

SHAPING THE FUTURE OF AEROSPACE

QUÉBEC AEROSPACE

STRATEGY

HORIZON 2026



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A WORD FROM THE PREMIER



Preparing Québec to lead the development of next-generation aircraft and space technologies

The aerospace industry is a key economic driver that promises to help Québec achieve its ambitions. Powered by talented technical experts, Québec companies are actively designing, manufacturing and commercializing revolutionary technologies that aim to meet the environmental and economic imperatives of next-generation aircraft. The industry is also a significant source of quality jobs.

We should be proud of our aerospace industry and its members who spark innovation and generate wealth for Québec. With the Québec Aerospace Strategy — Horizon 2026, our government is determined to go further than ever before by strengthening the industry's leadership position and ensuring its long-term growth.

We have set our sights on an ambitious goal: to develop, in Québec, aircraft and space systems that will shape the future and unite remote regions and large urban centres. This new strategy will allow us to simultaneously pursue our goals for sustainable development and economic prosperity. It will benefit the aerospace industry, regional air transportation and the people of Québec.

By mobilizing and working together, we can make this vision a reality and ensure the success of the Québec Aerospace Strategy – Horizon 2026.

Premier of Québec


François Legault

A WORD FROM THE MINISTER



Advancing a greener, more innovative and more productive aerospace industry

Québec's aerospace industry is known for its ability to reinvent itself and adapt to change. Thanks to the expertise, creativity and talent of the people and businesses who make it up, Québec now ranks among the world's top aerospace hubs.

With the Québec Aerospace Strategy — Horizon 2026, we aim to stimulate additional investments, new technologies and increased business productivity in Québec.

In 2020, we initiated extensive consultations with aerospace stakeholders in order to develop under a collaborative approach a strategy that truly reflects the industry's needs and realities. The new measures proposed in this strategy will create the best possible conditions for businesses to assert their leadership and grow, both domestically and internationally. The measures fall under three strategic priorities devised to shape the future of aerospace through innovation, while diversifying the industry, strengthening value chains and promoting their international development.

The goal is to revitalize the industry and set the conditions for its long-term growth. We aim to achieve this by further stimulating business innovation and diversification and by bolstering their overall performance. This will allow our value chains to break into high-potential markets—such as unmanned aircraft systems and space technologies, two key sectors expected to drive the industry's growth in the years ahead. It will also facilitate access to markets that are less vulnerable to changes in business cycles, such as security and defence.

To address labour issues, we will ensure that the next generation of workers is aware of the many career options offered by the aerospace industry. We will also help businesses and workers keep pace with technological advancements.

By combining our strengths, I am confident that we can take Québec's aerospace industry to new heights and make it greener, more innovative and more productive than ever before.

Minister of Economy and Innovation,
and Minister Responsible for Regional Economic Development



Pierre Fitzgibbon

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TABLE OF CONTENTS

| | |
|--|----|
| A WORD FROM THE PREMIER | 1 |
| A WORD FROM THE MINISTER | 3 |
| INTRODUCTION | 7 |
| Québec's aerospace industry in numbers: | 7 |
| 2016–2026 Québec Aerospace Strategy | 9 |
| An innovative industry that was significantly affected by the COVID-19 pandemic | 10 |
| Unprecedented mobilization | 10 |
| STRATEGIC PRIORITIES AND MEASURES | 15 |
| Strategic priority 1 | |
| Shape the future of aerospace through innovation | 15 |
| Measure 1 | |
| Design next-generation aircraft and space technologies in Québec..... | 16 |
| Measure 2 | |
| Shape and commercialize Québec innovations | 18 |
| Measure 3 | |
| Drive Québec innovations in international markets..... | 19 |
| Strategic priority 2 | |
| Diversify the industry | 21 |
| Measure 4 | |
| Attract key companies and support large-scale projects of strategic importance..... | 22 |
| Measure 5 | |
| Promote and strengthen the security and defence sectors..... | 23 |
| Measure 6 | |
| Develop the unmanned aircraft systems and space technology sectors | 24 |
| Strategic priority 3 | |
| Strengthen value chains and boost their international growth..... | 27 |
| Measure 7 | |
| Improve business performance | 28 |
| Measure 8 | |
| Prepare tomorrow's workforce | 30 |
| Conclusion | 31 |
| APPENDIX | 33 |
| Financial framework | 33 |



FABRIQUÉS AU QUÉBEC



INTRODUCTION

Québec's aerospace industry in numbers:

- More than 36,000 direct jobs
- Nearly \$15.8 billion in annual sales
- About 75% of the industry's products are exported internationally, accounting for nearly 10.5% of Québec's manufacturing exports
- Accounts for approximately 70% of Canadian aerospace research and development

Aerospace is a strategically important economic sector for Québec because of its size and the value added jobs it provides. Over the past several decades, Québec has made a name for itself internationally by designing and manufacturing new aerospace products in a wide range of segments including business, regional and commercial aviation, helicopters, propulsion systems, simulation and space technologies.

Strong ties between industry players

Québec's aerospace industry owes its strength to the world-class prime contractors and original equipment manufacturers (OEMs) active in the province. These key players rely on a vast and diverse network of suppliers and subcontractors. Québec's aerospace industry is therefore a complete ecosystem made up of three groups of companies that have established close ties with one another:

- Five prime contractors lead the industry. These include Airbus (commercial aircraft), Bombardier (business aircraft), Bell Textron Canada (civil rotorcrafts), CAE (flight simulators and training services), and Pratt & Whitney Canada (engines). In 2020, these five prime contractors accounted for about 70% of the sector's total sales.
- A group of roughly 15 Tier 1 suppliers, original equipment manufacturers (OEMs), and major maintenance, repair and overhaul (MRO) specialists work in partnership with prime contractors from Québec and elsewhere. The suppliers provide major components, such as fuselage sections, for projects led by prime contractors and share with them the technological and financial risks inherent to new aircraft programs. The OEMs design complete aircraft systems, such as landing gear and avionics equipment, and account for more than 16% of industry sales when combined with major MRO companies.
- The third group is made up of some 210 suppliers and subcontractors. These companies help carry out projects led by prime contractors, leading suppliers and OEMs. Some of them are also part of the value chains of major MRO companies. This group accounts for more than 13% of industry sales.



A strong education system providing top-quality training

Québec's aerospace businesses rely on highly skilled workers who have received outstanding training in universities, colleges and vocational schools. Several different educational institutions offer a range of aerospace programs.

Networks and collaborative structures

Québec's aerospace sector is made up of various networks and collaborative structures. Organizations such as Aéro Montréal and the Comité sectoriel de main-d'œuvre en aérospatiale du Québec (CAMAQ) support mobilization and cooperation within the sector.

Organizations supporting innovation

Several organizations support innovation in aerospace businesses, including the Centre technologique en aérospatiale (CTA), the National Research Council of Canada's Aerospace Manufacturing Technologies Centre, and the Consortium for Research and Innovation in Aerospace in Québec (CRIAQ).

As a result, Québec's aerospace ecosystem is well positioned to take full advantage of the next growth cycle in the global aerospace industry.

2016–2026 Québec Aerospace Strategy

The 2016–2026 Québec Aerospace Strategy (QAS) is based on a financial framework of nearly \$250 million for the five-year period from 2016 to 2021. This framework includes both self-funded measures and additional contributions to support investments estimated at \$2.8 billion.

At the mid-point of its implementation (2016–2021), the QAS's financial report revealed the following:

- Funding totalling almost \$500 million, representing 98% of the \$510 million target
- \$2.4 billion in public-private investments, representing 85% of the \$2.8 billion target
- Nearly 9,900 jobs created and maintained

An innovative industry that was significantly affected by the COVID-19 pandemic

Even though the aerospace industry has posted sustained growth over the years and successfully implemented several innovation projects, it is a cyclical industry that is substantially affected by the global economy, geopolitical situations and sometimes even humanitarian crises.

For example, in 2020, the COVID-19 pandemic had a devastating impact on the air transportation sector and consequently the global aerospace industry. According to the International Air Transport Association, an organization representing some 290 airlines, air carriers experienced financial losses of US\$137.7 billion in 2020 and this number is expected to reach US\$51.8 billion in 2021. According to a number of analyses and studies by companies in the sector¹, passenger volumes are not expected to return to 2019 levels until 2023 or 2024. As a result, demand for new aircraft has fallen significantly. The sharp decline in global air traffic has also negatively impacted business for aircraft MRO providers. Their activities will only pick up once global air traffic increases.

With 7,300 jobs lost in 2020, Québec's aerospace industry has already been seriously affected by the global pandemic. Sales fell by \$2 billion compared to 2019, forcing a number of companies to postpone or slow the pace of certain investment initiatives in the areas of manufacturing and research and development.

Unprecedented mobilization

Through an Aéro Montréal initiative, the main industry players took quick action and mobilized in spring 2020 to create the Alliance for the Aerospace Recovery. The strategic committee was tasked with identifying solutions to accelerate the recovery from the COVID-19 crisis.

This situation occurred early in the final year of the 2016–2026 QAS's five-year financial framework. In addition to the strategy's financial structure being up for renewal, the existing measures needed to be reviewed in light of the new economic reality.

In the summer of 2020, the government launched a consultative process with industry businesses and organizations to take stock of their experiences, ideas and visions for the future. The purpose of these consultations was to collect ideas with a view to developing measures aimed at:

- Encouraging a rapid recovery for the Québec aerospace industry
- Improving its resilience
- Setting the conditions for long-term growth

1. For example, reports published by AeroDynamic Advisory and Teal Group, and market research conducted by Boeing and Honeywell.

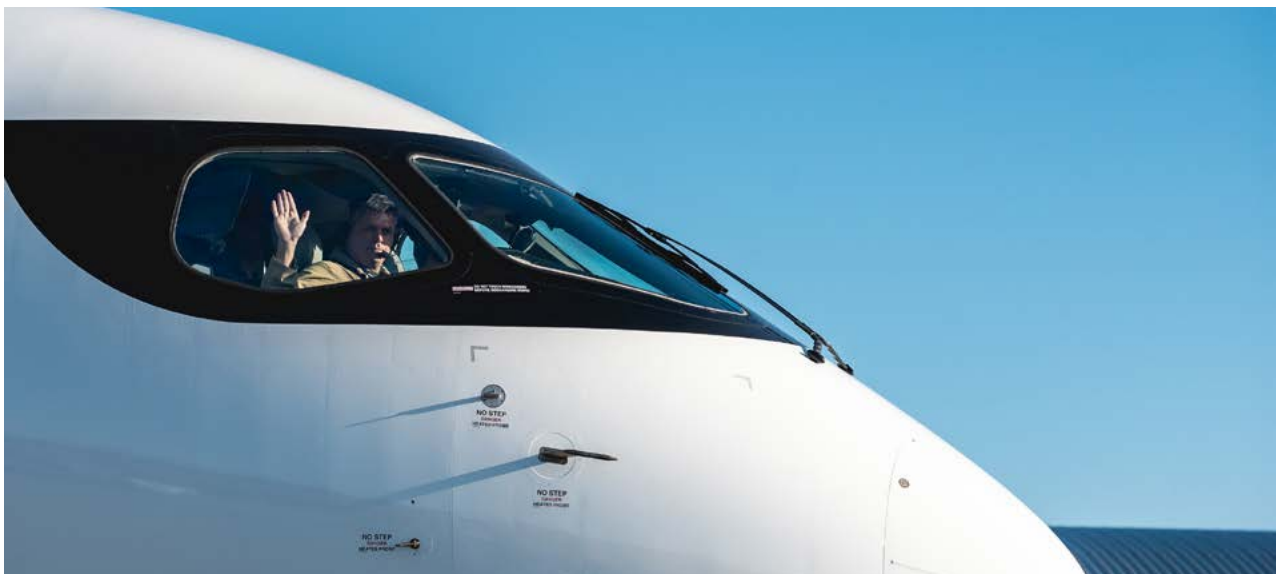
Nearly 30 meetings were held with representatives from small, medium and large industry companies, unions, higher education and scientific communities, government ministries, organizations and agencies and Aéro Montréal, which provided invaluable assistance. Over 90 recommendations were made in 24 briefs and documents presented by the stakeholders.

This led to the development of the Québec Aerospace Strategy — Horizon 2026, which includes measures that will enable Québec’s aerospace industry to face today’s economic challenges as well as those related to the industry’s structure.

The Québec aerospace sector saw some activities resume starting in early 2021. In fact, several companies saw their operations return to near-2019 levels, particularly those in the aerospace technology, business aviation, security and defence sectors.

While these signs of recovery are encouraging, the pandemic exposed certain vulnerabilities in the Québec aerospace industry, such as its dependence on certain segments of the civil aviation market and the fragility of many SMEs in the face of tighter credit conditions. In addition, the closure of a few companies highlighted the need to protect and strengthen the key differentiators that set Québec’s aerospace industry apart from that of competing ecosystems, namely its ability to design, develop, certify and commercialize aerospace products.

To ensure the long-term growth of Québec’s aerospace industry, more high-potential business segments must be developed, this will make the ecosystem more resilient and able to weather industry cycles. Doing so will involve building on the Québec aerospace industry’s key strengths: its ability to design, develop, certify and commercialize aerospace products. The Québec government is presenting this updated version of the QAS as a means of supporting the industry.



The Québec Aerospace Strategy at a glance

- Significant and increased financial support (2021–2022 to 2023–2024)
- A financial framework of \$334 million, including an additional \$95 million announced in the 2021–2022 budget, of which more than \$70 million is for research and innovation
- \$789 million in funding to support investments valued at nearly \$2.8 billion

The QAS aims to:

- Position the Québec aerospace industry's for recovery by focusing on its key differentiators, namely its ability to develop and successfully deliver innovative products
- Stimulate investment in an industry that Québec is proud of
- Contribute to the international push to develop greener aircraft

3 strategic priorities

- 1 Shape the future of aerospace through innovation
- 2 Diversify the industry
- 3 Strengthen value chains and boost their international growth

Objectives

- Support the Québec aerospace industry's recovery by generating nearly \$2.8 billion in investments over three years for developing new products and strengthening value chains.
- Enhance the industry's resilience by supporting market diversification and gaining a foothold in key growth markets such as unmanned aircraft systems (UAS) and space technologies.
- Ensure the industry's long-term growth and promote all value chains in high-potential markets.

The strategy has been updated to:

Support the design, production and commercialization of advanced aircraft and space systems that will allow us to connect remote communities in an environmentally responsible manner, benefiting present and future generations.

With this strategy, the Québec government aims to:

- Help the Québec aerospace sector maintain its leadership position as the global industry gradually recovers.
- Support the development of new technologies and help business increase their productivity.
- Support the implementation of structuring projects that will enable Québec to emerge as a leader, both domestically and internationally, particularly in green aircraft initiatives.

To implement this strategy, the Government of Québec will adopt a diplomatic and economic approach that involves building partnerships in Québec, across Canada and internationally. For activities outside Québec, the Ministère de l'Économie et de l'Innovation, the Ministère des Relations internationales et de la Francophonie, Investissement Québec International and the Secrétariat du Québec aux relations canadiennes will work together and draw support from the network of Québec offices in Canada and abroad. These teams will provide support for new export market development and help attract foreign investment projects in key markets.

**"TO IMPLEMENT THIS STRATEGY, THE GOVERNMENT OF QUÉBEC WILL ADOPT A
DIPLOMATIC AND ECONOMIC APPROACH THAT INVOLVES BUILDING
PARTNERSHIPS IN QUÉBEC, ACROSS CANADA AND INTERNATIONALLY."**





STRATEGIC PRIORITIES AND MEASURES

Strategic priority 1

Shape the future of aerospace through innovation

Québec's aerospace industry has always succeeded in being resilient by adapting quickly to change and innovating. As it has done in the past, this ability to innovate will lead to increasingly advanced aircraft and space systems. The next shift will be driven by a shared desire to reduce the industry's environmental footprint and further integrate new digital technologies.

To make sure Québec's aerospace industry is prepared to take full advantage of the renewed global demand for new aerospace products, the government will support investments in innovation that will lead to next-generation aircraft. These advanced aircraft will be powered by alternative fuels and equipped with hybrid-electric propulsion systems. Smaller aircraft will be equipped with electric motors. Technological advancements in energy storage are expected to lay the groundwork for new markets, such as flying taxis, also known as electric vertical take-off and landing aircraft (eVTOL).

To maximize the chances of these innovative projects being successful, Québec will make broader use of international partnerships and bilateral agreements with other internationally recognized regional aerospace hubs. The aerospace industry will need to develop innovative technologies that meet the environmental and economic imperatives of next-generation aircraft and the new era of space technologies. The Government of Québec will work with the industry to develop novel solutions aimed at making air travel greener and more affordable.

As a complement to the 2030 Plan for a Green Economy, the QAS will help make it possible to achieve government priorities related to fighting climate change, reducing greenhouse gas emissions and electrifying transportation.

The Québec government believes this is possible through three measures:

- Designing next-generation aircraft and space technologies in Québec
- Shaping and commercializing Québec innovations
- Helping Québec innovations find international markets

\$111 million in funding over three years will bring the total investments up to \$225 million.

| 2021-2024 QAS CONTRIBUTIONS | 2021-2024 EXISTING CONTRIBUTIONS | 2021-2024 FUNDING | 2021-2024 TOTAL INVESTMENTS (PUBLIC-PRIVATE) |
|-----------------------------|----------------------------------|---------------------------|--|
| \$48M | \$61M | \$111M ^{(1) (2)} | \$225M |

(1) Including \$12.2M to be added to the Québec Infrastructure Plan

(2) \$106M in grants and \$2M in equity

Measure 1

Design next-generation aircraft and space technologies in Québec

The government will support businesses through all research and development (R&D) projects phases, from innovation to through to pre-commercialization. Priority will be given to pivotal projects supporting the development of next-generation aircraft and space systems. Calls for proposals will be issued for innovative and structuring projects. The government will also support the development of company-led R&D projects outside the scope of these calls for projects, with assistance from public research centres and Québec centres for technological expertise, as well as through CRIAQ.

Support for start-ups and early-stage companies

To encourage the emergence of new ideas and facilitate the adoption of disruptive technologies in the highly regulated aerospace industry, the government will provide support to start-ups that aim to develop innovative solutions for aerospace markets. In addition, the government may purchase shares in early-stage companies that have successfully demonstrated operational technology solutions with potential applications in the aerospace sector. These companies will first have to ensure that there is a market with an established customer.

Partner-led pre-competitive market research

The government will continue to provide funding for CRIAQ's operations and collaborative innovation projects. Funding for CRIAQ-led projects will amount to \$3 million over the next three years. This is double the annual project funding provided over the 2016–2021 period.

Collaborative projects to build next-generation aircraft

In the November 2020 economic update, the government announced a measure aimed at accelerating the economic recovery of strategic sectors. This decision led to the implementation of the Collaborative projects of the aircraft of tomorrow. The Government will invest nearly \$70 million over three years to support new or ongoing pivotal projects involving next-generation technologies that can be applied in the aerospace sector or provide business opportunities in niche markets.

Economic Intelligence and Development Support Unit

When Investissement Québec's mandate was redefined in 2020, the government expanded the organization's scope to include providing financial support for businesses, assisting with exports and attracting foreign investment. This combination of services would not be complete without facilitating access to strategic information on the latest technologies and their prospective applications, as they relate to the needs and specific concerns of aerospace markets. The government will establish a technological development intelligence unit which will be coordinated by the Ministère de l'Économie et de l'Innovation and provide comprehensive insights to its partners in the institutional, industrial, higher education and research fields.

**“THE GOVERNMENT WILL SUPPORT BUSINESSES THROUGH
ALL RESEARCH AND DEVELOPMENT PROJECTS PHASES,
FROM INNOVATION TO THROUGH TO PRE-COMMERCIALIZATION”**

Measure 2

Shape and commercialize Québec innovations

One of Québec's key differentiators compared with other countries is its ability to design and develop aerospace products and obtain international standard airworthiness certifications for them. Québec's ability to make innovative ideas a reality and successfully commercialize them is a major competitive advantage. The government is committed to supporting projects that will help consolidate and further develop this expertise, which is likely to attract private investments from within Québec and around the world over the long term.

Support for new technology testing and certification

One way for companies to penetrate new markets is to develop new products and processes and ensure their market-readiness. However, not all companies have the in-house expertise needed to prepare new solutions for certification by regulatory bodies.

Recognizing this, the government will provide financial support for certification projects, covering a portion of external assistance costs incurred by companies that aim to develop, certify and produce an aerospace system in Québec. The assistance may be provided by a Québec design approval organization that is recognized by Transport Canada.

Supporting the development of aerospace certification capabilities

Québec companies are geographically removed from most of Canada's public aerospace product testing and certification centres. And yet, working with these public centres is an effective way to attract and retain private investment.

The government will therefore provide funding for testing equipment needed to certify next-generation aircraft technologies. These include electrical propulsion, hybrid-electric, energy storage and management and flight range technologies, alternative fuels, autonomous flight and environmentally friendly or high-volume manufacturing processes.

These funds will also be used to support initiatives, projects and studies that aim to advance the development of certification standards for aerospace products not currently covered by aviation regulations.

Measure 3

Drive Québec innovations in international markets

The government hopes to use economic diplomacy to help companies that develop innovative solutions gain access to upcoming international aerospace programs. Funding will also be provided to support the creation of full-scale technology demonstrators in Québec and to help Québec SMEs join international innovation networks.

Bilateral agreements to facilitate access to major international projects

In several countries, the government is actively involved in influencing decisions made by major players in the aerospace industry. With support from Investissement Québec International and the network of Québec offices in Canada and abroad, the Government of Québec hopes to establish bilateral agreements with the governments of these states in order to facilitate access for Québec companies to future aerospace or research and development programs launched by foreign companies. Additional contributions may be available to Québec companies that wish to participate in these major projects, recognizing that they may have to assume certain roles and responsibilities under the bilateral agreements.

Funding for full-scale technology demonstrators

Certain large companies established in Québec have initiated strategic and potentially structuring projects. Many are subsidiaries of foreign groups that operate competitor entities outside Québec.

The government wants to help these large companies maintain their positions as global leaders while creating favourable conditions for the Québec-based subsidiaries of foreign companies to win major strategic contracts from their groups. The government therefore plans to support the funding of full-scale technological demonstrators that generate benefits for Québec.

Facilitating SME access to international networks

Economic unions like the United States and Europe provide their aerospace industries with sufficient funding to cover large-scale, high-quality research and development projects. The Québec government plans to provide funding to help Québec SMEs participate in the projects carried out by these international networks.





Strategic priority 2

Diversify the industry

The aerospace ecosystem’s long-term resilience depends on its ability to innovate and diversify its activities in high-potential business segments. The planned investments in innovation will support the creation of next-generation aircraft and help diversify Québec’s aerospace industry.

The pandemic exposed certain issues, such as an over-reliance on specific markets and the fragility of SMEs. To counter these vulnerabilities, the industry must build resilience to sector cycles. Diversifying Québec’s aerospace industry and positioning it within high-potential market segments is one way to increase resilience. The government will therefore provide special support to promising projects in at least one of these three growing segments:

- Security and defence
- Space technologies
- Unmanned aircraft systems

The Government of Québec will strengthen the fabric of the aerospace industry by providing support for penetrating new and growing markets. In a cyclical business environment, this type of diversification will make the industry as a whole more robust.

Three measures will make it possible to achieve this goal:

- Attract key companies and support large-scale projects of strategic importance
- Promote and strengthen the security and defence sectors
- Develop the unmanned aircraft systems and space technology sectors

\$558 million in contributions over three years resulting in total investments of more than \$2.1 billion.

These financial contributions include approximately \$100 million drawn from Investissement Québec's capital fund between 2021/2022 and 2023/2024 to support investments projects led by aerospace companies. These amounts are in addition to the funding provided through the QAS.

| 2021-2024 QAS CONTRIBUTIONS | 2021-2024 EXISTING CONTRIBUTIONS | 2021-2024 FUNDING | 2021-2024 TOTAL INVESTMENTS (PUBLIC-PRIVATE) |
|-----------------------------------|--|----------------------|---|
| \$23M | \$152M | \$558M | \$2.163B |

Measure 4

Attract key companies and support large-scale projects of strategic importance

To diversify the ecosystem and attract businesses that will enhance its offer, the government will continue to promote Québec's aerospace industry abroad, working jointly with the Investissement Québec International network. The government will also seek out new investment initiatives in established subsidiaries of strategic importance and provide support for large-scale projects led by companies headquartered in Québec.

Supporting major strategic projects

The government will continue to support major strategic projects carried out in Québec by new or established companies, Québec subsidiaries of foreign companies and Québec-controlled companies. Funding for these projects will be primarily provided through the Economic Development Fund.

Bolstering business development in strategic subsidiaries

A significant proportion of private aerospace investments comes from strategic subsidiaries of major international groups. However, downsizing has left these subsidiaries with limited business development resources to help them secure new mandates from their head offices. To address this situation, the government will help strategic subsidiaries:

- Prepare business plans
- Strengthen their influence within their respective groups

Promoting Québec's aerospace sector

A special budget will be set aside for promoting Québec's aerospace sector at major international trade shows, particularly those attended by ministerial missions (like the Farnborough Airshow and Paris Air Show) or by economic missions with Québec manufacturers.

In addition, at the request of the industry, the Government of Québec will contribute to the creation of a unique brand image for Québec ecosystems in the space technologies and unmanned aircraft systems sectors. The goal is to showcase Québec's expertise and leadership in these two high-potential segments on the international stage.

Measure 5

Promote and strengthen the security and defence sectors

Less than 7% of the sales concluded by Québec aerospace firms are in the security and defence sectors. This proportion is much lower in Québec than elsewhere in the world. Yet, the companies that fared better during the COVID-19 pandemic were those that derive a significant proportion of their business from these segments, which are known to be less vulnerable to economic ups and downs.

The QAS aims to boost the Québec aerospace industry's resilience by encouraging market diversification and specifically developing the security and defence sectors. The strategy will facilitate connections between stakeholders and encourage collaborative development projects in these fields.

Support will also be available to make it easier for government entities and public bodies to adopt Québec-made public security solutions. Finally, Québec SMEs will receive support to ensure their operations meet the requirements of security and defence clients, as well as those applicable to the aerospace sector more broadly.

Collaborative security and defence projects

One strategy for developing a defence and security ecosystem is to set up research and development projects that require companies to establish partnerships and that offer promising market opportunities over the long term. The government therefore plans to launch collaborative security and defence projects with a view to promoting connections between companies interested in developing their expertise in these fields and gaining better access to these markets.

Making it easier for government entities and public bodies to adopt Québec-made solutions

Government ministries and public bodies may find technologies developed by the aerospace industry useful for meeting their various needs. However, these actors are often unaware of Québec aerospace companies and the broad range of products and services they offer, such as helicopters, business aircraft, unmanned aircraft systems and avionics equipment, as well as maintenance and repairs. These Québec businesses could meet government needs.

The Government of Québec therefore wishes to increase knowledge on both sides of local supply and demand. Greater familiarity would increase the likelihood of government ministries and public bodies procuring security and defence products and services from Québec aerospace companies.

The government will support industry-led activities that provide opportunities for institutional clients to connect with potential suppliers from Québec. This support will also include assisting companies of interest to institutional clients in order to help these businesses make their first sale.

Compliance with security and defence standards

SMEs looking to expand into international security and defence markets, such as the United States, need robust cybersecurity in order to protect the data and equipment under their responsibility. To help SMEs tap into these markets, the government will cover some of the costs associated with complying with the security and defence standards.

Measure 6

Develop the unmanned aircraft systems and space technology sectors

The civilian and commercial unmanned aircraft systems (UAS) market is expected to be one of the fastest growing aerospace fields by 2028. This market is expected to grow from nearly US\$5 billion in 2019 to nearly US\$14.5 billion by 2028². The space technologies market is also expected to experience steady growth during the same period. It is projected to expand from US\$298 billion in 2019 to US\$485 billion by 2028³. Both markets should remain relatively unscathed by the COVID-19 pandemic.

To take full advantage of these business opportunities, the government has decided to provide special support to projects targeting these market segments. This includes assistance for developing new testing capabilities and for collaborative projects that will enable Québec's aerospace industry to capitalize on these fast-growing markets.

2. *Teal Group, 2019 World Civil UAS Market Profile and Forecast.*

3. *Euroconsult, The Space Economy Report 2019.*

Further ongoing capacity building at the UAS Centre of Excellence

This measure also aims to help Québec businesses, universities and research centres access equipment for developing and demonstrating UAS or related systems. The goal is also to improve the assistance available in this area.

The government will contribute to the development of the UAS Centre of Excellence in Alma by investing in new equipment for use by SMEs, large companies, universities and research centres, and by providing assistance to businesses that wish to make use of this equipment. This initiative will benefit numerous companies interested in the UAS sector.

Collaborative projects in the space technologies and UAS fields

To promote the development and demonstration of innovative solutions in the UAS and space technologies sectors, the government will issue calls for collaborative development and demonstration projects in each of these high-potential fields. Such initiatives will strengthen ties between stakeholders from Québec's UAS and space technologies sectors and from other related fields of strategic importance.

**“THE GOVERNMENT WILL SUPPORT INDUSTRY-LED ACTIVITIES
THAT PROVIDE OPPORTUNITIES FOR INSTITUTIONAL CLIENTS
TO CONNECT WITH POTENTIAL SUPPLIERS FROM QUÉBEC.”**





Strategic priority 3

Strengthen value chains and boost their international growth

Having robust supply chains and sufficient qualified workers is critical for transforming innovative ideas and new business opportunities into increased sales and exports. This is true in both mature and emerging markets. Value chains with suppliers and subcontractors will have to adapt in order for industry players to be able to capitalize on the new business opportunities that arise thanks to innovation and market diversification. This step is dependent on having a large pool of skilled workers. In addition, improving business processes and productivity will make it possible for the industry to sell its products and innovations in international markets.

The government therefore plans to implement two measures:

- Improve business performance
- Prepare tomorrow's workforce

\$120 million in funding over three years will bring the total investments up to \$418 million

| 2021-2024 QAS CONTRIBUTIONS | 2021-2024 EXISTING CONTRIBUTIONS | 2021-2024 FUNDING | 2021-2024 TOTAL INVESTMENTS (PUBLIC-PRIVATE) |
|-----------------------------|----------------------------------|-------------------|--|
| \$24M | \$26M | \$120M | \$418M |

Measure 7

Improve business performance

To compete internationally, Québec's aerospace SMEs must be efficient across all their corporate functions. They must also be highly capitalized and sufficiently agile to deliver quality products on time, at competitive prices and in the required quantities. SMEs need to make ongoing investments in order to achieve and maintain standards of excellence.

To ensure these investments are optimized, the Government of Québec must align its export targets and foreign investment attraction objectives with the goals established by the industry's prime contractors. The government believes this alignment should be achieved through a «preferred supplier» approach that builds on existing measures and programs to help Québec SMEs meet the procurement needs expressed by major groups from Québec and abroad.

Helping SMEs achieve manufacturing excellence

The government will support initiatives aimed at promoting manufacturing excellence among the suppliers and subcontractors that serve major industrial groups. This includes implementing digital transformation strategies in all business areas and introducing automated production lines.

Including SMEs in Québec's innovation network

The government plans to invest more than \$6 million over three years to help Québec SMEs develop technologies that meet the needs of major groups. Concretely, these funds will allow SMEs to access public research centre services and equipment through the Innovation Program – Component 1. This program aims to provide companies with efficient support for their technological innovation projects and facilitate timely access to services and equipment relevant to applied research, testing, experimentation or demonstration projects. Expert assistance will be provided by one or more public research centres.

Helping SMEs break into global value chains

Additional contributions will enable calls for innovation projects to help suppliers find solutions to prime contractors' technological challenges. Funds will also be available to support the commercialization of innovations.

Assistance programs to support growth and productivity investments

Companies that want to improve their performance typically need to make major investments in their growth and production methods. To facilitate these investments, SMEs will continue to have access to assistance programs for initiatives, beyond calls for projects. Various options will be available, including:

- ESSOR program to support projects related to productivity and digitalization.
- Innovation program to support product and process development.
- PME en action program to improve the operational performance of SMEs.

SME Growth Fund

For Québec SMEs, business size is a major factor affecting their ability to break into global value chains and, in doing so, position themselves for long-term growth. SMEs must therefore seek out mergers or acquisitions, a long process that requires a significant investment in time and money.

The Government of Québec will support the creation of a special investment fund to support growth and strengthen Québec's leading aerospace suppliers. The goal is to transform Québec businesses into strong global players.

Specifically, this initiative will aim to:

- Improve the productivity and performance of Québec businesses
- Support the development of niche products and core competencies
- Diversify the client bases of Québec businesses to give them better access to international business opportunities

Promoting collaboration and mobilization within the industry

Three key organizations have been created by the government or with its support to promote collaboration and stronger ties between Québec's aerospace players. These organizations are: Aéro Montréal, CAMAQ and CRIAQ. The government will continue to provide operational funding for these three organizations.

Measure 8

Prepare tomorrow's workforce

To meet the labour needs created by both the aerospace sector's growth and the large number of retirements expected over the next five years, the government will support initiatives aimed at raising awareness about career opportunities in the aerospace field. In addition, the proliferation of new technologies and the rapid pace of technological change will force companies and workers to adapt. For workers, this will involve updating their skills.

Promote careers in aerospace and support knowledge transfer

The COVID-19 pandemic has created workforce attraction issues for the aerospace sector, particularly among younger workers who may be concerned about their career prospects in the industry over the medium term. To renew interest in the field, the government will support initiatives promoting trades and careers in aerospace, as well as knowledge transfer initiatives. These projects could make use of innovative solutions, such as digital applications, to raise awareness about the industry across Québec and convey the message that aerospace is a promising field that welcomes all types of workers, including women in particular, and that involves a wide range of trades and professions. The projects could also leverage novel approaches to facilitate intergenerational knowledge transfer.

Inter-Ministerial Issue Table

With labour issues affecting various facets of the aerospace industry, a large number of players are interested in offering solutions. This has only made it harder for manufacturers to find initiatives that will allow them to meet their current and future workforce needs. Consequently, the government will establish an inter-ministerial aerospace workforce issue table led by the Ministère du Travail, de l'Emploi et de la Solidarité sociale. The table's members will also include representatives from key government ministries and public bodies affected by the lack of young workers entering the field and other workforce issues faced by the aerospace industry. These include:

- The Ministère de l'Économie et de l'Innovation
- The Ministère de l'Éducation
- The Ministère de l'Enseignement supérieur
- The CAMAQ

The objective of this table will be to develop government strategies that specifically address the aerospace industry's concerns related to workforce attraction, education and professional development, including aligning training programs with labour market needs, and knowledge transfer.

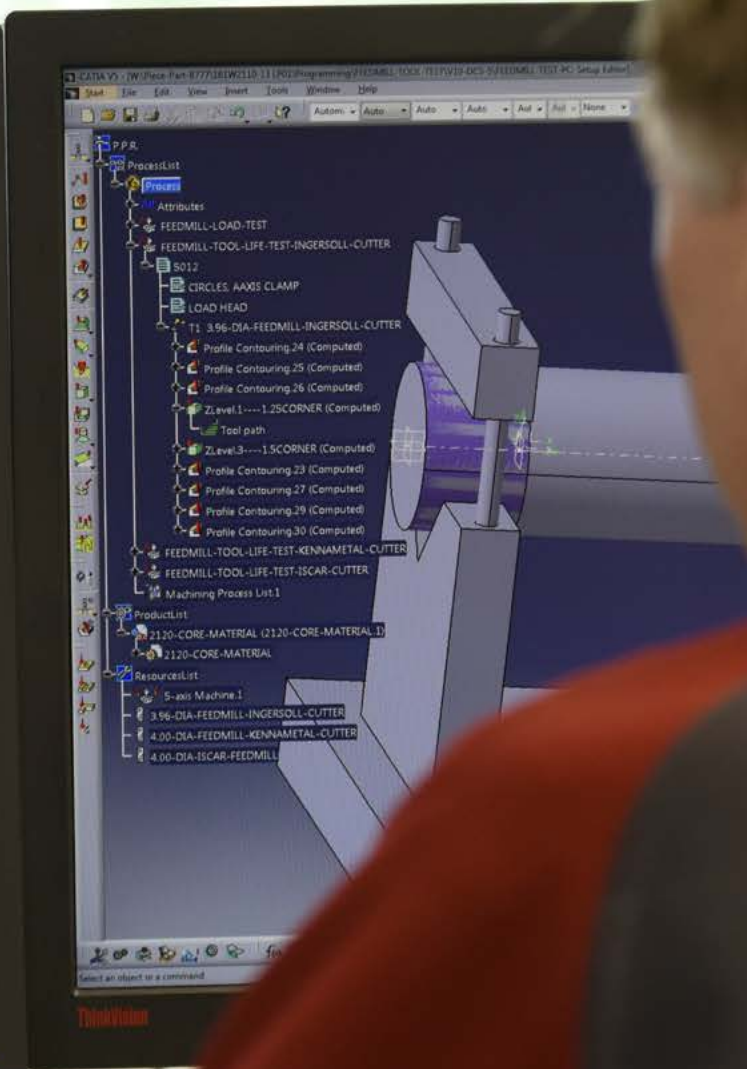
Conclusion

The Québec Aerospace Strategy does more than confirm the government support for the Québec aerospace industry. It establishes a long-term commitment to work with the industry to achieve a broader social project, namely: connecting remote regions and large urban centres by enabling fleet operators to provide competitively priced domestic and international air transportation using eco-efficient aircraft.

With a fiscal framework of \$334 million for 2021–2024, the QAS includes existing contributions and new funding announced in the 2021–2022 budget to support investments estimated at nearly \$2.8 billion.

| 2021–2024 QAS CONTRIBUTIONS | 2021–2024 FUNDING | 2021–2024 TOTAL INVESTMENTS (PUBLIC-PRIVATE) |
|-----------------------------------|----------------------|---|
| \$334M | \$789M | \$2.807B |

“... THE GOVERNMENT WILL SUPPORT INITIATIVES AIMED AT RAISING AWARENESS ABOUT CAREER OPPORTUNITIES IN THE AEROSPACE FIELD.”



APPENDIX



Financial framework

The QAS has a funding envelope of \$334 million over three years. During the same period, aerospace businesses will also have access to an estimated \$517 million in funding provided through the Québec Economic Development Fund, as well as \$100 million from Investissement Québec's capital fund.

| | NEW CONTRIBUTIONS | | | | EXISTING CONTRIBUTIONS |
|--|-------------------|-----------|-----------|-------------------|------------------------|
| | 2021-2022 | 2022-2023 | 2023-2024 | TOTAL FOR 3 YEARS | TOTAL FOR 3 YEARS |
| Strategic priority 1 Shape the future of aerospace through innovation | 6.6 | 20.7 | 20.7 | 47.9 | 61.1 |
| Measure 1 Design next-generation aircraft and space technologies in Québec | 1.6 | 11.5 | 11.5 | 24.5 | 53.1 |
| Measure 2 Shape and commercialize Québec innovations | 1 | 5.2 | 5.2 | 11.4 | 5 |
| Measure 3 Drive Québec innovations in international markets | 4 | 4 | 4 | 12 | 3 |
| Strategic priority 2 Diversify the industry | 1.3 | 11 | 11 | 23.3 | 151.7 |
| Measure 4 Attract key companies and support large-scale projects of strategic importance | 0.2 | 0.4 | 0.4 | 1 | 141.7 |
| Measure 5 Promote and strengthen the security and defence sectors | 1.1 | 4.6 | 4.6 | 10.3 | 3.5 |
| Measure 6 Develop the unmanned aircraft systems and space technology sectors | 0 | 6 | 6 | 12 | 6.5 |
| Strategic priority 3 Strengthen value chains and boost their international growth | 7.1 | 8.4 | 8.4 | 23.8 | 26.3 |
| Measure 7 Improve business performance | 6.8 | 8.1 | 8.1 | 22.9 | 26.3 |
| Measure 8 Prepare tomorrow's workforce | 0.3 | 0.3 | 0.3 | 0.9 | 0 |
| Totals (\$M) | 15 | 40 | 40 | 95 | 239 |

* Note that all data have been rounded to the nearest tenth.

| | BUDGETARY IMPACT | CONTRIBUTIONS | PUBLIC-PRIVATE INVESTMENTS |
|--|-------------------|-------------------|----------------------------|
| | TOTAL FOR 3 YEARS | TOTAL FOR 3 YEARS | TOTAL FOR 3 YEARS |
| Strategic priority 1 Shape the future of aerospace through innovation | 109 | 111 | 225.4 |
| Measure 1 Design next-generation aircraft and space technologies in Québec | 77.6 | 79.6 | 162.6 |
| Measure 2 Shape and commercialize Québec innovations | 16.4 | 16.4 | 32.8 |
| Measure 3 Drive Québec innovations in international markets | 15 | 15 | 30 |
| Strategic priority 2 Diversify the industry | 175 | 558.3 | 2,163.3 |
| Measure 4 Attract key companies and support large-scale projects of strategic importance | 142.7 | 526 | 2,101.4 |
| Measure 5 Promote and strengthen the security and defence sectors | 13.8 | 13.8 | 24.9 |
| Measure 6 Develop the unmanned aircraft systems and space technology sectors | 18.5 | 18.5 | 37 |
| Strategic priority 3 Strengthen value chains and boost their international growth | 50.1 | 120.1 | 418.3 |
| Measure 7 Improve business performance | 49.2 | 119.2 | 417.4 |
| Measure 8 Prepare tomorrow's workforce | 0.9 | 0.9 | 0.9 |
| Totals (\$M) | 334 | 789.3 | 2,807 |

