

Minister of Innovation,  
Science and Industry



Ministre de l'Innovation,  
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Ottawa, Canada K1A 0H5

Mr. Joël Lightbound, M.P.  
Chair  
Standing Committee on Industry and Technology  
House of Commons  
Ottawa, Ontario K1A 0A6

Dear Colleague:

On behalf of the Government of Canada, I would like to thank the members of the Standing Committee on Industry and Technology for their work in developing the Report entitled “Development and Support of the Aerospace Industry,” tabled in the House of Commons on June 16, 2022.

The Government commends the members of the Committee, and the witnesses who appeared before it, for their insight and commitment toward understanding the impacts of COVID-19 on Canada’s aerospace sector.

The global aerospace industry was significantly impacted by the pandemic, with Canada being no exception. Despite that, aerospace remains one of the most innovative and export-driven industries in Canada, contributing over \$24 billion to Canada’s gross domestic product (GDP) and generating approximately 200,000 jobs in 2021. COVID-19 is still causing uncertainty, with persistent labour shortages and supply chain issues continuing to impact the sector and many others.

That is why our Government has undertaken a series of bold actions to support the recovery of Canada’s aerospace sector and ensure that Canada remains a global leader today and decades into the future. As you will see in the detailed Government Response, Government actions are organized into the following pillars for the purposes of responding to the Committee’s recommendations: 1) financial support (both direct and for research and development); 2) support for skills development and training; 3) support through procurement; and 4) support through strengthened regulations. I believe the Response demonstrates that the Government’s actions align closely with the recommendations offered by the Committee.

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Please find enclosed a copy of the Government Response to the recommendations of the Report.

Sincerely,

A handwritten signature in black ink, appearing to read 'F. Champagne', with a stylized flourish at the end.

The Honourable François-Philippe Champagne, P.C., M.P.

Enclosure

## **GOVERNMENT RESPONSE TO RECOMMENDATIONS**

The Government of Canada appreciates the work of the Standing Committee on Industry and Technology (“the Committee”) and welcomes the testimonies, views, and recommendations it received from a wide range of aerospace industry stakeholders in March 2021, as reflected in the Committee’s Report, entitled “Development and Support of the Aerospace Industry.”

Canada’s aerospace sector is a vital part of the economy, and the Government acknowledges the extraordinary contributions that the sector has made as one of the most innovative and export-driven industries in Canada.

The COVID-19 pandemic, and the subsequent decline in global air travel, has had a significant and lasting impact on Canada’s aerospace industry, as the global decline in commercial and business air travel led to significant reduction in demand for aircraft, aircraft maintenance, and parts.

In 2021, the Canadian aerospace industry, comprised of the aerospace manufacturing and maintenance, repair and overhaul sectors, contributed over \$24 billion in gross domestic product (GDP) and close to 200,000 jobs to the Canadian economy. This was a decrease of \$0.9 billion in GDP and 7,300 jobs since 2020, and a total decrease of \$9.4 billion in GDP and 35,200 jobs from pre-pandemic levels in 2019.

The global sector is beginning to see a gradual recovery from the pandemic, and Canada’s aerospace manufacturing revenues declined at a significantly slower rate in 2020-2021 compared to 2019-2020. In addition, despite the challenges, Canada’s aerospace industry maintained its #1 research and development (R&D) ranking among all Canadian manufacturing industries in 2021, with investments totaling \$934 million as well as its global leadership position in the production of civil flight simulators (#1 in the world), civil engines (#3 in the world), and civil aircraft (#4 in the world). Canada’s aerospace industry is expected to be well positioned for recovery given its diverse product portfolio, including a strong focus on regional and business aviation.

The global aerospace industry is also experiencing transformative change with the introduction of innovative products and processes including those related to sustainable aviation, autonomous flight, and advanced manufacturing. Globally, the pandemic has accelerated the sector’s transformation towards sustainable aviation, with consumer demand shifting to cleaner and greener products, areas where Canada has traditionally been a leader.

The Committee’s Report presents extensive industry feedback under four thematic categories, and with seven recommendations to support the aerospace industry. The Government response below begins by addressing the recommendation for a national aerospace strategy, as this is a sector-wide request. The Government then presents its response to the Committee’s additional recommendations, organized into four categories: 1) financial support (both direct and for research and development); 2) support for skills development and training; 3) support through procurement; and, 4) support through strengthened regulations. Under each category, the Government Response highlights

which Committee recommendation is being addressed and provides examples of programs and initiatives to support Canada's aerospace sector.

### **National Aerospace Strategy (Recommendation 5)**

The Government of Canada has taken, and continues to take, action with a bold plan to bolster Canada's strategic aerospace sector. The Committee recommends that *"the Government of Canada, following consultation with industrial partners and labour representatives, develop a national strategy for the aerospace sector"*. In response, the Government has been actively, and strategically, investing in the aerospace sector for many years. As outlined below, Canada's COVID-19 Economic Response Plan supported sectors most severely affected by the pandemic, including the aerospace industry. Notably, in Budget 2021 (April 2021), the Government further committed to protecting Canada's competitive global advantage, driving investments to support employment in Canada, and stimulating innovation and technology development that positions Canada for global leadership in emerging digital technologies, advanced manufacturing, and sustainable aviation.

The Government of Canada is also ensuring that small and medium-sized enterprises (SMEs) and the broader aerospace supply chain have the support they need to grow and transform as the industry recovers, including measures to help maintain and grow Canada's skilled workforce and accelerate procurements.

By no means exhaustive, these actions are the pillars of the Government's pandemic response and its strategic plan for the recovery of Canada's aerospace sector.

With the resolve of Canadian workers and the innovative spirit of Canadian companies, this renewed focus on building a cleaner, greener future in aviation will continue to strengthen Canada's position as a world leader in the global aerospace industry today and decades into the future.

### **1. Financial Support**

This section addresses the following three Committee recommendations:

- **Recommendation 1:** That the Government of Canada ensure that a Center of Excellence on Aeronautics 4.0 be created and that it can bring together university- and college-level expertise in this field, and that this Center increase research capacities and development in this sector.
- **Recommendation 2:** That the Government of Canada ensure that significant financial incentives be put in place for basic research, including to develop a greener aircraft and expertise in the energy transition of this industry through green technologies. That the Government of Canada promote a circular economy approach in order to establish a policy for recycling aircraft that are taken out of service.
- **Recommendation 4:** That the Government of Canada, in addition to sector-specific funding allocated to the aerospace sector through the Strategic Innovation Fund in Budget 2021, dedicate specialized staff to assist Canadian firms seeking to benefit from aerospace funding and support.

The Government of Canada agrees with the Committee's finding that Canada's aerospace sector is an important contributor to the Canadian economy, and was among the sectors most severely affected by the COVID-19 pandemic. The Government also agrees with the importance of financial assistance to support the sector's recovery, with a particular focus on sustainable aviation, as well as providing assistance to help Canadian firms with the adoption of advanced manufacturing practices.

### **Direct Financial Support**

From the beginning of the pandemic, the Government offered financial support to individuals and business to help address economic challenges. Canada's COVID-19 Economic Response Plan was critical to support sectors most severely affected by the pandemic, including the aerospace industry. The Canada Emergency Wage Subsidy (CEWS), the Canada Emergency Rent Subsidy (CERS), the Large Employer Emergency Financing Facility (LEEFF), the Regional Air Transportation Initiative (RATI), and the Remote Air Services Program (RASP) are among the general economic measures that assisted aerospace companies across the country. CEWS has been one of the most impactful pandemic supports, helping more than 5.3 million Canadians keep their jobs since its introduction and providing billions in support for the Canadian economy, including for the aerospace sector.

The CEWS and CERS programs ended on October 23, 2021, and were replaced with three new targeted wage and rent subsidy programs: the Tourism and Hospitality Recovery Program; the Hardest-Hit Business Recovery Program; and, the Local Lockdown Program. These programs, available from October 23, 2021, to May 7, 2022, continued to protect jobs by providing targeted wage and rent support to hard-hit businesses, including Canadian aerospace companies, that faced significant pandemic related challenges.

The Government of Canada also recognized the need to extend financial support directly to Canada's air carriers and the regional air transportation system. Launched in March 2021, RATI is a \$206 million program that provides support over three years to eligible regional businesses and airports that directly contribute to regional air transportation. RATI is designed to ensure businesses and communities have reliable and affordable access to critical airport and air carrier operations and services. RATI is delivered by Canada's seven Regional Development Agencies (RDAs). RDAs work closely with businesses and innovators in their regions to fuel economic growth that creates more well-paying middle-class jobs for Canadians. For instance, in August 2021 the Federal Economic Development Agency for Southern Ontario announced grants, through RATI, totaling \$3.5 million for regional airports in Sarnia, St. Thomas and Tillsonburg. At Sarnia's Chris Hadfield Airport, the \$1.9 million will be used in the construction of a new hangar and for critical upgrades to help re-establish regional scheduled services.

Through collaboration with industry participants, the Government of Canada also developed a package of available assistance for Canadian air carriers. In Spring 2021, the Government of Canada announced individual agreements with several air carriers, totaling \$7.49 billion, through LEEFF. To access this financial assistance, air carriers were required to issue passenger refunds for those unable to complete travel during the

pandemic, maintain workforces to protect jobs, reinstate regional routes in some instances, protect travel agents' commissions, and complete planned aircraft acquisitions that benefit Canadian aerospace. Agreements were established with Air Canada, Air Transat, Sunwing, and Porter Airlines.

In August 2020, the Government of Canada announced funding of up to \$174 million for the Transport Canada (TC)-led Remote Air Services Program to ensure the continuity of essential air access to remote communities through the development of bilateral agreements with provinces and territories. This funding was designed to ensure remote communities receive essential levels of air service over the medium-term.

### **Support for Research and Development (R&D)**

The aerospace sector is one of the most innovative and export-driven industries in Canada and continues to be the leader in R&D spending in Canada's manufacturing sector. The Government of Canada agrees with the Committee recommendation that the sector's recovery begins with a renewed focus on the R&D and innovation for which the sector is renowned. The Government understands that for Canada to reach its economic potential, investments in R&D are key.

In response to the Committee's recommendations (#1, #2, #4), included below are details of key initiatives the Government has put in place to support the aerospace sector as well as broader initiatives from which the sector can benefit, recognizing that this is not an exhaustive list.

#### ***a. Strategic Innovation Fund***

Launched in 2017, ISED's SIF supports large-scale, transformative and collaborative projects that help position Canada to prosper in the global knowledge-based economy. SIF is a continuous intake demand-driven program where proposals may be submitted at any time. Program staff work directly with companies in the aerospace sector that are interested in submitting project proposals.

Since SIF was established, \$777 million in contributions have been allocated to aerospace and space projects. Budget 2021 announced \$2 billion in direct support for Canada's aerospace industry, including a target of \$1.75 billion in investments through SIF, to help bolster innovation, strengthen competitiveness, and accelerate the industry's green transformation.

Building on these commitments, on July 15, 2021, Prime Minister Trudeau and Premier Legault jointly announced assistance of up to \$685 million for new innovation projects with a focus on sustainable aviation, which will be led by Pratt & Whitney Canada, Bell Textron Canada, and CAE. The funding is comprised of up to \$439.8 million of SIF funding and \$245.5 million from the Government of Quebec, supporting a total of \$2 billion in investments in Canada. This is reinforced by TC and its Aircraft Certification team, which is encouraging the adoption of electrically powered aircraft for flight training to reduce emissions and noise under mandated licensing requirements. It is also permitting more simulation time to be credited for flight training in place of actual aircraft usage to reduce fossil fuel usage.

The Government also takes note of the Committee's recommendation to promote a circular economy approach in aerospace (Recommendation #2). At the same time that significant support for more sustainable aviation has been announced through SIF, and efforts are being made by the Government to explore opportunities to decarbonize transportation, Canada's aerospace industry is taking steps to become a global leader in greener aircraft. In fact, Canada is home to the first aircraft (Airbus A220, and Bombardier Global 7500 and Challenger 3500) in the world to receive an Environmental Product Declaration, verified and awarded by EPD International AB, an independent third-party organization. The Declaration takes into account the full life-cycle impact of a product, including increasing recyclability and recoverability rates at end-of-life.

### ***b. Aerospace Regional Recovery Initiative***

Budget 2021 also announced the creation of Aerospace Regional Recovery Initiative (ARRI), which will provide \$250 million over three years through the RDAs to aerospace businesses and organizations with the following three objectives: 1) to green their operations and adopt environmentally sustainable practices; 2) to improve productivity; and 3) to strengthen commercialization while furthering integration into regional and global supply chains.

As of June 30, 2022, RDAs have approved approximately \$60 million in funding for 24 projects from aerospace businesses and organizations across the country, to support activities such as the adoption and commercialization of clean technology products or services; the adoption production-improvement technologies in the fields of advanced manufacturing, industry 4.0, artificial intelligence and cybersecurity; workforce and skills development; or the integration of new start-ups in key aspects of the value chain. For example, pursuant to the ARRI objectives, Canada Economic Development for Quebec Regions (CED) has provided support to AeroMontréal for up to \$6.3 million to ensure the recovery of the Quebec aerospace industry through the launch of four new initiatives to: 1) accompany SMEs in the greening of their products and manufacturing processes; 2) strengthen cybersecurity; 3) address workforce shortages by promoting inclusiveness and diversity; and, 4) continue international marketing efforts. In British Columbia, Pacific Economic Development Agency of Canada (PacifiCan) has provided \$7.5 million to three B.C. organizations, Avcorp Industries, Inc., the University of Victoria, and Chinook Helicopters, Inc., to help them innovate, commercialize technologies, and improve global competitiveness while creating 110 jobs in B.C.'s aerospace sector.

### ***c. Global Innovation Clusters***

In May 2017, ISED launched the Global Innovation Clusters, areas of intense business activity made up of companies, academic institutions and not-for-profit organizations that boost innovation and growth in a particular sector. In February 2018, ISED announced the selection of five Clusters (formerly known as Superclusters) from across Canada, three of which, the SCALE AI Cluster, the Advanced Manufacturing Cluster, and the Digital Technology Cluster, currently provide support for the aerospace industry. There are a number of aerospace companies engaged in this initiative, including Bombardier, Boeing, CAE, Thales, and Canadian Advanced Air Mobility. Budget 2021 provided \$60

million over two years, starting in 2021-22, to the Innovation Clusters to continue supporting innovative Canadian projects. To support the further growth and development of Canada's Global Innovation Clusters, Budget 2022 provided \$750 million over six years, starting in 2022-23. Building on their success to date, these Clusters will expand their national presence and will collaborate to deepen their impact, including through joint missions aligned with key government priorities such as fighting climate change and addressing supply chain disruptions.

#### ***d. National Research Council***

The National Research Council of Canada (NRC) is the Government's largest research and technology organization. The NRC continues to increase its support to the sector through its Aerospace Research Centre (ARC), which undertakes and promotes industry R&D across the Canadian aerospace and space community. Since 2019 the ARC's operational priorities have been: sustainable aviation, integrated aerial mobility, aeronautical product development and certification, advanced digital aerospace manufacturing, air travel research, and defence technologies.

The NRC has aligned its resources and expertise to support the aerospace sector in moving towards sustainable and autonomous aviation, including its unique national facilities including wind tunnels, research aircrafts, engine test cells, full-scale structural testbed, and advanced manufacturing facilities. Its Zero Emission Aviation Program aims to transform the Canadian aviation sector's decarbonization transition by developing fast, market-ready, sustainable solutions. The NRC is also pursuing the creation of national facilities for hybrid-electric engine development and testing, aircraft technology integration, sustainable fuels and hydrogen, battery development and testing. Recently, the NRC has developed a unique Hybrid Electric Aircraft Facility to enable the development of new technologies in response to industry needs. In addition, the NRC is drawing on its expertise in aerospace to establish Canada as a leader in the advanced air mobility (AAM) ecosystem in Canada, and to enable safe integration of air mobility into the airspace and to transform mobility in the near future.

The NRC's Advanced Manufacturing program is also one of five Global Innovation Cluster Support Programs that bring together NRC researchers and facilities with academia and industry to help support innovation and growth, while adapting to the rise of Industry 4.0 or smart manufacturing. The program aims to assist the entire supply chain in both the aerospace and ground transportation sectors by spearheading breakthrough research to improve production processes and efficiencies for metal and advanced materials, as well as position Canadian businesses as leaders in Industry 4.0 practices. Since its inception, the NRC has awarded grant and contribution funding through the Advanced Manufacturing Program to 11 academic institutions, not-for-profits and SMEs.

Through Budget 2021 the Government provided additional support to SMEs through the expansion of the NRC's Industrial Research Assistance Program (IRAP). IRAP's mandate is to help Canadian SMEs, including those in the aerospace sector, grow by providing financial support to advance the development and commercialization of



technologies. Through this funding IRAP will support up to an additional 2,500 SMEs from coast-to-coast. Since it began, IRAP has supported 182 aerospace SMEs with close to \$44 million in funding. When including firms within the manufacturing and robotics supply chain in aerospace, IRAP has supported more than 350 SMEs. IRAP's team of Innovator Advisors are industry experts who advise Canadian SMEs throughout the IRAP funding and support journey.

#### ***e. Space Programs***

Space manufacturing and opportunities for science and technology development play an important part in Canada's aerospace industry. To promote the development of new cutting-edge space technologies, the Government of Canada, through the Canadian Space Agency (CSA), funds the Space Technology Development Program (STDP). During this fiscal year (2022-23), the program will launch another wave of investments to encourage the development of Canadian industrial capabilities in the area of space technologies for the purpose of expanding the commercial potential of Canadian space companies.

Looking forward, the Government of Canada is preparing Canada's space community and collaborating sectors – including Canadian companies, universities, research institutions, and other organizations – for potential roles in the long-term exploration of the Moon, a crucial steppingstone in humanity's quest to travel onwards to Mars. The CSA's Lunar Exploration Accelerator Program (LEAP) was created to provide a wide range of opportunities for Canadian science and technology activities in lunar orbit, on the Moon's surface, and beyond. LEAP offers contracts and contributions to Canadian space companies and universities to advance and demonstrate innovative technologies in the lunar orbit and surface, and to develop and conduct science experiments to help prepare for future robotic and human missions to the Moon and other deep space destinations. These investments position Canadian industry, including SMEs, to become an integral part of the growing new-space economy.

#### ***f. Scientific Research and Experimental Development Program***

A cornerstone of Canada's innovation strategy has been the federal Scientific Research and Experimental Development (SR&ED) tax incentive program. SR&ED is a federal tax incentive program designed to encourage Canadian businesses of all sizes and in all sectors to conduct research and development. This program provides broad-based financial support for SR&ED performed in every industrial sector across Canada through the immediate deductibility of eligible expenditures, as well as a generous investment tax credit. The SR&ED tax incentive program provided approximately \$3.3 billion in tax assistance to businesses in 2019.

As announced in Budget 2022, the Government is undertaking a review of the SR&ED program to ensure that it is effective in encouraging R&D that benefits Canada, and to explore opportunities to modernize and simplify it. Specifically, the review is examining whether changes to eligibility criteria would be warranted to ensure adequacy of support and improve overall program efficiency.

### ***g. Innovative Solutions Canada***

Innovative Solutions Canada (ISC) is dedicated to supporting the scale up and growth of Canada's small-and medium-sized innovators. The ISC supports early-stage, pre-commercial R&D and late-stage prototypes from Canadian innovators across all sectors, including aerospace. For example, to date the ISC has supported 16 Unmanned Aerial Services and Unmanned Aerial Vehicle projects through both Challenge and Testing Streams totaling over \$14.8 million. Additionally, in March 2022 ISED launched a defence call for proposal which included a problem statement for the testing and validating of Uncrewed Aerial Systems and Remotely Piloted Aerial Systems of various sizes and operational capabilities.

### ***h. Accelerated Growth Services***

The Government of Canada is committed to providing accessible and effective guidance to the aerospace sector. ISED's Accelerated Growth Services (AGS) is part of the Government of Canada's suite of services designed to support Canadian businesses to further enable their growth, financing, exporting and innovation capacity. This service is powered by a national team of former entrepreneurs and business executives, now working for the Government of Canada, to help innovators in all industries, including the aerospace sector, at various stages of their journey. These innovation advisors analyze innovators' needs and advise them on which government programs and services might support their growth. For particular high growth firms wanting to grow significantly, a dedicated team of government players led by innovation advisors develop a customized growth plan and innovation advisors provide advice over an 18-month period, advocating on behalf of these firms in order to support their growth and scaling opportunities. Since 2016, the AGS has provided services to over 800 firms, including 29 aerospace companies, and has assisted companies to obtain a total of \$752 million from Government funding programs. Over this period, more than 200 aerospace entrepreneurs have received advisory services to support their business growth plans.

These and other measures have helped Canadian businesses weather the storm of COVID-19.

## **2. Support for Skills Development and Training**

The section responds to the following Committee recommendation:

- **Recommendation 7:** That the Government of Canada collaborate with provinces and territories to fund post-secondary training across all sectors of the aerospace industry, adequately accessible across Canada.

Globally, training and skilled labour shortages were exacerbated by the pandemic, and continue to be a challenge for many sectors, including aerospace. The Committee recommended that the Government support workforce training and skills development in the aerospace sector, including investments in post-secondary institutions. The Government of Canada agrees, and currently supports a variety of programs designed to help the aerospace, and other sectors, address these pressures. These programs look to

help the aerospace, and other sectors, address these pressures. These programs look to bridge the gap between industry and the post-secondary education sector, as well as bring in other potential partners.

While the Government is committed to supporting upskilling and bridging the gap created by labour shortages, direct funding opportunities for post-secondary training are limited as this falls under the purview of the provinces and territories. That said, federally and provincially funded projects like the Pratt & Whitney Canada / Bell Textron / CAE SIF projects referenced above do provide significant opportunities for training.

In the 2020 Speech from the Throne, the Government announced its commitment to create one million jobs and restore employment to pre-pandemic levels. The plan outlined in Budget 2021 will create almost 500,000 new job and training opportunities for workers over the coming years. There has been a positive start to 2022, with aerospace manufacturing's contribution to Canadian GDP growing by 10% year-over-year during the first quarter (January to April period).

Through ESDC's new Sectoral Workforce Solutions Program, the Government of Canada will work with sector associations and employers to design and deliver training that is relevant to the needs of businesses. Budget 2021 committed \$960 million over three years to connect up to 90,000 Canadians with the training they need to access good jobs in sectors where employers are looking for skilled workers.

The Government of Canada supports university researchers and students in their advanced studies and encourages Canadian companies to participate and invest in post-secondary research projects. The Natural Sciences and Engineering Research Council (NSERC) provides direct support through a suite of scholarships and fellowships programs covering every stage of postsecondary studies, from undergraduate to postdoctoral. NSERC funding for grants and scholarships in aerospace-related research over the last five years totaled \$130.6 million. NSERC's research partnership programs have provided over \$76 million in funding for aerospace research partnerships in the past five years for more than 440 projects spanning 60 colleges and universities across nine provinces. To ensure that Canada has the future supply of highly-skilled researchers that it needs to remain competitive in the private, public, or non-for-profit sectors, postsecondary professors who hold NSERC grants may use the grants to pay stipends to students and postdoctoral fellows to support research training. Much of this indirect training support is provided through Discovery and Alliance grants, with an average of 57% of award amounts being used to support research training.

The Government also continues to help students, researchers, businesses, and post-secondary educators work together to find innovative solutions. Mitacs is a national program that connects innovators and manufacturers, including in the aerospace sector, to high-quality student talent through work integrated learning opportunities to advance and de-risk industry investments in R&D and technology adoption. Budget 2021 committed \$708 million over five years to create 85,000 innovation internships. With this five-year investment the Government has resourced Mitacs to unlock employer investments in the development of Canada's aerospace workforce.

The Government of Canada believes that now, more than ever, it is critical that new graduate workers have the foundational and transferable skills they need to adapt and thrive in the evolving workforce of today.

### **3. Support Through Procurement**

This section addresses the following Committee recommendation:

- **Recommendation 6:** That the Government of Canada accelerate its planned procurement of goods, services and real property in the aerospace sector where possible to assure quality and value for money for Canadians.

The Government agrees that procurement is a powerful tool to drive positive, long-lasting economic benefits for Canada. The Government supports effective, open and transparent procurement processes that provide value for Canadians.

Federal procurement relevant to the aerospace sector primarily involves major defence procurements for the Department of National Defence (DND), under *Strong, Secure, Engaged: Canada's Defence Policy*. Major defence procurements are inherently complex. Through Canada's Defence Procurement Strategy (DPS), the Government is committed to delivering the right equipment in a timely manner for the Canadian Armed Forces, streamlining and modernizing defence procurement processes, ensuring coordinated decision-making, and supporting job creation and economic growth for Canadians.

Throughout the COVID-19 pandemic, Canada made a conscious decision to continue, wherever feasible, current and planned defence procurements, including aerospace procurements, thereby mitigating the economic impacts of the pandemic on Canada's aerospace sector and preparing it for an expected resurgence. The 2022 State of Canada's Aerospace Industry Report, which focused on the economic impacts on the aerospace industry since the beginning of the COVID-19 pandemic, noted that in contrast to civil aerospace, aerospace defence revenues have been growing since the start of the pandemic. More broadly, global aerospace defence revenues are forecasted to grow by over 45% between 2021-2025.

The Industrial and Technological Benefits (ITB) Policy is Canada's primary tool to leverage major defence and Canadian Coast Guard procurements to generate billions of dollars in economic benefits for the Canadian economy, including the aerospace sector, and help sustain jobs, innovation and economic growth across the country. Under the ITB Policy, the Government of Canada can use Value Proposition requirements to motivate bidders to carry out business activities in key areas, including skills development and training in the aerospace sector. In 2021, the ITB Policy was estimated to contribute more than 42,000 jobs and over \$4.7 billion to Canadian GDP annually.

In 2020, the Government also announced the ITB Policy would apply to the Canadarm3 project. This was the first time the ITB Policy has been applied to a defence procurement outside DND or the Canadian Coast Guard. It is estimated that the program will contribute to over \$135 million annually to Canada's GDP and create and maintain 1,300

high-quality jobs for Canadians over a 10-year period. The application of the ITB Policy will maintain Canada's space robotics capabilities, ensuring Canadian companies will be poised to seize future commercial opportunities in the growing global space market.

In May 2022, the Government of Canada introduced a new Clean Technology Key Industrial Capability (KIC) under Canada's ITB Policy. The Clean Technology KIC will seek to motivate clean technology business activities in the land, marine, and aerospace domains on procurements where there is an evidence-based opportunity. This will help grow domestic capacity for clean technology defence, dual-use, and commercial applications. It will also position Canadian industry to support the current and future needs of the Canadian Armed Forces (CAF) and our allies.

The Government of Canada will continue to progress its planned procurement of goods, services and real property in the aerospace sector. It will also continue to explore and promote innovative acquisition practices and processes that allow project teams to decide how and when to apply agility and innovation. The Defence Industry Advisory Group and the Canadian Association of Defence and Security Industries (CADSI) are looking at the impacts of COVID-19 on defence projects and supply chains and initiating discussions about future opportunities.

In June 2022, the Government of Canada announced a total of \$38.6 billion (accrual) in funding over the next 20 years to modernize Canada's contributions to the North American Aerospace Defense Command (NORAD). This is the most significant upgrade to Canadian NORAD capabilities in almost four decades. These investments will help ensure that the Canadian Armed Forces (CAF), including through NORAD, can detect, deter and defend against evolving aerospace threats to Canada well into the future. Furthermore, planning for many of the NORAD modernization initiatives will continue over the coming years, providing a valuable opportunity for DND to work collaboratively with Canadian industry early in the process as plans and solutions are refined. DND has had initial engagements with key aerospace associations and will continue to engage throughout the implementation of Canada's NORAD modernization plan.

#### **4. Support Through Strengthened Regulations**

This section addresses the following Committee recommendation:

- **Recommendation 3:** That the Government of Canada accommodate the needs of the various air fleets, particularly with regard to the maintenance of their aircraft, and support the development of companies specializing in the maintenance of these aircraft.

The Government of Canada agrees that a strong regulatory framework will help maintain the safety and security of Canadian fleets and acknowledges the Committee's recommendation to develop and maintain specialized maintenance, repair and overhaul capabilities in Canada. The Government of Canada develops, administers, and oversees the regulations (e.g., Canadian Aviation Regulations [CARs]), policies, and related standards necessary for the safe conduct of civil aviation and commercial space activities.

This includes establishing safety standards for the design and manufacture of aeronautical products in a manner harmonized with international standards.

Canada is seen as a world leader in aircraft certification and as a competent regulator, in both the aerospace product and air transportation sectors. Canada has built a state-of-the-art aircraft certification program, which is fundamental to supporting the development, growth, and competitiveness of the Canadian aerospace industry. As part of this program, TC plays an important function, domestically and internationally, in reviewing and approving more than 1,500 new and modified aeronautical products which are manufactured or used in Canada each year. Once TC certifies Canadian aeronautical products they can be exported and incorporated into global markets.

Similar to the Committee recommendation, the Government of Canada recognizes the need for an aerospace certification program that effectively responds to industry needs in a timely manner. As the aerospace industry is experiencing continuous growth and developing green, innovative, and sustainable technologies of increasing complexity, aircraft and aeronautical product certification and oversight activities will need to keep pace.

The Government recognizes that it must continuously assess TC's aircraft and aeronautical product certification resource needs in order to continue to ensure Canadian products can be used domestically and exported internationally with a strong assurance of safety; facilitate new technology and research and development, including into green, innovation and sustainable technologies; and maintain its rigorous safety certification standards.

With regard to the maintenance of aircraft, air operators must have their maintenance performed and certified by an organization that is approved under CARs and as such CARs provides air operators with options for who can perform and certify required maintenance. This approach provides flexibility to air operators and approved maintenance organizations while upholding strong aviation safety provisions related to the airworthiness of the aircraft and parts. TC does not regulate how maintenance contracts are awarded or prioritized by air operators.