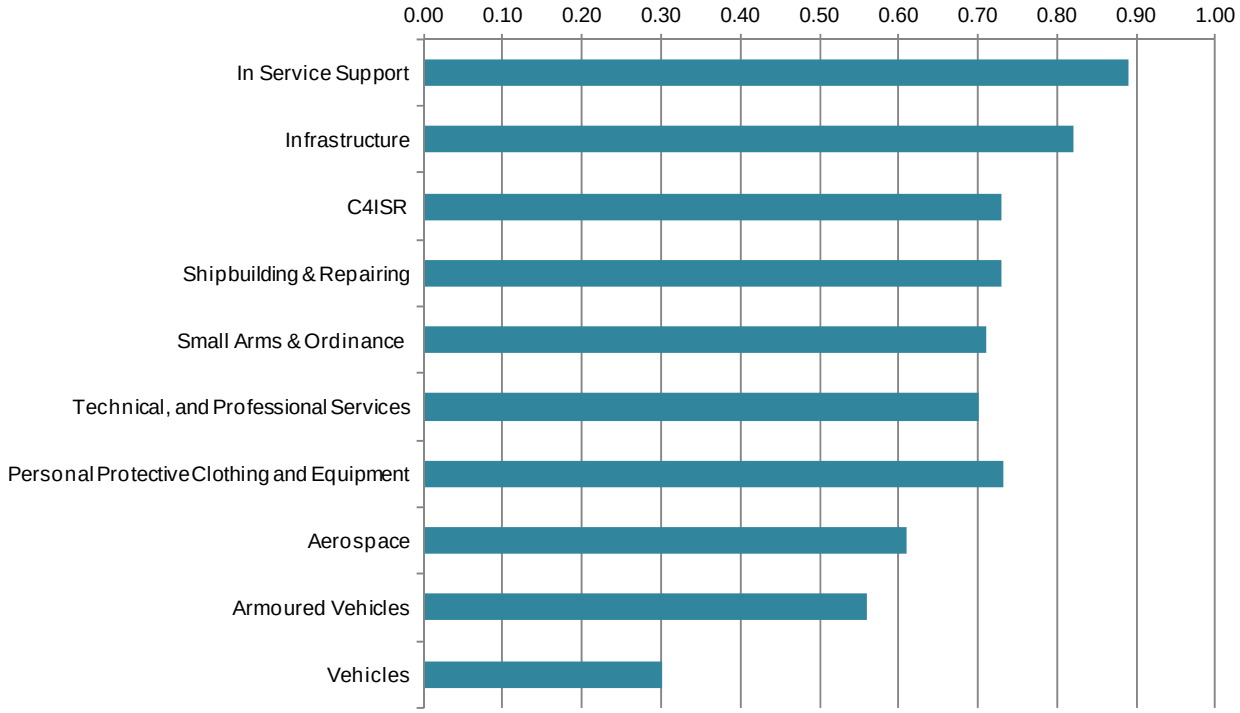
Direct and Indirect GDP Contribution by Sub-sector (in $000s)



The chart below illustrates the GDP multipliers of the various Industry security sub-sectors (using the CADSI member categories). This chart indicates that In-Service Support, Infrastructure (IS) and C4ISR have the largest multipliers.

ISS
IS
C4ISR
Largest Multipliers

Direct and Indirect GDP Impact Multiplier by Sub-Sector



Contribution to FTE Jobs

The economic impact of the Industry on the number of jobs in Canada is measured in terms of Full Time Equivalent (FTE) jobs.

Based on Industry revenues of $12.6 billion, for 2011, the Industry has directly and indirectly created or sustained 109,000 FTE jobs in Canada.

109,000
Jobs

The economic impact model indicates that the Industry's contribution to FTE jobs has a direct and indirect impact multiplier of 8.68. That is, for every $1 million of industry revenues, 8.68 jobs are directly and indirectly created or sustained. Explained in another way, every $1 of direct FTE jobs contribution generates $0.54 of indirect FTE jobs contribution, or, for every additional FTE job of value added directly created by the Industry, 1.54 FTE jobs are generated directly and indirectly.

8.68
FTE Jobs/$1M

FTE Jobs - Economic Impact Assessment

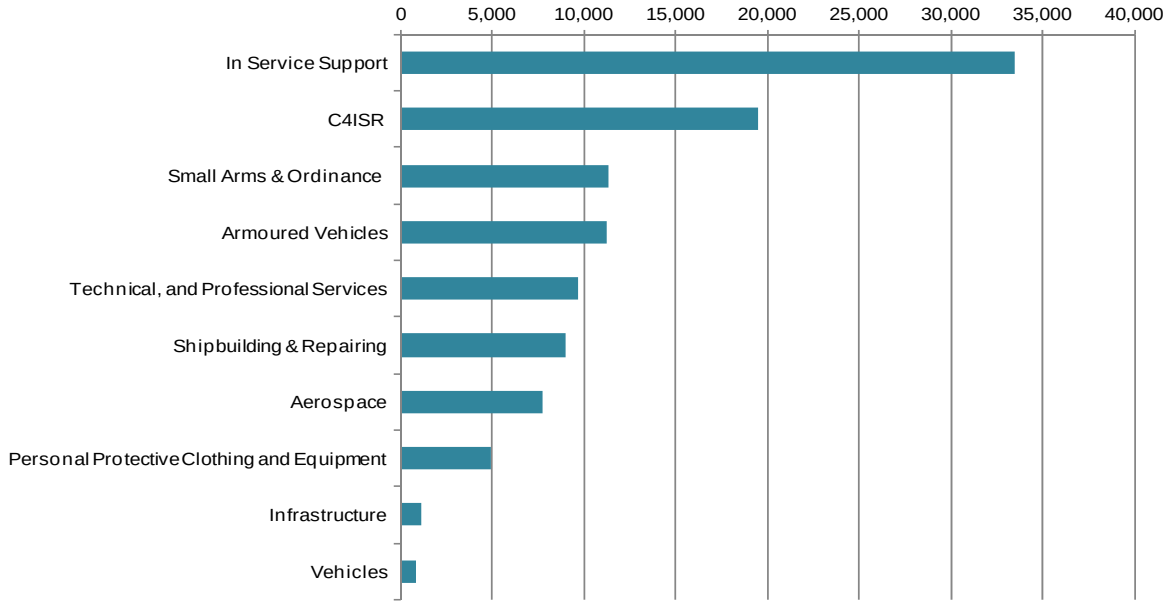
Industry Revenues ($)	Direct Impact (jobs)	Direct and Indirect Impact (jobs)	
12.6B	**71,000**	**109,000**	**Impact**
1 M	**5.60**	**8.68**	**Multiplier**
	1	**1.54**	**Multiplier**

Contribution to FTE Jobs by Sub-sectors

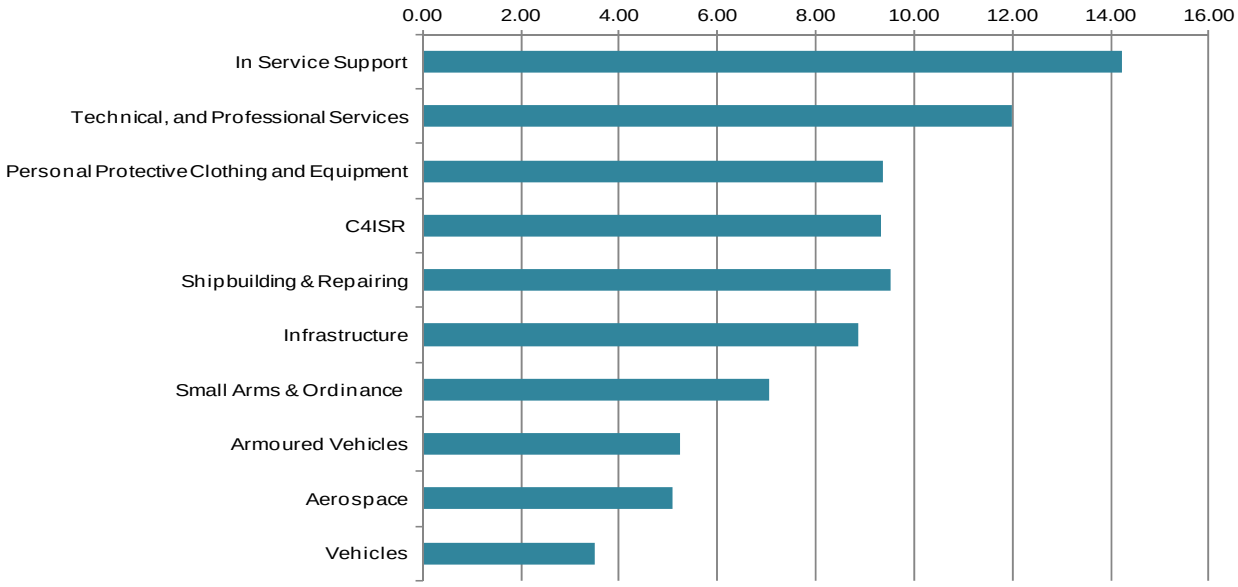
The various sub-sectors in the Industry contribute differently to FTE jobs. The charts presented below illustrate the FTE jobs contribution of the various defence and security sub-sectors, as well as their FTE jobs impact multipliers. These charts indicate that In-Service Support and C4ISR are the largest sources of FTE jobs in the sector in Canada. However, In-Service Support, and Technical and Professional Services result in the highest number of jobs created or sustained per $1 million of Industry revenue. In this reporting period (2011), this result may occur due to Government procurement focusing on supporting existing programs versus a high volume of Canadian-equipped acquisitions.

ISS
C4ISR
Largest FTE jobs Source

Direct and Indirect Contribution to FTE Jobs by Sub-sector



Direct and Indirect FTE Jobs Impact Multiplier by Sub-Sector



Contribution to Government Tax Revenue

Overall government revenues (at the municipal, provincial and federal levels) consist of direct, indirect and property taxes. Direct tax revenue for the government comes from federal and provincial personal and corporate income taxes. Indirect tax revenues come from sales taxes (PST, GST, HST) and other commodity taxes such as gas taxes, liquor and lottery taxes and profits, air transportation taxes, duties and excise taxes placed on purchasing activity in the marketplace. The Statistics Canada I-O model calculates the indirect tax contributions made by the different industry sub-sectors. Estimates were calculated for direct taxes.

$2.7B
Total Contribution to Taxes

The study shows that $12.6 billion of industry revenues has a direct and indirect contribution to personal income taxes of $1.7 billion, to corporate taxes of $693 million, and to indirect taxes of $321 million, for a total direct and indirect contribution to government revenues of $2.7 billion.

Government Revenue - Economic Impact Assessment

Industry Revenues ($)	Type	Direct and Indirect Impact ($)
12.6B	Personal Taxes	**1.7B**
12.6B	Corporate Taxes	**693M**
12.6B	Indirect Taxes	**321M**
12.6B	Total Taxes	**2.7B**

Direct taxes (individual and and corporate) are computed in the following tables:[1]

Estimate of Employees by Province and 2011 Federal and Provincial Personal Taxation					
	Ontario	Quebec	BC	Others	Total
Estimated allocation of Employees	**57,000**	**23,000**	**8,000**	**21,000**	**109,000**
Estimate of Total Individual Income Taxes (in $M)	**865**	**388**	**115**	**334**	**1,703**

Source: Survey Results, KPMG tax analysis; see Assumptions in Appendix D

Estimate of Revenue by Province/Sub-Sector and Estimate of 2011 Corporate Taxes						
In $M **Sub-sectors**	**Ontario**	**Quebec**	**British Columbia**	**Others**	**Allocated Revenue**	**Est'd Corp Taxes**
In Service Support (ISS)	1,257	208	190	713	2,368	130
Shipbuilding	379	42	175	354	950	52
C4ISR	1,271	379	245	303	2,197	120
Technical and Professional Services	476	125	50	158	808	44
Aerospace	498	575	144	310	1,527	84
Armoured Vehicles	1,970	68	22	230	2,290	125
Personal Protective Clothing & Equipment	392	104	7	32	535	29
Vehicles	142	19	22	59	243	13
Small Arms and Ordnance	198	1,211	1	189	1,597	88
Infrastructure	39	13	65	9	126	7
Total	**6,623**	**2,744**	**921**	**2,355**	**12,643**	**693**

[1] The Statistics Canada national I-O model was used so the allocation of employees and revenue to provinces is an estimate only for purposes of estimating the direct tax revenues.

5. Trade Balance

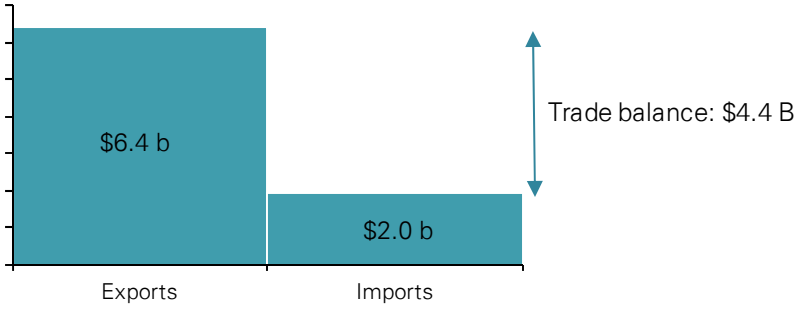
An analysis of the data gathered through the ''bottom up'' and ''top down'' approaches enabled the development of an estimate for the trade balance of the Industry. For 2011, the amount of foreign expenditures spent by government entities purchasing goods and services from other countries (imports) was compared to the amount of foreign revenues obtained by Canadian industrial performers selling goods and services to other countries (exports). A positive trade balance indicates that Canada exports more than it imports, while a negative trade balance indicates that Canada imports more than it exports.

$4.4B

Canadian Industry has Positive Trade Balance

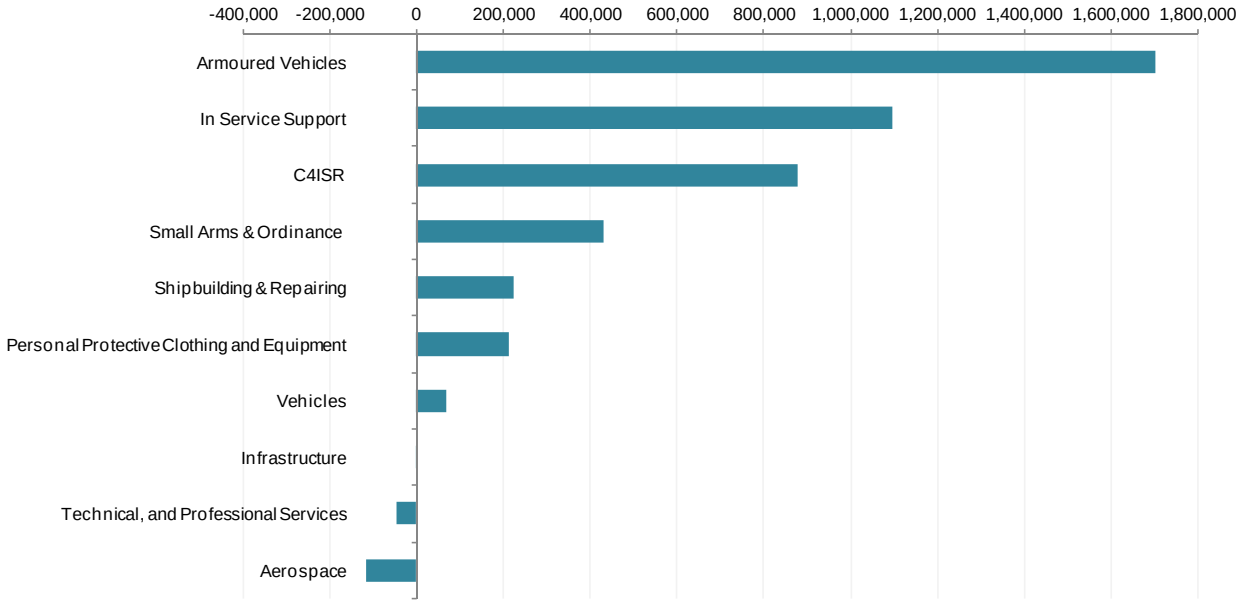
For 2011, industry performers reported total exports of $6.4 billion, while selected Canadian government entities reported imports of $2.0 billion, for a total positive trade balance of $4.4 billion.

Industry Trade Balance



The chart presented below illustrates the trade balance for the Industry, per sub-sector (based on the CADSI member categories). Armoured Vehicles, In Service Support, and C4ISR exhibit large positive trade balances. Therefore, export revenues from foreign sales in these sub-sectors exceed import expenditures. Professional Services and Aerospace exhibit negative trade balances. In these sub-sectors, the amount of export revenues from foreign sales is smaller than import expenditures. This suggests Canada is purchasing a comparatively high ratio of aerospace and technical services from other nations.

Trade Balance by Sub-Sector ($000s)



6. Sensitivity Analysis - Government Procurement Strategies

Based on the study findings, the results of the economic impact assessment were applied to alternative defence and security procurement strategies that might be used by government entities within Canada. Three scenarios were contemplated based on the level of Canadian content for the procurement of a $1B solution:

Scenario A	▪ Procurement of a $1B solution. ▪ Solution delivered by a Canadian firm. ▪ In Service Support (ISS) by provided by Canadian firms.
Scenario B	▪ Procurement of a $1B solution. ▪ Solution delivered by a Foreign firm. ▪ In Service Support (ISS) provided by Canadian firms.
Scenario C	▪ Procurement of a $1B solution. ▪ Solution delivered by a Foreign firm. ▪ In Service Support (ISS) provided by Foreign firms.

The impact of each of these three scenarios on the Canadian GDP and FTE jobs are as follows:[2]

Procurement Scenario Characterization				GDP Direct & Indirect Impact ($M)	Export GDP Direct & Indirect ($M)	Total GDP Direct & Indirect ($M)	FTE Direct & Indirect Impact (# Jobs)
Scenario A	$1B Program	$500 M Acquisition	Management, Engineering, & Design (25%)	$87.5 M	$87.5 M	$175 M	1499
			Manufacturing (50%)	$125 M	$125 M	$250 M	1250
			C4ISR Solution (25%)	$95 M	$95 M	$190 M	1169
		$500M ISS	Through Life ISS	$445 M		$445 M	7000 *thru life*
Scenario A Totals				**$ 753M GDP**	**$308M GDP**	**$1.1 B**	**10,918 Jobs**
Scenario B	$1B Program	$500 M Acquisition	Management, Engineering, & Design (25%)	$0M	$0M	$0 M	0
			Manufacturing (50%)	$0M	$0M	$0M	0
			C4ISR Solution (25%)	$0M	$0M	$0M	0
		$500M ISS	Through Life ISS	$445 M		$445 M	7000 *thru life*
Scenario B Totals				**$ 445M GDP**	**$0M GDP**	**$ 445M GDP**	**7,000 Jobs**
Scenario C	$1B Program	$500 M Acquisition	Management, Engineering, & Design (25%)	$0M	$0M	$0M	0
			Manufacturing (50%)	$0M	$0M	$0M	0
			C4ISR Solution (25%)	$0M	$0M	$0M	0
		$500M ISS	Through Life ISS	$0M	$0M	$0M	0
Scenario C Totals				**$0 M GDP**	**$0 M GDP**	**$0 M GDP**	**0 Jobs**

[2] KPMG is not aware of any analysis of the economic impact on the Industry resulting from Canada's Industrial and Regional Benefits (IRB) program. IRBs have therefore not been considered in this analysis. However, as the IRB program applies to more than the Industry, its direct impact on the Industry may not be as great as the analysis above.

7. Summary and Conclusion

The Industry manufactures products, develops technologies and provides services across the industrial spectrum. These products and services safely and effectively equip, support and protect Canada's Armed Forces and various security agencies to perform the duties assigned to them by the Federal Government and other agencies.

The Industry consists of over 2,000 firms and in 2011 is estimated to have generated a total of $12.6B of economic activity, which was split approximately equally between domestic and foreign revenues.

There is a significant defence and security market created by government entities in Canada. The major government entities reviewed in this study had total expenditures on capital, operations, and maintenance of $7.9B. Of this total, approximately 75% was spent on domestic suppliers, and 25% on foreign suppliers. DND is the largest spender in this market, representing 85% of the amount spent on domestic defence suppliers.

The study shows that the industry had a total direct and indirect contribution to government tax revenues of $2.7 billion. As well, the Industry shows a net positive trade balance of $4.4 billion comprised of exports of $6.4B, net of imports by government entities of $2.0B.

The economic impact assessment shows that $12.6 billion of industry revenues has a direct and indirect contribution to Canadian GDP of $9.0B. Therefore, every $1 of industry revenue has a direct and indirect contribution of $0.71 to Canadian GDP. When compared to other industry sectors, a multiplier of 0.71 is higher than pure manufacturing (due to greater imported materials in that sector) but lower than sectors such as health care and education (which are more locally and labour-based). This reflects the mix of manufacturing and higher value-add technical services provided by the Industry in Canada.

The economic impact assessment indicates that $12.6 billion of industry revenues directly and indirectly creates or sustains 109,000 FTE jobs in the Canadian economy. Therefore, every $1 million of industry revenue directly and indirectly creates or sustains 8.68 FTE jobs.

In summary, the Defence and Security industry has a significant impact on Canada's economy in terms of revenue, taxation, trade balance, GDP and employment. As it is one of the few sectors of the Canadian economy competing in a globally managed market, the policies and actions of governments both in Canada and abroad have a direct impact on the industry's success.

As this analysis was based on 2011 data, with this sector facing continuous market pressures, program and spending changes, it is anticipated that the results will vary over time.

* * * * *

Please refer to the Appendices which follow for a detailed analysis of the economic impact model used, economic inputs (bottom up), validation of results (top down), and survey approach, results and questionnaire.

Appendix A – Economic Impact Model

Statistics Canada Input-output Model Used for this Study

Input-output models (I-O models) are used to simulate the economic impact of an expenditure on a given basket of goods and services or the output of one of several industries. Input-output analysis is based on statistical information about the flow of goods and services among various sectors of the economy.

An I-O model divides the economy into a matrix of industries and commodities. Relationships within the model map the production of commodities onto industries, and identify the primary or intermediate commodities that are used in the production of each final commodity used by consumers or sold as an export. The model can then aggregate all of the employment and value-added impacts generated in the supply chain as commodities are produced. I-O models also consider the role of imports, which tie the supply chain to the global economy.

These data are combined into a single model of the economy which can be solved to determine how much additional production is generated by a change in the demand for one or more commodities or by a change in the output of an industry. The simulation results from a "shock" to an I-O model will show the direct and indirect impacts, which industries benefit the most, the number of jobs created, estimates of indirect taxes and subsidies generated, etc.[3]

This information, presented in the form of tables, provides a comprehensive and detailed representation of the economy for a given year. An input-output model is essentially a database showing the relationship between commodity usage and industry output.

In Canada, the most authoritative and comprehensive I-O model is the Statistics Canada Interprovincial Input-Output Model maintained by Statistics Canada, and this is the model that has been used by KPMG for this analysis. As outlined in the Statistics Canada Guide to using the Input-Output Model, the "model has the greatest potential of all major economic models for capturing the flows of goods and services between industries and consumers at relatively detailed levels." The I-O model used in this analysis is the most recent version produced by Statistics Canada and is calibrated to the 2008 Canadian economy. The Statistics Canada I-O model is independent to KPMG and is recognized by many as the benchmark by which economic modeling is undertaken in Canada.

[3] Statistics Canada

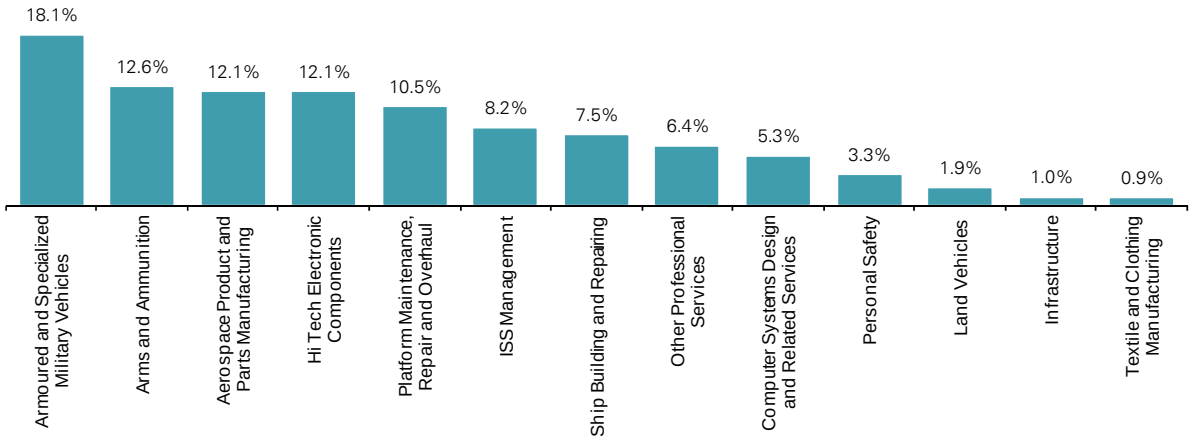
Appendix B – Economic Activity Inputs

The following table illustrates, for 2011, the financial data used as inputs for the economic simulation using Statistics Canada's I-O model. The data used is the Canadian revenue for the fiscal year ending in 2011, derived from the defence and security industry, generated by the organizations surveyed, and extrapolated to the industry as a whole. See Appendix E for description of sub-sectors used for the study.

Input Data for the I-O Model		
Sub-sectors	**I-O Model Category**	**Shock Value ($ 000)**
Ship Building and Repairing	IOIC 336611 – Ship Building and Repairing	950,280
Aerospace Product and Parts Manufacturing	IOIC 336400 – Aerospace Product and Parts Manufacturing	1,527,420
Land Vehicles	IOIC 336110 – Automobile and Light-Duty Motor Vehicle Manufacturing	242,736
Armoured and Specialized Military Vehicles	IOIC 336900 – Other Transportation Equipment Manufacturing	2,290,057
Infrastructure	IOIC 230G00 – Other Engineering Construction	125,681
Textile and Clothing Manufacturing	IOIC 31A – Textile and Textile Product Mills (50%)	
	IOIC 315 – Clothing Manufacturing (for uniforms) (50%)	112,874
Personal Safety	IOIC 339110 – Medical Equipment and Supplies Manufacturing	422,224
Hi Tech Electronic Components	IOIC 334400 – Semiconductor and Other Electronic Component Manufacturing (50%)	
	IOIC 334500 - Navigational, Measuring, Medical and Control Instruments Manufacturing (50%)	1,524,378
Computer Systems Design and Related Services	IOIC 541500 – Computer Systems Design and Related Services	673,218
ISS Management	IOIC 541B00 – Other Professional, Scientific and Technical Services	1,039,615
Other Professional Services	IOIC 541B00 – Other Professional, Scientific and Technical Services (50%)	
	IOIC 541300 – Architectural, Engineering and Related Services (50%)	808,488
Platform Maintenance, Repair and Overhaul	IOIC 811A00 – Repair and Maintenance (except Automotive Repair and Maintenance)	1,328,497
Arms and Ammunition	IOIC 332900 – Other Fabricated Metal Products Manufacturing	1,597,455
Total		**12,642,921**

Note: I-O model categories refer to the specific industry categories present in the model to which the sub-sectors numbers were imputed for simulation purposes.

The following chart illustrates, for 2011, the input data presented above, in percentages. It can be seen that, for fiscal year ending in 2011, the most important revenue generating sub-sectors for industry performers were Armoured and Specialized Military Vehicles Manufacturing at 18.1%, Arms and Ammunition at 12.6%, and both Aerospace Products and Parts Manufacturing and High Tech Electronic Components at 12.1%.



Appendix C - Validation of Input Data

C.1 Top-down Validation Approach using Selected Government Entities

The objective of the top-down approach was to validate the input data derived from the bottom-up (survey) approach.

KPMG's top-down approach consisted of identifying the key defence and security government entities in Canada, estimating their relevant capital, operations and maintenance expenditures for the year 2011 using Public Accounts, and comparing this data with the figures estimated through the bottom-up approach. Organizations selected as the key government entities purchasing from the Industry are the following:

Defence government entities:

- Department of National Defence (DND)

Security government entities:

- Royal Canadian Mounted Police (RCMP)
- Canada Border Services Agency (CBSA)
- Correctional Services Canada (CSC)
- Ontario Provincial Police (OPP)
- Other municipal and provincial police services.

DND is the most important government entity purchasing from the defence and security sector in Canada. As such, it was reviewed in greater detail. To that end, KPMG directly contacted DND and filed an Access to Information (ATI) request to obtain the specific capital, infrastructure and professional and other service expenditures, to have them allocated to the sub-sectors, and to obtain the percentage of imports related to those expenditures.

Other Selected Government Entities include the RCMP, CBSA, CSC, OPP, and Other municipal and provincial police services. Expenditures for other municipal and provincial police services (excluding OPP and RCMP) were estimated using the number of police officers in Canada in 2011and expenditures from OPP and RCMP.

KPMG used Public Accounts of Canada and Ontario for 2010-2011, based on expenditures for acquisition of machinery and equipment, acquisition of land, buildings and works, as well as professional and special services, to estimate RCMP, CBSA, CSC, and OPP's total capital expenditures.

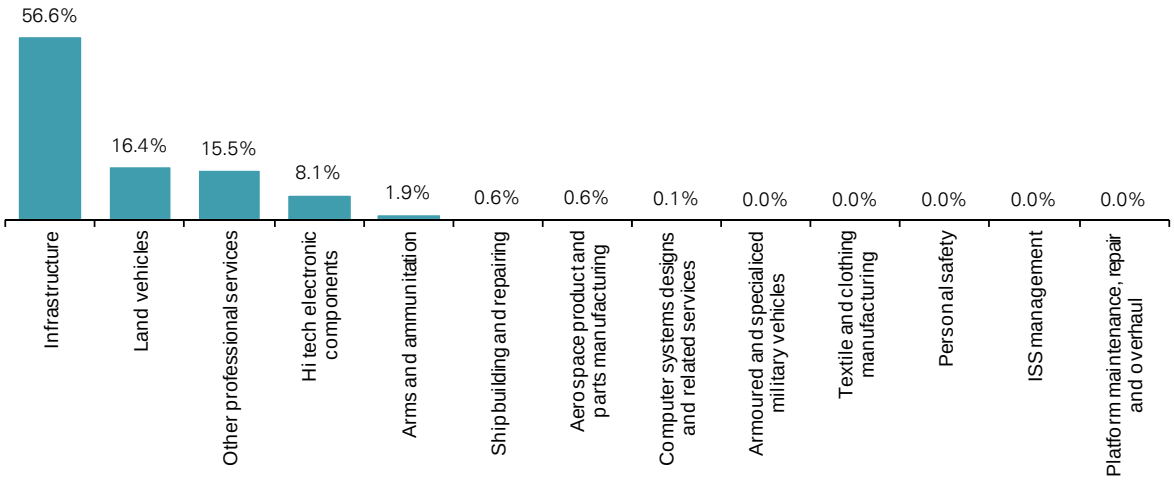
KPMG estimated expenditures for other municipal and provincial police services (excluding OPP and RCMP) using the number of police officers in Canada as per Police Resources in Canada, Statistics Canada, 2011 and capital expenditures from OPP and RCMP.

C.2 Other Selected Government Entities: RCMP, CBSA, CSC, OPP, Other Municipal and Provincial Police Services

➢ **Other Selected Government Entities Capital, Operations and Maintenance Expenditures** - The following table illustrates, for 2010 – 2011, total expenditures of $1 Billion for Other Selected Government Entities. The land vehicles, aerospace product and parts manufacturing, and hi tech electronic components sub-sectors show the highest level of dependence on imports, with 70.0% of expenditures going to foreign suppliers. Other Professional Services show the highest reliance on domestic suppliers, at 86.0%

Other Selected Government Entities - Expenditures per sub-sector 2010 - 2011					
Sub-sectors	**Domestic expenditures ($)**	**Percentage of domestic expenditures**	**Foreign expenditures ($)**	**Percentage of foreign expenditures**	**Total expenditures ($)**
Ship Building and Repairing	4,344,695	69.6%	1,899,261	30.4%	6,243,955
Aerospace Products and Parts	1,789,945	28.7%	4,454,010	71.3%	6,243,955
Land Vehicles	158,985,008	95.4%	7,668,297	4.6%	166,653,305
Armoured and specialized military Infrastructure	543,522,303	94.7%	30,529,190		574,051,493
Textile and clothing manufacturing Personal safety					
Hi tech electronic components	67,501,236	81.9%	14,934,701	18.1%	82,435,937
Computer Systems Design and Related ISS management	913,858	61.4%	574,092	38.6%	1,487,949
Other professional services	138,742,055	88.0%	18,927,796	12.0%	157,669,852
Platform maintenance, repair and Arms and ammunition	11,827,812	60.8%	7,619,254	39.2%	19,447,067
Total	**927,626,912**	**91.5%**	**86,606,602**	**8.5%**	**1,014,233,514**

➢ **Other Selected Government Entities Capital, Operations and Maintenance Expenditures per Sub-sector** - For 2010 – 2011, the most important sub-sectors in terms of Other Selected Government Entities' expenditures were Infrastructure at 56.6%, Land Vehicles at 16.4%, and Other Professional Services at 15.5%.



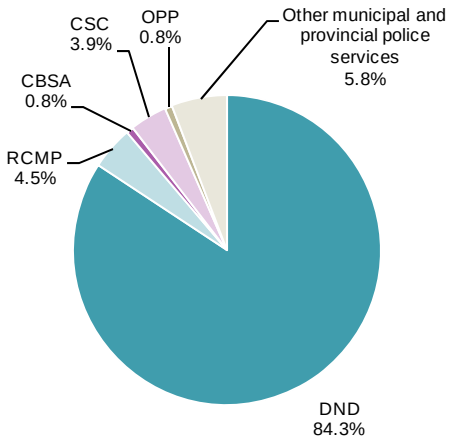
C.3 Total Government Entities Expenditures (DND and others)

For 2010 - 2011, the data obtained through the top-down approach shows total domestic capital, operations and maintenance expenditures of $5.9 Billion for DND and Other Selected Government Entities.

Total Domestic Expenditures for Selected Government Entities for 2010-2011				
($)				
	Sub-sectors	DND	Others[1]	Total
1	Shipbuilding and repairing	51,216,060	4,344,695	55,560,755
2	Aerospace product and parts manufacturing	425,186,344	1,789,945	426,976,289
3	Land vehicles	52,862,290	158,985,008	211,847,298
4	Armoured and specialized military vehicles	220,734,507		220,734,507
5	Infrastructure	676,343,556	543,522,303	1,219,865,859
6	Textile and clothing manufacturing	83,374,290		83,374,290
7	Personal safety	57,338,563		57,338,563
8	Hi tech electronic components	747,073,361	67,501,236	814,574,597
9	Computer systems designs and related services	36,469,595	913,858	37,383,453
10	ISS management			0
11	Other professional services	1,564,061,711	138,742,055	1,702,803,766
12	Platform maintenance, repair and overhaul	720,407,126		720,407,126
13	Arms and ammunition	338,146,509	11,827,812	349,974,321
	Total	**4,973,213,912**	**927,626,912**	**5,900,840,824**

Note 1: Other Selected Government Entities include : RCMP, CBSA, CSC, OPP, Other Municipal and Provincial Police Services
Sources: Public Accounts of Canada and Ontario, 2010-2011. KPMG estimated expenditures for other municipal and provincial police services using the number of police officers in Canada as per Police Resources in Canada, Statistics Canada, 2011, and capital expenditures from OPP and RCMP.

- **Defence and Security Industry Selected Government Entities** - The following chart illustrates, for 2011, the importance of each government entity in the Industry. DND is clearly the most important player, with a share of 84.3%. DND is a pure player in the defence sector, while other selected government entities are focused on the security sector.

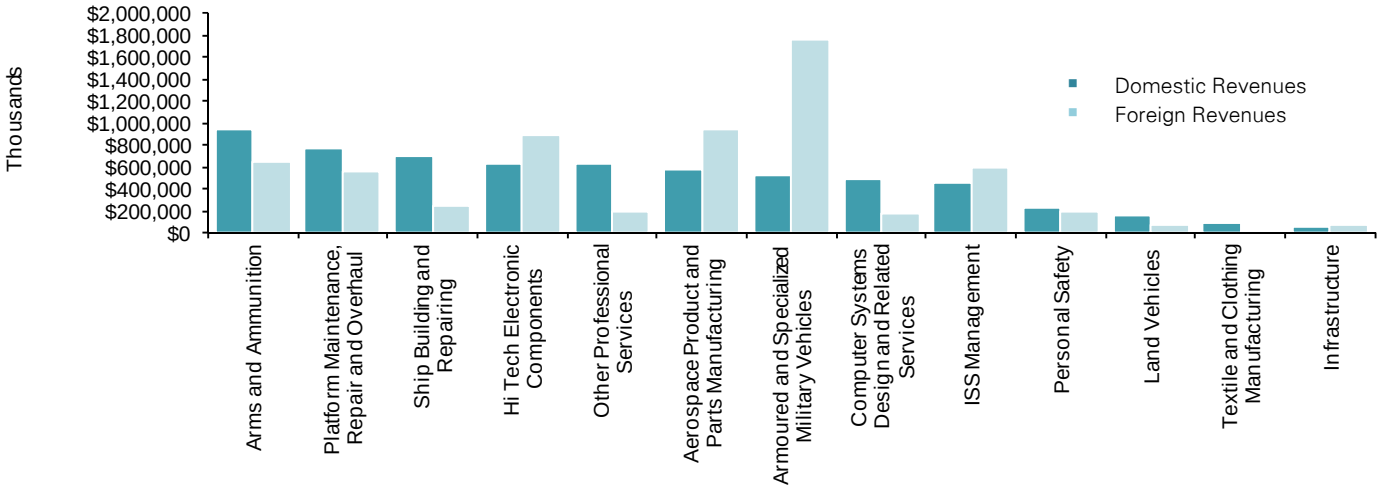


C.4 Total Revenues using Bottom-up Approach (Domestic and Foreign)

➢ **Bottom-up Approach Estimated Industry Revenue** – For 2011, Industry performers had total revenues of $12.5 Billion, of which 49% was earned in the domestic market, while 51% was earned in foreign markets.

Bottom-up Estimated Revenue for 2011					
Sub-sectors	**Domestic Sales**	**Percentage of Domestic Sales**	**Foreign Sales**	**Percentage of Foreign Sales**	**Total Revenue**
Ship Building and Repairing	703,207,126 $	74.0%	247,072,774 $	26.0%	950,279,900 $
Aerospace Product and Parts Manufacturing	580,419,450 $	38.0%	947,000,156 $	62.0%	1,527,419,606 $
Land Vehicles	165,060,505 $	68.0%	77,675,532 $	32.0%	242,736,037 $
Armoured and Specialized Military Vehicles	526,713,031 $	23.0%	1,763,343,626 $	77.0%	2,290,056,658 $
Infrastructure	55,299,596 $	44.0%	70,381,304 $	56.0%	125,680,900 $
Textile and Clothing Manufacturing	86,912,641 $	77.0%	25,960,919 $	23.0%	112,873,560 $
Personal Safety	228,000,878 $	54.0%	194,222,970 $	46.0%	422,223,848 $
Hi Tech Electronic Components	624,994,894 $	41.0%	899,382,897 $	59.0%	1,524,377,791 $
Computer Systems Design and Related Services	491,448,897 $	73.0%	181,768,770 $	27.0%	673,217,667 $
ISS Management	447,034,403 $	43.0%	592,580,487 $	57.0%	1,039,614,890 $
Other Professional Services	622,535,863 $	77.0%	185,952,271 $	23.0%	808,488,134 $
Platform Maintenance, Repair and Overhaul	770,528,160 $	58.0%	557,968,668 $	42.0%	1,328,496,828 $
Arms and Ammunition	942,498,541 $	59.0%	654,956,613 $	41.0%	1,597,455,154 $
Total	**6,244,653,986 $**	**49.4%**	**6,398,266,987 $**	**50.6%**	**12,642,920,972 $**

➢ **Bottom-up Approach Estimated Revenue per Sub-sector** – For 2011, the sub-sectors showing the greatest reliance on domestic revenues are Arms and Ammunition, Plaform Maintenance, Repair and Overhaul and Ship Building and Repairing. The sub-sectors showing the greatest reliance on foreign revenues are Armoured and Specialized Vehicles, Aerospace Product and Parts Manufacturing, and Hi Tech Electronic Components.



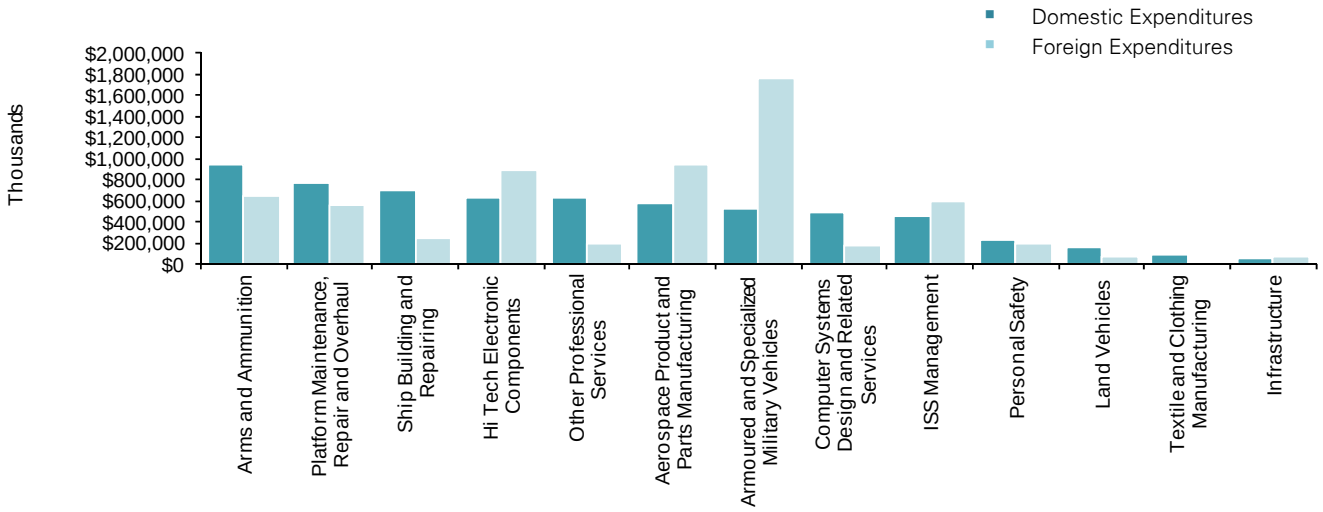
C.5 Total Expenditures using Top-down Approach (Domestic and Foreign)

- **Top-down Approach Estimated Industry Capital, Operations and Maintenance Expenditures** – For 2011, selected government entities had Capital, Operations, and Maintenance Expenditures of $7.9 Billion, of which 75.1% was domestic, while 24.9% was foreign.

Top-down Estimated Capital, Operations and Maintenance Expenditures for 2011

Sub-sectors	CDN Expenditures ($)	CDN %	Foreign Expenditures ($)	Foreign %	Total ($)
Shipbuilding and repairing	55,560,755	69.6%	24,288,097	30.4%	79,848,851
Aerospace product and parts manufacturing	426,976,289	28.7%	1,062,466,539	71.3%	1,489,442,828
Land vehicles	211,847,298	95.4%	10,217,995	4.6%	222,065,293
Armoured and specialized military vehicles	220,734,507	78.1%	61,791,991	21.9%	282,526,498
Infrastructure	1,219,865,859	94.7%	68,518,838	5.3%	1,288,384,697
Textile and clothing manufacturing	83,374,290	99.4%	522,036	0.6%	83,896,326
Personal safety	57,338,563	89.4%	6,771,048	10.6%	64,109,611
Hi tech electronic components	814,574,597	81.9%	180,225,265	18.1%	994,799,862
Computer systems designs and related ISS management	37,383,453	61.4%	23,484,544	38.6%	60,867,996
Other professional services	1,702,803,766	88.0%	232,303,918	12.0%	1,935,107,685
Platform maintenance, repair and overhaul	720,407,126	92.9%	55,437,394	7.1%	775,844,520
Arms and ammunition	349,974,321	60.8%	225,446,877	39.2%	575,421,199
Total	**5,900,840,824**	**75.1%**	**1,951,474,543**	**24.9%**	**7,852,315,367**

- **Top-down Approach Estimated Industry Capital, Operations and Maintenance Expenditures per Sub-sector** – For 2011, the sub-sectors showing the greatest reliance on domestic sources are Other Professional Services, Infrastructure and Hi Tech Electronic Components. The sub-sectors showing the greatest reliance on foreign sources are Aerospace Products and Parts Manufacturing, Computer Systems Designs, and Armoured and Specialized Military Vehicles.



C.6 Comparative Analysis

- **Bottom-up and Top-down Approaches** - For 2011, the results obtained by the two approaches generate similar results, with a small difference of $344 million. Distortions can be observed when looking at specific sub-sectors, namely Armoured and Specialized Military Vehicles, Infrastructure and Other Professional Services.

Comparison of Findings Between the Bottom-up and Top-down Approach			
Sub-sectors	**Bottom-up Domestic Revenues ($)**	**Top-down Domestic Expenditures ($)**	**Difference**
Ship Building and Repairing	703,207,126	55,560,755	647,646,371
Aerospace Product and Parts Manufacturing	580,419,450	426,976,289	153,443,161
Land Vehicles	165,060,505	211,847,298	-46,786,793
Armoured and Specialized Military Vehicles	526,713,031	220,734,507	305,978,524
Infrastructure	55,299,640	1,219,865,859	-1,164,566,219
Textile and Clothing Manufacturing	86,912,980	83,374,290	3,538,690
Personal Safety	228,000,960	57,338,563	170,662,397
Hi Tech Electronic Components	624,994,894	814,574,597	-189,579,703
Computer Systems Design and Related Services	491,448,897	37,383,453	454,065,445
ISS Management	447,034,403		447,034,403
Other Professional Services	622,535,863	1,702,803,766	-1,080,267,904
Platform Maintenance, Repair and Overhaul	770,528,160	720,407,126	50,121,034
Arms and Ammunition	942,498,541	349,974,321	592,524,220
Total	**6,244,654,451**	**5,900,840,824**	**343,813,627**

Observations

- Both approaches resulting in similar total numbers, it should be noted that any discrepancies between the various sub-sectors has limited consequences for the economic impact study due to the similarities of overall results between the methods used.
- The sampling method used for the bottom-up approach was somewhat limited as certain players may have been under-represented in the Industry survey, especially in the infrastructure sub-sector.
- Some organizations providing products and services to the Industry, might not consider themselves as part of the Industry. For example, it is likely that infrastructure companies building correctional establishments or police stations would not necessarily consider themselves as part of the Industry, but rather as part of the construction industry, which also contributed to the distortion between the two approaches.
- The misallocation of financial information might have occurred when organizations responded to the survey. (For example, Hi Tech Electronic Components could easily be lumped in with another sub-sector. Such hi tech components contained in a specialized military vehicle, might have been allocated to Armoured and Specialized Military Vehicles, and not to High Tech Electronic Components.).

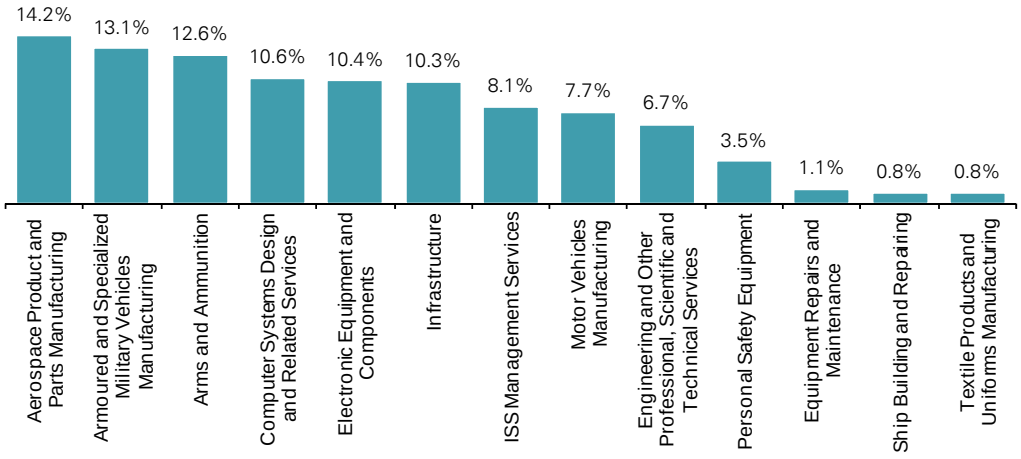
Appendix D – Economic Impact Assessment

D.1 Contribution to GDP

- **Contribution to GDP -** For 2011, the Industry is estimated to have directly and indirectly contributed $9.0 billion in total GDP. When including induced impact, the contribution of the Industry to GDP is $12.3 billion.

Contribution to GDP by the Canadian Defence and Security Industry				
Based on $12.6 billion industry revenue, for 2011	NAICS Code	Contribution to GDP ($'000)		
Sub-sectors		Direct Impact	Direct and Indirect Impact	Direct, Indirect and Induced Impact
Ship Building and Repairing	336611	407,675	697,310	985,220
Aerospace Product and Parts Manufacturing	336410	607,422	933,334	1,201,283
Land Vehicles	336110	15,501	73,835	104,931
Armoured and Specialized Military Vehicles Manufacturing	336990	636,182	1,277,501	1,656,342
Infrastructure	23	54,546	102,782	140,102
Textile Products and Uniforms Manufacturing	3149, 315	49,767	73,758	101,960
Personal Safety Equipment	339110	213,193	315,553	418,315
Hi Tech Electronic Components	3344, 3345	608,135	958,573	1,348,372
Computer Systems Design and Related Services	541510	355,717	601,546	867,391
ISS Management Services	541690	607,123	926,284	1,307,975
Other Professional Services	5413, 5417	495,250	732,852	1,039,284
Equipment Repairs and Maintenance	8112, 8113	800,789	1,179,802	1,630,443
Arms and Ammunition	332999	698,039	1,133,455	1,508,209
Grand Total		**$5,549,339**	**$9,006,585**	**$12,309,827**

- **Contribution to GDP per sub-sectors -** For 2011, the sub-sectors estimated to have directly and indirectly contributed the most to GDP are Aerospace Products and Parts Manufacturing at 14.2%, Armored and Specialized Military Vehicles Manufacturing at 13.1%, and Arms and Ammunition at 12.6%.

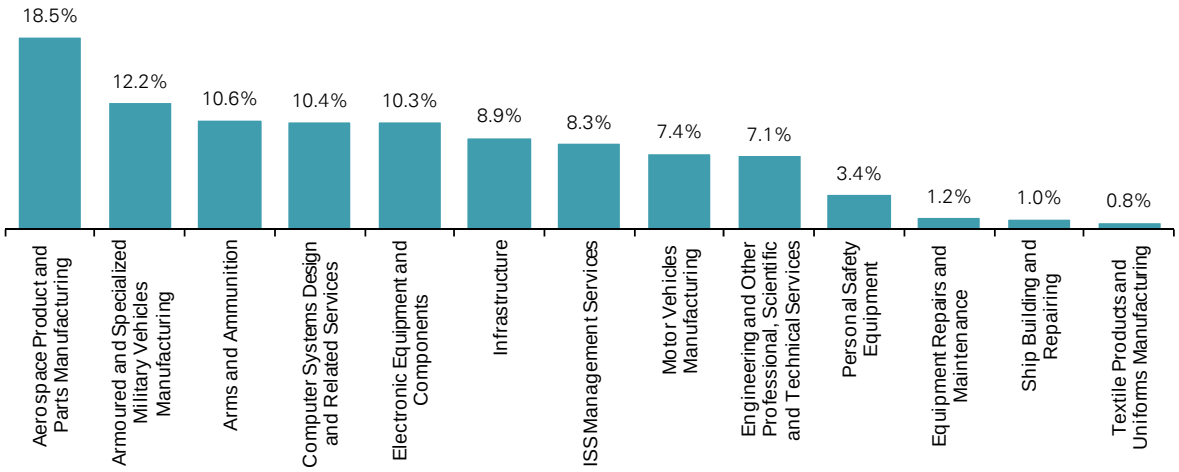


D.2 Contribution to FTE Jobs

- **Contribution to FTE Jobs** - For 2011, the Industry is estimated to have directly and indirectly contributed 109,000 FTE Jobs. When including induced impacts, the contribution of the Industry to FTE Jobs is estimated at 144,000.

Contribution to FTEs by the Canadian Defence and Security Industry				
Based on a $12.6 billion industry revenue, for 2011	NAICS Code	Contribution to Jobs (Ful-Time Equivalent)		
Sub-sectors		Direct Impact	Direct and Indirect Impact	Direct, Indirect and Induced Impact
Ship Building and Repairing	336611	5,901	9,038	12,033
Aerospace Product and Parts Manufacturing	336410	4,354	7,762	10,549
Land Vehicles	336110	200	850	1,173
Armoured and Specialized Military Vehicles Manufacturing	336990	4,399	11,253	15,921
Infrastructure	23	581	1,115	1,503
Textile Products and Uniforms Manufacturing	3149, 315	981	1,268	1,561
Personal Safety Equipment	339110	2,538	3,679	4,748
Hi Tech Electronic Components	3344, 3345	7,441	11,500	15,555
Computer Systems Design and Related Services	541510	5,024	8,028	10,793
ISS Management Services	541690	9,529	13,282	17,252
Other Professional Services	5413, 5417	6,896	9,692	12,880
Platform Maintenance, Repair and Overhaul	8112, 8113	15,902	20,182	24,870
Arms and Ammunition	332999	7,022	11,299	15,197
Grand Total		**70,768**	**108,948**	**144,035**

- **Contribution to FTE Jobs by sub-sectors** - For 2011, the sub-sectors estimated to have directly and indirectly contributed the most to FTE Jobs are Aerospace Product and Parts Manufacturing with 18.5%, Armoured and Specialized Vehicles with 12.2%, both Arms and Ammunition and Computer Systems Design and Related Services with 10.6% and Electronic Equipment and Components with 10.3%.

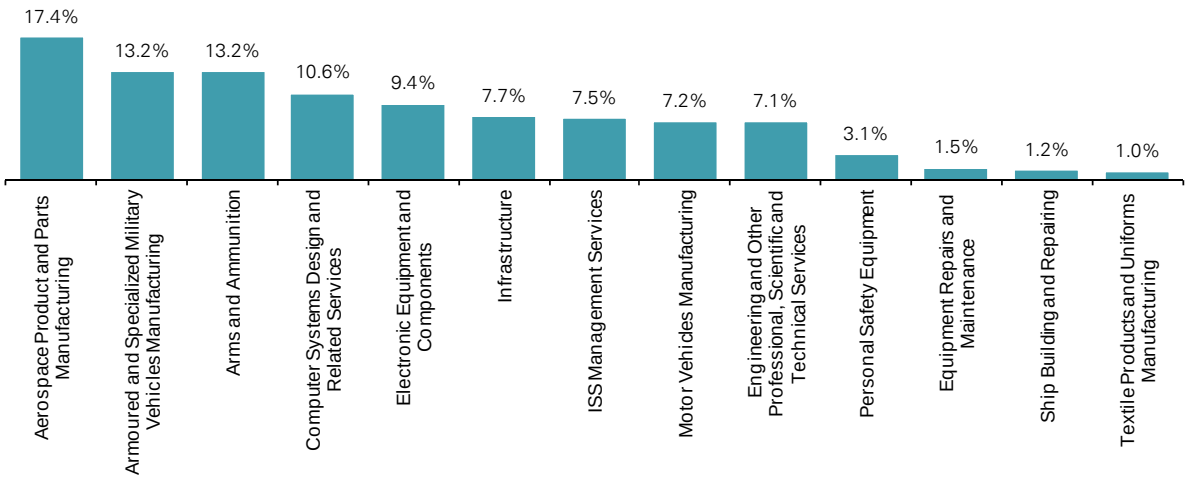


D.3 Contribution to Taxes

- **Indirect Taxes** – Based on the economic impact assessment, for 2011, the Industry is estimated to have directly and indirectly contributed $321 million in indirect taxes. When including induced impacts, the contribution of the Industry to indirect taxes is estimated at $1.0 Billion.

Contribution to Indirect Taxes by Canadian Defence and Security Industry			
Based on a $12.6 billion industry revenue, for 2011	NAICS Code	Contribution to Indirect Taxes ($'000)	
Sub-sectors		Direct and Indirect Impact	Direct, Indirect and Induced
Ship Building and Repairing	336611	24,670	84,763
Aerospace Product and Parts Manufacturing	336410	24,011	79,937
Land Vehicles	336110	3,811	10,301
Armoured and Specialized Military Vehicles Manufacturing	336990	42,366	121,437
Infrastructure	23	4,848	12,638
Textile Products and Uniforms Manufacturing	3149, 315	3,224	9,109
Personal Safety Equipment	339110	9,835	31,282
Hi Tech Electronic Components	3344, 3345	34,042	115,400
Computer Systems Design and Related Services	541510	22,992	78,478
ISS Management Services	541690	30,035	109,700
Other Professional Services	5413, 5417	22,747	86,705
Equipment Repairs and Maintenance	8112, 8113	55,751	149,808
Arms and Ammunition	332999	42,491	120,709
Grand Total		**$320,823**	**$1,010,267**

- **Contribution to indirect taxes by sub-sector** - For 2011, the sub-sectors estimated to have directly and indirectly contributed the most to indirect taxes are Aerospace Products and Parts Manufacturing at 17.4%, both Armored and Specialized Military Vehicles Manufacturing, and Arms and Ammunition at 13.2% and Computer Systems Design and Related Services at 10.6%.



Statistics Canada's I-O Model only provides Industry impact on indirect taxes; direct taxes (personal and corporate income taxes) are excluded from the model and an analysis was performed by KPMG to estimate the level of personal and corporate income taxes created by the Industry.

- **Personal Income Taxes** - For 2011, the KPMG analysis estimates that the Industry has directly and indirectly contributed $1.7 billion in personal income taxes.

Estimate of 2011 Federal and Provincial Income Taxes	
Based on $12.6 Billion Industry Revenue	**Direct and Indirect Contribution to Income Taxes ($'000)**
Estimate of Total Individual Income Taxes	**1,714,582**

Assumptions
1 *Income tax* The individual federal and provincial income tax is applied to the estimated average annual salary level of $57,000.
2 *2011 Canada/Quebec Pension Plan (CPP)* Maximum pensionable earnings is $48,300. All employees assumed to reach maximum threshold. Maximum employee and employer CPP/QPP premiums are $1,108 each.
3 *2011 Employment Insurance (EI)* Maximum insurable earnings is $44,200. Assumed all employees reached the maximum threshold. Maximum employee and employer EI premiums is $1,888 ($787 plus $1,101).
4 *Provincial Health Premiums* Ontario - $600 on income from $48,600 - $72,000. Quebec - $150 plus 1% on income over $46,260 (maximum $1,000). British Columbia - $726 per single individual on income over $30,000.
5 *# of Employees* The number of employees by province is allocated based on the percentage of revenues by province.

- **Corporate Income Taxes** – For 2011, the analysis estimates that the Industry has directly and indirectly contributed $693 million in corporate taxes, by sub-sector as follows:

Estimate of 2011 Corporate Taxes	
Sub-sectors	**Contribution to Corporate Taxes (in $M)**
Ship Building and Repairing	52,052
Aerospace Product and Parts Manufacturing	83,665
Land Vehicles	13,296
Armoured and Specialized Military Vehicles	125,439
Infrastructure	6,884
Textile and Clothing Manufacturing	6,183
Personal Safety	23,127
Hi Tech Electronic Components	83,498
Computer Systems Design and Related Services	36,876
ISS Management	56,945
Other Professional Services	44,285
Platform Maintenance, Repair & Overhaul	72,769
Arms and Ammunition	87,501
Grand Total	**692,521**

Assumptions
1 Earnings before taxes (EBT) is 19.39% ($2.45B/ $12.64B) This assumption is based on information obtained from Statistics Canada.
2 A weighted average tax rate of 28.2% is used to calculate the corporate taxes for all sub-sectors. The weighted average is based on the revenue earned in each jurisdiction by sub-sector.
3 No companies have tax losses, or have federal/provincial investment tax credits, foreign tax credits or other tax incentives available.

- **Total Contribution to Taxes** - For 2011, the Industry is estimated to have directly and indirectly contributed a total of $2.7 billion in taxes:

Contribution to Taxes by the Canadian Defence and Security Industry	
Based on $12.6 billion industry revenue, for 2011	
Taxes	**Direct and Indirect Contribution to Taxes ($'000)**
Personal taxes	1,714,582
Corporate taxes	692,521
Indirect taxes	320,823
Total Taxes	**2,727,926**

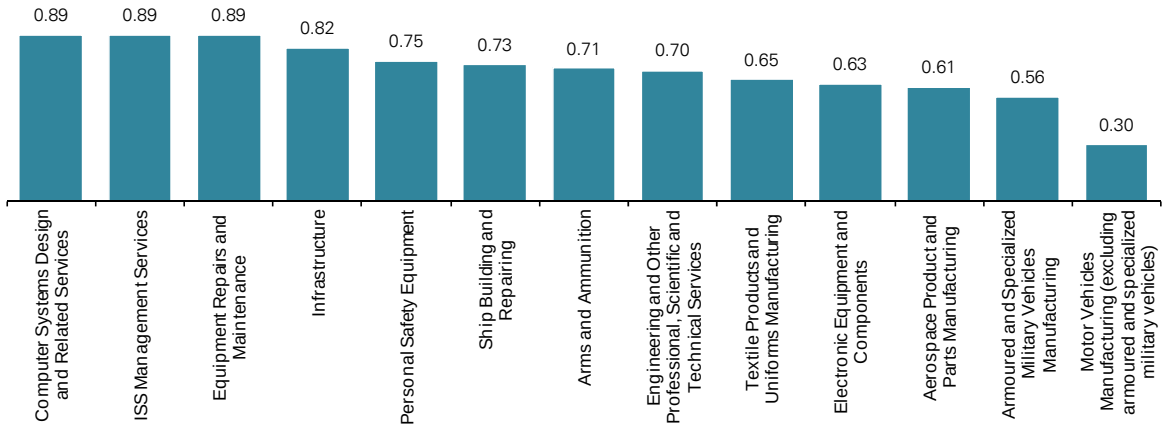
D.1 Economic Impact Multipliers of GDP and FTE Jobs

➢ **Economic Impact Multipliers** - For 2011, the direct and indirect impact multiplier (simple multiplier) for GDP is 0.71, while the direct and indirect impact multiplier (simple multiplier), for FTE Jobs is 8.68.

Economic Impact Multipliers						
Sub-sectors	GDP at basic prices			FTE Jobs (per million of direct output)		
	Direct Impact	Direct and Indirect (Simple Multiplier)	Direct, Indirect and Induced (Total Multiplier)	Direct Impact	Direct and Indirect (Simple Multiplier)	Direct, Indirect and Induced (Total Multiplier)
Ship Building and Repairing	0.43	0.73	1.14	6.21	9.51	12.66
Aerospace Product and Parts Manufacturing	0.40	0.61	0.79	2.85	5.08	6.91
Motor Vehicles Manufacturing (excluding armoured and specialized military vehicles)	0.06	0.30	0.43	0.82	3.50	4.83
Armoured and Specialized Military Vehicles Manufacturing	0.28	0.56	0.72	1.92	5.23	6.95
Infrastructure	0.43	0.82	1.11	4.62	8.87	11.96
Textile Products and Uniforms Manufacturing	0.44	0.65	0.90	8.69	11.24	13.83
Personal Safety Equipment	0.50	0.75	0.99	6.01	8.71	11.25
Hi Tech Electronic Components	0.40	0.63	0.88	4.88	7.54	10.20
Computer Systems Design and Related Services	0.53	0.89	1.29	7.46	11.92	16.03
ISS Management Services	0.58	0.89	1.26	9.17	12.78	16.59
Other Professional Services	0.61	0.70	0.91	8.53	11.99	15.93
Platform Maintenance, Repair and Overhaul	0.60	0.89	1.23	11.97	15.19	18.72
Arms and Ammunition	0.44	0.71	0.94	4.40	7.07	9.51
Grand Total	**0.44**	**0.71**	**0.97**	**5.60**	**8.68**	**11.39**

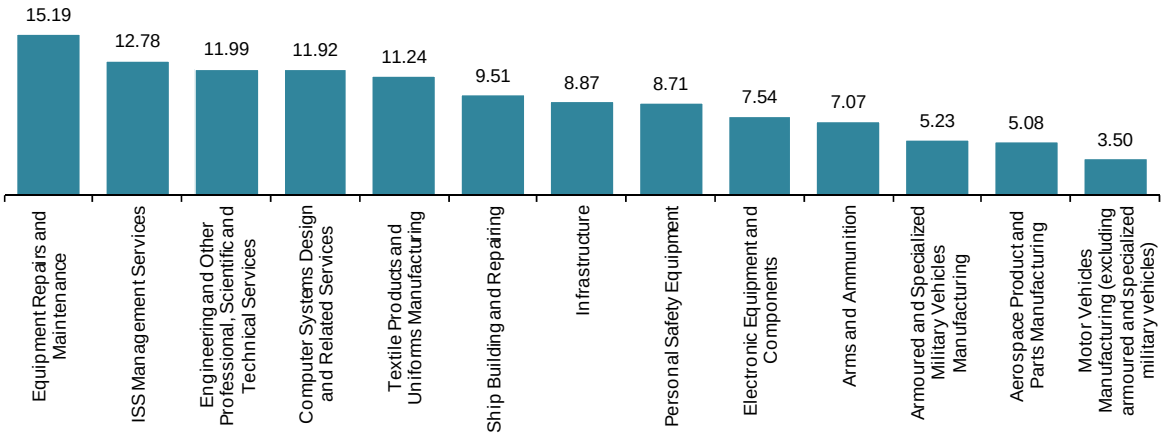
GDP Impact Multiplier

➢ **GDP Simple Impact Multiplier** - For 2011, the highest impact multipliers occur in the following sub-sectors: Computer Systems Design and Related Services, ISS Management Services, and Equipment Repairs and Maintenance.



FTE Jobs Impact Multiplier

- **FTE Simple Impact Mutiplier** - For 2011,the highest impact multipliers occur in the following sub-sectors: Equipment Repairs and Maintenance, ISS Management Services, Engineering and Other Professional, Scientific and Technical Services and Computer Systems Design and Related Services.

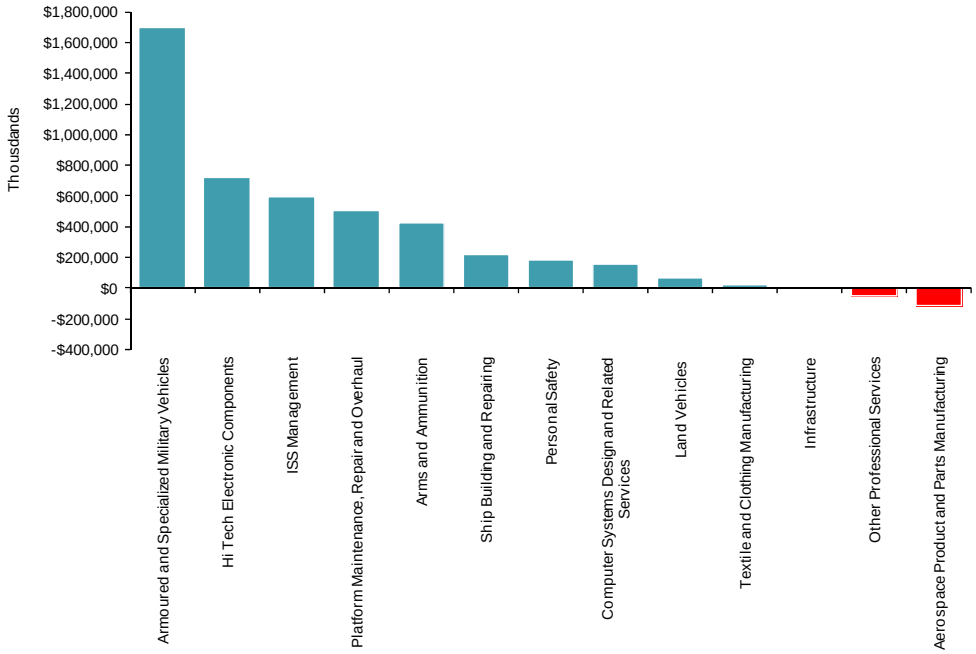


D.2 Comparative Analysis of Trade Balance

- **Comparative Analysis of Trade Balance** - For 2011, industry performers reported total exports of $6.4 billion, while major government entities reported imports of $2.0 billion, for a total trade balance of $4.4 billion.

Trade Balance Comparison			
($) Sub-sectors	Exports (from Bottom-up)	Imports (from Top-down)	Trade Balance
Ship Building and Repairing	247,072,774	24,288,097	222,784,677
Aerospace Product and Parts Manufacturing	947,000,156	1,062,466,539	-115,466,383
Land Vehicles	77,675,532	10,217,995	67,457,536
Armoured and Specialized Military Vehicles	1,763,343,626	61,791,991	1,701,551,635
Infrastructure	70,381,360	68,518,838	1,862,522
Textile and Clothing Manufacturing	25,961,020	522,036	25,438,984
Personal Safety	194,223,040	6,771,048	187,451,992
Hi Tech Electronic Components	899,382,897	180,225,265	719,157,632
Computer Systems Design and Related Services	181,768,770	23,484,544	158,284,227
ISS Management	592,580,487		592,580,487
Other Professional Services	185,952,271	232,303,918	-46,351,648
Platform Maintenance, Repair and Overhaul	557,968,668	55,437,394	502,531,274
Arms and Ammunition	654,956,613	225,446,877	429,509,736
Total	**6,398,267,214**	**1,951,474,543**	**4,446,792,671**

- **Comparative Analysis of Trade Balance** - For 2011, the sub-sectors showing the highest trade balance are Armoured and Specialized Military Vehicles, Hi Tech Electronics Components, and ISS Management.



Appendix E – Survey Methodology

E.1 Scope

This study targets the defence and security industry at the national level. For survey purposes (bottom up), the Industry was divided into thirteen sub-sectors, as follows:

- shipbuilding and repairing
- aerospace product and parts manufacturing
- land vehicles
- armoured and specialized military vehicles
- infrastructure
- textile and clothing manufacturing
- personal safety
- hi-tech electronic components
- computer systems design and related services
- integrated system support management
- other professional services
- platform maintenance, repair and overhaul
- arms and ammunition

For validation purposes (top down), an analysis of expenditures by major Canadian government entities was performed. The objective was to capture the main government entities involved in the Industry. For this top-down approach, only the federal level was included in the scope. Municipal and provincial players, such as provincial correctional services and public security, were excluded, with the exception of municipal and provincial police services, which were included. The primary government entities included in the top-down approach are: Department of National Defence, Royal Canadian Mounted Police, Canada Border Services Agency, Correctional Services Canada, Ontario Provincial Police, and other municipal and provincial police forces. Private security solutions providers were excluded from the scope of this study.

KPMG and CADSI together reviewed the relevance and usefulness of industry sub-categories identified and ensured that there was a common understanding with regard to what each industry sub-category should contain. The following considerations were taken into account when identifying the categories for which a standalone simulation would be performed based on the desire for CADSI to:

- Discuss each sub-category separately when discussing economic benefits;
- Vary revenue in future years to reflect the industries' evolution; and,
- Perform various sensitivity scenarios on that particular sub-category.

The tables below lists the sub-sectors of the defence and security industry used for this study. As shown, three columns of descriptors were used to identify industry subsectors:

- **CADSI Member Trade Term**: Term used by members of the defence and security community to describe the sub-sector
- **KPMG Classification**: Term used by KPMG when developing the study subsector naming taxonomy
- **Statistics Canada Industry Category**: Subsector classification name and number used by Statistics Canada in their databases to characterize the economic activity and economic impact of this class of sub-sector.

CADSI Member Trade Terms had to be decomposed in a number of cases to align with the industry category classifications needed to conduct this study. For example, Command, Control, Communications, Computing, Intelligence, Surveillance and Reconnaissance (C4ISR) is a common defence and security industry term, but had to be decomposed into High Tech Electronic Component Manufacturing and Computer Systems Design and Related Services, to provide for more precision when imputing the data into Statistics Canada's I-O model. It should be noted that the main body of this report generally uses CADSI Member industry trade terminology, while Appendices use the KPMG and Statistics Canada terminology.

Defence and Security Industry Sub-sector Classification	
CADSI Member Trade Term	**KPMG Classification**
Shipbuilding	Shipbuilding and Repairing
Aerospace	Aerospace Product and Parts Manufacturing
Vehicles	Land Vehicles
Armoured Vehicles	Armoured and Specialized Military Vehicles
Infrastructure	Infrastructure
Personal Protective Clothing & Equipment	Textile and Clothing Manufacturing
	Personal Safety
Command, Control, Computing, Intelligence, Surveillance, and Reconnaissance (C4ISR)	Hi-tech Electronic Components
	Computer Systems Design and Related Services
In Service Support (ISS)	Integrated System Support Management
	Platform Maintenance, Repair and Overhaul
Technical and Professional Services	Other Professional Services
Small Arms and Ordnance	Arms and Ammunition

The table presented below describes the industry sub-categories used in the study. As inputs into the I-O model, industry sub-categories had to be allocated into the specific industry codes available in the model. The specific industry code into which each sub-category was placed is indicated in the table below.

Industry Categories

	Category Name	Description	Corresponding I-O model category
1.	Ship Building and Repairing	Including ships and other craft such as submersibles and zodiacs; marine engines	IOIC 3366 – Ship and Boat Building
2.	Aerospace Product & Parts Manufacturing	Including UAVs and satellites	IOIC 336400 – Aerospace Product and Parts Manufacturing
3.	Land Vehicles	Including military trucks and emergency vehicles such as police cars, fire trucks, etc.)	IOIC 336110 – Automobile and Light-Duty Motor Vehicle Manufacturing
4.	Armoured and specialized military vehicles	Such as tanks, light armoured vehicles and other motor vehicle manufacturing, bodies and parts	IOIC 336900 – Other Transportation Equipment Manufacturing
5.	Infrastructure	Special purpose construction including military bases, ship yards, hangars, jetties, warehouses	IOIC 230G00 – Other Engineering Construction
6.	Textile and clothing manufacturing	Such as uniforms, tents, vests, coating and other textile processes	IOIC 31A – Textile and Textile Product Mills (50%) IOIC 315 – Clothing Manufacturing (for uniforms) (50%)
7.	Personal safety	Such as first-aid kits, helmets, bullet proof vests, medical equipment and supplies, and other protective gear and equipment	IOIC 339110 – Medical Equipment and Supplies Manufacturing
8.	Hi tech electronic components	Such as communications equipment, navigational and guidance instruments; semiconductors; measuring and controlling devices, displays, sensors, sonar, radios, cameras; rugged/embedded computers; simulators; and related software development	IOIC 334400 – Semiconductor and Other Electronic Component Manufacturing (50%) IOIC 334500 - Navigational, Measuring, Medical and Control Instruments Manufacturing (50%)
9.	Computer Systems Design and Related Services	Such as software design, writing, testing and supporting services; modeling and simulation	IOIC 541500 – Computer Systems Design and Related Services
10.	ISS management	Integrated system support including logistics support	IOIC 541B00 – Other Professional, Scientific and Technical Services
11.	Other professional services	Such as research and development, training, professional, scientific and technical services, engineering services	IOIC 541B00 – Other Professional, Scientific and Technical Services (50%) IOIC 541300 – Architectural, Engineering and Related Services (50%)
12.	Platform maintenance, repair and overhaul	Long term MRO support	IOIC 811A00 – Repair and Maintenance (except Automotive Repair and
13.	Arms and ammunition	Such as small arms, scopes, machine guns, rockets, mines, grenades, torpedoes, ammunition and pyrotechnics; armour coatings including specialized paints and composites	IOIC 332900 – Other Fabricated Metal Products Manufacturing

E.2 Data-Gathering

Data used for the bottom-up approach was gathered through a web-based survey of organizations in the Industry. The complete survey can be found in Appendix G. Survey questions were written by KPMG, in close collaboration with CADSI. Questions relating to revenue were used for extrapolation purposes. The population of survey respondants were provided by CADSI, and consisted of lists from two organizations: CADSI's membership list and Industry Canada's list of Canadian Company Capabilities (IC-CCC) operating in the defence and security sector. Both lists were reviewed and cross-referenced to remove duplicate names. Names found on both lists were excluded from the IC-CCC list.

The CADSI membership list included current or past members from the years 2009 to 2012. The data provided for each organization consisted of contact information and type of membership category and indicated whether the organization was part of the "Top 50", as ranked by the Canadian Defence Review Magazine[4].

E.3 Survey Process

A pre-test of the survey was conducted with a cross-section CADSI members a number of which responded prior to the official launch of the survey and provided input on the content and design of the questionnaire.

The overall response rate was CADSI 8.95% and IC-CCC 0.64%.

E.4 Revenue Estimate

To determine an industry-level estimate of revenue based upon survey responses, KPMG extrapolated the response data.

CADSI members were stratified based on the membership category to which they belong and based on whether they are classified as a "Top 50" organization or not. Membership categories are those determined by CADSI based on the relative size of organization using the self-reported number of defence and security employees in each organization. Stratifying the population based on these two variables produces more homogeneous units leading to a more accurate estimate of revenue from the extrapolation.

To estimate total Industry revenue, KPMG first produced estimates for each stratum by multiplying the estimated number of organizations by the average revenue. The stratum estimates were then totaled to produce an estimate of total Industry revenue. The following table presents the average revenue estimate per membership category.

Average Revenue					
($M)	Stratum - Top 50 x Membership Category				
	A	B	C	D	E
Top 50	1.6 $	31.0 $	48.3 $	102.4 $	476.2 $
Other	1.7 $	3.5 $	15.8 $	46.4 $	325.0 $

Survey respondents were asked to allocate their defence/security sector revenue by sales market (Canadian vs. foreign). This was used to compute average revenue by stratum allocated between domestic and foreign revenues. The stratum averages were then multiplied by the estimated number of organizations in the stratum and summed to the Industry estimates of $6.2B in domestic revenues and $6.4B in foreign revenues.

[4] Canadian Defence Review: Annual survey and ranking of Canada's defence industry, based on a variety of factors including contribution to the Canadian economy, support and service to Canada's military, innovation and international success.

E.5 Other Survey Results

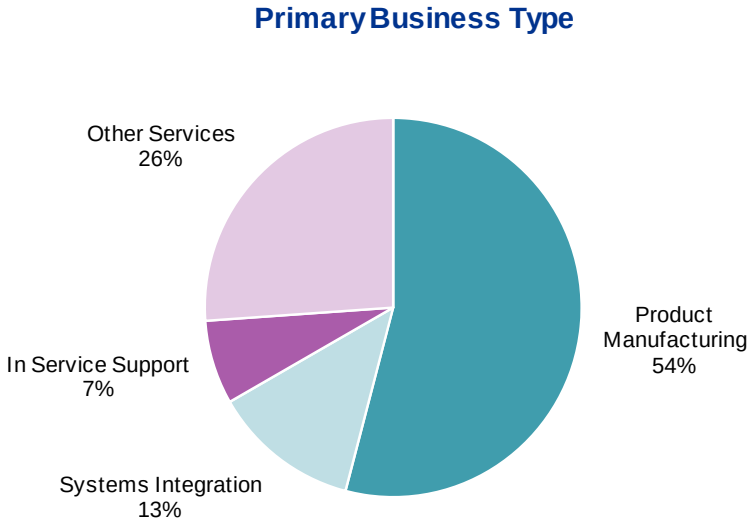
This section presents a summary of other survey results (i.e., those not required to be used in the Statistics Canada I-O Model) from the survey responses, which provides a snapshot of the Industry in 2011.

- **Primary Area of Operations -** The table below presents, for 2011,the primary area of operations for respondants.The most important area of operations is land, with 50.5% of respondants involved in this area.

Primary Area of Operations	
Land	50.5%
Sea	32.4%
Air	27.0%
Space	3.6%
Public Security	25.2%
C4ISR	22.5%
All of the above	10.8%

Note: This table adds up to greater than 100% as respondents were asked to select all areas of operation applicable.

- **Primary Business Type** - The table below presents, for 2011, the primary business type for survey respondants. The most important primary business type is product manufacturing, with 54% of respondants involved in this business type.



Appendix F – Survey Questionnaire

Canadian Association of Defence and Security Industries (CADSI)
Economic Impact Survey

Introduction

Welcome to this survey for the economic impact assessment for CADSI. For each of the following questions, please provide a response for your organization's **fiscal year (FY) ending in 2011**.

KPMG will treat all completed questionnaires and data collected as strictly confidential. When you complete the survey, your response will go directly to KPMG. Only the aggregate statistical data will be made available to CADSI.

A. You and your organization

Note, we are requesting this information only in case we need to contact you to clarify any of your responses.

Organization	
Your name *(last, first)*	
Your position title	
Phone *(include area code)*	
E-mail	

1. Please provide the following information about the defence and security business of your organization in Canada.
   a) Primary Area *(select all that apply)*
      - ☐ Land
      - ☐ Sea
      - ☐ Air
      - ☐ Space
      - ☐ Public Security
      - ☐ C4ISR-Command & Control, Communications, Computing, Intelligence Surveillance and Reconnaissance
      - ☐ All of the above

   b) Primary Business Type *(select one)*
      - ○ Product Manufacturing
      - ○ Systems Integration
      - ○ In Service Support
      - ○ Other Services

   c) Primary Customer *(select one)*
      - ○ Federal government of Canada
      - ○ Provincial government(s) of Canada
      - ○ Local government(s) within Canada
      - ○ Foreign government organizations
      - ○ Commercial/other organizations

B. Revenue

(Note: Questions 2 to 5 are *mandatory*.)

2. What is the overall Canadian revenue (i.e., from operations located in Canada) generated by your organization? *(please provide a response in millions of dollars)*

Revenue (FY ending in 2011): $ _____ million

3. a) Of this revenue, what percentage is in the defence and security sectors (versus other sectors including commercial activities)?

Defence/Security Sector: _____ %

b) Do any of your Canadian suppliers provide assembled parts or components that would account for **more than 20%** of the costs incurred to generate your organization's defence/security revenue?

- ❍ Yes
- ❍ No

4. What percentage of your organization's defence/security sector revenue was from Canadian versus foreign sales? *(please ensure your response sums to 100%)*

	Defence/Security Revenue
Canadian Sales	_____ %
Foreign Sales	_____ %
Total:	**100** %

5. Please provide a breakdown of the Canadian defence/security sector revenue as defined in question 3a, for the following industry segments. *(please ensure your response sums to 100%)*

	Industry Segments	Defence/Security Revenue
a)	Ship Building and Repairing *(including ships and other craft such as submersibles and zodiacs; marine engines)*	_____ %
b)	Aerospace Product and Parts Manufacturing *(including UAVs and satellites)*	_____ %
c)	Land Vehicles *(including military trucks and emergency vehicles such as police cars, fire trucks, etc.)*	_____ %
d)	Armoured and Specialized Military Vehicles *(such as tanks, light armoured vehicles and other motor vehicle manufacturing, bodies and parts)*	_____ %
e)	Infrastructure *(special purpose construction including military bases, ship yards, hangars, jetties, warehouses)*	_____ %
f)	Textile and Clothing Manufacturing *(such as uniforms, tents, vests, coating and other textile processes)*	_____ %
g)	Personal Safety *(such as first-aid kits, helmets, bullet proof vests, medical equipment and supplies, and other protective gear and equipment)*	_____ %
h)	Hi Tech Electronic Components *(such as communications equipment, navigational and guidance instruments; semiconductors; measuring and controlling devices, displays, sensors, sonar, radios, cameras; rugged/embedded computers; simulators; and related software development)*	_____ %
i)	Computer Systems Design and Related Services *(such as software design, writing, testing and supporting services; modelling and simulation)*	_____ %
j)	ISS Management *(integrated system support including logistics support)*	_____ %
k)	Other Professional Services *(such as research and development, training, professional scientific and technical services, engineering services)*	_____ %
l)	Platform Maintenance, Repair and Overhaul *(long term MRO support)*	_____ %
m)	Arms and Ammunition *(such as small arms, scopes, machine guns, rockets, mines, grenades, torpedoes, ammunition and pyrotechnics; armour coatings including specialized paints and composites)*	_____ %
n)	Other *(such as warehousing and facilities management, please specify)* _____	_____ %
	Total:	**100** %

6. How has your organization's defence/security sector revenue changed over the last year and what do you expect for next year? *(select one for each of the following)*

	Change in Defence/Security Revenue	Increase	About the Same	Decrease	Don't Know
a)	Over the last year (FY ending in 2010 to 2011)	❍	❍	❍	❍
b)	Over the next year (FY ending in 2011 to 2012)	❍	❍	❍	❍

C. Employment

7. In the fiscal year ending in 2011, what was your organization's total employment in Canada? Please provide an estimate of full-time equivalents (FTE), where an employee who works half time is counted as 0.5 FTEs.

Employment (FY ending in 2011): ☐ FTEs

8. What percentage of your organization's FTEs worked in the defence and security sectors (versus other sectors including commercial activities)?

Defence/Security Sector: ☐ %

9. Please provide a breakdown of your organization's employment in the defence/security sector by region.
(please enure your response sums to 100%)

	Defence/Security Employment
British Columbia	☐ %
Alberta	☐ %
Saskatchewan	☐ %
Manitoba	☐ %
Ontario	☐ %
Quebec	☐ %
New Brunswick	☐ %
Prince Edward Island	☐ %
Nova Scotia	☐ %
Newfoundland and Labrador	☐ %
Territories	☐ %
Total:	**100** %

10. How did the number employed by your organization in the defence/security sector changed over the last year and what do you expect for next year? *(select one for each of the following)*

	Change in Employment	**Increase**	**About the Same**	**Decrease**	**Don't Know**
a)	Over the last year (FY ending in 2010 to 2011)	❍	❍	❍	❍
b)	Over the next year (FY ending in 2011 to 2012)	❍	❍	❍	❍

c) Over the next five years, does your organization expect to face skills shortages in any of the following areas?
(select all that apply)

- ❑ Technical (e.g., technicians, technologists)
- ❑ Engineering
- ❑ Information Systems (e.g., Analysts, Programmers)
- ❑ Research and Development
- ❑ Production and Distribution
- ❑ Business Development
- ❑ Administration, Finance and Other
- ❑ None of the above

D. Other

11. Has your organization or will they participate(d) in any of the following National Defence projects or contract(ed) with any of the Security Agencies listed? *(select all that apply)*

Past	Future	National Defence projects	Past	Future	Security Agencies
❑	❑	Maritime Helicopter Project	❑	❑	Canada Border Services Agency (CBSA)
❑	❑	F-35 Joint Strike Fighter	❑	❑	Canadian Air Transport Security Authority (CATSA)
❑	❑	Arctic/Offshore Patrol Ships	❑	❑	Canadian Coast Guard (CCG)
❑	❑	Afghanistan Air Capabilities	❑	❑	Canadian Security Intelligence Service (CSIS)
❑	❑	Halifax-Class Modernization	❑	❑	Communications Security Establishment Canada (CSE)
❑	❑	CC-177 Globemaster III	❑	❑	Correctional Services of Canada (CSC)
❑	❑	CC-130J Hercules	❑	❑	Industry Canada (IC)
❑	❑	CH-47 Chinook	❑	❑	Public Safety Canada (PS)
❑	❑	Medium Support Vehicle System	❑	❑	Royal Canadian Mounted Police (RCMP)
❑	❑	Medium-Sized Logistics Trucks	❑	❑	Transport Canada (TC)
❑	❑	Joint Support Ship	❑	❑	Other Security e.g. first responders, etc. *(please specify)*
❑	❑	Tank Acquisitions			
❑	❑	Armoured Heavy Support Vehicle Sys			
❑	❑	RG-31 Mk 3 Armoured Patrol Vehicle			
❑	❑	DND Response to Chapter 5			
❑	❑	Land Combat Vehicles			
❑	❑	Fixed-Wing Search and Rescue			
❑	❑	Other Defence *(please specify)*			
			❑	❑	None of the above (defence/security)

12. Please outline factors that have hindered and/or assisted your organization's ability to do business in the defence and security sector.

13. If you have any comments regarding the above questions or your responses, please provide them below.

THANK YOU for taking the time to complete this survey!

Please return by fax directly to KPMG at (613) 212-2896, Attention: Eva Tom or return via e-mail to etom@kpmg.ca.
All completed surveys must be received by KPMG no later than **March 12, 2012**.