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# DEPARTMENT OF NATIONAL DEFENCE AND CANADIAN ARMED FORCES

2021-22

## DEPARTMENTAL RESULTS REPORT



The Honourable Anita Anand, P.C., M.P.  
Minister of National Defence

Canada

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## Table of contents

From the Minister .....	1
Results at a glance.....	3
Results: what we achieved.....	15
Core responsibilities .....	15
Operations .....	15
Description .....	15
Results .....	15
Key Corporate Risk(s) .....	18
Ready Forces .....	37
Description .....	37
Results .....	37
Key Corporate Risk(s) .....	40
Defence Team .....	60
Description .....	60
Results .....	60
Key Corporate Risk(s) .....	63
Future Force Design .....	79
Description .....	79
Results .....	79
Key Corporate Risk(s) .....	83
Procurement of Capabilities .....	88
Description .....	88
Results .....	88
Key Corporate Risk(s) .....	89
Sustainable Bases, Information Technology Systems and Infrastructure .....	96
Description .....	96
Results .....	96
Key Corporate Risk(s) .....	99
Internal Services .....	104
Description .....	104
Results .....	104
Key Corporate Risk(s) .....	112
Spending and Human Resources .....	113
Spending .....	113
Human Resources .....	116
Expenditure by Vote .....	118
Government of Canada Spending and Activities .....	118
Financial Statements and Financial Statements Highlights .....	119
Corporate information .....	121
Organizational profile .....	121
Raison d'être, mandate and role: who we are and what we do .....	122
Operating context .....	122
Reporting framework .....	123
Supporting information on the program inventory .....	130
Supplementary information tables .....	130
Federal tax expenditures .....	130
Organizational contact information .....	130
Appendix: definitions .....	131
Endnotes .....	134



## From the Minister



I am pleased to present the 2021-22 Departmental Results Report for the Department of National Defence (DND) and the Canadian Armed Forces (CAF). Throughout the reporting year, the Defence Team continued to adapt in order to deliver results in an ever-changing and intensifying security environment.

As ever, the CAF were ready to act in times of need. They supported numerous requests for federal assistance, assisted provincial and territorial health authorities as part of Canada's ongoing response to the COVID-19 pandemic; and supported local authorities and Indigenous communities in response to floods, fires, and other emergencies.

We advanced our collaborative efforts with the United States, and our investments to modernize continental defence and the North American Aerospace Defense Command (NORAD). As the Canada-United States [Joint Statement on NORAD Modernization](#)<sup>i</sup> acknowledged, the more secure we are within our shared continent, the stronger we will be acting

together in the world to defend the rules-based international order.

In January 2022, [Operation UNIFIER](#),<sup>ii</sup> the CAF training mission to Ukraine, was extended following Russia's illegal invasion. Russia's attack on Ukraine's independence and territorial integrity meant that Canada and like-minded democracies had to adapt and respond. During fiscal year 2021-22, including prior to Russia's further invasion of Ukraine, Canada provided military aid to Ukraine in the form of personal protective equipment, machine guns, pistols, carbines, 1.5 million rounds of ammunition, sniper rifles, anti-armour weapons systems, and other specialized military equipment. Fiscal year 2021-22 also saw the deployment of an air mobility detachment to Europe, which continues to transport military aid from Canada and our allies and partners for Ukraine. As well, the CAF's contributions to NATO's collective defence continued, including the expansion and extension of [Operation REASSURANCE](#)<sup>iii</sup> which is part of [Canada's ongoing response](#)<sup>iv</sup> to the crisis.

A priority for me is making sure that we implement [Strong, Secure, Engaged: Canada's Defence Policy](#).<sup>v</sup> This report includes many examples of CAF successes, but it also acknowledges difficulties. The COVID-19 pandemic interrupted training for existing members, and hampered the recruitment of new ones. The CAF's vital role in the national effort to slow the spread of the virus placed an additional strain on a military already stretched to maintain deployments abroad while increasing deployments in response to natural disasters. Significantly, Defence has begun an ambitious and far-reaching program of reconstitution to address challenges to readiness.

Outside of operations, [new initiatives to advance culture change](#)<sup>vi</sup> within DND and the CAF – including those to support survivors of military sexual trauma – were among the most important initiatives completed or in progress during the year. As an addition to the indispensable work performed by the department, we received interim recommendations from the Independent External Comprehensive Review – conducted by former Justice of the Supreme Court, Madame Louise Arbour, which reiterated that reforming harmful aspects of our institutional culture is critical. It will inform our actions in respect to culture change initiatives moving forward, and will be crucial in ensuring DND and the CAF's continued success both at home and abroad.

An ongoing priority for the Government of Canada and DND and the CAF is our relationships with Indigenous Peoples. It is clear that we must move faster on the path of reconciliation and continue to engage in a meaningful way with our Indigenous partners. Accordingly, the Defence Team developed a strategy to ensure that defence activities are aligned with the [United Nations Declaration on the Rights of Indigenous Peoples](#)<sup>vii</sup> and created more opportunities for Indigenous businesses in the awarding of defence contracts.

I encourage my fellow Canadians, members of Parliament and others reading this message to review the report and the results that DND and CAF achieved this past year. We continued to make strides recruiting and supporting a diverse Defence Team, promoting culture change, advancing defence procurement and

integrating innovation in all domains of Defence infrastructure while upholding our commitment to environmental sustainability.

As ever, the Defence Team is committed to working together with Canadians in their communities, Indigenous Peoples, industry partners, our allies and international partners to protect our home and promote global peace and security in the face of current and emerging threats.

The original version was signed by:

The Honourable Anita Anand, P.C., M.P.  
Minister of National Defence

## Results at a glance

### Results at a glance

In fiscal year (FY) 2021-22, DND/CAF carried out their mandate to achieve results related to six core responsibilities:

- Operations;
- Ready Forces;
- Defence Team;
- Future Force Design;
- Procurement of Capabilities; and
- Sustainable Bases, Information Technology Systems and Infrastructure.

More information on the [Core Responsibilities](#) can be seen in the [Supporting information on the Program Inventory](#) section of this report.

### Canada's vision for Defence – Strong at home, Secure in North America, Engaged in the world

The department continued to implement [Strong, Secure, Engaged: Canada's Defence Policy](#)<sup>viii</sup> strengthening its internal management processes to support over 100 initiatives. In addition, business analytics tools were improved to enable better oversight and further support the implementation of the *Strong, Secure, Engaged* initiatives.

### DND/CAF Strategic Context

DND/CAF are operating in an evolving and challenging era for the international security environment. While *Strong, Secure, Engaged* identified the inherent threat of the re-emergence of major power competition, the unprovoked and illegal invasion of Ukraine by Russia has reinforced that Canada and our allies cannot rely on deterrence alone. We must be prepared to defend the rules based international order, as well as globally accepted principles of lawful military conduct and humanitarian principles. CAF operations throughout FY 2021-22 reinforced our commitments to enduring international peace and security. Alongside partners and allies, we strengthened bilateral and multinational security and stability frameworks, primarily through our commitments to North Atlantic Treaty Organization (NATO) under [Operation REASSURANCE](#).<sup>ix</sup> International events also forced a reassessment and evolution of DND/CAF's approach to building partner capacity. We established new authorities and programs under [Operation UNIFIER](#)<sup>x</sup> to deliver lethal and non-lethal military aid to the Security Forces of Ukraine to support their defence of Ukraine's sovereignty and territory. DND/CAF also responded to security challenges presented by non-state actors, continuing our cooperation with allies and like-minded partners to counter Daesh and build security force capacity in the Middle East under [Operation IMPACT](#),<sup>xi</sup> as well as evacuate Afghan partners and civilians following the collapse of the Islamic Republic of Afghanistan through [Operation AEGIS](#).<sup>xii</sup>

Alongside threats to the rules based international order, climate change and global health events have also threatened the stability and economic prosperity of Canada and its global partners. Throughout FY 2021-22, DND/CAF fulfilled its mandate to support Canadians at home, as a key component of the Government of Canada's response to COVID-19 through Operations [LASER](#)<sup>xiii</sup> and [VECTOR](#),<sup>xiv</sup> and by assisting provincial and territorial governments to respond to floods, fires, and other destructive climate events through [Operation LENTUS](#).<sup>xv</sup>

As always, the success of DND and the CAF is built upon the professionalism, skill, and dedication of all members of the Defence Team. While acknowledging our successes and achievements, what has also become clear is the requirement to reform harmful aspects of our military culture to ensure enduring success on operations at home and abroad. Efforts are underway to reform our military justice system, address power dynamics, acknowledge the harm caused by historical sexual misconduct in the CAF, and take measures to eliminate such harm in the future.



The COVID-19 pandemic and the public health restrictions that were issued in response have had real implications on the recruitment and training of military members, exacerbating broader trends of declining retention across the CAF. In FY 2021-22, the CAF's Regular Force and Primary Reserve was short over 10 000 members, particularly in key middle leadership ranks for both officers and non-commissioned members. To that end, the department has begun planning for reconstitution efforts, and will be releasing a Retention Strategy during 2022. These will: seek to modernize the recruitment of new CAF members; optimize the retention of experienced personnel; and focus activities and outputs to ensure that the department continues to deliver on its six core responsibilities.

It has become increasingly clear that CAF readiness is suffering on multiple fronts. The foundational pillars to readiness, Personnel, Training, Equipment and Sustainment activities, are all facing significant challenges that will need to be addressed in order to ensure the CAF can remain ready to fulfil its mandate.

### **Anticipate, Adapt, Act**

While facing the challenges affecting its readiness, the CAF continued to fulfill core missions: detecting, deterring, and defending against threats to Canada and North America; providing assistance to civil authorities/law enforcement in support of national security; assisting and in some cases leading NATO forces, coalitions and United Nations peace operations; contributing to global stability and security. It also engaged in capacity-building; responded to domestic and international disasters; and conducted search and rescue (SAR) operations.

Key operations for FY 2021-22 include:

#### Strong at Home

**Search and Rescue (SAR):**<sup>xvi</sup> Provided aeronautical SAR, and assisted with ground SAR efforts with the support of Canadian Rangers.

**Operation LASER:**<sup>xvii</sup> Supported numerous requests for assistance to help mitigate the impact of the COVID-19 pandemic on Canada and Canadians by deploying almost 400 members. The CAF provided support to provincial health care, and to northern, remote, and isolated communities by sending in Canadian Rangers, medical teams and general duty troops.

**Operation VECTOR:**<sup>xviii</sup> Deployed more than 700 CAF members throughout Canada, principally supporting the COVID-19 vaccination campaign in support of federal, provincial, and territorial governments.

**Operation LENTUS:**<sup>xix</sup> Supported Canadian civil authorities in several provinces and territories to mitigate the effects of natural disasters. The CAF deployed approximately 1400 personnel to assist Canadians in crisis.

**Operation LIMPID:**<sup>xx</sup> Worked with several partners to ensure year-round surveillance and presence in Canada's territories and improved approaches for all domain situational awareness of the maritime, air, terrestrial, space, and cyber domains.

**Operation NANOOK:**<sup>xxi</sup> Conducted an inter-agency simulated incident response in Nunavut and the eastern entrance to the Northwest Passage, which included the first Northwest Passage transit by Her Majesty's Canadian Ship (HMCS) *Harry DeWolf*.

Arctic military exercises: Participated in the United States-led Exercise ARCTIC EDGE, as well as Norway's Exercise COLD RESPONSE, in support of the Canadian government's priorities for the Arctic.

These activities increase interoperability with allies, partners, other militaries, and multinational institutions. Further, it demonstrates our presence in the North by synchronizing and collaborating with other government departments, agencies, territorial and Indigenous governments, and local organizations.

#### Secure in North America

Engagements with provinces, territories and Indigenous governments and organizations, including the national Inuit organization, Inuit Tapiriit Kanatami, informed the development of options to enhance



Continental Defence. The department advanced continental defence and North American Aerospace Defence Command (NORAD) modernization efforts, and set the foundation for building trust with Indigenous partners through transparency and strong relationships. This was underscored by the invitation for the Department of National Defence (DND) to join the Inuit Crown Partnership Committee in spring 2022.

**NORAD:**<sup>xxii</sup> Executed aerospace and maritime warning and aerospace control activities to protect and respond against threats to Canada and the United States through NORAD.

**Operation NOBLE EAGLE:** Throughout FY 2021-22, NORAD supported Canadian and United States government departments, agencies, and partners to defend the airspace of Canada and the United States from airborne threats. In collaboration with DND/CAF allies and civilian partners, including the Royal Canadian Mounted Police (RCMP) and Transport Canada, the CAF remained prepared to respond to all forms of aerial threats to Canada and the United States.

**Operation CARIBBE:**<sup>xxiii</sup> Supported the United States-led efforts to counter the flow of illegal narcotics into North America by interdicting drug trafficking activities in the Caribbean and Central America. CAF contributions included five Maritime Coastal Defence Vessel deployments, the deployment of a CP-140 aircraft, one Arctic and Offshore Patrol Vessel and a ground base radar. CAF assets and personnel directly contributed to the seizure or disruption of approximately 14 820 kilograms (32 670 pounds) of cocaine.

### Engaged in the World

**Operation IMPACT:**<sup>xxiv</sup> Deployed approximately 350 CAF members to support the United States-led efforts to counter Daesh and undertake capacity-building activities in Iraq, Jordan and Lebanon. The CAF trained 734 members of the Lebanese Armed Forces and 110 members of the Royal Jordanian Armed Forces on a range of activities.

**Operation ARTEMIS:**<sup>xxv</sup> Promoted security and stability in Middle Eastern and East African waters. The CAF led the Combined Maritime Force's Combined Task Force 150 disrupting terrorist group efforts to generate funds through smuggling.

**Operation NEON:**<sup>xxvi</sup> Collected evidence of 34 illicit ship-to-ship fuel transfers to North Korean vessels in support of United Nations Security Council sanctions imposed against North Korea.

**Operation PRESENCE:**<sup>xxvii</sup> Supported the United Nations Multidimensional Integrated Stabilization Mission in Mali (MINUSMA) with seven personnel who serve as Military Staff Officers within Headquarters MINUSMA or translators with a United Kingdom Long Range Reconnaissance Group.

**Operation REASSURANCE:**<sup>xxviii</sup> Supported NATO assurance and deterrence measures by: leading NATO's multinational enhanced Forward Presence Battle Group in Latvia; contributing vessels with embarked helicopters to Standing NATO Maritime Groups on an ongoing basis; and supporting NATO enhanced air policing in Romania. With the illegal invasion of Ukraine, Canada acted swiftly and decisively to deploy assets to support our allies.

**Operation UNIFIER:**<sup>xxix</sup> Although DND/CAF efforts to train the Security Forces of Ukraine were suspended as a result of Russia's illegal invasion of Ukraine, support continued. This included participation in NATO cyber and information activities as well as the transportation of approximately 2 790 000 pounds (1 265 522 kilograms) of lethal and non-lethal aid provided by Canada and its NATO Allies on 45 CC-130 Hercules aircraft flights, 10 CC-177 Globemaster aircraft flights, and five chartered flights.

**Operation AEGIS:**<sup>xxx</sup> Contributed to the Government of Canada's effort to evacuate Afghans with a significant and/or enduring relationship with the Government of Canada, along with their accompanying family members. Through Operation AEGIS, DND/CAF supported Immigration, Refugees and Citizenship Canada and Global Affairs Canada by providing strategic airlift capabilities to assist in evacuation.

**Operation GLOBE:**<sup>xxxi</sup> From May to June 2021, Global Affairs Canada requested assistance from DND/CAF to support the Government of Canada's provision of medical supplies to Nepal, Pakistan and India in response to the recent outbreak of the COVID-19 pandemic in the South Asian region.

**Operation PROJECTION:**<sup>xxxii</sup> Deployed frigates, with their embarked helicopters, on two separate occasions to the South China Sea region for a total of 19 weeks for numerous bilateral engagements with regional partners, including [Association of Southeast Asian Nations](#)<sup>xxxiii</sup> member nations. Deployed two Maritime Coastal Defence vessels and 88 personnel to the Gulf of Guinea for eight weeks to support regional maritime capacity-building efforts.

More information on current operations can be found here: [Current military operations](#).<sup>xxxiv</sup>

### **Well-supported, diverse, resilient people and families**

While the COVID-19 pandemic impacted many activities across the department, implementation of *Strong, Secure, Engaged* continued. Military and civilian personnel are the core of the defence policy as they are our most important resource. Despite facing critical military personnel shortages, a well-organized, well-trained, healthy and motivated workforce enables us to deliver on *Strong, Secure, Engaged* initiatives. During FY 2021-22, the Defence Team achieved the following:

- Implemented employment equity and diversity and inclusion action plans aimed at increasing workforce representation and creating more inclusive work environments. Employment equity was noted as an organizational need and a diverse selection board inventory was established;
- Expanded our in-house Second Language Training and Evaluation Program to support a bilingual environment. Twenty-four teachers and three assessors were hired;
- Further integrated the Gender-based Analysis Plus (GBA Plus) as an important step in the decision-making process for civilian public service workforce policies, programs, and services. Included GBA Plus longitudinal analysis and analytical approaches as part of workforce reporting and tracking. These were important actions to ensure unintentional barriers or biases were identified and that the impacts on our diverse and varied workforce were considered when policies and programs were developed or updated;
- Received recommendations from the Minister of National Defence's Advisory Panel on Systemic Racism and Discrimination. This independent panel provided its final report to the Minister. [The Final Report](#)<sup>xxxv</sup> provides recommendations to the Minister on how, as an institution, DND/CAF can eliminate racist and discriminatory behaviours, and create a more equitable and inclusive workplace;
- Developed a workplace harassment and violence prevention program and implemented the policies and procedures set out in [Bill C-65](#).<sup>xxxvi</sup> The Defence Team provided services that supported the implementation of Bill C-65 for both DND and CAF members such as: training on Workplace Harassment and Violence Prevention (WHVP) with the focus on ensuring that new employees complete the training within the first three months of employment, the development of an interim policy on work place harassment and violence prevention, streamlined the formal recourse for response, and provided support through programs such as the Employee Assistance Program, and improved reporting and monitoring;
- Established a Designated Recipient Team to receive workplace violence or harassment Notices of Occurrence for public service employees who do not feel comfortable going to their immediate supervisor or manager;
- Developed a new Workplace Harassment and Violence Prevention Regulations webpage, which is available to all Public Service employees. This site includes the interim policy, toolkits, videos, and infographics for employees, supervisors, and managers;
- Released the [Defence Team Total Health and Wellness Strategy](#)<sup>xxxvii</sup> in March 2022 to support DND/CAF's commitment to caring for its people and military families; and
- Furthered the development of the Seamless Canada Steering Committee, as a permanent intergovernmental body, supporting and addressing military family mobility challenges, such as dependant education and childcare, dependant healthcare, and spousal employment.

## DND/CAF Response to Sexual Misconduct

In March 2021, [Operation HONOUR<sup>xxxviii</sup>](#) culminated. The department began a new Defence Team-wide approach to addressing all forms of systemic misconduct, including sexual misconduct. Lessons learned were collected and will be incorporated into the forthcoming Defence Culture Change Strategy. Existing sexual misconduct resources were updated to reflect the department's new approach to preventing and addressing sexual misconduct.

In April 2021, Chief Professional Conduct and Culture (CPCC) was established to unify, inform, and coordinate culture change efforts across the institution. Since its creation, CPCC has worked to define the culture change problem space and shape solutions that are informed by the lived experience of Defence Team members. In the fall of 2021, CPCC launched the Defence Team Conduct and Culture Consultation. Between October 2021 and March 2022, [more than 250 diverse consultation sessions<sup>xxxix</sup>](#) were held with members across the Defence Team, attracting nearly 9000 participants.

Also in April 2021, the department announced that former Supreme Court Justice Arbour would lead an [Independent External Comprehensive Review into Sexual Misconduct and Sexual Harassment in the Department of National Defence and the Canadian Armed Forces<sup>xl</sup>](#). The review, which was underway throughout FY 2021-22 examined our institutional policies, practices, procedures, and culture. In January 2022, the External Comprehensive Reviews Implementation Committee was created to coordinate the complex work needed to implement the recommendations of external reviews. The External Comprehensive Reviews Implementation Committee will oversee coordination of the implementation of the [Advisory Panel on Systemic Racism and Discrimination<sup>xli</sup>](#) report, the [Third Independent Review of the National Defence Act<sup>xlii</sup>](#) by former Justice Fish, and the final report from the [Independent External Comprehensive Review by former Justice Arbour<sup>xliii</sup>](#).

Other progress related to addressing culture change and preventing sexual misconduct include the following:

- Published an Initiating Directive in September 2021, to incorporate the measurement and evaluation of inclusive behaviours within existing Defence Team personnel performance and management frameworks;
- Integrated inclusive behaviours in the performance-management processes and evaluations for all military members and public service employees at DND, adding value on the leadership attributes that foster inclusive and psychologically safe work environments;
- Launched the Leadership Support Team to support the identification of climate/culture challenges within the workplace and offer a spectrum of tools and support aimed at affecting the changes required to create psychologically safe, collaborative, and inclusive work environments; and
- Launched the [Conduct and culture change progress tracker<sup>xliv</sup>](#) and conducted regular stakeholder briefings to share information and improve transparency.

## Sexual Misconduct Response Centre

The Sexual Misconduct Support Centre (SMRC) operates outside and independently from the CAF chain of command within DND and reports directly to the Deputy Minister. The SMRC led several projects during FY 2021-22 including the following:

- The [Restorative Engagement Program<sup>xlv</sup>](#) was launched in November 2021. The program will remain in place until all eligible class members of the [CAF-DND Sexual Misconduct Class Action Settlement<sup>xlvi</sup>](#) have had the opportunity to participate;
- The [Survivor Support Consultation Group: Summary Report 2021<sup>xlvii</sup>](#) was provided by the SMRC, on behalf of the Survivor Support Consultation Group, to the DND/CAF in October 2021. The DND/CAF subsequently publicly released the report, along with the CAF/DND's response, in December 2021;
- In collaboration with Veterans Affairs Canada, work was initiated on a Military Sexual Trauma Peer Support Program. This initiative will fill a critical gap in support of current and former CAF members. In the fall 2021, individuals affected by military sexual misconduct provided insight and

ideas for the program. These were summarized in the [Military Sexual Trauma Peer Support Program: What We Heard Consultation Report](#).<sup>xlviii</sup> Virtual and in-person peer support options are being trialed;

- The development of a mobile application was initiated, which will serve as a hub for accessing support services and resources;
- The regional expansion of the Response and Support Coordination Program was initiated in the spring of 2021. At the end of FY 2021-22, two regional teams were staffed and operational in the Québec and National Capital regions;
- Access to the 24/7 confidential phone line and the Response and Support Coordination Program were expanded to include both DND public service employees and former CAF members;
- A trial program providing free [independent legal advice](#)<sup>xlix</sup> for survivors of sexual misconduct within DND/CAF was initiated. This initiative will enable survivors to make informed choices; and
- New research studies, based on prevention research were initiated. These studies will provide a better understanding of sexual misconduct in the CAF and will be used to inform future prevention strategies and/or recommendations.

### Gender-based analysis plus (GBA Plus)

The Defence Team continued to institutionalize GBA Plus in the analysis of its systems, policies, and processes with affected stakeholders. In addition, there is a continued focus on advancing the global Women, Peace and Security agenda through [Canada's National Action Plan on Women, Peace and Security 2017-2022](#)<sup>i</sup> and the related DND/CAF Implementation Plan. Concurrently, the department remains a committed partner, working with the Women, Peace and Security Ambassador, GAC and other federal departments in the development of Canada's next National Action Plan on Women, Peace and Security. In the operational domain, the CAF made significant strides to incorporate gender perspectives into defence planning for throughout all operational phases.

### Defence Procurement

The implementation of *Strong, Secure, Engaged* continues to streamline defence procurement, improves timely acquisition of military capabilities while providing value for Canadians and Canada's economy. Continued investment in defence and procurement of modern capabilities are core enablers of Canada's military in the years to come, and a key contributor to Canada's economic recovery from the impacts of the COVID-19 pandemic.

The Government of Canada strives to provide the CAF with the modern capabilities they need to succeed in a complex, and constantly evolving world. The CAF must be ready and able to deliver across a spectrum of operations — from domestic humanitarian assistance and disaster response to counter-terrorism and combat operations.

*Strong, Secure, Engaged* makes provision for the funding of major equipment projects. Key projects for FY 2021-22 included the following:

- Manned airborne intelligence, surveillance, and reconnaissance: The [in-service support contract was awarded to Team CERTAS](#),<sup>ii</sup> a joint venture between General Dynamics Mission Systems – Canada, Ottawa, Ontario, and Voyageur Aviation Corporation, North Bay, Ontario, in May 2021. Construction on the hangar at 8 Wing Trenton, Ontario, started in April 2021. The [manned airborne intelligence, surveillance, and reconnaissance](#)<sup>iii</sup> project continues to progress on aircraft integration;
- [Canadian Surface Combatant](#):<sup>liii</sup> The project continued to progress, with preliminary design review initiated in December 2021. In August 2021, the project established a large Foreign Military Sales business case contract with the United States Government for the acquisition of the AEGIS Weapon System and associated design and integration support. In September 2021, a contract was awarded to PCL Construction, of Dartmouth, Nova Scotia, to commence design and planning work for a Land Based Test Facility that will be built at Hartlen Point, Nova Scotia, to support Canadian Surface Combatant project delivery;

- **Arctic and Offshore Patrol Ship:**<sup>liv</sup> Canada has accepted two of six planned ships and three more ships are under construction. The future HMCS *Margaret Brooke* was accepted in July 2021. The future HMCS *Max Bernays* was launched in October 2021;
- **Joint Support Ship:**<sup>lv</sup> Construction of the first Joint Support Ship continued amidst the challenges related to the COVID-19 pandemic with 88 of its 123 blocks being structurally completed. The final design review occurred in July 2021. The first of four associated sea-to-shore connector systems was delivered in March 2022;
- **Fixed-wing Search and Rescue Aircraft Replacement Project:**<sup>lvi</sup> The project completed a re-baseline of its schedule that accounted for realized risk and unforeseen technical issues. The project accepted the final training device (for a total of seven) in British Columbia, accepted four additional Kingfisher aircraft (for a total of nine) in Spain, and delivered three additional Kingfisher aircraft (for a total of four) to Comox, British Columbia;
- **Future Fighter Capability Project:**<sup>lvii</sup> Evaluation of the proposals received was completed and in March 2022, the Government of Canada announced that it will enter into the final phase of the procurement process with the top-ranked bidder, the United States government and Lockheed Martin, for the F-35 fighter jet. Infrastructure work at Cold Lake, Alberta and Bagotville, Québec continued to progress;
- **Remotely Piloted Aircraft System:**<sup>lviii</sup> The project's request for proposal was issued in February 2022 to the two qualified suppliers, and the project is currently in the definition phase;
- **Strategic Tanker Transport Capability:**<sup>lix</sup> The project team worked closely with the single qualified supplier to progress the development of the statement of work and requirement specification. Additionally, the information management/information technology and infrastructure requirements to support the project were developed;
- **Logistics Vehicle Modernization:**<sup>lx</sup> The project completed a series of reviews with the five qualified suppliers, and the final request for proposal was released in December 2021;
- **Armoured Combat Support Vehicle:**<sup>lxi</sup> The project completed the design and initiated production of the first three vehicle variants: Troop Cargo Vehicle, Ambulance, and Command Post. The preliminary design review of the fourth variant, Electronic Warfare, was completed;
- **CP-140 Aurora Incremental Modernization Project:**<sup>lxii</sup> The project achieved the following: installation of the Block IV design on six of 14 CP-140 Aurora aircraft; the completion of the first phase of the proof of compliance flight test; and the completion of the first phase of the operational test and evaluation;
- **Interim Fighter Capability Project:**<sup>lxiii</sup> The project completed the transportation and acceptance of the remaining aircraft, accepted delivery of all spare parts, brought the total number of aircraft released to the Royal Canadian Air Force for operations to eight, completed hangar design, and commenced renovation of the leased facility in Ottawa, Ontario;
- **CF-18 Hornet Extension Project:**<sup>lxiv</sup> The project established a detachment to support flight testing, awarded the Sniper Pod enhancement contract, received initial deliveries of radios and wiring kits for the new radar to commence aircraft prototyping, and commenced flight testing for the initial build of the aircraft software;
- **CH-148 Cyclone Project:**<sup>lxv</sup> The project accepted three Block 2 Cyclones, achieved the first capability release 2.1 helicopter converted by Royal Canadian Air Force technicians, and completed the site acceptance tests of the first flight and mission simulators, including upper maintenance trainers; and
- **Victoria Class Modernization:**<sup>lxvi</sup> Five of ten minor capital projects entered the Implementation Phase. Additionally, the Periscope Modernization Sustainment Business Case Analysis Phase 1 report was completed and a request for information was released for the Flank Array Modernization Project.



For additional information on key equipment projects, visit the Department of National Defence and the Canadian Armed Forces' [Current Projects](#)<sup>lxvii</sup> webpage.

### Defence Innovation and Business Transformation

Innovation efforts continued to achieve the desired end-state of a digitally-enhanced organization with departmental highlights for FY 2021-22 to include the following:

- Modernized the Enterprise Resource Management systems to support the department's transition to evidence-based decision-making, transforming and migrating financial and materiel systems of record, as well as improving reporting, business intelligence and analytics capabilities;
- Advanced the Research and Development Program with research to support Cyber Mission Assurance for DND/CAF. Further, the department developed tools and techniques for both cyber operations, including trials in cyber defence, network reliability, and communications quality assurance;
- Maintained interoperability within the Five Eyes community (Australia, Canada, New Zealand, the United Kingdom, and the United States) in a data-centric environment. This included science and technology activities to ensure the interoperability of platforms, weapons, sensors, and systems;
- Implemented secure cloud computing resources to enable data science and advanced analytics capabilities using artificial intelligence (AI) and machine learning. Key initiatives fostered by these successes include: web applications for departmental COVID-19 pandemic decision-making, enterprise-level financial forecasting, and international collaboration through the NATO Science and Technology Organization;
- Developed user-centric business applications using innovative and modern text analytics approaches, such as natural-language-processing-based chatbots for client self-serve information and knowledge gathering. As an example of client-centric innovation, the integration of the [Online Registration Tool](#)<sup>lxviii</sup> for the [Cadet Program](#)<sup>lxix</sup> will remove manual entry requirements and fully digitalize the registration process;
- [The Innovation for Defence Excellence and Security \(IDEaS\) Program](#)<sup>lxx</sup> continues to complement DND/CAF's internal research programs to resolve defence and security challenges by bringing together networks of experts, providing support and opportunities to innovators, and facilitating the integration and adoption of new capabilities for the CAF, and public safety and security communities;
- Awarded a contract to Black & McDonald in March 2022 for the Call for Proposals for the Green Heat: Low Carbon Energy Generation for Heating Existing Buildings [Test Drive](#).<sup>lxxi</sup> This project aims to support the Government of Canada's objective of greening operations and making DND/CAF buildings and facilities carbon-neutral by 2050; and
- Performed advanced research on video and big data analysis to augment analysts' capabilities and enhance decision-making. Research and development on anticipatory intelligence was performed to enable an initiative in *Strong, Secure, Engaged*.

In FY 2021-22, the department progressed its efforts related to AI projects and activities. The department:

- Invested in AI to augment the information-processing capabilities of the CAF in the strategic focus areas of the department's research and development program and the Canadian Safety and Security Program, and carried out exploratory work in cyber defence to automatically detect and respond to new cyber threats and adoption aspects to ensure an AI-enabled CAF;
- Invested, with our allies, in AI-based cyber security to protect DND/CAF platforms and enterprise systems against AI-enabled cyber-attacks; and
- Established an AI Community of Practice to share knowledge, encourage innovation, and raise the level of AI knowledge and skillsets across the department.



## Defence Infrastructure and Environment

DND/CAF require modern, functional, and sustainable infrastructure to work and train. As DND/CAF have the largest infrastructure portfolio in the federal government, greener, more sustainable infrastructure is key to achieving our climate goals. Modernizing defence infrastructure will improve efficiency, reduce greenhouse gas emissions, and support our personnel. In FY 2021-22, DND and the CAF achieved the following:

- Finished construction on an [\\$18.5 million modern and green community centre](#)<sup>lxxii</sup> for personnel and their families at Garrison Wainwright, Alberta;
- [Awarded a \\$592 million contract to Nasittuq Corporation](#),<sup>lxxiii</sup> an Inuit owned company, for the operation and maintenance of the North Warning System;
- Advanced the [A/B Jetty Recapitalization Project](#)<sup>lxxiv</sup> at Canadian Forces Base Esquimalt, British Columbia. Upon project completion, the new jetties will house the future Joint Support Ship and Canadian Surface Combatants;
- Progressed work on the [\\$131 million project to provide a new regimental headquarters for 4 Engineer Support Regiment in Gagetown, New Brunswick](#).<sup>lxxv</sup> This project will continue to provide the CAF with modern and greener facilities to support their training and operations well into the future;
- Continued construction on a new [\\$88.1 million facility for the Royal Canadian Dragoons in Petawawa, Ontario](#),<sup>lxxvi</sup> which will provide the regiment with enhanced vehicle maintenance, storage, logistics, and training areas to increase collaboration and support daily operations;
- Progressed construction on a new [\\$18 million health services centre for 22 Wing North Bay, Ontario](#),<sup>lxxvii</sup> integrating medical, dental, physiotherapy, and mental health services in a single location to support the well-being of CAF members;
- Invested approximately \$75.4 million in 236 active projects to improve Primary Reserve Force infrastructure, equipment and capabilities that will accommodate future growth. Projects included: upgrades to the garage exterior at the Regina Armoury; purchase of the Debney Armoury; roof repairs at HMCS *Nonsuch* in Edmonton, Alberta; necessary washroom upgrades at Fort York in Toronto, Ontario; and upgrades to the Rangers building in Saint-Jean, Québec;
- Invested \$50.5 million in minor capital funding to construct and renovate housing to improve the overall condition and functionality of the Defence residential housing portfolio. Operations, maintenance, and repairs required an additional \$73.1 million;
- Progressed 19 divestment projects and completed 71 active demolition projects of underutilized and obsolete buildings that were no longer required to support military operations. The resources previously used to maintain these properties will save an estimated \$400 000 annually which will be reinvested in modernizing our portfolio and building new infrastructure to support personnel;
- Continued implementing the [Defence Energy and Environment Strategy \(2020-2023\)](#)<sup>lxxviii</sup> which provides the department with renewed direction to evolve as an environmentally sustainable organization, better manage energy use, and minimize the environmental footprint across a broad spectrum of activities. The strategy includes 16 measurable targets focusing on energy efficiency, climate change adaptation, sustainable real property, and green procurement;
- Completed the Defence Real Property Portfolio Strategy which solidifies the long-term strategic roadmap and enterprise-wide approach to improve the affordability, condition, and suitability of real property while continuing to ensure operational success of DND/CAF; and
- Performed engagement activities with Indigenous communities across Canada to advance reconciliation such as participating in discussion tables on recognition of Indigenous rights and self-

determination to discuss the interests of Indigenous groups in relation to DND, including: Mohawks of Kahnawà:ke, Métis Nation of Alberta, and the Esquimalt Nation of British Columbia.

### Defence Relationship with Indigenous Peoples and Reconciliation

The Defence Team continued to renew and strengthen our relationships with Indigenous Peoples across Canada. As part of the Government of Canada's commitment to truth and reconciliation, DND and the CAF continue to uphold our obligations (e.g.: Aboriginal treaty rights, legal duty to consult, contracting, and others) reflected in statutes, negotiated agreements and treaties, and court decisions. In addition, we continue to review our policies and operations to align with the objectives of Indigenous reconciliation. Highlights of the activities undertaken during FY 2021-22 include the following:

- Developed a strategy to ensure that Defence activities are aligned with the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) as part of a whole-of-government plan to support Indigenous self-determination through engagement and opportunities for socio-economic development;
- Reviewed the UNDRIP to identify key points of intersection with Defence activities and participated in whole-of-government efforts to support federal legislation aimed to implement the declaration;
- DND partnered with Defence Construction Canada to develop a Joint Indigenous Procurement Strategy to advance [the Government of Canada's policy direction](#)<sup>xxix</sup> to support Indigenous businesses with procurement opportunities;
- Participated in a government-wide policy to create more opportunities for Indigenous businesses to succeed and grow by creating a new target to have at least five percent of DND/CAF contracts awarded to businesses managed and led by Indigenous Peoples;
- Explored the development of a new funding mechanism to enable more robust and collaborative engagement processes with Indigenous communities on matters of common interest;
- Collaborated with Defence Construction Canada to host 20 virtual information sessions with the aim of increasing Indigenous sourced procurement;
- Advanced the development of Indigenous learning and awareness tools for DND/CAF stakeholders to build engagement capacity, cultural awareness as well as understanding new and existing federal policies, commitments, and guidelines, as they pertain to Indigenous reconciliation;
- Delivered awareness sessions on Indigenous Engagement and the Duty to Consult on DND projects;
- Introduced an Indigenous Learning Framework to cultivate greater intercultural competency within DND/CAF in the spirit of reconciliation and nation-to-nation relations, as required by the Truth and Reconciliation Commission Calls to Action;
- Identified the need for a toolkit and guidelines to be developed to guide policy review and consultation with DND/CAF stakeholders. These findings will help identify key areas where policy change proposals are needed to ensure that DND/CAF policies are in alignment with the UNDRIP;
- Worked closely with the Chippewas of Kettle and Stony Point First Nation and Indigenous Services Canada at the former camp Ipperwash for the provision of temporary housing for community members living in the former barracks. This collaborative work was led by the Chippewas of Kettle and Stony Point First Nation and provided DND/CAF an opportunity to advance reconciliation activities, including land environmental remediation;
- Worked closely with Defence Aboriginal Advisory Groups (DAAG) at national, regional, and local levels to gain their cultural insights and perspectives on proposed activities. DAAG National co-chairs are members and participants of both the Indigenous Reconciliation Working Group and the Defence Team Indigenous Affairs Committee, which approved the UNDRIP Implementation Action Plan for DND/CAF;

- Worked with Crown-Indigenous Relations and Northern Affairs Canada in negotiating self-government agreements and advancing self-determination in partnership with Indigenous peoples. These negotiated agreements put decision-making power into the hands of Indigenous self-governments who make their own choices about how to deliver programs and services to their communities;
- Negotiated agreements that put decision-making into the hands of Indigenous governments so that they make their own choices about how to deliver programs and services to their communities:
  - The Commander of the Canadian Army, who is the Defence Team Champion for Indigenous Peoples, leveraged the cultural understanding, perspectives, and experiences of DAAG members, drawing on their relationships and links with local communities across Canada. The Defence Team Champion for Indigenous Peoples and the Defence Aboriginal Awareness Group worked collaboratively with commanders from all levels to help the Defence Team navigate culture change; and
  - The Defence Team Champion for Indigenous Peoples hosted activities to celebrate Indigenous culture including the [Indigenous Awareness Week](#)<sup>lxxx</sup> virtual event. This assisted the Defence Team in acknowledging September 30, the inaugural [National Day for Truth and Reconciliation and Orange Shirt Day](#).<sup>lxxxi</sup>
- Included Indigenous traditions in the departure and arrival ceremonies for deploying ships;
- Built on the existing relationship cemented by the affiliation of HMCS *Harry DeWolf* with the Qikiqtaaluk region of Nunavut. Plans for additional affiliations between ships of the *Harry DeWolf*-class and the various regions of Nunavut were impacted by the COVID-19 pandemic, but this initiative is resuming with the affiliation ceremony for the future HMCS *Margaret Brook*, confirmed for fall 2022;
- Worked with Indigenous Elders/Knowledge Keepers to provide a blend of military training and Indigenous culture to hundreds of First Nations, Inuit, and Métis participants through Indigenous summer programs across Canada: Bold Eagle, Raven, Black Bear, Carcajou, and Grey Wolf. Although COVID-19 public health measures limited attendance, a total of 135 participants were able to graduate from these programs. In addition, Eagle's Nest, an Indigenous youth leadership program, was conducted with 16 youth in Driftpile Cree Nation, north of Edmonton, Alberta. No Junior Canadian Ranger summer camps were conducted but some communities were able to deliver scaled-down activities;
- Conducted a review of the Qualification Standard and Training Plan for the newly renamed [Canadian Armed Forces Indigenous Entry Program](#)<sup>lxxxii</sup> (formerly *Canadian Forces Aboriginal Entry Program*), which resulted in a new Training Plan and Lesson Topics. The COVID-19 pandemic restrictions did have a negative impact on processing for the Canadian Armed Forces Indigenous Entry Programs;
- Launched the Executive Development Program with a first cohort in June 2021 and second cohort in February 2022. The program was designed to increase representation and develop the department's talent pipeline of aspiring executives in employment equity groups, including Indigenous Peoples;
- Launched the Indigenous Recruitment Campaign seeking talented candidates who self-identify as members of the Indigenous Employment Equity group to join the executive cadre. Supported by a diverse assessment board and a fully-representative advisory panel, a pool of 31 fully-qualified candidates was established to staff Director-level positions within DND and other government departments;
- DND also hosted several targeted recruitment sessions for Indigenous students, focusing on conversation and community in order to attract students. As well, our participation in career fairs included a focus on educational institutions that have programs with a population that address all Employment Equity needs, including Indigenous people;

- A Pilot Mentorship Program was developed and used in the onboarding process, allowing mentoring and sponsorship opportunities for new Defence Team employees including Indigenous employees;
- Delivered on 30 requests for assistance tasked to the CAF to support Indigenous communities: three for [Operation LENTUS](#)<sup>lxxxiii</sup> (flooding support in the Northwest Territories, evacuation of First Nations communities during fires in Ontario, and support provided in Iqaluit during a water shortage); four related to [Operation VECTOR](#)<sup>lxxxiv</sup> (vaccine distribution and vaccination support), and 23 for [Operation LASER](#)<sup>lxxxv</sup> in support of First Nations communities impacted by the COVID-19 pandemic (mainly in Ontario but also in the Northwest Territories, Saskatchewan and British Columbia);
- Supported Crown-Indigenous Relations and Northern Affairs Canada during modern treaty negotiations with Indigenous communities such as the [Manitoba Métis Self-Government Recognition and Implementation Agreement](#)<sup>lxxxvi</sup>;
- Engaged with local and regional Indigenous groups in Northern Canada to implement the Safety, Security and Defence Chapter of the Arctic and Northern Policy Framework. Collaboration and engagement on proposed northern development projects ensures that treaty rights and interests of Indigenous groups are respected while facilitating DND/CAF initiatives such as NORAD modernization and continental defence;
- Consulted and engaged with local and regional Indigenous groups and treaty members to advance initiatives of interest to all parties. This included the environmental impacts of DND/CAF operations, potential adverse impacts to sensitive ecosystems upon which Indigenous Peoples and other Northerners rely, supporting the exercise of Indigenous traditional practices through access agreements, and generating socio-economic and employment opportunities for Indigenous Peoples;
- Addressed litigation and other issues in the spirit of reconciliation by working on agreements and claims resolution with numerous Indigenous groups; and
- Built capacity and raised awareness within the Defence Team on the importance of meaningful engagement with Indigenous Peoples and learning opportunities focused on Indigenous cultures, history, diversity, and traditions.

For more information about DND and the CAF's plans, priorities, and results achieved, see the "[Results: what we achieved](#)" section of this report.

## Results: what we achieved

### Core responsibilities

#### Operations

##### Description

Detect, deter, and defend against threats to or attacks on Canada. Assist civil authorities and law enforcement, including counter-terrorism, in support of national security, domestic disasters or major emergencies, and conduct search and rescue operations.

Detect, deter and defend against threats to or attacks on North America in partnership with the United States, including through North American Aerospace Defense (NORAD) Command.

Lead and/or contribute forces to North Atlantic Treaty Organization (NATO) and coalition efforts to deter and defeat adversaries, including terrorists, to support global stability. Lead and/or contribute to international peace operations and stabilization missions with the United Nations, NATO and other multilateral partners. Engage in capacity-building to support the security of other nations and their ability to contribute to security and the security of Canadians abroad. Assist civil authorities and non-governmental partners in responding to international and domestic disasters or major emergencies.

##### Results

The Canadian Armed Forces (CAF) continued to achieve Canada's defence objectives, by undertaking eight core missions, as set out in [Strong, Secure, Engaged: Canada's Defence Policy](#),<sup>lxxxvii</sup> to ensure that Canada remains strong at home, secure in North America and engaged in the world.

During FY 2021-22, the CAF conducted operations at home, across North America, and around the world. The Department of National Defence (DND) and the CAF supported government partners in response to domestic crises such as the COVID-19 pandemic and natural disasters such as forest fires and floods. Further, the CAF maintained the defence of North America in partnership with the United States through NORAD, and continued to make valuable contributions to international security via multiple international operations, bolstering Canada's commitment to NATO with additional troops and equipment in Latvia and, by providing training and aid to Ukraine.

The CAF continued to monitor and report on evolving situations in international theatres where CAF members are deployed and on domestic operations. Highlights for FY 2021-22 include the following:

- Providing information and intelligence to CAF decision-makers, most notably on the crises in Afghanistan and Ukraine, in order to support the development of military options, advice, and the conduct of operations;
- Implementing new intelligence tools to provide a greater breadth and depth of timely situational awareness and sound analysis for CAF activities both domestically and internationally;
- Continuing to work closely with partners and allies to ensure the routine passage of necessary information and intelligence;
- Deepening liaison, routine communication, and collaboration activities with allies at the operational level which developed novel opportunities for improving visibility and offering assistance; and
- Establishing new processes to better align intelligence activities with review and oversight mechanisms.

The Canadian Joint Warfare Centre continued to develop the Joint Operations Fusion Laboratory at the Shirley's Bay Campus, Ontario. The Joint Operations Fusion Laboratory supported the execution of the Operational Distributed Intelligence, Surveillance and Reconnaissance Network proof of concept. With this aim in mind, personnel assigned to the laboratory provided members of the Canadian Joint Warfare Centre with an understanding of artificial intelligence (AI) and its potential application to experiments conducted by the Centre.

The Joint Information Operations Force Employment Concept nearing approval was discontinued as advancements within this environment outpaced its relevance. However, DND/CAF further developed and refined its joint targeting process during the reporting period. This resulted in an increased ability to gather and analyze information and focus plans in order to better achieve operational and strategic effects. In addition, the evolution of the CAF targeting enterprise was supported, as well as strategic effects governance, further strengthening operational-level relationships with allies, specifically the Five Eyes community (Australia, Canada, New Zealand, the United Kingdom, and the United States).

The CAF continued to identify, develop, and recommend modifications and investments to close capability gaps, where necessary, across air, maritime, land, cyber, space, and information domains. Progress was made expanding pan-domain awareness in order to support continental defence and Arctic security.

DND/CAF worked to expand pan-domain awareness in the Arctic in support of continental defence and NORAD missions through innovative options for the Northern Approaches Surveillance system. In collaboration with our United States research and development partners, the Defence Team commenced research and development on disparate sensors, command and control architecture, and completed interdepartmental negotiations for future land use to accommodate a Polar Over-the-Horizon Radar experimentation array.

During FY 2021-22, the CAF, through continued capacity-building activities, developed the defence and security capabilities of partner forces, which serve to increase regional stability, lessen the likelihood of future crisis interventions by the international community, and promote interoperability among our partner forces. This positions them to share the burden for international security, while giving commanders the option to achieve effects with reduced resource commitments. Each of the CAF's capacity-building missions had distinct operating environments and operational requirements. Accordingly, missions varied in scope and scale, in accordance with differing strategic objectives, mandates, and authorities. The CAF continued to work in collaboration with other stakeholders in order to simplify and shorten the approval process for capacity-building projects, ensuring these activities remain aligned with the range of other efforts, objectives, and priorities as established by the CAF and the Government of Canada.

DND/CAF strengthened its cyber force capabilities through several collaborative initiatives with the Communications Security Establishment (CSE) which include: Defensive and Offensive Cyber Operations Capabilities, conducting missions via cyberspace and validating coordination processes with partners and allies.

DND continued its regular and close collaboration with both Shared Services Canada and the Canadian Centre for Cyber Security regarding the operation, monitoring and protection of DND/CAF enterprise networks to maintain a strong cyber security/defence posture across all our cyber equities, including ongoing discussions on shared workspaces and exchanges to enhance collaboration.

The department continued to refine its Cyber Event Management process to improve incident response by coordinating internal processes as well as externally with Government of Canada partners, and the government-wide cyber operations committees. We continued to enhance our ability to identify threats and improve defensive measures.

Defence worked actively with partners and allies on multiple initiatives to develop capabilities, capacity, and expertise to support deployed operations in any contested cyber environment. Among the initiatives were: cyber security cooperation; personnel investments supporting offensive cyber operations; cyber training activities to support Canadian and continental defence; and direct support to operations and multinational exercises.

The Defence Team attended multiple meetings with our NATO, NORAD and Five Eyes partners throughout the past year in order to determine how best to modernize and strengthen our communications via classified networks. DND/CAF actively engaged industry partners to determine how their equipment could better support our operations. The Defence Team also worked closely with the three environments on their respective replacement of secure communication equipment projects and will continue on this course for the coming year and until the equipment is in place.



Incremental Costs for Major Canadian Armed Forces Operations<sup>lxxxviii</sup> and information on current CAF operations and exercises<sup>lxxxix</sup> are available on the Department of National Defence and the Canadian Armed Forces' website.

## Gender-based analysis plus (GBA Plus)

The department furthered its integration of Gender-based analysis plus (GBA Plus) into the CAF's planning and operations, and into the wider CAF institution. While many operations faced challenges this fiscal year as a result of the COVID-19 pandemic environment, GBA Plus continued to inform the planning, preparation, and execution of all operations. Special attention was given to those operations working in long term care facilities, with vulnerable people, children and with Canada's Indigenous people. In FY 2021-22, the department:

- Ensured that operation orders for deploying forces contained an annex on gender perspectives, as part of the operational planning process. The annex provided a framework for the planning and conduct of domestic operations as it related to gender. Diverse groups within the Canadian population experience humanitarian disasters differently. Recognizing specific needs and contributions improved the understanding of the operational environment to ensure the best outcome of CAF operations for the affected population;
- Issued a mission and rotation specific directive to each deploying Task Force Commander which contained clear guidance on gender perspectives with respect to the effects of CAF operations on women, men, girls and boys in specific contexts related to the operation;
- Maintained Human Security and Gender Perspectives as important planning factors, drawn from an analysis of the local population and operating environment; and
- Ensured that deployed Commanders and Task Force personnel completed the required gender training and subsequently factored gender perspective considerations into daily operations and reporting. Gender Advisors provided weekly/monthly reports and included GBA Plus paragraphs in Mission Daily Situation Reports and End of Mission reports. These reports list activities and engagements carried out by the Task Force and are used to prepare future rotations and shape Task Force personnel requirements.

The Policy Group continues to foster the integration of GBA Plus with the following initiatives:

- Support the United Nations to increase women's meaningful participation in uniformed roles in peace support operations through the Elsie Initiative, and through Canadian deployments. Through this initiative the CAF has met the United Nations target of 20 percent of deployed staff officer positions being filled by women;
- The Military Training and Cooperation Program training activities are designed and conducted with GBA Plus considerations incorporated. Data on participants is captured by gender and all courses are identified as available to all genders;
- The Mobilizing Insights in Defence and Security grant program has built GBA Plus in to the foundation of the Program and seeks to ensure that it hears from, acknowledges and consults a variety of perspectives. All applications for Mobilizing Insights in Defence and Security funding are evaluated on a number of criteria, including diversity and inclusion. Applicants are required to demonstrate that a GBA Plus has been conducted and how, by including relevant considerations as part of their project proposal;
- The Policy Group continues to contribute significantly to the development of the United Nations' Engagement Platoon training courseware and handbook. United Nations Engagement Platoons maps the demography of an area of operations to identify vulnerable areas and at-risk populations. Engagement Platoons are comprised of at least 50 percent women and leverage gender diversity to break down engagement barriers with the local population, increasing awareness of issues impacting at-risk populations; and
- DND/CAF continues work to fully implement the Vancouver Principles on Peacekeeping and Prevention of Recruitment and use of Child Soldiers, which recognize the essential contribution of

women to peacekeeping operational effectiveness, and the critical roles of men and women in the protection of children.

More information on GBA Plus governance structures, human resources and key impacts can be found in the “GBA Plus Supplementary Information Table” in the [Supplementary Information Tables](#) section of this report.

## Experimentation

In FY 2021-22, NORAD continued the rapid development effort to support its battle space awareness, from subsurface to space and cyberspace, referred to as Domain Awareness, Information Dominance and Decision Superiority strategic priorities. The Pathfinder initiative continued to advance, and the initial features were delivered in the fall of 2021. NORAD, in coordination with the United States Northern Command (USNORTHCOM), continued to support the Global Information Dominance Experiment advancing the integration of Artificial Intelligence (AI) and Machine Learning in support of decision-making.

The Canadian Joint Warfare Centre advanced the understanding of the operating environment through the Multi-Domain Command and Control concept development and experimentation initiative and the Coalition Warrior Interoperability eXperiment. The experiment demonstrated the value of incorporating virtual and augmented reality for operational planning and mission monitoring. Significant additional results included the demonstration of distributed collaboration for operational planning from dispersed locations or during instances where movement is restricted, through virtual and extended reality using a fraction of the communications bandwidth necessary for other collaboration methods.

Additional Defence-related experimentation activities are outlined in this report under [Core Responsibility 4 – Future Force Design](#).

## Key Corporate Risk(s)

There are several corporate risks associated with the Operations Core Responsibility. Two of the Key Corporate Risks directly associated with Operations are articulated below:

**Physical Environment** – There is a risk that changes to the physical environment of Canada and the world, including those due to climate change, will impact the type, frequency and conduct of DND/CAF activities.

**Cyber-Intrusion** – There is a risk of serious harm (e.g. loss of sensitive data, disruption to the network, physical electronic damage, loss of confidence in institution/reputation, among others) resulting from a cyber-intrusion.

The risks above can affect the department’s ability to achieve the Departmental Results of the Operations Core Responsibility.

As the Defence Departmental Results Framework reflects a chain of delivery from conceiving of the required armed forces, to developing them and then executing operations, the activities to mitigate the risks to Operations can also be found in other core responsibilities which deliver building blocks that enable the results of Operations.

Many of the preventative and mitigating controls for these risks are articulated as activities of each Departmental Result below.

### Departmental Result 1.1 – Canadians are protected against threats to and attacks on Canada

The CAF, in co-operation with NORAD and USNORTHCOM, continued to detect, deter and defend against threats to Canada and North America and remained prepared to support provincial and territorial authorities in response to natural disasters.

Russia’s increasingly aggressive behaviour meant that greater importance had to be placed on the protection of Canadians, and it will place an increased level of priority on Arctic sovereignty and security operations in the coming years. Information from several domains was used to maintain continuous watch over land, sea, air, space, and cyber domains. Going forward, the CAF will build on Joint Intelligence

Surveillance and Reconnaissance capabilities to improve our detection activities, along with other national initiatives, to detect threats to Canada. With better detection abilities, any threats to Canadians and Canadian interests could then be deterred and degraded through a whole-of-government approach. Specific contingency plans to address threats to Canada include NORAD, Operation LIMPID, Operation LASER, Operation LENTUS, and the Standing Operations Order for Domestic Operations.

- Under [Operation LASER](#),<sup>xc</sup> the CAF deployed almost 400 members to mitigate the impact of the COVID-19 pandemic on Canada and Canadians. Twenty-four operations were conducted in support of First Nations communities, where a combination of Canadian Rangers, Regular Force, and Reserve Force personnel provided essential support to isolated communities struggling under the effects of the pandemic. The CAF also employed unique capabilities, including the air evacuation of COVID-afflicted critical care patients, to support the provincial healthcare systems in Ontario, Manitoba, Alberta, and Saskatchewan, and supported the province of Nova Scotia in testing for the virus. Additionally, the CAF supported Public Safety Canada and the Public Health Agency of Canada with general duty and liaison officers to augment their operations centres, and provided planning expertise in developing the strategy to reopen the Canada-United States border;

### Operation VECTOR



A CAF member from the 6<sup>th</sup> Battalion, Royal 22<sup>nd</sup> Régiment (Saint-Hyacinthe) greets residents with a new mask and information, at a COVID-19 vaccination clinic during Operation VECTOR, in Drummondville, Québec, January 19 2022.

Photo: Master Corporal Richard Hallé, 35 CBG Public Affairs.

- Under [Operation VECTOR](#),<sup>xcii</sup> the CAF deployed more than 700 members throughout Canada, principally supporting the vaccination campaign in northern Ontario as well as in urban centres in Québec and Nova Scotia;
- Under [Operation LENTUS](#),<sup>xcii</sup> the CAF deployed nearly 1400 members, providing support to Canadians in need across the country in several provinces and, for the first time, all three territories. The CAF conducted eight distinct LENTUS operations ranging from flood mitigation in

Yukon, the Northwest Territories, and British Columbia, to fighting fires in Manitoba, Ontario, and British Columbia, and providing clean drinking water in Nunavut; and

- The CAF conducted [Operation LIMPID](#)<sup>xciii</sup>, the pan-domain surveillance of the approaches to Canada by detecting threats to the nation through monitoring of the air, maritime, land, space, and cyber domains.

CAF also worked with other authorities and agencies in support of Law Enforcement and National Security. Ongoing operations include support for the RCMP and other counter-drug operations and support for Parks Canada for avalanche control ([Operation PALACI](#)<sup>xciv</sup>). The CAF worked to strengthen collaboration with other government departments, agencies and authorities to maintain cooperative National Security and in support of Law Enforcement, including through infrastructure and materiel support such as the provision of unique CAF assets upon request. [Operation PALACI](#)<sup>xcv</sup> was conducted from 15 November 2021 to 10 May 2022 in support of Parks Canada avalanche control efforts in Rogers Pass, British Columbia. The CAF participated in exercises with the RCMP and NAV CANADA/Transport Canada at the Ottawa International Airport and conducted joint training on Counter-Unmanned Aerial Systems with the RCMP at their facilities. The CAF continues to work with NAV CANADA on drone airspace issues.

The CAF conducted operational-level engagement with other government departments and agencies in order to enhance interoperability and mutual support as outlined in the Federal Emergency Response Plan, and in support of CAF operations. Liaison officers are co-located at the Government Operating Centre and the Royal Canadian Mounted Police in Ottawa, Ontario. This inter-agency collaboration is growing in importance as we face emerging threats across multiple domains. Defence worked closely with the RCMP, Transport Canada and the Canadian Coast Guard to assist with their Uncrewed Aerial Vehicles and Counter-Uncrewed Aerial Vehicles activities. Defence also facilitated the Canadian Coast Guard Lessons Learned program by providing the new CAF defence lessons learned software. Due to flooding in British Columbia, Public Safety Canada cancelled the National Priority Exercise, a practice run of the whole-of-government response to a major disaster designed to align and coordinate selected training events from across the consequence management community in pursuit of whole-of-government readiness.

Defence remained an effective capability-building partner by helping other government departments and agencies, as well as territorial and Indigenous self-governments, fulfill their mandates when authorized. Of 46 requests for assistance tasked to the CAF, 30 were to support Indigenous communities:

- Three for [Operation LENTUS](#)<sup>xcvi</sup>, including flooding support in the Northwest Territories, evacuation of First Nations communities during fires in Ontario, and support provided in Iqaluit during a water shortage;
- Four related to [Operation VECTOR](#)<sup>xcvii</sup> including vaccine distribution and vaccination support; and
- Twenty-three for [Operation LASER](#)<sup>xcviii</sup> in support of First Nations communities impacted by the COVID-19 pandemic (mainly in Ontario but also in Northwest Territories, Saskatchewan and British Columbia).

DND/CAF continued to develop capabilities, capacity and expertise in order to support full-spectrum cyber operations in response to threats and attacks.

- In coordination with allies, partners and host nations, CAF cyber forces actively worked to further cyber security cooperation and capacity-building;
- DND/CAF made specific positional investments as part of the ongoing personnel build strategy. These investments have helped to relieve positional pressures in offensive cyber operations and intelligence in support of cyber operations; and
- Participation in cyber training activities helped to develop experience in supporting domestic and expeditionary operations. The CAF participated in several internal, allied and other Government of Canada departments' cyber training activities to support Canadian and continental defence and to protect international interests from cyber threats. These activities included United Kingdom Ministry of Defence-led Exercise CYBER WARRIOR, United States Cyber Command-led Exercise CYBER

FLAG, and Exercise LOCKED SHIELDS led by the NATO Cooperative Cyber Defence Centre of Excellence.

Defence also ensured interoperability between CAF platforms through standards management, support individual training, and playing a coordination role for lab-based interoperability testing. All of these functions ensured that the CAF's platforms were interoperable domestically, as well as with Canada's allies.

CAF cyber forces actively worked in coordination with allies, partners and host nations (where appropriate) to further cyber security cooperation and capacity-building to support deployed operations in a contested cyber environment. In 2021-22, the department accomplished the following:

- Worked to protect military theaters in cyber space, ranging from secure handling of cryptographic material following eastern European troop movements, to rapid investigation and resolution of incidents, to multiple Technical Assistance Visits around the world for inspection of Information Systems to ensure cyber-safe and compliant capabilities;
- Supported commanders, including the Cyber Force Commander, with rapidly deployed online capabilities, from applications to support Afghan evacuees to cyber support following the crisis in Ukraine; and
- Maintained the relationship with Communication Security Establishment in order to further and implement on an accelerated timeline the Communications Security and Defence Secure Tailored Solutions programs, so that when communications security incidents are encountered, they are dealt with swiftly and with Communication Security Establishment's comprehension of our operational requirements. Furthermore, relationships with other Government of Canada departments have been established, notably the Canada Revenue Agency, in order to share our experiences and learn from each other through an exchange of best practices at the (Chief Information Security Officer) CISO level.

DND/CAF and the CSE have differing authorities, but complementary roles. DND's cyber program calls for close collaboration with the CSE, including the Canadian Centre for Cyber Security, to support the development, planning and employment of cyber forces across the spectrum of operations. The department worked with both the CSE and Shared Services Canada to maintain cyber situational awareness across all operations. DND/CAF and CSE held several discussions in FY 2021-22 regarding shared workspaces and exchanges to enhance collaboration, all of which supported the department's ability to monitor and protect DND/CAF enterprise networks and ensure our cyber equities are fully-protected and effectively defended.

The CAF and the CSE collaborated on the development of active cyber operations capabilities. The CAF jointly conducted several military missions within cyberspace, confirming the use of non-kinetic targeting processes, the respective military authorities involved, the rules of engagement considerations, and the close coordination necessary for these types of operations.



## Results achieved

Departmental results	Performance indicators	Target	Date to achieve target	2019-20 Actual results	2020-21 Actual results	2021-22 Actual results
1.1 Canadians are protected against threats to and attacks on Canada	% of requests for assistance that are fulfilled	100%	31 March 2022	100%	100%	100%
	% of force elements that are deployed within established timelines	100%	31 March 2022	100%	100%	100%*
	% of operations that meet stated objectives	100%	31 March 2022	98%	95%	95%**
	Extent to which the Canadian Armed Forces is effective in domestic operations	The Canadian Armed Forces is effective in the conduct of domestic operations	31 March 2022	This is a qualitative indicator	This is a qualitative indicator	This is a qualitative indicator***

### Notes:

\* CAF support was provided in a timely manner to respond to all tasked RFAs. Of note, the manner in which Requests for Assistance are developed with whole-of-government partners ensures that the timeline requested is attainable by the CAF elements.

\*\* The CAF conducts several operations that contribute to the security of Canada; Operations LENTUS, VECTOR, LASER, LIMPID are several of the operations that support this effort. The score has been adjusted by five percent to account for planning and execution frictions that cannot be captured in assessment plan and associated reports. Capability requirements, resources and interoperability continue to require refinement from all parties involved.

\*\*\* The CAF is satisfying 100 percent of the Public Safety Canada submitted RFAs. The CAF provided support to civilian organizations in response to a range of crises, including: natural disasters and the COVID-19 pandemic. All operations were handled effectively. Capability enhancement initiatives, such as the All Domain Situational Awareness Science and Technology Program, seek to resolve challenges in the Arctic due to existing communication and Joint Intelligence, Surveillance and Reconnaissance deficiencies impacting interoperability with partners and other governmental departments.

Financial, human resources and performance information for the Department of National Defence and the Canadian Armed Forces' Program Inventory is available in the [GC InfoBase](#).<sup>xciix</sup>

## Departmental Result 1.2 – People in distress receive effective search and rescue response

In FY 2021–22, there were 9350 Search and Rescue (SAR) incidents (cases), with 1826 cases having a final classification of 1 (Distress) or 2 (Imminent Distress). All Joint Rescue Coordination Centre SAR cases were handled effectively and delivered through to conclusion or handed over to an appropriate agency.

The 9350 cases generated 611 SAR requirements for the CAF air assets. In the other cases, Joint Rescue Coordination Centres utilized assets of opportunity, including civilian aircraft and vessels that were available to resolve cases quickly and efficiently when safe and appropriate to do so.

The Canadian Rangers, an integral component of the CAF, are a diverse and agile localized capability generated for employment by the CAF to assist the Government of Canada presence in sparsely settled remote, northern, coastal and isolated areas. In support of provincial or territorial authorities' mandates to conduct search and rescue, during FY 2021-22, the Canadian Rangers supported 40 ground SAR missions. During the same period, Canadian Rangers responded to 12 requests for assistance from provincial or territorial authorities.



## Results achieved

Departmental results	Performance indicators	Target	Date to achieve target	2019–20 Actual results	2020–21 Actual results	2021–22 Actual results
1.2 People in distress receive effective search and rescue response	% of coordinated maritime, aeronautical and joint response to search and rescue incidents deemed effective	100%	31 March 2022	100%	100%	100%*
	% of requests for Canadian Armed Forces aeronautical search and rescue assistance that are fulfilled	100%	31 March 2022	100%	100%	100%**
	% of Canadian Armed Forces aeronautical search and rescue operations that meet established standards	100%	31 March 2022	85%	91%	91%***

### Notes:

\* In FY 2021–22, there were 9 350 SAR incidents (cases), with 1 826 cases having a final classification of 1 (Distress) or 2 (Imminent Distress). All Joint Rescue Coordination Centre SAR cases were handled effectively and delivered through to conclusion or handed over to an appropriate agency. (Statistics in validation phase.)

\*\* The 9350 cases generated 95 SAR taskings for the CAF air assets. All 95 aeronautical SAR taskings were fulfilled and the missions were completed.

\*\*\* Of the 611 times tasked, the CAF met their response timeline in 554 cases; therefore, 91 percent of the time. There are many circumstances that determine how a tasked SAR unit responds and therefore whether the response time can be met. Inclement weather and time to load additional fuel for long, extended missions are the main causes of delays. SAR mission coordinators used every tool at their disposal to ensure all responses to SAR incidents in Canada are effectively conducted and/or coordinated to conclusion, or to handover to an appropriate agency.

Financial, human resources and performance information for the Department of National Defence and the Canadian Armed Forces' Program Inventory is available in the [GC InfoBase](#)<sup>6</sup>.

## Departmental Result 1.3 – Canada's Arctic sovereignty is preserved and safeguarded

The CAF maintained a year-round presence in Canada's North. This presence continued to take the form of Joint Task Force (North), the CAF's northern headquarters, and several exercises and sovereignty operations that were held in the Arctic. These activities shared the same purposes: to assert Canada's sovereignty in the region, to strengthen CAF capabilities to conduct Arctic operations, and to improve the CAF's ability to work with government partners in response to northern safety and security issues. The activities conducted strengthened domain awareness, enhanced Canadian presence and ensured the defence, security and safety of Canada's Arctic and Northern regions. In FY 2021-22, CAF results included the following:

DND and the CAF have an ongoing program of work associated with preventing cold injuries and improving aviator life-support equipment (the emergency kits carried in aircraft). This work is dependent on field work in the north, combined with testing in environmental chambers. Due to the COVID-19 pandemic, trials assessing cold weather injury risk as well as Camp Power and energy options to reduce dependence on fossil fuels were postponed. Both are planned to resume in [Operation NANOOK](#)<sup>ci</sup> 22-23.

DND and the CAF also supported the recent entry into service of *Harry DeWolf*-class Arctic and Offshore Patrol Vessels, including helping the RCN to assess the effectiveness of the ships operations in ice. During [Operation NANOOK](#)<sup>cii</sup> 21-22, trials were conducted with a variety of "acoustic" sensors (acoustic, infrasound, seismic, and hydrophone) to characterize cross-domain detection performance against a low altitude surrogate target in a near-Arctic environment. Support to *Harry DeWolf*-class Arctic employment

capabilities were delivered through the evaluation of containerized towed array systems and infrared sensing capability. Further, DND and the CAF continues to invest in fixed and mobile autonomous sensing technologies to detect mines and submarines in Canadian waters, including the Arctic. The technologies include both seabed sensors and sensing packages for autonomous vehicles. Again, planned field activities were significantly reduced in FY 2021-22, due to the COVID-19 pandemic.

In support of CAF operations in the Canadian Arctic, the department commenced a study to examine options for operational and logistical support, including concepts of prepositioned equipment. This study is still underway.

In support of NORAD modernization to improve aerospace surveillance, DND and the CAF has completed experimental and demonstration work on Arctic Over-the-Horizon Radar (A-OTHR). Engineering design specifications and technical requirements can now be developed for an OTHR major capital project to improve Canadian airspace surveillance over Canadian territory and the approaches. The department has also completed performance analysis modelling on optimal placement of Arctic and Polar OTHR arrays, while considering where complementary systems from the United States may be installed.

For the next project phase on Polar OTHR, interdepartmental negotiations were completed for future land use to accommodate a P-OTHR experimental testbed array to extend radar coverage over the pole. Contract options supporting material acquisition for future array experimentation are now complete with Statements of Work and Requirements drafted for the remainder of the auxiliary Polar OTHR testbed. The collaborative OTHR Project Arrangement Statement of Work has been completed, with work accomplished under two separate binational project arrangements:

- The insertion of auroral clutter mitigation algorithms in the OTHR performance modelling software used by NORAD; and
- The completion of P-OTHR Phase 2 with the United States Naval Research Laboratory.

Work remains underway for enhanced surface surveillance of maritime traffic in the north utilizing space-based assets. As part of the entry into service of RADARSAT Constellation Mission (RCM), DND and the CAF assisted in the validation/testing of ship-detection algorithms, including assisting in address software deficiencies.

Looking beyond RCM and in partnership with industry, the department funded and guided the development of a Next Generation Space-Based Radar prototype in the laboratory as part of the now-completed All Domain Situational Awareness program. Once fully engineered on a spacecraft as part of currently funded initiatives, this prototype will be a leap-ahead, fully digital Synthetic Aperture Radar sensor that will compress the tasking, collection, processing, exploitation and dissemination cycle, introduce novel imaging modes, algorithms, software tools, and jointly employ and exploit multi-band resolution data. A request for information was issued to confirm the capabilities of Canadian industry ahead of the full request for proposal expected in FY 2022-23.

To advance Joint Intelligence, Surveillance and Reconnaissance capability, the department has initiated intergovernmental expertise to begin research and development on disparate sensors and a command and control architecture in collaboration with our United States partners. This includes the following:

- Non-traditional sensing techniques for air target detection for integration in a DND/CAF system testbed. Developmental sensor arrays for infrasonic, seismic and acoustic sensing have been successfully tested in the North;
- Surveillance with a hybrid constellation of roughly 180 commercial and government-owned Automatic Identification System, Synthetic Aperture Radar, Electro-Optic/Infrared and Radio Frequency small satellites aimed at compressing elements of the intelligence cycle. This was completed as part of the United States Arctic Edge 2022 exercise; and
- A Technical Project Arrangement with Natural Resources Canada (Canmet Energy) was established to implement development activities on power and energy solutions for classified Arctic sensors. Under that project arrangement, initial technology review, basic modelling and simulation

and a generic mechanical design were completed, preparing the way for information sharing under a United States-Canada agreement established for a classified project in support of NORAD.

Design improvements were completed for maritime prototype underwater sensing technology for longer endurance and better detections. Improved fuel cells have enabled successful 72-hour underwater endurance tests of an autonomous underwater vehicle.

For Command and Control modernization, DND and the CAF are developing a laboratory at the Valcartier Research Centre in Québec, to provide a synthetic environment for the development, demonstration and experimentation of advanced concepts and technologies relevant to the Pan-Domain Command and Control and battle management problems. This includes a number of completed activities:

- Data Ingestion and Fusion: Successful ingestion and processing of air data sources (civilian radar, satellite/ADS-B, flight plans) in the department's WISDOM/Unified Data Space environment;
- Threat Evaluation: Development of an automation prototype powered by machine-learning to support detection of anomalies/recognition of objects of interest; and
- Threat Anticipation: Development of a visual analytics prototype to support representation and manipulation of patterns of life.

Working with CAF operators, DND and the CAF have conducted requirements-gathering analysis to understand the operational use of AI-enabled all-domain command and control systems and identify the key human-performance issues. A use case was developed and utilized to conduct a preliminary human-factors-oriented analysis to identify operator critical decisions, information requirements, mental processing demands, and collaboration requirements. The identified requirements and technologies will inform the detailed requirements and design specifications of a test environment to support research in trust in AI, training, information fusion visualizations and interfaces, explainability of AI, and AI/operator forecast credibility.

As part of modernization, DND and the CAF has begun research to examine Space Low Earth Orbit Architecture – leveraging the explosion of commercial satellite communication constellations in Low Earth Orbit, the vulnerabilities, robustness, resilience, and performance of a Low Earth Orbit mesh communications network. The architecture will be explored as a backbone to evolve the “Space Internet of Things” concept, integrating in other space-based, air-based, land-based and maritime-based platforms as well. A series of small contracts to scope the work are being established to de-risk elements of the call-for-proposals process and prioritize the initiatives being leveraged in the near-term.

DND and the CAF developed and issued innovation calls under the IDEaS innovation program in the areas of:

- [Multi-source data fusion](#); <sup>ciii</sup>
- [Monitoring and securing ground assets in the high north](#); <sup>civ</sup>
- [Persistent Maritime Surveillance](#); <sup>cv</sup> and
- [Deployed camp power and support systems](#). <sup>cvi</sup>

[Operation NANOOK](#), <sup>cvi</sup> which will continue through FY 2024-25, was reduced in scale in order to minimize the risk of exposing vulnerable Northern communities to the COVID-19 pandemic. With regards to supporting our sovereignty in the North, Operation NANOOK activities for FY 2021-22 included a domain presence, surveillance and awareness exercise over Canada's northernmost regions supported by Canadian Rangers; and projecting and sustaining forces in a high Arctic environment in a combined joint security context. Additional information about [Operation NANOOK](#) <sup>cvi</sup> is outlined in this report under “[Departmental Result 2.1 – Canadian Armed Forces are ready to conduct concurrent operations](#)”.

Defence continued advancing interoperability, situational awareness and information-sharing initiatives through NORAD, in collaboration with the United States Northern Command, NATO engagements, the Arctic Security Forces Roundtable, the Arctic Security Working Group and the Arctic Capabilities Advisory Working Group. Specifically, events such as the series of United States Northern Commands' Global Information Dominance Experiments allowed allies such as Canada to explore integration of intelligence

networks, sensors, plans and logistics in order to present a shared, customizable, and near real-time data set providing decision makers with more options to achieve mission outcomes.

The CAF continued to improve its ability to ensure surveillance and control in the Arctic, including through the continued expansion of pan-domain awareness in support of continental defence and NORAD missions through innovative options for northern approaches surveillance. This included, but was not limited to, the renewal of the North Warning System and delivering on the All Domain Situational Awareness Executive Group mandate to deliver on advance means of ensuring Canadian awareness of the Arctic and maritime approaches to Canada. In addition, DND/CAF continued to collaborate with the United States to develop new technologies and capabilities that provide surveillance and detection capabilities against pan-domain threats at a range that allows decision-makers to operate at the speed of relevance;

In support of NORAD modernization, research and development on disparate sensors and a command and control architecture have been initiated in collaboration with our United States research and development partners. This includes:

- Non-traditional sensing techniques for modeling and simulation;
- A technical project arrangement with Natural Resources Canada to implement power and energy solutions for classified Arctic sensors specifically (the generic mechanical design is complete);
- Enabling information sharing in potential future United States-Canada agreements for classified projects in support of NORAD;
- Design improvements for maritime prototype technology for distributed sensor network technologies; and
- Creation of binational working groups for infrastructure revitalization and work on anti-submarine warfare.
- Successful interdepartmental negotiations for future land use for Arctic Over The Horizon Radar experimental array;
- Continued work on auroral clutter algorithms that will be included in modeling software used by NORAD;
- Development of a specialty lab at the Valcartier Research Centre in Québec, to demonstrate advanced pan-domain Command and Control and battle management tied to data ingest and fusion, threat evaluation, and threat anticipation which will allow DND/CAF to leverage visual analytics prototypes and automation for recognition of objects of interest; and
- Worked with CAF operators to understand operation use of Artificial Intelligence (AI) enabled Command and Control and key human performance issues.

Defence continued to increase its familiarity with, and situational awareness of, Arctic activities and carry out successful CAF operations in harsh operating environments, including through [Operation LIMPID](#)<sup>cix</sup>, [Operation LENTUS](#)<sup>cx</sup> and [Operation NANOOK](#)<sup>cx</sup>;

Work and consultations continued with Northern Indigenous communities related to contracting, procurement and socio-economic support:

- The Arctic Security Working Group (ASWG) is co-chaired by the Commander Joint Task Force North (JTFN) and territorial partners to enhance the safety and security of Canada's North through information-sharing and cooperation among federal and territorial government departments and agencies. The ASWG also facilitates planning with our local partners and provides a forum to address issues and foster cooperation. The Community and Indigenous Engagement Working Group is a subgroup of ASWG dedicated to increasing Indigenous participation. Since 2020, Indigenous and community participation has increased more than fourfold, mostly due to the use of virtual platforms;

- Defence continually enabled existing contracting provisions which encourage Indigenous business support for CAF operations. Procurement and contracting was done with maximum effort to consult and work with Northern Indigenous communities when opportunities for contracting arise. All DND/CAF organizations operating within the JTFN area of operations performed contracting and procurement through detailed consultation at various levels and in accordance with Comprehensive Land Claims Agreements (CLCAs). In total, JTFN spent \$2.99 million in contracts, procurement and services in support of Northern operations and activities in FY 2021-22; and
- [Defence awarded a \\$592 million contract to Nasittuq Corporation](#),<sup>cxii</sup> an Inuit-owned company, for the operation and maintenance of the North Warning System.

The CAF Arctic Training Centre in Resolute Bay, Nunavut, continued to be a primary hub for the CAF and federal and territorial whole-of-government elements in the High Arctic region. Strategically located to provide optimal support for land and air forces working in the Joint Task Force North Area of Operations, the Centre also provided support for training, such as the delivery of courses for CAF SAR, and CAF Survival Aircrew Training and the Canadian Army's Arctic Operations Advisor course. The Centre worked collaboratively with the Polar Continental Shelf Program, which is part of Natural Resources Canada, in order to facilitate both individual and collective training events. Operation NANOOK-NUNAKPUT, a Joint Task Force North exercise that integrated elements from the Canadian Army, the Royal Canadian Air Force, and the Royal Canadian Navy, was supported during the summer of 2021.

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### Operation NANOOK-NUNALIVUT



Canadian Rangers, Master Corporal Derek Panaktalok (left), Corporal Sam Pingo (centre), Master Corporal Emmanuel Adam (right), work with the Land Task Force during the presence patrol as part of Operation NANOOK-NUNALIVUT 22 on February 22, 2022.

Photo: Master Corporal Jax Kennedy, Joint Task Force (North), CAF photo.

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## Results achieved

Departmental results	Performance indicators	Target	Date to achieve target	2019–20 Actual results	2020–21 Actual results	2021–22 Actual results
1.3 Canada's Arctic sovereignty is preserved and safeguarded	% of Arctic operations and exercises that meet stated objectives	100%	31 March 2022	100%	95%	95%*

Notes:

\* The CAF conducts several operations that contribute to the security of Canada; Operations LENTUS, VECTOR, LASER, LIMPID, NANOOK, NEVUS, BOXTOP. All operations achieved their stated objectives as written in their respective operational orders (OPORDs). The score has been adjusted by five percent to account for planning and execution frictions that cannot be captured in assessment plan and associated reports. Capability requirements, resources and interoperability continue to require refinement from all parties involved.

Financial, human resources and performance information for the Department of National Defence and the Canadian Armed Forces' Program Inventory is available in the [GC InfoBase](#).<sup>cxiii</sup>

### Departmental Result 1.4 – North America is defended against threats and attacks

The CAF continued to position itself to employ conventional and special operations capabilities and collaborate with allies, regional partners and other Canadian government departments and agencies to deter, detect, confront and defeat pan-regional threats to North America from nation states and violent extremist organizations. The CAF continued the following activities:

- The Canadian Special Operations Forces Command remained postured to defend North America against threats and attacks through:
  - Maintaining strong relationships with allies, interagency partners and the Global Special Operations Force Network;
  - Conducting capacity-building through bilateral and multinational forums, and multinational training activities to address trans-regional threats at the source; and
  - Coordinating contributions to multinational and interagency coalitions.
- Through the [NORAD](#)<sup>cxiv</sup> Agreement and Terms of Reference, the CAF conducted binational maritime and aerospace warning and aerospace control activities to protect and respond to threats against North America. Maritime and aerospace warning missions involved the monitoring of aerospace and maritime activity from a continental perspective while maintaining — when authorized — awareness in the land, space, cyber and information domains to detect and characterize threats against Canada or the United States. Throughout FY 2021-22, one key activity included:
  - Operation NOBLE EAGLE: NORAD supported Canadian and United States government departments, agencies, and partners to defend the airspace of Canada and the United States from airborne threats. In collaboration with DND allies and civilian partners, including the Royal Canadian Mounted Police and Transport Canada, the CAF remained prepared to respond to all forms of aerial threats to Canada and the United States. Together with our American partners, NORAD employed a mix of Canadian CF-18 Hornets, American F-22 Raptors, F-15 Eagles, F-16 Falcons and E-3 Sentry Airborne Early Warning aircraft together with ground radars of the North Warning System and Regions and Air Defence Sectors personnel to help to detect, deter, and control North American airspace from asymmetric and symmetric threats. NORAD maintained readiness by conducting a number of exercises and evaluations to practise the binational and interagency coordination procedures required to act clearly and decisively in a crisis.
- Through a layered and integrated system of surveillance platforms and Command and Control systems, NORAD gathered, processed, assessed, and disseminated intelligence and information related to human-made objects in the air, space, and maritime domains along the approaches to



North America. This enabled the development of a comprehensive shared understanding of air, space, and maritime activities to better identify potential threats to North American security, and provide Canadian and American leadership teams' with decision space to consider response options.

**Operation CARIBBE:**<sup>cxv</sup> The CAF supported United States-led efforts to counter the flow of illegal narcotics into North America by interdicting drug trafficking activities in the Caribbean and Central America. The CAF contributed five Maritime Coastal Defence Vessel deployments for a total of 21 weeks of vessel time in the region; Her Majesty's Canadian Ship (HMCS) *Harry DeWolf*, Canada's first Arctic Offshore Patrol Vessel, for seven weeks; a CP-140 Maritime Patrol Aircraft for two weeks; and an AN/TPS-70 radar for four months. These forces worked in co-operation with our allies to counter transnational criminal organizations operating in the region and contributed to the disruption or seizure of approximately 14 820 kilograms (approximately 32 670 pounds) of cocaine. The assessed wholesale value of these drugs is US\$622.4 million. In total since the commencement of Operation CARIBBE 2006, the CAF has contributed to the disruption or seizure of more than 112 000 kilograms (approximately 246 918 pounds) of cocaine.

More details on *Strong, Secure, Engaged* initiatives can be found in [Strong, Secure, Engaged: Canada's Defence Policy](#).<sup>cxvi</sup>

## Results achieved

Departmental results	Performance indicators	Target	Date to achieve target	2019–20 Actual results	2020–21 Actual results	2021–22 Actual results
1.4 North America is defended against threats and attacks	% of continental operations that meet stated objectives	100%	31 March 2022	100%	95%	92%*
	% of Canada's commitments and obligations to the North American Aerospace Defense Command agreement that are met	100%	31 March 2022	100%	100%	100%**
	Extent to which the Canadian Armed Forces is effective in continental operations	The Canadian Armed Forces is effective in the conduct of continental operations	31 March 2022	This is a qualitative indicator	This is a qualitative indicator	This is a qualitative indicator***

Notes:

\* North America is defended against threats and attacks to the continent (from a CAF perspective) through participation in NORAD and through Operation CARIBBE. Ten of 11 NORAD operations were executed and achieved objectives. The one not executed was an exercise that could not occur due to a lack of available aircraft. Operation CARIBBE achieved all operational objectives.

\*\* The CAF's ability to meet its North American Aerospace Defense Command (NORAD) commitments is determined by examining a number of factors, including: personnel assigned to the NORAD mission, and the Canadian NORAD Regions ability to maintain an appropriate readiness level. NORAD continued to work on developing data-centric performance metrics.

\*\*\* Overall the CAF is effective in its execution of continental operations. Resource and modernization challenges remain extant, further planning, and coordination remain a primary focus of the CAF in support of NORAD.

Financial, human resources and performance information for the Department of National Defence and the Canadian Armed Forces' Program Inventory is available in the [GC InfoBase](#).<sup>cxvii</sup>

## Departmental Result 1.5 – Canadian Armed Forces contribute to a more stable and peaceful world

The CAF is fostering a more stable and peaceful world by supporting NATO, developing the defence and security capabilities of partner forces, operating in maritime environments, and contributing to peace support operations and peacekeeping. Specifically, the CAF conducted the following operations:

- In 2018, Canada made a commitment to rejoin the NATO Airborne Early Warning and Control Force by committing to posting a total of 25 CAF members to the E-3A Component in Geilenkirchen, Germany, by 2023. By FY 2021-22, 17 CAF members had rejoined the Component. FY 2022-23 will see an additional four personnel arrive, with the final four scheduled for Active Posting Season 2023. Canadians are carrying out both operational and support roles as part of this force and regularly participate in NATO training, exercises and operations. These activities, which will continue in FY 2022-23, promote global peace and security across Europe and North America;
- In addition to contributing to coalitions through named operations, the CAF continued to develop and expand its intelligence networks abroad to facilitate the rapid and timely exchange of information and intelligence with our allies, and partners. In conjunction with our NATO partners and Five Eyes allies, the CAF continued leveraging technologies such as Artificial Intelligence (AI), and tools such as open source intelligence;
- **Operation REASSURANCE:**<sup>cxviii</sup> The CAF supported NATO assurance and deterrence measures by leading NATO's multinational enhanced Forward Presence Battle Group in Latvia. The CAF led one of the Standing NATO Maritime Groups and contributed vessels with embarked helicopters on an ongoing basis. The CAF also supported NATO enhanced air policing in Romania with an Air Task Force of 150 personnel and six CF-18s on a rotational non-permanent basis. These measures reinforce NATO's collective defence and demonstrate allied solidarity. Like many NATO Allies, the CAF's support to this mission recently increased in scope, number of personnel and infrastructure as a result of Russia's illegal invasion of Ukraine;
- **Operation KOBOLD:**<sup>cxix</sup> The CAF supported NATO's Kosovo Force by providing logistical and headquarters staff to the mission. The Task Force Commander for Canada's mission also serves as the Chief of Kosovo Force's Joint Logistics Operation Center;
- **Operation ARTEMIS:**<sup>cxx</sup> The CAF participated in the Combined Maritime Forces naval coalition of 34 nations which promoted security and stability in waters surrounding the Middle East and East Africa – by maintaining a small permanent presence within Combined Maritime Forces Headquarters and providing staff to lead the Combined Task Force 150, which disrupts terrorist groups by interdicting their efforts to generate funds through smuggling. The CAF also contributed a frigate with an embarked helicopter for eight weeks, a CP-140 maritime patrol aircraft for four weeks, and intelligence collected using space-based assets. The CAF's frigate conducted boardings of suspected vessels, which ultimately resulted in the seizure of \$114 million United States dollars in illegal narcotics;
- **Operation IMPACT:**<sup>cxxi</sup> The CAF contributed to a whole-of-government approach to security, stabilization, humanitarian and development assistance in response to the crises in Iraq and Syria and their impact on Jordan and Lebanon. In FY 2021-22, the approximately 350 personnel deployed on Operation IMPACT achieved the following:
  - Supported NATO Mission Iraq efforts to advance Iraqi ministerial and institutional reform, including enhancing the Iraqi Armed Forces' self-sustainability and providing ongoing support to assist with reforming its professional military education system;
  - Supported United States-led efforts to counter Daesh and undertake capacity-building activities including training, advising, and assisting Iraqi Security Force partners in combating Daesh insurgent networks, performing intelligence gathering and sharing and providing support to humanitarian efforts in Iraq and Syria;
  - Supported the Jordanian and Lebanese Armed Forces by training 734 members of the Lebanese Armed Forces and 110 members of the Royal Jordanian Armed Forces on a range of activities, including first aid;
  - Assisted efforts to modernize Jordanian and Lebanese Armed Forces' logistics systems and helped advance Canada's Women, Peace and Security initiative by hosting gender integration seminars in Iraq and Jordan and training Jordanian female engagement teams. **The Dallaire Centre of Excellence for Peace and Security**<sup>cxxii</sup> supported this effort by

- developing and delivering a "Gender Considerations in Operations" Train the Trainer session to Iraqi Military and Ministry of Defence educators in support of NATO Mission Iraq efforts;
- Coordinated the donation of over \$13 million of equipment and infrastructure to Canada's regional military partners through Global Affairs Canada's Vote 10 Security Programs, including procuring radios and overseeing the construction of a watch tower to support Jordan's efforts to secure its border with Syria; and
  - Employed two CC-130 Hercules aircraft, which flew 2444 hours while transporting 1 649 865 pounds (approximately 748 366 kilograms) of equipment and 18 100 personnel for the CAF and our allies.
- **Operation CALUMET:**<sup>cxixiii</sup> The CAF supported the Multinational Force and Observers (MFO) with 55 personnel, who fulfilled a variety of staff and support functions. MFO is a peacekeeping alliance that employs personnel from 13 nations in the Sinai Peninsula to verify the Israeli-Egyptian peace treaty. While the COVID-19 pandemic restrictions impacted MFO's ground surveillance posture, the force still conducted numerous ground and air missions over the past year.
  - The CAF supported capacity-building in a number of operations:
    - **Operation UNIFIER:**<sup>cxixiv</sup> Prior to ceasing training efforts in Ukraine in January 2022, 9254 Ukrainian military personnel were trained through 216 Canadian-delivered training events and supported Ukrainian defence institutional reform efforts. These personnel join the 33 789 personnel DND/CAF has trained since the mission started in September 2015. Canada's efforts through this mission supported the Government of Ukraine's efforts to foster western alignment and structural reform in their country. While the personnel trained by the CAF over the past seven years represent a portion of the overall Ukrainian forces combatting Russia's invasion, the training delivered by Canada, the United States, United Kingdom and other like-minded nations enabled Ukraine's adoption and employment of successful tactics. Although DND/CAF efforts to train the Security Forces of Ukraine were suspended as a result of Russia's illegal invasion of Ukraine, the CAF continued to support Ukraine by participating in NATO cyber and information activities and transporting approximately 1 265 525 kilograms (approximately 2 790 000 pounds) of lethal and non-lethal aid provided by Canada and its NATO Allies on 45 CC-130 Hercules Aircraft flights, 10 CC-177 Globemaster Aircraft flights, and five chartered flights.

## Operation UNIFIER



A Canadian soldier distributes poppies to Ukrainian soldiers for the upcoming Remembrance Day ceremony, in Desna, Ukraine, October 29, 2021.

Photo: Lieutenant Nicolas Plourde-Fleury, Canadian Armed Forces photo.

- **Operation ACKEE:** Collaborated with Global Affairs Canada, to mentor and create opportunities for the Jamaica Defence Force to grow as a Special Operations Forces leader. This enables the Jamaica Defence Force to more effectively combat trans-regional threats in the Caribbean Basin. Other regional partners included Belize, the Bahamas, Barbados, Trinidad and Tobago, Suriname and Guyana. Activities included participation in Exercise TROPICAL DAGGER 2021 and the Initial Planning Conference for Exercise TROPICAL DAGGER 2022;
- **Operation NABERIUS:**<sup>cxxv</sup> Collaborated with Global Affairs Canada, to train, mentor and enable Nigerien Military and Security Forces to address terrorism within Niger and regionally as part of pan-Sahel and pan-African efforts. This collaboration also set the conditions for the partner force participation in the regional coalition Exercise FLINTLOCK; and
- **Operation PROTEUS:**<sup>cxxvi</sup> As part of the United States Security Coordinator mission, 22 CAF members, a Canadian Border Services Agency member, and three Canadian police officers contributed to the Middle East Peace Process by supporting Palestinian security sector reform and facilitating Palestinian-Israeli security cooperation. This included leading the United States Security Coordinator mission's efforts to address the Palestinian Authority Security Forces' logistics, communications and human resources capability shortfalls.
- The CAF supported the United Nations' efforts to advance global stability by participating in various peacekeeping missions and supporting efforts to enforce United Nations Security Council sanctions. These efforts demonstrated Canada's continued support of the United Nations and allowed Canada to contribute to security and stability:
  - **Operation PRESENCE**<sup>cxxvii</sup> (UGANDA): The CAF deployed a CC-130J Hercules aircraft as part of a Tactical Airlift Detachment to the United Nations Regional Service Centre Entebbe, Uganda, for 12 weeks (broken over four iterations) to assist the United Nations Organization Stabilization Mission in the Democratic Republic of the Congo and the United Nations Mission in South Sudan periodically throughout the year. These deployments supported the

United Nations by transporting approximately 409 595 kilograms (approximately 903 000 pounds) of equipment and 1215 personnel during 50 sorties;

- **Operation PRESENCE<sup>cxxviii</sup>** (MALI): The CAF supported the United Nations Multidimensional Integrated Stabilization Mission in Mali with seven personnel, who serve as Military Staff Officers within HQ MINUSMA or as translators with a United Kingdom Long Range Reconnaissance Group;
- **Operation PRESENCE<sup>cxxix</sup>** (Training Support to Peace Operations): The CAF deployed nine Civil-Military Cooperation experts to deliver Engagement Platoon training to Rwandan and other partner forces. These training sessions enhanced the situational awareness of the United Nations infantry battalions by mapping the demography of the area of operations in order to identify vulnerable areas and at-risk populations;
- **Operation SOPRANO<sup>cxxx</sup>** Nine CAF officers were deployed on this mission, which supports United Nations military planning and logistics activities in the Republic of South Sudan;
- **Operation CROCODILE<sup>cxxxi</sup>** The CAF supported the United Nations Organization Stabilization Mission in the Democratic Republic of the Congo by contributing nine staff officers to the mission;
- The CAF also employed eight staff officers with United Nations Command Korea, who help enforce the Korean War armistice agreement and serve as an enabler for security and stability on the Korean peninsula;
- **Operation JADE<sup>cxxxii</sup>** Five CAF members supported the United Nations Truce Supervision Organization. One of these personnel was employed in Jerusalem and the remainder served as military observers in the Golan Heights and Lebanon. The CAF has supported this operation, which is Canada's longest-running overseas commitment, since 1954;
- **Operation SNOWGOOSE<sup>cxxxiii</sup>** The CAF contributed one staff officer to the United Nations Peacekeeping Force in Cyprus, which Canada has participated in since 1964; and
- **Operation PRESENCE<sup>cxxxiv</sup>** (ELSIE): The CAF continued to support training for peace operations and United Nations operations, including through the Elsie Initiative for Women in Peace Operations. The **Elsie Initiative's<sup>cxxxv</sup>** framework consists of a number of components, including bilateral partnerships, a global fund, political advocacy, and research, monitoring and evaluation. This is a Global Affairs Canada-led whole-of-government initiative that includes bilateral training assistance to identified partner countries that contribute troops and police. Ghana is the bilateral partner for military training assistance, and Zambia is the bilateral partner for police training assistance. An operational reconnaissance completed in November 2021 confirmed the type of training for the future deployment of the Canadian Training and Assistance Team to Ghana.
- All mission activities undertaken by the CAF continue to incorporate the principles of United Nations Security Council Resolution 1325 and Gender Based Analysis Plus by considering and applying gender perspectives throughout all phases of the operation;
- During a virtual event on February 8, 2022, the Chief of the Defence Staff handed over the Chair Position for the Women, Peace and Security Chiefs of Defence Network to Bangladesh. Canada also developed and delivered fully curated training packages to deepen and broaden military members' knowledge of key Women, Peace and Security-related issues and collaborated with the United Kingdom to revive the Women, Peace and Security Chiefs of Defence webpage as a virtual platform to foster information-sharing among members;
- The CAF operated in the global maritime environment:
  - **Operation PROJECTION<sup>cxxxvi</sup>** (West Africa): The CAF deployed two Maritime Coastal Defence vessels and 88 personnel to the Gulf of Guinea for eight weeks to support regional maritime capacity-building efforts; and



- **Operation NEON:**<sup>cxvii</sup> The CAF employed three staff officers within the US Navy 7<sup>th</sup> Fleet's Enforcement Coordination Cell, and deployed a frigate, with its embarked helicopter, for eight weeks, and a CP-140 Maritime Patrol Aircraft for six weeks to the East China and Yellow Seas to support the implementation of United Nations Security Council sanctions against North Korea. The frigate and aircraft successfully collected evidence of 34 illicit ship-to-ship fuel transfers to North Korean vessels. This evidence was passed to the United Nations via Global Affairs Canada so that the transfers could be addressed diplomatically. This operation involved maintaining a presence in the Indo-Pacific region supporting regional peace and security, while helping build and maintain relationships with Canada's allies and regional partners, including Japan and South Korea.
- In addition to directly participating in United Nations peacekeeping and sanctions enforcement missions, the CAF undertook a number of efforts in support of the United Nations to deliver upon the "smart pledges" the Government of Canada made during the 2017 United Nations Peacekeeping Defence Ministerial conference. During FY 2021-22, these activities included the following:
  - **Operation PROJECTION (Indo-Pacific):**<sup>cxviii</sup> The CAF deployed frigates, with their embarked helicopters, on two separate occasions to the South China Sea region for a total of 19 weeks operating in the region. These vessels undertook numerous bilateral engagements with regional partners, including **Association of Southeast Asian Nations**<sup>cxix</sup> (ASEAN) member nations, through port visits and naval exercises. During these deployments, the vessels participated in cooperative deployments with Carrier Strike Groups from the United States, United Kingdom and Australia, and travelled through the Spratly Islands twice and the Taiwan Strait once;
  - **Operation FREQUENCE:**<sup>cxl</sup> The CAF supported the French-led counterterror efforts in the Sahel of West Africa by transporting personnel, vehicles and materiel between France and Mali. The CAF supported France with 106 CC-177 Globemaster flight hours over five iterations. These flights transported a total of 499 800 pounds (approximately 226 705 kilograms) of cargo, including 48 vehicles and two helicopters;
  - **Operation FOUNDATION:**<sup>cxli</sup> The CAF employed staff officers in United States Air Force Central's Combined Air Operations Centre Headquarters, in Qatar, and its Air Defence Sector Headquarters, located in the United States. These personnel fulfill duties related to the planning and control of the airspace over the Middle East;
  - **Operation AEGIS:**<sup>cxlii</sup> The CAF worked with like-minded nations to evacuate people from Afghanistan before 31 August 2021. This operation involved the short notice deployment of 305 personnel and three CC-177 Globemaster aircraft to the Middle East. The CAF successfully evacuated 2748 people from Afghanistan;
  - **Operation RENDER SAFE:**<sup>cxliii</sup> The CAF did not participate during FY 2021-22 at Australia's request after a reconnaissance of the work site revealed that the task was manageable without additional assistance from Canada. Discussions to include CAF participation in the next iteration are ongoing; and
  - **Operation OPEN SPIRIT:**<sup>cxliv</sup> Due to unforeseen logistics and administrative challenges, the CAF did not participate in OPEN SPIRIT during FY 2021-22.

DND/CAF supported Global Affairs Canada in its efforts to promote norms of responsible behaviour in both cyberspace and space, DND/CAF works closely with Five Eyes and NATO Allies to maintain interoperability in cyberspace, and in support of that, Canada committed its sovereign cyber effects to NATO on a voluntary basis.

DND/CAF worked with France, Germany and its Five Eye partners, within the Combined Space Operations Initiative to publish Vision 2031, a document which articulates key principles and objectives, including fostering responsible military behaviours in space.



Through Artificial Intelligence (AI) policy work, DND/CAF worked with allies, partners and other militaries. This will help Canada to maintain technological advantage, ensure interoperability with key partners and help keep pace with potential adversaries. Canada worked closely with NATO partners to advance policy work on emerging technologies for defence. Specifically, Canada has contributed to developing a NATO policy framework and implementation plan for emerging and disruptive technologies, which will help to ensure allied interoperability.

The Defence Intelligence Enterprise, which encompasses intelligence capabilities in the sea, land, air, space and cyber domains, enhanced its capacity to anticipate global threats through a centralized, CAF-wide process to manage intelligence requirements management (questions) and collection management (assets that will be tasked to answer those questions). In addition, the foundation was put in place for the development of an integrated strategic (worldwide) and operational level (specific to a theatre of operations) Joint Intelligence Operations Centre, which will act as the hub to promptly integrate and disseminate the knowledge gathered, enabling sound decision-making by the CAF and government officials. These initiatives will significantly improve the Defence Intelligence Enterprise and reinforce our position as a credible ally, that is able to better detect and anticipate threats to Canada and its allies.

### Operation IMPACT



Members of Operation IMPACT Roto 5, Tranche 1, Chalk 2 arrive at Ali Al Salem Air Base, Kuwait, on June 2, 2021.

### Results achieved

Departmental results	Performance indicators	Target	Date to achieve target	2019–20 Actual results	2020–21 Actual results	2021–22 Actual results
1.5 Canadian Armed Forces contribute to a more stable and peaceful world	% of international operations that meet stated objectives	100%	31 March 2022	98%	95%	94%*
	Extent to which the Canadian Armed Forces is effective in international operations	The Canadian Armed Forces is effective in the conduct of international operations	31 March 2022	This is a qualitative indicator	This is a qualitative indicator	This is a qualitative indicator**

Notes:

\* This result is based on the number of Measures of Performance in pursuit of operational objectives achieved by each deployed operation, with each operation weighted. Of note, evaluation of Operation UNIFIER was conducted as of the situation at 31 December 2021 due to the rapid changes to the

operation associated with the Russian invasion of Ukraine in February 2022. The score has been adjusted by 5 percent to account for planning and execution frictions that cannot be captured in assessment plan and associated reports.

\*\* The Canadian Armed Forces continued to provide effects across the globe, enabling coalition and partner capacity-building at the tactical, operational and strategic levels. Work to synchronize assets and effects includes the capability to generate targeted effects within the information domain and integrating cyber enabled effects in CAF-led operations.

Financial, human resources and performance information for the Department of National Defence and the Canadian Armed Forces' Program Inventory is available in the [GC InfoBase](#).<sup>cxlv</sup>

### Budgetary financial resources (dollars)

The following table shows, for Operations, budgetary spending for FY 2021–22, as well as actual spending for that year.

2021–22 Main Estimates	2021–22 Planned spending	2021–22 Total authorities available for use	2021–22 Actual spending (authorities used)	2021–22 Difference (actual spending minus planned spending)
684,095,922	684,095,922	1,145,088,933	915,502,440	231,406,518

### Human resources (full-time equivalents)

The following table shows, in full-time equivalents, the human resources the department needed to fulfill this core responsibility for FY 2021–22.

2021–22 Planned full-time equivalents	2021–22 Actual full-time equivalents	2021–22 Difference (actual full-time equivalents minus planned full-time equivalents)
3,078	2,103	(975)

Financial, human resources and performance information for the Department of National Defence and the Canadian Armed Forces' Program Inventory is available in the [GC InfoBase](#).<sup>cxlvi</sup>

## Ready Forces

### Description

Field combat ready forces able to succeed in an unpredictable and complex security environment in the conduct of concurrent operations associated with all mandated missions.

### Results

Our success in achieving the missions assigned by the Government of Canada is directly related to our ability to provide first-class training and capabilities to our Canadian Armed Forces (CAF) members.

Readiness begins with the issuance of the Chief of the Defence Staff Directive for CAF Force Posture and Readiness (FP&R). This is the mechanism by which the Chief of the Defence Staff directs the CAF to staff, organize, train, and equip its forces to be ready to respond to Government of Canada direction and execute concurrent operations as outlined in [Strong, Secure, Engaged: Canada's Defence Policy](#).<sup>cxlvii</sup>

The FP&R framework directs the readiness and related reporting requirements of the Force Elements that are the essential building blocks for Force Employment on all missions and operations. It also underwrites and supports Chief of the Defence Staff military advice to the Government of Canada and contributes to coherent defence business planning, and future force development. FP&R direction ensures that Force Elements (organizational entities consisting of personnel, equipment, and sustainment components which can be force generated and assigned to operational tasks) are generated in accordance with established readiness levels. Readiness levels are managed and achieved in accordance with the Environmental Commands' Managed Readiness Plans through personnel management, individual training (training of individual CAF members), collective training (training teams to work together), validation events (assessments), management of equipment, and sustainment planning. Together, this provides the CAF with the flexibility to respond to the various SSE Core Missions, which include defence diplomacy, assistance to other government departments and agencies in support of domestic defence and security, provision of humanitarian assistance and disaster relief, peace support operations, security forces capacity-building, and combat operations.

Both the strength and readiness of the CAF have been negatively impacted by the COVID-19 pandemic which has aggravated pre-existing shortfalls in the CAF strategic intake of new members, the ability to deliver professional and collective training, the procurement of required equipment, the availability of health services and other sustainment functions. To address these pressures, the CAF is embarking on a concentrated period of reconstitution, focused on growing the CAF through recruitment, modernizing the military personnel management system as a means to better manage CAF career paths and retain the valuable knowledge, expertise, and skill-sets of current members, as well as ensuring that preparations to ready our forces are prioritized to deliver the strategic effects and operational outputs expected by the Government of Canada.

The CAF's managed readiness programs are organized to ensure that Force Elements are trained and adequately equipped as scalable, agile, responsive, and interoperable forces both domestically, collaborating with civil authorities and other government departments, and internationally with allies and partners.

The CAF conducted a majority of the activities in the Joint Managed Readiness Program. The Joint Managed Readiness Program ensures that different elements of the CAF are ready to conduct complex operations in contested, degraded, and operationally limited environments through participation in, and execution of, Canadian and international exercises and training events. Many planned exercises were reduced or cancelled due to the COVID-19 pandemic restrictions on travel and gathering, and there were also host-nation cancellations. Nevertheless, certain key training activities with our allies and partners were carried out successfully in support of the CAF's readiness to operate in the Arctic, conduct continental defence, and reinforce transatlantic collective defence and deterrence.

The CAF regularly conducted exercises through NORAD, covering a range of scenarios to ensure that the CAF is ready to respond to a variety of threats in collaboration with the United States. In FY 2021–22, the CAF participated in Exercise AMALGAM DART 21-1, a peacetime-to-wartime simulation intended to exercise aerospace warning and control capabilities, as well as Exercise VIGILANT SHIELD, an annual

homeland defence exercise demonstrating the readiness and the ability to defend Canada and the United States by responding to a wide variety of security contingencies.

Through NORAD, the CAF also conducted exercises based on scenarios ranging from airspace restriction violations to responses to unknown aircraft. These exercises provided the opportunity to develop the skills required to ensure the interoperability between Canadian and United States NORAD-assigned aircraft. To enhance NORAD's ability to operate in the Arctic, a range of CAF and United States Air Force aircraft conducted exercise flights over sparsely populated Arctic areas and operated from forward operating locations in Canada's Arctic, given their proximity to the northern borders of Canadian airspace.

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#### **Exercise AMALGAM DART 21-1**



A Royal Canadian Air Force CF-18 fighter from the 433 Tactical Fighter Squadron, 3 Wing Bagotville, Québec, United States Air Force F-16 fighters from 140<sup>th</sup> Wing, Colorado Air National Guard, United States, and a Royal Canadian Air Force CP-140 Long Range Patrol aircraft from 14 Wing Greenwood, Nova Scotia conduct a mission over the northeast corner of Newfoundland and Labrador during Exercise AMALGAM DART on June 14, 2021.

Photo: Canadian NORAD Region.

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#### **Gender-Based Analysis plus (GBA Plus)**

Defence continued to integrate GBA Plus through all aspects of daily activities. At Strategic Joint Staff, the creation of a Diversity and Inclusion Officer, the establishment of an internal website, and creation of monthly newsletters on emerging trends kept Strategic Joint Staff members fully committed to the education and implementation of GBA Plus initiatives and directives. As well, program analysis, integration, evaluation, and application of best practices were all incorporated into strategic plans development, which enabled more inclusive and more enduring systemic GBA Plus effects to be felt.

The department continued to integrate GBA Plus in its future force design, including multiple lines of effort, such as Objective Force 2030, the Defence Team Establishment Plan, and Force Mix and Structure Design, as well as in the development of decision-making products intended for senior leaders within the CAF/DND.

The CAF continued to leverage education opportunities provided by the Nordic Centre for Gender in Military Operations, the North Atlantic Treaty Organization (NATO) department head for gender discipline,

training CAF members as NATO-certified Gender Advisors and Gender Focal Points for operational deployment.

DND/CAF has continued to make progress in the development and delivery of GBA Plus–related training by increasing the number of experts available to support the internal organizations, develop tools, provide relevant data sources, and share examples of past related analysis. Progress was affected by the COVID-19 pandemic as a result of the Public Health Measures limiting in-person learning, and the Defence Team is now using virtual tools to deliver training and assistance. DND/CAF continued to work with partners and allies to exchange best practices and lessons observed to increase capacity and expertise.

Extensive training has been developed to raise awareness of responsibilities regarding the Women, Peace and Security agenda and gender equality. All deploying personnel are required to complete GBA Plus online training. Additionally, employment equity courses, the prevention and response to Sexual Exploitation and Abuse, Children in Armed Conflict and Conflict Related Sexual Violence training is undertaken when applicable to operational deployment.

The Canadian Army developed training and provided instructors to enable peacekeeping units in United Nations missions to better understand the human dimension of their operating environments through engagement with a more diverse range of community members where the United Nations operates. In FY 2021–22, the Canadian Army's Peace Support and Training Centre was involved in the Force Generation of a Task Force which lead [United Nations Engagement Platoon](#)<sup>cxlviii</sup> training development and delivery of a proof-of-concept course in Rwanda, as well as training validation support to Operation PRESENCE in Entebbe, Uganda. The Task Force, like the United Nations Engagement Platoon themselves, are generated with gender parity in mind and consists of at least 50 percent women.

In FY 2021–22, the Royal Canadian Navy (RCN) established the Diversity and Inclusion Command Advisory Team network within the Naval Reserve to advise and facilitate discussions on how the Naval Reserve and unit-level orders impact different intersecting identity factors. The RCN provided support to parents by ensuring access to pumping and/or nursing stations across the RCN, including Naval Reserve Divisions. In addition, the RCN initiated discussions for the drafting of guidance to ship's Command Teams on making accommodations at sea for the LGBTQQIP2SAA (lesbian, gay, bisexual, transgender, queer, questioning, intersex, pansexual, two-spirit, androgynous, and asexual) community. The RCN also facilitated the implementation of Canadian Forces General Message Support for members pumping breast milk and/or nursing across the RCN, including Naval Reserve Divisions. Further, the RCN initiated discussions for the drafting of operational guidance to provide ship's Command Teams to facilitate pumping and storing breast milk at sea when a ship's schedule and mission permits.

The Royal Canadian Air Force (RCAF) released an RCAF Professional Conduct Action Plan and overhauled governance structures to improve oversight for management of professional conduct and culture incidents. This included the creation of the RCAF Professional Conduct and Culture Team to synchronize the RCAF initiatives in pursuit of cultural reform and to organize and report on activities mandated by current legislation including GBA Plus, as well as the establishment of professional conduct and culture officers at each RCAF base. These positions will create the necessary focus within the RCAF to facilitate improved implementation of GBA Plus within the RCAF. Further, to better inculcate a culture of inclusivity, the RCAF training authority completed development of a new Performance Objective 404: "Establish a positive unit culture." This new performance objective has been added to the Qualification Standard for all RCAF professional development courses.

More information on GBA Plus governance structures, human resources, and key impacts can be found in the "GBA Plus Supplementary Information Table" in the [Supplementary Information Tables](#) section of this report.

## Experimentation

The Canadian Joint Warfare Centre (CJWC) continued to serve as national lead and coordination office for the Joint Arctic Experimentation series, the United States Joint Staff led Bold Quest series, and the Coalition Warrior Interoperability eXperiment. The three initiatives supported by the CJWC all required adjustments in response to the COVID-19 pandemic that restricted travel to experiment venues. The Joint

Arctic Experiment conducted experiments from Canadian locations investigating heat loss from Arctic shelters, cold-weather injuries, aircrew life support equipment for cold-weather operation, and space-based sensing of targets in the Arctic environment. The Responsive Limited Experiment – Sitaware demonstrated that the configuration tested would require additional work to ensure that minimum operational requirements in the All Domain Environment could be met. The intended joint intelligence, surveillance, and reconnaissance data fusion experiment could not be matured sufficiently, due to the COVID-19 pandemic response travel and workplace restrictions.

Additional Defence-related experimentation activities are outlined in this report under [Core Responsibility 4 – Future Force Design](#).

## Key Corporate Risk(s)

There are many risks associated with the Ready Forces Core Responsibility, including one of the Key Corporate Risks explained below. Based on rapidly changing circumstances during the year affecting recruiting and retention, other risks related to personnel capacity are also being explored by the Department in connection with Ready Forces in future assessments.

**Materiel Maintenance** – There is a risk that DND/CAF may have difficulty maintaining its materiel capabilities at the right level to support operations.

The above risk can affect the department's ability to achieve the Departmental Results of the Ready Forces Core Responsibility.

Because the Defence Departmental Results Framework reflects a chain of delivery from conceiving of the required armed forces, to developing them and then executing operations, the activities to mitigate the risks to the Ready Forces Core Responsibility can also be found in other core responsibilities that deliver building blocks that enable the results of Ready Forces.

Many of the preventative and mitigating controls for this risk are articulated as activities of each Departmental Result below.

## Departmental Result 2.1 – Canadian Armed Forces are ready to conduct concurrent operations

While working through critical shortfalls in military personnel strength, the CAF continued to generate and sustain high-readiness naval, land, air, space, cyber, and special operations forces and joint capabilities to meet Force Posture and Readiness levels directed by the Chief of the Defence Staff and the concurrent mission requirements of *Strong, Secure, Engaged*.

Throughout FY 2021–22, the CAF progressed a number of initiatives to improve readiness, including the following:

- **Exercise ARCTIC EDGE:** A biennial Arctic warfare exercise led by United States Alaska Command in the Alaskan training areas to practise and refine Arctic Warfare tactics and procedures, as well as foster interoperability among Arctic allies. Exercise objectives included Canada–United States Arctic Interoperability, Command and Control, Communications, Computers, and Intelligence, Surveillance, and Reconnaissance. The exercise improved live-fire interoperability with United States joint forces for continental defence. The objectives of detecting, mitigating, and resolving electromagnetic interference on leased commercial links were achieved. The other main objective achieved was the detection of targets of opportunity in a defined area using a microsatellite and the integration of that information into a Common Operating Picture. This involved technology and techniques linked to the adaption of automated site monitoring tools, “deep learning,” anomaly detection, aircraft classification, and airfield activity monitoring. Exercise participation included 30 156 personnel and a radar system from the Canadian Army;



### Arctic Warfare Training



Canadian Army soldiers from 3<sup>rd</sup> Battalion, Royal 22<sup>e</sup> Régiment, prepare to move out from a landing area after disembarking from a CH-147 Chinook helicopter in the training area of Fort Greely, Alaska, United States, during training at the Joint Pacific Multinational Readiness Center on March 16, 2022.

Photo: Master Sailor Dan Bard, Canadian Forces Combat Camera, CAF photo.

- **BOLD QUEST:** A United States Joint Staff–sponsored Coalition Capability Demonstration and Assessment series, and a collaborative joint and multinational enterprise in which nations, services, and programs pool their resources in a recurring cycle of capability development, demonstrations, and analysis. BOLD QUEST facilitates allied and partner nations’ ability to refine their technologies and their tactics, techniques, and procedures in demonstrations and assessments. The primary focus is to enhance interoperability within the concepts of target acquisition, tracking, and prosecution in a digital feed environment. The Canadian Joint Warfare Centre coordinated CAF participation in exercise BOLD QUEST as the National Lead for Canada. Participation in BOLD QUEST allowed Canada to improve interoperability through testing as follows:
  - Tests with CAF Environmental Commands and Canadian Special Operations Forces Command demonstrated acceleration of Joint Intelligence, Surveillance, and Reconnaissance collection operations across a Federated Mission Network within a coalition theatre;
  - The Canadian Army certified that its radar system could identify friendly forces and exchange that data within the Artillery System Cooperation Activity and demonstrated current Digitally Aided Close Air Support software interoperability with allies; and
  - The Royal Canadian Air Force verified that its systems could ingest and distribute full-motion video / intelligence, surveillance, and reconnaissance data from and to allies and extend the range for radio communication with video bandwidth to forward operating bases.
- **Exercise JOINTEX 21:** Consisted of joint capability development and Professional Military Education activities to investigate how the CAF, and the broader Canadian National Security Team, need to adapt to conducting operations with increased cooperation between the sea, land, and air services and more effectively meet Government of Canada security demands and defend

Canadian national interests. A key component, the Joint Operations Symposium 22, was originally scheduled for February 2022 but was postponed;

- **Exercise MAPLE RESOLVE 21:**<sup>cxlix</sup> As the premier Canadian Army training event of the year, this exercise validated named and contingency readiness elements using live simulation in a force-on-force exercise. During the exercise, approximately 2500 soldiers tested their abilities to integrate with allies within a whole-of-government approach and including non-governmental organizations, while operating within a realistic, complex, and challenging combat environment. The exercise, designed and developed by the CAF Canadian Manoeuvre Training Centre, provided Canadian Army leaders, soldiers, other CAF members and allies with a unique opportunity to validate their combat readiness to support concurrent operations. Small contingents of United States and United Kingdom participants participated in the training event where the three allies worked to improve interoperability;

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#### Final Attack – Exercise MAPLE RESOLVE 21



CAF members with a Light Armoured Vehicle from 1<sup>st</sup> Battalion, Princess Patricia's Canadian Light Infantry conduct an attack during Exercise MAPLE RESOLVE at 3<sup>rd</sup> Canadian Division Support Base Garrison, Wainwright, Alberta, on May 10, 2021.

Photo: Sailor First Class Camden Scott.

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- **Exercise UNIFIED RESOLVE 22:** The largest Canadian Army computer-assisted simulation exercise, it validated the headquarters of multiple army organizations as elements of Canada's named and contingency readiness commitments. Through the use of simulation, a challenging computer-assisted exercise tests planning and decision making at multiple levels of Canadian Army leadership in a controlled virtual environment. An enduring exercise, Exercise UNIFIED RESOLVE 22 is internationally recognized, and allies seek to participate in this event for both its quality and training value. The exercise, designed and developed by the CAF Canadian Manoeuvre Training Centre, provided CAF members and allies with an opportunity to enhance collective competence and interoperability across a spectrum of scenarios. The virtual nature of the exercise allowed for the participation of more than 500 participants from across the CAF while still respecting public health measures;
- **Joint Readiness Training Centre:** This event, run in Fort Polk, Louisiana, United States, by the United States Army, is a collective training field exercise for light units in a brigade context. The training event includes full-time opposing forces, observer controller trainers (who provide feedback



to facilitate learning by exercise participants), and exercise control groups to ensure a realistic training environment. It is the culminating validation exercise in support of the Canadian Army's requirement to provide a light infantry battalion group as part of Ready Land Forces necessary to meet Government of Canada requirements to be ready to conduct domestic support operations and non-combatant evacuation operations. Further, it enhances interoperability by allowing a Canadian battalion group to operate as part of a United States brigade. In FY 2021–22, 478 Canadian Army personnel met validation standards in this challenging event;

### Joint Readiness Training Centre



Canadian soldiers complete their final day of training with a live-fire range at the Joint Readiness Training Center in Fort Polk, Louisiana, United States, on February 28, 2022.

Photo: Corporal Sarah Morley, CAF photo.

- **Exercise PRECISE RESPONSE:** A live agent and interoperability training exercise conducted on behalf of NATO with Defence Research and Development Canada at Canadian Forces Base Suffield, Alberta. Due to the COVID-19 pandemic restrictions, the 2021 iteration was postponed until 2022;
- **Exercise ARDENT DEFENDER:** This joint, international, inter-agency Counter Explosive Threat exercise focused on training and developing best practices on a number of Counter Explosive Threat capabilities, to include Explosive Ordnance Disposal, Search, and Exploitation. The exercise consisted of approximately 260 military and civilian personnel from across the CAF, NATO, and 12 international partner nations. This field exercise enabled the practice of individual skillsets in a collective training environment, developing interoperability amongst our allies, tactical and technical exploitation skills and procedures, engagement with partner nations, and individual training validation of CAF Improvised Explosive Device Disposal operators. This exercise enabled the CAF to confirm the readiness of Counter Explosive Threat capabilities in support of possible future deployment;
- **Exercise VIGILANT SHIELD:** Although CJOC did not participate, as the exercise was reduced in scope due to COVID-19 health threat concerns, the CAF, through the Tier 1 Command Post Exercise, participated in the training of operations and command post staff from NORAD and United States Northern Command headquarters, their subordinate commands and other exercise

participants, in Homeland Defense and Homeland Security missions and processes;

- Exercise VIGILANT SHIELD: An annual Tri-Command (NORAD, United States Northern Command and Canadian Joint Operations Command) exercise focused on the defence and security of North America. The initial Command Post Exercise was cancelled due to COVID-19 health threat concerns which then further impacted other related VIGILANT SHIELD activities. As a result of the reduced scope of this exercise, CJOC did not participate; and
- Additional joint and combined exercises included NORTHERN VIKING 21; SCHRIEVER WARGAMES 21; COALITION VIRTUAL FLAG 22; JOINT WARRIOR 21 (NATO); RED FLAG ALASKA; AMALGAM DART; CUTLASS FURY; CYBER FLAG; STEADFAST DEFENDER 21; GLOBAL ARCHER 21, ASTERX 22; and COALITION SPACE FLAG 22. The goal was to work with other government departments and multinational allies to enhance integration and interoperability.

The Canadian Army is a soldier-centric, professional and inclusive force made up of our Regular Force personnel, Primary Reserves, Canadian Rangers and public servants. Throughout FY 2021–22, the Canadian Army generated combat-effective, multi-purpose land forces for deployment in multiple concurrent operations to achieve Canada's defence objectives. Specifically the Canadian Army achieved the following:

- Generated the leadership and troops necessary to command and execute domestic and expeditionary operations, including [Operations LENTUS](#),<sup>cl</sup> [LASER](#)<sup>cli</sup> and [VECTOR](#)<sup>clii</sup> at home, and abroad with Operations [IMPACT](#),<sup>cliii</sup> [REASSURANCE](#)<sup>cliv</sup> and [UNIFIER](#),<sup>clv</sup> as well as our international engagement with allies and partners, and with organizations such as NATO;

### Operation VECTOR



Members of Task Force Aurora support a COVID-19 vaccination clinic for the second dose at Manto Sipi Cree Nation in northern Manitoba during Operation VECTOR on May 17, 2021.

- Provided more than 5400 personnel for twenty-four operations in Canada and ten international missions;
- Provided individual training to more than 37 000 soldiers and officers, giving them the skills and knowledge needed to achieve their mission, both abroad and at home, irrespective of the challenges presented;
- Adapted its Managed Readiness Plan to better enable readiness in support of concurrent operations, both at home and abroad, recognizing the fluid domestic and international security environment and the rapidly evolving defence reality. This adjustment enabled the Canadian Army

to respond more quickly to emerging requirements such as the very short notice force generation of an artillery battery and electronic warfare troop for deployment to Europe to join other Canadian and multinational forces already in Latvia with [Operation REASSURANCE](#),<sup>clvi</sup>

- Continued the modernization of the Canadian Army, in support of *Strong, Secure, Engaged* initiatives, maintained an agile and responsive force. Through the [Canadian Army Modernization Strategy](#),<sup>clvii</sup> a five-year-horizon plan, the Canadian Army will evolve to prepare for present and future threats and challenges. FY 2021–22 saw progress toward all initiatives including digitalization, doctrine, and a more inclusive organizational structure;
- In addition, Force 2025 is reviewing all components of the Canadian Army and seeks to optimize and modernize its structures to meet current and projected operational requirements as well as support *Strong, Secure, Engaged* initiatives. During FY 2021–22, a preferred course of action was selected for further analysis. One of the objectives of Force 2025 is to continue the integration of the Primary Reserves, Canadian Rangers, public servants and the Regular Force into a single, inclusive team. The implementation of a Soldier Readiness Policy–Reserve, which improves upon previous direction regarding training requirements and increased predictability for part-time personnel, started on a trial basis in FY 2021–22;
- Continued to refine its ability to force generate land power by improving cooperation and interoperability with allied nations to further support Canadian Army readiness and defence policy objectives. The Canadian Army promoted the CAF as a credible and reliable military partner and promoted broader Canadian outreach. In particular, in response to direction in the Mandate Letter addressed to the Minister of National Defence, the Canadian Army strengthened partnerships to “develop and launch a comprehensive Indo-Pacific strategy to deepen diplomatic and defence partnerships in the region.” This was achieved through annual Army-to-Army Staff Talks between the Canadian Army and its United States, Australian, and New Zealand counterparts, as well as the presence of Exchange or Liaison Officers in Alaska, Hawaii, and Australia;
- Provided joint capabilities to the CAF: Joint Counter Explosive Threat Task Force; Joint Chemical, Biological, Radiological and Nuclear Defence; and Joint Targeting Training functions. A highlight in FY 2021–22 was Canada’s participation in a virtual session of the NATO Capability Development Group Knowledge Management Panel, where Chemical, Biological, Radiological, and Nuclear Warning and Reporting procedural standards were further developed and sensor integration addressed amongst the alliance and partners. The Knowledge Management Panel is reaching out to other stakeholders in order to take a more holistic approach;

### Exercise HAIDA SAPPER



A CAF member from 39 Combat Engineer Regiment lines up an Acrow bridge piece during the construction of two bridges for Canadian Forces Detachment Masset during Exercise HAIDA SAPPER in Masset, British Columbia, September 25, 2021.

Photo: Private Daniel Pereira, 39 CBG Public Affairs, CAF photo.

- The Royal Canadian Navy (RCN) continued operationalizing the Arctic and Offshore Patrol Vessels (AOPV) known as the *Harry DeWolf*-class;
- In the spring of 2021, the RCN collaborated with the Royal Canadian Air Force to execute shipboard helicopter operating limit trials with the first ship of the class, HMCS *Harry DeWolf*, AOPV 430. The trials were designed to see how the winds interacted with the helicopter around the infrastructure and flight deck of the entire class. Executing these trials achieved the first milestone on the road to future operations with embarked maritime helicopters, specifically the CH-148 Cyclone;
- Shortly after its commissioning ceremony in June 2021, HMCS *Harry DeWolf* departed Halifax, Nova Scotia, on its first deployment, which would see it support Operation NANOOK 21 before completing a circumnavigation of North America:
  - HMCS *Harry DeWolf* sailed westward through the Davis Strait to the Beaufort Sea and successfully traversed a path through the famed Northwest Passage. This was the first time since HMCS *Labrador*'s northern voyage in 1954 that a Royal Canadian Navy ship had completed the same route taken by the fateful 1845 Franklin Expedition;
  - The AOPV 430 patrolled Canadian Arctic waters while interacting with Inuit communities in the Qikiqtani region, collaborating with elements of the Canadian Army, the Canadian Rangers, Defence Research and Development Canada, members of the Royal Canadian Mounted Police, and United States Coast Guard ships *Escanaba* and *Richard Snyder*; and
  - The sustainment capacity of the in-service support contractor for the class was tested with a deployed maintenance period in Esquimalt, British Columbia. The operational deployment continued in warmer continental waters, with support for Operation CARIBBE in the Eastern Pacific and following a transit through the Panama Canal, in the Caribbean Basin. Helping to stem the flow of illicit narcotics in the region, the RCN successfully conducted two interdictions during the operation, seizing over 2500 kilograms (approximately 5510 pounds)



of illicit narcotics in cooperation with the embarked United States Coast Guard Law Enforcement Detachment.

- The second ship of the class, the future HMCS *Margaret Brooke*, AOPV 431, was delivered to Canada in July 2021, then conducted a post-delivery work period. This work period was extended until November 2021 due to supply chain and workforce challenges associated with the COVID-19 pandemic. After successfully completing its first readiness assessment, the future HMCS *Margaret Brooke* commenced its at-sea post-acceptance trials. Between February and March 2022, the ship completed its Ice Breaking and Operations in an Arctic Environment trials, confirming its capability to operate in first-year sea ice up to a thickness of 120cm. This confirmation of operational capability allows the ship to be employed through the full range of intended missions, which includes coastal surveillance, SAR, drug interdiction, humanitarian assistance, and disaster relief operations in Canada's three oceans, in almost all weather conditions;
- Exercise CUTLASS FURY: A biennial joint, international, inter-agency medium-scale exercise. CUTLASS FURY 21 had serials representing full-spectrum warfare with a particular focus on anti-submarine warfare. The exercise utilized a pan-domain force employment model and consisted of nearly 1000 military personnel from across the CAF, NATO (including the United States Navy and the French Navy). The live, at-sea exercise trained the Canadian Atlantic surface and subsurface fleet, allies, and joint elements in tactical-level maritime warfare as part of a multinational task group in a dynamic and rapidly evolving multi-threat environment. Exercise design leveraged new synthetic technologies and basic joint targeting to develop maritime operations in a threat environment. It also leveraged modern marine mammal mitigations to prevent harm to the environment;
- Fleet Diving Units participated in Exercise NORTHERN CHALLENGE, Exercise TAZ RUNNER, Operation BELL ISLAND WRECKS, Operation YARMOUTH, and Operation LOUISBOURG. These operations and exercises were conducted both domestically and internationally and included disposal of various types of explosive devices;
- The following strategic-level initiatives intended to re-align, modernize, and streamline operational sustainment have been initiated and continue to evolve to enable operations and improve both situational awareness and stewardship of resources:
  - A Chief of the Defence Staff and Deputy Minister Initiating Directive for the Establishment of a DND/CAF Ammunition and Explosives Program was promulgated in order to improve support to CAF operations, address long-term strategic governance issues, identify gaps and risks, enable improved management of inventory, and support a more enhanced/deliberate procurement strategy; and
  - The Modernization and Integration of Sustainment and Logistics project is working toward the building of an enhanced and integrated capability that will modernize the end-to-end Defence supply chain and improve the overall business of Defence in areas such as materiel readiness, decision making, process efficiencies, technology transformation, and workforce connections.
- Operation NANOOK-NUNALIVUT 22: The CAF conducted a multinational dive exercise and a small-scale combined joint land domain activity to foster greater combined and joint interoperability;
- Operation NANOOK-NUNAKPUT 21: The CAF conducted a series of presence activities along the Northwest Passage with regional government departments. The activity was designed to develop domain awareness, foster greater interoperability and increase overall readiness;

- Operation NANOOK-TATIGIIT 21: In support of other government departments, the CAF conducted an exercise as part of an inter-agency response to an incident in the North, a major maritime incident requiring a Mass Rescue Operation along the eastern coast of Baffin Island. The primary focus was interoperability and readiness of the CAF and other government departments and agencies. Due to the COVID-19 pandemic, this exercise was separated into two distinct events: the actual “rescue” operation at sea followed by a separate and distinct exercise of a mass influx of “rescued” civilians into a small Northern community;

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#### Operation NANOOK-NUNAKPUT



HMCS *Harry DeWolf* sails past an iceberg near Pond Inlet during Operation NANOOK-NUNAKPUT, in the Davis Strait, August 18, 2021.

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- Operation NANOOK-TUUGAALIK 21: The RCN conducted a maritime multinational series of activities at sea, focusing on cooperation with allied navies, reinforcing the CAF as a key maritime partner and expert in Arctic safety, security, and defence matters, not only in Canada’s North, but in the circumpolar strategic context. The deployment of HMCS *Harry DeWolf* (an Arctic and Offshore Patrol Vessel) and HMCS *Goose Bay* (Maritime Coastal Defence Vessel) included participants from the United States Navy, a United States Coast Guard cutter, and one Canadian Coast Guard icebreaker;
  - Exercise STEADFAST DEFENDER 21: The CAF participated in this premier NATO Major Joint Exercise that is conducted on a triennial basis, focusing on the strategic reinforcement of Europe, and is the primary vehicle used by Supreme Headquarters Allied Powers Europe for aligning deterrence objectives. It provided an opportunity to train and evaluate/observe a wide range of command and force structures in the transatlantic reinforcement of NATO’s collective defence and deterrence operations in Europe. The CAF’s contribution improved interoperability with international partners and reinforced NATO’s collective defence and deterrence strategic objectives;
  - Exercise TALISMAN SABRE: Occurring biennially, TALISMAN SABRE is the largest combined joint training activity between the United States and Australia. The exercise is designed to improve the combat readiness and interoperability of participating forces and practise warfighting, crisis-action planning, and contingency responses in the Indo-Pacific region. The CAF contributed staff

and a frigate, HMCS *Calgary*, to the combined force reinforcing strategic objectives for the region;

- **Exercise TRADEWINDS:** An annual United States Southern Command exercise intended to promote regional security cooperation in the Caribbean region by involving security forces and disaster response agencies in order to focus on countering threats and Humanitarian Assistance and Disaster Relief coordination. During this year's event co-hosted by Belize and Mexico, the CAF supported several lines of effort to build partner capacity in the region. The CAF provided mentors to the Caribbean Task Force to teach the operational planning process to military members from Belize, Jamaica, Trinidad and Tobago, and Bermuda. The operational planning process is used to develop and analyze courses of action to achieve a mission and produce actionable orders for subordinate units to conduct operations efficiently. The CAF also delivered a dive training program and provided a dive mentor team to develop partner nation participants' skillsets on combined dive operations. CAF subject matter experts supported the planning and conduct of a Humanitarian Assistance and Disaster Relief exercise as an area of interest to the host nations to complement the security focus of the exercise. In preparation for Exercise TRADEWINDS 23, CAF members delivered the Canadian Exercise Planning course for the designated host nations, Guyana, to provide the foundation to enable them to effectively design and develop the exercise concept and requirements. This training event was conducted successfully, fully achieving 16 of its intended Joint Mission Essential Tasks and partially achieving three of them;

### NORAD Operation NOBLE DEFENDER 22-2



NORAD Operation NOBLE DEFENDER 22-2 was an air defence operation that ran from March 14 to 17, 2022, and involved a variety of military aircraft from the RCAF and the United States Air Force. Personnel and aircraft are based out of Canadian Forces Station Alert, Nunavut; Whitehorse, Yukon; Yellowknife, Northwest Territories; and 5 Wing Goose Bay, Newfoundland and Labrador.

Photo: Staff Sergeant Carlos Ferran, 821<sup>st</sup> Support Squadron, United States Air Force.

- CJOC continued to use the Operational Support Hub (OSH) network to provide effective support to expeditionary operations as required. The global OSH network, including its specific physical locations, was continually assessed for effectiveness and efficiency. Instead of some physical locations, contracts and agreements with industry, allies and partners were utilized to provide effective and economical support to some deployed operations. Expansion of the OSH network was assessed as not required at this time based on current operations. Should deployed

operations change, the OSH network will be re-assessed as part of the normal planning process;

- As we continued to improve Command and Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance (C4ISR) readiness, areas of focus for the CAF included the following:
  - Integrating Command and C4ISR within the Five Eyes environment and enhancing communication and information exchange capabilities within a Five Eyes environment. Collaborative efforts continued through the CJOC-led NATO Battlefield Information Collection and Exploitation System (BICES) Working Group at NATO headquarters. The CAF continued to develop the Operational Distributed ISR Network (ODIN) to allow the seamless exchange of ISR data;
  - Command and Control (C2) and cooperation with Arctic nations, including the United States through NORAD and United States Northern Command, in the conduct of Arctic missions or operations. The CAF participated in NORAD and NORTHCOM exercises throughout the year, integrating planning cycles and activities. The CAF also took part in the Arctic Security Forces Roundtable to coordinate activities in the north and to have a better understanding of each nation's perspectives in the region;
  - The CAF progressed the National Defence Operations and Intelligence Centre concept, as part of the overall National Defence Secure Campus project, which will facilitate information superiority, and time dominant C2 in a multi-domain context;
  - DND/CAF ensured that IT infrastructure enabled efficient and effective Cyber Operator training and support to key exercises, including the United Kingdom Ministry of Defence-led Exercise CYBER WARRIOR, United States Cyber Command-led Exercise CYBER FLAG and Exercise LOCKED SHIELDS, led by the NATO Cooperative Cyber Defence Centre of Excellence;
  - The following exercises were also focused on improving C4ISR:
    - Exercise CYBER WARRIOR was conducted in the United Kingdom in November 2021, with the objectives to conduct cyber and command-and-control operations; develop techniques, tactics and procedures with United Kingdom cyber forces on defensive and offensive cyber protocols; and develop a Canada/United Kingdom Cyber Operations Policy. This activity was focused on 13 selected Joint Mission Essential Tasks, all of which were achieved;
    - Exercise VIGILANT SHIELD was reduced in scope. The initial Command Post Exercise was cancelled due to the COVID-19 pandemic health concerns, which then further impacted other related VIGILANT SHIELD activities. Due to the reduced scope of this exercise, the CAF did not participate;
    - The CAF did not participate in Exercise CYBER COALITION, due to strategic-level focus of the final exercise instead of the desired technical focus; and
    - Exercise CYBER FLAG was conducted in the United States. Among its objectives were to improve tactical level cyber operations skills against a live opposing force, exercise full-spectrum cyberspace operations, and exercise defence-of-nation information technology infrastructure. These aspects were focused on ten Joint Mission Essential Tasks, nine of which were achieved and one of which was partially achieved.
- The Department continued to move on several major and minor capital cyber projects, such as Cyber Defence Decision Analysis and Response; Network Command and Control Integrated Situational Awareness Capability; Cyber Security Defence Preparedness Analytics Capability Asset Discovery; Vulnerability Assessment; and Configuration Compliance and Interim Cyber Training Capability.



- A contract enabling the operational community to better understand the Tactical Data Link interoperability between two different platforms was awarded during FY 2021–22. This will augment other interoperability coordination roles provided by other communities;
- In FY 2021–22, the Canadian Space Operations Centre:
  - Continued to examine options for a capable and robust Canadian space operations interoperable command and control system in order to employ, defend, and protect space capabilities in support of operations described in *Strong, Secure, Engaged*;
  - Deployed a Joint Space Support Team as part of joint and combined exercises to provide space subject matter expertise and to facilitate communication between the exercise execution teams and the Space Operations Centre; and
  - Processed, with our allies, many space support requests for named operations around the globe. Products generated from these requests utilize space-based capabilities to inform deployed teams on such items as the Global Positioning System, satellite communications electromagnetic interference, and space situational awareness.

The CAF, through the Joint Operations Fusion Lab, continued to develop its capability and capacity to test integration of joint intelligence, surveillance, and reconnaissance and C2 systems in FY 2021–22.

### Operation PROJECTION



Rigid Hull Inflatable Boats from Italian Ship *Luigi Rizzo* (background) head toward HMCS *Moncton* for boarding team drills as part of OBANGAME EXPRESS during Operation PROJECTION, off the coast of West Africa on March 14, 2022.

Throughout FY 2021–22, the RCAF supported the readiness of the CAF through a number of exercises and was required to adjust to circumstances such as the following:

- Exercise COALITION VIRTUAL FLAG 22-1: The United States Air Force Commander distributed mission training exercise conducted at Kirkland Air Force Base and around the globe. The exercise was designed to provide training in synthetic, theatre-level, joint combat operations in contested and degraded combat environments. COALITION VIRTUAL FLAG also provided opportunities to



interact with land, maritime, air, special operations, cyber, and space elements from Five Eyes nations. Canadian domestic participants included 50 personnel in an RCAF control and reporting centre, operating two CH-148 simulators, a CP-140M simulator and three RCN Frigate simulators. Forty-one CAF/DND members deployed to the United States Air Force Distributed Mission Operations Centre, a CAF Air Support Operations Centre. CAF/DND personnel conducted cyber operations, conducted Remotely Piloted Aircraft Systems Operations including Close Air Support weapon strikes. Space personnel conducted missile warning and attack assessment exercises. All 16 planned joint mission-essential tasks were achieved plus one unplanned task (conduct cyber operations) due to the addition of the cyber team;

- Exercise GLOBAL ENGAGEMENT 22: A capstone year, GLOBAL ENGAGEMENT 22 focused on improving competitive advantage and warfighting concepts in the Pacific and shaped conceptual thinking on complex warfighting issues spanning the next 30 years. The nexus of the Wargame was circa 2032 Russian aggression in the Baltic Region. This event was de-scoped due to COVID-19 pandemic complications;
- Exercise BLUE FLAG 22: An advanced aerial combat training exercise with participation from the United States, NATO and other allied countries training for real air combat situations held in Israel. The RCAF intended to send an observer to review the remotely piloted aircraft system (RPAS), but due to ongoing COVID-19 pandemic restrictions it did not participate;
- Exercise GLOBAL LIGHTNING 22: An annual United States Strategic Command-led command post and battle staff exercise incorporating elements of strategic deterrence; space operations; cyberspace operations; joint electronic warfare; global strike; missile defence; intelligence, surveillance, and reconnaissance; and analysis and targeting. Canada ultimately did not participate; and
- Exercise NORTHERN VIKING 21: A European Command-directed, USAF Europe-led, joint and coalition exercise focused on the defence of Iceland and sea lines of communication in the Greenland-Iceland-United Kingdom gap. This event was cancelled in 2021 due to the COVID-19 pandemic.

The RCAF also supported the objectives of DND/CAF and the Government of Canada by participating, together with the RCN, the CA, and our allies, in joint and combined exercises designed to enhance integration and interoperability. In FY 2021–22, the RCAF participated in more than 15 major exercises, including the following:

- Exercise INIOCHOS: An advanced training exercise hosted by Greece, designed to train Air Battle Managers using a realistic battle environment where personnel are exposed to an intensive battle rhythm with realistic attrition and changing scenarios that include modern threats tailored to produce the fog of war;
- Exercise JOINT WARRIOR: A biannual, United Kingdom-led tri-service and multinational exercise intended to improve joint and combined interoperability between allied and partner navies and prepare participants for a role in a joint and combined maritime environment. The current exercise provided workups for the United Kingdom's Carrier Strike Group. The RCAF participated with the RCN by providing a CH-148 helicopter where training in complex sub-hunting scenarios to protect the Carrier Strike Group was a priority;
- Exercise TASWEX: A theatre anti-submarine exercise hosted by the United States Navy at Keflavik, Iceland, with participation from NATO Allies including the United Kingdom, France, Germany, and Norway. The exercise provided training and engagement with anti-submarine warfare partners employing classified anti-submarine warfare contingency plans; enabled tactics and procedures development during anti-submarine warfare operations with allies; and provided aircrew, technicians and operations support personnel with training to rebuild significant proficiency losses due to the COVID-19 pandemic;
- Exercise FAUCON GAULOIS: A force generation exercise hosted and led by the French Air Force to prepare for non-combatant evacuation operations / personnel recovery while operating in contested environments. Canada participated with CH-146 utility helicopters and will be integrating

with fighter aircraft and Airborne Early Warning and Control Systems Aircraft from France and other NATO Allies;

- Exercise ANNUALEX: A combined large-scale bilateral exercise between the United States Navy and the Japanese Maritime Self-Defence Force designed to strengthen and demonstrate the United States–Japan alliance and increase interoperability. It reinforced combined operations in the Pacific and Japanese areas of responsibility. Australian and Canadian forces participated with the RCAF's CP-140M to gain valuable experience in operating in the Pacific theatre with key allies;
- Exercise ARCTIC WARRIOR: An annual United States–led exercise based in Alaska to conduct air mobile training in extreme cold weather. Canada participated with the CH-146 and CH-147 helicopters and a CH-138 Twin Otter aircraft to reinvigorate equipment, training, and operational requirements in the Arctic environment;
- Exercise FRISIAN FLAG: Netherlands-led NATO exercise which improved joint and combined interoperability between allied and partner fighter force operations, integration of airborne, ground-based, and sea-based assets. The RCAF participated with CF-18 aircraft, successfully re-establishing and improving interoperability with Canada's NATO Allies, conducting complex mixed multinational fighter force missions. In the first European Flag-level exercise since the onset of the COVID-19 pandemic; and
- Exercise GREEN FLAG: A flagship exercise hosted and led by the United States Air Force to increase airlift and airdrop training in conjunction with ground forces on a large scale. Participation was cancelled due to the COVID-19 pandemic travel restrictions.

#### CF-18 Hornets on Exercise FRISIAN FLAG



Royal Canadian Air Force personnel at Leeuwarden Air Force Base, Netherlands, conduct fighter aircraft flights with their NATO Allies in the Netherlands as part of Exercise FRISIAN FLAG on March 30, 2022.

Photo: Corporal Éric Chaput.

The RCAF has dedicated both time and effort toward many virtual bilateral and multilateral training events such as Exercises COALITION VIRTUAL FLAG and COALITION VIRTUAL WARRIOR as well as many space-based exercises. Continued work through virtual participation maintains and enhances readiness utilizing various simulators; this has optimized weapon systems and training at various levels. The RCAF continues to work closely with allied partners as well as other government agencies and industry in Science and Technology-related initiatives, improving capabilities and interoperability.

The previously initiated CAF Operation TALENT and Operation EXPERIENCE addressed personnel shortages and ensure that current and future operational objectives as identified in *Strong, Secure, Engaged* are met. The RCAF reconstitution efforts to rebuild and modernize RCAF culture, capabilities, and workforce frameworks are aligned. The RCAF continued to coordinate efforts defined in these initiatives and will continue well beyond FY 2022–23 in order to achieve the needed levels of healthy, experienced personnel and the overall RCAF modernization goals.

In FY 2021–22, the RCAF continued to improve and advance the integration of space-based capabilities. The following elaborates on some of the previously listed exercises, wargames, and significant projects that specifically target the space domain:

- Exercise SCHRIEVER WARGAME 21-9: The pre-eminent combined wargame set five to 30 years in the future, designed to support concept development and inform decisions about future space mission responsibilities and operational architectures. The RCAF has participated in this wargame for over a decade and it has led to fundamental changes in the way the Five Eyes and other partners conduct space operations;

### CH-147 Chinook at Exercise ARCTIC WARRIOR



A Royal Canadian Air Force CH-147 Chinook from 450 Tactical Helicopter Squadron participates in a simulated aerial assault as part of Exercise ARCTIC WARRIOR 21, at Fort Wainwright, Alaska, United States, February 17, 2021.

Photo: Eve A Baker, United States Army Garrison Alaska, for Wainwright Public Affairs.

As a joint capability, space involves CAF members and their civilian Defence Team counterparts working together to deliver capabilities that provide strategic advantage. Integrated through the Canadian Space Operations Centre, the CAF team continued to participate in space operations activities with allied partners under the Combined Space Operations Agreement to support the initiative. This work brings together numerous organizations within the CAF to create a common vision for identifying responsible behaviours and common actions and language against nations that do not abide by those behaviours in order to meet the space-related goals of *Strong, Secure, Engaged*:

- The RCAF continued to expand the Whole-of-Government Approach to the [RADARSAT Constellation Mission](#).<sup>civiii</sup> Using this collaborative approach, DND and other government

departments continued to share access to space-based imagery and data produced by this next generation of Canadian Earth observation satellites via systems such as Polar Epsilon 2. Polar Epsilon 2 also contributed to maritime domain awareness for Canada;

- In support of RCAF readiness and defence policy objectives, in FY 2021–22 the RCAF continued to refine command and control development and improve cooperation with allied nations by participating in the following fora, talks and activities:
  - NATO Air Chiefs' Symposium: This conference enabled Air Chiefs to discuss Air and Space Power under the overarching theme of Accelerating Momentum through Modernization. The Air and Space Power Conference hosted by the Royal Air Force was presented virtually due to the COVID-19 pandemic;
  - NATO Space Centre of Excellence: Canada participated in concept development for the stand-up of the NATO Space Centre of Excellence in France, to describe how it will support the alliance and its partners in enhancing their preparedness and ability to operate within a disrupted, degraded, and denied space environment;
  - Air and Space Power Conference: An annual forum hosted by the Royal Air Force Chief of the Air Staff, drawing together over 450 high-ranking delegates including air chiefs and military commanders from around the world, as well as business, science, and technology leaders. The conference stimulated challenging and thought-provoking debate on air and space power, and also served to widen the reach of air and space power understanding in order to promote development and engagement;
  - Air Power Conference: An annual conference hosted by the Royal Australian Air Force Chief of the Air Force and attended by over 15 Air Chiefs, mostly from Pacific-facing nations. This conference contributes to the global dialogue focusing on the contribution of Air and Space Power to Indo-Pacific security;
  - Combined Space Operations Principals Board: An annual two-day working engagement attended by the highest level of Canadian space allies, including the Five Eyes, France, and Germany. This Board provided governance and oversight for the implementation of the combined space operations initiative; and
  - Pacific Air Chiefs Symposium: This symposium, hosted by the United States Pacific Air Force, was attended by the Air Chiefs of 15 nations. It consisted of bilateral and multilateral meetings, a tabletop exercise, and panel discussions. This engagement resulted in the strengthening of relationships with allies and partners within the Indo-Pacific region, as well as the development of a mutual understanding of common issues and challenges. Discussions focused on regional security, air domain awareness, multi-domain operations, interoperability and cyber security.





Members of 427 Special Operations Aviation Squadron completing a training exercise in Texas, United States, December 2021.

Photo: Canadian Special Operations Forces Command Imagery.

- The [Canadian Special Operations Forces Command](#)<sup>clix</sup> remained postured at a very high readiness level to disrupt or respond to emerging crisis situations or threats to Canadians and Canadian interests. Further, the Canadian Special Operations Forces Command contributed to the CAF's ability to anticipate threats through the generation of forces designed to conduct discreet intelligence collection, surveillance, and reconnaissance activities.

For more information, refer to the following websites:

- Learn about various [military exercises](#)<sup>clx</sup> that train and prepare the CAF for future operations at home and abroad;
- [Royal Canadian Navy](#)<sup>clxi</sup>;
- [Canadian Army](#)<sup>clxii</sup>;
- [Royal Canadian Air Force](#)<sup>clxiii</sup>;
- [Canadian Special Operations Forces Command](#)<sup>clxiv</sup>;
- [Canadian Rangers](#)<sup>clxv</sup>;
- [Canadian Joint Operations Command](#)<sup>clxvi</sup>;
- [Canadian Forces Intelligence Command](#)<sup>clxvii</sup> and
- [NORAD](#)<sup>clxviii</sup>.



## Results achieved

Departmental results	Performance indicators	Target	Date to achieve target	2019–20 Actual results	2020–21 Actual results	2021–22 Actual results
2.1 Canadian Armed Forces are ready to conduct concurrent operations	% of operations that are capable of being conducted concurrently	100%	31 March 2025	100%	100%	100%
	% of force elements that are ready for operations in accordance with established targets	100%	31 March 2025	80.34%	71.7%	71%*

Notes:

\* Readiness continued to be impacted over this fiscal year by the COVID-19 pandemic and related impacts on the intake of personnel, individual and collective training, and increased demands on CAF resources for pandemic and domestic response operations.

Financial, human resources, and performance information for the Department of National Defence and the Canadian Armed Forces' Program Inventory is available in the [GC InfoBase](#).<sup>chdx</sup>

### Departmental Result 2.2 – Military equipment is ready for training and operations

Since FY 2017-18, the Canadian Army Equipment Readiness Plan has been produced to ensure that the serviceability of Canadian Army equipment is maintained to support readiness and operational outputs. In July 2021, the plan was revised so that, rather than having an aspirational goal of 80 percent serviceability rate across all vehicle fleets, the targets are now linked to department, Government of Canada, or NATO requirements. The Canadian Army continued to improve its processes and resources management (i.e., parts and direct labour) to attain the serviceability goal. The Canadian Army engaged with stakeholders to make progress toward disposal of obsolete inventory to create increased focus on maintenance resources on the Canadian Army equipment required to meet operational remits and the continued force generation of land power. In particular, three obsolete fleets are on track for disposal in the next five years. Although the COVID-19 pandemic public health measures continue to affect the efforts of technicians, serviceability levels are only slightly below results from previous years.

Broadly across the Defence Team, equipment was made available to support CAF training and operational requirements through the Equipment Support Program. In particular, National Procurement is the term given to DND Corporate accounts aligned to the in-service sustainment and disposal of aerospace, land, maritime equipment, as well as ammunition and common-use materiel such as uniforms, test equipment, and special operations forces equipment. In-service sustainment includes maintenance, engineering support, engineering changes, and inventory replenishment. Although the National Procurement Program ensures that equipment is made available to support CAF training and operational requirements, its serviceability is generally ensured by the CAF undertaking maintenance and repair activities within their formations. The department's materiel group is responsible for the execution of the National Procurement Program, which represented over \$3.256 billion in FY 2021–22 and provided equipment support to maritime, land, and aerospace equipment, as well as ammunition and common-use materiel such as uniforms and test equipment. Also in FY 2021–22, funding for the key fleets identified in support of the NATO Readiness Initiative was secured and prioritized to ensure that those fleets are available when called upon.

The National Procurement Program experienced a myriad of financial pressures associated with aging fleets and life extensions, the expansion of mandated activities, technological advances and increased contract costs. These pressures, compounded by COVID-19 and high inflation have resulted in a maintenance demand and resource mismatch which has, in turn, increased the risk of materiel availability for operational requirements. This increasing maintenance deficit will continue to grow exponentially unless a step change in funding levels occurs. In response to these challenges, in FY 2021–22 the department initiated a National Procurement Program Review with a view to highlight the Department's

approach to management of the Program, to define the funding challenge, and to provide recommendations for process improvements and areas for further analysis. Notwithstanding these efforts, the challenges highlighted are ongoing and contributing to the trending decline in CAF readiness.

## Results achieved

Departmental results	Performance indicators	Target	Date to achieve target	2019–20 Actual results	2020–21 Actual results	2021–22 Actual results
2.2 Military equipment is ready for training and operations	% of maritime key fleets that are serviceable to meet training and readiness requirements	At least 90%	31 March 2022	98.2%	94.1%	54%*
	% of land fleets that are serviceable to meet training and readiness requirements	At least 70%	31 March 2022	65.4%	62.7%	65.8%**
	% of aerospace fleets that are serviceable to meet training and readiness requirements	At least 85%	31 March 2022	60.8%	55%	43%***

Notes:

\* The methodology used to calculate the serviceability rate for maritime key fleets has been updated to better capture the realities facing the RCN. The new methodology accounts for all periods when the vessels are not considered serviceable including: docking work periods, alongside work periods when the vessel cannot be assigned to tasks, and periods when the vessel has suffered an operational deficiency which prevents it from completing an assigned task. The result of 54% can largely be attributed to an aging fleet that is increasingly spending longer periods of time in 3<sup>rd</sup> line maintenance.

\*\* During the period, maintenance technician productivity compared to pre-pandemic levels. Local PHMs at different maintenance workshops still had a negative effect on serviceability levels and the ability of technicians to meet specific targets. For example, limitations on the number of personnel who could be present in the workplace and a shortage of skilled staff, resulted in delays and backlogs of work.

\*\*\* As was the case in FY 2020–21, the COVID-19 pandemic work restrictions impacted serviceability rates.

Financial, human resources and performance information for the Department of National Defence and the Canadian Armed Forces' Program Inventory is available in the [GC InfoBase](#).<sup>clxx</sup>

### Budgetary financial resources (dollars)

The following table shows, for Ready Forces, budgetary spending for FY 2021–22, as well as actual spending for that year.

2021–22 Main Estimates	2021–22 Planned spending	2021–22 Total authorities available for use	2021–22 Actual spending (authorities used)	2021–22 Difference (actual spending minus planned spending)
9,972,852,765	9,972,852,765	10,734,430,873	9,984,959,562	12,106,797

### Human resources (full-time equivalents)

The following table shows, in full-time equivalents, the human resources the department needed to fulfill this core responsibility for FY 2021–22.

2021–22 Planned full-time equivalents	2021–22 Actual full-time equivalents	2021–22 Difference (actual full-time equivalents minus planned full-time equivalents)
46,716	45,281	(1,435)

Financial, human resources, and performance information for the Department of National Defence and the Canadian Armed Forces Program Inventory is available in the [GC InfoBase](#).<sup>clxxi</sup>

## Defence Team

### Description

Recruit, develop and support an agile and diverse Defence team, within a healthy workplace free from harmful behaviour; support military families; and meet the needs of all retiring military personnel, including the ill and injured. Strengthen Canadian communities by investing in youth.

### Results

People continued to be at the core of everything Defence does to ensure Canada remains strong, secure and engaged in the world. Our mission success depends on having healthy, resilient, well-trained and motivated Canadian Armed Forces (CAF) personnel supported by talented and dedicated defence civilians working within the Department of National Defence (DND). This integrated civilian-military Defence Team is the heart of our institution.

The COVID-19 pandemic continued to pose challenges to the Defence Team by exacerbating pre-existing shortfalls in the recruitment and retention of CAF members. The importance of building a Defence Team that supports the wide-ranging perspectives, cultural and linguistic diversity, gender balance, age and other distinctive attributes of our Canadian society cannot be overstated. This was a critical focus for the Defence Team in FY 2021-22 that served as the primary motivation for the many efforts identified in this section of the report.

The CAF remained committed to our members and their families. Our people serve in complex environments that can involve high risks, including the COVID-19 pandemic. The knowledge that we continue to deliver essential programs and services reassures our troops with the knowledge that their families are being looked after. We continued to listen and adapt to ensure that new programs reflect our members and their families' needs.

To address some of these challenges, the CAF strengthened the [Professional Development Framework](#)<sup>clxxii</sup> by developing concepts and modernizing the curriculum in some establishments, which has been achieved through the following initiatives:

- The Interim CAF Professional Development Strategy, developed by the Canadian Defence Academy with consultation across the CAF and the department is in the process of finalization and approval;
- Implementing lessons learned from the previous year, the Canadian Forces College in Toronto, Ontario, continued to deliver professional military education in a hybrid residential distance learning mode. While challenging, this has ensured the continued development of senior CAF, allied and partner nation officers and other departmental leaders for their future roles;
- The Canadian Forces College instituted several culture change initiatives, starting with a Gender Based Analysis Plus of all programs, with a view to further improving the institution's approach to equity, diversity and inclusivity;
- A first-principles review of the role, responsibilities, and structure of the [Chief Warrant Officer Robert Osside Profession of Arms Institute](#)<sup>clxxiii</sup> was undertaken with the aim to leverage forthcoming opportunities. The institute is responsible for CAF-common professional military education for all senior non-commissioned members, training approximately 3 500 students per year with a staff of 36; and
- The Introduction to Indigenous Cultures course, released in February 2021, has been completed by approximately 80 000 members of the Defence Team as of March 2022.

National Defence has a long and proud history of supporting youth and Canada continues to be strengthened by the presence of the Cadets and Junior Canadian Rangers programs in its communities. In FY 2021-22, the Cadets and Junior Canadian Rangers programs adapted to the ongoing COVID-19 pandemic environment by providing training using virtual and alternative delivery methods. For example, Cadets and Junior Canadian Rangers implemented the [Summer Cadet Activity Program](#),<sup>clxxiv</sup> in which thousands of young cadets participated in fun and safe activities in their own communities instead of the

traditional summer camp program. The Vice Chief of the Defence Staff and Commander Cadets and Junior Canadian Rangers optimized the [Cadet Program](#)<sup>clxxxv</sup> with a vision of making it more affordable, agile and accessible.

Through the [Innovation for Defence Excellence and Security](#)<sup>clxxxvi</sup> program, work was conducted on the following research projects:

- Understanding and addressing post-traumatic stress disorder;
- An integrated human resources data management solution;
- Beyond the classroom, innovative language learning and retention; and
- Navigating your next chapter – The transition back to civilian life.

DND and the CAF continued to work toward the optimization of the Defence Team by executing the Defence Team Establishment Plan process, and by implementing the Defence Team Human Resources Strategy. This resulted in a better-aligned civilian and military workforce that enabled the achievement of DND and the CAF's core mission and responsibilities.

The Defence Team continued to take deliberate and coordinated actions at all levels of the organization to eliminate discrimination, biases, harmful stereotypes, and systemic barriers. The Defence Team continued to prioritize comprehensive [Support to Survivors](#)<sup>clxxxvii</sup>. It focused on ensuring that supports are strong and well-established and continues to work towards expanding these supports.

DND also focused efforts on justice and accountability and culture change initiatives, including the following:

- Revising and redesigning the complaints system by facilitating access to services for Defence Team complainants. Once a complaint is submitted, the affected person will receive support, guidance, and information throughout, until the complaint has been resolved;
- Improving the promotion and selection process by incorporating psychometric assessments for candidates. The selection board members include a civilian and recommended candidates for promotion complete a 360 assessment and are vetted for misconduct; and
- Promoting inclusive leadership by ensuring that leaders selected for increasing levels of responsibility embody characteristics required to lead a diverse and operationally effective organization. DND and CAF leaders are now evaluated on inclusive behaviours. Training and education has also been offered on inclusive leadership.

The Department developed and refined [programs and initiatives](#)<sup>clxxxviii</sup> through extensive consultations with Defence Team members, partners, and external stakeholders. [The Defence Team Conduct and Culture Consultation](#)<sup>clxxxix</sup> attracted more than 9000 personnel located across Canada - people who may not have been heard or listened to before. Their lived experiences and suggestions are reflected in our priorities and our approach to institutional culture change.



### Exercise ARCTIC EDGE



A CAF member from 15<sup>th</sup> Field Artillery Regiment, Royal Canadian Artillery, follows an American soldier's knotwork during lift and lower training at Exercise ARCTIC EDGE in Anchorage, Alaska, United States, on February 26, 2022.

Photo: Corporal Rachael Allen, Canadian Forces Combat Camera, CAF photo.

### Gender-Based Analysis Plus (GBA Plus)

All Government of Canada public servants and CAF members are required to ensure that their decisions (whether related to institutional or operational policies, programs, budgets, priorities, orders, etc.) are informed by the findings or conclusions of a GBA Plus. The findings or conclusions of a GBA Plus are commonly referred to as “gender perspectives” which is the language of United Nations Security Council Resolution 1325 and is reflected in North Atlantic Treaty Organization and United Nations policies and plans.

Military Personnel Command made a number of notable strides in the institutionalization of GBA Plus. Additional Gender Focal Point and Gender Advisor positions were established within a number of directorates, further strengthening Military Personnel Command Gender Advisor and Gender Focal Point network. GBA Plus capacity-building was reinforced through this network, as well as through resource and supportive frameworks integration, particularly toward policy. Targeted work was undertaken to increase the diversity of recruits, with synchronized efforts in accordance with the [Employment Equity Act](#),<sup>clxxx</sup> *Strong, Secure, Engaged*, and Canada's National Action Plan on Women, Peace and Security, through the Canadian Forces Recruiting Group. In FY 2021-22, new CAF doctrines were developed, including *Trusted to Serve*,<sup>clxxxi</sup> and some others continue to be revised using GBA Plus, such as *The Profession of Arms*, and *The Path to Dignity and Respect*.

Likewise, professional development and education efforts, as well as governance processes established by the Canadian Defence Academy ensured greater integration and learning on GBA Plus as a means to enable culture change, particularly among CAF leaders. The overhauling of the CAF Dress Guidance and Instruction was an important undertaking that took place, ensuring its alignment with the *Canadian Human Rights Act* through utilizing GBA Plus findings. This Instruction seeks to promote respect, diversity, and inclusion. The impacts of GBA Plus are also visible in the Military Transition Program, out of the CAF Transition Group, which has been developed in a way that provides members with the opportunity for personalized transition based on their identities and experiences. Also in regard to the well-being of members, the Royal Canadian Chaplain Services has continued to train Sentinels, peers

who detect and support members in distress. Work has continued through the Directorate of Honours and Recognitions to ensure that the selection process for the Order of Military Merit is free from discrimination.

GBA Plus has been continuously incorporated in the design and delivery of the Cadet and Junior Canadian Rangers programs. In FY 2021-22, National Defence completed a scientific study, Former Cadet Survey Development and Comparisons to the Canadian Population. An Evaluation of the Cadet Program's Effectiveness in Attaining its Mandated Aim and Intended Participant Outcomes. This report provided valuable insight on the impact of the programs on former participants. The results were disaggregated by gender which provided stakeholders with insight on how the program impacts young men and young women differently. Furthermore, in an effort to further the Department's understanding of its current Cadets and Junior Canadian Ranger population, a self-identification survey was developed in FY 2021-22 and is planned to be launched in FY 2022-23. This will allow the Department to expand its understanding of its youth participant's demographics, to include all those of non-binary gender, as well as all equity groups. This information will be invaluable for the programs' leaders, as it will help them continue to develop policies and programming that fosters an inclusive environment for all young Canadians who participate in the Department's youth programs.

In FY 2021-22, the department has continued to progress its first Accessibility Plan, an evergreen document that will undergo regular review and updates with the aim to be completed by December 2022. This effort is part of the Department's responsibilities, as outlined in the [Accessible Canada Act](#).<sup>cbxxxii</sup>

More information on GBA Plus governance structures, human resources and key impacts can be found in the "GBA Plus Supplementary Information Table" in the [Supplementary Information Tables](#) section of this report.

## Experimentation

Defence-related experimentation activities are outlined in this report under [Core Responsibility 4 – Future Force Design](#).

## Key Corporate Risk(s)

Defence acknowledges that misconduct is a critical concern. The resulting risk is currently being defined as Defence better frames the breadth of the issue.

### Departmental Result 3.1 – Canadian Armed Forces is growing toward its end state of 101,500 personnel

There are numerous compounding factors that have negatively impacted the recruitment and retention of CAF personnel as illustrated in the results table below. This has broader implications on personnel training, readiness and operational effectiveness, and is an ongoing focus for the Defence Team across multiple initiatives. In FY 2021-22, DND/CAF endorsed and commenced the implementation of a plan to modernize military personnel generation and redesign the personnel production experience. With respect to recruiting objectives:

- The COVID-19 public health measures limited the ability to complete in-person processing requirements. Implementation of digitized portions of the recruiting process has been delayed pending validation/approval of the test questions in order to activate the on-line un-proctored testing;
- Virtual recruitment was enhanced and included a Talk to a Recruiter campaign. The addition of TikTok and Facebook (see "Forces Job/Forces Emplois" on Facebook) to the approach generated positive results in terms of applicant participation and attendance;
- Business Intelligence software, which allows for aggregating, analyzing, and visualizing data, was utilized to collect and analyze information regarding recruiting operations. The approach allowed Defence to expand the collection of standardized data to include additional metrics that go beyond the foundational key performance indicators and in turn enable further analysis;

- The Canadian Forces Recruiting Group continued the prioritization of the processing and selection of women, Indigenous Peoples, and visible minorities. Various advertising campaigns were developed, including a campaign directed at women;
- Efforts continued to market, attract and recruit from Indigenous communities. Outreach processing was conducted for communities not within the geographical boundaries of a recruiting centre;
- As CAF individual training continued to be hampered by the COVID-19 imposed restrictions, unique and effective solutions were developed. They included the implementation of an additional front-loaded week to the basic training schedule, known as “week 0,” which was utilized to ensure a high level of COVID-19 pandemic testing and education for all candidates and staff. Accommodations were rearranged which greatly improved throughput;
- In FY 2021-22, combined training throughput between the Canadian Forces Leadership and Recruit School and the Decentralized-Basic Military Qualification totalled 3723 personnel (2835 graduated, with 888 on training);
- A plan to resolve the staffing shortage at the Canadian Forces Leadership and Recruit School by the summer of 2023 was developed. The Royal Canadian Navy (RCN), Canadian Army (CA) and Royal Canadian Air Force (RCAF) also agreed that once the school is fully staffed, any additional training requirements would be completed through the Decentralized-Basic Military Qualification courses;
- As directed in *Strong, Secure, Engaged*, the Royal Military College (RMC) Saint-Jean returned to status as a full, university-level educational institution, and 12 baccalaureate degrees in International Studies were granted to Officer Cadets in May 2021;
- Both military colleges, RMC Kingston and RMC Saint-Jean, continued to improve their support for the wellbeing of attending CAF students. This included targeted training, mentorship and educational opportunities; new committees which included diversity and equity, sexual violence, and culture change; and new Cadet chain of responsibility positions directly related to these initiatives; and
- The CAF developed its Retention Strategy, which is scheduled to launch in FY 2022-23.

It is now apparent that reduced CAF strength and readiness will take upwards of 5-10 years to remedy and is severely challenging the CAF's ability to fulfill the Government of Canada's policy objectives to defend Canada and Canadians, and engage with allies abroad.

## Results achieved

Departmental results	Performance indicators	Target	Date to achieve target	2019–20 Actual results	2020–21 Actual results	2021–22 Actual results
3.1 Canadian Armed Forces is growing toward its end state of 101,500 personnel*	% of Regular Force positions that are filled	95 – 100%	31 March 2026	96.5%	93%	91.6%**
	% of Reserve Force positions that are filled	At least 95%	31 March 2026	81.47%	79.78%	76%
	% of occupations with critical shortfalls	5% or less	31 March 2022	17.9%	50.5%	61.7%***

Notes:

\* The 101 500 personnel represent the Canadian Armed Forces (CAF) Regular Force and the Reserve Force. The Reserve Force represents Primary Reserves.

\*\* The CAF's ability to attract, recruit and train personnel has been negatively impacted by the COVID-19 pandemic and as such, the progress in growing the CAF has been hindered. CAF individual training continued to be hampered by pandemic-imposed restrictions, which lead to course cessation and cancelation, limits on travel, and further strain on the already short staffed training cells. However, strict adherence to protective health

measures allowed for a low COVID-19 occurrence rate among students and staff and the continuation of training, although at a reduced rate of production. In response, the Canadian Forces Leadership and Recruit School continued to develop unique and effective solutions.

\*\*\* Given the negative impact of the COVID-19 pandemic on the CAF's ability to attract, recruit and train personnel, the intake into the CAF has been less than CAF attrition resulting in the inability to sustain and grow the health of occupations. It is important to note that these statistics are a snapshot in time and do not provide a full understanding of the occupation's health. For example, an occupation may look distressed due to establishment growth or the splitting of an occupation, or it may be a small occupation that saw attrition near the end of the year. In all cases, these occupations may be historically healthy or easy to recruit to, and as such they may be of minimal concern from a military personnel generation perspective.

Financial, human resources and performance information for the Department of National Defence and the Canadian Armed Forces' Program Inventory is available in the [GC InfoBase](#).<sup>clxxxiii</sup>

### Departmental Result 3.2 – The health and well-being of the Defence team is well supported

The CAF's health system responds directly to the needs of its members and, as such, the following efforts were delivered in FY 2021-22 by the Canadian Forces Health Services (CFHS):

- High-quality health care services continued to be delivered via in-person and remote means. Provision of medical advice to bases/wings on public health measures remained a constant deliverable. CFHS supported Operation VECTOR INTERNUM, [Operation VECTOR](#)<sup>clxxxiv</sup> (multiple serials) and [Operation LENTUS](#)<sup>clxxxv</sup> (multiple serials). Likewise, CFHS supported [Operation REASSURANCE](#)<sup>clxxxvi</sup>, [Operation IMPACT](#)<sup>clxxxvii</sup>, [Operation UNIFIER](#)<sup>clxxxviii</sup> and [Operation AEGIS](#)<sup>clxxxix</sup> as part of the CAF expeditionary operations;
- Modernization of CFHS continued to progress, first by solidifying organizational governance. Key to this was the formalization and exercising of core CFHS decision-making bodies including the Health Research and Innovation Board, Capability Development, Resource Management, Quality, and the Medical and Dental councils. Each of these groups contributed to more effective and efficient decision-making across CFHS and were overseen and informed by the newly established Health Services Board at the executive level. Further progress was made on the definition and establishment of Authorities, Responsibilities, and Accountabilities associated with a broader restructuring of the CFHS organization along strategic and operational lines. These efforts have supported a finer focus in these specific domains to positive effect. This was bolstered by discrete initiatives to better align CFHS Reserve units with their supported organizations, and by furtherance of trials aimed at providing evidence for the viability of functional re-alignment of operational and clinical units. Taken together, these efforts provide for a better balanced CAF health system;
- CFHS continued with considerations for potential future engagement with provincial and territorial authorities to ensure that external healthcare services are charged at a fair and predictable rate; and
- A scalable aeromedical evacuation capability was created and maintained. There were 11 Medical Technicians established and employed across Canada in aeromedical evacuation roles. As well, a standing forward aeromedical evacuation Canadian Medical Emergency Response Team (CMERT) within the RCAF commenced training and development. In addition to the medical technicians, other CFHS medical specialists are part of CMERT with the composition tailored to the expected mission. RCAF CMERT continued training and planning throughout the year, but it is not expected to declare initial operational capability until FY 2022-23.

Additional efforts to support the health and well-being of the Defence Team in FY 2021-22 include the following:

- The Canadian Armed Forces Transition Group, along with its valued partners, continued to provide personalized, professional, and standardized casualty support and transition services to CAF members and their families. The ultimate goal of this group is for all members to achieve a smooth transition and enhanced well-being, with special attention provided to ill and injured personnel, their families and the families of the deceased. While we recognize there is still work to be done in this space, there was significant progress made in a number of areas. In FY 2021-22, the CAF Transition Group made progress and achieved results on the following:
  - Conducted careful oversight, validation and continuous improvement of supports and services for the CAF's ill, injured and transitioning members, veterans, their families and

- families of the fallen. An updated handbook for transition program staff was published and disseminated across all areas of the Transition Program to guide the standardization of operations and set expectations for service excellence;
- Advanced the development of the CAF Transition Group toward Full Operational Capability via extensive hiring, robust staff training and development efforts to support the national rollout of full-service Transition Centres across all bases and wings by 2024;
  - Concluded the Transition Trial in Borden and Petawawa, Ontario, including Release Renewal, and produced the Trial Closure Report documenting best practices, lessons learned, and next steps for further development and refinement of transition processes, training, tools and policies;
  - Continued the ongoing effort to align the CAF Transition Group authorities, responsibilities and accountabilities, via the lead working group and associated sub-working groups, allowing the CAF to pursue key policy developments enabling improved support and service delivery for ill, injured and transitioning members;
  - Developed digital workflows, data collection and visualization tools for performance evaluation of transition policies and programs, and worked toward the improved integration of various tools and data for enhanced reporting capabilities; and
  - Worked with partners at Veterans Affairs Canada, via the Seamless Transition Task Force, to continue closing inter-departmental gaps in priority areas such as: member and veteran healthcare; training and education; skills and employment; digital integration; research and analytics; communications and public affairs; policy alignment; and Transition Centre implementation.
- [The Total Health and Wellness Strategy](#)<sup>cxv</sup> was released in March 2022, presenting a renewed approach focused on the way we care for our people and improving the overall health and wellness of the Defence Team;
  - The [Canadian Forces Leave Policy Manual](#)<sup>cxvi</sup> was amended to reflect new terms for compassionate and short leave;
  - DND continued to implement the policies and procedures to meet the requirements and responsibilities set out in [Bill C-65](#).<sup>cxvii</sup> CPCC partnered with other CAF initiatives to align responsibilities, policies, and programs that address elements of systemic misconduct across DND and the CAF. The Defence Team continued to work towards creating and maintaining a workplace free of harassment and violence;
  - The Defence Team hosted virtual activities to promote wellness materials including access to a digital library offering hundreds of short videos, podcasts and blog posts by experts on everyday issues and on wellness topics. Virtual activities such as webinars, focused on improving overall mental health and well-being were recorded to ensure ongoing availability;
  - The Office of Disability Management has expanded its services to support additional ill, injured or impaired public servants in various regions and address the significant increase in case volumes since the onset of the COVID-19 pandemic. The implementation of a national model ensured support for processing high case volumes in regions. This provided a real-time view of the overall needs and positions for the Office of Disability Management to better serve the Defence Team;
  - The Defence Team developed and deployed training on how to build and maintain a psychologically healthy workplace and increase health and wellness literacy. A catalogue of resources and educational tools was made accessible for employees and managers on how to maintain and improve mental health and well-being;
  - The Defence Team was provided with access to a variety of resources and information to encourage healthy lifestyles. Virtual fitness and social connections such as Employee Assistance Services, the Employee Assistance Program, Peer Advisors, LifeSpeak, and Health and Wellness Articles were available to support employees with their total health and well-being. These programs



helped Defence Team members cope with stress, and remain flexible and patient during this situation. Resources such as the [Road to Mental Readiness](#)<sup>cxciii</sup> infographic provide information on the signs, the indicators and the actions to take at each phase of the mental health continuum. Webinars and resources covering topics such as mental health in the workplace, coping with stress, self-care and resilience were also made available; and

- The Well-Being Survey was introduced to increase workplace well-being for Defence Team members through the Total Health and Wellness Strategy. The strategy focuses on various topics such as promoting a better work-life balance. Well-Being Survey results showed that work-family conflict remains a concern and a lack of work-life balance is a barrier to pursuing learning opportunities. DND is committed to facilitating a positive work-life balance through gaining a clear understanding of workloads, time pressures, prioritization and aligning the necessary tools for Defence Team members to better balance their priorities for optimal wellness both at work and at home.

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### Exercise REMORQUEUR TACTIQUE



A CAF member from 5 Field Ambulance, stands by as the Vehicle Technicians secure the site before assisting simulated casualties during Exercise REMORQUEUR TACTIQUE on October 21, 2021, in Valcartier, Québec.

Photo: Corporal Hugo Montpetit, Canadian Forces Combat Camera, CAF photo.

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## Results achieved

Departmental results	Performance indicators	Target	Date to achieve target	2019–20 Actual results	2020–21 Actual results	2021–22 Actual results
3.2 The health and well-being of the Defence team is well supported	% of military personnel who are medically fit for their occupation	At least 90%*	31 March 2022	89.84%	87%	87.1%**
	% of military personnel who feel that the Canadian Armed Forces provides a reasonable quality of life for service members and their families	At least 85%***	31 March 2022	56.7%	54.4%	34.4%****
	% of Canadian Armed Forces members who report a positive level of workplace well-being	At least 71.5%*	31 March 2022	71.5%	67.4%	Results not available*****
	% of civilian employees who describe the workplace as psychologically healthy	To be determined by 31 March 2022*****	To be determined by 31 March 2022*****	79%	66%	Results not available*****

### Notes:

\* Targets are revisited yearly, as further data becomes available, to better understand the realities and drivers of these indicators.

\*\* The variance can be partly attributed to the COVID-19 pandemic having prolonged the processing of medical releases, and the assignment of Permanent Medical Categories.

\*\*\* The 85 percent target was intentionally set as "aspirational"; it has historically been around 54 percent (2015–2020 average).

\*\*\*\* Additional research is underway to better understand this result. Preliminary findings suggest that a variety of related results have also decreased.

\*\*\*\*\* FY 2021-22 result is not available due to delays in data collection combined with the complexity involved in the annual calculation and explanation of this metric. Results for the approved replacement indicator (% of CAF members who feel positive about their job) will be reported starting in FY 2022-23.

\*\*\*\*\* This indicator is taken from the Public Service Employee Survey (PSES). There was no PSES administered in 2021-22 and therefore, no results available. The next PSES will be administered in FY 2022-23.

Financial, human resources and performance information for the Department of National Defence and the Canadian Armed Forces' Program Inventory is available in the [GC InfoBase](#).<sup>CXCVI</sup>

## Departmental Result 3.3 – The Defence team reflects the values and diversity of Canadian society

The following activities were delivered in FY 2021-22 to progress Defence efforts aimed at ensuring that the Defence Team reflects the values and diversity of Canadian society.

In partnership with the Integrated Conflict and Complaint Management program, the Sexual Misconduct Response Centre (SMRC) is leading the implementation of the [Restorative Engagement Program](#).<sup>CXCV</sup> This program provides class members (plaintiffs) from the Heyder Beattie class action (current and former members of the CAF, or employees of DND, and the Non-Public Funds who experienced sexual misconduct in connection with their military service and/or in the military workplace and are part of the [CAF-DND Sexual Misconduct Class Action Settlement](#)<sup>CXCVI</sup>) with an opportunity to share their experience(s) of sexual misconduct, the impacts, and/or their insights and ideas for culture change with senior Defence representatives in the CAF and DND. The process is facilitated by civilian restorative practitioners. Class members' experiences of being acknowledged by DND and the CAF will contribute to meaningful culture change within the institution. It will also support restoring the relationship between

class members and the Defence Team. When the program was launched in November 2021, the initial group of class members was kept small in order to ensure that all of the necessary resources, supports and systems were in place prior to contacting a larger group. The program will remain in place until all eligible class members of the CAF-DND Sexual Misconduct Class Action Settlement have had the opportunity to participate.

Following the [CAF-DND Sexual Misconduct Class Action](#)<sup>cxvii</sup> Final Settlement Agreement, the SMRC played a lead role in establishing a Survivor Support Consultation Group. This group brought together three class member representatives and three representatives from DND and the CAF, supported by three experts. The objective of the Survivor Support Consultation Group was to ensure that those affected by sexual misconduct could directly influence the institution's policies, programs, and services to respond to sexual misconduct and support survivors. In December 2021, the [Survivor Support Consultation Group: Summary Report 2021](#)<sup>cxviii</sup> was publicly released. Its 45 recommendations were aimed at enhancing survivor support, as well as developing a stakeholder engagement framework. DND and the CAF affirmed their intent to use the report to guide culture change efforts and increase engagement on issues central to supporting diverse groups of survivors. DND/CAF are implementing the report's recommendations, while also taking into account survivors' insights to shape a Survivor Support Strategy and implementation plan.

In collaboration with Veterans Affairs Canada, the SMRC also initiated work on a Military Sexual Trauma Peer Support Program. This initiative aims to fill a critical gap in support for current and former CAF members. In fall 2021, individuals affected by military sexual misconduct provided insight and ideas for the program. These were summarized in the [Military Sexual Trauma Peer Support Program: What We Heard Consultation Report](#)<sup>cxix</sup>. Work also began on developing and trialling virtual and face-to-face peer support options. The SMRC is also partnering with an online service called Togetherall to offer an evidence-based, peer-reviewed, peer-support service to those who need it as part of their recovery journey.

In partnership with Defence Research and Development Canada, the SMRC also began work on developing a mobile application, which will serve as a hub for accessing support services and resources. Once operational, this application will allow affected persons to access supportive counselling through a text function, in addition to the existing 24/7 phone line. New services will be added to the application in an iterative process, including online one-on-one peer support for current and former CAF members affected by military sexual misconduct.

In the spring of 2021, the SMRC began the regional expansion of the Response and Support Coordination program. At the end of FY 2021-22, two regional teams were staffed and operational in the Québec and National Capital regions. Dedicated SMRC Response and Support Coordinators located in these regions were made available to those who have experienced sexual misconduct and wish to receive ongoing support and assistance. While the remaining regions are being staffed, Response and Support Coordination services continue to be available and delivered nationally by coordinators already in place.

The SMRC also expanded its 24/7 confidential phone line and the Response and Support Coordination program to DND public service employees and former CAF members. This expansion allows the SMRC to reach more individuals within the Defence community who have been affected by sexual misconduct in order to provide ongoing support services.

The SMRC started to develop a trial program to provide free, [independent legal advice](#)<sup>cc</sup> for victims and survivors of sexual misconduct within the CAF/DND. This initiative will empower them to make informed choices. Short and long-term versions of the program were designed in FY 2021-22. It was determined that a reimbursement program that would pay for the cost of independent legal advice is the most practical option for meeting the immediate needs of victims as part of a short-term delivery approach, and so efforts continue to implement this option.

The Defence Team assisted Statistics Canada with revisions to the third iteration of the Survey on Sexual Misconduct in the CAF, with data collection expected to begin in fall FY 2022-23.

The Building Our Future program is a comprehensive prevention program for cadets. It is intended to promote respect through awareness and understanding, to empower students and future CAF members

to take a stand against sexual misconduct, and to support individuals affected by it. The program is progressive, with each workshop aiming to develop knowledge and skills that will generate a culture change within the CAF. Implementation of the program was paused in FY 2021-22 due to the COVID-19 pandemic restrictions. Following the culmination of Operation HONOUR, the program's content was reviewed, and components that were directly impacted as no longer relevant were identified. New content (e.g.: scenarios, activities, facilitated discussions) was developed to replace what was no longer relevant. Implementation of the program is anticipated to resume in FY 2022-23.

The SMRC developed new research studies based on their prevention research strategy. These studies will provide a better understanding of sexual misconduct in the CAF. Results will be used to make recommendations for future prevention strategies.

The Defence Team is committed to, and continued to focus on, addressing and preventing all forms of systemic misconduct and supporting anyone who has been harmed. [Pathways to Progress<sup>cci</sup>](#) was conceived as an action plan to capture and consolidate some of the key efforts scheduled or underway in the near term to remediate and prevent further harm to Defence Team members and build a foundation for positive and measurable change. [The conduct and culture change progress tracker<sup>ccii</sup>](#) is updated on a regular basis with more information on the whole-of-Defence-Team approach.

DND/CAF continued to develop and implement harassment and discrimination prevention activities related to applicable conflict and complaint management practices. These activities include awareness, outreach, and training. Through the Canadian Armed Forces Modernization process, CPCC has worked on developing a mechanism to align the CAF harassment process with the Workplace Harassment and Violence Prevention process and cultivate a one-stream approach for the Defence Team. This will support efforts to streamline and simplify these processes.

- The Defence Team continued to respond to the [Clerks Call to Action on Anti-Racism, Equity, and Inclusion in the Federal Workplace<sup>cciii</sup>](#) and the [Minister's mandate letter<sup>cciv</sup>](#), which included explicit commitments to reconciliation, intersectional approaches, and the elimination of anti-Indigenous and anti-Black racism, gender bias, white supremacy and prejudice against LGBTQ2+ communities. DND/CAF has committed to implementing the recommendations from former Justices Arbour and Fish, and to ensuring comprehensive reproductive healthcare, child care, and mental health support.
- The [CAF employment equity plan 2021-2026<sup>ccv</sup>](#) is the CAF's deliberate response to the need to increase representation, inclusion, and participation of underrepresented groups – women, visible minorities, Indigenous Peoples, Persons with Disabilities, and members of the LGBTQ2+ communities, across all levels in the CAF to eliminate employment barriers:
  - The CAF also integrated actions to mitigate barriers for LGBTQ2+ communities, aligning the CAF with broader Government of Canada and societal expectations. In addition, the release of [Emerging from the Purge: The State of LGBTQI2S Inclusion in the Federal Workplace and Recommendations for Improvement<sup>ccvi</sup>](#) in May 2021 provided recommendations for the Defence Team, which are currently under review;
  - The CAF employment equity Plan 2021-2026 was created using evidence-based recommendations and research that identified barriers to employment of designated group members. It has integrated specific reporting questions that must be answered annually by DND/CAF organizations to demonstrate whether the CAF is on track with its short and long term representation goals and how effective its communication is at attracting members of underrepresented groups. The purpose of the reporting questions is to demonstrate progress in achieving the CAF's commitment to employment equity;
  - This plan contains specific action items aimed at increasing diversity in the CAF. For example, the CAF continues to conduct a GBA Plus analysis of the recruitment process and conducts a cyclical review of CAF member policies (including but not limited to promotion, leave policies, compensation, and benefits) and to integrate the findings into future planning;

- The plan contains specific action items aimed at eliminating employment barriers that will enable the CAF to increase its representation of designated groups and increase diversity and inclusion; and
- The CAF also integrated actions in order to mitigate barriers for LGBTQ2+ communities, aligning the CAF with broader Government of Canada and societal expectations.

DND/CAF is committed to providing an inclusive, equitable and respectful work environment for its employees in support of the provisions outlined in *Strong, Secure, Engaged*. The department implemented the following actions to ensure that all Defence Team members are treated with respect and dignity and to rebuild the confidence of Canadians in the institution of National Defence:

- Implemented employment equity, diversity and inclusion action plans and initiatives outlined in the related Directive aimed at increasing diversity and inclusion in the civilian workforce;
- Prioritized diversity and inclusion as a theme at key activities over the course of the year, such as executive town halls and executive orientation and most recently, a joint town hall with Global Affairs Canada, Immigration, Refugees and Citizenship Canada and the Department of Justice featuring Dr. Livingston – How to Advance Racial Equity Collectively with Concrete Actions; and
- Over the past year, diversity and inclusion has underpinned several executive engagement events including Executive Virtual Power Hours and Executive town halls with topics such as Anti-Racism, Understanding Indigenous Worldview through the Lens of a 60's Scoop Survivor, and Beyond Pride: Creating a High-Trust and Safe Workplace.

The department has taken concrete steps to address the Clerk of the Privy Council's Deputy Minister Corporate Commitments on Diversity, Inclusion and Anti-Racism. To lead the effort in identifying and addressing systemic barriers within the Defence Team, an Anti-Racism Secretariat has been established. The department is also committed to ensuring greater reflection of diversity and promotion of inclusion, updating workplace programs and policies, and effecting culture change. To that end, it led and implemented the following:

- Fostered inclusive leadership by increasing representation in its executive cadre through a diversity and inclusion strategy for the executive community that aims to address employment equity and diversity gaps at the most senior levels of the department - particularly via recruitment and talent management initiatives. In FY 2020-21, DND/CAF incorporated employment equity and GBA Plus review into all elements of executive recruitment and staffing to minimize bias and promote inclusion;
- Continued to further basic awareness and understanding of unconscious biases in the executive cadre. This is done by requiring the completion of anti-racism and unconscious bias training. This training was also implemented for the human resources community and for hiring managers; and
- Facilitated discussions with senior leaders to start the de-stigmatization of discussions on racism and anti-Black racism on unconscious bias and systemic racism.

The department also increased recruitment and retention of Indigenous people, Black people and other racialized groups, persons with disabilities and members of the LGBTQ2+ community through the following initiatives:

- Targeted recruitment and mandatory organizational need considerations were established with clear objectives and outcomes in terms of increased representation of equity-seeking communities through accountability. Measurement metrics were embedded in each of the employment equity and diversity and inclusion Action Plans in terms of employment equity hiring targets and diversity and inclusion learning activities. The metrics were also embedded in the DND Functional Planning Guidance;
- Implemented mandatory diversity in the selection boards for executive recruitment. Notably, an EX-01 Visible Minority pool was established and used to staff EX-01 positions within DND and other government departments. This recruitment initiative piloted innovative assessment tools and had a fully diverse assessment board supported by an advisory panel of diversity and inclusion experts



from both inside and outside government;

- Created an Anti-Racism Secretariat, an Anti-Racism Staffing Taskforce and a Diverse Selection Board Inventory to increase the diversity of selection board members in the recruitment process for non-executives;
- In FY 2021-22, the Executive Development Program, designed to increase representation and develop the Department's talent pipeline of aspiring executives in employment equity groups, including Indigenous peoples, and LGBTQ2+ communities, welcomed its first cohort in June 2021 and a second cohort in February 2022;
- DND has also partnered with the Association of Professional Executives of the Public Service of Canada to enhance the onboarding of executives through the Brave Space pilot project, a one-year series of bilingual and dynamic small group discussions to help new executives, from diverse backgrounds and communities to thrive in their new roles and enhance our culture of inclusion at Defence;
- The Departmental Executive Leadership Development nomination process was reviewed to ensure representation of racialized communities, in order to reduce barriers and provide optimal breadth of experience and development; and
- DND continued to implement a Pilot Mentorship Program during the onboarding process for all employees and specifically those from underrepresented communities to ensure they are well supported. The focus was on providing mentoring and sponsorship opportunities to Indigenous, Black and other racialized Defence Team employees.

Further, the department established and reviewed internal systems, policies, programs, and initiatives including the following:

- GBA Plus continued to be utilized in reviews of human resources, procurement, and communications policies, programs and initiatives through strategic planning activities. Various identity factors, including race, ethnicity, religion, age, sexual orientation, gender identification and expression, and mental or physical disability, are considered to identify systemic racism and barriers to accessibility and disability inclusion to inform workforce tracking and reporting, programming and strategic decision-making; and
- DND continued to foster various perspectives on internal policies, programs, and operations by ensuring that employees from equity-seeking communities have membership, in and that their views are represented at meetings of executive committees, advisory boards, occupational safety and health committees, and other horizontal committees through the employment equity and diversity and inclusion action plan process.

The Canadian Army prepared a virtual ceremony for the Government of Canada to announce its commitment to a year-long period of consultation and prepared an apology scheduled for FY 2022-23 to the descendants of the [No. 2 Construction Battalion](#)<sup>ccvii</sup> members. A video and website were co-produced with community leaders to initiate and facilitate the consultation and planning processes.

The Canadian Army also undertook its first annual review of its policy against hateful conduct to validate its effectiveness and alignment with other CAF policies.

## Results achieved

Departmental results	Performance indicators	Target	Date to achieve target	2019–20 Actual results	2020–21 Actual results	2021–22 Actual results
3.3 The Defence team reflects the values and diversity of	% of the Canadian Armed Forces (CAF) who self-identify as a woman	At least 25.1%	31 March 2026	16%	16.3%*	16.3%**

Canadian society	% of civilians in the Defence team who self-identify as a woman	At least 39.1%	31 March 2026	40.8%	Results not available	41.5%
	% of the Canadian Armed Forces (CAF) who self-identify as a visible minority	At least 11.8%	31 March 2026	9.4%	9.5%*	10.8%*
	% of civilians in the Defence team who self-identify as a visible minority	At least 8.4%	31 March 2026	9.6%	Results not available	Results not available***
	% of the Canadian Armed Forces (CAF) who self-identify as an Indigenous person	At least 3.5%	31 March 2026	2.8%	2.8%*	2.9%*
	% of civilians who self-identify as an Indigenous person	At least 2.7%	31 March 2026	3.4%	Results not available	Results not available***
	% of the Canadian Armed Forces (CAF) who self-identify as victims of harassment	11.9% or less	31 March 2022	16.7%	15.5%	20.8%****
	% of civilians who self-identify as victims of harassment	10% or less	31 March 2026	14%	12%	Results not available*****
	% of the Canadian Armed Forces (CAF) who self-identify as victims of discrimination	9.2% or less	31 March 2022	11.8%	14.5%	14.8%*****
	% of civilians who self-identify as victims of discrimination	5% or less	31 March 2026	7%	7%	Results not available*****
	Annual number of reported incidents of sexual misconduct in the Canadian Armed Forces	To be determined by 31 March 2022*****	To be determined by 31 March 2022	356	431	444
	Number and type of actions taken in response to reported sexual misconduct incidents by the Defence Team	To be determined by 31 March 2022*****	To be determined by 31 March 2022	356	431	444
	Number of Canadian Armed Forces members who have attended a training session related to sexual misconduct (Operation HONOUR)	To be determined by 31 March 2022*****	To be determined by 31 March 2022	Results not available New indicator as of 2020-21	1,224	650*****

	% of civilians in the Defence team who have completed mandatory harassment training	At least 85%	31 March 2026	Results not available  New indicator as of 2020–21	31%	78.6%
	Annual number of reported incidents of sexual misconduct in the Defence Team civilian personnel	To be determined by 31 March 2022*****	To be determined by 31 March 2022*****	Results not available  New indicator as of 2020–21	Results not available  New indicator as of 2020–21	24*****

## Notes:

\* Meeting the representation goal for both DND and the CAF has been an ongoing challenge. DND/CAF are currently reviewing conduct, diversity and inclusion as a whole in an effort to improve the culture of the Defence Team and to reflect the values and diversity of Canadian society. Ongoing efforts include, but are not limited to, the Canadian Forces Employment Equity Plan 2021–26, the CAF's deliberate response to increase representation rates of designated groups by eliminating employment barriers.

\*\* Meeting the representation goal for both DND and the CAF has been an ongoing challenge, especially in the COVID-19 pandemic environment. For example, the next iteration of Women in Force, a Canadian Armed Forces initiative giving women an opportunity to learn about military life before they decide to join was also delayed due to public health measures. DND/CAF are currently reviewing conduct, diversity and inclusion as a whole in an effort to improve the culture of the Defence Team and to reflect the values and diversity of Canadian society. Ongoing efforts include, but are not limited to, the Canadian Forces Employment Equity Plan 2021–26.

\*\*\*The data for this indicator, provided by an organization external to National Defence, was not available at the time of the production of this report.

\*\*\*\* Increases in reporting do not always indicate an increase in instances. Instead there may indicate an increase in the number of victims coming forward and trusting that the system will support and address their concerns and issues. This is reflected in the Your Say Survey results, in which the majority of participants (approximately 60 percent or more) agreed that the Canadian Armed Forces (CAF) works hard to create a workplace that prevents harassment and that leadership would respond appropriately if made aware of a harassment incident or ongoing situation. In addition, a better reporting/tracking system was created that supports and serves the needs of the complainants which in turn, allows them a safe environment in order to report these issues. There have been numerous complaints submitted over the past year based on alleged incidents which occurred a number of years ago.

This indicator also looks at "self-reported," incidences, and it does happen that individuals claim to have been the victim of harassment, when what they actually experienced may have simply been a form of "conflict" in the workplace and not harassment.

Through the Canadian Armed Forces (CAF) Modernization process, the Chief Professional Conduct and Culture is working on developing a mechanism in order to align with the Workplace Harassment and Violence Prevention (WHVP) process and cultivate a one-stream approach for the entire Defence Team. Once this has been completed and implemented, it should create a better system of identification pertaining to statistical information for surveys such as the Your Say Survey.

\*\*\*\*\* This indicator is taken from the Public Service Employee Survey (PSES). There was no PSES administered in 2021-22 and therefore, no results were available. The next PSES will be administered in FY 2022-23.

\*\*\*\*\* Increases in reporting do not always indicate an increase in instances. This can also indicate an increase in victims coming forward and trusting that the system will support and address their concerns and issues. Overall, most members (>60 percent) agreed that the Canadian Armed Forces (CAF) works hard to create a workplace that prevents discrimination and expressed confidence that their unit would respond appropriately if made aware of a discrimination incident or ongoing situation.

\*\*\*\*\* A target will be established in FY 2022-23 when a sufficient amount of baseline data is available. Additional information is available on the [Sexual misconduct](#)<sup>ccviii</sup> website.

\*\*\*\*\* DND is still establishing how to approach the process around Operation HONOUR, which has culminated, as efforts are under way to assess lessons learned and move to an improved approach. Targets will be established as the indicator matures. Training on sexual misconduct has been incorporated into all facets of CAF training, including at recruit school and in leadership training at all levels. In addition, a formal workshop called "Respect in the CAF" has been developed, with over 13 000 Defence Team members attending between April 1, 2017 and March 31, 2021. The data presented here represents those who have participated in the workshop in each fiscal year when it was presented. As the workshop is delivered in a classroom setting, because of the COVID-19 pandemic workplace management measures, no workshops were delivered between April and August 2020. Delivery of the workshop resumed in September 2020 with public health measures in place.

\*\*\*\*\* During the 2022-23 Departmental Results Framework amendment process, the indicator was updated to "Annual number of reported incidents of a sexual nature within the Defence Team civilian personnel". The target will not be determined until three years of data have been collected (with 2021-22 as the baseline).

Financial, human resources and performance information for the Department of National Defence and the Canadian Armed Forces' Program Inventory is available in the [GC InfoBase](#).<sup>ccx</sup>

### Departmental Result 3.4 – Military families are supported and resilient

Through the Military and Veteran Family Services Program, DND continued to enhance the well-being and resilience of military families at home and abroad by providing a wide variety of locally and nationally delivered programs and activities. The following results were observed in FY 2021-22:

- Increased use of the [Family Information Line](#)<sup>ccx</sup> was observed. The Family Information Line is a

confidential, personal, bilingual and free service offering information, support, referrals, reassurance, appointment-based virtual counselling, and crisis management to the military community. It serves CAF members, veterans and their families (immediate and extended);

- A broad variety of virtual services and programs were offered through [CAFconnection.ca](#)<sup>ccxi</sup> that resulted in a significant increase in usage of the Virtual Military Family Resource Centre support to family members for issues involving access to health care, spousal employment and relocation, and postings;
- The Spousal Employment Program, which consists of the Military Spousal Employment Network, supported by the DND Military Spouse Employment Initiative and other activities for online career development as well as the Military Family Resource Centre's employment services, logged over 700 newly registered spouses for the Military Spousal Employment Network and over 100 registered spouses for online career counselling. In spite of the COVID-19 pandemic, three virtual career fairs were hosted; and
- Development of the Comprehensive Military Family Strategy began in FY 2021-22 to enhance family resilience, particularly during relocations, extended absence, injuries, and transitions related to the unique military lifestyle.

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### COVID-19



The latest information and resources for the Defence Team related to [COVID-19](#).<sup>ccxii</sup>

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## Results achieved

Departmental results	Performance indicators	Target	Date to achieve target	2019–20 Actual results	2020–21 Actual results	2021–22 Actual results
3.4 Military families are supported and resilient	% of Canadian Armed Forces families who feel they meet the challenges of military life	At least 85%	31 March 2022	87.6%	87.6%	Results not Available*
	% of Canadian Armed Forces members who are satisfied with the overall support their family receives from the Canadian Armed Forces	At least 85%	31 March 2023	67.4%	67.4%	58.5%**

### Notes:

\* Due to a low response rate, sufficient data from the 2022 Quality of Life (QOL) Survey is not available to provide a reliable result for this reporting cycle. However, it is anticipated that sufficient data will be available to provide a result for next year's reporting cycle.

\*\* This result is consistent with the lower result for the “% of military personnel who feel that the Canadian Armed Forces provides a reasonable quality of life for service members and their families” indicator in Departmental Result 3.2

Financial, human resources and performance information for the Department of National Defence and the Canadian Armed Forces' Program Inventory is available in the [GC InfoBase](#).<sup>ccxiii</sup>

## Departmental Result 3.5 – Youth in Canada are provided with experience and opportunities that enable a successful transition to adulthood

In FY 2021-22, the department continued implementing its *Strong, Secure, Engaged* Defence Policy Activity C action items and the management action plan in response to the *Evaluation of the Cadets and Junior Canadian Rangers (Youth Program)*<sup>ccxiv</sup> published in 2020. Key results included the following:

- Continued operationalization of the [Memorandum of Understanding Among The Canadian Armed Forces and The Navy League of Canada and The Army Cadet League of Canada and The Air Cadet League of Canada](#)<sup>ccxv</sup> and supported the [Consultative Framework](#)<sup>ccxvi</sup> through the establishment of a new League Support Working Group;
- Increased direct support to the Junior Canadian Rangers Program and ongoing capability development of the CA's Directorate of Canadian Rangers; further reinforcing the current and respective CAF organizational command and control roles and related Authorities, Responsibilities, and Accountabilities;
- Participated in the newly established CAF Reserve Force Development Working Group to ensure strategic alignment and integration of the Cadet Organizations Administration and Training Service Reserve Force sub-component;
- Initiated a Life-Cycle Maintenance of the Cadet Organizations Administration and Training Service occupational specification to ensure that relevant aspects of the new general specifications for officers and non-commissioned members are included and properly aligned with the CAF's Military Employment Structure;
- Published all existing [Cadets and Junior Canadian Rangers \(CJCR\) policies on canada.ca](#)<sup>ccxvii</sup> and announced of 52 new CJCR Group Orders and Canadian Cadets General Messages, inclusive of the ongoing conversion of Cadet Administrative and Training Orders to CJCR Group Orders;
- Initiated the [Cadet Program Re-Scope](#)<sup>ccxviii</sup> in accordance with the Strategic Initiating Directive: Cadet Program Re-Scope and Pan-DND/CAF Support Expectations;



- Launched the [CADET365 platform](#)<sup>ccxix</sup> as part of the [CJCR's Digital Strategy](#)<sup>ccxxx</sup> which enabled all levels of the CJCR organization and key stakeholders to conduct virtual training and engagement; and
- Completed the National Defence scientific report, “*Former Cadet Survey Development and Comparisons to the Canadian Population: An Evaluation of the Cadet Programs Effectiveness in Attaining its Mandated Aim and Intended Participant Outcomes.*”



Cadet Day in Nova Scotia 2021: (Left to right) Cadet Caitlin Taylor; Kent Smith - MLA Eastern Shore; Cadet Tanamya Brooks; a Navy League Cadet (not a part of the Canadian Cadet Organizations); and Cadet Ethan Hastey.

Photo: Communications Nova Scotia.

## Results achieved

Departmental results	Performance indicators	Target	Date to achieve target	2019–20 Actual results	2020–21 Actual results	2021–22 Actual results
3.5 Youth in Canada are provided with experience and opportunities that enable a successful transition to adulthood	% of the target Canadian youth population that participates in Cadets and Junior Canadian Rangers	At least 2%	31 March 2022	2.06%	2.02%	1.73%*

\* The performance result was affected by the challenges associated with the COVID-19 pandemic. Since March 2022, the CAF has been limited in its ability to deliver in-person training to youth since March 2020 which affects both attraction (new registrations) and retention (limited program delivery). The CAF's ability to pivot toward providing virtual experiences for its youth participants to compensate for the inability to provide the normal in-person experiences prevented a larger attrition of youth participants. It is expected that it will take a few years to naturally recover from this unfortunate reality in terms of reaching pre-pandemic youth population levels and this target. The CAF remains focused on gradually returning to a pre-Pandemic program delivery posture as public health measures (PHMs) permit. The CAF is also working to refresh and optimize the Cadet Program and the Cadet experience today's youth across Canada by leveraging the lessons learned and best practices from operating this program during the COVID-19 pandemic.

Financial, human resources and performance information for the Department of National Defence and the Canadian Armed Forces' Program Inventory is available in the [GC InfoBase](#).<sup>ccxxi</sup>

### Budgetary financial resources (dollars)

The following table shows, for Defence Team, budgetary spending for FY 2021–22, as well as actual spending for that year.

2021–22 Main Estimates	2021–22 Planned spending	2021–22 Total authorities available for use	2021–22 Actual spending (authorities used)	2021–22 Difference (actual spending minus planned spending)
3,554,626,936	3,554,626,936	3,921,382,349	3,648,870,768	94,243,832

### Human resources (full-time equivalents)

The following table shows, in full-time equivalents, the human resources the department needed to fulfill this core responsibility for FY 2021–22.

2021–22 Planned full-time equivalents	2021–22 Actual full-time equivalents	2021–22 Difference (actual full-time equivalents minus planned full-time equivalents)
18,059	19,256	(1,197)

Financial, human resources and performance information for the Department of National Defence and the Canadian Armed Forces' Program Inventory is available in the [GC InfoBase](#).<sup>ccxxii</sup>

## Future Force Design

### Description

Develop and design the future force through a deep understanding of the future operating environment and security risks to Canada and Canadian interests. Enhance Defence's ability to identify, prevent, adapt and respond to a wide range of contingencies through collaborative innovation networks and advanced research.

### Results

The future security environment presents a vast array of complex defence and security challenges that transcend national borders. In order to keep pace with our allies and ensure that North American Aerospace Defense Command (NORAD) commitments are met, as well as outpace our potential adversaries, it is imperative that the Canadian Armed Forces (CAF) prioritizes efforts to design our future force.

The Department of National Defence (DND) and the CAF supported the ongoing implementation of [Strong, Secure, Engaged: Canada's Defence Policy](#).<sup>ccxxiii</sup> This included traditional decision-making support to both the Deputy Minister and the Chief of the Defence Staff (CDS) through a progressive approach designed to build on capabilities from year to year. The intra-departmental alignment and validation continued to be carried out through different review processes such as those of the Defence Capability Board and the Independent Review Panel for Defence Acquisition. These reviews and other analysis efforts aim to verify and streamline the procurement process. These activities are informed through foresight analysis, the capability-based planning process, the published Force Capability Plan, and joint concept development.

The Defence Team through the [Canadian Safety and Security Program](#)<sup>ccxxiv</sup> worked with research and development partners, northern communities and department stakeholders to inform public safety and security decision-making using space-based technology. This included projects that use satellite data to improve monitoring of stable near shore ice necessary for travel in northern coastal communities, as well as coastal ecosystem erosion and marine pollution, and to analyze ice movement during the use of ice roads in order to support construction, operations, and maintenance of winter roads in the north. These projects provided actionable data to inform decisions on areas such as sustainable resource management, coastal environmental protection, and climate change adaptation strategies. The Department also participated in polar research activities with the objectives of understanding the Arctic environment and ensuring that platforms perform well and that our military personnel are well equipped in the Arctic climate.

The [Dark Vessel Detection project](#)<sup>ccxxv</sup> conducted research and development trials with the Forum Fisheries Agency and the Ecuadorian Navy in the Pacific Ocean having acquired unclassified, commercial radio frequency data from Hawk Eye 360 and Unseen Labs for analysis. The project is ongoing.

Exploratory initiatives for AI-enabled business analytics solutions employing industry-standard technologies for text analytics and natural language processing have been used to develop user-centred business products that aim to assist knowledge-gathering in the form of self-service applications (e.g., chatbots). Experimentation using cloud resources and cutting edge text analytics tools have been used alongside departmental consultations to ensure meaningful and reliable business solutions.

The Defence Team invested in the use of Artificial Intelligence (AI) to improve human machine interfaces and thereby enable CAF operators to make better decisions, and make them faster. "Better decisions" are enabled by using AI to recognize patterns of interest in data. These can be objects of interest in a video stream, highlighting, for example, a camouflaged vehicle. They can also be behaviour patterns of interest, such as a path left by a cyber-weapon as it infests a system or behavioural "patterns of life" which can be an indicator that something is about to change.

With AI-assisted pattern recognition, CAF operators have better situational awareness and can therefore make better tactical decisions.

Emerging work is associated with applying these same techniques to maintenance records, enabling preventative maintenance, before a component fails, thus leading to higher readiness at reduced costs.

In modernizing NORAD Command and Control (C2), DND/CAF continued to partner with United States organizations and defence labs in a Command and Control Pathfinder initiative that leverages AI and machine learning innovations in order to utilize all sources of data (air, land, maritime, space, and cyber) for improved situational awareness and superior operator decisions.

The Cyber Operator military occupation was established and successfully piloted for both the Regular and Reserve Forces. Specialized courses were developed to mature the trade and maintain its relevance in future operating environments. Additionally, in FY 2021-22, the Defence Team launched a study to assess the feasibility of a new Cyber Officer occupation. Determining the optimum human resources management of cyber leadership is an essential contributor to Future Force Design, due to the highly specialized technical requirements needed to lead the organization in future missions that depend on technology, data, and digitization. The Cyber Officer study is in year two of proceedings with completion anticipated for FY 2024-25.

In FY 2021-22, DND/CAF continued to leverage its human resources processes to provide a modern, flexible, and integrated cyber workforce throughout the Defence Team. In the past year, the CAF successfully employed cyber operators in ongoing expeditionary operations, and it is using that experience to incorporate improvements in processes and capabilities to reflect the growing demand in advanced specialty skillsets. The Defence Team also made specific positional investments in FY 2021-22 as part of the ongoing personnel strategy to address positional pressures in Offensive Cyber Operations and intelligence in support of cyber operations outlined in *Strong, Secure, Engaged* initiative 88. Taken together, the continued refinement and maturation of the cyber workforce in the aspects of attraction, recruitment, training, and career pathways will assure a pan-DND/CAF sustainable capability to meet the *Strong, Secure, Engaged* and continental defence requirements.

In order to maintain readiness and relevance, the RCAF continued to grow and develop capabilities. In FY 2021-22, the RCAF began to replace selected Search and Rescue (SAR) aircraft, specifically:

- A total of four aircraft have arrived in Canada as part of the Fixed-Wing Search and Rescue Aircraft Replacement project. The first one arrived in Canada in February 2020 and was subsequently converted into a maintenance trainer. The second one arrived in September 2020 and is considered the first of an eventual 16 CC-295 aircraft that will be assigned to search and rescue duties and is expected to be completed by the fall of 2022. In order to be declared operational, these aircraft will require comprehensive tests and trials before they go into service;
  - It has recently become apparent that initial operational capability of the CC-295 has been delayed to FY 2025-2026 due to issues associated with the development and design of the capability along with other factors such as project complexity and volume of work;
  - We recognize the critical importance of maintaining this vital capability, and the CAF are implementing an approach to maintain SAR coverage throughout the new timeline, using existing fleets until the new CC-295 capability is operationally ready; and
  - The delay is unfortunate, however, Canadians can rest assured that we are taking appropriate action to maintain this important capability, while at the same time taking the time necessary to procure the right aircraft for Canada – not only to deliver the required platforms and capacity to our CAF members, but also to ensure that those capabilities satisfy our operational requirements.

### M777 Howitzer Trials



Members of the 1<sup>st</sup> Regiment, Royal Canadian Horse Artillery hold an M777 Howitzer shooting firing range practice during a trial for the Canadian Army Trial and Evaluation Unit, Gagetown, at Canadian Forces Base Shilo, Manitoba on February 7, 2022.

Photo: Corporal Stéphanie Labossière, CAF photo.

### Gender-Based Analysis Plus (GBA Plus)

The department has continued to integrate GBA Plus in its future force design. The Chief of Force Development had ongoing consultations with the Directorate of Gender Equality and Intersectional Analysis to ensure that it conducted rigorous and formal GBA Plus in the implementation of multiple lines of effort, such as: Objective Force 2030, the Defence Team Establishment Plan, and the Force Mix and Structure Design, as well as in the development of decision-making products intended for senior leaders of DND/CAF.

Canadian Forces Intelligence Command (CFINTCOM) applied GBA Plus to Intelligence Requirements Management and Collection Management. Intelligence Requirements Management and Collection Management is an integrated single coordinated management process to coordinate and synchronize Defence intelligence activities in support of strategic and operational level requirements. GBA Plus direction was incorporated into the CFINTCOM Intelligence Requirements priority setting process (called the Defence Intelligence Enterprise Priority List), intended to direct intelligence collection and analytical production. In addition, CFINTCOM developed a draft GBA Plus Intelligence Tradecraft Tool, which will be refined moving forward. The intent of the tool is to provide guidance for intelligence analysts on how GBA Plus factors can be considered in their research and analysis to develop warning indicators, as well as enhance understanding of a region, a conflict or a security issue. The tool provides examples of GBA Plus related intelligence questions which could provide additional nuance in intelligence assessments, and better support policy and planning decisions.

The [Innovation for Defence Excellence and Security Program](#)<sup>ccxxvi</sup> (IDEaS Program) has launched two challenges which are relevant to GBA Plus goals related to Future Force Design:



- Reduce the potential mental health impacts related to Post-Traumatic Stress Disorder on CAF members; and
- Assist in recruiting and retaining women in the CAF to contribute to meeting the goal of 25 percent representation of women by 2026.

In addition, GBA Plus is used, as a rated criterion in the evaluation process for all calls for proposals undertaken as part of the IDEaS program.

Project sponsors conducted a GBA Plus analysis for every major and minor capital project underway as part of their future force design activities.

More information on GBA Plus governance structures, human resources and key impacts can be found in the “GBA Plus Supplementary Information Table” in the [Supplementary Information Tables](#) section of this report.

### **United Nations 2030 Agenda for Sustainable Development and United Nations Sustainable Development Goals (SDGs)**

As detailed in the Defence Energy and Environment Strategy (2020-2023) which outlines the department’s commitment to supporting the Government of Canada’s priorities under the Federal Sustainable Development Strategy, the Greening Government Strategy and the Pan-Canadian Framework on Clean Growth and Climate Change, the Defence Team advanced development of a sustainable aviation fuel strategy through the Royal Canadian Air Force (RCAF) Aviation Fuels Working Group in support of federal policy to achieve net-zero greenhouse gas emissions by 2050. This strategy is a comprehensive multi-step effort that will address all air fleets and institutional processes to support policy objectives.

The RCN continues to use energy and fuel usage evaluation data to monitor the impact of operations and equipment on energy efficiency, as well as to identify opportunities for energy optimization. The process of examining alternative energy options and their potential use for operations is ongoing. These actions will ensure that DND makes progress towards ensuring sustainable consumption and production patterns and takes action to combat climate change and its impacts.

### **Experimentation**

The following are a few examples of how IDEaS has built DND/CAF capacity to do experimentation in a new and different way:

- In FY 2021-22 the Defence Team accepted proposals for the [Green Heat: Low Carbon Energy Generation for Heating Existing Buildings Test Drive initiative](#)<sup>ccxxvii</sup> and a contract was awarded to Black & McDonald. This project, with a complete cost of \$7.5 million over three years will support the DND/CAF objective of greening their operations with the aim to make their buildings and facilities carbon-neutral by 2050;
- The [IDEaS Test Drive](#)<sup>ccxxviii</sup> presents innovators with the opportunity to acquire their science and technology solution for DND/CAF in order for the department to evaluate it in a real world and operational environment. This is considered experimentation as it fulfills the obligation under the IDEaS Program of allowing an innovator to propose an emerging science and technology solution, then work to develop it, demonstrate it and achieve a sale with the Government of Canada that not only lends credibility to its solution, but also gives it a chance at commercial success. Without the Test Drive, DND/CAF could not experiment with new science and technology solutions to see what works and what does not. It allows the department to learn and compare what it is doing now, versus what it could do better with clear results at the end. In FY 2021-22, progress made on the Competitive Projects Call for Proposals #1 included the following:
  - A Test Drive (\$5.8 million) was awarded to Ecopia Tech Corp., focusing on the ability to detect, classify, and extract land features and objects within geospatial imagery with a high degree of accuracy at unprecedented scales; and
  - A second Test Drive proposal from Terra Sense Analytics Ltd., (\$10.5 million) was provisionally accepted and is now entering the negotiations for a contract. This project will, in

real time, provide rapid detection, identification, and tracking of objects, individuals, and events of interest. Moreover, this capability will support data fusion from multiple sensors.

## Key Corporate Risk(s)

There are no key corporate risks associated with the Future Force Design core responsibility at this time.

### Departmental Result 4.1 – Defence capabilities are designed to meet future threats

The Force Capability Plan publication originally scheduled for FY 2021-22 has been delayed to FY 2022-23, at which time a new concept driven, threat informed future force planning cycle is scheduled to begin. This delay is a result of the limited availability of personnel and resources as a result of the COVID-19 pandemic. The future force planning cycle will be informed by continued collaborative national and allied foresight analysis with our Five Eyes allies (Australia, Canada, New Zealand, the United Kingdom, and the United States), North Atlantic Treaty Organization (NATO) partners, NORAD and NATO capability development requirements, as well as other CAF concepts under development such as the Future Warfighting Concept and Pan-Domain Command and Control Concept.

Though not a signatory of the [National Cyber Security Strategy](#),<sup>CCXXIX</sup> DND/CAF contributed indirectly to many of the goals of the strategy. In FY 2021-22, DND/CAF provided concrete input to the Public Safety Canada-led mid-term review of the strategy. DND/CAF helped identify emerging risks in the cyber security threat environment, as well as gaps and opportunities in the current strategy that required further Government of Canada investment and/or attention. As in previous years, DND/CAF actively participated as a member of numerous pan-Government of Canada cyber fora.

The department established the Cyber Security Training Forum as a Government of Canada-level cyber training event, partnering with the Canadian Centre for Communications Security and the Treasury Board of Canada Secretariat.

DND/CAF actively participated in the Canadian Telecommunications Cyber Protection group, led by Innovation Science and Economic Development, ensuring that large service providers actively help keep Canada secure and maintain capabilities.

DND/CAF continued to evolve a Cyber Mission Assurance Program with the goal of developing and implementing common cyber mission assurance processes. The program conducted cyber resilience activities on tactical platforms in an effort to build and enhance cyber-resilience in CAF capabilities. It also continued its efforts to move beyond focusing exclusively on technology. The broader focus derives from recognition that Defence Team culture, capabilities, processes, structures, and tactics, including people, play a significant role in addressing cyber mission assurance risk management and cyber-resilience across all domains.

The Cyber Mission Assurance Program led efforts to develop a Cyber Domain Awareness training package to enhance the cyber resiliency of DND/CAF members. It also continued to work with Government of Canada departments and agencies, regarding the defence and protection of the supply chain enabling the CAF's operational readiness. These efforts included regular participation with DND/CAF stakeholders, Public Safety's Cyber Security Analysts Network, the Canadian Centre for Cyber Security's Industrial Control Systems Working Group, Transport Canada's Vehicle Cybersecurity Conference, Public Safety's Cyber Defence and Innovation Working Group, Natural Resources Canada's Energy Security Working Group, and the Royal Canadian Mounted Police.

Defence was a key stakeholder and championed IDEaS challenges during FY 2021-22 to further Defence cyber knowledge. Defence worked with industry to fill capability gaps by matching innovators with DND/CAF units, while supporting research and development. Defence also supported the Emerging Technologies Workshop 2021. The purpose of the workshop was to generate future IDEaS challenge proposals in topics such as Swarm computing, Quantum Key Distribution, and Human-Computer Interfaces.

In FY 2021-22, work on cyber-related projects continued with seven contracts (up to \$1 million) awarded across the following challenges:

- [Understanding Cyber Intent](#),<sup>CCXXX</sup>

- [Detecting and Responding to Hostile Information Activities](#); <sup>CCXXXI</sup>
- [Staying Four Steps Ahead: Understanding and Predicting the Behaviour of Adversaries](#); <sup>CCXXXII</sup> and
- [Remaining Vigilant: Identifying Cyber Dependencies, Vulnerabilities and Threats](#). <sup>CCXXXIII</sup>

## Results achieved

Departmental results	Performance indicators	Target	Date to achieve target	2019–20 Actual results	2020–21 Actual results	2021–22 Actual results
4.1 Defence capabilities are designed to meet future threats	Extent to which the Future Security Environment assessment remains valid	2 on a 3 point rating scale*	31 March 2022	2	2	2
	Degree to which future security assessments and capability deductions remain coherent with those of our allies and partners	2 on a 3 point rating scale**	31 March 2022	2	2	2
	Degree to which future capabilities required to ensure an operational advantage over defence and security threats have been accounted for in defence plans	2 on a 3 point rating scale***	31 March 2022	2	2	2

### Notes:

\* During the Future Security Environment (FSE) validity period of four years, the FSE document will be assessed annually through internal Canadian Armed Forces foresight and allied collaboration analysis activities. Should these analysis activities identify significant issues, the Chief of Force Development will indicate the intent to produce an updated FSE with anticipated milestones.

\*\* During the FSE validity period of four years, the Force Capability Plan and Investment Plan are reviewed annually through internal Canadian Armed Forces and allied collaboration analysis activities. Should these analysis activities identify significant issues, the Chief of Force Development will indicate the intent to produce updated documents with anticipated milestones.

\*\*\* During the FSE validity period of four years, the Force Capability Plan, Investment Plan and Force Development scenario sets are assessed annually through internal Canadian Armed Forces analysis activities. If significant issues are identified, the Chief of Force Development will indicate the intent to produce updated documents with anticipated milestones.

Financial, human resources and performance information for the Department of National Defence and the Canadian Armed Forces' Program Inventory is available in the [GC InfoBase](#). <sup>CCXXXIV</sup>

## Departmental Result 4.2 – Defence and security challenges are addressed through innovative solutions

In FY 2021-22, IDEaS continued with its program of work under its various funding elements. The following calls were launched:

- Test Drives:
  - [Green Heat](#); <sup>CCXXXV</sup> Low Carbon Energy Generation for Heating Existing Buildings, launched in July 2021.
- Competitive Projects:
  - Call for Proposals #5 with six challenges, launched in August 2021:

- **Erosion from Motion:**<sup>ccxxxvi</sup> Reducing wear and tear on rotary blades;
- **Less GHGs on the Seas:**<sup>ccxxxvii</sup> Practical solutions to measure and record energy consumption;
- **High Bandwidth, Low Profile:**<sup>ccxxxviii</sup> Next generation point-to-point communication solutions for the field;
- **Wireless Is Where It's At:**<sup>ccxxxix</sup> Secure and seamless wireless network onboard ships;
- **We Sea You:**<sup>ccxli</sup> Digital tracking and accounting on Navy vessels; and
- **Worth a Thousand Sources:**<sup>ccxlii</sup> A fused picture for continental surveillance.
- Innovation Networks:
  - **Call for Proposals #3:**<sup>ccxlii</sup> Faster, Stronger, More Secure: Advancing 5G capabilities and concepts for defence and security, launched in November 2021.
- Sandbox:
  - **Corrosion Detection in Ships:**<sup>ccxliv</sup> Re-launched in November 2021; and
  - **Rise, Detect, Defeat:**<sup>ccxlv</sup> Countering Unmanned Aerial Systems 2.0, launched in January 2022.

The program supported important investments in the fight against COVID-19, by participating in a multi-departmental government response to the COVID-19 pandemic and awarding **two contribution agreements**<sup>ccxlv</sup> to Diagnostic BioChem and Custom Biologics, totalling \$2.34 million. In FY 2021-22, Diagnostic BioChem successfully completed the first Canada-made COVID-19 immunoassay testing kit. Meanwhile, Custom Biologics is actively working on developing and testing a point-of-care diagnostic test for COVID-19. IDEaS also launched four COVID-19 related challenges, which led to Competitive Projects signing 48 contribution agreements under Phase 1, valued at \$9 million. At the end of FY 2021-22, of the 48 projects, 12 innovators were selected to receive additional funding under Phase 2, valued at \$10.3 million.

- The IDEaS Program continued to work with Canadian innovators on the following challenges in support of alternative energy options:
  - **A Cold Wind Blows: Seeking Smaller, Ruggedized Wind Turbines for the Arctic:** Launched under the Competitive Projects element, this challenge seeks to address a DND need for ruggedized wind turbines for the Arctic, to reduce the reliance on diesel fuel-generated power. This challenge received a total of 24 proposals for which seven contracts of up to \$200 000 each were awarded. Now that these seven contracts have completed, three of these projects were selected to receive up to \$1 million each to continue their work;
  - **Green Heat: Low Carbon Energy Generation for Heating Existing Buildings.** The objective of this challenge is to acquire, install, and operate a large-scale low-carbon energy generation and storage system for heating an existing building. This will assess the effectiveness and costs of such a technology for the modernization of and greenhouse gas emissions reductions efforts for the entire DND infrastructure portfolio. In FY 2021-22, a contract was awarded to Black & McDonald in March 2022. This project, with a complete cost of \$7.5 million over three years, aims to support the DND/CAF objective of greening their operations and provided the Government of Canada with support to carry out its mandate to make its buildings and facilities carbon-neutral by 2050; and
  - **Pop-up City Contest:** Launched under the Contests element, this challenge aimed to develop solutions to integrate energy, water and waste management systems to support the CAF's relocatable temporary camps which are deployed in national and international operations. In FY 2021-22, Round 3 winners were officially announced, with Terragon Environmental Technologies Inc., Innocorps Research Corporation, and SNC-Lavalin Integrated Utility Management System each receiving \$1.5 million in prize money to build their prototypes.

The Canadian Special Operations Forces Command (CANSOFCOM) utilized a robust internal Innovation Science and Technology program with embedded expertise provided by Defence Research and Development Canada, to prioritize and deliver novel solutions to operational challenges. The Innovation Science and Technology program leveraged a broad innovation ecosystem, including private and government organizations, to identify longer-term emerging threats and collaboration opportunities in the domains of individual protection, night vision, advanced sensing, small arms, mobility, counter-Unmanned Aerial Systems, and Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance systems.

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### **A Cold Wind Blows**



The Innovation for Defence, Excellence and Security (IDEaS) Program is seeking solutions through its Competitive Projects element for DND and the CAF to help reduce the reliance on diesel fuel generated power in the Arctic by using ruggedized wind turbines.

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## Results achieved

Departmental results	Performance indicators	Target	Date to achieve target	2019–20 Actual results	2020–21 Actual results	2021–22 Actual results
4.2 Defence and security challenges are addressed through innovative solutions	% of initiatives and projects that are supported by Defence Science and Technology	At least 90%	31 March 2022	30%	46.09%	50.78%*
	% of Innovation for Defence Excellence and Security (IDEaS) projects that resulted in useful advice, adoption, integration or eventual procurement of a new defence and security capability	At least 20%	31 March 2022	5.5%	77.8%	78%

Notes:

\* With the *Strong, Secure, Engaged* data review, an increase in initiatives supported by Defence Science and Technology were identified. The target will be revised through the next Departmental Results Framework review.

Financial, human resources and performance information for the Department of National Defence and the Canadian Armed Forces' Program Inventory is available in the [GC InfoBase](#).<sup>ccxlv</sup>

## Budgetary financial resources (dollars)

The following table shows, for Future Force Design, budgetary spending for FY 2021–22, as well as actual spending for that year.

2021–22 Main Estimates	2021–22 Planned spending	2021–22 Total authorities available for use	2021–22 Actual spending (authorities used)	2021–22 Difference (actual spending minus planned spending)
768,019,319	768,019,319	820,519,503	749,733,042	(18,286,277)

## Human resources (full-time equivalents)

The following table shows, in full-time equivalents, the human resources the department needed to fulfill this core responsibility for FY 2021–22.

2021–22 Planned full-time equivalents	2021–22 Actual full-time equivalents	2021–22 Difference (actual full-time equivalents minus planned full-time equivalents)
2,086	1,983	(103)

Financial, human resources and performance information for the Department of National Defence and the Canadian Armed Forces' Program Inventory is available in the [GC InfoBase](#).<sup>ccxlvii</sup>

## Procurement of Capabilities

### Description

Procure advanced capabilities to maintain an advantage over potential adversaries and to keep pace with allies, while fully leveraging defence innovation and technology. Streamlined and flexible procurement arrangements ensure that Defence is equipped to conduct missions.

### Results

Effective defence procurement is vital to ensuring that the Canadian Armed Forces (CAF) is equipped and ready to fulfill the important missions required to protect and defend Canada and Canadians. It begins with integrated, comprehensive and focused analyses that shape the development or refinement of CAF capabilities. The department continues to make improvements to ensure that procurement is set up for success through rigorous and timely consideration within the project approval process.

The CAF developed the Integrated Priority List that highlights the capabilities and investments required to effectively execute the North American Aerospace Defense Command (NORAD) mission sets of Aerospace Warning, Aerospace Control, and Maritime Warning within the broader defence, security and safety of North America. Advocacy continues for current and future requirements in order to influence and inform the Department of National Defence (DND) and the United States Department of Defense acquisition processes.

The CAF outlined the requisite capabilities and areas of investments required to effectively execute the Continental defence missions and fully define *Strong, Secure, Engaged* initiatives 109 and 111, North Warning System renewal and NORAD Modernization. Key activities included:

- The CAF continued to investigate future technological solutions and capabilities for maintaining situational awareness in the approaches to North America including the Arctic and Polar regions; and
- NORAD developed an Integrated Priority List to describe capability deficiencies that affect NORAD from executing its assigned missions and supported CAF Force Development efforts towards NORAD Modernization.

The Materiel Group continued to work with internal organizations as they prepare for enhanced contracting authorities.

### Gender-Based Analysis Plus (GBA Plus)

In FY 2021-22, the Canadian Army's Soldier Operational Clothing and Equipment Modernization initiative continued planning and development of Statements of Requirement that will be provided to industry when funding becomes available. The initiative has been examining the full range of personal protective equipment, load carriage, and clothing to determine whether any items need to be redesigned to accommodate different body shapes or gender considerations. Also, combat uniform sizing is being modified from the NATO-standard four-inch increments to two-inch increments, effectively doubling the available number of sizes, to enable individuals to select a better-fitting uniform.

The Defence Team continued to use GBA Plus to support the diagnosis of potential deficiencies and to improve the design of equipment and services procured for CAF members. Using GBA Plus helped the Defence Team procure equipment and services that take users' diverse needs into account, and improve the efficiency of the process.

### United Nations' 2030 Agenda for Sustainable Development and the United Nations Sustainable Development Goals (SDGs)

As directed by *Strong, Secure, Engaged: Canada's Defence Policy*<sup>ccxlviii</sup> initiative 100 and the Defence Energy and Environment Strategy, defence procurement continued adhering to Canadian environmental standards and integrating energy and environmental considerations into procurement decision-making. Additionally, in support of the Government of Canada's objective of net-zero emissions by 2050, procurement of all new defence capabilities continued conforming to the Greening Government Strategy

by pursuing energy and operational efficiency. The environmental and energy considerations in defence procurement supported the United Nations' 2030 Agenda for Sustainable Development and the United Nations Sustainable Development Goal #13, Climate Action.

## Experimentation

Public Service and Procurement Canada (PSPC), Treasury Board Secretariat, and DND established a working group and developed options for a risk-based contract approval process for defence procurement where the financial value exceeds PSPC's existing limits. In 2021, it was renamed the Risk-Based Approach and the pilot extended until March 2025.

Additional Defence-related experimentation activities are outlined in this report under [Core Responsibility 4 – Future Force Design](#).

## Key Corporate Risk(s)

There are many risks associated with the Procurement of Capabilities Core Responsibility. Three of the Key Corporate Risks are articulated below:

**Materiel Procurement** – There is a risk that DND/CAF may have difficulty procuring materiel capabilities at the right level to support operations.

**Information Technology Procurement** – There is a risk that DND/CAF may have difficulty procuring information technology capabilities at the right level to support operations.

**Materiel Maintenance** – There is a risk that DND/CAF may have difficulty maintaining its materiel capabilities at the right level to support operations.

The risks above can affect the department's ability to achieve the Departmental Results of the Procurement of Capabilities Core Responsibility.

As the Defence Departmental Results Framework reflects a chain of delivery from conceiving of the required armed forces, to developing them and then executing operations, the activities to mitigate the risks to the Procurement of Capabilities Core Responsibility can also be found in other core responsibilities which deliver building blocks that enable the results of Procurement of Capabilities.

Many of the preventative and mitigating controls for these risks are articulated as activities of each Departmental Result below.

## Departmental Result 5.1 – Defence procurement is streamlined

Streamlined and flexible procurement arrangements help ensure that DND is ready and equipped to conduct missions. Assessing the project process time helps measure the success of newly introduced processes. Below are a few of the initiatives which ensure that defence procurement is streamlined:

- In FY 2021-22, DND continued to leverage the PSPC-led Risk-Based Approach pilot for eligible procurements;
- DND participated in all four meetings of the FY 2021-22 Defence Industry Advisory Group. These meetings included DND-led discussions on the project scheduling transformation initiative within DND, NORAD modernization efforts, and impacts of the COVID-19 pandemic on defence projects and supply chains. In addition, the Defence Team participated in the first ever Canadian Defence Marketplace, a virtual networking event held by the Canadian Association of Defence and Security Industries to respond effectively to the COVID-19 social distancing requirements. DND officials also spoke at several industry events, including the CAF Leadership Series held by the Canadian Association of Defence and Security Industries in Fall 2021 to replace the CAF Outlooks in-person event, the Common Defence 2021 Conference, and the Canadian Defence Security and Aerospace Exhibition Atlantic in Halifax, Nova Scotia; and
- SSE initiative #94 aimed to reduce project development and approval time in the Department of National Defence by at least 50 percent for low-risk and low-complexity projects through improved internal coordination, increased delegation, and strengthened approval processes. The initiative

was successfully closed in FY 2021-22, resulting in 2 to 3 times faster processing times for eligible projects which leveraged streamlined project paths and governance between 2017 and 2022. Moving forward, DND will continue to further explore and promote innovative acquisition practices and processes.

## Results achieved

Departmental results	Performance indicators	Target	Date to achieve target	2019–20 Actual results	2020–21 Actual results	2021–22 Actual results
5.1 Defence procurement is streamlined	% of projects that meet the approved project development and approval timelines (low risk and low complexity projects)	100%	31 March 2022	Results not available	67%	75%*
	% of goods and services contracts that are awarded within established performance targets	100%	31 March 2022	92%	92%	96%**

Notes:

\* Initiatives such as the Tailored Project Approval Process (formerly known as Project Approval Process Renewal) continued to result in reduced approval process times, specifically in the later phases of the projects, eliminating the requirement for multiple Expenditure Authority approvals by the Minister of National Defence.

\*\* The procurement cycle time for FY 2021-22 is 25.8 days. Average Procurement Cycle Time is calculated by the sum of Contract Cycle Times (days) divided by the number of records returned for the same report period. This information is dependent on timing of data entry into the system.

Financial, human resources and performance information for the Department of National Defence and the Canadian Armed Forces' Program Inventory is available in the [GC InfoBase](#).<sup>ccdlx</sup>

## Departmental Result 5.2 – Defence equipment acquisition is well managed

To manage the lengthy acquisition process required to develop and implement complex projects, the department will grow and professionalize the procurement workforce. The Materiel Group completed the following activities:

- The Professionalization Working Group was restructured and membership expanded in order to provide consistent governance at a more senior level. A formal Terms of Reference was developed and approved. The Working Group met three times in FY 2021-22, and developed a professionalization model with a corresponding health check that will serve as a foundation for future professionalization activities;
- Development continued around competencies, the project management organization design within the constraints of human resources policy which led to the development of a course on negotiation and career paths for various occupations to support project delivery;
- In FY 2021-22, the Project Management Competency Development program accredited a total of 68 Project Managers at various levels, to qualify Project Managers for major capital projects and align the program with Treasury Board of Canada Secretariat; and
- Work began in March 2022 to develop and deliver a three-point scheduling and earned value management training package and discussions with PSPC on aligning policies. In 2021, work began on a negotiation course which reached the final stages of quality assurance at the end of FY 2021-22.

Key equipment acquisition projects in FY 2021-22 include the following:

- [Manned airborne intelligence, surveillance and reconnaissance](#);<sup>ccdl</sup>

- Canadian Surface Combatant;<sup>ccli</sup>
- Arctic and Offshore Patrol Ship;<sup>cclii</sup>
- Joint Support Ship;<sup>ccliii</sup>
- Fixed-wing Search and Rescue Aircraft Replacement Project;<sup>ccliv</sup>
- Future Fighter Capability Project;<sup>cclv</sup>
- Remotely Piloted Aircraft System;<sup>cclvi</sup>
- Strategic Tanker Transport Capability;<sup>cclvii</sup>
- Logistics Vehicle Modernization;<sup>cclviii</sup>
- Armoured Combat Support Vehicle;<sup>cclix</sup>
- CP-140 Aurora Incremental Modernization Project;<sup>cclx</sup>
- Interim Fighter Capability Project;<sup>cclxi</sup>
- Hornet Extension Project;<sup>cclxii</sup>
- CH-148 Cyclone Project;<sup>cclxiii</sup> and
- Victoria-class Modernization.<sup>cclxiv</sup>

Defence equipment acquisition results are based on the recognised project performance characteristics of scope, schedule and cost, using prescribed performance thresholds established through interdepartmental governance committees and project approval authorities. Revisions to project baselines require protracted discussions and engagement of interdepartmental governance committees, and can lead up to re-engaging the Project Approval authority (minister or Treasury Board). As the original schedule baselines are often developed based on several unknowns and assumptions early in the project lifecycle, revisions to the schedule for project oversight and reporting purposes typically occur through interdepartmental governance, and ensure that the revised schedule used to help manage project risks is grounded in evidence. Stated differently, addressing risks that have materialized can lead to a revised baselines, which in turn form the basis for future internal and external results reporting. This approach to performance reporting aligns with the Departmental Results Framework and is under review to ensure continuous improvement.

For more information on these and other projects, consult the [Investing in Equipment and Current Projects](#)<sup>cclxv</sup> webpage.



### Joint Support Ship



The future HMCS *Protecteur* under construction at Seaspan's Vancouver shipyards, British Columbia, May 27, 2022.

Photo: Jeremi Gagnon, VSY Crane Operator.

### Results achieved

Departmental results	Performance indicators	Target	Date to achieve target	2019–20 Actual results	2020–21 Actual results	2021–22 Actual results
5.2 Defence equipment acquisition is well-managed	% of capital equipment projects that remain in most recent approved scope	100%	31 March 2022	100%	94.12%	93.8%*
	% of capital equipment projects that remain on most recent approved schedule	100%	31 March 2022	100%	94.12%	93.75%*
	% of capital equipment projects that remain within most recent approved expenditure authority	100%	31 March 2022	100%	94.12%	87.5%*

Notes:

\* While construction of the Joint Support Ships at the Vancouver Shipyard continued in FY 2021-22, several positive cases of COVID-19 have recently occurred in the shipyard. The COVID-19 pandemic has and continues to impact the project's schedule and budget, due to effects on the supply chain and production efficiency. Requirements for self-isolation and restrictions have added challenges for some suppliers as well as project office staff.

While negotiations have not finalized, initial indications are that the COVID-19 pandemic impact to cost and schedule will be significant. An evaluation is ongoing and cost containment options under the terms of the contract are being considered.

**Interim Fighter Capability Project** — The performance result was impacted by significant cost pressures associated with infrastructure activities due to elevated construction costs in the Ottawa area, as well as higher than anticipated aircraft related costs. All efficiencies with respect to equipment and infrastructure scope have been explored and implemented, and scope has been reduced to remain within the approved expenditure authority. The project may be challenged to remain within approved Expenditures Authority under its current scope. Mitigating actions are being considered. Schedule delays in finding suitable accommodations for current occupants of Hangar 14 at the Ottawa International Airport coupled with recent disruptions in the global supply chain have delayed the hangar renovation timeline by over 24 months, impacting the effective project closure. Recent/projected human resources shortages may cause schedule pressures due to decreased capacity.

Financial, human resources and performance information for the Department of National Defence and the Canadian Armed Forces' Program Inventory is available in the [GC InfoBase](#).<sup>cdkvi</sup>

### Departmental Result 5.3 – Defence information technology acquisition is well-managed

DND delivered full operational capability or commence the following projects and initiatives in FY 2021-22:

- Defence Lessons Learned System;
- Secure Iridium Replacement Initiative;
- Search and Rescue Mission Management System Replacement;
- Designing and producing a common Command and Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance backbone;
- Polar Epsilon 2 Project; and
- Delivery of the Ground Segment - Phase 2 of the Medium Earth Orbit Search and Rescue Project.

Throughout FY 2021–22, DND continued to deliver on key information management and information technology capital projects as outlined in *Strong, Secure, Engaged*, despite the challenges of the COVID-19 pandemic. Since project reporting controls are in place to inform senior management when projects face challenges, appropriate steps were taken promptly to resolve issues.

The Defence Team continued to adopt project management best practices by engaging early with industry and delivery partners, and engaging closely with other government departments.

### Results achieved

Departmental results	Performance indicators	Target	Date to achieve target	2019–20 Actual results	2020–21 Actual results	2021–22 Actual results
5.3 Defence information technology acquisition is well-managed	% of information technology projects that remain within approved scope	100%	31 March 2022	100%	100%	100%
	% of information technology projects that remain on approved schedule	100%	31 March 2022	94%	76%	87%*
	% of information technology projects that remain within approved expenditure authority	100%	31 March 2022	100%	100%	93%**

Notes:

\* One project experienced hardware and software fulfilment timeline delays due to Request for Proposals (RFP) delays.

\*\* For one project, the need to find an alternate vendor caused a 21-24 month delay and required additional funding above the original Expenditure Authority.

Financial, human resources and performance information for the Department of National Defence and the Canadian Armed Forces' Program Inventory is available in the [GC InfoBase](#).<sup>ccxviii</sup>

## Departmental Result 5.4 – Supplies are available and well managed

In FY 2021-22 the department continued to enhance materiel accountability by implementing modern, effective inventory controls, supply chain management and inventory valuation. The following are three examples:

- The Defence Supply Chain Performance Measurement Framework has been rolled-out across National Defence in an intuitive dashboard. This informs decision-making around the areas of Responsiveness, Accuracy, Cost, and Equipment Status;
- The National Disposal Initiative was progressed, creating warehouse space, through selective reduction of depot holdings. Outcomes of this initiative have contributed to enhanced life cycle oversight of materiel, improved visibility over national strategic materiel holdings, optimized use of warehouse space, improved stewardship of materiel holdings, and decreased “cost of ownership” for DND/CAF; and
- DND established the Data Remediation and Marking of Serially Managed Materiel contract in November 2020 to apply unique identification marks such as 2-dimensional barcodes to existing Defence materiel. This initiative supports the adoption of automated data capture and entry technologies, including barcode scanners, delivered by the Automatic Identification Technology Project. It also supports Canada’s commitments to NATO by ensuring compliance with relevant NATO Standardization Agreements that support interoperability of materiel identification across NATO countries. At the end of FY 2021-22 over 800 materiel master records have been identified, over 30 000 items have been physically marked, and over 16 000 materiel data records were remediated.

## Results achieved

Departmental results	Performance indicators	Target	Date to achieve target	2019–20 Actual results	2020–21 Actual results	2021–22 Actual results
5.4 Supplies are available and well managed	% of stock that is unavailable to meet forecasted demand	7.93% or less	31 March 2022	7.61%	7.36%	7.39%
	% of stock disposed that was identified as surplus	At least 23%	31 March 2022	Results not available New indicator as of 2020-21	33.4%	57.9%

Financial, human resources and performance information for the Department of National Defence and the Canadian Armed Forces' Program Inventory is available in the [GC InfoBase](#).<sup>ccxviii</sup>

## Budgetary financial resources (dollars)

The following table shows, for Procurement of Capabilities, budgetary spending for FY 2021–22, as well as actual spending for that year.

2021–22 Main Estimates	2021–22 Planned spending	2021–22 Total authorities available for use	2021–22 Actual spending (authorities used)	2021–22 Difference (actual spending minus planned spending)
4,741,325,826	4,741,325,826	4,802,250,254	3,747,686,232	(993,639,594)

### Human resources (full-time equivalents)

The following table shows, in full-time equivalents, the human resources the department needed to fulfill this core responsibility for FY 2021–22.

2021–22 Planned full-time equivalents	2021–22 Actual full-time equivalents	2021–22 Difference (actual full-time equivalents minus planned full-time equivalents)
2,843	2,457	(386)

Financial, human resources and performance information for the Department of National Defence and the Canadian Armed Forces' Program Inventory is available in the [GC InfoBase](#).<sup>ccix</sup>

## Sustainable Bases, Information Technology Systems and Infrastructure

### Description

Develop and manage modern, operational and sustainable bases and infrastructure. Contribute to the achievement of federal environmental targets.

### Results

The Defence Team continued to effectively manage the largest infrastructure portfolio in the federal government. Maintaining modern and sustainable infrastructure that supports military requirements, improves efficiency, and reducing our energy and environmental footprint is critical to the military's operational success. Providing our military personnel with the facilities and tools they need to perform their work is one of our foremost priorities - we must deliver. During FY 2021–22, the department achieved the following:

- Continued operating at bases and wings, effectively managing the impacts of the COVID-19 pandemic to ensure that infrastructure continued to support the Defence mandate. This included ongoing maintenance and repairs to ensure that mitigation measures were implemented to protect the Defence workforce;
- [Awarded a new \\$54 million energy performance contract to upgrade 112 facilities across the Halifax area.](#)<sup>ccldxx</sup> Energy retrofits will also lower greenhouse gas (GHG) emissions by over 15 000 tonnes per year (i.e.: by 22 percent);
- Invested \$2.5 million to procure Smart Building Systems for 92 buildings in the portfolio in Trenton, Borden, the National Capital Region, Montreal, Saint-Jean, Halifax, and Gagetown. These Smart Building Systems provide deep analyses of equipment energy consumption to support the optimization of building operations, reduce energy consumption and GHG emissions;
- Advanced the implementation of four new energy performance contract (EPC) projects at Canadian Forces Base (CFB) Borden, Ontario, Canadian Forces Station Alert, Nunavut, CFB Comox, British Columbia, and CFB Halifax, Nova Scotia, for a total contract value of \$141 million. The Department of National Defence expended \$6.9 million in capital funding in FY 2021-22 as part of the total multi-year EPC contract value for these locations;
- Delivered, in cooperation with the United States Department of Defense, a solution to maintain the Canadian Armed Forces' ability to reach the United States classified network, using improved security features;
- Delivered an improved development and testing infrastructure that can be reached from anywhere for both unclassified and classified environments. It is more robust and easier to scale, and several large organizations within DND/CAF are now regularly using it;
- Completed a significant upgrade to the classified telephony capability that both DND and North American Aerospace Defense Command (NORAD) use on a regular basis known as the Canadian Defence Red Switch Network;
- Continued to modernize its communications infrastructure at bases, wings and garrisons. The Workplace Communication Services project migrated 7,895 old phone lines and 8 phone exchanges at 24 sites across Canada;
- The Workload Migration project has been centralizing information technology services to new Government of Canada datacentres. At the end of FY 2021-22, 76 percent of the planned moves had been completed;
- During FY 2021-22 the department acquired a new tool to support management of defence software assets. The implementation of this tool is expected to reduce overall software expenditures and more efficiently use existing software licences within the department; and



- DND/CAF formalized the Future Information Capabilities Framework in FY 2021-22. As part of the Future Information Capabilities Framework, the Defence Team established a Future Information Capabilities Steering Committee with a mandate to:
  - Identify and prioritize science and technology gaps in information capabilities and future IM/IT issues;
  - Review and advise on the quality and fit-for-purpose of science, technology and innovation products delivered;
  - Provide guidance to on the prioritization and sequencing of science and technology and innovation activities;
  - Champion the control, monitoring and maintenance of science and technology deliverables; and
  - Promote alignment and cooperation with other government departments.

The Future Information Capability Science and Technology Steering Committee is supported by a working group that was convened regularly in FY 2021-22. In June 2021, DND completed its first annual review of information capability challenges over multiple time horizons. In accordance with the Future Information Capabilities Framework, representatives worked closely with executives and general officers from the information capabilities stakeholder community across DND/CAF and developed a common list of information capabilities challenges requiring science and technology support.

The department continued with the roll out of its instance of Microsoft 365 known as Defence 365, a cloud-based suite of collaboration and work tools, which support the Defence Team in continuing to work and conduct operations remotely using processing features and applications.

Established the Information Protection Centre this year, as well as a fully dedicated cloud security monitoring team, in support DND's cloud adoption. This team delivered partial protected processing capability in its Microsoft 365 tool, to support missions in Afghanistan and Latvia and provide support to Ukraine. The Information Technology (IT) Security team also mitigated more than 1000 information mishandlings, proactively preventing information loss. This initiative directly enhanced the information technology command and control capabilities of the CAF, aligning itself with the needs to modernize the information technology of bases and wings around the country. The Information Protection Centre will elevate the level of security of all and can be part of the foundation of the Future Information Capabilities Framework.

In support of [\*Strong, Secure, Engaged: Canada's Defence Policy\*](#)<sup>cclxxi</sup> delivery in a cyber-safe manner, the department implemented cyber security requirements in over 300 acquisition contracts, ranging from platforms to blood-service health support, ensuring the protection of privacy and sensitive mission information on cloud-based and infrastructure IT systems.

The Joint Defence Cloud Program is the lead for business and technological transformation for DND/CAF toward the cloud, and has been steadily building capacity in terms of skilled talent in emerging domains. The Joint Defence Cloud has supported a preliminary business intake process for cloud services, and has also advanced the technical readiness of three cloud environments in Azure, Amazon Web Services, and Google Cloud.

## Gender-Based Analysis Plus (GBA Plus)

The Royal Canadian Navy (RCN) enabled consultation with all local Defence Advisory Groups during aspects of infrastructure barrier identification and improvement, specifically involving renovations for inclusive heads and wash places, accessibility, and support to sweat lodge repairs in Canadian Forces Base Halifax, Nova Scotia. Additionally, in infrastructure areas under RCN influence, the RCN continues to implement and review lactation spaces, expectant parent parking spaces, multi-faith rooms and inclusive heads and wash places.

In FY 2021-22, the Defence Team continued applying GBA Plus to inform the development and management of modern, sustainable bases and infrastructure that meets the needs of a diverse Defence

Team. The modernization of bases and infrastructure includes ensuring that physical spaces are effectively designed to be accessible, safe and inclusive for all Defence Team members.

GBA Plus requirements were integrated into planning processes and technical guidance. GBA Plus, in the infrastructure context, assesses the manner in which land use and infrastructure interacts with and affects a broad range of identity groups. By ensuring that site design and infrastructure is inclusive, it respects the needs of everyone and creates a more inviting DND community. Better lighting and pathways, and the provision of a more flexible mix of housing will increase the comfort, safety, and accessibility of those who live in, work within and visit DND infrastructures.

For example, GBA Plus applications in Master Real Property Plans and Site Development plans at 19 Wing Comox, British Columbia, led to improvements in roads, walkability, lighting, and security to increase comfort, safety, and accessibility for those who live in, work within, and visit the Wing.

For areas of infrastructure under RCAF responsibility, the RCAF endeavoured to create physical spaces that improve accessibility for all members for the RCAF defence team. This includes the creation of lactation rooms, multi-faith gathering rooms, gender neutral washrooms, and “expectant mother” parking spaces at many RCAF bases. Additionally, future force projects that included an infrastructure development component were created to ensure that such inclusive spaces were factored into the design.

## United Nations’ 2030 Agenda for Sustainable Development and the United Nations Sustainable Development Goals (SDGs)

In support of the government’s greening commitments, we continued working hard to implement the Defence Energy and Environment Strategy (DEES) and achieve the strategy’s ambitious objectives. The DEES will help DND meet its greening targets, improve energy efficiency, integrate climate-change adaptation into our programs, maintain sustainable real property, and strengthen our green procurement processes. The DEES continues to build on environmental commitments in *Strong, Secure Engaged: Canada’s Defence Policy* and is aligned with the goals of the Federal Sustainable Development Strategy and the United Nations Sustainable Development Goals. The implementation of the [Defence Energy and Environment Strategy \(DEES\) for 2020-2023<sup>cclxxii</sup>](#) advanced with notable updates:

- Assessment and remediation of [contaminated sites<sup>cclxxiii</sup>](#) continued, with the goal of reducing DND’s contaminated sites liability by an average of 10 percent per year by 2023;
- Reduction of greenhouse gas emissions was advanced, with a target of 40 percent below 2005 levels by 2025 (infrastructure and commercial light-duty fleet) and achieving net-zero emissions by 2050 (includes emissions from National Safety and Security—aircraft, ships and land-based military pattern vehicles);
- DND ensured that, when possible, all of its commercial light-duty vehicle fleet purchases are zero-emission vehicles or hybrid, with a zero-emission vehicle procurement target of 50 percent by 2023;
- DND initiated the drafting of a Climate Change Risk Assessment Framework which is forecasted to be finalized in FY 2022-23. DND has also drafted a statement of work to prioritize infrastructure and programs for climate change risk assessments. Prioritization is expected to be complete by FY 2022-23;
- The Green Building Directive took effect in April 2021. The new directive integrates commitments related to construction, renovation and demolition waste, net-zero emissions, and available industry standards on embedded carbon requirements; and
- Industry consultation plans were developed for a new sustainable packaging National Master Standing Offer between DND and Public Services and Procurement Canada.

## Experimentation

Defence-related experimentation activities are outlined in this report under [Core Responsibility 4 – Future Force Design](#).

## Key Corporate Risk(s)

There are many risks associated with the Sustainable Bases, Information Technology Systems and Infrastructure Core Responsibility. Two of the Key Corporate Risks are articulated below:

**Physical Environment** – There is a risk that changes to the physical environment of Canada and the world will impact the type, frequency and conduct of DND/CAF activities.

**Infrastructure Procurement** – There is a risk that DND/CAF may have difficulty procuring/building infrastructure at the right level to support operations.

The risks above may affect the department's ability to achieve the Departmental Results of the Sustainable Bases, Information Technology Systems and Infrastructure Core Responsibility.

As the Defence Departmental Results Framework reflects a chain of delivery from conceiving of the required armed forces, to developing them and then executing operations. The activities to mitigate the risks of the Sustainable Bases, Information Technology Systems and Infrastructure Core Responsibility can also be found in other core responsibilities which deliver building blocks that enable the results of Sustainable Bases, Information Technology Systems and Infrastructure.

Many of the preventative and mitigating controls for these risks are articulated as activities of each Departmental Result below.

### Physical Environment Risk Response: Operation LENTUS



Members of 39 Combat Engineer Regiment and 1 Combat Engineer Regiment deployed to Chilliwack Lake Road, stack sandbags to prevent further road degradation, outside Chilliwack, British Columbia during Operation LENTUS, November 27, 2021.

Photo: Private Daniel Pereira, 39 CBG Public Affairs, CAF photo.

## Departmental Result 6.1 – Naval, Army and Air Force Bases enable military operations and defence activities

The COVID-19 pandemic continued to impact the average daily meal cost in FY 2021-22, as supply chain shortages and delays caused undue hardship for local suppliers resulting in higher than usual prices. The

Royal Canadian Air Force and the Royal Canadian Navy will continue to evaluate these new metrics for upcoming reporting years.

The Canadian Army's 21 bases and training establishments are centres of military life across Canada. In FY 2021-22, these bases supported not only Canadian Army personnel and force generation, but also more than 50,000 personnel from across the Defence Team who were involved in operations or routine activities. FY 2021-22, saw the implementation of two performance indicators to measure the effectiveness of the delivery of food services and availability of single quarters' accommodation on CAF bases and wings. The experience gained during the implementation of these indicators is being used to inform decisions regarding others.

For more information, refer to the following webpages:

- [Naval bases](#); <sup>cclxxiv</sup>
- [Army bases](#); <sup>cclxxv</sup> and
- [Air Force wings](#). <sup>cclxxvi</sup>

## Results achieved

Departmental results	Performance indicators	Target	Date to achieve target	2019–20 Actual results	2020–21 Actual results	2021–22 Actual results
6.1 Naval, Army and Air Force Bases enable military operations and defence activities	% of single quarters accommodations that can be used	At least 90%	31 March 2022	Results not available New indicator as of 2020-21	69%	75%*
	% deviation of average daily meal cost from the standard allowance	15% or less	31 March 2022	Results not available New indicator as of 2020-21	12%	5.5%

Notes:

\*In addition to reduced occupancy capacity of single quarters due to COVID-19 restrictions, a percentage of single-quarter accommodations were marked as "not available" as they were reserved for quarantine purposes. This, compounded to regular and planned maintenance, reduced the number of single quarter's available impeding CAF/DND ability to reach its target of 90 percent. It is to be noted that the results are not indicative of the normal conditions of accommodation services at bases and wings.

Financial, human resources and performance information for the Department of National Defence and the Canadian Armed Forces' Program Inventory is available in the [GC InfoBase](#). <sup>cclxxvii</sup>

## Departmental Result 6.2 – Defence infrastructure is well-managed throughout its lifecycle

The Defence Team also continued to improve infrastructure management in FY 2021-22, and achieved the following targets:

- DND implemented low-complexity housing investment plans through the Residential Portfolio Capital Investment Plan which will involve renovating the existing residential housing portfolio and constructing new units to address some of the portfolio shortfalls over a 10 year period. The Residential Portfolio Capital Investment Plan is based on the principles defined by DND's operational requirements for residential housing and the forecasted housing program requirements, and is improving the overall supply, condition and functionality of the Defence residential housing portfolio. DND invested a total of \$123.6 million in the residential housing portfolio in FY 2021-22;
- DND continued to improve its portfolio, in support of its commitment to reduce GHG emissions. It progressed 19 divestment projects by divesting and demolishing older, non-energy-efficient properties and replacing facilities with new EnerGuide and Leadership in Energy and Environmental Design approved properties. The resources previously used to maintain these

properties will save an estimated \$0.4 million annually which will be reinvested in modernizing our portfolio and building new infrastructure to support personnel and their work;

- The Defence Real Property Portfolio Strategy was developed to satisfy the [Treasury Board Secretariat Directive on the Management of Real Property](#)<sup>cclxxviii</sup> and align with the [Horizontal Fixed Asset Review](#)<sup>cclxxix</sup> recommendations, it provides strategic objectives and specific activities designed to improve the management of DND real property infrastructure; and support broader Government of Canada priorities; and
- During the COVID-19 pandemic, DND/CAF and its service providers diligently operated and maintained the Department's facilities and office spaces through continuously changing public health measures and restrictions. This ensured that CAF members could conduct training, and plan, command and execute domestic and expeditionary operations.

For more information, consult the investing in [Defence Infrastructure Projects](#)<sup>cclxxx</sup> webpage.

## Results achieved

Departmental results	Performance indicators	Target	Date to achieve target	2019–20 Actual results	2020–21 Actual results	2021–22 Actual results
6.2 Defence infrastructure is well-managed throughout its lifecycle	% of infrastructure in suitable condition	At least 80%	31 March 2022	64%	64.49%	64.4%*
	% of maintenance and repair investment in relation to the infrastructure portfolio value	At least 2%**	31 March 2022	1.01%	0.71%	1.55%***
	% of the total real property value that is identified as surplus	2% or less	31 March 2022	2.59%	1.78%	1.72%

Notes:

\*The DND real property portfolio has a large number of buildings and systems that are coming to the end of their life expectancy. This aging infrastructure is increasing the need for maintenance, repairs and recapitalization of buildings in the portfolio.

\*\* This value reflects an industry benchmark for best practices in sustainment of infrastructure portfolios.

\*\*\* The baseline allocation provided was insufficient to meet this target during FY 2021-22. Should the Assistant Deputy Minister (Infrastructure & Environment) receive additional funding as requested in future years, the monies will be allotted to maintenance and repair related costs.

Financial, human resources and performance information for the Department of National Defence and the Canadian Armed Forces' Program Inventory is available in the [GC InfoBase](#).<sup>cclxxxi</sup>

## Departmental Result 6.3 – Defence activities are carried out in a safe and environmentally responsible manner

The Defence Team continued to make significant progress in improving the energy efficiency of our operations. Ongoing investments in green technologies and innovative approaches to business management are helping us meet our sustainability commitments. In FY 2021-22, the department achieved the following:

- Continued implementing the [Defence Energy and Environment Strategy \(DEES 2020-2023\)](#),<sup>cclxxxii</sup> which outlines DND/CAF's energy and environmental commitments;
- Explored innovative approaches to deliver Real Property services and secure better value for the Crown, including energy performance contracts (EPC) that limit upfront costs and transfer performance risk from DND/CAF to energy service companies and partners. EPC projects are underway at Comox, Halifax, Borden, Kingston, Bagotville, Greenwood, Valcartier, Esquimalt, Alert, Shilo and Petawawa. Similar contracts are in development for bases Trenton and Gagetown;



- Eighty-five percent of eligible bases and wings have been assessed for energy performance contracts with 52 percent of them in implementation a full year ahead of schedule;
- Leadership in Energy and Environment Design (LEED) Silver Leadership standards were met for all required major capital projects that achieved Initial Operating Capability in FY 2021-22;
- The Green Building Directive, which came into effect in April 2021 included a commitment for all new and major recapitalization projects to be built to LEED standards. The new Green Building Directive integrates commitments related to construction, renovation and demolition waste, net-zero emissions, and more. This revision goes beyond LEED Silver standards to require that new construction and major recapitalization projects be built to net-zero-carbon standards; and
- DND has supported Public Services and Procurement Canada's efforts to secure Green Power Purchase Agreements, which would fulfill clean power and alternative energy option demand for infrastructure at bases and wings.

The publication of the first Canadian Army summary report on water quality impacts associated with live-fire training was completed in FY 2021-22. Additionally, an effort to support the Department's assessment of the impacts of climate change, the report "Canadian Army Climate Change Study Phase II: Prioritization of Potential Adaptation Strategies" was published in June 2021. The report prioritizes potential adaptation measures based on their importance and their overall impact on the CAF, as well as the project cost of implementation and the required time and effort to achieve full implementation.

For more information, refer to the [Greening Defence](#)<sup>cclxxxiii</sup> webpage.

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### Greening Defence



Leveraging renewable energy sources – DND/CAF is improving the energy efficiency of facilities through the purchase of electricity from renewable energy sources. The department will use 100 percent clean electricity where it's available by 2022, and by 2025 at the latest by producing or buying renewable electricity.

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## Results achieved

Departmental results	Performance indicators	Target	Date to achieve target	2019–20 Actual results	2020–21 Actual results	2021–22 Actual results
6.3 Defence activities are carried out in a safe and environmentally responsible manner	% of greenhouse gas emissions reduction relative to a 2005 baseline	At least 40%	31 March 2030	31.3%	38%	35.9%*
	% of light-duty vehicle fleet that is hybrid, plug-in hybrid and/or electric	At least 30%	31 March 2022	33%	34%	29.9%**
	% of reduction in contaminated sites liability based on the closing liability of the previous year	At least 7%	31 March 2022	16.5%	10%	12.6%

Notes:

\* Greenhouse gas emissions from infrastructure and the light-duty vehicle fleet increased to 35.9 percent in FY 2021-22 in comparison to 38 percent the previous year. Data is always presented in relation to the 2005 baseline. This increase is linked to a resumption in normal operations as pandemic measures are progressively phased out. COVID-19 pandemic restrictions significantly restricted military operations and consequently the use of the light duty fleet and heating of buildings. Contingent on clean electricity agreements being signed by PSPC, DND is on track to achieve 40 percent greenhouse gas emission reduction by 2030.

\*\* FY 2021-22 saw a large drop in percentage of light-duty fleet that is hybrid/electric because pick-up trucks which weren't previously included in the light-duty fleet category were added in 2021. The addition of pick-up trucks to the light-duty fleet, which in the last few years did not have hybrid/electric purchasing availability from manufacturers, reduced FY 2021-22's result.

Financial, human resources and performance information for the Department of National Defence and the Canadian Armed Forces' Program Inventory is available in the [GC InfoBase](#).<sup>cdlxxxiv</sup>

## Budgetary financial resources (dollars)

The following table shows, for Sustainable Bases, Information Technology Systems and Infrastructure, budgetary spending for FY 2021–22, as well as actual spending for that year.

2021–22 Main Estimates	2021–22 Planned spending	2021–22 Total authorities available for use	2021–22 Actual spending (authorities used)	2021–22 Difference (actual spending minus planned spending)
3,829,653,614	3,829,653,614	4,171,775,572	3,945,280,646	115,627,032

## Human resources (full-time equivalents)

The following table shows, in full-time equivalents, the human resources the department needed to fulfill this core responsibility for FY 2021–22.

2021–22 Planned full-time equivalents	2021–22 Actual full-time equivalents	2021–22 Difference (actual full-time equivalents minus planned full-time equivalents)
16,493	15,642	(851)

Financial, human resources and performance information for the Department of National Defence and the Canadian Armed Forces' Program Inventory is available in the [GC InfoBase](#).<sup>cdlxxxv</sup>

## Internal Services

### Description

Internal Services are the groups of related activities and resources that the federal government considers to be services in support of programs and/or required to meet corporate obligations of an organization. Internal Services refers to the activities and resources of the 10 distinct service categories that support program delivery in the organization, regardless of the Internal Services delivery model in a department.

The 10 service categories are as follows:

- Acquisition Management Services;
- Communication Services;
- Financial Management Services;
- Human Resources Management Services;
- Information Management Services;
- Information Technology Services;
- Legal Services;
- Material Management Services;
- Management and Oversight Services; and
- Real Property Management Services.

### Results

#### Financial management and planning

The Department of National Defence (DND) and the Canadian Armed Forces (CAF) approach to financial stewardship is underpinned by [Strong, Secure, Engaged: Canada's Defence Policy](#).<sup>cdlxxxvi</sup> *Strong, Secure, Engaged* made significant strides in improving the financial transparency, oversight, and accountability of the defence budget and Defence's commitment to deliver results that meet the expectations of Canadians. The approach to financial management and planning in DND/CAF is to be a transformative leader in financial practices and to modernize the business of Defence. In FY 2021-22, the DND/CAF financial community continued to provide oversight for the implementation of *Strong, Secure, Engaged* through the ongoing sound stewardship of resources.

To achieve Canada's defence needs at home and abroad, and to succeed in a complex and unpredictable security environment, defence funding must be affordable, achievable, and informed by rigorous evidence-based costing analysis that accurately and effectively measures the resources required to make critical investments that can deliver on our longer-term defence and security priorities. The Financial Planning and Forecasting tool continues to provide valuable insight and analysis to the Defence Team. DND and the CAF have made improvements to guarantee knowledge management, including the reliability of our data and our ability to align resources and strengthen accountability. These improvements enable DND and the CAF to more effectively ensure that oversight and accountability, specifically toward enhanced management of resources, is supported through the administration of an internal financial control framework. The accuracy of our data is critical to high-performance costing and forecasting that delivers results and supports DND/CAF with capabilities and capacities that are able to meet our real-time challenges, threats, and opportunities. Well-supported planning and guidance will continue to be developed to meet the changing nature of conflict, counter new emerging threats, and keep pace with evolving technology.

## Management and oversight services

### Departmental Litigation Oversight

The Department of Litigation and Oversight (DLO) continued to expand and mature the compliance oversight of various proposed and/or certified class actions involving DND/CAF, including those pertaining to workplace issues (sexual misconduct and racism); administration (pension and benefits) and infrastructure (contaminated sites). This oversight and advisory role for the Deputy Minister and other departmental clients has been enabled by an approach rooted in project management principles, policy analysis, risk management, data and analytics adoption and reporting capabilities. Working closely with the Canadian Forces Legal Advisor and with Department of Justice litigators, DLO provided litigation support for the conduct of litigation, and the administration of class action claims and is an active contributor to an evolving Government of Canada approach to class action management. In addition, as the assigned Secretariat to coordinate the delivery of the mandated [Third Independent Review of the National Defence Act](#)<sup>cclxxxvii</sup>, DLO enabled extensive engagement of internal and external actors with the Review Authority, former Justice Fish, permitting successful tabling of the Report in Parliament in June 2021.

### National Defence Act

In June 2021, the Minister tabled in Parliament the report on the Third Independent Review of specified provisions of the *National Defence Act* (NDA), as executed by former Justice Fish. Former Justice Fish was provided with access to CAF members and DND employees, as well as members and staff of the Military Grievances External Review Committee, the Military Police Complaints Commission, and the DND/CAF Ombudsman, in aid of this comprehensive assessment. His review provided recommendations for one of the largest overhauls of the *National Defence Act* and Canadian military justice system in recent memory and the vast majority of the 107 recommendations were immediately accepted by DND/CAF. In the short term, implementation began on 36 of former Justice Fish's recommendations; DND/CAF also initiated the analysis of, and implementation plan development for the remaining recommendations, and has committed to providing biannual progress reports to the Standing Committee on National Defence. The majority of the recommendations pertained to the military justice system, including the independence of military justice actors and how issues of sexual misconduct are addressed, as well as military policing and police oversight. The remainder of the recommendations concern military grievances and the external review of grievances. In aid of implementation oversight, the Vice Chief of the Defence Staff and the Judge Advocate General chair the recently created External Comprehensive Review Implementation Committee, charged with ensuring oversight and progress in implementation of all external review recommendations.

### Review Services

The Assistant Deputy Minister (Review Services) (ADM (RS)) continued to meet its mandate to conduct independent evaluations, audits and investigations. Recognizing the need to transform the way systemic misconduct is understood and addressed within DND/CAF, throughout this period of change, ADM (RS) provided advice and studied emerging risks by initiating several assurance engagements that examined DND and the CAF's response in order to change the culture and support equity, diversity and ethical behaviours. ADM (RS) also completed other engagements in response to the evolving implications from the pandemic. These oversight activities were undertaken to further promote improvement to defence policies, programs, operations and activities.

### The Defence Ethics Program

Based on effective collaboration between the Defence Ethics Program and the Canadian Defence Academy, the modernized foundational CAF doctrine of the military ethos, slated for release in FY 2022-23 as *Trusted to Serve*, now provides a clearer picture of how fundamental ethical principles for the Defence Team also help shape military identity.

### Defence Security Program

The department continued to lead efforts to identify security risks through the execution of the DND Security Program, which enabled DND/CAF to make evidence-based security risk decisions supporting

the execution of the Defence Services Program. The following were two of the key focus areas for FY 2021-22:

- The implementation of innovative and modern business practices improving the Defence Security Program, including but not limited to the business continuity management lessons learned from the COVID-19 pandemic; and
- The delivery of timely and efficient security-clearance processing in support of operations.

### **Civilian human resources management**

Updated guidance was issued to the Defence Team in the summer of FY 2021-22 to support the civilian workforce as we continued to navigate the COVID-19 pandemic. Known as the [2021 Summer Guidance for Defence Public Service Employees and Managers – Supporting a Modern, Flexible and Varied Workforce through COVID-19 and Beyond<sup>cclxxxviii</sup>](#), the guidance provided employees and managers with accessible information to support workplace and workforce decisions, and the eventual transition to a hybrid and flexible work posture. More than a dozen information sessions were held across the country in an effort to help managers gain practical insight to address the challenges and scenarios their employees were experiencing. In addition, a Future of Work Task Force was stood up to support the Defence Team's transition to a modern, flexible and varied posture by providing communications that focus on helping managers/employees prepare for the hybrid work model to ensure the safety, health, and wellness of Defence Team employees.

During FY 2021-22, DND undertook consultations to inform a Civilian Human Resources Strategy, designed to supplement the Defence Team Human Resources Strategy and to help the Defence Team attain an optimized workforce composition that is sized, affordable, sustainable, representative and inclusive. The strategy is expected to be released in FY 2022-23.

DND continued to modernize human resources tools and processes through digital human resources initiatives such as posting mental health materials, tools and resources on the DND COVID-19 Mental Health and Wellness page and the HR Go RH mobile app, as well as recruitment efforts promoted via social media channels such as Facebook and LinkedIn. VidCruiter, a video recruiting platform was used in some staffing processes as a more modern and efficient way to conduct staffing processes.

The use of data analytics enabled better, smarter, faster human resources and alleviated administrative burdens to create the space for good people management through workforce dashboards and planning.

A process was established to leverage DND approved applications such as the Human Resources Management System, Microsoft Dynamics, Microsoft Cloud service and Office 365 prior to implementing new Information Technology to reduce the amount of change management and technical debt, and to lessen the risk of erroneous data.

Employees and military managers had increased access to direct human resources support through HR Connect RH, a Virtual Client Contact Center used as a service delivery channel for accessing human resources programs and services. The centre is available online and through a toll-free number. Employees and managers can ask questions about various human resources matters, including compensation, staffing, classification, and labour relations, as well as seek information on available mental health supports and on workplace harassment and violence prevention.

The DND employee experience is monitored through the Public Service Employee Survey. Recognizing that our workforce is impacted by intersectional diversity and inclusion challenges, using the survey results, longitudinal and GBA Plus analytical approaches were integrated into existing workforce tracking mechanisms to inform strategic decision-making, the development of strategic dashboards and implementation of policy. Results were also used to inform the employment equity and diversity and inclusion action plans and the Functional Planning Guidance. These types of efforts provided an increase to the Defence Team's understanding of factors impacting the current workforce and thereby provided opportunities for individual organizations to address and implement actions where needed. Interactive workforce analytics' dashboards provided support for future workforce planning, human resources business intelligence and future thinking for informed workforce insights and decision-making.



During FY 2021-22, DND continued to lean forward to continuously improve existing services and to implement new Human Resources-to-Pay programs. Through a strategic backlog reduction strategy, the department's backlog, defined as cases before August 4, 2021, has been reduced from 77 539 at its peak in April 2018 to 10 491 active cases at the end of FY 2021-22, achieving a reduction of 67 048 (86 percent). The total number of active cases for DND is 14 732, impacting 10 409 employees. We continue to ensure that employees are paid accurately and on time and the DND compensation team have designed, developed and implemented personalized, client-centric services to support employees and managers by providing Tier 1 Service through HR Connect RH and one-on-one services through individual consultation bookings.

DND also provided comprehensive Section 34 support to CAF and civilian managers and manually entered transactions on behalf of employees and managers in operations groups. With a focus on communications and engagement, we released communications (*Defence Team News* 95 articles; *HR Go RH* 50 articles, *Maple Leaf*<sup>cclxxxix</sup> 77 articles; and *HR Matters* 9 volumes, 34 articles), and directly engaged with employees and managers with targeted, tailored and timely messages and information to prompt them on required pay actions.

A series of Work Life Events were released to guide employees: Retirement, Leave Without Pay, My Pay and Manage My Employee's Pay, Overtime and Leave. The sustained reduction of backlog and business process improvements support the service design philosophy to put the client first, build trust, and provide excellent services. The positive pay outcomes are a direct result of DND's investment in compensation services, and the strong collaboration with Public Services and Procurement Canada.

The Defence Team recognized the urgent need to examine and identify actions to address and eliminate racism, hateful conduct and discrimination. To respond to this need, we developed and implemented employment equity diversity and inclusion action plans. Civilian Human Resources partnered with supporting stakeholders to review, adjust and further develop existing and new human resources policies and to identify impacts on racialized populations, making changes as required. Tools and resources have been developed for employees and managers through the Defence Team intranet that promote cultural awareness and anti-racism and discrimination. Harassment-related learning opportunities for civilian employees are provided through the Defence Learning Network for civilian employees.

DND developed a consistent and comprehensive workplace harassment and violence prevention program that fully implemented the changes as a result of [Bill C-65](#).<sup>ccxc</sup> CPCC is the focal point for these changes and has implemented prevention-policy training, streamlined the formal recourse for response, and provided support through programs such as the Employee Assistance Program. Improved reporting and monitoring allows for any changes and improvements to the program to be efficient and effective. CPCC will partner with other CAF initiatives to continue supporting the Defence Team in creating and maintaining a workplace free of harassment and violence.

### Communicating with Canadians

Canadians are informed of DND/CAF objectives and results through direct citizen engagement, working with stakeholders and partners, and via the media. Communications services help build the trust of Canadians, inform them of how the Defence Team is operating on their behalf, and demonstrate how the institution represents Canadian values at home, and defends democratic values abroad.

The extent of DND/CAF communications in FY 2021-22 shows the unrelenting pace and scale of [CAF operations](#)<sup>ccxc</sup> from responding to requests for federal assistance during the pandemic and natural disasters, to working with Canada's allies to maintain international security in Europe, the Indo-Pacific region, the Middle East, and around the world.

Equally notable is the intense communications effort that was required to launch the [Conduct and Culture Change](#)<sup>ccxcii</sup> initiatives to address, and seek to redress, a record number of reports of sexual misconduct and other institutional misconduct. This is in addition to the continuous communications support committed to advancing institutional culture change. This work will be instrumental in restoring any broken trust among Defence Team members and Canadians.

Key results for communications services included the following:

- Communications support was provided to the Minister for more than 60 events and activities, including high-level domestic and international engagements;
- A dedicated team for conduct and culture change communications was stood up;
- The National Defence Media Relations Office managed 1974 media requests, with a response rate of 96 percent within negotiated deadlines;
- The Public Inquiries Desk responded to 1147 requests for information from Canadians, with a response rate of 90 percent within 10 business days;
- Daily, evening and weekend media were monitored for news and commentary in connection with the Minister, CAF operations, departmental programs, and defence and security issues, as well as in-depth media analysis of emerging issues to senior leaders. This helps inform strategic-level decision making;
- National and regional Stakeholder Engagement Offices delivered 288 activities which contributed to increasing audiences' understanding of defence priorities, issues and challenges; and
- The 2021 [National Veterans' Week Speakers Program](#)<sup>ccxciii</sup> – The program demonstrated continued adaptation in the COVID-19 pandemic environment, coordinating 2178 requests, including requests for CAF Speaker videos, and for in-person and virtual presentations by CAF members to schools and community organizations, altogether reaching more than 613 000 Canadians.

As Canadians increasingly use digital technologies to communicate in their daily lives, the Defence Team is taking a digital-first approach to communicating with Canadians. In FY 2021-22, the following results were achieved:

- Recruitment advertising campaigns were focused on promoting the unique full and part-time career opportunities offered by the CAF, along with addressing priority occupations. Campaigns including Women in the Forces, Indigenous Peoples, the Reserve Force, Paid Education, and Talk to a Recruiter used a mix of traditional and digital media to reach audiences. In total, these campaigns generated more than 1.6 million web advertisement visits; 609 million impressions; and 171 000 start application clicks due to advertising; 30.47 percent of web traffic on the [forces.ca](#)<sup>ccxciv</sup> recruiting website was the direct result of advertising; and
- There was an overall audience increase of 12 percent across all DND/CAF social media platforms including Facebook, Twitter, Instagram and YouTube.

Web usability testing ensured that users could navigate DND/CAF websites, get the information they needed, and complete online tasks as they related to Canadian Armed Forces careers; steps taken to minimize [COVID-19](#)<sup>ccxcv</sup> related risks to military and civilian members of the Defence Team; and intranet content management for the Sexual Misconduct Response Centre.

### Information management

The department advanced its efforts to align to the Government of Canada's information and data management priorities that are outlined in the Treasury Board's [Policy on Service and Digital](#),<sup>ccxcvi</sup> as well as in the Directive on Open Government. This work included refreshing additional IM-related policy instruments and creating new instruments to address policy gaps. The work also supported the publication of departmental datasets. DND also initiated the renewal of its Enterprise Information Architecture, which included a successful proof of concept for the use of Microsoft 365 for electronic document management. DND/CAF then sought and received endorsement from the Government of Canada Enterprise Architecture Review Board to implement Microsoft 365 as an official system to manage electronic information. Moving forward, this will allow the Department to better support, facilitate and manage electronic information throughout its lifecycle.

### Data management

The department strengthened its enterprise-wide data management in FY 2021-22 in the finalization and development of key foundational policies and directives:

- Released the [Departmental Administrative Orders and Directives \(DAOD\) 6500-0, Data Management and Analytics](#)<sup>ccxcvii</sup> to provide strategic direction for DND and CAF policies, directives, instructions, standards and guidelines relating to data management and analytics;
- Delivered the [Analytics in DND/CAF: Vision and Guiding Principles](#)<sup>ccxcviii</sup> and established a high-level roadmap for analytics that comprises of several activities needed to deliver on the stated vision;
- Released the Direction on Core DND/CAF Capabilities, which identified eight core capabilities that are key to achieving the necessary maturity to leverage data's potential;
- Finalized the DND/CAF Data Governance Framework which sets out a model for data stewardship and related roles and responsibilities as well processes for making decisions about how data are accessed and shared amongst DND/CAF organizations; and
- Progressed the DND/CAF Data Quality Framework to align with the current version of Data Governance Framework and document the core data quality dimensions that organizations across the department can leverage to ensure that their data assets meet their business needs. Business needs can be data analytics or the data that is being consumed within their system.

DND/CAF prioritized data and analytics throughout the department in order to implement Defence Policy initiatives and strengthen evidence-based decision-making. Highlights of the activities undertaken during FY 2021-22 include the following:

- Initiated a Change Management approach to further enable Data Stewards in line with the Data Governance Framework;
- Identified data access as a departmental priority in support of the Data Governance Framework. In addition, actively pursued solutions to enable access to data to further data-driven decision-making;
- Further fostered a data-literate department through establishment of a Data and Analytics Community of Practice to build data literacy across the department;
- Hosted the inaugural DND/CAF Data Day Conference to reinforce an organizational culture that values data as an asset to be used to our advantage in operations and to improve accountability for our decisions and actions; and
- Data and analytics use-cases supported various business units in the reporting of real-time performance information using predictive analysis based on historical data.

### **Defence enterprise modernization**

The Defence Resource Business Modernization Program re-established an oversight framework for its major capital project and enterprise modernization initiatives. In FY 2021-22, additional capability was delivered within the Enterprise Resource Planning System for financial planning and forecasting and considerable progress was made in transitioning customer and vendor data to the Master Data Governance. The program also completed definition and some preparatory change management work for two transformational initiatives, Modernization and Integration of Sustainment and Logistics and Material Identification, both of which will begin implementation in FY 2022-23.

### **Information technology**

Substantial effort and resources have been applied to modernize Financial/Material/Real Property and Human Resources Management Systems. These investments will improve business processes leading to benefits in the realm of security and disaster recovery, as well as improved human resources reporting and alignment with the Government of Canada enterprise management systems. In FY 2021-22, the department progressed its efforts to modernize the Enterprise Resource Management systems to support the department's transition to evidence-based decision-making and mature data architecture and management. Although it is a multi-year effort, the Defence Resource Management Information System Modernization project has now approaching its definition phase. This significant and comprehensive project will transform and migrate its financial and materiel system of record to improve its reporting,

business intelligence and analytics capabilities and to align with the Government of Canada enterprise financial management system.

In FY 2021-22, the Defence Resource Management Information System Modernization project team has had successful engagements with our allied partners, which have been instrumental in setting up the project for success. The project has also made significant progress in business transformation efforts, by:

- Establishing the Business Transformation Team – a network of stakeholders focused on aligning and prioritizing business transformation and change management efforts;
- Launching organizational readiness assessments to equip the team to better support DND/CAF throughout the life of the project; and
- Coordinating workshops to develop branding for the project.

### Legal services

In FY 2021-22, the Office of the Judge Advocate General provided legal advice and services across the full spectrum of military law – administrative law, military justice and operational law – to organizations across the Defence Team. Throughout FY 2021-22 the strategic priority was to advance the modernization of the military justice system through a series of initiatives which included: supporting the independent review of aspects of the *National Defence Act*, which was tabled before Parliament in June 2021, and the Government of Canada response to it; the development of the Justice Administration and Information Management System (JAIMS); and advancing the development of regulations and policies required to implement [Bill C-77](#).<sup>ccxcix</sup>

In the summer of 2021, the Judge Advocate General stood up a new Division – the Military Justice Modernization Division – to support the whole-of-government effort required to implement the recommendations made in the [Report of the Third Independent Review](#)<sup>ccc</sup> led by former Justice Morris J. Fish, as well as to provide legal services in support of the [Independent External Comprehensive Review](#),<sup>ccci</sup> and prepare to implement any other recommendations coming from external reviews at the government's direction, as it relates to military justice matters.

The Judge Advocate General also supported the establishment of the DND/CAF governance structure – the External Comprehensive Reviews Implementation Committee – required to support interdepartmental efforts to implement the Third Independent Review and the Independent External Comprehensive Review recommendations as well as other external comprehensive review recommendations.

The Office of the Judge Advocate General continued to advance development of the Justice Administration and Information Management System (JAIMS). Between April and December 2021, JAIMS was rolled out to a number of units across the Army, Navy and Air Force, bringing the total number of users to approximately 300 and the number of units to 18. Between August and December 2021, a significant number of personnel were added to the JAIMS project with an influx of general service officers and senior non-commissioned members from across the CAF, both Regular and Reserve Forces, as well as additional Public Service team members, bringing the total team complement to approximately 20. In September 2021, the JAIMS project team, formerly known as the Superintendence Enhancement and Assessment Team, was reconstituted as the Directorate of Law for Military Justice Superintendence. In early October 2021, JAIMS entered into production and in-service support. In November 2021, the decision was made to cease continued training and rollout of the current version of JAIMS and instead focus on the development of a new version to reflect significant upcoming changes to the military justice system. Defence Learning Network online training for JAIMS was completed and became operational in April 2022 to provide a reference for existing users and in order to receive user feedback to inform the training strategy for the new version.

The Office of the Judge Advocate General also worked closely with the Department of Justice and stakeholders from across the Defence Team to complete the drafting of amendments to the [Queen's Regulations and Orders](#)<sup>cccii</sup> for the Canadian Armed Forces and to develop related policies and directives in order to enable the implementation of Bill C-77. In March 2022, the required approvals were obtained to bring into force the remaining provisions of Bill C-77, including the Declaration of Victims Rights, and the amended regulations. As a result, the remaining provisions of Bill C-77 and the amended regulations

came into force in June, 2022. Work on a second phase of activity meant to support Bill C-77 implementation is ongoing and includes further regulatory development, the consolidation and refinement of supporting policy instruments and continuing support to training to ensure system functionality.”

### **Military Police Institutional Operations**

DND/CAF will maintain discipline, operate safe and secure defence establishments and respond to incidents that harm the institutional reputation and undermine public confidence in the Canadian Armed Forces. In FY 2021-22, military police contributed by:

- Reporting Crime Statistical Data to Statistics Canada: As part of the Statistics Canada Centre for Justice and Community Safety Statistics Uniform Crime Reporting Survey, police agencies are responsible for providing high-level crime data to assess and report on crime severity and trends. This year marks the first year where the Military Police have submitted data for inclusion in the national survey. This was achieved through a concerted effort across all levels of the organization to improve data collection and categorization. The real benefits will be realized in later years with expanded data analytics capabilities and real-time situational awareness on trends and the state of discipline, crime and security across the defence community; and
- Implementing recommendations from Military Justice Reviews: The Canadian Forces Military Police have actively engaged civilian law enforcement regarding the transfer of new and ongoing sexual offence investigations, for prosecution in the civilian justice system. While the objective is to empower victims and provide them choice, it must also be understood that there is no mechanism to compel other agencies to act on this recommendation. At the time of writing, nationally 74 percent of policing partners have agreed to collaborate, 5 percent of agencies are currently considering the request and a further 21 percent have not agreed to the transfer of investigations. The Military Police are actively tracking and engaging its partners, as well as collecting data on the transfer of files. And, given that this is a victim centered approach, victims are being consulted before the transfer of investigations and their point of view are being considered and documented.

For more information, refer to [Canadian Forces Provost Marshal Annual Report](#).<sup>cciii</sup>

### **Safety Program**

It has been a priority to advance a more robust and relevant Safety Program within Defence. In doing so, the department continued to review and update Occupational Health and Safety Standards and Guidance and established a framework for a Hazard Prevention Program that supports the Total Health and Wellness Strategy under *Strong, Secure, Engaged*. As well, the modernization of the General Safety Training program has allowed more managers and employees to access this training through a virtual platform at a lower cost.

### **Gender-Based Analysis Plus (GBA Plus)**

Internal audit processes are aligned and include consideration of GBA Plus as part of the risk assessment to support the development of audit objectives, criteria and scope. Further, GBA Plus is considered in the planning stage of all evaluations. GBA Plus findings were considered in the planning stages of all evaluations for FY 2021-22 and have been incorporated into of all four Readiness and three Acquisitions evaluations (for one of these GBA Plus is the primary focus of the evaluation).

### **Experimentation**

Additionally, we have investigated and tested further analytic enhancements, automation and mobile technology to better support the Defence Team through optimized human resources service delivery. More specifically, Robotics Automation was used to automate human resources service delivery in staffing documentation, notifications, letters of offer as well as pay processes.

In FY 2021-22, the department continued to evolve data maturity and delivered on proofs of concept related to internal business process through the development of data and analytic use-cases. Use-cases supported functional business units, including Hazardous Occurrence Analysis Tool, Access to Information and Privacy Dashboards, Conduct and Culture Internal Analytics, Sexual Misconduct Response Support Coordination Program Reporting and many more. Experimentation using industry-



standard cloud computing frameworks and open-source data science tools continue to produce viable proof-of-concepts intended for cross-departmental use, such as text analytics applications (chatbot) and statistical forecasting tools (web applications) for better business process planning and decision-making.

Additional Defence-related experimentation activities are outlined in this report under [Core Responsibility 4 – Future Force Design](#).

## Key Corporate Risk(s)

**Information technology management** – There is a risk that DND/CAF may have difficulty maintaining its information technology capabilities at the right level to support operations.

The risk above can affect the department's ability to achieve the Departmental Results of the Internal Services Core Responsibility.

As the Defence Departmental Results Framework reflects a chain of delivery from conceiving of the required armed forces, to developing them and then executing operations, the activities to mitigate the risks of the Internal Services Core Responsibility can also be found in other core responsibilities which deliver building blocks that enable the results Internal Services.

Many of the preventative and mitigating controls for this risk are articulated as activities of each Departmental Result above.

## Budgetary financial resources (dollars)

The following table shows, for internal services, budgetary spending for FY 2021–22, as well as spending for that year.

2021–22 Main Estimates	2021–22 Planned spending	2021–22 Total authorities available for use	2021–22 Actual spending (authorities used)	2021–22 Difference (actual spending minus planned spending)
744,630,785	744,630,785	1,039,761,705	1,134,112,271	389,481,486

## Human resources (full-time equivalents)

The following table shows, in full-time equivalents, the human resources the department needed to carry out its internal services for FY 2021–22.

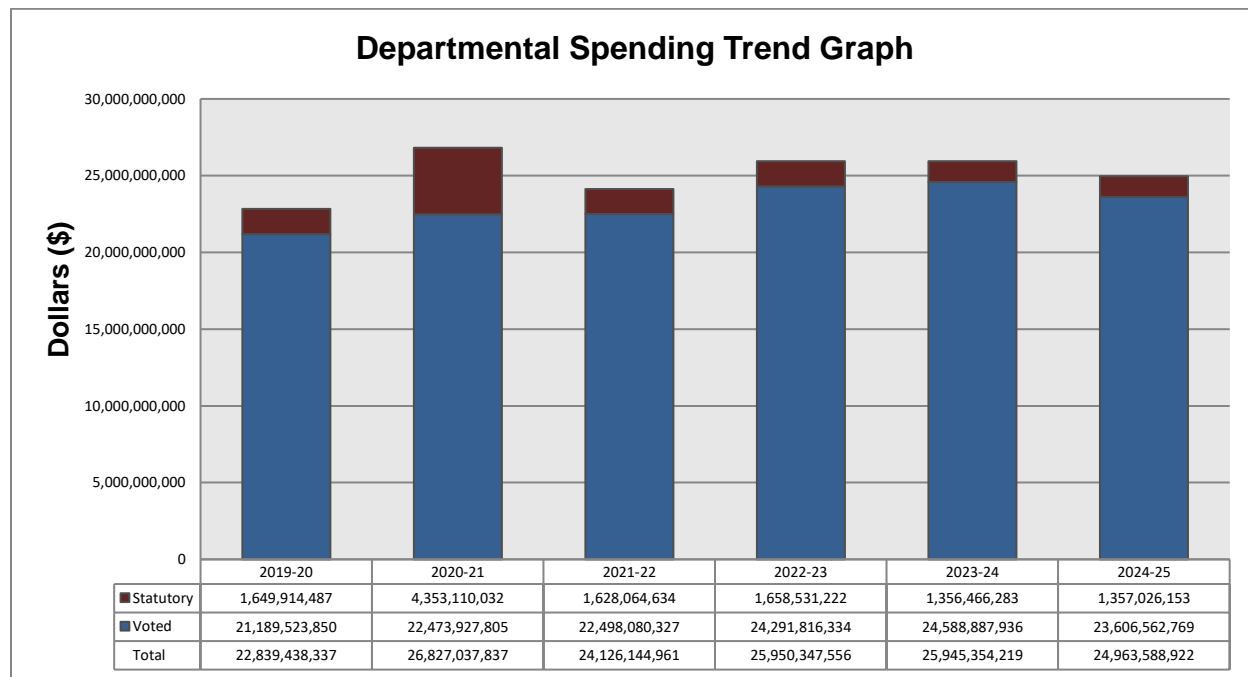
2021–22 Planned full-time equivalents	2021–22 Actual full-time equivalents	2021–22 Difference (actual full-time equivalents minus planned full-time equivalents)
4470	4372	(98)

## Spending and Human Resources

### Spending

#### Spending FY 2019-20 to FY 2024-25

The following graph presents planned (voted and statutory) spending over time.



Note:

Figures due to rounding may not add up to total shown.

## Budgetary performance summary for core responsibilities and Internal Services (dollars)

The “Budgetary performance summary for core responsibilities and internal services” table presents the budgetary financial resources allocated for the Department of National Defence and the Canadian Armed Forces’ core responsibilities and for internal services.

Core responsibilities and Internal Services	2021–22 Main Estimates	2021–22 Planned spending	2022–23 Planned spending	2023–24 Planned spending	2021–22 Total authorities available for use	2019–20 Actual spending (authorities used)	2020–21 Actual spending (authorities used)	2021–22 Actual spending (authorities used)
Operations	684,095,922	684,095,922	794,902,544	806,647,190	1,145,088,933	1,044,514,772	1,028,857,684	915,502,440
Ready Forces	9,972,852,765	9,972,852,765	10,453,990,709	10,458,121,831	10,734,430,873	9,875,229,209	11,719,160,120	9,984,959,562
Defence Team	3,554,626,936	3,554,626,936	3,738,769,207	3,752,774,854	3,921,382,349	3,365,827,143	4,057,640,230	3,648,870,768
Future Force Design	768,019,319	768,019,319	820,654,966	818,760,419	820,519,503	758,767,328	836,173,606	749,733,042
Procurement of Capabilities	4,741,325,826	4,741,325,826	4,792,013,007	5,127,882,945	4,802,250,254	3,298,055,560	4,119,915,713	3,747,686,232
Sustainable Bases, Information Technology Systems and Infrastructure	3,829,653,614	3,829,653,614	4,129,651,499	4,105,845,151	4,171,775,572	3,651,639,001	4,185,750,629	3,945,280,646
<b>Subtotal</b>	<b>23,550,574,382</b>	<b>23,550,574,382</b>	<b>24,729,981,932</b>	<b>25,070,032,390</b>	<b>25,595,447,484</b>	<b>21,994,033,013</b>	<b>25,947,497,982</b>	<b>22,992,032,690</b>
Internal Services	744,630,785	744,630,785	1,220,365,624	875,321,829	1,039,761,705	845,405,324	879,539,855	1,134,112,271
<b>Total</b>	<b>24,295,205,167</b>	<b>24,295,205,167</b>	<b>25,950,347,556</b>	<b>25,945,354,219</b>	<b>26,635,209,189</b>	<b>22,839,438,337</b>	<b>26,827,037,837</b>	<b>24,126,144,961</b>

Source: Vice-Chief of the Defence Staff Group / Assistant Deputy Minister (Finance) / Chief Financial Officer Group

Notes:

1. Due to rounding, figures may not add up to totals shown.
2. Where the actual spending amount is higher than the total authorities, this does not represent an over-expenditure of Parliamentary authorities. Parliamentary authorities are allocated by vote and not by core responsibility and program.
3. Significant variances in financial resources are detailed at the core responsibility and program level in the [“Supporting information on the Program Inventory”](#) section of the document. Explanations are provided when the variance is at least 100M or when the difference between the actual and the planned amount is 100 percent.

## Budgetary actual gross spending summary (dollars)

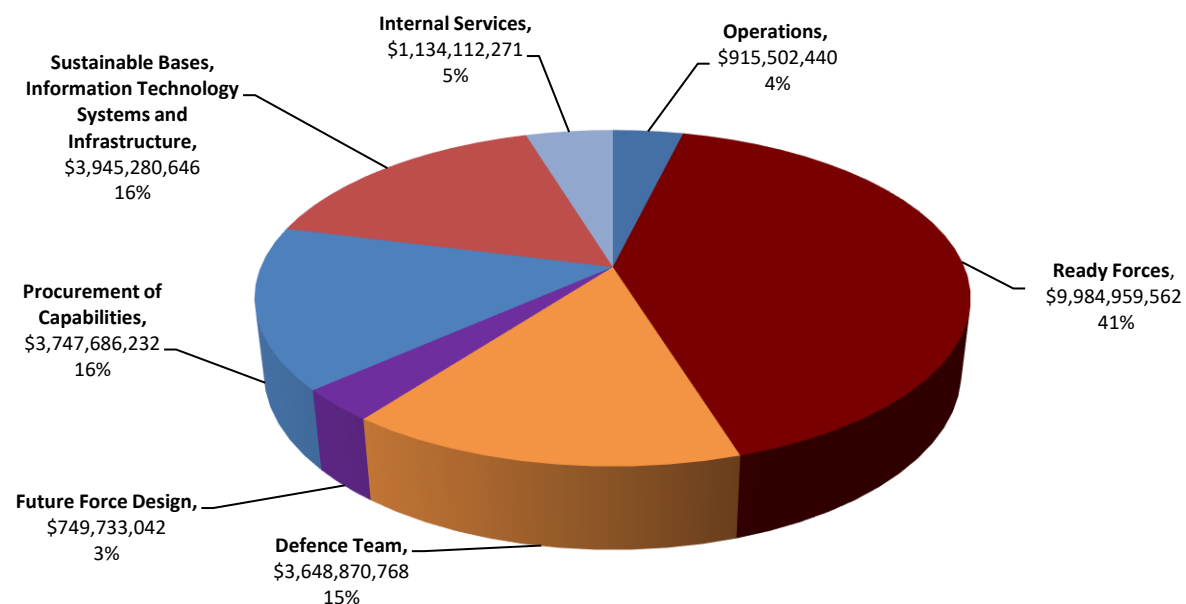
The following table reconciles gross planned spending with net spending for FY 2021–22.

Core responsibilities and Internal Services	2021–22 Actual gross spending	2021–22 Actual revenues netted against expenditures	2021–22 Actual net spending (authorities used)
Operations	915,718,292	215,852	915,502,440
Ready Forces	10,084,405,523	99,445,961	9,984,959,562
Defence Team	3,704,504,176	55,633,408	3,648,870,768
Future Force Design	750,077,923	344,881	749,733,042
Procurement of Capabilities	3,747,686,232	0	3,747,686,232
Sustainable Bases, Information Technology Systems and Infrastructure	4,109,583,451	164,302,805	3,945,280,646
<b>Subtotal</b>	<b>23,311,975,597</b>	<b>319,942,907</b>	<b>22,992,032,690</b>
Internal Services	1,147,501,496	13,389,225	1,134,112,271
<b>Total</b>	<b>24,459,477,093</b>	<b>333,332,132</b>	<b>24,126,144,961</b>

Note:

Due to rounding, figures may not add up to totals shown.

## Departmental Spending for 2021-22 by Core Responsibility (dollars)



## Human Resources

The Regular Force strength is currently at 91.6 percent of its authorized 71 500 personnel. Through recruiting efforts and a retention strategy, the CAF seeks to improve its progression to its authorized strength. The 3500 Regular Forces personnel increase announced in [Strong, Secure, Engaged: Canada's Defence Policy](#)<sup>cciv</sup> have been attributed to specific core responsibilities and will be allocated annually through the Defence Team Establishment Plan until Regular Force *Strong, Secure, Engaged* growth is completed.

The department's civilian population increased to 26 091 full-time equivalents (FTEs), up from 25 628 in FY 2020-21. This increased capacity helps ensure that we have the right people in the right place, at the right time while respecting human resources and budget allocations. The department is focused on aligning civilian resources to fulfill renewed departmental priorities and supporting *Strong, Secure, Engaged*.

The achievement of expected results and strategic outcomes has been limited somewhat by funding pressures observed within the department's Internal Services. Key activities, such as staffing and compensation, supporting digital work, procurement, and others, are challenged to keep pace with the level of demand required by departmental priorities.

The "Human resources summary for core responsibilities and internal services" table presents the full-time equivalents (FTEs) allocated to each of the department's core responsibilities and to internal services.

### Human resources summary for core responsibilities and Internal Services

Core responsibilities and Internal Services	2019–20 Actual full-time equivalents	2020–21 Actual full-time equivalents	2021–22 Planned full-time equivalents	2021–22 Actual full-time equivalents	2022–23 Planned full-time equivalents	2023–24 Planned full-time equivalents
Operations	2,647	2,156	3,078	2,103	2,144	2,145
Ready Forces	45,797	45,431	46,716	45,281	45,920	45,957
Defence Team	20,407	18,902	18,059	19,256	19,127	19,123
Future Force Design	1,930	1,883	2,086	1,983	1,914	1,887
Procurement of Capabilities	2,427	2,525	2,843	2,457	2,429	2,419
Sustainable Bases, Information Technology Systems and Infrastructure	15,974	15,944	16,493	15,642	15,526	15,455
<b>Subtotal</b>	<b>89,182</b>	<b>86,841</b>	<b>89,275</b>	<b>86,722</b>	<b>87,060</b>	<b>86,986</b>
Internal Services	4,070	4,342	4,470	4,372	4,284	4,277
<b>Total</b>	<b>93,252</b>	<b>91,183</b>	<b>93,745</b>	<b>91,094</b>	<b>91,344</b>	<b>91,263</b>



## Human Resources – Reserve Force Personnel

The Reserve Force is a valued and integrated component of the CAF. It is divided into four distinct sub-components:

- Primary Reserve Force;
- Cadet Organization Administration and Training Service;
- Canadian Rangers; and
- Supplementary Reserve (strategic reserve).

The Primary Reserve (P Res) consists predominately of part-time professional CAF members, located throughout Canada, ready with reasonable notice to conduct or contribute to domestic and international operations to safeguard the defence and security of Canada. The COVID-19 pandemic had negatively impacted the P Res ability to recruit and train personnel. As a result, the P Res Average Paid Strength declined from 23 935 to 22 799 in FY 2021-22. Through significant recruiting and retention efforts, the P Res seeks to restore its growth trajectory to achieve the authorized Average Paid Strength level of 30 000 announced in *Strong, Secure, Engaged*.

The Cadet Organizations Administration and Training Service (COATS) sub-component consists predominantly of part-time CAF members, located throughout Canada, who are primarily assigned to duties relating to the supervision, administration and training of cadets who are members of the Royal Canadian Sea Cadets, Royal Canadian Army Cadets and Royal Canadian Air Cadets. It is currently comprised of 6771 CAF members in one of three military occupations; Cadet Instructors Cadre officers, General Service Officers and General Service Non-Commissioned Members. There are also 851 current applications in the Canadian Forces Recruitment Information Management System of personnel wanting to enrol in the COATS. The aspirational target strength of 8000 COATS personnel is required to provide consistent support across Canada in fulfilling the CAF's responsibility for the Department's Youth Program (Cadets and Junior Canadian Rangers).

In FY 2021-22, the Canadian Army continued to work toward meeting the requirements of *Strong, Secure, Engaged: Canada's Defence Policy*<sup>CCCV</sup> to enhance the effectiveness of the Canadian Rangers. A review of the distribution of patrols was conducted to support national defence. In addition, processes and mechanisms governing the provision and employment of Canadian Rangers equipment were analyzed and new policies drafted. The documents are currently in reviews with multiple stakeholders within the Department. The anticipated growth of new patrols as outlined in "The Canadian Ranger 2019 Master Implementation Directive" was not achieved due to pandemic-imposed restrictions.

## Operation LASER



CAF members organize building supplies that the community of Kashechewan First Nation will use to build isolation buildings and new homes, as part of Operation LASER on June 18, 2021.

Photo: Corporal Justin Dreimanis, CAF photo.

The following table summarizes the Department of National Defence and the Canadian Armed Forces' total planned and actual human resources for Reserve Force Personnel for FY 2021-22.

	Planned 2021-22	Actual 2021-22	Difference (actual minus planned)
Primary Reserve	29 250	22 799	(6 451)
Cadet Organization Administration and Training Service	8 000	6 771	(1 229)
Canadian Rangers	5 680	5 552	(128)

Note:

Prior to the pandemic, important initiatives to reduce attrition and streamline recruitment had resulted in substantial growth of the P Res. From FY 2017-18 to FY 2019-20, the P Res Average Paid Strength increased from 21 898 to 24 442 (+2569). Under those conditions, the P Res was set to achieve the 30 000 Average Paid Strength in accordance with the target date outlined in the Program Inventory. Since the pandemic, the P Res Average Paid Strength has decreased from 24 442 to 22 799 (-1600).

## Expenditure by Vote

For information on the Department of National Defence and the Canadian Armed Forces' organizational voted and statutory expenditures, consult the [Public Accounts of Canada 2020-21](#).<sup>cccvii</sup>

## Government of Canada Spending and Activities

Information on the alignment of the Department of National Defence and the Canadian Armed Forces' spending with the Government of Canada's spending and activities is available in the [GC InfoBase](#).<sup>cccviii</sup>

## Financial Statements and Financial Statements Highlights

### Financial Statements

The Department of National Defence and the Canadian Armed Forces' financial statements (unaudited) for the year ended 31 March 2022 are available on the [departmental website](#).<sup>cccviii</sup>

### Financial Statements highlights

#### Condensed Statement of Operations (unaudited) for the year ended 31 March 2022 (dollars)

Financial information	2021-22 Planned results	2021-22 Actual results	2020-21 Actual results	Difference (2021-22 actual results minus 2021-22 Planned results)	Difference (2021-22 actual results minus 2020-21 Actual results)
Total expenses	24,111,743,528	22,856,230,946	26,733,835,552	(1,255,512,582)	(3,877,604,606)
Total revenues	420,863,889	368,510,870	387,243,310	(52,353,019)	(18,732,440)
Net cost of operations before government funding and transfers	23,690,879,639	22,487,720,076	26,346,592,242	(1,203,159,563)	(3,858,872,166)

Notes:

- Further details on FY 2021-22 planned results and its associated notes are available in the [National Defence Future-oriented Statement of Operations \(Unaudited\)](#)<sup>cccxix</sup> of the [2021-22 Departmental Plan](#).<sup>cccx</sup>
- The Consolidated Statement of Operations and Departmental net financial position provides the net cost of the department's operations for the year ended 31 March 2022.
- Overall, from FY 2020-21 to 2021-22, the department's net cost of operations before government funding and transfers decreased by \$3,859 million (14.6 percent). The decrease in actual expenses in FY 2021-22 compared to FY 2020-21 actual expenses is mainly due to lower expenses in two segments: Ready Forces (\$1,489 million) and Procurement of Capabilities (\$1,268 million). Ready Forces incurred significantly less salary and employee benefit expenses. This is because in FY 2020-21, there was retroactive pay to military members and a one-time actuarial deficiency adjustment to the military superannuation account. Procurement of Capabilities had a decrease in operating expenses. This was mainly due to a decrease in amortization as a result of extending the useful life of the frigate class of ships to match the deliveries expected per the Canadian Surface Combatant Project.
- Furthermore, the decrease of \$1,203 million between the planned results and the actual results is largely due to the amortization adjustment that was not included in the planned results.

**Condensed Statement of Financial Position (unaudited) as of 31 March 2022 (dollars)**

Financial information	2021-22	2020-21	Difference (2021-22 minus 2020-21)
Total net liabilities	6,626,467,490	7,208,304,883	(581,837,393)
Total net financial assets	3,183,470,542	3,664,528,139	(481,057,597)
Departmental net debt	3,442,995,948	3,543,776,744	(100,780,796)
Total non-financial assets	45,634,638,272	43,342,374,307	2,292,263,965
Departmental net financial position	42,191,642,324	39,798,597,563	2,393,044,761

## Notes:

1. The Consolidated Statement of Financial Position provides the balances of the department's assets, liabilities and net financial position as of 31 March 2022.
2. Overall, from FY 2020-21 to 2021-22, the Departmental net financial position increased by \$2,393 million (6 percent). This is mainly due to continued investments in non-financial assets related to key capital *Strong, Secure, Engaged* projects.
3. Further details can be found in the [Consolidated Departmental Financial Statements](#)<sup>CCCR</sup> and its accompanying notes.

## Corporate information

### Organizational profile

<b>Appropriate minister:</b>	The Honourable Anita Anand, P.C., M.P. (appointed October 2021) The Honourable Harjit S. Saijan, PC, OMM, MSM, CD, MP (from November 2015 to October 2021)
<b>Associate minister:</b>	The Honourable Lawrence MacAulay, PC, MP
<b>Institutional head:</b>	Bill Matthews, Deputy Minister (appointed January 2022) Jody Thomas, Deputy Minister (from October 2017 to January 2022)
<b>Chief of the Defence Staff:</b>	General Wayne D. Eyre, CMM, MSC, CD

### Ministerial portfolio:

- Department of National Defence
- Canadian Armed Forces
- [National Defence and Canadian Forces Ombudsman](#)<sup>cccxi</sup>
- [Independent Review Panel for Defence Acquisition](#)<sup>cccxi</sup>
- [Office of the Chief Military Judge](#)<sup>cccxi</sup>
- [Defence Research and Development Canada](#)<sup>cccxi</sup>
- [Communications Security Establishment](#)<sup>cccxi</sup>
- [Military Police Complaints Commission of Canada](#)<sup>cccxi</sup>
- [Military Grievances External Review Committee](#)<sup>cccxi</sup>

### Enabling instruments:

- [National Defence Act](#)<sup>cccxi</sup>
- [Communications Security Establishment Act](#)<sup>cccxi</sup>
- [Emergencies Act](#)<sup>cccxi</sup>
- [Aeronautics Act](#)<sup>cccxi</sup>
- [Fisheries Act](#)<sup>cccxi</sup>

For further information, see [Legislation and National Defence](#).<sup>cccxi</sup>

**Year of incorporation / commencement:** 1923

For additional corporate information visit the [Department of National Defence and the Canadian Armed Forces' website](#).<sup>cccxi</sup>



## Raison d'être, mandate and role: who we are and what we do

"Raison d'être, mandate and role: Who we are and what we do" is available on the [Department of National Defence and the Canadian Armed Forces' website](#).<sup>cccxxvi</sup>

For more information on the department's organizational mandate letter commitments, see the [Minister's mandate letter](#).<sup>cccxxvii</sup>

## Operating context

Information on the operating context is available on the [Department of National Defence and Canadian Armed Forces' website](#).<sup>cccxxviii</sup>

## Reporting framework

The Department of National Defence and the Canadian Armed Forces' Departmental Results Framework and Program Inventory of record for FY 2021-22 are shown below.

Core Responsibility	Operations				
Description	<p>Detect, deter and defend against threats to or attacks on Canada. Assist civil authorities and law enforcement, including counter-terrorism, in support of national security, and in response to, domestic disasters or major emergencies, and conduct search and rescue operations.</p> <p>Detect, deter and defend against threats to or attacks on North America in partnership with the United States, including through NORAD.</p> <p>Lead and/or contribute forces to NATO and coalition efforts to deter and defeat adversaries, including terrorists, to support global stability. Lead and/or contribute to international peace operations and stabilization missions with the United Nations, NATO and other multilateral partners. Engage in capacity-building to support the security of other nations and their ability to contribute to security and the security of Canadians abroad. Assist civil authorities and non-governmental partners in responding to international and domestic disasters or major emergencies.</p>				
Results and Indicators	<p>Canadians are protected against threats to and attacks on Canada</p> <ul style="list-style-type: none"><li>• % of requests for assistance that are fulfilled</li><li>• % of force elements that are deployed within established timelines</li><li>• % of operations that meet stated objectives</li><li>• Extent to which the Canadian Armed Forces is effective in domestic operations</li></ul>	<p>People in distress receive effective search and rescue response</p> <ul style="list-style-type: none"><li>• % of coordinated maritime, aeronautical and joint response to search and rescue incidents deemed effective</li><li>• % of requests for Canadian Armed Forces aeronautical search and rescue assistance that are fulfilled</li><li>• % of Canadian Armed Forces aeronautical search and rescue operations that meet established standards</li></ul>	<p>Canada's Arctic sovereignty is preserved and safeguarded</p> <ul style="list-style-type: none"><li>• % of Arctic operations and exercises that meet stated objectives</li></ul>	<p>North America is defended against threats and attacks</p> <ul style="list-style-type: none"><li>• % of continental operations that meet stated objectives</li><li>• % of Canada's commitments and obligations to the North American Aerospace Defense Command agreement that are met</li><li>• Extent to which the Canadian Armed Forces is effective in continental operations</li></ul>	<p>Canadian Armed Forces contribute to a more stable and peaceful world</p> <ul style="list-style-type: none"><li>• % of international operations that meet stated objectives</li><li>• Extent to which the Canadian Armed Forces is effective in international operations</li></ul>
Program Inventory	<ul style="list-style-type: none"><li>• Operations in Canada</li><li>• Operations in North America</li><li>• International Operations</li><li>• Global Engagement</li><li>• Cyber Operations</li><li>• Command, Control and Sustainment of Operations</li><li>• Special Operations</li></ul>				

Core Responsibility	Ready Forces	
Description	Field combat ready forces able to succeed in an unpredictable and complex security environment in the conduct of concurrent operations associated with all mandated missions.	
Results and Indicators	<p>Canadian Armed Forces are ready to conduct concurrent operations</p> <ul style="list-style-type: none"> <li>• % of operations that are capable of being conducted concurrently</li> <li>• % of force elements that are ready for operations in accordance with established targets</li> </ul>	<p>Military equipment is ready for training and operations</p> <ul style="list-style-type: none"> <li>• % of maritime key fleets that are serviceable to meet training and readiness requirements</li> <li>• % of land fleets that are serviceable to meet training and readiness requirements</li> <li>• % of aerospace fleets that are serviceable to meet training and readiness requirements</li> </ul>
Program Inventory	<ul style="list-style-type: none"> <li>• Strategic Command and Control</li> <li>• Ready Naval Forces</li> <li>• Ready Land Forces</li> <li>• Ready Air and Space Forces</li> <li>• Ready Special Operations Forces</li> <li>• Ready Cyber and Joint Communication Information Systems (CIS) Forces</li> <li>• Ready Intelligence Forces</li> <li>• Ready Joint and Combined Forces</li> <li>• Ready Health, Military Police and Support Forces</li> <li>• Equipment Support</li> <li>• Canadian Forces Liaison Council and Employer Support</li> </ul>	

<b>Core Responsibility</b>	<b>Defence Team</b>
<b>Description</b>	Recruit, develop and support an agile and diverse Defence team, within a healthy workplace free from harmful behaviour; support military families; and meet the needs of all retiring military personnel, including the ill and injured. Strengthen Canadian communities by investing in youth.

Results and Indicators	<p>Canadian Armed Forces is growing towards its end state of 101,500 personnel</p> <ul style="list-style-type: none"> <li>• % of Regular Force positions that are filled</li> <li>• % of Reserve Force positions that are filled</li> <li>• % of occupations with critical shortfalls</li> </ul>	<p>The health and well-being of the Defence team is well supported</p> <ul style="list-style-type: none"> <li>• % of military personnel who are medically fit for their occupation</li> <li>• % of military personnel who feel that the Canadian Armed Forces provides a reasonable quality of life for service members and their families</li> <li>• % of Canadian Armed Forces members who report a positive level of workplace well-being</li> <li>• % of civilian employees who describe the workplace as psychologically healthy</li> </ul>	<p>The Defence team reflects the values and diversity of Canadian society</p> <ul style="list-style-type: none"> <li>• % of the Canadian Armed Forces (CAF) who self-identify as a woman</li> <li>• % of civilians in the Defence team who self-identify as a woman</li> <li>• % of the Canadian Armed Forces (CAF) who self-identify as a visible minority</li> <li>• % of civilians in the Defence team who self-identify as a visible minority</li> <li>• % of the Canadian Armed Forces (CAF) who self-identify as an Indigenous person</li> <li>• % of civilians who self-identify as an Indigenous person</li> <li>• % of the Canadian Armed Forces (CAF) who self-identify as victims of harassment</li> <li>• % of civilians who self-identify as victims of harassment</li> <li>• % of the Canadian Armed Forces (CAF) who self-identify as victims of discrimination</li> <li>• % of civilians who self-identify as victims of discrimination</li> <li>• Annual number of reported incidents of sexual misconduct in the Canadian Armed Forces</li> <li>• Number and type of actions taken in response to reported sexual misconduct incidents by the Defence Team</li> <li>• Number of Canadian Armed Forces members who have attended a training session related to sexual misconduct (Operation HONOUR)</li> <li>• % of civilians in the Defence team who have completed</li> </ul>	<p>Military families are supported and resilient</p> <ul style="list-style-type: none"> <li>• % of Canadian Armed Forces families who feel they meet the challenges of military life</li> <li>• % of Canadian Armed Forces members who are satisfied with the overall support their family receives from the Canadian Armed Forces</li> </ul>	<p>Youth in Canada are provided with experience and opportunities that enable a successful transition to adulthood</p> <ul style="list-style-type: none"> <li>• % of the target Canadian youth population that participates in Cadets and Junior Canadian Rangers</li> </ul>
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			mandatory harassment training <ul style="list-style-type: none"> <li>Annual number of reported incidents of sexual misconduct in the Defence Team civilian personnel</li> </ul>		
<b>Program Inventory</b>	<ul style="list-style-type: none"> <li>Recruitment</li> <li>Individual Training and Professional Military Education</li> <li>Total Health Care</li> <li>Defence Team Management</li> <li>Military Transition</li> <li>Military Member and Family Support</li> <li>Military History and Heritage</li> <li>Military Law Services/Military Justice Superintendence</li> <li>Ombudsman</li> <li>Cadets and Junior Canadian Rangers (Youth Program)</li> </ul>				

<b>Core Responsibility</b>	<b>Future Force Design</b>	
<b>Description</b>	Develop and design the future force through a deep understanding of the future operating environment and security risks to Canada and Canadian interests. Enhance Defence's ability to identify, prevent, adapt and respond to a wide range of contingencies through collaborative innovation networks and advanced research.	
<b>Results and Indicators</b>	Defence capabilities are designed to meet future threats <ul style="list-style-type: none"> <li>Extent to which the Future Security Environment assessment remains valid</li> <li>Degree to which future security assessments and capability deductions remain coherent with those of our allies and partners</li> <li>Degree to which future capabilities required to ensure an operational advantage over defence and security threats have been accounted for in defence plans</li> </ul>	Defence and security challenges are addressed through innovative solutions <ul style="list-style-type: none"> <li>% of initiatives and projects that are supported by Defence Science and Technology</li> <li>% of Innovation for Defence Excellence and Security (IDEaS) projects that resulted in useful advice, adoption, integration or eventual procurement of a new defence and security capability</li> </ul>
<b>Program Inventory</b>	<ul style="list-style-type: none"> <li>Joint Force Development</li> <li>Naval Force Development</li> <li>Land Force Development</li> <li>Air and Space Force Development</li> <li>Special Operations Force Development</li> <li>Cyber and Joint Communication Information Systems (CIS) Force Development</li> <li>Intelligence Force Development</li> <li>Science, Technology and Innovation</li> </ul>	

Core Responsibility	Procurement of Capabilities			
Description	Procure advanced capabilities to maintain an advantage over potential adversaries and to keep pace with allies, while fully leveraging defence innovation and technology. Streamlined and flexible procurement arrangements ensure Defence is equipped to conduct missions.			
Results and Indicators	<p>Defence procurement is streamlined</p> <ul style="list-style-type: none"> <li>• % of projects that meet the approved project development and approval timelines (low risk and low complexity projects)</li> <li>• % of goods and services contracts that are awarded within established performance targets</li> </ul>	<p>Defence equipment acquisition is well-managed</p> <ul style="list-style-type: none"> <li>• % of capital equipment projects that remain in most recent approved scope</li> <li>• % of capital equipment projects that remain on most recent approved schedule</li> <li>• % of capital equipment projects that remain within most recent approved expenditure authority</li> </ul>	<p>Defence information technology acquisition is well-managed</p> <ul style="list-style-type: none"> <li>• % of information technology projects that remain in approved scope</li> <li>• % of information technology projects that remain on approved schedule</li> <li>• % of information technology projects that remain within approved expenditure authority</li> </ul>	<p>Supplies are available and well-managed</p> <ul style="list-style-type: none"> <li>• % of stock that is unavailable to meet forecasted demand</li> <li>• % of stock disposed that was identified as surplus</li> </ul>
Program Inventory	<ul style="list-style-type: none"> <li>• Maritime Equipment Acquisition</li> <li>• Land Equipment Acquisition</li> <li>• Aerospace Equipment Acquisition</li> <li>• Defence Information Technology Systems Acquisition, Design and Delivery</li> <li>• Defence Materiel Management</li> </ul>			

Core Responsibility	Sustainable Bases, Information Technology Systems and Infrastructure		
Description	Develop and manage modern, operational and sustainable bases and infrastructure. Contribute to the achievement of federal environmental targets.		
Results and Indicators	<p>Naval, Army and Air Force Bases enable military operations and defence activities</p> <ul style="list-style-type: none"> <li>• % of single quarters accommodations that can be used</li> <li>• % deviation of average daily meal cost from the standard allowance</li> </ul>	<p>Defence infrastructure is well-managed throughout its lifecycle</p> <ul style="list-style-type: none"> <li>• % of infrastructure in suitable condition</li> <li>• % of maintenance and repair investment in relation to the infrastructure portfolio value</li> <li>• % of the total real property value that is identified as surplus</li> </ul>	<p>Defence activities are carried out in a safe and environmentally responsible manner</p> <ul style="list-style-type: none"> <li>• % of greenhouse gas emissions reduction relative to a 2005 baseline</li> <li>• % of light-duty vehicle fleet that is hybrid, plug-in hybrid and/or electric</li> <li>• % of reduction in contaminated sites liability based on the closing liability of the previous year</li> </ul>
Program Inventory	<ul style="list-style-type: none"> <li>• Defence Infrastructure Program Management</li> <li>• Defence Infrastructure Construction, Recapitalization and Investment</li> <li>• Defence Infrastructure Maintenance, Support and Operations</li> <li>• Military Family Housing</li> <li>• Defence Information Systems, Services and Programme Management</li> <li>• Environmental Sustainability and Protection</li> <li>• Indigenous Affairs</li> <li>• Naval Bases</li> <li>• Land Bases</li> <li>• Air and Space Wings</li> <li>• Joint, Common and International Bases</li> <li>• Military Police Institutional Operations</li> <li>• Safety</li> </ul>		

## Supporting information on the program inventory

Financial, human resources and performance information for the Department of National Defence and the Canadian Armed Forces' Program Inventory is available in the [GC InfoBase](#).<sup>cccxxix</sup>

## Supplementary information tables

The following supplementary information tables are available on the Department of National Defence and the Canadian Armed Forces' website:

- [Departmental Sustainable Development Strategy – Reporting on Green Procurement](#)<sup>cccxxx</sup>;
- [Details on transfer payment programs](#)<sup>cccxxxi</sup>;
- [Gender-based analysis plus](#)<sup>cccxxxii</sup>;
- [Response to parliamentary committees and external audits](#)<sup>cccxxxiii</sup>; and
- [Status report on transformational and major Capital projects](#)<sup>cccxxxiv</sup>.

## Federal tax expenditures

The tax system can be used to achieve public policy objectives through the application of special measures such as low tax rates, exemptions, deductions, deferrals and credits. The Department of Finance Canada publishes cost estimates and projections for these measures each year in the [Report on Federal Tax Expenditures](#)<sup>cccxxxv</sup>. This report also provides detailed background information on tax expenditures, including descriptions, objectives, historical information and references to related federal spending programs as well as evaluations and GBA Plus of tax expenditures.

## Organizational contact information

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## Appendix: definitions

### **appropriation** (*crédit*)

Any authority of Parliament to pay money out of the Consolidated Revenue Fund.

### **budgetary expenditures** (*dépenses budgétaires*)

Operating and capital expenditures; transfer payments to other levels of government, organizations or individuals; and payments to Crown corporations.

### **capability** (*capacité*)

The ability to carry out a military operation to create an effect.

### **Core Responsibility** (*responsabilité essentielle*)

An enduring function or role performed by a department. The intentions of the department with respect to a core responsibility are reflected in one or more related departmental results that the department seeks to contribute to or influence.

### **Departmental Plan** (*plan ministériel*)

A report on the plans and expected performance of an appropriated department over a 3-year period. Departmental Plans are usually tabled in Parliament each spring.

### **departmental priority** (*priorité ministérielle*)

A plan or project that a department has chosen to focus and report on during the planning period. Priorities represent the things that are most important or what must be done first to support the achievement of the desired departmental results.

### **departmental result** (*résultat ministériel*)

A consequence or outcome that a department seeks to achieve. A departmental result is often outside departments' immediate control, but it should be influenced by program-level outcomes.

### **departmental result indicator** (*indicateur de résultat ministériel*)

A quantitative measure of progress on a departmental result.

### **departmental results framework** (*cadre ministériel des résultats*)

A framework that connects the department's core responsibilities to its departmental results and departmental result indicators.

### **Departmental Results Report** (*rapport sur les résultats ministériels*)

A report on a department's actual accomplishments against the plans, priorities and expected results set out in the corresponding Departmental Plan.

### **experimentation** (*expérimentation*)

The conducting of activities that seek to first explore, then test and compare the effects and impacts of policies and interventions in order to inform evidence-based decision-making, and improve outcomes for Canadians, by learning what works, for whom and in what circumstances. Experimentation is related to, but distinct from innovation (the trying of new things), because it involves a rigorous comparison of results. For example, using a new website to communicate with Canadians can be an innovation; systematically testing the new website against existing outreach tools or an old website to see which one leads to more engagement, is experimentation.

### **full-time equivalent** (*équivalent temps plein*)

A measure of the extent to which an employee represents a full person-year charge against a departmental budget. For a particular position, the full-time equivalent figure is the ratio of number of hours the person actually works divided by the standard number of hours set out in the person's collective agreement.



**gender-based analysis plus (GBA Plus)** (*analyse comparative entre les sexes plus [ACS Plus]*)

An analytical process used to assess how diverse groups of women, men and gender-diverse people experience policies, programs and services based on multiple factors including race ethnicity, religion, age, and mental or physical disability.

**government-wide priorities** (*priorités pangouvernementales*)

For the purpose of the 2021–22 Departmental Results Report, those high-level themes outlining the government’s agenda in the 2020 Speech from the Throne, namely: Fighting climate change; Strengthening the Middle Class; Walking the road of reconciliation; Keeping Canadians safe and healthy; and Positioning Canada for success in an uncertain world.

**horizontal initiative** (*initiative horizontale*)

An initiative where two or more federal organizations are given funding to pursue a shared outcome, often linked to a government priority.

**non-budgetary expenditures** (*dépenses non budgétaires*)

Net outlays and receipts related to loans, investments and advances, which change the composition of the financial assets of the Government of Canada.

**performance** (*rendement*)

What an organization did with its resources to achieve its results, how well those results compare to what the organization intended to achieve, and how well lessons learned have been identified.

**performance indicator** (*indicateur de rendement*)

A qualitative or quantitative means of measuring an output or outcome, with the intention of gauging the performance of an organization, program, policy or initiative respecting expected results.

**performance reporting** (*production de rapports sur le rendement*)

The process of communicating evidence-based performance information. Performance reporting supports decision-making, accountability and transparency.

**plan** (*plan*)

The articulation of strategic choices, which provides information on how an organization intends to achieve its priorities and associated results. Generally, a plan will explain the logic behind the strategies chosen and tend to focus on actions that lead to the expected result.

**planned spending** (*dépenses prévues*)

For Departmental Plans and Departmental Results Reports, planned spending refers to those amounts presented in Main Estimates.

A department is expected to be aware of the authorities that it has sought and received. The determination of planned spending is a departmental responsibility, and departments must be able to defend the expenditure and accrual numbers presented in their Departmental Plans and Departmental Results Reports.

**program** (*programme*)

Individual or groups of services, activities or combinations thereof that are managed together within the department and focus on a specific set of outputs, outcomes or service levels.

**program inventory** (*répertoire des programmes*)

Identifies all the department’s programs and describes how resources are organized to contribute to the department’s core responsibilities and results.

**result** (*résultat*)

A consequence attributed, in part, to an organization, policy, program or initiative. Results are not within the control of a single organization, policy, program or initiative; instead they are within the area of the organization's influence.

**statutory expenditures** (*dépenses législatives*)

Expenditures that Parliament has approved through legislation other than appropriation acts. The legislation sets out the purpose of the expenditures and the terms and conditions under which they may be made.

**target** (*cible*)

A measurable performance or success level that an organization, program or initiative plans to achieve within a specified time period. Targets can be either quantitative or qualitative.

**voted expenditures** (*dépenses votées*)

Expenditures that Parliament approves annually through an appropriation act. The vote wording becomes the governing conditions under which these expenditures may be made.

## Endnotes

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- <sup>i</sup> Joint Statement on NORAD Modernization, <https://www.canada.ca/en/department-national-defence/news/2021/08/joint-statement-on-norad-modernization.html>
- <sup>ii</sup> Operation UNIFIER, <https://www.canada.ca/en/department-national-defence/services/operations/military-operations/current-operations/operation-unifier.html>
- <sup>iii</sup> Operation REASSURANCE, <https://www.canada.ca/en/department-national-defence/services/operations/military-operations/current-operations/operation-reassurance.html>
- <sup>iv</sup> Canada announces support to address the situation in Ukraine, <https://pm.gc.ca/en/news/news-releases/2022/02/22/canada-announces-support-address-situation-ukraine>
- <sup>v</sup> *Strong, Secure, Engaged: Canada's Defence Policy*, <https://www.canada.ca/en/department-national-defence/corporate/policies-standards/canada-defence-policy.html>
- <sup>vi</sup> Conduct and culture change progress tracker, <https://www.canada.ca/en/department-national-defence/services/conduct-and-culture/conduct-and-culture-tracker.html>
- <sup>vii</sup> United Nations Declaration on the Rights of Indigenous Peoples, <https://www.un.org/development/desa/indigenouspeoples/declaration-on-the-rights-of-indigenous-peoples.html>
- <sup>viii</sup> *Strong, Secure, Engaged: Canada's Defence Policy*, <https://www.canada.ca/en/department-national-defence/corporate/policies-standards/canada-defence-policy.html>
- <sup>ix</sup> Operation REASSURANCE, <https://www.canada.ca/en/department-national-defence/services/operations/military-operations/current-operations/operation-reassurance.html>
- <sup>x</sup> Operation UNIFIER, <https://www.canada.ca/en/department-national-defence/services/operations/military-operations/current-operations/operation-unifier.html>
- <sup>xi</sup> Operation IMPACT, <https://www.canada.ca/en/department-national-defence/services/operations/military-operations/current-operations/operation-impact.html>
- <sup>xii</sup> Operation AEGIS, <https://www.canada.ca/en/department-national-defence/services/operations/military-operations/current-operations/operation-aegis.html>
- <sup>xiii</sup> Operation LASER, <https://www.canada.ca/en/department-national-defence/services/operations/military-operations/current-operations/laser.html>
- <sup>xiv</sup> Operation VECTOR, <https://www.canada.ca/en/department-national-defence/services/operations/military-operations/current-operations/operation-vector.html>
- <sup>xv</sup> Operation LENTUS, <https://www.canada.ca/en/department-national-defence/services/operations/military-operations/current-operations/operation-lentus.html>
- <sup>xvi</sup> Search and Rescue, <https://www.canada.ca/en/department-national-defence/services/operations/military-operations/types/search-rescue.html>
- <sup>xvii</sup> Operation LASER, <https://www.canada.ca/en/department-national-defence/services/operations/military-operations/current-operations/laser.html>
- <sup>xviii</sup> Operation VECTOR, <https://www.canada.ca/en/department-national-defence/services/operations/military-operations/current-operations/operation-vector.html>
- <sup>xix</sup> Operation LENTUS, <https://www.canada.ca/en/department-national-defence/services/operations/military-operations/current-operations/operation-lentus.html>
- <sup>xx</sup> Operation LIMPID, <https://www.canada.ca/en/department-national-defence/services/operations/military-operations/current-operations/operation-limpid.html>
- <sup>xxi</sup> Operation NANOOK, <https://www.canada.ca/en/department-national-defence/services/operations/military-operations/current-operations/operation-nanook.html>

- xxii North American Aerospace Defense Command (NORAD), <https://www.canada.ca/en/department-national-defence/services/operations/allies-partners/norad.html>
- xxiii Operation CARIBBE, <https://www.canada.ca/en/department-national-defence/services/operations/military-operations/current-operations/operation-caribbe.html>
- xxiv Operation IMPACT, <https://www.canada.ca/en/department-national-defence/services/operations/military-operations/current-operations/operation-impact.html>
- xxv Operation ARTEMIS, <https://www.canada.ca/en/department-national-defence/services/operations/military-operations/current-operations/operation-artemis.html>
- xxvi Operation NEON, <https://www.canada.ca/en/department-national-defence/services/operations/military-operations/current-operations/operation-neon.html>
- xxvii Operation PRESENCE, <https://www.canada.ca/en/department-national-defence/services/operations/military-operations/current-operations/op-presence.html>
- xxviii Operation REASSURANCE, <https://www.canada.ca/en/department-national-defence/services/operations/military-operations/current-operations/operation-reassurance.html>
- xxix Operation UNIFIER, <https://www.canada.ca/en/department-national-defence/services/operations/military-operations/current-operations/operation-unifier.html>
- xxx Operation AEGIS, <https://www.canada.ca/en/department-national-defence/services/operations/military-operations/current-operations/operation-aegis.html>
- xxxi Operation GLOBE, <https://www.canada.ca/en/department-national-defence/services/operations/military-operations/current-operations/op-globe.html>
- xxxii Operation PROJECTION, <https://www.canada.ca/en/department-national-defence/services/operations/military-operations/current-operations/operation-projection.html>
- xxxiii Association of Southeast Asian Nations, <https://www.canada.ca/en/department-national-defence/news/2020/11/minister-of-national-defence-the-hon-harjit-s-sajjan-participates-in-the-conference-on-the-south-china-sea.html>
- xxxiv Current military operations, <https://www.canada.ca/en/department-national-defence/services/operations/military-operations/current-operations/list.html>
- xxxv Minister of National Defence Advisory Panel on Systemic Racism and Discrimination – Final Report – January 2022, <https://www.canada.ca/en/department-national-defence/corporate/reports-publications/mnd-advisory-panel-systemic-racism-discrimination-final-report-jan-2022.html>
- xxxvi Bill C-65, <https://www.parl.ca/DocumentViewer/en/42-1/bill/C-65/royal-assent>
- xxxvii The Defence Team Total Health and Wellness Strategy, <https://www.canada.ca/en/department-national-defence/corporate/reports-publications/total-health-and-wellness-strategy.html>
- xxxviii Operation HONOUR, <https://www.canada.ca/en/department-national-defence/services/benefits-military/conflict-misconduct/sexual-misconduct/about-operation-honour.html>
- xxxix Defence Team Conduct and Culture Consultation, <https://www.canada.ca/en/department-national-defence/services/conduct-and-culture/join-the-discussion-defence-team-conduct-and-culture-consultation.html>
- xl Launch of an Independent External Comprehensive Review of the Department of National Defence and the Canadian Armed Forces, <https://www.canada.ca/en/department-national-defence/news/2021/04/launch-of-an-independent-external-comprehensive-review-of-the-department-of-national-defence-and-the-canadian-armed-forces.html>
- xli Minister of National Defence Advisory Panel on Systemic Racism and Discrimination – Final Report – January 2022, <https://www.canada.ca/en/department-national-defence/corporate/reports-publications/mnd-advisory-panel-systemic-racism-discrimination-final-report-jan-2022.html>

- <sup>xlii</sup> Third Independent Review of the National Defence Act, <https://www.canada.ca/en/department-national-defence/news/2021/06/third-independent-review-of-the-national-defence-act.html>
- <sup>xliii</sup> Report of the Independent External Comprehensive Review, <https://www.canada.ca/en/department-national-defence/corporate/reports-publications/report-of-the-independent-external-comprehensive-review.html>
- <sup>xliv</sup> Conduct and culture change progress tracker, <https://www.canada.ca/en/department-national-defence/services/conduct-and-culture/conduct-and-culture-tracker.html>
- <sup>xlvi</sup> Restorative Engagement Program, <https://www.canada.ca/en/department-national-defence/services/benefits-military/health-support/sexual-misconduct-response/restorative-engagement.html>
- <sup>xlv</sup> CAF-DND Sexual Misconduct Class Action, <https://www.caf-dndsexualmisconductclassaction.ca/>
- <sup>xlvii</sup> Survivor Support Consultation Group: Summary Report 2021, <https://www.canada.ca/en/department-national-defence/corporate/reports-publications/survivor-support-consultation-group-summary-report-2021.html>
- <sup>xlviii</sup> Military Sexual Trauma Peer Support Program what we heard consultation report, <https://www.canada.ca/en/department-national-defence/corporate/reports-publications/mst-report.html>
- <sup>xlix</sup> SMRC Offers New and Expanded Services and Programs to Support Survivors, <https://www.canada.ca/en/department-national-defence/news/2021/12/smr-offers-new-and-expanded-services-and-programs-to-support-survivors.html>
- <sup>1</sup> Canada's Action Plan on Women, Peace and Security 2017-2022, [https://www.international.gc.ca/world-monde/issues\\_developpement-enjeux\\_developpement/gender\\_equality-egalite\\_des\\_genres/cnap\\_wps-pnac\\_fps.aspx?lang=eng](https://www.international.gc.ca/world-monde/issues_developpement-enjeux_developpement/gender_equality-egalite_des_genres/cnap_wps-pnac_fps.aspx?lang=eng)
- <sup>li</sup> Government of Canada awards in-service support contract for new manned airborne intelligence, surveillance and reconnaissance capability for Canadian Armed Forces, <https://www.canada.ca/en/public-services-procurement/news/2021/05/government-of-canada-awards-in-service-support-contract-for-new-manned-airborne-intelligence-surveillance-and-reconnaissance-capability-for-canada.html>
- <sup>lii</sup> Manned airborne intelligence, surveillance and reconnaissance, <https://www.tpsgc-pwgsc.gc.ca/app-acq/amd-dp/air/snac-nfps/renseignement-airborne-eng.html>
- <sup>liii</sup> Canadian Surface Combatant, <https://www.canada.ca/en/department-national-defence/services/procurement/canadian-surface-combatant.html>
- <sup>liv</sup> Arctic and Offshore Patrol Ship, <https://www.canada.ca/en/department-national-defence/services/procurement/arctic-offshore-patrol-ships.html>
- <sup>lv</sup> Joint Support Ship, <https://www.canada.ca/en/department-national-defence/services/procurement/joint-support-ship.html>
- <sup>lvi</sup> Fixed-Wing Search and Rescue Aircraft Replacement Project, <https://www.canada.ca/en/department-national-defence/services/procurement/fixed-wing-search-and-rescue-procurement-project.html>
- <sup>lvii</sup> Future Fighter Capability Project, <https://www.canada.ca/en/department-national-defence/services/procurement/fighter-jets/future-fighter-capability-project.html>
- <sup>lviii</sup> Remotely Piloted Aircraft System, <https://www.canada.ca/en/department-national-defence/services/procurement/remotely-piloted-aircraft-system.html>
- <sup>lix</sup> Strategic Tanker Transport Capability, <http://dgpaapp.forces.gc.ca/en/defence-capabilities-blueprint/project-details.asp?id=1341>
- <sup>lx</sup> Logistics Vehicle Modernization, <https://www.canada.ca/en/department-national-defence/services/procurement/logistics-vehicle-modernization-project.html>
- <sup>lxi</sup> Armoured Combat Support Vehicle, <https://www.canada.ca/en/department-national-defence/services/procurement/armoured-combat-support-vehicle.html>
- <sup>lxii</sup> CP-140 Aurora Incremental Modernization Project, <https://www.canada.ca/en/department-national-defence/services/procurement/cp-140-aurora.html>

- lxiii Interim Fighter Capability Project, <http://dgpaapp.forces.gc.ca/en/defence-capabilities-blueprint/project-details.asp?id=1786>
- lxiv CF-18 Hornet Extension Project, <http://dgpaapp.forces.gc.ca/en/defence-capabilities-blueprint/project-details.asp?id=1442>
- lxv CH-148 Cyclone Project, <https://www.canada.ca/en/department-national-defence/services/procurement/ch-148-cyclone.html>
- lxvi Victoria Class Modernization, <https://www.canada.ca/en/department-national-defence/services/procurement/victoria-class-submarines.html>
- lxvii The Department of National Defence and the Canadian Armed Forces' Current Projects, <https://www.canada.ca/en/services/defence/defence-equipment-purchases-upgrades.html>
- lxviii Join the cadet program, <https://registration.cadets.gc.ca/get-started.html>
- lxix Cadets, <https://www.canada.ca/en/department-national-defence/services/cadets-junior-canadian-rangers/cadets.html>
- lxx IDEaS, <https://www.canada.ca/en/department-national-defence/programs/defence-ideas.html>
- lxxi Green Heat: Low Carbon Energy Generation for Heating Existing Buildings, <https://www.canada.ca/en/department-national-defence/programs/defence-ideas/element/test-drives/challenge/green-heat-low-carbon-energy-generation.html>
- lxxii New Community Centre at Canadian Forces Base Wainwright, <https://www.canada.ca/en/department-national-defence/maple-leaf/defence/2021/07/new-community-centre-canadian-forces-base-wainwright.html>
- lxxiii Government of Canada awards in-service support contract for North Warning System, <https://www.canada.ca/en/department-national-defence/news/2022/01/government-of-canada-awards-in-service-support-contract-for-north-warning-system.html>
- lxxiv DND announces first major tender for CFB Esquimalt harbour infrastructure, <https://www.canada.ca/en/department-national-defence/news/2016/09/announces-first-major-tender-esquimalt-harbour-infrastructure.html>
- lxxv Work begins on \$131-million project to Provide New Regimental Headquarters for 4 Engineer Support Regiment, <https://www.canada.ca/en/department-national-defence/maple-leaf/defence/2020/10/work-begins-131-million-project-4-engineer-support-regiment.html>
- lxxvi Construction underway on a new facility for The Royal Canadian Dragoons in Petawawa, <https://www.canada.ca/en/department-national-defence/news/2020/12/construction-underway-on-a-new-facility-for-the-royal-canadian-dragoons-in-petawawa.html>
- lxxvii Healthcare for CAF personnel at 22 Wing to Get a Much-Anticipated Boost, <https://www.canada.ca/en/department-national-defence/maple-leaf/defence/2020/09/healthcare-for-caf-personnel-at-22-wing-to-get-a-much-anticipated-boost.html>
- lxxviii Defence Energy and Environment Strategy, <https://www.canada.ca/en/department-national-defence/corporate/reports-publications/dees.html>
- lxxix Indigenous business and federal procurement, <https://www.sac-isc.gc.ca/eng/1100100032802/1610723869356>
- lxxx Champion for Indigenous Peoples marks Indigenous Awareness Week, <https://www.canada.ca/en/department-national-defence/maple-leaf/defence/2021/05/commander-canadian-army-marks-indigenous-awareness-week.html>
- lxxxi Commander Canadian Army marks the National Day for Truth and Reconciliation, <https://www.canada.ca/en/department-national-defence/maple-leaf/defence/2021/09/acting-commander-canadian-army-marks-national-day-truth-reconciliation.html>
- lxxxii The Canadian Armed Forces Indigenous Entry Program (CAFIEP), <https://forces.ca/en/programs-for-indigenous-peoples/cafiep/>



lxxxiii Operation LENTUS, <https://www.canada.ca/en/department-national-defence/services/operations/military-operations/current-operations/operation-lentus.html>

lxxxiv Operation VECTOR, <https://www.canada.ca/en/department-national-defence/services/operations/military-operations/current-operations/operation-vector.html>

lxxxv Operation LASER, <https://www.canada.ca/en/department-national-defence/services/operations/military-operations/current-operations/laser.html>

lxxxvi Manitoba Métis Self-Government Recognition and Implementation Agreement, <https://www.rcaanc-cirnac.gc.ca/eng/1641476532215/1641476589226>

lxxxvii *Strong, Secure, Engaged: Canada's Defence Policy*, <https://www.canada.ca/en/department-national-defence/corporate/policies-standards/canada-defence-policy.html>

lxxxviii Incremental Costs for Major Canadian Armed Forces Operations, <https://www.canada.ca/en/department-national-defence/corporate/reports-publications/departmental-results-report/2021-22-index/supporting-document/costs-major-caf-ops.html>

lxxxix Current CAF operations and exercises, <https://www.canada.ca/en/department-national-defence/services/operations.html>

xc Operation LASER, <https://www.canada.ca/en/department-national-defence/services/operations/military-operations/current-operations/laser.html>

xc Operation VECTOR, <https://www.canada.ca/en/department-national-defence/services/operations/military-operations/current-operations/operation-vector.html>

xcii Operation LENTUS, <https://www.canada.ca/en/department-national-defence/services/operations/military-operations/current-operations/operation-lentus.html>

xciii Operation LIMPID, <https://www.canada.ca/en/department-national-defence/services/operations/military-operations/current-operations/operation-limpid.html>

xciv Operation PALACI, <https://www.canada.ca/en/department-national-defence/services/operations/military-operations/current-operations/operation-palaci.html>

xcv Operation PALACI, <https://www.canada.ca/en/department-national-defence/services/operations/military-operations/current-operations/operation-palaci.html>

xcvi Operation LENTUS, <https://www.canada.ca/en/department-national-defence/services/operations/military-operations/current-operations/operation-lentus.html>

xcvii Operation Vector, <https://www.canada.ca/en/department-national-defence/services/operations/military-operations/current-operations/operation-vector.html>

xcviii Operation LASER, <https://www.canada.ca/en/department-national-defence/services/operations/military-operations/current-operations/laser.html>

xcix GC InfoBase, <https://www.tbs-sct.gc.ca/ems-sgd/edb-bdd/index-eng.html>

c GC InfoBase, <https://www.tbs-sct.gc.ca/ems-sgd/edb-bdd/index-eng.html>

ci Operation NANOOK, <https://www.canada.ca/en/department-national-defence/services/operations/military-operations/current-operations/operation-nanook.html>

cii Operation NANOOK, <https://www.canada.ca/en/department-national-defence/services/operations/military-operations/current-operations/operation-nanook.html>

ciii Worth a Thousand Sources: A fused Picture for Continental Surveillance, <https://www.canada.ca/en/department-national-defence/programs/defence-ideas/element/competitive-projects/challenges/worth-a-thousand-sources-a-fused-picture-for-continental-surveillance.html>

- civ Sub-zero Infrastructure, Security, and Sensors: Safekeeping assets in the Arctic, <https://www.canada.ca/en/department-national-defence/programs/defence-ideas/element/competitive-projects/challenges/sub-zero-infrastructure-security-and-sensory-safekeeping-assets-in-the-arctic.html>
- cv Persistent Maritime Surveillance, <https://www.canada.ca/en/department-national-defence/programs/defence-ideas/element/competitive-projects/challenges/persistent-maritime-surveillance.html>
- cvi Pop Up City: Integrating Energy, Water and Waste Management Systems for Deployed Camps, <https://www.canada.ca/en/department-national-defence/programs/defence-ideas/element/contests/challenge/integrating-energy-water-waste.html>
- cvi Operation NANOOK, <https://www.canada.ca/en/department-national-defence/services/operations/military-operations/current-operations/operation-nanook.html>
- cvi Operation NANOOK, <https://www.canada.ca/en/department-national-defence/services/operations/military-operations/current-operations/operation-nanook.html>
- cix Operation LIMPID, <https://www.canada.ca/en/department-national-defence/services/operations/military-operations/current-operations/operation-limpid.html>
- cx Operation LENTUS, <https://www.canada.ca/en/department-national-defence/services/operations/military-operations/current-operations/operation-lentus.html>
- cx Operation NANOOK, <https://www.canada.ca/en/department-national-defence/services/operations/military-operations/current-operations/operation-nanook.html>
- cxii Government of Canada awards in-service support contract for North Warning System, <https://www.canada.ca/en/department-national-defence/news/2022/01/government-of-canada-awards-in-service-support-contract-for-north-warning-system.html>
- cxiii GC InfoBase, <https://www.tbs-sct.gc.ca/ems-sgd/edb-bdd/index-eng.html>
- cxiv North American Aerospace Defense Command (NORAD), <https://www.canada.ca/en/department-national-defence/services/operations/allies-partners/norad.html>
- cxv Operation CARIBBE, <https://www.canada.ca/en/department-national-defence/services/operations/military-operations/current-operations/operation-caribbe.html>
- cxvi *Strong, Secure, Engaged: Canada's Defence Policy*, <https://www.canada.ca/en/department-national-defence/corporate/policies-standards/canada-defence-policy.html>
- cxvii GC InfoBase, <https://www.tbs-sct.gc.ca/ems-sgd/edb-bdd/index-eng.html>
- cxviii Operation REASSURANCE, <https://www.canada.ca/en/department-national-defence/services/operations/military-operations/current-operations/operation-reassurance.html>
- cxix Operation KOBOLD, <https://www.canada.ca/en/department-national-defence/services/operations/military-operations/current-operations/operation-kobold.html>
- cx Operation ARTEMIS, <https://www.canada.ca/en/department-national-defence/services/operations/military-operations/current-operations/operation-artemis.html>
- cxxi Operation IMPACT, <https://www.canada.ca/en/department-national-defence/services/operations/military-operations/current-operations/operation-impact.html>
- cxii Dallaire Centre of Excellence for Peace and Security, <https://www.canada.ca/en/department-national-defence/services/benefits-military/education-training/professional-development/canadian-defence-academy.html#dallaire>
- cxiii Operation CALUMET, <https://www.canada.ca/en/department-national-defence/services/operations/military-operations/current-operations/operation-calumet.html>
- cxiv Operation UNIFIER, <https://www.canada.ca/en/department-national-defence/services/operations/military-operations/current-operations/operation-unifier.html>

- cxxv Operation NABERIUS, <https://www.canada.ca/en/department-national-defence/services/operations/military-operations/current-operations/operation-naberius.html>
- cxxvi Operation PROTEUS, <https://www.canada.ca/en/department-national-defence/services/operations/military-operations/current-operations/operation-proteus.html>
- cxxvii Operation PRESENCE, <https://www.canada.ca/en/department-national-defence/services/operations/military-operations/current-operations/op-presence.html>
- cxxviii Operation PRESENCE, <https://www.canada.ca/en/department-national-defence/services/operations/military-operations/current-operations/op-presence.html>
- cxxix Operation PRESENCE, <https://www.canada.ca/en/department-national-defence/services/operations/military-operations/current-operations/op-presence.html>
- cxix Operation SOPRANO, <https://www.canada.ca/en/department-national-defence/services/operations/military-operations/current-operations/operation-soprano.html>
- cxixi Operation CROCODILE, <https://www.canada.ca/en/department-national-defence/services/operations/military-operations/current-operations/operation-crocodile.html>
- cxixii Operation JADE, <https://www.canada.ca/en/department-national-defence/services/operations/military-operations/current-operations/operation-jade.html>
- cxixiii Operation SNOWGOOSE, <https://www.canada.ca/en/department-national-defence/services/operations/military-operations/current-operations/operation-snowgoose.html>
- cxixiv Operation PRESENCE, <https://www.canada.ca/en/department-national-defence/services/operations/military-operations/current-operations/op-presence.html>
- cxixv Elsie Initiative for Women in Peace Operations, [https://www.international.gc.ca/world-monde/issues\\_development-enjeux\\_developpement/gender\\_equality-egalite\\_des\\_genres/elsie\\_initiative-initiative\\_elsie.aspx?lang=eng](https://www.international.gc.ca/world-monde/issues_development-enjeux_developpement/gender_equality-egalite_des_genres/elsie_initiative-initiative_elsie.aspx?lang=eng)
- cxixvi Operation PROJECTION, <https://www.canada.ca/en/department-national-defence/services/operations/military-operations/current-operations/operation-projection.html>
- cxixvii Operation NEON, <https://www.canada.ca/en/department-national-defence/services/operations/military-operations/current-operations/operation-neon.html>
- cxixviii Operation PROJECTION, <https://www.canada.ca/en/department-national-defence/services/operations/military-operations/current-operations/operation-projection.html>
- cxixix Association of Southeast Asian Nations, <https://www.canada.ca/en/department-national-defence/news/2020/11/minister-of-national-defence-the-hon-harjit-s-sajjan-participates-in-the-conference-on-the-south-china-sea.html>
- cxli Operation FREQUENCE, <https://www.canada.ca/en/department-national-defence/services/operations/military-operations/current-operations/operation-frequence.html>
- cxlii Operation FOUNDATION, <https://www.canada.ca/en/department-national-defence/services/operations/military-operations/current-operations/operation-foundation.html>
- cxliii Operation AEGIS, <https://www.canada.ca/en/department-national-defence/services/operations/military-operations/current-operations/operation-aegis.html>
- cxliiii Operation RENDER SAFE, <https://www.canada.ca/en/department-national-defence/services/operations/military-operations/current-operations/operation-render-safe.html>
- cxliv Operation OPEN-SPIRIT, <https://www.canada.ca/en/department-national-defence/services/operations/military-operations/current-operations/operation-open-spirit.html>
- cxlv GC InfoBase, <https://www.tbs-sct.gc.ca/ems-sgd/edb-bdd/index-eng.html>
- cxlvi GC InfoBase, <https://www.tbs-sct.gc.ca/ems-sgd/edb-bdd/index-eng.html>

- cxlvii *Strong, Secure, Engaged: Canada's Defence Policy*, <https://www.canada.ca/en/department-national-defence/corporate/policies-standards/canada-defence-policy.html>
- cxlviii United Nations "Women in Peacekeeping," <https://peacekeeping.un.org/en/women-peacekeeping>
- cxlix Exercise MAPLE RESOLVE 21, <https://www.canada.ca/en/army/services/exercises-and-operations/military-exercises/exercise-maple-resolve.html>
- cl Operation LENTUS, <https://www.canada.ca/en/department-national-defence/services/operations/military-operations/current-operations/operation-lentus.html>
- cli Operation LASER, <https://www.canada.ca/en/department-national-defence/services/operations/military-operations/current-operations/laser.html>
- clii Operation VECTOR, <https://www.canada.ca/en/department-national-defence/services/operations/military-operations/current-operations/operation-vector.html>
- cliii Operation IMPACT, <https://www.canada.ca/en/department-national-defence/services/operations/military-operations/current-operations/operation-impact.html>
- cliv Operation REASSURANCE, <https://www.canada.ca/en/department-national-defence/services/operations/military-operations/current-operations/operation-reassurance.html>
- clv Operation UNIFIER, <https://www.canada.ca/en/department-national-defence/services/operations/military-operations/current-operations/operation-unifier.html>
- clvi Operation REASSURANCE, <https://www.canada.ca/en/department-national-defence/services/operations/military-operations/current-operations/operation-reassurance.html>
- clvii *Advancing with Purpose : The Canadian Army Modernization Strategy*, <https://publications.gc.ca/site/eng/9.894447/publication.html>
- clviii RADARSAT Constellation Mission, <http://www.asc-csa.gc.ca/eng/satellites/radarsat/what-is-rcm.asp>
- clix Canadian Special Operations Forces Command, <https://www.canada.ca/en/special-operations-forces-command.html>
- clx Military Exercises, <http://dgpaapp.forces.gc.ca/en/exercises/index.html>
- clxi Royal Canadian Navy, <https://www.canada.ca/en/navy.html>
- clxii Canadian Army, <http://www.army-armee.forces.gc.ca/en/index.page>
- clxiii Royal Canadian Air Force, <http://www.rcaf-arc.forces.gc.ca/en/index.page>
- clxiv Canadian Special Operations Forces Command, <https://www.canada.ca/en/special-operations-forces-command.html>
- clxv Canadian Rangers, <https://www.canada.ca/en/ombudsman-national-defence-forces/education-information/caf-members/career/canadian-rangers.html>
- clxvi Canadian Joint Operations Command, <https://www.canada.ca/en/department-national-defence/corporate/organizational-structure/canadian-joint-operations-command.html>
- clxvii Canadian Forces Intelligence Command, <https://www.canada.ca/en/department-national-defence/corporate/organizational-structure/canadian-forces-intelligence-command.html>
- clxviii NORAD, <https://www.canada.ca/en/department-national-defence/services/operations/allies-partners/norad.html>
- clxix GC InfoBase, <https://www.tbs-sct.gc.ca/ems-sgd/edb-bdd/index-eng.html>
- clxx GC InfoBase, <https://www.tbs-sct.gc.ca/ems-sgd/edb-bdd/index-eng.html>
- clxxi GC InfoBase, <https://www.tbs-sct.gc.ca/ems-sgd/edb-bdd/index-eng.html>
- clxxii Canadian Armed Forces professional development framework, <https://www.canada.ca/en/department-national-defence/services/benefits-military/education-training/professional-development/framework.html>

- clxxiii Chief Warrant Officer Robert Osside Institute, <https://www.canada.ca/en/department-national-defence/services/benefits-military/education-training/establishments/chief-warrant-officer-robert-osside-institute.html>
- clxxiv Cadet Summer Training 2022, <https://www.canada.ca/en/department-national-defence/services/cadets-junior-canadian-rangers/cadets/summer-training/summer2022.html>
- clxxv Cadet Program Rescope, <https://www.canada.ca/en/department-national-defence/services/cadets-junior-canadian-rangers/members/cadet-program-rescope.html>
- clxxvi Innovation for Defence Excellence and Security, <https://www.canada.ca/en/department-national-defence/programs/defence-ideas.html>
- clxxvii Support to Survivors, <https://www.canada.ca/en/department-national-defence/services/conduct-and-culture/conduct-and-culture-tracker.html#2021-2022>
- clxxviii Conduct and culture change progress tracker, <https://www.canada.ca/en/department-national-defence/services/conduct-and-culture/conduct-and-culture-tracker.html>
- clxxix Defence Team Conduct and Culture Consultation, <https://www.canada.ca/en/department-national-defence/services/conduct-and-culture/join-the-discussion-defence-team-conduct-and-culture-consultation.html>
- clxxx *Employment Equity Act*, <https://laws-lois.justice.gc.ca/eng/acts/E-5.401/index.html>
- clxxxi Canadian Armed Forces Ethos : Trusted to Serve, <https://www.canada.ca/en/department-national-defence/corporate/reports-publications/canadian-armed-forces-ethos-trusted-to-serve.html>
- clxxxii *Accessible Canada Act*, <https://www.laws-lois.justice.gc.ca/eng/acts/A-0.6/page-1.html>
- clxxxiii GC InfoBase, <https://www.tbs-sct.gc.ca/ems-sgd/edb-bdd/index-eng.html>
- clxxxiv Operation VECTOR, <https://www.canada.ca/en/department-national-defence/services/operations/military-operations/current-operations/operation-vector.html>
- clxxxv Operation LENTUS, <https://www.canada.ca/en/department-national-defence/services/operations/military-operations/current-operations/operation-lentus.html>
- clxxxvi Operation REASSURANCE, <https://www.canada.ca/en/department-national-defence/services/operations/military-operations/current-operations/operation-reassurance.html>
- clxxxvii Operation IMPACT, <https://www.canada.ca/en/department-national-defence/services/operations/military-operations/current-operations/operation-impact.html>
- clxxxviii Operation UNIFIER, <https://www.canada.ca/en/department-national-defence/services/operations/military-operations/current-operations/operation-unifier.html>
- clxxxix Operation AEGIS, <https://www.canada.ca/en/department-national-defence/services/operations/military-operations/current-operations/operation-aegis.html>
- exc The Defence Team Total Health and Wellness Strategy, <https://www.canada.ca/en/department-national-defence/corporate/reports-publications/total-health-and-wellness-strategy.html>
- exc Canadian Forces Leave Policy Manual, <https://www.canada.ca/en/department-national-defence/corporate/policies-standards/leave-policy-manual.html>
- excii BILL C-65, <https://www.parl.ca/DocumentViewer/en/42-1/bill/C-65/royal-assent>
- exciii Road to Mental Readiness, <https://www.cafconnection.ca/National-Capital-Region/Adults/Deployment-and-Separation-Support/Deployment-Services-Resources/Road-to-Mental-Readiness.aspx>
- exciv GC InfoBase, <https://www.tbs-sct.gc.ca/ems-sgd/edb-bdd/index-eng.html>
- exciv Restorative Engagement program, <https://www.canada.ca/en/department-national-defence/services/benefits-military/health-support/sexual-misconduct-response/restorative-engagement.html>

- cxvii CAF-DND Sexual Misconduct Class Action Settlement, <https://www.caf-dndsexualmisconductclassaction.ca/en/home>
- cxviii CAF-DND Sexual Misconduct Class Action, <https://www.caf-dndsexualmisconductclassaction.ca/>
- cxviii Survivor Support Consultation Group: Summary Report 2021, <https://www.canada.ca/en/department-national-defence/corporate/reports-publications/survivor-support-consultation-group-summary-report-2021.html>
- cxix Military Sexual Trauma Peer Support Program what we heard consultation report, <https://www.canada.ca/en/department-national-defence/corporate/reports-publications/mst-report.html>
- cc SMRC Offers New and Expanded Services and Programs to Support Survivors, <https://www.canada.ca/en/department-national-defence/news/2021/12/smr-offers-new-and-expanded-services-and-programs-to-support-survivors.html>
- cci About Pathways to Progress, <https://www.canada.ca/en/department-national-defence/services/conduct-and-culture/conduct-and-culture-tracker.html#pathways>
- ccii Conduct and culture change progress tracker, <https://www.canada.ca/en/department-national-defence/services/conduct-and-culture/conduct-and-culture-tracker.html>
- cciii Call to Action on Anti-Racism, Equity, and Inclusion in the Federal Public Service, <https://www.canada.ca/en/privy-council/corporate/clerk/call-to-action-anti-racism-equity-inclusion-federal-public-service.html>
- cciv Minister of National Defence Mandate Letter, <https://pm.gc.ca/en/mandate-letters/2021/12/16/minister-national-defence-mandate-letter>
- ccv CAF Commitment: employment equity plan 2021-2026, <https://www.canada.ca/en/department-national-defence/maple-leaf/defence/2021/11/caf-commitment-employment-equity-plan-2021-2026.html>
- ccvi Statement by the Minister of National Defence on the LGBT Purge Fund Report, <https://www.canada.ca/en/department-national-defence/news/2021/05/statement-by-the-minister-of-national-defence-on-the-lgbt-purge-report.html>
- ccvii No. 2 Construction Battalion, <https://www.canada.ca/en/army/services/events/2-construction-battalion.html>
- ccviii Sexual Misconduct, <https://www.canada.ca/en/department-national-defence/services/benefits-military/conflict-misconduct/sexual-misconduct.html>
- ccix GC InfoBase, <https://www.tbs-sct.gc.ca/ems-sgd/edb-bdd/index-eng.html>
- ccx Family Information Line, <https://www.cafconnection.ca/National/Stay-Connected/Family-Information-Line.aspx>
- ccxi Canadian Forces Morale & Welfare Services, <https://www.cafconnection.ca/>
- ccxii Latest information and resources for the Defence Team related to COVID-19, <https://www.canada.ca/en/department-national-defence/campaigns/covid-19.html>
- ccxiii GC InfoBase, <https://www.tbs-sct.gc.ca/ems-sgd/edb-bdd/index-eng.html>
- ccxiv Evaluation of the Cadets and Junior Canadian Rangers (Youth Program), <https://www.canada.ca/en/department-national-defence/corporate/reports-publications/audit-evaluation/eval-cadets-jcr.html>
- ccxv Memorandum of Understanding Among The Canadian Armed Forces and The Navy League of Canada and The Army Cadet League of Canada and The Air Cadet League of Canada, <https://www.canada.ca/en/department-national-defence/services/cadets-junior-canadian-rangers/members/cancdtgens/cancdtgen022-20/mou2020.html>
- ccxvi Consultative Framework Between the CAF and Cadet Leagues, <https://www.canada.ca/en/department-national-defence/services/cadets-junior-canadian-rangers/cadets/partners/navy-air-army-leagues-consultative-framework.html>
- ccxvii Cadets and Junior Canadian Rangers Policies, <https://www.canada.ca/en/department-national-defence/services/cadets-junior-canadian-rangers/cjcr-policy.html>



- ccxviii Cadet Program Rescope, <https://www.canada.ca/en/department-national-defence/services/cadets-junior-canadian-rangers/members/cadet-program-rescope.html>
- ccxix Cadet365, <https://www.canada.ca/en/department-national-defence/services/cadets-junior-canadian-rangers/cadets/cadet-o365.html>
- ccxx Canadian Cadet Organizations Digital Strategy, <https://www.canada.ca/en/department-national-defence/services/cadets-junior-canadian-rangers/members/cadet-digital-strategy.html>
- ccxxi GC InfoBase, <https://www.tbs-sct.gc.ca/ems-sgd/edb-bdd/index-eng.html>
- ccxxii GC InfoBase, <https://www.tbs-sct.gc.ca/ems-sgd/edb-bdd/index-eng.html>
- ccxxiii *Strong, Secure, Engaged: Canada's Defence Policy*, <https://www.canada.ca/en/department-national-defence/corporate/policies-standards/canada-defence-policy.html>
- ccxxiv Canadian Safety and Security Program, [https://science.gc.ca/eic/site/063.nsf/eng/h\\_5B5BE154.html](https://science.gc.ca/eic/site/063.nsf/eng/h_5B5BE154.html)
- ccxxv Government of Canada launches international program to track illegal fishing using satellite technology, <https://www.canada.ca/en/fisheries-oceans/news/2021/02/government-of-canada-launches-international-program-to-track-illegal-fishing-using-satellite-technology.html>
- ccxxvi Innovation for Defence Excellence and Security Program, <https://www.canada.ca/en/department-national-defence/programs/defence-ideas.html>
- ccxxvii Green Heat: Low Carbon Energy Generation for Heating Existing Buildings, <https://www.canada.ca/en/department-national-defence/programs/defence-ideas/element/test-drives/challenge/green-heat-low-carbon-energy-generation.html>
- ccxxviii TEST DRIVES, <https://www.canada.ca/en/department-national-defence/programs/defence-ideas/element/test-drives.html>
- ccxxix National Cyber Security Strategy, <https://www.publicsafety.gc.ca/cnt/rsrscs/pblctns/ntnl-cbr-scrtr-strtg/index-en.aspx>
- ccxxx Understanding cyber intent, <https://www.canada.ca/en/department-national-defence/programs/defence-ideas/element/competitive-projects/challenges/understanding-cyber-intent.html>
- ccxxxi Detecting and responding to hostile information activities, <https://www.canada.ca/en/department-national-defence/programs/defence-ideas/element/competitive-projects/challenges/detecting-responding-hostile-information-activities.html>
- ccxxxii Staying Four Steps Ahead: Understanding and Predicting the Behaviour of Adversaries, <https://www.canada.ca/en/department-national-defence/programs/defence-ideas/element/competitive-projects/challenges/four-steps-ahead-understanding-predicting-behaviour-adversaries.html>
- ccxxxiii Remaining Vigilant: Identifying Cyber Dependencies, Vulnerabilities and Threats, <https://www.canada.ca/en/department-national-defence/programs/defence-ideas/element/competitive-projects/challenges/remaining-vigilant-identifying-cyber-dependencies-vulnerabilities-threats.html>
- ccxxxiv GC InfoBase, <https://www.tbs-sct.gc.ca/ems-sgd/edb-bdd/index-eng.html>
- ccxxxv Green Heat: Low Carbon Energy Generation for Heating Existing Buildings, <https://www.canada.ca/en/department-national-defence/programs/defence-ideas/element/test-drives/challenge/green-heat-low-carbon-energy-generation.html>
- ccxxxvi Erosion from Motion: Reducing Wear and Tear on Rotary Blades, <https://www.canada.ca/en/department-national-defence/programs/defence-ideas/element/competitive-projects/challenges/erosion-from-motion-reducing-wear-and-tear-on-rotary-blade.html>
- ccxxxvii Less GHGs on the Seas: Practical Solutions to Measure and Record Energy Consumption, <https://www.canada.ca/en/department-national-defence/programs/defence-ideas/element/competitive-projects/challenges/less-ghgs-on-the-seas-practical-solutions-to-measure-and-record-energy-consumption.html>

ccxxxviii High Bandwidth, Low Profile: Next Generation Point-to-Point Communication Solutions for the Field, <https://www.canada.ca/en/department-national-defence/programs/defence-ideas/element/competitive-projects/challenges/high-bandwidth-low-profile-next-generation-point-to-point-communication-solutions-for-the-field.html>

ccxxxix Wireless is Where It's At: Secure and Seamless Wireless Network Onboard Ships, <https://www.canada.ca/en/department-national-defence/programs/defence-ideas/element/competitive-projects/challenges/wireless-is-where-its-at-secure-and-seamless-wireless-network-onboard-ships.html>

ccxli We Sea You: Digital Tracking and Accounting on Navy Vessels, <https://www.canada.ca/en/department-national-defence/programs/defence-ideas/element/competitive-projects/challenges/we-sea-you-digital-tracking-and-accounting-on-navy-vessels.html>

ccxlii Worth a Thousand Sources: A fused Picture for Continental Surveillance, <https://www.canada.ca/en/department-national-defence/programs/defence-ideas/element/competitive-projects/challenges/worth-a-thousand-sources-a-fused-picture-for-continental-surveillance.html>

ccxliii Faster, Stronger, More Secure: Advancing 5G capabilities and concepts for defence and security, <https://www.canada.ca/en/department-national-defence/programs/defence-ideas/element/innovation-networks/challenge/advancing-5g-capabilities.html>

ccxliv Corrosion detection in ships – Sandbox, <https://www.canada.ca/en/department-national-defence/programs/defence-ideas/understanding-ideas/sandbox/corrosion-detection-in-ships.html>

ccxlv Counter Unmanned Aerial Systems Sandbox 2022, <https://www.canada.ca/en/department-national-defence/programs/defence-ideas/element/sandboxes/challenge/counter-unmanned-aerial-systems-sandbox-2022.html>

ccxlv DND awards \$2 million to two companies developing COVID-19 solutions and products, <https://www.canada.ca/en/department-national-defence/news/2020/07/dndawards-2-million-to-two-companiesdeveloping-covid-19-solutions-and-products.html>

ccxlvii GC InfoBase, <https://www.tbs-sct.gc.ca/ems-sgd/edb-bdd/index-eng.html>

ccxlviii GC InfoBase, <https://www.tbs-sct.gc.ca/ems-sgd/edb-bdd/index-eng.html>

ccxlviii *Strong, Secure, Engaged*: Canada's Defence Policy, <https://www.canada.ca/en/department-national-defence/corporate/policies-standards/canada-defence-policy.html>

ccxlix GC InfoBase, <https://www.tbs-sct.gc.ca/ems-sgd/edb-bdd/index-eng.html>

ccl Manned airborne intelligence, surveillance and reconnaissance, <https://www.tpsgc-pwgsc.gc.ca/app-acq/amd-dp/air/snac-nfps/renseignement-airborne-eng.html>

ccli Canadian Surface Combatant, <https://www.canada.ca/en/department-national-defence/services/procurement/canadian-surface-combatant.html>

cclii Arctic and Offshore Patrol Ship, <https://www.canada.ca/en/department-national-defence/services/procurement/arctic-offshore-patrol-ships.html>

ccliii Joint Support Ship, <https://www.canada.ca/en/department-national-defence/services/procurement/joint-support-ship.html>

ccliv Fixed-wing Search and Rescue Aircraft Replacement Project, <https://www.canada.ca/en/department-national-defence/services/procurement/fixed-wing-search-and-rescue-procurement-project.html>

cclv Future Fighter Capability Project, <https://www.canada.ca/en/department-national-defence/services/procurement/fighter-jets/future-fighter-capability-project.html>

cclvi Remotely Piloted Aircraft System, <https://www.canada.ca/en/department-national-defence/services/procurement/remotely-piloted-aircraft-system.html>

cclvii Strategic Tanker Transport Capability, <http://dgpaapp.forces.gc.ca/en/defence-capabilities-blueprint/project-details.asp?id=1341>

- cclviii Logistics Vehicle Modernization, <https://www.canada.ca/en/department-national-defence/services/procurement/logistics-vehicle-modernization-project.html>
- cclix Armoured Combat Support Vehicle (ACSV), <https://www.canada.ca/en/department-national-defence/services/procurement/armoured-combat-support-vehicle.html>
- cclx CP-140 Aurora Incremental Modernization Project, <https://www.canada.ca/en/department-national-defence/services/procurement/cp-140-aurora.html>
- cclxi Interim Fighter Capability Project, <http://dgpaapp.forces.gc.ca/en/defence-capabilities-blueprint/project-details.asp?id=1786>
- cclxii Hornet Extension Project, <http://dgpaapp.forces.gc.ca/en/defence-capabilities-blueprint/project-details.asp?id=1442>
- cclxiii CH-148 Cyclone Project, <https://www.canada.ca/en/department-national-defence/services/procurement/ch-148-cyclone.html>
- cclxiv Victoria-class Modernization, <https://www.canada.ca/en/department-national-defence/services/procurement/victoria-class-submarines.html>
- cclxv Investing in Equipment and Current Projects, <https://www.canada.ca/en/services/defence/defence-equipment-purchases-upgrades.html>
- cclxvi GC InfoBase, <https://www.tbs-sct.gc.ca/ems-sgd/edb-bdd/index-eng.html>
- cclxvii GC InfoBase, <https://www.tbs-sct.gc.ca/ems-sgd/edb-bdd/index-eng.html>
- cclxviii GC InfoBase, <https://www.tbs-sct.gc.ca/ems-sgd/edb-bdd/index-eng.html>
- cclxix GC InfoBase, <https://www.tbs-sct.gc.ca/ems-sgd/edb-bdd/index-eng.html>
- cclxx Department of National Defence awards \$54-million infrastructure greening contract in Nova Scotia, <https://www.canada.ca/en/department-national-defence/news/2021/07/department-of-national-defence-awards-54-million-infrastructure-greening-contract-in-nova-scotia.html>
- cclxxi *Strong, Secure, Engaged: Canada's Defence Policy*, <https://www.canada.ca/en/department-national-defence/corporate/policies-standards/canada-defence-policy.html>
- cclxxii Defence Energy and Environment Strategy (DEES) for 2020-2023, [https://www.canada.ca/content/dam/dnd-mdn/images/dees2020/2020-23%20Defence%20Energy%20and%20Environment%20Strategy\\_EN%20-%20Signed.pdf](https://www.canada.ca/content/dam/dnd-mdn/images/dees2020/2020-23%20Defence%20Energy%20and%20Environment%20Strategy_EN%20-%20Signed.pdf)
- cclxxiii Action plan for contaminated sites, <https://www.canada.ca/en/environment-climate-change/services/federal-contaminated-sites/action-plan.html>
- cclxxiv Naval bases, <https://www.canada.ca/en/navy/corporate/our-organization/structure.html>
- cclxxv Army bases, <https://www.canada.ca/en/army/corporate/bases-and-units.html>
- cclxxvi Air Force wings, <https://www.canada.ca/en/air-force/corporate/wings-squadrons.html>
- cclxxvii GC InfoBase, <https://www.tbs-sct.gc.ca/ems-sgd/edb-bdd/index-eng.html>
- cclxxviii Directive on the Management of Real Property, <https://www.tbs-sct.canada.ca/pol/doc-eng.aspx?id=32691>
- cclxxix Horizontal Fixed Asset Review – Executive Summary of the Final Report, <https://www.canada.ca/en/treasury-board-secretariat/corporate/reports/improving-results-2017-horizontal-departmental-reviews/horizontal-fixed-asset-review-executive-summary-final-report.html>
- cclxxx Defence Infrastructure Projects, <https://www.canada.ca/en/department-national-defence/services/infrastructure-projects.html>
- cclxxxi GC InfoBase, <https://www.tbs-sct.gc.ca/ems-sgd/edb-bdd/index-eng.html>
- cclxxxii Defence Energy and Environment Strategy, <https://www.canada.ca/en/department-national-defence/corporate/reports-publications/dees.html>

- cclxxxiii Greening Defence, <https://www.canada.ca/en/department-national-defence/services/greening-defence.html>
- cclxxxiv GC InfoBase, <https://www.tbs-sct.gc.ca/ems-sgd/edb-bdd/index-eng.html>
- cclxxxv GC InfoBase, <https://www.tbs-sct.gc.ca/ems-sgd/edb-bdd/index-eng.html>
- cclxxxvi *Strong, Secure, Engaged: Canada's Defence Policy*, <https://www.canada.ca/en/department-national-defence/corporate/policies-standards/canada-defence-policy.html>
- cclxxxvii The Third Independent Reviews of the National Defence Act, <https://www.canada.ca/en/department-national-defence/corporate/policies-standards/acts-regulations/third-independent-reviews-nda.html>
- cclxxxviii Guidance for Defence Public Service Employees & Managers: COVID-19 and Beyond, <https://www.canada.ca/en/department-national-defence/campaigns/covid-19/civilian-human-resources/2021-summer-guidance-defence-public-service-employees-managers.html>
- cclxxxix The Maple Leaf, <https://www.canada.ca/en/department-national-defence/maple-leaf.html>
- ccxc BILL C-65, <https://www.parl.ca/DocumentViewer/en/42-1/bill/C-65/royal-assent>
- ccxi Military operations and exercises, <https://www.canada.ca/en/department-national-defence/services/operations.html>
- ccxii Conduct and Culture Change, <https://www.canada.ca/en/department-national-defence/campaigns/conduct-and-culture.html>
- ccxiii National Veterans' Week Speakers Program, <http://dgpaapp.forces.gc.ca/en/vet/index.asp>
- ccxiv TRAIN FOR YOUR TRUE CALLING, [https://forces.ca/en/?utm\\_campaign=dnd-mdn-awareness-22-23&utm\\_medium=sem&utm\\_source=ggl&utm\\_content=ad-text-en&utm\\_term=forces%20ca&adv=2223-234450&id\\_campaign=16738206471&id\\_source=135460298055&id\\_content=590827921820&gclid=Cj0KCQjwyMiTBhDKARIsAAJ-9VuF-2JCgE-etpZPQeMegGvboJkWIQHhZlrAW84PvO\\_pks4IXI4SAdMaAo1uEALw\\_wcB&gclsrc=aw.ds](https://forces.ca/en/?utm_campaign=dnd-mdn-awareness-22-23&utm_medium=sem&utm_source=ggl&utm_content=ad-text-en&utm_term=forces%20ca&adv=2223-234450&id_campaign=16738206471&id_source=135460298055&id_content=590827921820&gclid=Cj0KCQjwyMiTBhDKARIsAAJ-9VuF-2JCgE-etpZPQeMegGvboJkWIQHhZlrAW84PvO_pks4IXI4SAdMaAo1uEALw_wcB&gclsrc=aw.ds)
- ccxv Defence Team – COVID-19, <https://www.canada.ca/en/department-national-defence/campaigns/covid-19.html>
- ccxvi Policy on Service and Digital, <https://www.tbs-sct.canada.ca/pol/doc-eng.aspx?id=32603>
- ccxvii DAOD 6500-0, Data Management and Analytics, <https://www.canada.ca/en/department-national-defence/corporate/policies-standards/defence-administrative-orders-directives/6000-series/6500/6500-0-data-management-and-analytics.html>
- ccxviii Analytics in DND/CAF: Vision and Guiding Principles, <https://www.canada.ca/en/department-national-defence/corporate/reports-publications/analytics-dnd-caf-vision-guiding-principles.html>
- ccxcix BILL C-77, <https://www.parl.ca/DocumentViewer/en/42-1/bill/C-77/first-reading/>
- ccc The Third Independent Reviews of the National Defence Act, <https://www.canada.ca/en/department-national-defence/corporate/policies-standards/acts-regulations/third-independent-reviews-nda.html>
- ccci Independent External Comprehensive Review, <https://www.canada.ca/en/department-national-defence/campaigns/conduct-and-culture/independent-external-comprehensive-review.html>
- cccii Queen's Regulations and Orders (QR&O), <https://www.canada.ca/en/department-national-defence/corporate/policies-standards/queens-regulations-orders.html>
- ccciiii Canadian Forces Provost Marshal Annual Report 2021-2022, <https://www.canada.ca/en/department-national-defence/corporate/reports-publications/provost-marshal-report-2021-2022.html>
- ccciv *Strong, Secure, Engaged: Canada's Defence Policy*, <https://www.canada.ca/en/department-national-defence/corporate/policies-standards/canada-defence-policy.html>
- ccciv *Strong, Secure, Engaged: Canada's Defence Policy*, <https://www.canada.ca/en/department-national-defence/corporate/policies-standards/canada-defence-policy.html>

- cccvi Public Accounts of Canada 2020-21, <https://www.canada.ca/en/treasury-board-secretariat/services/planned-government-spending/government-expenditure-plan-main-estimates.html>
- cccvii GC InfoBase, <https://www.tbs-sct.gc.ca/ems-sgd/edb-bdd/index-eng.html#start>
- cccviii Financial Statements, [www.canada.ca/en/department-national-defence/corporate/reports-publications/departmental-results-report/2021-22-index/financial-statements.html](http://www.canada.ca/en/department-national-defence/corporate/reports-publications/departmental-results-report/2021-22-index/financial-statements.html)
- cccix Future-oriented Statement of Operations (Unaudited), 2021-22 Departmental Plan, <https://www.canada.ca/en/department-national-defence/corporate/reports-publications/departmental-plans/departmental-plan-2021-22/foso.html>
- cccx Departmental Plan 2021-22, <https://www.canada.ca/en/department-national-defence/corporate/reports-publications/departmental-plans/departmental-plan-2021-22.html>
- cccxii Consolidated Departmental Financial Statements, <https://www.canada.ca/en/department-national-defence/corporate/reports-publications/departmental-results-report/2021-22-index/financial-statements.html>
- cccxiii National Defence and Canadian Forces Ombudsman, <https://www.canada.ca/en/ombudsman-national-defence-forces.html>
- cccxiiii Independent Review Panel for Defence Acquisition, <https://www.canada.ca/en/independent-review-panel-defence-acquisition.html>
- cccxv Office of the Chief Military Judge, <https://www.canada.ca/en/chief-military-judge.html>
- cccxvi Defence Research and Development Canada, <https://www.canada.ca/en/defence-research-development.html>
- cccxvii Communications Security Establishment, <https://www.cse-cst.gc.ca/>
- cccxviii Military Police Complaints Commission, <https://www.canada.ca/en/military-police-complaints.html>
- cccxix Military Grievances External Review Committee, <https://www.canada.ca/en/military-grievances-external-review.html>
- cccx National Defence Act, <https://laws-lois.justice.gc.ca/eng/acts/N-5/index.html>
- cccx Communications Security *Establishment Act*, <https://laws-lois.justice.gc.ca/eng/acts/C-35.3/>
- cccx Emergencies Act, <https://laws-lois.justice.gc.ca/eng/acts/E-4.5/index.html>
- cccxii Aeronautics Act, <https://laws-lois.justice.gc.ca/eng/acts/A-2/index.html>
- cccxiii Fisheries Act, <https://laws-lois.justice.gc.ca/eng/acts/F-14/index.html>
- cccxiv Legislation and National Defence, <https://www.canada.ca/en/department-national-defence/corporate/legislation.html>
- cccxv The Department of National Defence and the Canadian Armed Forces' website, <http://www.forces.gc.ca/>
- cccxvi The Department of National Defence and the Canadian Armed Forces' website – Raison d'être, mandate and role: who we are and what we do, <https://www.canada.ca/en/department-national-defence/corporate/reports-publications/departmental-results-report/2021-22-index/corp-info/raison-mandate-role.html>
- cccxvii Mandate Letters, <https://pm.gc.ca/en/mandate-letters>
- cccxviii The Department of National Defence and the Canadian Armed Forces' website – Operating context, <https://www.canada.ca/en/department-national-defence/corporate/reports-publications/departmental-results-report/2021-22-index/corp-info/operating-context.html>
- cccxix GC InfoBase, <https://www.tbs-sct.gc.ca/ems-sgd/edb-bdd/index-eng.html>
- cccx Departmental Sustainable Development Strategy – Reporting on Green Procurement, <https://www.canada.ca/en/department-national-defence/corporate/reports-publications/departmental-results-report/2021-22-index/corp-info/green-procurement.html>

cccxxxi Details on transfer payment programs, <https://www.canada.ca/en/department-national-defence/corporate/reports-publications/departmental-results-report/2021-22-index/corp-info/transfer-payment-prog.html>

cccxxxii Gender-based analysis plus, <https://www.canada.ca/en/department-national-defence/corporate/reports-publications/departmental-results-report/2021-22-index/corp-info/gba-plus.html>

cccxxxiii Response to parliamentary committees and external audits, <https://www.canada.ca/en/department-national-defence/corporate/reports-publications/departmental-results-report/2021-22-index/corp-info/response-parl-cmtee-ext-audits.html>

cccxxxiv Status report on transformational and major Capital projects, <https://www.canada.ca/en/department-national-defence/corporate/reports-publications/departmental-results-report/2021-22-index/corp-info/major-capital-projects.html>

cccxxxv Report on Federal Tax Expenditures, <https://www.canada.ca/en/department-finance/services/publications/federal-tax-expenditures.html>