



RCAF
STRATEGY



AGILE · INTEGRATED · INCLUSIVE

Photo: Lockheed Martin



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We stand at an inflection point in history. Current and emerging threats clearly showcase the changing character of conflict. State-on-state engagement, including Russia's unprovoked invasion of Ukraine, is today's reality, and our adversaries are seizing the initiative in all domains. In this environment, Canada is no longer a distant sanctuary; we do not have the luxury of operating the same way we have in the past. Meanwhile, we recognize that our capacity

and capabilities are below where we want them to be. For the sake of our collective security and defence, we need a clear and achievable path forward.

The Royal Canadian Air Force (RCAF) must modernize and evolve in response to this rapidly changing security environment. This evolution includes the introduction of tools never employed before by the RCAF, and upgrading or replacing a considerable proportion of our capabilities. In fact, the RCAF of 2035 will look very different from the RCAF of today. Change is at our doorstep.

To prevail, we present a new *Strategy* that will guide us through these dangerous and challenging times; a *Strategy* that ensures a coherent and succinct path for the future of air and space power. This *Strategy* will allow us to effectively detect and deter threats, and when called upon, to fight and win.

With these challenges come great opportunities for those with courage and conviction. I am inspired and humbled daily by our aviators and families because of their exceptional dedication and unwavering support. This is why the foundation of our *Strategy* begins with people, in a renewed commitment to **value our people and invest in their future**.

Our *Strategy* also focuses attention on the right mix of capabilities to meet ongoing and future requirements in the defence of Canada. Our *Strategy* speaks to always being **ready to conduct operations** and having the capacity to protect Canada's interests at home and abroad.

As emerging technologies continue to change the landscape of conflict, we must be proactive and act in a deliberate manner to outpace our adversaries by **modernizing to face tomorrow's challenges**.

Finally, our status as a mission-ready and combat-capable force relies on the RCAF finding ways to more effectively **engage and partner** with allies, academia, scientists, industries and local communities for future successes.



Together, we are building the RCAF that Canada needs: an **agile, integrated and inclusive** air and space force that can be relied on to achieve **operational advantage**.

I ask all aviators to embrace our new *Strategy* and to actively participate in further improvements during this exciting and critical chapter of the RCAF. We owe this to each other and to Canadians. Together, **our Air Force** will succeed.



Lieutenant-General E. J. Kenny
Commander Royal Canadian Air Force

Sic Itur Ad Astra



INTRODUCTION



**AGILE, RESPONSIVE
AIR AND SPACE POWER**



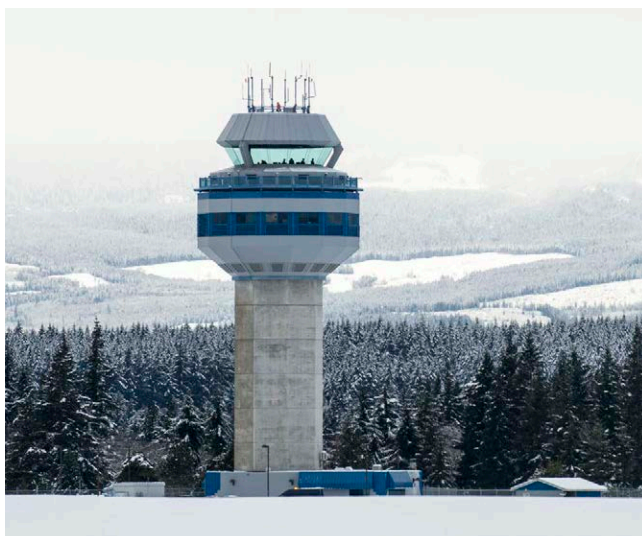
RCAF STRATEGY



The agility and responsiveness of air and space power, along with the strategic effects they deliver, are vital to military operations. These characteristics will continue to be central features of a pan-domain military response to domestic events, continental defence and expeditionary operations. To remain operationally relevant, the RCAF must change how it attracts, recruits, trains, develops and retains highly skilled personnel, while embracing an adaptive culture, leading-edge technologies and innovative capabilities. It must improve its ability to force develop, force generate and force employ as part of a pan-domain Canadian Armed Forces (CAF) response to a challenging and uncertain threat environment.

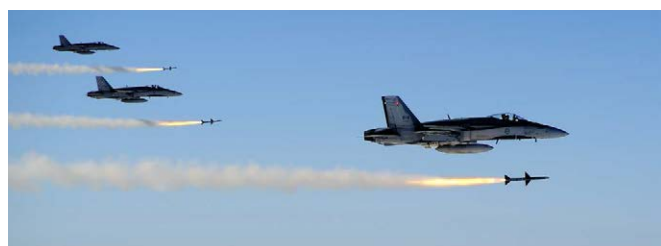
The challenge is to build a highly efficient RCAF, operating capabilities in the air and space domain with an emphasis on the defence of Canada and by extension the defence of North America, while also maintaining an ability to conduct expeditionary operations. The RCAF must remain a highly combat-capable force that can deliver precision kinetic and non-kinetic effects.

The RCAF must adhere to the Government of Canada (GC) policies on defence and procurement while implementing change. We recognize that other entities beyond the RCAF manage elements affecting our institution, including infrastructure, cyber security, electronic warfare, logistic support, personnel administration and information technology. Therefore, future planning that follows from the *Strategy* must continue along a consultative route, with the RCAF positively influencing these external parties in support of this *Strategy*.





STRATEGIC CONTEXT



**EVOLVING
TO MEET CANADA'S
DEFENCE NEEDS**





Examples of Emerging Technologies and Capabilities

Artificial intelligence (AI) will allow autonomous systems to react to their environments and perform more situationally dependent tasks as well as synchronized and integrated functions with other autonomous systems.

Machine learning (ML) is the ability of autonomous systems to learn and predict possible scenarios by analysing huge volumes of collected information.

Cloud computing allows for the sharing of data among multiple users and creates significantly more data storage and computing power.

Sensor fusion is software that combines information from multiple sensors to deliver enhanced system performance. This technology can integrate with a wide variety of defence platforms, including remotely piloted aircraft systems (RPAS), spacecraft, missiles, military vehicles, ships, marine systems, satellites and rockets.

Quantum technology (QT) is an emerging technological domain, which promises to advance, disrupt, or enable all-new functionality for multiple areas including sensing, communications and computer processing for a variety of defence, safety and security applications.

Current geostrategic concerns include the revival of strategic competition with autocracies, such as Russia and China, and increased tensions or outright conflict in the Indo-Pacific region, the Middle East and Europe. An upsurge in violent extremist organizations (state and non-state) presents considerable risks and challenges in the modern security environment. The aggressive and expansionist behaviour of numerous adversaries is further destabilizing the geopolitical environment, necessitating combat forces capable of global engagement and agile combat support. In this new world—where the old safe haven provided by distance is now threatened by the advent of long-range hypersonic weapons, as well as the exploitation of the information environment and cyber and space domains—Canada is no longer a sanctuary. This fact increases the importance of detection, deterrence and defence capabilities, and our capacity to defeat adversaries.

The RCAF's capabilities must rapidly evolve to ensure an operational advantage in the air and space domains. Continued technological development will be crucial to protecting Canadian sovereignty, fielding credible expeditionary capabilities and enabling the RCAF to integrate within the CAF joint force and with our closest allies. Emerging and disruptive technologies create an environment that will require defence innovation at the speed of relevance. It is paramount that we leverage these technologies to build new capabilities and enhance Canada's security.

Autonomous and uncrewed systems, as well as AI, ML, cloud computing, sensor fusion and QT, are innovative technologies that the RCAF must leverage to maintain operational advantage moving forward. These technologies will represent significant capability increases in areas key to modern air and space forces, including command and control (C2); intelligence, surveillance and reconnaissance; and the processing, exploitation and dissemination of data collected from air and space platforms. We will leverage them to allow the RCAF to shorten decision times and increase the quality of those decisions related to the execution of operations, refine and improve sustainment through the application

of data and analytics, improve training systems and methodologies, and better employ personnel in meaningful tasks by streamlining processes and/or automating tasks. These technologies will also allow the RCAF to deliberately consider the application of human machine teaming in areas such as crewed and uncrewed air vehicles to increase operational effects while optimizing the costs of production and procurement.

The RCAF depends on highly trained and educated personnel with expertise in a broad array of skills. The institution must adapt to compete with other employers to attract, train, educate and retain the needed talent from across Canada's cultural mosaic and changing demographic. As with Canadian society and the CAF as a whole, the RCAF faces challenges such as an aging society, shifting economic conditions, changing individual expectations about work-life balance, more varied family structures, and the need of Defence Team members for more flexible career paths and work arrangements.

Climate change will continue to place demands on the RCAF. The instances of adverse weather requiring military aid are on the rise. Accessibility to the Arctic due to its retreating ice pack is attracting global interest for economic and military reasons. Open waters in the North will provide a new means by which competitors may threaten Canada and North America, increasing the importance of Canadian surveillance and control of the North.

Adversaries and other malicious actors frequently target Canadian computer networks. In this ever-evolving cyber threat environment, the RCAF requires improved cyber resilience and effective countermeasures—including threat awareness, training and systems development—with a view to preserving freedom of action in order to fight and win in any cyber contested environment.

Space capabilities are integral to modern pan-domain operations and are critical to achieving and maintaining military effectiveness. This requires complete access to, and freedom to operate in, an increasingly congested, competitive and contested operating domain. Some nations are able to hold space capabilities at risk and target critical assets to reduce military effectiveness. Therefore, Canada must develop advanced, resilient space capabilities and expand cutting-edge research and development to retain its operational advantage.

Unfettered access to and exploitation of the electromagnetic spectrum remains essential in the conduct of military operations. The RCAF must succeed in contested electromagnetic environments beyond traditional electronic warfare by developing resilient, redundant and adaptive technologies that can still operate in an environment with a high degree of electromagnetic interference.





RCAF VISION



**ACHIEVE OPERATIONAL
ADVANTAGE AS AN
AGILE, INTEGRATED
AND INCLUSIVE AIR AND
SPACE FORCE**



RCAF STRATEGY

Achieve operational advantage as an agile, integrated and inclusive air and space force.

This vision is foundational to the *RCAF Strategy*. The key principles of agility, integration and inclusion will deliver the operational advantage necessary to maintain relevance now and into the future. To identify the necessary objectives and associated actions, defining these principles will ensure a clear understanding and appreciation of their relevance to air and space power. Ultimately, the actions identified in this *Strategy* will bring substance to the vision and turn aspirations into reality.

Operational Advantage

The attainment of operational advantage to deter, and when necessary fight and win, is the ultimate goal of military forces. Operational advantage comes through a mission-ready and combat-capable force that can deliver precision kinetic and non-kinetic effects. It is the ability to detect, deter, defend and defeat an adversary before that adversary is able to do the same. The future RCAF will achieve operational advantage by optimizing the dominant characteristics of air and space power, such as elevation, speed and reach. The enhancement of these enduring attributes, combined with effective decision making and pan-domain command and control, will facilitate the attainment of operational advantage.

Agility

Agility is a key component of operational advantage and manifests as both the individual agility of the mind and body as well as institutional agility. Both forms of agility are required to deal effectively with the uncertainty that pervades national and world affairs affecting CAF operations. Agility also speaks to a focus on air and space forces that are rapidly deployable, scalable, versatile and relevant to unique mission requirements as well as GC priorities. This means adapting forces and training for rapidly evolving security and defence situations in contested operating environments at home and around the world.





Individual agility. The RCAF will improve its professional development, military education and talent management to build the technical and professional mastery required to enable its personnel to tackle uncertainty. The RCAF must attract, train and retain motivated personnel who have the aptitude to thrive in complex and dynamic environments. The skills sought (and to be developed) are not just technical, but also intellectual, including leadership and critical-thinking skills that make the most of the diversity that will be central to the future RCAF.

Institutional agility. Institutional agility comes from the ability to detect and respond effectively to changes in the operating environment. Fundamental to institutional agility is optimizing C2, training, personnel employment and support systems within the RCAF. Additionally, there is a need to exert greater influence on procurement, personnel administration, logistic support, decision-making processes, infrastructure, cyber security, electronic warfare and information technology. Moving forward, the force development (FD) enterprise must consist of well-defined and understood orders, processes and governance to invest (or divest) in capabilities to develop the air and space forces Canada needs.

Integration

Paramount to operational advantage, integration (by design) takes interoperability to the next level and allows the implementation of a robust system-of-systems approach. The RCAF must purposefully enhance its integration within a joint force environment and across its operational and occupational communities. It must take a pan-domain approach to the defence of Canada and with the United States in the defence of North America. The critical first step towards integrating more effectively within the CAF and with key allies is internal and horizontal integration within the RCAF, built upon ongoing initiatives which will further its modernization to a fully digitalized force. The FD emphasis on the defence of Canada and North America will improve the necessary integration with the United States and enhance interoperability with NATO allies and broader coalition partnerships.



Effectively defending Canada requires the delivery of desired effects using air and space power as well as strong partnerships with other government departments that the RCAF is frequently called upon to support. The RCAF must strive to establish or strengthen partnerships related to the effective development of future air and space power. Such partnerships include those with joint partners, academic institutions, domestic and international defence industries, defence and security research and policy communities, as well as other NATO forces.

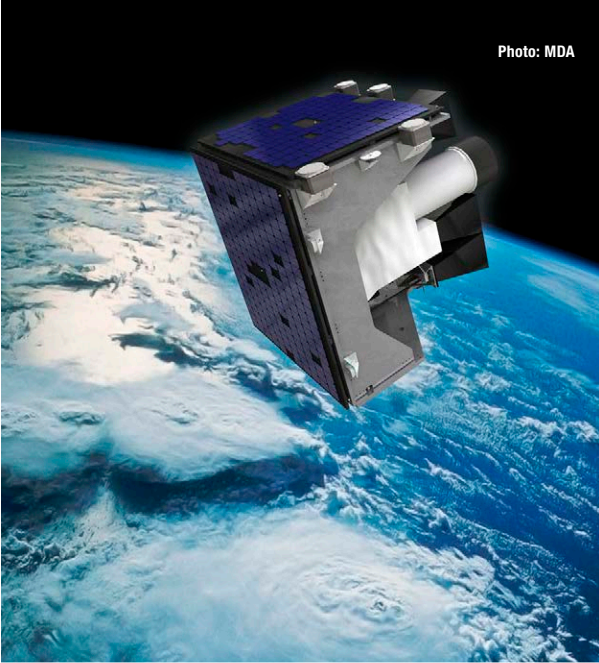
Inclusion

Inclusivity makes us stronger by recognizing and valuing our distinct backgrounds and experiences, thus helping to develop each other's unique potential. A force multiplier, inclusion increases our operational effectiveness through diversity of perspective and insight. This leads to more wholesome decision making by engendering trust, ensuring a sense of belonging and enhancing group cohesion. Inclusion encourages creativity, fosters group motivation, speeds up problem solving, improves risk management, and increases productivity and performance.

The concept of being inclusive transcends merely ensuring that all members of a diverse workforce view themselves as belonging to the organization. Inclusivity is about every individual thriving in a safe and respectful workplace. An inclusive work environment and culture enables all Defence Team members, being all CAF members (Regular Force and Primary Reserve), Department of National Defence (DND) employees and employees of the Canadian Forces Morale and Welfare Services (staff of the Non-Public Funds, Canadian Forces), to participate and succeed thanks to their diverse backgrounds and experiences. Drawing on a variety of inputs allows an organization to be truly innovative in making transformative change in order to improve. Innovation in itself requires an in-depth understanding of factors such as best practices, lessons learned and end-state objectives. Thus, inclusion and diverse thinking will foster RCAF operational advantage in the future.



Photo: MDA



RCAF OF TODAY



**RECOGNIZING OUR
CHALLENGES AND
BUILDING ON OUR
STRENGTHS**



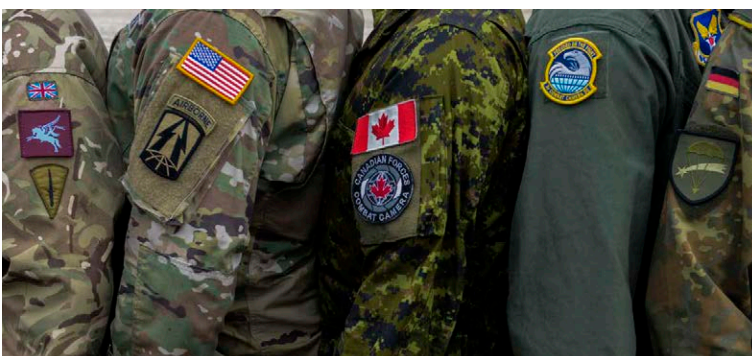
RCAF STRATEGY

Since its inception on 1 April 1924, the RCAF has been a combat-tested force with decades of experience in the full spectrum of operations—from domestic security, search and rescue, humanitarian aid and crisis assistance to expeditionary combat operations. This experience remains within the institution and is embodied in serving Defence Team members. These highly skilled, capable and motivated individuals represent the foundation upon which the future RCAF will be built.

The uniqueness of military service places significant demands on members and their families; these demands may discourage Canadians from enrolling or remaining in the CAF. The CAF/RCAF's culture and values must keep pace in a shifting Canadian society to allow a broader spectrum of people to see themselves reflected in the institution. Despite progress in the quality of life and career satisfaction that can be offered to those interested and already serving in the RCAF, targeted efforts for improvement must remain the focus.

The RCAF must rationalize existing and future capability requirements to address both legacy challenges and renewal in order to support current as well as future mission requirements. Many existing capabilities are inadequate, rudimentary and in need of modernization. Procurement planning must accurately assess and account for the second order and third order effects of project implementation, including impacts on people, training, data networks, test and evaluation, infrastructure and the environment. The RCAF must adopt innovative measures to accelerate change through the acquisition process and life cycle management.

Canada has a long history as a member of NORAD, NATO and Five Eyes (FVEY), as well as contributing to coalition operations. To remain a responsible and value-added partner, investment in emerging technologies that enhance our capabilities must be at the forefront of the *RCAF Strategy*. Capability renewal and investment will allow us to maintain pace with allies and adversaries while remaining a cutting-edge air and space force.





RCAF MISSION AND STRATEGIC OBJECTIVES



**RELEVANT, RESPONSIVE
AND EFFECTIVE AIR
AND SPACE POWER**

Generate relevant, responsive and effective air and space power at home and abroad.

As an integrated element of the CAF, the RCAF provides the GC and Canadians with a relevant, responsive and effective air and space instrument of national power. These enduring principles have been central to the RCAF's success over previous decades and remain paramount today and into the future. Inspired by its vision, the RCAF will accomplish its mission to meet Canada's defence challenges by focusing on four **strategic objectives**:

1. **Value our people and invest in their future.**
2. **Ready to conduct operations.**
3. **Modernize for tomorrow.**
4. **Engage and partner for success.**

These objectives are obtainable and essential to the successful execution of the mission. Actions to realize these four objectives have been developed and will provide focus in building the RCAF of the future. They have been refined while respecting the key principles of the vision and will guide future efforts to ensure success.





- 1. Value our people and invest in their future.** The future RCAF will be an agile, diverse and relevant workforce possessing a culture that provides a safe, inclusive and respectful workplace for all members of the Defence Team. The focus is on optimizing individual proficiency through training, professional development, education, collective training and meaningful employment.

Actions:

- a. Cultivate values and behaviours within the RCAF that adhere to the DND/CAF Code of Values and Ethics, as well as the *Canadian Armed Forces Ethos: Trusted to Serve*—including loyalty, integrity, courage, excellence, inclusion and accountability—to meet the standards expected by Canadians.
- b. Reinforce the principle that all individuals are integral to mission achievement by promoting the fact that diverse, inclusive groups ensure the achievement of superior military effects because an inclusive environment enables us to harness the full potential of all members of the Defence Team.
- c. Strengthen attraction, recruitment, training and retention efforts in order to reach and maintain the established trained effective strength required for sustained operations.
- d. Prioritize a healthy balance between lifestyle, family, and service, allowing RCAF members to thrive.
- e. Refine personnel-support systems to maximize resources devoted to the members and their families' well-being while recognizing mission priority.
- f. Advance the principle of continuous professional development, from military operational art to air and space power mastery, throughout the institution.
- g. Optimize talent management and succession planning for RCAF members, Regular Force and Primary Reserve, through character-based evaluation and open communication while enabling flexible career paths.
- h. Modernize and expand the Primary Reserve force through an agile service model and enhanced role in support of new and existing RCAF capabilities.

- 2. Ready to conduct operations.** The RCAF will possess mission-ready and combat-capable forces and achieve operational excellence to execute missions in support of Canadian interests at home and abroad. Priority will be placed on securing the capabilities that are essential to meeting our present-day operational commitments.

Actions:

- a. Optimize readiness and air/space capabilities to ensure the ability to deliver kinetic and non-kinetic effects.
- b. Maximize the use of distributed Synthetic and Blended Operational Test and Training Environments to effectively enable a “think - test - tactics - train” cycle at the speed of adversary threat relevance.
- c. Seek out and leverage training opportunities that improve integration with joint and coalition partners, with the objective of enhancing proficiency in the full spectrum of force employment and resource management.
- d. Ensure the enablers necessary to generate capability, as well as command and employ forces, are synchronized with stakeholders across the CAF. These enablers will include the establishment of robust C2 systems, a balanced organizational structure, joint information and sensor fusion, data analysis, capacity, infrastructure, national procurement, force protection, personnel, as well as individual and collective training.
- e. Achieve and sustain cyber resilience by incorporating cyber mission-assurance constructs to safeguard operational capabilities.
- f. Prioritize environmental stewardship in accordance with the Path to Net Zero to achieve greenhouse-gas reductions and a net-zero carbon footprint by 2050.





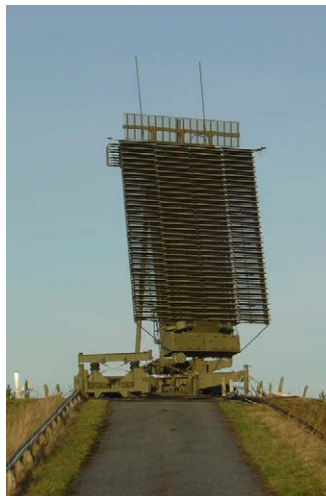
Approved/Funded RCAF Modernization Programmes (Sample)

- NORAD Modernization
 - Modernizing the Canadian Combined Air Operations Centre
 - Over-the-Horizon Radar – Arctic and Polar (OTHR-A and OTHR-P)
 - Modernizing the RCAF's command, control and communications capabilities and systems
 - Upgrading fighter infrastructure and NORAD Quick Reaction Alert capabilities
 - Advanced Air-to-Air Weapons (Advanced Short-Range Missile, Medium-Range Air-to-Air Missile and Long-Range Air-to-Air Missile)
 - Modernizing and updating the RCAF's digital radios and network equipment for expanded air weapons control capabilities
 - Modernizing the RCAF's air operational training infrastructure
- Future Fighter Capability Project (FFCP)
- Strategic Tanker Transport Capability (STTC)
- Canadian Multi-Mission Aircraft (CMMA)
- Remotely Piloted Aircraft System (RPAS)
- Cormorant Mid-Life Upgrade (CMLU)
- Future Aircrew Training Programme (FAcT)
- Defence Enhanced Surveillance from Space Project (DESSP)
- Enhanced Satellite Communications Project – Polar (ESCP-P)
- Surveillance of Space 2 (SofS 2)

- 3. Modernize for tomorrow.** The RCAF will adopt innovative, emerging and disruptive technologies at the speed of relevance. The aim is to achieve and maintain operational advantage by completing the RCAF's evolution into an integrated air and space force, supported by a robust digital framework / road map and able to operate seamlessly with joint partners and allies in all domains.

Actions:

- a. Build an RCAF that is “digital by design” in order to achieve information dominance and decision superiority.
- b. Continue to ensure significant investment in the RCAF training enterprise in order to leverage modern, world-class training technologies / methodologies.
- c. Optimize RCAF team effectiveness by maximizing the employment of modern digital tools and processes.
- d. Invest in emerging and disruptive technologies (e.g., AI, ML and QT) to continue to ensure that the RCAF is at the leading edge of air and space power development.
- e. Proactively leverage the CAF's concept-driven, threat-informed, capability-based planning processes to ensure continued and sustained operational overmatching for RCAF air and space capabilities.
- f. Proactively advocate with the DND/CAF and the Defence Procurement Strategy (DPS) to acquire and recapitalize RCAF operational and supporting capabilities at the speed of relevance.
- g. Champion processes that foster and inculcate individual and/or organizational creativity and innovation.

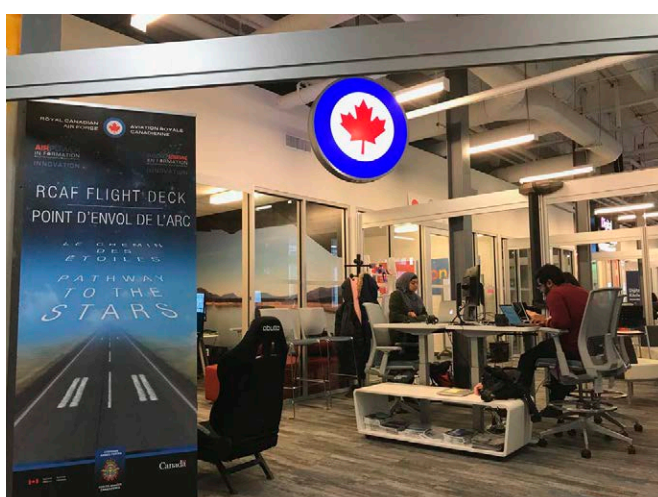
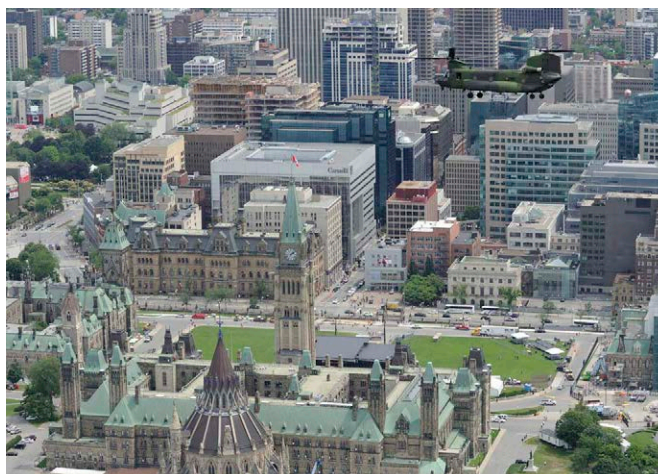


- 4. Engage and partner for success.** Engaging with Canadians and enhancing partnerships will be essential to securing operational advantage. Ultimately, the RCAF will be a credible and respected partner of choice by possessing the technical, operational and intellectual capabilities to integrate with other CAF elements as well as with the whole of government (WoG), industry, academic institutions, and Canada's allies and partners.

Actions:

- Improve planning and employment capabilities in support of joint-force and WoG objectives.
- Connect with Canadians to attract and recruit new, skilled and diverse personnel in order to ensure our teams possess a variety of perspectives and talents, thereby enabling superior military outcomes.
- Enhance relations with key partners and allies as well as defence and security industries in the development and acquisition of air and space capabilities.
- Nurture cooperative relationships with academia, scientific establishments and industry to exploit advancements in science and technology, as well as training and education opportunities.
- Prioritize engagement with allies to bolster relationships and credibility while seeking out opportunities to integrate and inter-operate effectively.

By working towards these strategic objectives, the RCAF will achieve operational advantage as an agile, integrated and inclusive air and space force. By focusing its FD efforts on the defence of Canada and North America, the future RCAF will become the air and space force Canada needs to meet future challenges at home and abroad.



The *Strategy* communicates initiatives that will transform the organization. The details necessary to further the required actions will be developed through collaboration within the RCAF. The RCAF will develop and implement a campaign plan reflecting people, readiness, modernization and partnerships that will allow the organization to evolve. The Campaign Plan will describe and prioritize the activities to which the RCAF must commit time, efforts and resources, and will be reviewed through the RCAF Annual Planning Guidance. Together with *Strong, Secure, Engaged*, the *Strategy* and Campaign Plan will form a complete suite of strategic documents that will allow communication, collaboration and evolution to the RCAF Canada requires to meet future challenges.

STRATEGY QUICK-REFERENCE GUIDE

Our Vision

Achieve **operational advantage** as an **agile, integrated** and **inclusive** air and space force.

Our Mission

Generate relevant, responsive and effective air and space power at home and abroad.

Our Objectives

Value our people and invest in their future.

An agile, diverse and relevant workforce through professional development and personal growth.

Ready to conduct operations.

Mission-ready, combat-capable force achieving operational excellence at home and abroad.

Modernize for tomorrow.

Innovating at the speed of relevance to achieve and maintain operational advantage.

Engage and partner for success.

A respected force possessing the relevant capabilities to integrate effectively with allies and partners.



The Way Forward

Communicate



Collaborate



Evolve



The threat to Canada's sovereignty and interests abroad, created by competition for global power and advancing technologies, remains as significant now as any time in our history. We are faced with new and unique challenges as potential adversaries have increased abilities to deliver devastating effects right to our door and threaten our sovereignty. Recent world events have shown that our competitors not only have the ability to act, but also the intention to do so; the RCAF must be ready to fight and win.

A mission-ready and combat-capable force, the RCAF will achieve operational advantage as an agile, integrated and inclusive air and space force. The fulfilment of our vision will necessitate innovation and investment in the institution. This will result in an RCAF that focuses on valuing our people and investing in their future as well as being ready for the operations of today and tomorrow while engaging with partners and allies.

The future of the RCAF, and ultimately the security of Canadian interests and values, depends on the actions we take today. I call upon all RCAF members—civilian and military, from those working in support to those conducting operations—to embrace our new vision and join me on our journey in navigating the flight path to Canada's future air and space force. Working together, we will build a world-class RCAF that will meet Canada's air and space defence requirements for years to come.