Pulling Out of a Stall

Plotting a Renewed Course for Canada's Aerospace Industry

CAW-Canada's Submission to the Aerospace Review

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Message from the National President

Greetings,

CAW-Canada represents 10,000 people working in Canada's aerospace industry. We are participating in the Aerospace Review mandated by the Government of Canada, and I am pleased to present this brief as our submission to the review.

Canada's successful aerospace industry is a living example of the wisdom of pro-active industrial policy efforts by governments, working in conjunction with businesses, labour and other stakeholders. If it was all left to free trade and free markets, there would be little reason for Canada to have a leading aerospace industry.

Fortunately, previous governments did not leave it to fate. Instead, they invested energetically to initiate, support and protect a unique Canadian production capacity in this high-value industry.

The aerospace sector is vitally important to Canada. Every direct job supports several other spin-off positions in various supply industries. This technology-intensive, export-oriented industry makes a unique contribution to a better role for Canada in the world economy. We can't take this sector for granted.

Further effort is required to strengthen and expand our aerospace industry, including cementing the next generation of product programs, addressing our aerospace trade imbalances with Europe and other key markets, and building on Canada's strong endowment of strategic metals industries (such as aluminum and lightweight materials) to leverage value-added applications in aerospace and related manufacturing sectors.

CAW-Canada calls on the Review to actively solicit input from a wide variety of stakeholders from all regions of Canada, including the general public, in a fair and transparent manner. This process cannot be conducted solely within the boardrooms of aerospace firms, but must reach out to employees, academics, scientists, civil society, local governments and other Canadians.

The participants in the Aerospace Review process should see themselves reflected in its recommendations. In this way, stakeholders will retain a sense of ownership over the process and its outcome, and a sense of responsibility for the realization of the Review's objective, which must be to improve our aerospace industry for the benefit of Canada and its citizens, and the international community.

Once delivered to the Minister, the report should be made public soon afterward, and the government should be encouraged to respond in detail shortly thereafter. The report should be the beginning, not the end, of a national conversation about aerospace in Canada.

This Aerospace Review is an opportunity to engage Canadians in a discussion about the future of one of our most important endeavours: our ability to innovate, produce and sustain aerospace technologies, products and services.

We look forward to discussing our recommendations with other stakeholders and participants in the review. We are confident that our recommendations will help the Aerospace Review fulfill its objectives.

Ken Lewenza

Ken Lewenza
National President
CAW-Canada

Background to the Aerospace Review

The intention to initiate an Aerospace Review was first announced by the government in the 2011 Budget:

> *The Government will conduct – through a consultative process involving the Aerospace Industries Association of Canada and their member firms – a comprehensive review of all policies and programs related to the aerospace/space industry to develop a federal policy framework to maximize the competitiveness of this export-oriented sector and the resulting benefits to Canadians.* (Budget 2011, page 86)

The Aerospace Review is led by David Emerson, who served as Minister of Industry in Paul Martin's Liberal government, and later as Minister of International Trade and as Minister of Foreign Affairs in Stephen Harper's Conservative government. Mr. Emerson is supported by a three-person Advisory Council comprising Jim Quick, Sandra Pupatello, Jacques Roy and a secretariat.

The objective of the review, according to the government, is to produce concrete, fiscally neutral recommendations on how federal policies and programs can help maximize the competitiveness of Canada's aerospace and space sectors.

These recommendations are to be based on rigorous research and analysis of a number of factors, including the comparative advantages and vulnerabilities of Canada's aerospace sector, the opportunities and challenges that changing conditions present, the impacts of existing policies and programs, and possible modified or alternative policies or programs the government might consider.

The review will be conducted in consultation with industry representatives, including CAW-Canada, which will be involved in the process on many levels. It is expected to draw on the insights and views of a wide range of stakeholders and experts, and must be independent, evidence-based, grounded in a long-term perspective on global and industry trends, and open to innovative but practical approaches.

It is anticipated that the final report will be submitted to the Minister of Industry and publicly released in December, 2012.

Will the Canadian aerospace industry be trapped in "a stall"?

A very dangerous situation can arise when an aircraft in flight has insufficient lift from its wings, and begins to fall: in aeronautics this is called a "stall." If a stall is detected early enough, a pilot can take corrective measures, such as increasing engine thrust or changing direction, and rescue the plane. If not, disaster will ensue.

The Canadian aerospace industry may be, in fact, in a stall. Past decisions by federal and provincial governments have successfully guided the industry to become one of the most successful in the world, but there are signs that it is in a slow descent. Warning lights are flashing in the cockpit – are the pilots paying attention?

A recent warning was Canada's drop in 2009 from the fourth largest global aerospace industry to fifth largest. This decline should be raising concern in government, and be a strong motivating factor for the review. However, the Review's mandate only casually mentions the new, lower ranking, and overlooks the fact that now Germany has joined the U.K., France and the United States above Canada. Japan is not far behind, and China, Russia and Mexico are on the horizon.

CAW-Canada's National President, Ken Lewenza, wrote to Prime Minister Stephen Harper on this matter over two years ago:

> *What is particularly of concern is that this drop in ranking is being partly attributed to the lack of support for both aerospace research and the failure of government to leverage the billions of Canadian dollars in defence procurements to support domestic firms. It is imperative that government act*

> *quickly to ensure we not only recover our position worldwide but commit to measures that would provide continued growth. (CAW National President Ken Lewenza's letter to Prime Minister Stephen Harper,* January 19, 2010)

Does the Government of Canada share our desire to "recover our position worldwide" and grow, or is it satisfied with the declining status quo?

In announcing the Aerospace Review in February this year, the Honourable Christian Paradis, Minister of Industry, said:

> *Canadian aerospace and space sectors are leaders in their fields, and our government wants to ensure that they continue to create quality jobs across the country today and in the future. This comprehensive review will examine how we can maximize our efforts, together with industry, to sustain Canada's leadership position.* (Harper Government Ensuring Canadian Aerospace Industry Soars, Montréal, Quebec, February 27, 2012)

The government's commitment to creating quality jobs is welcomed, but the Government of Canada should not aim to simply "sustain Canada's leadership position" (emphasis added). Instead, it should commit its efforts to regain Canada's leadership position and aim for growth.

The future for Canada's aerospace industry holds great promise, but we cannot become complacent. The government's actions in the immediate future will ensure that our aerospace industry does not "stall," and starts climbing again.

The future is commercial aerospace

THE AEROSPACE INDUSTRY IS BALANCED BETWEEN MARKETS for commercial products such as passenger jets, and defence products such as fighter jets and missiles. Most aerospace firms produce products for both markets, and can shift their focus from one to the other, depending on which has the best economic prospects for their firms.

The aerospace industry's financial fortunes over most of the last decade were defined by the after-effects of 9/11: a dramatic downturn for commercial air travel, but large increases in defence and security spending. In more recent years, this trend has been reversed by the financial crisis which has forced governments to cut back on defence spending, while the commercial aerospace industry has enjoyed a strong rebound.

Looking ahead, PwC's aerospace and defence analysts sum up the future aerospace markets succinctly: Commercial aerospace leads the way.

In their annual assessment published this year, they said:

> *The mood in commercial aerospace is described by industry leaders as optimistic. Air traffic is strong and steady, driving the lucrative aftermarket business; the industry delivered a record number of large aircraft and the orders continue, driving record backlog – more than eight years – at current production rates. Times are so good, some people are asking whether there's a bubble.* (PwC, Aerospace & Defence: 2011 year in review and 2012 forecast)

To take advantage of the upturn in commercial markets, aerospace producers have to move quickly, and the government must be ready to assist them. Aircraft manufacturing operates on a long-term schedule, with orders placed several years before delivery.

Our most successful, and Canadian-owned, aircraft producer is Montreal-based Bombardier, which is the third largest commercial aircraft manufacturer in the world, after Boeing and Airbus.

World demand for Canadian-made aerospace products has remained relatively strong, thanks to the appealing features of those products – like the relatively strong fuel efficiency of Canadian-made aircraft and engines. But we can also thank active government policy efforts to cement new product programs, like

Bombardier's new C-Series passenger aircraft.

The new C-Series could lead growth in Canada's industry. The company reports that it has received 138 firm orders for the plane, plus another 179 options, purchase rights or letters of intent. The plan is to have 30 customers with 300 orders by 2013, when the first aircraft is scheduled to enter service; this is the equivalent of two and a half years of production (Bombardier holding firm on price for new C-Series, Globe and Mail, May 29, 2012).

But Bombardier's latest offering will face stiff competition from other big producers such as Boeing and Airbus. That's why the Canadian government needs to be prepared to assist Bombardier in making sales of the C-series, such as providing financing or other forms of support.

Governments in the past used a wide range of policy tools, including public equity ownership, the aggressive use of public procurement (including, when Air Canada was a Crown corporation, civilian purchases), subsidies for investment and technology, and active trade policy measures, to support the development of a Canadian critical mass in aerospace research, design and production.

The defence market is declining

The Aerospace Review's Discussion Paper notes that the future of the defence side of the aerospace market, which is driven by government spending for products and services for its military, is declining. "Budget tightening across many countries is likely to affect the growth prospects of this segment for at least a decade," observes the paper.

This conclusion is shared by PwC analysts. "Defence revenues should, again, be modestly lower," they noted, adding that revenues for the top six defence players were down this year. "The only thing certain about the future [U.S.] defence budget is that it will be lower, but it's anyone's guess how much."

Too great a focus on the defence market instead of the growing commercial market could harm Canada's aerospace industry's future growth. The Canadian aerospace industry is concentrated in the commercial aerospace market, which accounts for 94 per cent of industry revenues, according to the Aerospace Industries Association of Canada (AIAC). This segment shows the greatest promise: annual growth in air travel to 2028 is expected in the range of 5 per cent per year. The resulting demand for 29,000 new aircraft over the next twenty years is estimated to be worth $3.2 trillion.

The government should be taking steps to encourage the Canadian industry to continue to aim for the commercial market.

The Government's gamble on the F-35 Lightning II is misguided

Because of previous government investments, some Canadian aerospace firms have been retooling in anticipation of receiving work on the F-35 program. It's a risky gamble, since performance issues, delays and shrinking defence budgets have put the future of the program in doubt.

The government has insisted that Canada's purchase of the F-35 aircraft is required in order for Canadian firms to be able to bid for contracts from Lockheed Martin, and benefit from participating in the global supply chain for the thousands of planes expected to be sold to the U.S. government and other nations.

Some firms may now be growing concerned that the global market for the F-35 may not be as bountiful as originally anticipated. U.S. lawmakers are considering alternatives to the F-35 because of delays, and some international customers are decreasing, delaying or reconsidering their F-35 orders (although some countries, such as Japan and Israel, have placed new orders for the F-35).

Canada's Auditor General has questioned the government's estimates that Canadian firms were eligible to bid on $12 billion worth of F-35 contracts. It found

that estimates used by the Department of National Defence fluctuated greatly, and were not independently verified:

> *Moreover, in the majority of cases, only the most optimistic scenario was put forward, rather than a range of potential benefits that reflected the inherent uncertainties in the projections. We are concerned, because these projections were used to support key decisions related to Canada's participation in the JSF Program and the purchase of the F-35 aircraft. (Auditor General of Canada, 2012 Spring Report of the Auditor General of Canada, Chapter 2 – Replacing Canada's Fighter Jets).*

The F-35 program has been exempted from the usual Industrial Regional Benefit (IRB) requirement for a foreign contractor to invest an amount equivalent to the contract price in Canada. IRBs are also known as offsets, and can include purchasing products or services for the procured aircraft from Canadian suppliers (direct offset), or the company making an investment in Canada unrelated to the procured aircraft (indirect offset).

CAW-Canada has expressed its concerns about the government's plan to purchase a fleet of F-35 Lightning II stealth fighters from U.S.-based Lockheed Martin. In its 2010 submission to the Canadian Standing Committee on National Defence, CAW-Canada said:

> *There are no IRBs with this procurement. It's a give-away to the U.S. manufacturer, Lockheed Martin. Those dollars should require guaranteed investment and jobs in Canada of equivalent value: a dollar for a dollar. Canadian workers should not be asked to just sit back and hope that Lockheed Martin will send contracts to Canada out of the goodness of its heart.*
>
> *With an IRB program, the government could also ensure that the work is distributed across Canada fairly, the regions receiving a proportional amount of work relative to their current share of the Canadian aerospace workforce, with Quebec comprising roughly 46 to 50 percent. (CAW-Canada, F-35 Aircraft Procurement Submission to the Standing Committee on National Defence, November 2010.)*

CAW-Canada has called on the government to ensure that the contract to replace Canada's fleet of CF-18s guarantee dollar-for-dollar investment in Canada. Using both direct and indirect offsets as part of a military-related IRB program would allow Canada to encourage investment in an appropriate mix of commercial, space, and defence aerospace industries.

Recommit to building Canada's space capabilities

CANADA'S ABILITY TO USE SPACE COMMUNICATIONS AND observation capabilities are essential to the delivery of government services to Canadians, and our space technology serves as vital infrastructure for our government.

In 2008 the Canadian government used the Investment Canada Act to prevent the foreign take-over of the Canadian firm that held important Canadian satellite and robotics technology, as well as control of the Radarsat II earth observation satellite. This move to protect a strategic Canadian capability was supported strongly by CAW-Canada and others, and ensured that vital technology and jobs remained in Canada.

After initial interest in supporting Canada's space capabilities, the government's commitment is waning and is in need of investment and support, and the RADARSAT Constellation program remains unfinished. Without investment soon, Canadian firms warn that engineers will leave the industry, denying Canada the vital knowledge and capacity to act independently in the space field.

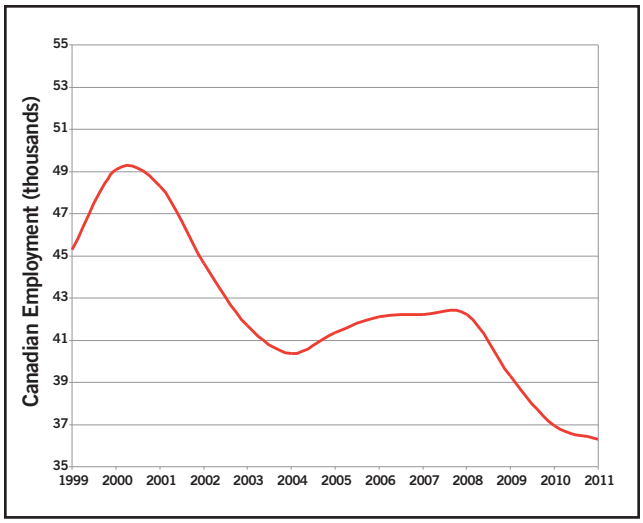
A Canadian space strategy plan was developed by government through consultations with the Canadian Space Agency and other departments, as well as with stakeholders, but it has never been released publicly by the government. The Aerospace Review Discussion

Paper describes the space industry's future as "ambiguous."

The government should take action to end the ambiguity and continue to build Canada's commercial and scientific space capabilities.

Aerospace Employment is falling

Graph 1.
Aerospace Manufacturing Employment 1999-2011



Source: Statistics Canada, CANSIM 281-0023

It is difficult to overstate the dramatic job losses in Canada's aerospace industry in the last ten years.

Aerospace manufacturing employment peaked in 2000 with 49,000 jobs, strengthened by industry and government investments and a more competitive dollar. But that was before the events of September 11, 2001, which sent the global aerospace and air travel industry plunging.

Since then, employment had dropped to 36,000 jobs in 2011; a loss of 13,000 jobs and a 26 per cent decline nationwide. The number of jobs has not been lower since 1994 and every region has been affected, but the majority of the job loss has been in Ontario (6,800 jobs, or 45%, lost), followed closely by Quebec (6,300 jobs, or 24%, lost).

The challenges we face to regain our global standing in aerospace are enormous, particularly as developing economies around the world work hard to build their own aerospace industries. To ensure that we continue to participate in the success of this global industry we need new initiatives, re-invigorated policies, and vision from our elected leaders. Our continued success depends upon it.

The Canadian industry has emerged from a period of rapid transformation in the global economy and recent serious economic challenges, owing to the efforts of a dedicated, skilled and organized work force.

Canadians in every region of Canada are employed in the aerospace industry; in this it is unique among major manufacturing sectors. A broad regional diversification has resulted in important centres of production located in Quebec, Ontario, Manitoba, Nova Scotia and British Columbia.

Table 1.
Aerospace Product and Parts Manufacturing Employment, by Province (2011)

Province	Jobs	Share of Employment
QC	19,500	54%
ON	8,200	23%
MB	3,500	10%
NS	2,200	6%
BC	1,300	3%
Other	1,500	4%
TOTAL	**36,300**	

Source: Statistics Canada, CANSIM 281-0023

Aerospace manufacturing is the anchor for tens of thousands of other related jobs in aerospace service, maintenance, overhaul and repair industries which combined are estimated by some to equal the overall employment found in direct manufacturing.

On whole, the aerospace sector is well known as an important engine of job creation in the broader economy. Each aerospace job creates two other indirect jobs in the economy, leveraging even greater economic benefits for Canada.

International research indicates that, on average,

five jobs in total depend on each direct job in a major aerospace manufacturing facility. This includes the direct job itself, jobs in "upstream" aerospace supply industries, and resulting jobs in "downstream" consumer goods and services industries, which depend on the spending power of aerospace workers and their suppliers.

Investments and policies that promote job creation in the aerospace sector have many long-lasting benefits for the economy.

Table 2.
Spin-off Employment from One Aerospace Job

Direct aerospace job	1.0
Indirect supply jobs	1.8
Respending (downstream) jobs	1.9
Government (tax-supported) jobs	0.25
Total Jobs	**4.9**

Sources: Economic Policy Institute: Employment Multipliers in the U.S. Economy; Aerospace Innovation and Growth Team: An Independent Report on the Future of the U.K. Aerospace Industry, CAW Calculations

CAW-Canada's members are vital to Canada's aerospace success

More than 10,000 of the people who work every day to build Canada's aerospace industry are members of CAW-Canada. Our members work in a surprisingly diverse range of aerospace-related firms and facilities dispersed across Canada, with a strong presence in Quebec, Western and Atlantic Canada, and Ontario.

These firms and facilities include original aircraft manufacturers, such as Bombardier and Boeing, and key integrated suppliers such as engine-maker Pratt & Whitney. They also include specialized aircraft service and maintenance shops, and numerous smaller aerospace suppliers.

Table 3.
Major CAW-Canada Employers

Employers	Members
Bombardier	3,600
Pratt & Whitney	2,200
Boeing	1,000
IMP Group	480
CMC Electronics	480
Héroux-Devtek	430
Cascade Aerospace	400
Bristol Aerospace	325
Viking Air	290
Northstar Aerospace	200
Avior Products	100

Source: CAW, Employers with 100 or more members, 2011 average.

The unionized workforce has provided aerospace firms in Canada with moderate and stable labour costs, and has provided employees with pay and benefits that are higher than other sectors in the economy.

This predictability has not come at great expense to employers. On the contrary, labour costs in Canada are in line with other leading aerospace producers. Compensation costs for production workers in Canada are 10 to 15 per cent lower than in other leading aerospace producers such as the U.S., France, Germany and the U.K. – despite the high Canadian dollar (U.S. Bureau of Labour Statistics, November 2009).

The hard work and dedication of aerospace workers, combined with ongoing investments in new technology, have yielded impressive gains in labour productivity. Over the last decade productivity has increased a stunning 35 per cent, in sharp contrast to stable real wages (Statistics Canada, CANSIM 379-0027 and 383-0010, CAW Calculations).

RECOMMENDATIONS

1. Canadian Content

EXPORTS ACCOUNTED FOR THREE OUT OF EVERY FOUR dollars of the aerospace industry's $21 billion in revenue in 2010, according to the Aerospace Industries Association of Canada (AIAC). But domestic government procurement can be used to leverage investment in key technologies and production.

Canada's next major aerospace purchase to replace Canada's fixed-wing search and rescue aircraft provides an opportunity to use domestic procurement or IRBs to create aerospace jobs in Canada. Canadian firms need to be considered in the procurement process, and strong consideration must be given to Canadian job creation in determining how Canada will improve its search and rescue capability.

As CAW-Canada advised a committee of MPs examining military procurement in 2010, "Using both direct and indirect offsets as part of a military-related IRB program would allow Canada to encourage investment in an appropriate mix of commercial, space, and defence aerospace industries."

OUR RECOMMENDATIONS:

Maximize Canadian content, spin-off benefits and production offsets arising from procurement of military and civilian aircraft.

- Develop an aggressive, transparent and accountable strategy to maximize the Canadian industrial benefits from public procurement.
- Work with aircraft suppliers and their Canadian customers to enhance Canadian content in major domestic aircraft purchases.
- Use direct and indirect IRBs to require foreign investments that will support areas of Canada's aerospace industry that hold potential high growth.

2. Investment and R&D Support

THE AEROSPACE SECTOR IS ONE OF CANADA'S LEADING innovators and the site of nearly $1 billion in annual research and development spending. R&D spending in aerospace ranks third among Canadian high-tech industries, behind only the communications equipment and pharmaceutical industries.

Each day more than 5,000 engineers, scientists and technicians work in Canadian aerospace R&D. This is our high-tech future.

Industrial policies have shaped Canada's aerospace industry from its very beginnings. Public procurement and direct program support have taken various forms, formalized through the Canada-U.S. Defense Production Sharing Agreement (DPSA) signed in 1956, and later the Defence Industry Productivity Program (DIPP) in the 1960s.

A multi-industry approach to funding technology investment was undertaken from 1996 to 2006 through the Technology Partnerships Canada (TPC) program, replaced in 2006 by the current Strategic Aerospace and Defence Initiative (SADI).

Targeted public investments to leverage key technologies and product programs have built the success of this industry. However, despite investments through SADI, Canada's employment numbers are plummeting and our industry's standing slipped from fourth to fifth. Clearly more must be done to ensure that investments produce jobs and improve our industry's standings.

OUR RECOMMENDATIONS:

Use government R&D and investment support to confirm key product development programs by Canadian producers.

- Use the federal SADI fund and other federal programs to leverage Canadian investments in major aerospace OEM product programs and facilities.
- Introduce a consistent, universal sales financing program to facilitate purchases of Canadian-made passenger aircraft, in both domestic and export markets.
- Establish a Canadian Aerospace Supply Program, involving aerospace OEMs, lower-tier suppliers, and the federal and provincial governments.
- Strengthen the existing Scientific Research and Experimental Development tax credit at the federal level, and corresponding programs at the

provincial level, by broadening the range of eligible applied development, engineering and early commercialization.

- Adopt a flexible approach in working with companies to preserve key facilities through market volatilities and position themselves for a future recovery in business.
- Ensure that any government assistance supports job creation, such as ensuring capital investments are used for manufacturing equipment, and ensuring that manufacturing remains in Canada until repayment of loans has been completed.

3. Trade Reciprocity

The Aerospace Review Discussion Paper notes that the industry is experiencing "a global rebalancing marked by the emergence of new economic powers with a growing appetite for sophisticated goods and an increasing number of manufacturers that benefit from comparatively low labour costs and high government support."

Among our high-tech industries, only aerospace has a positive trade balance, although the surplus has narrowed considerably in recent years. As recently as 2003 Canada had a $4.9 billion trade surplus – by 2011 that had been cut by 60 per cent.

Despite the overall trade surplus, Canadian industry suffers from persistent trade deficits with the EU and Japan. Both regions are also involved in trade talks with the Canadian government, making trade reciprocity for the aerospace sector all the more important to include in negotiations. And over the past decade, Canada's bilateral aerospace trade with Brazil has been highly unbalanced resulting in a long-run deficit for Canada.

OUR RECOMMENDATIONS:

Demand reciprocity in foreign trade: Europe, Asia and Brazil must accept imports of our aerospace products in return for our purchases of their products.

- Ensure that Canada's position in any trade negotiations includes mechanisms to ensure trade reciprocity in aerospace products.
- Negotiate officially with Airbus Industrie to develop a schedule for increasing Canadian value-added content in Airbus's overall manufacturing operations.

4. Lightweight Technology

OUR RECOMMENDATIONS:

Leverage Canada's strength in strategic metal production (including aluminum and lightweight materials) into value-added aerospace applications.

- Target investment and R&D support for the design and application of lightweight components in the aerospace sector.

5. Skills Development

OUR RECOMMENDATIONS:

Strengthen aerospace-related education and training programs at all levels to prepare the workforce for next-generation technologies.

- Provide targeted public support for enhanced aerospace apprenticeships, and strengthening recognized transferable skills.
- Require appropriate oversight of public training support to ensure that funds are not used to develop expertise in other countries and thus facilitate the transfer of production. For instance, training related to Transport Canada certifications should not be used to develop expertise in other countries that would encourage the transfer of production.

6. Aerospace Development Council

OUR RECOMMENDATIONS:

Create a sustainable Canadian Aerospace Development Council, involving private firms, all levels of government, the CAW and other stakeholders, to design and implement a new Aerospace Strategy for Canada.

- Undertake a review of the experience of the Canadian Aerospace Partnership (CAP) to determine a model for sustainable engagement with all stakeholders.
- Work to ensure broad federal and provincial support to adequately resource the long-term activities of a new Council.

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