



Royal United Services Institute of Nova Scotia Dispatches 13 January 2023

The Royal United Services Institute of Nova Scotia provides a forum for the study, promotion and debate of defence, security and safety issues.

Dispatches is a weekly collection of news of interest, including posts to social media by the Institute. Links to articles are checked at the time they are put into *Dispatches* but may be unavailable at a later date or in some countries other than Canada.

Everyone is encouraged to submit links and other content to be included in *Dispatches*. Submissions and feedback are welcome anytime. Email to RUSINSDispatches@gmail.com. Comments to articles can be from members or non-members of RUSI(NS). Any comment in *Dispatches* is the sole opinion of the author and does not necessarily represent the views of the Royal United Services Institute of Nova Scotia, the Department of National Defence or other government department, the Canadian Armed Forces, or the Royal Canadian Mounted Police or other agency.

If you wish to receive *Dispatches* at a different address (i.e., not your work address), please inform RUSI(NS). Past editions of *Dispatches* may be requested by contacting RUSI(NS).

Renewal of RUSI(NS) Membership

An email was sent to members on 4 January announcing renewal of membership for 2023. If you have not received the email, please check your spam folder and, if necessary, contact RUSI(NS).

RUSI(NS) Survey 2023

A survey with a few questions has been sent by email to RUSI(NS) members asking for their comments about the Institute. Your feedback is important to the running of RUSI(NS) – please take the time to provide your thoughts about how we are doing.

Events:

To list an event in *Dispatches*, email RUSI(NS) by noon Thursday. RUSI(NS) events are by invitation. If you are interested in attending and have not been invited, email RUSINovaScotia@gmail.com. RUSI(NS) events may be cancelled at short notice. Email RUSI(NS) if there is a question of an event occurring.

18 January, Wednesday – **RUSI(NS) Distinguished Speaker** Scott Hatcher, Canadian Coast Guard, speaking on “Canadian Coast Guard Autonomous Systems and Intelligence, Surveillance and Reconnaissance Program.” 1300-1500 Atlantic. Via Zoom. To register, email RUSINovaScotia@gmail.com - indicate whether you are RUSI(NS) or, if not, of what department/agency, unit, association or company you are a member.

Below, advance reading from Scott Hatcher:

A more up-to-date article than in last week’s *Dispatches*, discussing sea trials of the platform: Kongsberg Geospatial and Canadian Coast Guard wrap up sea trials of VTOL UA

<https://www.navaltoday.com/2022/01/28/kongsberg-geospatial-and-canadian-coast-guard-wrap-up-sea-trials-of-vtol-uas/>

Canadian Coast Guard Conducts Offshore Sea Trials of VTOL UAS with Shield AI and Kongsberg Geospatial - UASweekly.com

<https://uasweekly.com/2022/02/03/canadian-coast-guard-conducts-offshore-sea-trials-of-vtol-uas-with-shield-ai-and-kongsberg-geospatial/>

A news item from sea trials in 2016 off Newfoundland:

Schiebel's CAMCOPTER® S-100 successfully demonstrates its capability during Canadian Icebreaking Operations

<https://www.defenseforces.com/2016/04/19/schiebels-camcopter-s-100-successfully-demonstrates-its-capability-during-canadian-icebreaking-operations/>

And some footage from the CCG Environmental Response team contributed to CTV Vancouver's coverage of the Bligh Island wreck cleanup last year. This response is mentioned in the presentation and it was a great example of RPAS use in an operational context within the CCG:

Drone video of the Bligh Island oil spill

<https://ottawa.ctvnews.ca/video?clipId=2101625>

20 January, Friday - Royal Alberta United Services Institute Lunch & Learn with Cmdre Pat Montgomery "Canada's Naval Reserve - Past, Present and Future." 1130-1330. Live and via Zoom. To register: <https://www.rausi.ca/info-events/lunch-and-learn/562-canada-a-naval-reserve-past-present-and-future> and <https://us02web.zoom.us/meeting/register/tZUocOqpqz4tHt3qKTnDOFkLW8UDra0gxU8W>

Naval Reserve Centennial

The Naval Reserve of the Royal Canadian Navy will be turning 100 on 31 January 2023.

Sailors inspire Naval Reserve Centennial graphic identifier design

<https://www.canada.ca/en/department-national-defence/maple-leaf/rcn/2022/02/navres-centennial-graphic.html>



New: 26 January, Thursday - The Hague Program on International Cyber Security seminar "Russian Information Warfare: Assault on Democracies in the Cyber Wild West." 1800 Amsterdam time. Via Zoom. To register:

https://universiteitleiden.zoom.us/meeting/register/u5cocOctrjovE9G0i_F0THO7rYNBAEkNRdhB

15 February, Wednesday - RUSI(NS) Distinguished Speaker Brigadier-General G Michael Adamson, Command 3 Canadian Space Division, speaking about the division. 1300-1500. Via Zoom. More to follow:

Advance reading:

The Growing Complexity of Space: Implications for Security and Stability

https://lop.parl.ca/sites/PublicWebsite/default/en_CA/ResearchPublications/202210E

21 February, Tuesday - Georgetown University Wargaming Society presentation "The Politics of Play: Wargaming with the US Military." Noon-1400 EST. Online. To register:

<https://www.eventbrite.com/e/the-politics-of-play-wargaming-with-the-us-military-tickets-415461174557>

7 March, Tuesday - Georgetown University Wargaming Society presentation "Malign: Gaming Influence in the Information Age." 1800-200 EST. Online. To register: <https://www.eventbrite.com/e/malign-gaming-influence-in-the-information-age-tickets-484966807777>

Publications:

Publications without links are available on request to RUSINovaScotia@gmail.com.

New: RUSI(NS) Information Note “RCN Ship Pennant Numbers,” 9 January 2023

<https://rusi-ns.ca/rcn-ship-pennant-numbers/>

This is actually an amended version of a Note published last spring and has been done in anticipation of an announcement about the ship type and therefore pennant numbers of the ships to be built by the CSC project.

Canadian Marine Industries and Shipbuilding Association *On Watch*, 21 December 2022

<https://www.cmisa.ca/cpages/on-watch-current>

Edmonton United Services Institute President’s *Enews*, January 2023

Military Institute of Windsor *Communiqué*, Volume XLI, Number 1, January 2023

Naval Association of Canada recording “Seaspan Shipyards” by Denis Stevens, VP of Government Relations for Seaspan, 9 January 2023

https://youtu.be/XHKH6MQa_eE

Naval Association of Canada recording “From the Quarterdeck: the current state of the Navy” by VAdm Topshee, Commander Royal Canadian Navy, 5 December 2022

<https://youtu.be/IWUBjaA2Cvk>

Royal Alberta United Services Institute *Dispatches*, January 2023

<https://www.rausi.ca/component/acym/archive/178-rausi-january-2023-dispatches>

Royal Canadian Naval Association Admiral Hose Branch *Scuttlebutt*, January 2023

Royal Canadian Navy *Your Navy Today* - Volume 5 Issue 7

<https://www.canada.ca/en/navy/corporate/navy-news/your-navy-today/volume-5-issue-7.html>

Royal United Services Institute of Vancouver Island *Newsletter*, Volume 54, 4th Quarter 2022.

New: Royal United Services Institute of Victoria (Australia) *Defence Update*, Volume 16, Issue 4, 9 January 2023

Royal United Services Institute of Victoria (Australia) *Quarterly Newsletter*, Volume 21, Issue 4, December 2022

St. Francis Xavier University Mulroney Institute of Government *Canadian Naval Review* Volume 18, Number 2 (2022)

United Services Institute of Nanaimo and North Island *Newsletter*, Vol 31, No 1, January 2023

New: Veterans Affairs Canada *Salute!* January 2023

<https://www.veterans.gc.ca/eng/about-vac/news-media/salute/2022-12>

Tweeted by @RUSI NS:

RUSI(NS) tweets may also be viewed by clicking on the Twitter icon at <https://RUSI-NS.ca>. To have something tweeted or retweeted, email RUSINovaScotia@gmail.com.

Transport Canada @Transport_gc Jan 3 tweeted: Ever wonder why the #NASPCrew planes are painted bright red? Their vivid colour, along with the word “surveillance” displayed across the aircraft, is to deter potential polluters transiting Canadian waters. Learn more about them here:

<https://tc.canada.ca/en/programs/national-aerial-surveillance-program>

(National Aerial Surveillance Program)

USI(NS) retweeted: RUSI(NS) presentation "Surveillance of Sea Surface Activities in Atlantic Canada" https://rusi-ns.ca/national_aerial_surveillance_program/



U.S. Naval Institute @NavalInstitute 3 Jan tweeted: In naval warfare, a smaller fleet of superior quality ships is not a way to victory. The side with the most ships almost always wins. (Bigger Fleets Win

<https://www.usni.org/magazines/proceedings/2023/january/bigger-fleets-win>)

Brian Santarpia @BrianSantarpia retweeted: A very thoughtful and well argued recommendation for naval strategists and force developers to consider.

RUSI(NS) retweeted: CAN🇨🇦 has the @RoyalCanNavy for which it is willing to pay (& its procurement system & shipbuilders are able to produce). What is the force that we should have in view of global situation & probable futures? What is delta that government is not funding?



Dr Elizabeth Buchanan @BuchananLiz 7 Jan tweeted: Fibre optic cable survey in High Arctic gets review board approval | Nunatsiaq News

[\(https://nunatsiaq.com/stories/article/fibre-optic-cable-survey-in-high-arctic-gets-review-board-approval/\)](https://nunatsiaq.com/stories/article/fibre-optic-cable-survey-in-high-arctic-gets-review-board-approval/)

RUSI(NS) retweeted: Subsurface ('submarine') telecommunications cables, another factor ('vital points') for CAN🇨🇦 #Arctic defence & security planning



RUSI @RUSI_org 19 Dec tweeted and RUSI(NS) retweeted: A recent RUSI Special Report by Lieutenant General Mykhaylo Zabrodskyyi, Oleksandr V Danylyuk, @Jack_Watling and Nick Reynolds sheds light on Ukraine's strengths and vulnerabilities, and the need for further Western support. Read the full report below!
 (Preliminary Lessons in Conventional Warfighting from Russia's Invasion of Ukraine: February–July 2022
<https://rusi.org/explore-our-research/publications/special-resources/preliminary-lessons-conventional-warfighting-russias-invasion-ukraine-february-july-2022>)



AFV Recognition @AFVRec_ Jan 7 tweeted (https://twitter.com/AFVRec_/status/1611655057682092033): A thread of inflatable vehicles I seen whilst researching the 45th Separate Engineer Camouflage Regiment Mil No.58142, based at Inzhenerny 1. The regiment uses inflatable 'vehicles' of all kinds, these are surprisingly not just MBT's and APC's yet full S-300 batteries and radars.
 RUSI(NS) retweeted: What are @CanadianForces doctrine & capabilities for camouflage, deception and decoys? Is there any kit in stock? Anyone getting current training? With abundance of #drones on battlefields, measures to counter them detecting own forces or to deceive them become more important



National Defence @NationalDefence 9 Jan tweeted and RUSI(NS) retweeted: This news has us soaring: the F-35 is officially Canada's future fighter aircraft! These jets will provide us with the capabilities, technology, interoperability, and weapons we need to meet our commitments and counter future defence threats. <https://canada.ca/en/public-services-procurement/news/2023/01/canada-finalizes-agreement-to-purchase-new-fighter-jets-for-royal-canadian-air-force.html>
 #WellEquipped
 (Canada finalizes agreement to purchase new fighter jets for Royal Canadian Air Force)

F-35 CANADA'S FUTURE FIGHTER

Maximum speed: Mach 1.6

Service ceiling: 15,240 m

G-limit: 9

Fleet size: 88

Payload: >8,160 kg

Range: >2,200 km

Ability to fly non-stop from Cold Lake, AB to Inuvik, NWT

of ordnance using internal + 6 external weapons stations

Infrastructure construction will start in 2023, with first aircraft delivery in 2026.

See also: Canada and the F-35: What are we buying, and how is it different from last time?
<https://toronto.citynews.ca/2023/01/10/canada-and-the-f-35-what-are-we-buying-and-how-is-it-different-from-last-time/>

CAN 🇨🇦 to purchase National Advanced Surface-to-Air Missile System (NASAMS) & associated munitions from US 🇺🇸 & donate to Ukraine 🇺🇦. NASAMS is short- to medium-range ground-based air defence system against drones, missiles & aircraft <https://www.canada.ca/en/department-national-defence/news/2023/01/defence-minister-anita-anand-announces-air-defence-system-donation-to-ukraine.html>



Transport Canada @Transport_gc 10 Jan tweeted: Through the #OceansProtectionPlan, 32.4% of the Arctic Ocean's floor was surveyed in key shipping corridors to help enhance navigation safety. By doing this, we're improving Canada's ability to prevent and respond to marine incidents. Very "cool" <https://tc.canada.ca/en/initiatives/oceans-protection-plan/oceans-protection-plan-infographics>
RUSI(NS) retweeted: Safe navigation routes in #Arctic are major factor in regional defence & security, part of building marine infrastructure. 32.4% = how many km? How long to 100%? Need complete surveys soon as part of ensuring CAN 🇨🇦 sovereignty in North



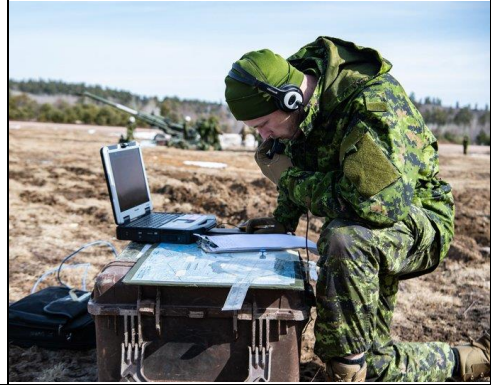
"International Exercise #ObangameExpress 2023 Set to Begin" <https://www.navy.mil/Press-Office/News-Stories/Article/3262556/international-exercise-obangame-express-2023-set-to-begin/> CAN 🇨🇦 participating. "To improve regional cooperation, info-sharing & tactical interdiction expertise; enhance collective capabilities to counter Illegal, Unreported, Unregulated #IUU fishing



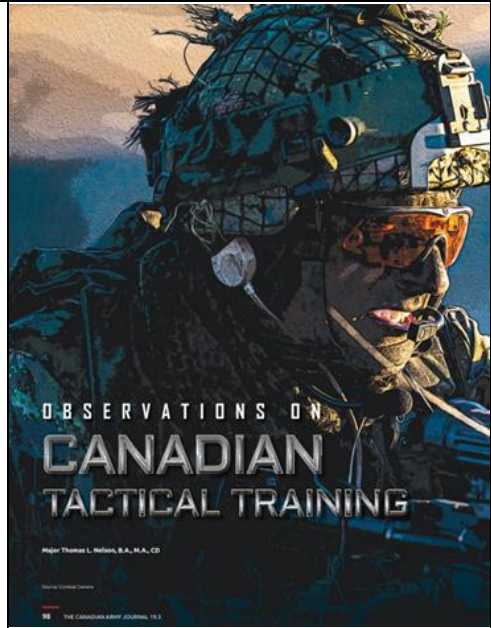
David Pugliese @davidpugliese 10 Jan tweeted: My latest article...Canada buys Ukraine \$400M air-defence system; Canadian Army still waits for such equipment <https://ottawacitizen.com/news/national/defence-watch/canada-buys-ukraine-400m-air-defence-system-canadian-army-still-waits-for-such-equipment> via @ottawacitizen
RUSI(NS) retweeted: RUSI(NS) Paper "We Have No Air Defence For Our Army – Why?" <https://rusi-ns.ca/air-defence/>



LGen J.J.M.J. Paul, CCA / CAC @Army_Comd_Armee 10 Jan tweeted: We are moving out on digitalization – our capabilities need to be compatible and interoperable with our allies. Further, our systems require redundancy to build digital resilience. CA has just released its CA Digital Strategy. RUSI(NS) retweeted: "Modernization Vital Ground: @CanadianArmy Digital Strategy"
<https://www.canada.ca/en/army/services/for-the-soldier/digital-strategy.html>



CDN Defence Academy/L'Académie cdn de la défense @CDACanadaACD 11 jan tweeted and RUSI(NS) retweeted: The Canadian Army Journal – V19.3 “Observations on Canadian Tactical Training” (p98) ►
https://canada.ca/content/dam/army-armee/migration/assets/army_internet/docs/en/canadian-army-journal/caj-19-3-en.pdf



Aircraft Art

Euromaidan Press @EuromaidanPress 9 Jan tweeted (<https://twitter.com/EuromaidanPress/status/1612328061764075520>): Petrykivka-style painting on a Ukrainian combat helicopter. Servicemen decided to decorate their aircraft after they visited Petrykivka hromada in Dnipropetrovsk Oblast and took master classes in Petrykivka painting.
<https://t.me/The3rdForceUA/14332>

Tweet video worth watching,



Posted on Facebook “Royal United Services Institute of Nova Scotia”:

RUSI(NS) postings may also be viewed by clicking on the Facebook icon at <https://RUSI-NS.ca>. To have something posted or commented, email RUSI(NS) by noon Thursday.

It's time for Canada to start pulling its own weight

<https://nationalpost.com/opinion/time-for-canada-to-start-pulling-its-own-weight>

"The reality is that defence spending is one factor that goes into the calculation of how seriously states are taken by others. ... In short, it's time for Canada to start pulling its weight in an increasingly unstable and chaotic world."



DND awarded Concordia University researcher \$1M to develop new strategies against cyberattacks

https://www.thesuburban.com/life/education/dnd-awarded-concordia-university-researcher-1m-to-develop-new-strategies-against-cyberattacks/article_c649833a-8310-11ed-8a91-7b70f7a082a5.html

Cybersecurity Monitoring, Diagnosis, Mitigation and Resilient Operation of Naval IT/OT/PT Systems Against Malicious Attacks project aims to develop new methodologies that defend the cybersecurity vulnerabilities of naval vessels.



New Analysis Counts the Cost of Maritime Chokepoint Closures

<https://www.maritime-executive.com/article/new-analysis-counts-the-cost-of-maritime-chokepoint-closures>

"The world's 11 busiest maritime chokepoints are increasingly becoming vulnerable and prone to the risk of closure due to politics, piracy, vessel accidents and other causes - eventualities that could have far-reaching impacts on international trade, commercial shipping and the global economy..."

A Corbettian perspective - the importance of keeping global trade lanes open, and of navies to contribute to that. Chokepoints are a start and obvious for naval staff studies, planning and wargaming. The navy, 'blue water' (open seas, long-endurance), and other maritime forces Canada needs to have include not just ships but staffs with the right understanding of trade and the operating environment.



Tank versus Not-a-Tank

There's a 'tweet storm' going on as to what constitutes a tank and what not, as various media report the provision of various armoured fighting vehicles (AFV) to Ukraine. Not the first time by far that media and others fail to differentiate AFV. The Lethbridge police service, as have others, is still getting criticism for buying a tank. It can be taken that those who use that language are being



deceptive for their own political and social purposes. The vehicle is obviously an armoured car, which the police are calling an armoured rescue vehicle. Good rationale as provided to city council at: https://twitter.com/kim_siever/status/1443235698329341956

The Treaty on Conventional Armed Forces in Europe, as might be expected, provides a good definition of 'tank':

The term "battle tank" means a self-propelled armoured fighting vehicle, capable of heavy firepower, primarily of a high muzzle velocity direct fire main gun necessary to engage armoured and other targets, with high crosscountry mobility, with a high level of self-protection, and which is not designed and equipped primarily to transport combat troops. Such armoured vehicles serve as the principal weapon system of ground-force tank and other armoured formations.

Battle tanks are tracked armoured fighting vehicles which weigh at least 16.5 metric tonnes unladen weight and which are armed with a 360-degree traverse gun of at least 75 millimetres calibre. In addition, any wheeled armoured fighting vehicles entering into service which meet all the other criteria stated above shall also be deemed battle tanks. (<https://www.osce.org/files/f/documents/4/9/14087.pdf>)

Termium, the Government of Canada's terminology and linguistic data bank, is not as detailed in its definition but certainly applies across the history of tanks (which did not start as heavy and armed as the CFE treaty definition): A self-propelled armoured vehicle which moves on tracks and mounts one or more weapons. Its distinguishing features, tracks for cross country mobility and armour to protect the crew inside, enable the weapons to be used more effectively.

Any definition otherwise know by readers of Dispatches would be appreciated – email RUSI(NS).

Camouflage

Euromaidan Press @EuromaidanPress tweeted 5 Jan: Russians started to disguise their military fuel (as possibly other) trucks as logging trucks

<https://t.me/Tsaplienko/23921>



What are Canadian doctrine and capabilities for camouflage, deception and decoys? Is there any kit in stock? Anyone getting current training?

Chinese navy shows new heavy-lift ship carrier, revealing future role in wartime transport and vessel rescue

<https://defence.pk/pdf/threads/chinese-navy-shows-new-heavy-lift-ship-carrier-revealing-future-role-in-wartime-transport-and-vessel-rescue.758030/>



"It was a rare revelation about the PLA navy's semi-submersible heavy-lift ships, which could play an important role transporting equipment and ships, or rescuing damaged vessels during wartime. It could also serve as a makeshift dock for emergency on-site repairs."

This is certainly a sign that the People's Liberation Army Navy is being developed as a blue-water, expeditionary force. Drydocks, both static and mobile, are strategic assets. Mobile drydocks were an important contributor to the USN's successful force projection across the Pacific in World War II.

What arrangements does Canada have and need to forward-repair and/or return damaged ships, whether resulting from conflict or not?

Also see: “Jetties, Piers and Wharfs” <https://rusi-ns.ca/jetties-piers-wharfs/>

How the New Zealand Navy plans to fix its sailor and ship shortfalls

<https://www.defensenews.com/naval/2023/01/04/how-the-new-zealand-navy-plans-to-fix-its-sailor-and-ship-shortfalls/>

The Royal Canadian Navy is not the only navy suffering sailor shortages (and apparently in some occupations it is particularly hurting). Building ships, building up fleet size, must be accompanied in parallel by major efforts in recruiting, training and retaining people. Having ships sitting alongside does not allow a state or its navy options to meet national objectives, even basic ones like ensuring sovereignty. Leadership of the RCN know this and are working in initiatives - it'll be interesting to read what those efforts are.



Canada's newest icebreaker docks in Port Colborne

<https://www.wellandtribune.ca/news/niagara-region/2023/01/03/canadas-newest-icebreaker-docks-in-port-colborne-welland-canal-closing-delayed.html>

Canadian Coast Guard Ship JUDY LAMARSH the fourth interim icebreaker acquired by the CCG. Such an approach to fleet building seems to be working.



Europeans wade into fighting seabed threats with drones and sensors

<https://www.defensenews.com/global/europe/2023/01/09/europeans-wade-into-fighting-seabed-threats-with-drones-and-sensors/>

"Traditionally, the military has focused on anti-submarine warfare in the undersea domain... With the development of underwater unmanned vehicles and mine countermeasure missions, as well as the increasingly critical need to protect transoceanic cables and gas pipelines, that scope has widened."

What's Canada doing about 'seabed warfare'?



More than a decade ago, the army had a plan to rebuild. It went nowhere

<https://www.cbc.ca/news/politics/canadian-armed-forces-equipment-procurement-ukraine-latvia-1.6706444>

When it comes to defence procurement, expectations should be set early and publicly, and people held responsible. Including politicians.



Canada officially buying F-35 fighter jet for \$19B to replace CF-18s

<https://www.ctvnews.ca/politics/canada-officially-buying-f-35-fighter-jet-for-19b-to-replace-cf-18s-1.6222706>



Want Peace? Kick Russia's Navy Out Of The Black Sea — For Years

<https://www.forbes.com/sites/craighooper/2023/01/08/want-peace-kick-russias-navy-out-of-the-black-sea-for-years/?sh=7051408e13c7>



"After the Crimean War, the subsequent 1856 Treaty of Paris 'neutralized' the Black Sea, limiting Russia's Black Sea presence to a puny 5,600-ton fleet of up to only 10 small ships."

Good to see 'war termination' under discussion. Such neutralization of the Black Sea may be too much to strive for, but it is worth considering. The Rush–Bagot Treaty has been successful for two centuries in limited naval armaments on the Great Lakes and Lake Champlain, North America.

It's a Bird, It's a Plane, It's . . . Time to Plan for Drones in Other Domains

<https://mwi.usma.edu/its-a-bird-its-a-plane-its-time-to-plan-plan-for-drones-in-other-domains/>



"...a pattern of thinking about unmanned platforms that centered on the air domain. But the Ukraine war shows drones operating in other domains can have major consequences too. <insert your country name here> needs to think seriously about this threat and how to prepare."

'Combined arms' drone warfare. Use and counter-measures need to be considered accordingly.

Building a better bomber: How the stealthy B-21 subverted bureaucracy

<https://www.defensenews.com/air/2023/01/10/building-a-better-bomber-how-the-stealthy-b-21-subverted-bureaucracy/>



The secret of the B-21 acquisition strategy? "They learned how to limit bureaucracy."

Lessons there for other countries (Canada, take heed) and other major defence projects.

China Pressures Argentina to Build Naval Base

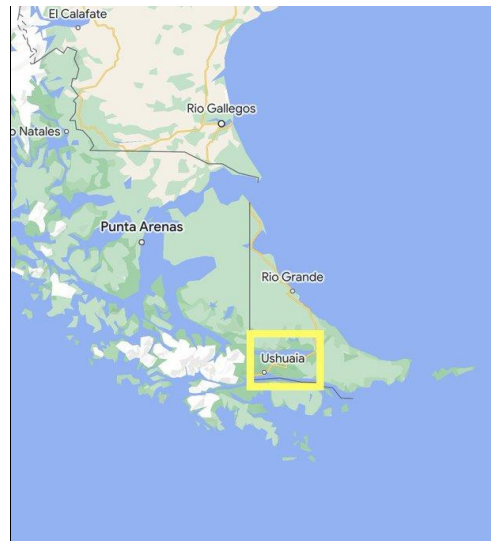
<https://dialogo-americas.com/articles/china-pressures-argentina-to-build-naval-base/>

"The military base would allow China to control the passage between the Atlantic and Pacific oceans and monitor communications throughout the hemisphere, amounting to a clear and massive interference from the Asian country in international affairs..."

The 'global game of Go' continues as China establishes strategically located bases. Are they winning this 'economic war'? What are Western states doing to counter, or better yet, get ahead of the Chinese moves? What is Canada doing? There will be more Chinese bases in our hemisphere.

Also: China looks set to build naval base in Argentina, a 'gateway' to Antarctica: Reports

<https://www.wionews.com/world/china-looks-set-to-build-naval-base-in-argentina-a-gateway-to-antarctica-reports-551446/>



Other Sources:

#Canadian Army

Transforming the Army for Force 2025

https://www.canada.ca/content/dam/dnd-mdn/army/lineofsight/files/articlefiles/en/R-GL-007-000-JD-015_CAJ_19.1_EN_Asymmetric_Army.pdf

#China

China's Military Modernisation: Will the People's Liberation Army complete its reforms?

<https://www.iiss.org/blogs/analysis/2022/12/strategic-survey-2022-chinas-military-modernisation>

Chinese Lessons from the Pacific War: Implications for PLA Warfighting

<https://csbaonline.org/research/publications/chinese-lessons-from-the-pacific-war-implications-for-pla-warfighting>

#defence procurement

A brief history of Canadian light armoured vehicles and the importance of crafting capability requirements

<https://twitter.com/MidOfficer/status/1612303422547701761>

Canada's inevitable purchase of F-35 jets was a slog. But the process could've been worse

<https://www.theglobeandmail.com/opinion/article-canadas-inevitable-purchase-of-f-35-jets-was-a-slog-but-the-process/>

#drones

GAO Report on Navy Unmanned Systems

<https://news.usni.org/2022/04/08/gao-report-on-navy-unmanned-systems>

#Indo-Pacific

Defeat China's Navy, Defeat China's War Plan

<https://warontherocks.com/2022/09/defeat-chinas-navy-defeat-chinas-war-plan/>

War game suggests Chinese invasion of Taiwan would fail at a huge cost to US, Chinese and Taiwanese militaries

<https://www.cnn.com/2023/01/09/politics/taiwan-invasion-war-game-intl-hnk-ml/index.html>

report launch 9 Jan 23 (commentaries by panelists and Q&A):

https://youtu.be/MoZv_7KYMkA

report "The First Battle of the Next War: Wargaming a Chinese Invasion of Taiwan":

https://csis-website-prod.s3.amazonaws.com/s3fs-public/publication/230109_Cancian_FirstBattle_NextWar.pdf

Chinese perspective (obvious propaganda):

War game instigates US intervention in possible Taiwan Straits conflict

<https://www.globaltimes.cn/page/202301/1283579.shtml>

War Games Offer Partial Picture of a Future China-US Clash Over Taiwan

<https://www.cigionline.org/articles/war-games-offer-partial-picture-of-a-future-china-us-clash-over-taiwan/>

Lessons for the Next War

<https://foreignpolicy.com/2023/01/05/russia-ukraine-next-war-lessons-china-taiwan-strategy-technology-deterrence/>

#information operations

2022 Disinfo Research Highlights

<https://euvsdisinfo.eu/2022-disinfo-research-highlights/>

#NORAD

University of Manitoba NORAD Files

<https://digitalcollections.lib.umanitoba.ca/islandora/object/uofm%3Anoradfiles>

#Russia-Ukraine War

Assessment about infantry fighting vehicles being sent to Ukraine

<https://twitter.com/WarintheFuture/status/1611118392299393024>

The land war in Ukraine as winter takes hold

<https://www.iiss.org/blogs/military-balance/2023/01/the-land-war-in-ukraine-as-winter-takes-hold>

Assessment about infantry fighting vehicles being sent to Ukraine

<https://twitter.com/WarInTheFuture/status/1611118392299393024>

Terminium definition of IFV: "An armoured fighting vehicle possessing a turret-mounted, direct-fire weapon system designed to transport infantry forces into battle and provide intimate fire support to those forces."

Anyone having another official definition of IFV, please email RUSI(NS).

The land war in Ukraine as winter takes hold

<https://www.iiss.org/blogs/military-balance/2023/01/the-land-war-in-ukraine-as-winter-takes-hold>

A Disquieting Winter at War in Ukraine

<https://warontherocks.com/2023/01/a-disquieting-winter-at-war-in-ukraine/>

Time is not on Ukraine's side

<https://www.washingtonpost.com/opinions/2023/01/07/condoleezza-rice-robert-gates-ukraine-repel-russia/>

Considerations for planning and conducting large-scale campaigns in 2023

<https://twitter.com/WarInTheFuture/status/1612943234598305793>

#information operations

NAFO's Fellas Must Evolve

<https://cepa.org/article/nafos-fellas-must-evolve/>

#space

The space domain and the Russo-Ukrainian war: Actors, tools, and impact - Hybrid CoE - The European Centre of Excellence for Countering Hybrid Threats

<https://www.hybridcoe.fi/publications/hybrid-coe-working-paper-21-the-space-domain-and-the-russo-ukrainian-war-actors-tools-and-impact/>

Other:

Canadian Forces College *The Torch*: What's New This Week?

<https://cfc-ca.libguides.com/c.php?g=709488&p=5224119>

PK 75: A Peacekeeping Anthology

On behalf of the Canadian Peacekeeping Veterans Association (CPVA), I would ask that you take a few minutes to read this message and the attached note [*Ed: available on request to RUSI(NS)*] about our project, which we have entitled *PK 75: A Peacekeeping Anthology*.

We hope you will consider participating in this worthy endeavour by writing your own, personal story to be included in the Anthology. If you think you might be interested, the attachment to this message explains the project, and contains the specific details you will need to develop your own contribution. Our website (CPVA.ca) also provides several examples from other Peacekeeping Veterans. If you still have any questions or concerns, please let me know.

Finally, if you are in contact with others who might be interested in contributing their stories, please feel free to send me their contact information, or you can forward this message directly to them, along with the attachment. We welcome all contributors, but are especially interested in recruiting more civilians, police, and military NCMs, as we want to represent a broad, representative spectrum of Peacekeeping Veterans from across Canada.

Thank you again, and best regards,
Greg Mitchell

Brigadier-General (Ret'd) Gregory B. Mitchell,
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From Ian MacVicar, RUSI(NS): Highly recommended. I have contributed two anecdotes (within one article) and they are available online at the PK75 website: <https://www.cpva.ca/pk75>

The Project will be enhanced by more contributions from PK Veterans – UN, OSCE, MFO, NATO, or any other international PK missions.

F-35A CANADA'S FUTURE FIGHTER

Range	>2,200 km - Ability to fly non-stop from Cold Lake, AB to Inuvik, NWT	Maximum speed	Service ceiling	G-limit	Fleet size
		Mach 1.6	15,240 m	9	88

- Infrastructure construction will start in **2023**
- First aircraft in **2026**



- Multi-role capabilities
- Interoperable with Canada's allies
- Conventional takeoff and landing variant
- Able to meet NATO and NORAD mission requirements simultaneously

Canada.ca/Defence

Canada

F-35A Quick Facts

- SSE Initiative: *Strong Secure Engaged* initiative #44.
- Project cost: \$19 billion dollars exclusive of taxes for procurement of aircraft and associated equipment, sustainment set-up and services, as well as the construction of a Fighter Squadron Facilities in Bagotville and Cold Lake.
- Cost per aircraft: Canada will receive the aircraft at the same cost as all other program partners of the PSFD MOU, including the United States Government. The initial aircraft are expected to cost approximately \$85M USD.
- F-35 Joint Strike Fighter (JSF) Program
 - - 8 Partners (PSFD MOU): Australia, Canada, Denmark, Italy, Netherlands, Norway, United Kingdom, United States.
 - - 9 Foreign military sales customers so far: Belgium, Finland, Germany, Israel, Japan, South Korea, Poland, Singapore, Switzerland.

Specifications of F-35A Conventional Take Off and Landing

Aircraft

- Planned production of 2,997 aircraft for JSF program participants (865 delivered as of November 2022). Additional aircraft are planned to be manufactured for other Foreign Military Sales customers / future customers.

· Length	15.7 m
· Height	4.4 m
· Wing span	10.7 m
· Wing area	42.7m ²
· Weight	13,290 kg (empty), 29,900 kg (max)
· Engines	Pratt & Whitney F135-PW-100
· Thrust	40,000 lb Maximum power (with afterburner) 25,000 lb Military Power (without afterburner)
· Combat radius (internal fuel)	1093 km
· Internal Fuel Capacity	8278 kg
· Ceiling	50,000 feet
· Max Speed	1,960 km/h (Mach 1.6)
· Max g-rating	9.0

- Range: >2200 km (1200NM) - Ability to fly non-stop from Cold Lake AB to Inuvik
- Payload: >18,000lbs of Ordnance using Internal + 6 External weapon stations
- Beyond Line of Sight SATCOM with Full Motion Video and Low Probability of Intercept/Low Probability of Detection to enable communication in remote parts of Canada.

Canada Unique Components

- Ability to operate within Canadian Area of Magnetic Uncertainty - “True” vs “Magnetic” navigation capability to enable far north Arctic navigation
- Ability to transfer near real-time mission data from an in-flight F-35 to ground support systems compatible with existing Canadian assets.

Partially Common Components

- Drag Chute operations for short, icy/wet Arctic Runways (NORAD/NATO)
- Sidekick Alternate Mission Equipment to enable carriage of 6 X AIM-120 missiles internally

Weapons and Armament

- including AIM-9X "Sidewinder" Short Range Air-to-Air Missiles and the AIM-120D Advanced Medium Range Air-to-Air missiles
- Air-to-Surface weapons including laser and GPS guided bombs
- Air expendable countermeasures and decoys
- Internal 25 mm gun

Security Affairs Committee Synopsis

O Canada

The big news this week is the signing of the contract for 88 F-35 fighter aircraft as replacements for the 40 year old CF188 Hornet fleet. It is good that the government refused to let previous political announcements interfere with this acquisition. The first aircraft will arrive sometime in 2026. The first tranche of fighters and the update of infrastructure was announced prior to Christmas. It is long overdue.

Canada also announced providing Ukraine with one billion dollars in further support. The biggest single purchase will be of a NASAM air defence system for 406M CAD. It is a pity that the government is not as considerate to the Canadian Armed Forces, who still do not have any air defence system despite being on the potential front line in Latvia.

This also raises a number of critical areas requiring action such as a national base in the Arctic. And national level air defence in key areas such as the "golden triangle" area in central Canada including Ottawa with a suitable system for air breathing, ballistic and hyper-sonic weapons. The other questions are how the government will speed up the work on the North Warning System and how are they going to secure them? Unmanned radar systems can be tampered with and the Canadian Rangers are not equipped or manned to do a complete job despite their great capacity as individuals and as an organization. A proper base capable of supporting joint operations may be part of the cure. Properly trained sailors, soldiers and aviators, positioned with a proper supporting base would help. Canada's reluctance to arm warships and aircraft has to be overcome. The Arctic and Offshore Patrol Vessels provide a major increase in capacity, just think how much better they could be if they were armed properly.

At the "Three Amigos" conference this week, one of the big issues is security. It will be interesting to hear what our security adverse government will have to say.

United States

The world was treated to a display of American democracy at its most confusing and most sensational in the election of the US Speaker of the House of Representatives. It took fifteen votes in the House for the new speaker to be elected. There is little doubt that it provided authoritarian regimes with fodder for their own peculiar messages. If one just thought in those terms for this single display, one may take heart. If one takes a longer view, it is actually the strength of the system itself. Clearly, there are flaws in the Republican Party that even their base is starting to understand. There will be a penalty delivered by the American public in a future election for this "show." Dysfunction is not something

that any citizen wants to see in its governance - this will be on full display for the next two years. Cooperation and thought are required.

Iran

Demonstrations are continuing at a lower level. The arrest of 19k people and the trial, sentencing and execution of four young men in recent days has tempered opposition to the regime. There is a possibility that up to 100+ people could be sentenced to death by the Raisi regime. Raisi himself is reputed to have been one of the judges who helped execute over 30k citizens for their opposition to the new theocratic regime of Ayatollah Ruhollah Khomeini. Officially, 517 people have been killed to date in demonstrations but the number could be much higher especially in Sunni areas such as the Kurdish and Baluchistan areas.

The regime is still strongly supported by the Iranian Revolutionary Guard Corps and the Basij Militia, which have not shown any indication of deserting the regime. The opposition has mainly gone underground and the regime appears to have dodged a revolution again or at least for now. The main weakness is the lack of a central leadership within the opposition but it is also more difficult for the regime to hide their excesses. Tolerance of the regime's excesses is waning in the population as a whole. It is being blamed for the consequences of their actions. The youth are no longer prepared to support the regime in the long term.

Australia

Australia is a similar sized country to Canada with similar roots. It seems to have a working system of defence procurement plus a very firm grip on reality as well as being able to govern on more than one area of concern. The biggest take away is that Canberra seems to have an understanding of national interests in contrast to Canada. It also seems to understand reality of their situation, something that Canada could certainly learn from in many ways.

Australia announced acquisition of land based long range missiles and is considering purchase of a small number of the B-21 bombers to be able to reach out and touch opposition from a long distance. Australia recognizes that they cannot defend their own country effectively if the opposition gains a toe hold. Fighting the opposition at a distance therefore makes sense. Canada has the same problem but our armed forces are not manned, organized or resourced to meet that requirement.

Belarus

Russia is continuing to send troops and equipment to Belarus and there is growing concern within Belarus that Russia will force Belarus into the war, something that they have obviously tried to avoid all along. The exact numbers of Russian troops in Belarus are unknown but estimates are around 30k+, enough to gain control over the territory for a short period. The Russia-Ukraine war is universally disliked by the citizens of Belarus and if Russia tries to force the issue, the outcome is less than optimistic. In the recent past there have been an increasing number of physical fights between Belarussian and Russian troops. The Belarus population also has not been hospitable to Russian forces. Could an attack on Ukraine be possible? The answer is unclear. What is clear is that Russian forces may find a very hostile population that they cannot control especially if security forces also turn. The outcome would not be certain.

Russia-Ukraine War

This war has turned into a massive battle of attrition between Russia and Ukraine. Russia's main effort is still in the east now centred on Soledar just north of Bakhmut. Soledar is basically known for its salt mines which includes over 300 km of underground passages suitable for hiding heavy equipment and that are nearly bomb proof. Russia has advanced to the north and south Soledar, essentially encircling Soledar on three sides. Ukraine however has fortified the entire town and is generally holding the Russians at bay at the present time. A question is whether Ukraine is willing to allow the possibility of losing some of their best brigades as they did in Mariupol. Progozhin has put most of his Wagner group soldiers into the attack on Soledar with some success although at a fearful toll of the "mobilized" prisoners from the Russian penal system. The verified pictures of the vast number of dead around both Soledar and Bakhmut have been horrifying to see as a professional soldier. The lack of effort or concern with soldiers' lives is more a product of a Soviet Army of the Second World War rather than the effort of a serious 21st century military. This is not a long term recipe for success.

The other interesting facet is the decline in Russian firepower. Russia has re-located a good sized portion of its air force because of Ukrainian strategically targeted efforts against key air fields. This has led to a decline in Russian air support. Russian shortages of ammunition have resulted in greater efforts to use ammunition more prudently, now estimated to be about 75% of its peak or between 15 and 20k per day now vice 60 k+ before.

Russia is unable to re-stock its missile supplies due to issues with acquiring the necessary technology and basic parts. The current estimate is that they are able to build somewhere around 50 missiles per month. Keep in mind, the most successful attacks required nearly 100 missiles and drones. Drones have proven to be less and less effective as Ukrainian air defences improve with foreign weapons and improvised Ukrainian systems. Overall, Russia has reached a point when the chance of a major success are low due to ammunition and manpower shortages. Ukraine has a constant re-supply of ammunition and new weapons systems from the West. Ukraine has also been very careful in target selection and its fire control. Ukraine's efforts seem to be much more professional and more likely to succeed.

The rest of the front is fairly stable although it should be noted that Ukraine never discusses future operations. Russia has been forced to reinforce positions in the north along the Svatove-Kremmina road and has seen some success although casualties have been heavy here as well. In the south around Kherson, Ukrainian troops have been crossing the Dnipro River in small raiding groups to conduct reconnaissance, targeting and disruptive attacks on Russian positions, facilities and vehicles. The south has not been heavily reinforced and positions have been built well to the rear which seem to indicate an acknowledgement that the river line cannot be held. Overall, despite some setbacks, Ukraine still holds the upper hand and is likely to continue to do so as Russian troops seem to be used as little more than targets. Russia is not the Soviet Union, it is unlikely to be able to replace troops at the same rate as they are losing them. Russia has lost its friends, its ability to produce a modern functioning military and its ability to re-supply its own army.

Russia's economy continues to decline, although they had some success propping it up initially. Sanctions have bitten hard and unemployment is starting to increase despite the call up. Russia's demographics can no longer keep up with the losses. They are already cutting into skilled labour pools that are vital for national rejuvenation. It is a steady and inevitable decline in their ability to wage war in the field and in the economy. Russia must also take into account the large number of qualified skilled labour and tech experts as they chose to leave the country for safer locations. The Putin regime is destroying the ability of Russia to regain its economy and industry in the longer term. One hopes that the Russian people will finally realize the full effect of this unnecessary war.

Life for young Russians of military age has just become more interesting, as of 9 January 2023 they are not permitted to leave the country. One wonders why, can we say "mobilization?"

China

China has decided to conduct the biggest medical experiment with one of the worst medical systems. The Communist Chinese Party (CCP) in the wisdom of its "core leader," Xi Jinping, has chosen to go from a zero Covid policy to one with few restrictions. The results thus far have been appalling with the infection being widespread with up to 600m possibly being infected at present. The video and satellite imagery has shown long lines of hearses going to crematoria, demonstrating the effect on a population with limited levels of vaccination. One estimate is that 1.8m could die by this spring. Most people are appalled by the level of callousness, but this is nothing in comparison to the actions of the CCP in the past and the deaths of tens of millions during Mao's reign.

As the infection rate continues to climb and China is opening up to foreign travel, many countries have placed restrictions on arriving Chinese. In Canada's case it has meant they have to have a recent negative Covid test prior to arrival. Some countries are restricting visas or simply denying them. China has taken retaliatory action against Japan and South Korea over their "no visa" restrictions. China has been less than transparent through the pandemic and seems not to have learned any lessons at all. China is also refusing more effective MrNA vaccines from the West in favour of their own vaccine nationalism. Chinese vaccines are not considered effective against the current variants.

All the while China has tried to settle the issue with Covid, they have also ramped up efforts against Taiwan. One estimate is that the CCP will attempt to invade Taiwan. In recent weeks there have been reports of an ongoing series of US wargames that have indicated that at least a portion of the time, the Chinese would lose the invasion and largely lose a good portion of their Navy. Japan and the US would also lose a significant portion of their armed forces in this type of conflict which may take decades to recover. The US would lose two carriers. While this is interesting, it is by no means a given, there are simply too many variables. The biggest is the quality of the Peoples' Liberation Army Navy (PLAN) which does not have any experience in conflict. As we have seen with their ally Russia, shiny ships with crews doing rote drills is no means of ensuring success. Authoritarian leaders have shown a distinct preference for loyalty over competence as competence is generally seen as a potential threat. Still, this reporting is less than comforting.

The Chinese economy has also been hit again by the infection as many businesses are forced to close as employees become infected. Some cities including places like Shanghai have infections rates as high as 70%. This will again disrupt the world supply chain causing further disruptions. China continues to be beset with the fallout of the crackdown on the tech and education sectors, major employers of educated Chinese students. The unemployment rate continues to be over 19% and continues to cause unrest amongst the best and brightest within China. The long term effect of the youthful unemployed should not be underestimated. It is always those with the potential for a rise in their social standing as the most problematic. If a new revolution comes it will be started with this group. The potential for increased demonstrations in a more coordinated way is very possible with a tech savvy population. Time will tell whether the "core leader" has sown the seeds of the destruction of the CCP as we know it.

INTELLIGENCE UPDATE

- On 27 December 2022, Oleksiyy Danilov, secretary of Ukraine's National Security and Defence Council, reported that Russia had relocated long range aviation (LRA) Tu-95MS BEAR heavy bombers and Tu-22M3 BACKFIRE medium bombers to Russia's far east.
- On 5 and 26 December 2022, the LRA's Engels air base was struck and several aircraft damaged. Russia has highly likely responded to the incidents by conducting a general dispersal of LRA aircraft, especially to airfields further away from Ukraine.
- The LRA will still be able to fire air launched cruise missiles into Ukraine because the weapons have a 5,000km range, in addition to the flight range of the bombers. However, operating from dispersal locations will add additional maintenance stress and will further deplete the limited flying hours available on these aging aircraft.

INTELLIGENCE UPDATE

- Militias from the Luhansk People's Republic (LNR) and Donetsk People's Republic (DNR) were formally integrated into the Russian armed forces on 31 December 2022. President Putin presented the formations with their battle colours during a visit to Rostov-on-Don.
- Russia claims the LNR and DNR are intrinsic parts of the Russian Federation following the fixed accession referendums of September 2022. However, it has discreetly controlled both since 2014, creating DNR's 1st Army Corps and LNR's 2nd Army Corps and supporting them with Russian military officers.
- The status and identities of the DNR and LNR likely remain divisive within the Russian system. Even before the February 2022 invasion, these territories represented a significant drain on Russian finances. Now the Kremlin has overtly committed to supporting them, they will likely constitute a large political, diplomatic and financial cost for Russia which will last well beyond the current phase of the conflict.

INTELLIGENCE UPDATE

- In recent weeks, Russia has bolstered defensive fortifications in central Zaporizhzhia Oblast, southern Ukraine, especially between the towns of Vasilyvka and Orikhiv. Russia maintains a large force in this sector.
- The way Russia has worked on improving defences suggests commanders are highly likely pre-occupied with the potential for major Ukrainian offensive action in two sectors: either in northern Luhansk Oblast, or in Zaporizhzhia.
- A major Ukrainian breakthrough in Zaporizhzhia would seriously challenge the viability of Russia's 'land bridge' linking Russia's Rostov region and Crimea; Ukrainian success in Luhansk would further undermine Russia's professed war aim of 'liberating' the Donbas. Deciding which of these threats to prioritise countering is likely one of the central dilemmas for Russian operational planners.

INTELLIGENCE UPDATE

- Since at least June 2022, Russian Aerospace Forces have almost certainly used Su-57 FELON to conduct missions against Ukraine. FELON is Russia's most advanced fifth-generation supersonic combat jet, employing stealth technologies and highly advanced avionics. These missions have likely been limited to flying over Russian territory, launching long range air-to-surface or air-to-air missiles into Ukraine.
- Recent commercially available imagery shows five FELON parked at Akhtubinsk Air Base, which hosts the 929th Flight Test Centre. As this is the only known FELON base, these aircraft have likely been involved in operations against Ukraine.
- Russia is highly likely prioritising avoiding the reputational damage, reduced export prospects, and the compromise of sensitive technology which would come from any loss of FELON over Ukraine. This is symptomatic of Russia's continued risk-averse approach to employing its air force in the war.

INTELLIGENCE UPDATE

- In the last four days, Russian and Wagner forces have made tactical advances into the small Donbas town of Soledar and are likely in control of most of the settlement. Soledar is 10km north of Bakhmut, the capture of which likely continues to be Russia's main immediate operational objective.
- Russia's Soledar axis is highly likely an effort to envelop Bakhmut from the north, and to disrupt Ukrainian lines of communication. Part of the fighting has focused on entrances to the 200km-long disused salt mine tunnels which run underneath the district. Both sides are likely concerned that they could be used for infiltration behind their lines.
- Despite the increased pressure on Bakhmut, Russia is unlikely to envelop the town imminently because Ukrainian forces maintain stable defensive lines in depth and control over supply routes.



CANADIAN FORCES INTELLIGENCE COMMAND
COMMANDEMENT DU RENSEIGNEMENT DES FORCES CANADIENNES

RUSSIA'S CLAIM:

Russia's military claims that it carried out a strike against Ukrainian barracks in Kramatorsk, killing at least 600 personnel, in retaliation for an earlier high-profile Ukrainian attack on a Russian barracks in Makiivka on January 1.

BASED ON CANADIAN FORCES INTELLIGENCE COMMAND ANALYSIS:

- While Russian missiles likely did reach Kramatorsk on January 8, it appears that impact locations were in open areas, resulting in only superficial damage to nearby structures.
- Evidence does not suggest that the damaged buildings were being used to house Ukrainian troops. There are also no indications of a mass-casualty event, such as increased emergency response activity.
- Russia has frequently struggled with identifying and targeting Ukrainian military elements with long-range strikes, likely contributing to its choice to target more vulnerable Ukrainian critical infrastructure instead.