AIAC PACIFIC Aerospace Industries Association of Canada L'Association des industries aérospatiales du Canada

R&D Information Session

Camosun College - Victoria

April 30, 2015

Jay Teichroeb
VP, AIAC Pacific

AIAC Pacific – regional office of national association

- Initiative led by BC Aerospace Industry
  - desire for BC industry to have stronger link to national programs
  - approached national association to get involved regionally
- Emerson and Jenkins reports
- BC Government – 2013 campaign commitment:

  "*Leverage the Federal Industrial Regional Benefits Program to attract global aerospace and defense contractors to BC. This would be assisted by an investment of $5 million over five years to kick start the development of a unified BC aerospace cluster to attract investment and integrated contract sourcing from global firms."*
- AIAC opened BC office in December 2013 – "AIAC Pacific"

AIAC Pacific in 2014 – Year One

- Established office in BC
- Successfully delivered the 2014 Aerospace, Defence and Security Expo (ADSE) at the Abbotsford International Airshow
- Conducted Economic Impact Analysis and Capabilities Study of BC Aerospace Industry
- National Supply Chain Program approved in federal budget
- Led six market access initiatives domestically and internationally to promote BC aerospace industry
- AIAC Pacific designated the regional office for Consortium for Aerospace Research and Innovation in Canada (CARIC)

BC Government – following through in year 2

- *"We need to support a growing economy, and growing international trade. That includes moving forward with the Province's commitment to provide $5 million over five years to further expand and grow BC's world-class aerospace cluster. The second installment of funding will continue the work that has been launched, aimed at expanding markets and attracting more global business and investment to BC."*

  Hon. Mike de Jong, Minister of Finance
  BC Budget Speech, February 17, 2015

- 2015/16 agreement concluded in early April

- Aerospace identified in BC Jobs Plan as key strategic sector in the BC economy

Our Objectives

1. Increase communication and collaboration amongst BC aerospace industry partners representative of the sector's regions, capabilities and size of companies.

2. Support the development of supply chain capabilities of BC's aerospace manufacturing companies to increase work with OEM and Tier 1 companies.

3. Enhance the technical capabilities of BC's aerospace companies to increase work with customers that include OEM and Tier 1 companies and fleet operators.

4. Enhance the participation of BC companies in federal programs that support product technology and manufacturing innovation to develop sustainable competitive advantages in unique niches.

5. Develop a strategic approach to federal defence procurement built around the Province's Key Industrial Capabilities that maximizes the development of technical expertise.

6. Open and expand priority markets for BC goods and services, particularly in Asia, Europe and the United States.

KPMG

cutting through complexity

Economic Impact Analysis and Capabilities Study of the BC Aerospace Industry

Prepared for AIAC Pacific

DRAFT

December 24 2014

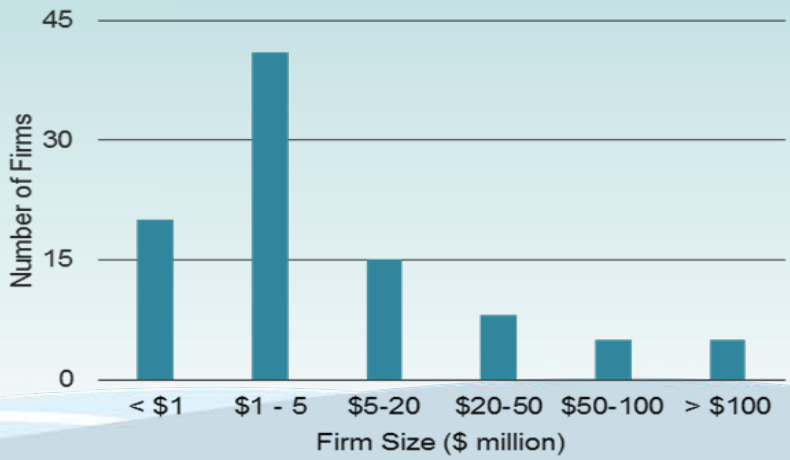
kpmg.ca

BC Aerospace Industry Overview

BC Aerospace at a Glance

- The BC aerospace Industry creates significant economic activity in BC, generating $2.5B in revenues, $1.3B in GDP or value-added output, and directly employing over 8,000 people
- Over 160 firms have been identified that operate within the aerospace industry in BC. The vast majority of these firms are small enterprises, reporting $1M-$5M in annual revenues
- Over 70% of firms operate in the manufacturing sector, generating nearly 60% of the industry's revenues. However, over half of the GDP and employment is generated by the MRO-ISS Sector
- The Space sector is an important component of the BC aerospace industry. For example, revenue from Space increased by 13% in 2012 and, importantly for BC, that revenue growth represented the majority of space sector gains for all of Canada

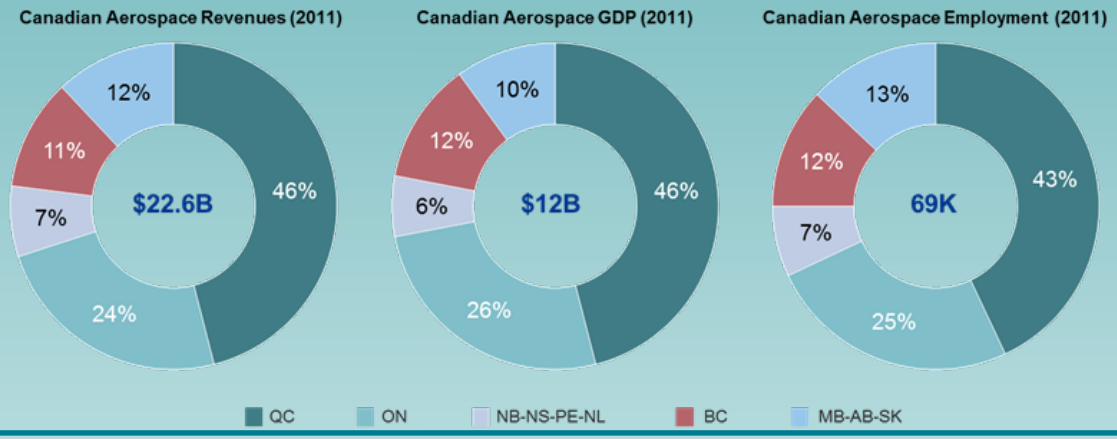
Number of Establishments	~160
Aerospace Employees	~8,360
Industry Revenues	~$2.4B
Direct GDP contribution	~$1.3B
Total jobs supported in BC	14,300 – 19,800
Total GDP contributed to BC	$2.9B – $3.5B



BC Aerospace in the Canadian Context

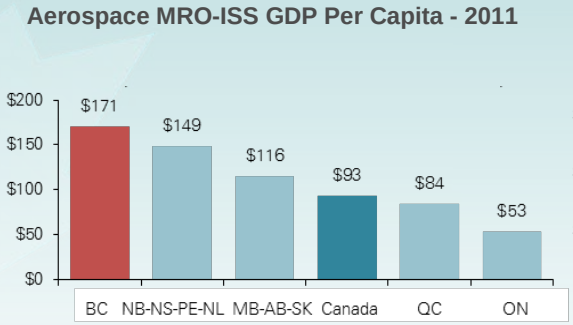
Aerospace Across Canadian Provinces

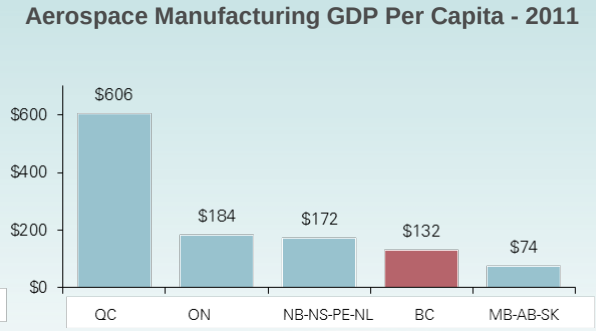
- BC is a significant player in the Canadian aerospace industry – it is the third largest aerospace sector in the country, and the epicenter in Western Canada – roughly the same size as the other three western Canadian provinces combined



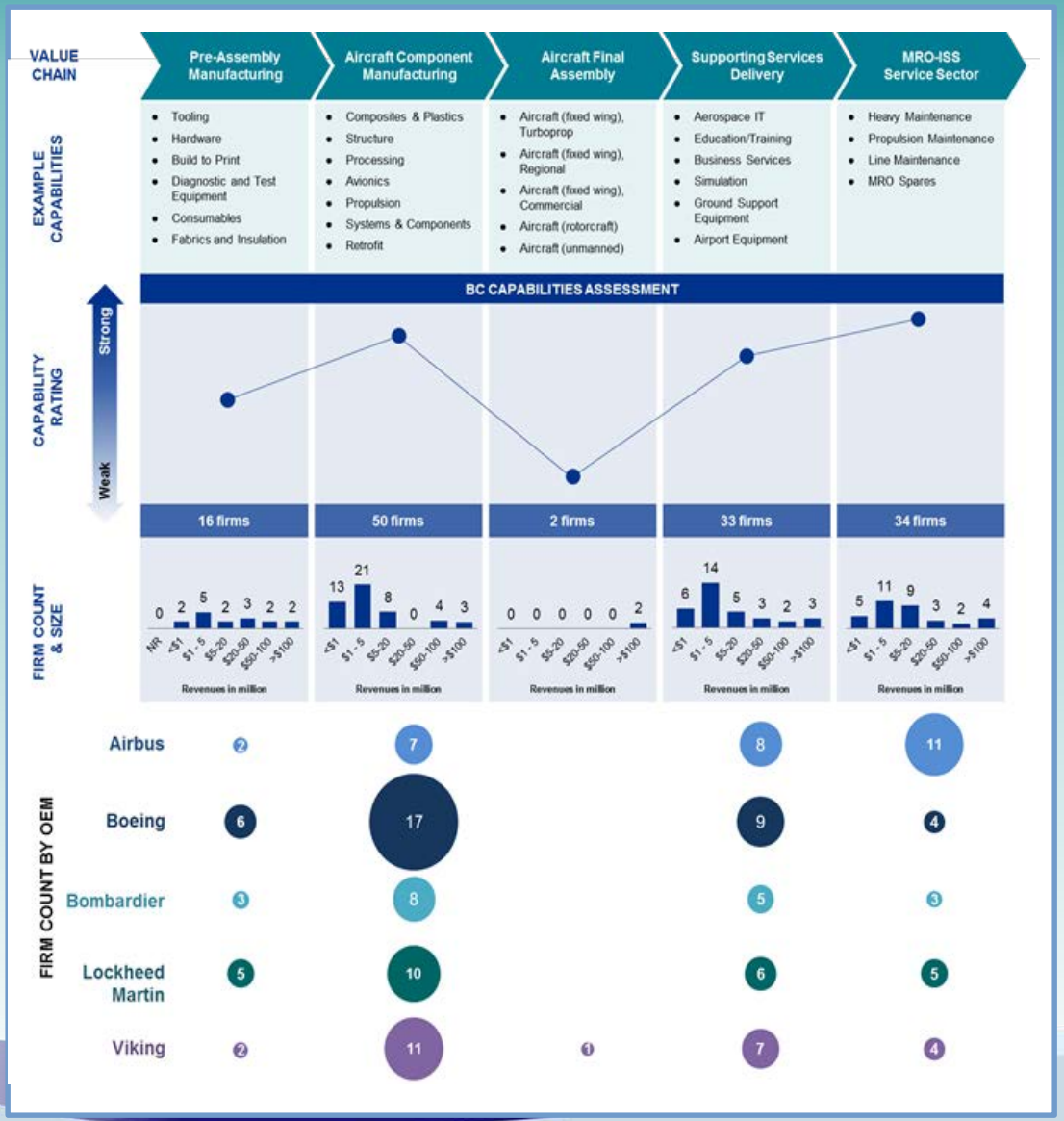
Aerospace Industry Composition Across Provinces

- BC's MRO-ISS Service Sector leads the country in economic value-added, across total GDP, GDP on a per capita basis, as well as on a GDP per-employee basis
- BC is behind the eastern provinces in aerospace manufacturing GDP and GDP per capita, however is a clear leader in Western Canada





BC Aerospace Industry Capabilities



Industry Capabilities Survey Summary

- MRO-ISS Service Sector stands out as a key strength, with 34 firms, 9 of which report revenues in excess of $20M, and 4 of which report revenues in excess of $100M.
- Supporting Services capabilities are relatively strong, with 33 firms participating, 8 of which report revenues in excess of $20M per year. Particular strengths include Education, Training, Business Services and Flight Simulation.
- At least 50 firms participate in Aircraft Component Manufacturing, however only 7 are reporting revenues over $20M per year. Scale in this category is critical for securing major contracts.
- Pre-assembly Manufacturing capabilities are modest with ~16 firms reporting capabilities, mostly in Tooling and Build-to-Print.
- BC is home to a Final Assembly firm operating in a strong niche market.
- BC is home to a Space OEM, one of the most capable in Canada.
- Airbus and Boeing are both strongly represented, particularly in the MRO-ISS and Aircraft Component Manufacturing. Many firms have also reported serving Lockheed Martin and Viking. Bombardier is less representation across all value chain activities relative to other OEMs considered.

Summary of Key Report Findings

Summary of Key Report Findings

1) BC's aerospace industry has a significant impact on the BC economy
2) BC is a significant player in the Canadian aerospace industry
3) BC is a leader in MRO-ISS Service Sector nationally
4) The BC aerospace industry is fragmented with majority of firms being small and medium-size enterprises (SMEs)
5) BC firms' capabilities vary significantly across the value chain
6) There is a lack of Tier 1 integration capabilities in the BC aerospace ecosystem
7) BC's space sector is experiencing significant growth and is well positioned for the future
8) BC has room for growth in aerospace manufacturing when compared to leading Canadian provinces
9) BC is well positioned geographically vis-à-vis Boeing's Washington State final assembly lines
10) There are significant existing IRB/ITB obligations and upcoming defence procurement opportunities
11) BC is lagging other jurisdictions in aerospace R&D
12) There is limited understanding of aerospace-specific talent requirements and talent availability
13) Demands from OEMs are evolving and require a BC-specific strategy
14) OEMs are expanding in the MRO-ISS Service Sector market, increasing competition to BC firms
15) Current aircraft fleet is rapidly retiring and BC firms must adapt to new aircraft materials
16) Nationally, aerospace jobs are higher paid and generate higher value-added per employee than industry benchmarks

BC Aerospace Looking Forward

The Impact of Growth in BC Aerospace

Based on economic impact multiplier analysis, we estimate that growing the BC aerospace industry by only $100M in revenues will contribute $114M - $138M to provincial GDP and create (or sustain) 560-280 jobs. This analysis is based on an arbitrarily small growth factor to demonstrate the benefits to the province of even modest growth in the industry.

For an additional

$100 M

in Aerospace Revenues,

The industry generates:	Direct Impact	Indirect Impact	Induced Impact	Total Impact
GDP	$55 M	$27 - $47 M	$34 - $37 M	$114 - $138 M
Employment	330 jobs	125 – 256 jobs	112 – 197 jobs	567 – 783 jobs

BC Aerospace Looking Forward

Challenges to Overcome

- Generally BC aerospace firms are highly fragmented across sub-sectors; there are many small firms with few sub-sector leaders
- Capabilities are highly variable across the value chain, with limited concentration of specific capabilities
- There is limited Tier 1 integration capability and large anchor firms to build clusters around, with a few notable exceptions
- BC is lagging other jurisdictions in R&D investment in aerospace; often seen as critical for technology development
- Trends of OEMs expanding in the MRO-ISS Service Sector may pose a challenge to BC firms, given heavy focus in this area
- There is limited understanding of BC's aerospace-specific talent requirements and talent availability

Key Industrial Capabilities (KICs) for BC

- Space
- Advanced Manufacturing
- ISS-MRO
- Special Mission Aircraft
- Aviation Training

AIAC Pacific's goals - communications & member engagement

- Promote BC aerospace industry – globally, nationally and provincially
- Ensure members are kept informed about industry developments and opportunities
- AIAC Pacific Membership
  - $250 per year
  - Free to end of 2015 with ADSE registration

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