

Canadian Safety and Security Program
Innovation Networks
Applicant Guide

	Summary of Key Information
Call for Proposals for Micro-nets (CFPMN)	<ul style="list-style-type: none">• Funding mechanism: Non-repayable contribution• Maximum amount per proposal: \$2,000,000.00• Duration of contribution: Up to the end of June 2027• Team composition: Eligible proposals must include multidisciplinary teams of partners from at least three separate organizations and/or institutions, one of which must be a Canadian Provincial, Territorial, Municipal (PTM) government organization that represents the consumer of the work.• Initial recipient: Contribution funds can be administered by one of the eligible lead organizations/institutions.

Acronyms

Acronyms	Definition
AI/ML	Artificial Intelligence/Machine Learning
AR	Augmented Reality
CAF	Canadian Armed Forces
CFPMN	Call for Proposals for Micro-nets
CPC	Canada Post Corporation
CSSP	Canadian Safety and Security Program
DAIP	Director, Access to Information and Privacy
DND	Department of National Defence
DRDC CSS	Defence Research and Development Canada Centre for Security Science
EM	Emergency Management
GBA+	Gender-Based Analysis Plus
IDeAS	Innovation for Defence Excellence and Security
IoT	Internet of Things
LOI	Letter of Intent
LoRa	Long Range
MC	Mandatory Criteria
MR	Mixed Reality
PRC	Point-rated Criteria
PTM	Provincial, Territorial, and Municipal
R&D	Research and Development
S&T	Science and Technology
TRL	Technology Readiness Level
VR	Virtual Reality
XR	Extended Reality

Part 1: General Information

1. Context

The Canadian Safety and Security Program (CSSP) is a federally-funded program (<https://science.gc.ca/site/science/en/canadian-safety-and-security-program>) fostering innovative Science & Technology (S&T) advancements and engaging government organizations to meet their safety and security requirements with S&T solutions in collaboration with industry, academia, and/or not-for-profit organizations. The CSSP mission is to strengthen Canada's ability to anticipate, prevent, mitigate, prepare for, respond to and recover from natural disasters, serious accidents, and crime and terrorism through the convergence of S&T policy, operations, and intelligence. The CSSP is managed by the Centre for Security Science within the Department of National Defence (DND)'s science and technology organization, Defence Research and Development Canada (DRDC).

The CSSP supports the establishment of new Innovation Networks and, where appropriate, existing networks, to stimulate collaboration and the free flow of ideas critical to innovation. An Innovation Network is a self-organized multidisciplinary group of researchers from academic, governmental, for-profit, and/or not-for-profit institutions and organizations, who work on the advancement of knowledge in a specific domain of common interest. Academics, industry and other partners are encouraged to come together to form collaborative Innovation Networks.

This Call for Proposal for Micro-nets (CFPMN) is an invitation to innovators to submit innovative proposals in support of Canada's defence and security to resolve the S&T challenge related to:

Lighting the Path with AI: Advanced analytics and decision support for first responders

In today's information and data rich environment, first responder organizations have the requirement to create action-based intelligence from multiple sources that is the foundation for advanced decision making. However, due to the volume of data and wide type of technical systems, advanced capabilities and processes are required to achieve this goal. Key to this effort is to have the ability to identify, prioritize and execute S&T that enhance the capabilities of first responder communities, including their information processes, planning support and operations by integrating analytic tools, models, and data to advance decision-making. To address first responder (Police, Fire and Paramedics) S&T requirements, the CSSP is looking to develop several research Micro-nets focusing on safety and security applications, specifically: Big Data and Algorithm-Based Tools for Strategic and Operational Levels of Analysis; Responder Analytics for the Frontline; Artificial Intelligence (AI) Tools for Detecting Tri-Service/Emergency Management Trends, Activities, and Information Fusion; and Improved situational awareness S&T supports that go beyond current industry offerings.

This challenge is supported by the Department of National Defence (DND) Innovation for Defence Excellence and Security (IDEaS) program. The IDEaS program supports, increases, and sustains the S&T community capacity external to DND to generate new ideas and formulate solutions to Canada's current and future defence and security challenges.

Annex A provides the full S&T challenge statement defining the research areas to be addressed under this CFPMN.

2. Innovation Networks – Micro-nets

Recognizing that successful sustainable research networks take time to build, Innovation Networks calls for proposals are to support the creation of smaller networks, or *Micro-nets*, that perform research on one or more aspects of a S&T challenge. A Micro-net is a self-organized multidisciplinary team of at least three eligible organizations/institutions who carry out interdisciplinary research on aspects of an S&T challenge of common interest.

Micro-nets foster the development of a critical mass of researchers, highly qualified personnel and expertise within the Canadian innovation community and encourage the progression of innovative solutions along the technology readiness levels (TRL) maturity scale (TRLs 1 through 6). The TRL level at the time of submission/selection must be within 1 to 6; however, the TRL of a selected proposal may advance beyond 6. See Annex C for descriptions of TRLs.

The objectives of the CSSP Innovation Networks element are to:

- Encourage, enhance, sustain and support interdisciplinary research collaborations between academia, the for-profit and not-for-profit sectors, and other levels of government (excluding federal government departments/agencies), to build a critical mass of expertise and knowledge applicable to the defence and security of Canada;
- Support basic and applied research, analysis, technology development and knowledge transfer leading to innovative solutions to key S&T challenges for defence and security identified by DND and/or its safety and security partners; and
- Enable researchers from varied disciplines and areas of expertise to work together to demonstrate an added value that each researcher, if funded individually, would not have been able to reach alone.

3. Eligibility

Eligible Organizations/Institutions

The CFPMN is open exclusively to multidisciplinary teams of researchers. The primary affiliation of the Micro-net partners must be from at least three separate institutions and/or organizations. Each Micro-net must include a Canadian provincial, territorial or municipal government organization, which will provide the user perspective of the Micro-net.

Eligible Lead Applicant organizations or institutions are:

- Canadian universities and educational institutions chartered in Canada;
- Canadian incorporated for-profit organizations;
- Canadian incorporated not-for-profit organizations; and
- Canadian provincial, territorial, and municipal government organizations.

Eligible Partner or Collaborator organizations or institutions are:

- Canadian universities and educational institutions chartered in Canada;
- Incorporated for-profit organizations;
- Incorporated not-for-profit organizations;
- Canadian provincial, territorial and municipal government organizations; or
- International universities and educational institutions.

All organizations/institutions must possess the legal status necessary to enter into a funding agreement.

While the participation of international partners in Micro-nets is encouraged, DND reserves the right to reject, at its sole discretion, proposals which include participants affiliated with non-Canadian organizations/institutions. See section on Canadian content.

Micro-net Team Composition

Each Micro-net must be composed of a minimum of three and up to a maximum of 10 partner members, from any combination of the eligible institutions and organizations, with a minimum of three separate eligible organizations/institutions. The Lead Applicant/Initial Recipient must be a Canadian organization. Individuals from the eligible institutions and organizations who are members of existing networks, associations, groups, consortia, etc., may participate.

Each member of the Micro-net must contribute to the objectives of the proposed research project.

Lead Applicant/Initial Recipient must be from a Canadian eligible organization or institution who is an established senior scientific researcher and heads a research laboratory and/or leads a research group responsible for the scientific direction and management of the Micro-net's research activities. The Applicant of a proposal selected for funding becomes the Initial Recipient upon signature of the Contribution Agreement. The Applicant/Initial Recipient serves as the primary scientific point of contact for the Micro-net throughout the application process and during the tenure of the contribution funding period. At a minimum, the Applicant/Initial Recipient must certify that they are at a level of director or acceptable equivalent, of an eligible lead applicant organization or institution to authorize the financial and operational commitments of its organizations for the proposal. The organization/institution must agree to serve as the Applicant/Initial Recipient assuming the administrative and financial responsibility on behalf of the Micro-net.

Initial Recipients are expected to fulfill the following roles and responsibilities:

- Signatory to the Contribution Agreement with DND on behalf of the Micro-net;
- Ensure that all costs submitted to DND are eligible project costs;
- Receive, manage, and distribute DND contribution funds to the allocated Micro-net partners' institutions or organizations (herein referred to as the Ultimate Recipients) in support of eligible activities;
- Establish and manage agreements with Ultimate Recipients and, as required, Micro-net members on collaboration, intellectual property, and funding;
- Monitor and report to DND on activities and achieved results per the Contribution Agreement requirements.

Partners/Ultimate Recipients are independent researchers from an eligible partner organization/institution who may lead a research laboratory or group, who is responsible for a subset of a Micro-net's research activities and provides expert support to the overall scientific direction of the Micro-net. Ultimate Recipients are eligible to receive funding under this CFPMN through the Initial Recipient. The Initial Recipient distributes funds to Ultimate Recipients to complete eligible project activities. Ultimate Recipients enter into a separate agreement with the Initial Recipient to carry out the objectives of the DND Contribution Agreement.

Post-doctoral fellows are not eligible to act as the Applicant or Partner.

The Micro-net Applicant/Initial Recipient must justify, by means of a detailed budget linked to specific activities of both Initial and Ultimate Recipients, that a financial contribution is required in order to achieve the proposal's objectives and must demonstrate adequate involvement in the Micro-net's activities to increase the probability of success of the proposed research.

Collaborators are independent members who can provide specific expertise to the Micro-net research activities on a collaborative basis which will enhance the output or potential for success of the research. Collaborators must not be involved in the direct scientific management of the Micro-net and are not eligible to receive funding under this CFPMN.

Micro-net minimum composition is: Three researchers from three separate eligible organizations/institutions; one of which must be a Canadian provincial, territorial or municipal government organization.
Micro-net maximum composition is: 10 researchers from a minimum of three separate eligible organizations/institutions; one of which must be a Canadian provincial, territorial or municipal government organization; unlimited Collaborators.

Eligible Micro-net Activities

Applications must include proposed research and development activities to be carried out by the Micro-net, to address one or more specific aspect(s) of the defence and security S&T challenge identified in the CFPMN. The research and development activities include conceptual design, requirements capture and analysis, proof of concept, systems development, validation and integration, testing and prototyping, generally representative of, but not limited to, TRLs 1 to 6. Other eligible activities include participation in scientific conferences, and public outreach.

4. Funding

Available Funding and Duration

Successful Applicants will be required to enter into a non-repayable Contribution Agreement with DND ("Canada"). The maximum contribution per Micro-net is \$2 million over three years. The duration for the provision of funding is up to the end of June 2027.

To determine the amount of funding to be allocated, consideration will be given to the availability of CSSP funds, the total amount requested, and confirmed other sources of funding supporting the activities of the Micro-net. The total funding available under this CFPMN is expected to be approximately \$9 million. DND reserves the right to not accept proposals or to reduce the amount of the available funding at its entire discretion.

Stacking Provisions and Other Government Assistance

The total Canadian government (federal, provincial/territorial and municipal) assistance cannot exceed 100% of total project costs. Applicants must identify all sources of funding in their proposals and confirm this information in a Contribution Agreement if the proposal is selected for funding.

Eligible Costs

Eligible costs are those that are approved and incurred by the Initial Recipient and the Ultimate Recipients which, in the opinion of DND, are reasonable and necessary to carry out the eligible Micro-net project activities. Eligible costs will be limited to the Initial and Ultimate Recipients' actual, non-recurring, and incremental costs.

Eligible costs are direct costs, fully substantiated and approved in advance by DND, that are associated with the delivery of the approved proposal and that are required to achieve the expected results. The contribution agreement will stipulate the start and end date of eligible costs. Eligible costs are limited to the following categories:

- Stipends, salaries and benefits for students, research assistants and technical staff, reflecting the exact costs that are directly related to Micro-net project activities;
- Equipment acquisitions or rentals, not to exceed \$5,000 per acquisition. Cost category not to exceed 20% of the total approved eligible costs.
- Professional, scientific, technical consultant services (provided by third parties not affiliated with the Micro-net);
- Laboratory analysis services;
- Materials and supplies;
- Publication, outreach and communication costs;
- Travel in accordance with the National Joint Council's [Travel Directive](#); and
- Administrative overhead costs - not to exceed 15% of the total approved eligible costs (before overhead)

More details on eligible and ineligible costs are included in Annex B – Eligible and Ineligible Costs. For example, salaries and benefits are ineligible for university investigators receiving direct and continuous salary through the university.

Canadian Content

Generally, eligible costs, under all cost categories, are to be incurred in Canada. However, the CSSP may support eligible activities and associated costs incurred outside of Canada when necessary to ensure project success. In no case can more than 50% of eligible costs be incurred outside of Canada. Micro-nets, including participation of an eligible international partner, must ensure no more than 50% of total eligible costs are incurred outside of Canada.

Other Sources of Funding: Cash and In-Kind Contributions

Micro-nets are encouraged to demonstrate relevance and collaboration by leveraging resources from non-Micro-net sources. In-Kind Contributions are cash equivalent goods or services provided by an organization to a Micro-net that represents an incremental expense that would have to be paid for by the Micro-net if not provided.

Both cash and in-kind contributions to the Micro-net are recognized as important to the Micro-net's success both in completion and translation of research. The Micro-net's ability to leverage resources will be considered in the selection and ongoing evaluation of Micro-nets.

Cash contributions provide the Micro-net with the flexibility to increase their research allocations, cover expenses outside of the eligible costs of the CFPMN, and generally expand the scope of the Micro-net.

Likewise, in-kind contributions, such as specialized access to data or resources, to intellectual property (IP), salaries, software, and additional administrative overhead costs can provide invaluable support to Micro-nets. These other sources of funding should be directed to the Micro-net and managed by the Initial Recipient in accordance with agreements signed by the Micro-net members.

The value and appropriateness of in-kind contributions shall be vetted by DND. All in-kind contributions are to be considered in calculating the total project costs, but they are ineligible costs for DND funding under the CFPMN.

Basis of Contribution Payments

The Government of Canada's fiscal year begins April 1 of any year and ends on March 31 in the following year. The Contribution Agreement will outline the fiscal year budget; start and end date of eligible costs; and documentation required for allocation of payments. Under no circumstance shall DND funding be provided or used for any eligible costs incurred until a Contribution Agreement has been executed between DND and the Initial Recipient.

DND will make contribution payments to the Initial Recipient in the form of advance payments upon receipt and acceptance by DND of the Recipient's annual forecast of cash flow requirements report signed by the Initial Recipient's duly authorized officer. Cash flow reporting requirements will be outlined in the contribution agreement and include:

- a) Forecast report: Projection of the Micro-net's eligible expenditures to be incurred each fiscal year; and
- b) Actuals report: Summary of eligible expenditures incurred and paid during the reporting period.

An authorized officer is an appointed official (e.g. chief executive officer, vice president, chief financial officer, board chair, director, or direct owner) to whom the Initial Recipient has granted the legal authority to create financial obligations on its behalf.

The Initial Recipient shall use the advance payment only for payment of eligible costs (see Annex B – Eligible and Ineligible Costs).

Initial Recipients are expected to spend all funds received by the end of the fiscal year before receiving an annual advance payment. Where an advance payment is not fully expended in a fiscal year for which it was provided, DND may consider the remaining balance as an overpayment that is subject to the contribution agreement overpayment terms. This includes either the reduction of the amount of the contribution equivalent to the overpayment amount; or repayment by the Initial Recipient to DND of the overpayment amount; together with interest calculated in accordance with the federal *Interest and Administrative Charges Regulations*.

The Initial Recipient must be prepared to provide supporting documents related to all eligible expenditures incurred.

Final payment will not be made until all agreed-upon project activities have been completed and are deemed acceptable by DND. In order to ensure appropriate project oversight, a reasonable holdback may be applied and released once all conditions of the contribution agreement have been met.

5. Privacy Notice Statement

DND will comply with the federal *Access to Information Act* and *Privacy Act* with respect to proposals received. By submitting personal information, an Applicant is consenting to its collection, use and disclosure in accordance with the following Privacy Notice Statement, which explains how the Applicant's information will be managed. Necessary measures have been taken to protect the confidentiality of the information provided by Applicants. This information is collected under the authority of the terms and conditions for the IDEaS Transfer Payment Program under DND.

Personal information included in all proposals will be kept along with the proposal results as Information Records of Business Value and retained. This information is protected under the *Access to Information Act* and *Privacy Act*. According to the *Privacy Act*, data linked to an individual and included in the proposal being evaluated can be accessed by the specific concerned individual who has rights with respect to this information. This individual may, upon request:

- (1) be given access to his/her data by making an official privacy request through DND for the attention of the Director, Access to Information and Privacy (DAIP), and
- (2) have incorrect information corrected or have a notation attached.

The *Access to Information Act* governs the protection and disclosure of information, confidential or otherwise, supplied to a federal government institution.

Paragraph 20(1) (b) of the Act states that:

- a government institution [such as DND] shall refuse to disclose any record requested under the Act that contains financial, commercial, scientific or technical information that is confidential information supplied to a government institution by a third party and is treated consistently in a confidential manner by the third party.

Paragraph 20(1) (b) of the Act sets out two mandatory criteria in order to protect Applicants' confidential information supplied to DND from disclosure. First, the Applicants' documents supplied to DND must contain financial, commercial, scientific or technical information. Second, the Applicant must consistently treat such information in a confidential manner. In other words, DND will protect the Applicant's confidential information in its possession as much as the Applicant protects said confidential information in their own establishment.

Any *Privacy* or *Access to Information* request made under their respective Act and completed, will be retained by DAIP for a duration of two (2) years following after the date the request was responded to. After the retention period of two (2) years, the *Privacy* or *Access to Information* request file will be destroyed.

For additional information on privacy matters prior to submitting a proposal, please contact:

Director, Access to Information and Privacy (DAIP)
Department of National Defence (DND)
Telephone: direct: 613-992-0996 or toll free: 1-888-272-8207
Email: ATIP-AIPRP@forces.gc.ca

Applicants shall note that key information related to all contribution agreements (e.g., amount, name of the Initial and Ultimate Recipients and project location) will be made available to the public on DND's website.

6. Enquiries about the CFPMN

This CFPMN is different than previous calls under the CSSP. As a result some of the requirements set out in this guide may be different from those Applicants may have seen in the past. The requirements of this CFPMN apply to this call only.

It is the responsibility of the Applicant to obtain clarification of the requirements contained herein, before submitting an application. Applicants must send enquiries related to this CFPMN to the DRDC CSS mailbox at: DRDCCSS-RDDCCSS@forces.gc.ca no later than five (5) calendar days before the Letter of Intent (LOI) or Full Proposal CFPMN closing dates. Enquiries received after that time may not be answered. Applicants must reference as accurately as possible the numbered item of this CFPMN to which the enquiry relates and must explain questions in sufficient detail in order to enable an accurate response.

Questions and answers received during the CFPMN may be made available to all Applicants.

Part 2: Application, Submission and Evaluation Process

7. Application and Evaluation Process Overview

The CFPMN application and evaluation process involves a three-stage process. The steps of each stage are summarized below to illustrate the overall process.

Stage 1: Call for Letter of Intent
Applicant is to complete and submit a Letter of Intent (LOI) form.
DND will evaluate the submitted LOI. Only Applicants who have submitted a fully completed and eligible LOI may be invited to Stage 2.

Stage 2: Call for Full Proposal
Applicant is to complete and submit a proposal form.
DND will evaluate the submitted proposals and select.

Stage 3: Contribution Agreement Awarded
Applicant of a selected proposal is invited to enter into a contribution agreement with DND.

LOI and Full Proposals must be submitted by using the Connect service provided by the Canada Post Corporation (CPC). See submissions steps provided in Section 11. Submission Process.

8. Stage 1: Call for Letter of Intent

Letter of Intent Application and Evaluation

The LOI contains the names and affiliations of the Micro-net members, a summary of the proposed research, and benefits to Canada. The LOI must be submitted by the Applicant, an eligible Canadian lead applicant organization/institution, by the stated CFPMN deadline using the DND LOI form template. No LOI submissions will be accepted after the deadline.

Applicant organizations/institutions may submit a maximum of one LOI/proposal to this CFPMN. A member from an eligible organization/institution may participate in more than one Micro-net; however, the project activities must be distinct and have no interdependencies. Project proposals/outcomes must be distinct, standalone, and have no interdependencies. If the LOIs are identified as dependent, they will be declared as inadmissible and not be considered further. Recipients participating in more than one

selected project must provide actuals reports for eligible costs incurred and paid that are directly related to achieving the objectives of the project for which DND funding was provided. The total assistance cannot exceed 100% of actual total project costs.

The LOI form must be submitted by the Applicant and as part of the submission will attest and certify that any organization/institution listed in the Letter of Intent authorizes the Applicant to provide a submission including their personal and confidential information.

LOI APPLICATION DEADLINE: APPLICANTS HAVE UNTIL 2:00 PM (Eastern Time), Wednesday, November 15, 2023, TO SUBMIT THEIR LOI. See submissions steps provided in Section 11. Submission Process for information on how to submit the LOI.

LOI will be reviewed according to the criteria listed in Part 3: Evaluation Assessment Criteria. Applicants deemed eligible at the LOI stage will be invited to submit a Full Proposal.

The CSSP strives to provide notification of status of LOI stage to all Applicants within 5 to 6 weeks after the LOI application deadline depending on total LOIs received.

Consolidation of Proposals

A list of Applicants invited to submit proposals, including the project title, keywords, applicant name and organization will be provided to all invited Applicants. In the submission of the LOI, Applicants must ensure this information is acceptable for public sharing.

Applicants addressing similar aspects of the S&T challenge may wish to consider consolidation of proposals to strengthen Micro-net collaboration and reduce the number of Full Proposals.

Adding or removing names to the Micro-net team identified in the LOI is permitted; however, the Applicant must remain the same in the Full Proposal submission as indicated in the LOI.

In the event of proposal consolidation following the LOI stage, the aspects of the S&T challenge to be addressed by a consolidated project must be the same as those identified in the LOIs prior to consolidation. The scientific theme of a consolidated project will be validated by DND to ensure that the consolidated project remains eligible. Applicants must provide information on the consolidation of proposals in the Full Proposal.

9. Stage 2: Call for Full Proposal

Full Proposal Application

Only Applicants who have successfully passed the LOI stage of the process will be invited to submit a Full Proposal. Full Proposals must be submitted by the Applicant by the deadline stated in the invitation. Late submissions or modifications to submissions will not be accepted after the prescribed deadline.

Proposals must only be submitted using the DND Full Proposal form which will be provided to invited LOI Applicants. Applicants are and will remain solely responsible for the accuracy and completeness of their proposals. Applicants should read the Applicant Guide and the Challenge Statement in their entirety prior to submitting a proposal.

In the proposal, Applicants should demonstrate their capability and describe their approach in a thorough, concise and clear manner for carrying out the work. The Applicant's responses in the proposal form will form the Statement of Work for the project (Schedule A). The proposal should address clearly and in sufficient depth the points that are subject to the evaluation criteria against which the proposal will be evaluated.

To maintain the integrity of the evaluation, evaluators will consider only information presented in the proposal. No information will be inferred and personal knowledge or beliefs will not be utilized in the evaluation. Applicants should explicitly demonstrate, in sufficient detail, how all criteria are met. Evaluators will take the entire proposal into consideration for each criterion. If information is found elsewhere in the proposal that corresponds to a criterion, evaluators will consider this.

All costs identified in the proposal must be in Canadian dollars.

The Full Proposal package must contain:

- A completed proposal application form; and
- Letters of Support from partners or other funding contributors confirming their cash and/or in-kind contributions, if applicable.

It is the Applicant's responsibility to ensure that the application complies with all relevant federal, provincial and territorial legislation and municipal bylaws.

FULL PROPOSAL APPLICATION DEADLINE: Applicants invited to submit a Full Proposal will be informed of the FULL PROPOSAL APPLICATION DEADLINE. Full Proposals must be submitted by the stated deadline. See submissions steps provided in Section 11. Submission Process for information on how to submit the Full Proposal.

Full Proposal Evaluation

Full Proposals will be reviewed according to the criteria listed in Part 3 Evaluation Criteria. Full Proposals will be reviewed by subject matter experts selected by the CSSP and may include representatives of other Canadian government departments as well as external consultants.

Pre-Qualified Proposals

Only proposals that have passed the eligibility requirements and assessment criteria will be considered compliant and will be placed in a pool of pre-qualified proposals for final funding consideration by the DND Senior Management Funding Committee where other strategic considerations may be considered prior to funding recommendation such as:

- Operational/Strategic relevance;
- Similar S&T initiatives being funded by DND's partners and Canada's allies;
- Industrial and social benefits to Canada; and
- Distribution of investment or budget constraints (which may include extent of leveraging other partners through cash and in-kind contributions)

Funding decisions are considered final. There is no appeal process.

Proposal Selection

DND may select one proposal, multiple proposals, or no proposals for funding approval. At this stage, all Applicants will be informed of the status of their proposal.

The CSSP strives to provide notification of status of Full Proposal stage to all Applicants within 8 to 10 weeks after the Full Proposal application deadline.

Applicants of selected proposals may be requested to provide additional information to support the final funding selection decisions. Additional project analysis may be required, including financial risk and technical assessments. Failure to submit any information supporting these analyses in a timely fashion may result in elimination from the process.

Before a final decision is made, DND may seek input and advice from other organizations, including, but not limited to, federal, provincial, territorial and municipal government agencies and organizations.

10. Stage 3: Contribution Agreement Award

Applicants of selected proposals will be invited to enter into a contribution agreement with DND. The ranking and selection of proposals for funding does not constitute a guarantee on the part of Canada that a contribution agreement will be awarded.

The CSSP and IDEaS programs will work with the selected Initial Recipient to develop a contribution agreement based on the proposed projects for signature by the Initial Recipient and DND which will identify the conditions of the contribution, the obligations of both parties, and the conditions under which payments will be made. These terms and conditions must also be reflected in the agreements signed between the Initial Recipient and the Ultimate Recipients.

The amount of support will be determined according to the total eligible funding requested, as well as the other sources of funds.

Recipients should note that until a written agreement is signed by both parties, no commitment or obligation exists on the part of DND to make a financial contribution to any project. Expenditures incurred or paid by the Recipient prior to the signing of such contribution agreement are ineligible.

All funded projects will be announced on the CSSP website.

11. Submission Process

LOI or Full Proposals must be submitted by using the Connect service provided by the CPC. CPC Connect is a digital delivery platform that facilitates sending and receiving confidential messages and documents.

The warning on the LOI form/Full Proposal form is an internal DND warning and the information regarding encryption and use of PKI Smartcard is for DND employees. Once the form is received internally, DND will ensure protection and authorized access. The CPC service is a protected B environment which enables Applicants to securely submit documents to DND. It is the applicant's responsibility to determine the method or process for handling of information within their own networks.

During Stage 1 and Stage 2 of the CFPMN process, Applicants are required to register and submit their LOI and, if invited, Full Proposal using the Connect service provided by CPC. It is the Applicant's responsibility to hold an account with CPC and to complete the submission steps to submit a proposal. There is no cost to register with CPC Connect service as a participant – see [CPC Participant Guide](#).

Step 1: Create a CPC Connect account

If the Applicant has an existing CPC Connect account please proceed to Step 2.

To register for an account please contact the [CPC Connect service](#), click on *Login to Connect*, then select *Register now*, and complete your personal Canada Post profile.

Step 2: Request a Connect Conversation

- i. Applicants must send an email requesting a Connect conversation to DRDCCSS-RDDCCSS@forces.gc.ca and provide the email address associated with the CPC Connect service, at least three business days prior to the CFPMN submission closing date and time. DND will initiate the Connect conversation. Requests to initiate a conversation received after the three business day cut-off may not be answered or may result in the late submission of the proposal.
- ii. The Connect conversation will create an email notification from CPC prompting the Applicant to access and action the message within the conversation. The Applicant will then be able to transmit its submission at any time prior to the CFPMN closing date and time.

Step 3: Transmit the submission using Connect

- i. Applicants are able to transmit their submission by uploading the LOI or Full Proposal form in the Connect conversation at any time prior to the CFPMN closing date and time.
- ii. The Applicant will receive a confirmation message from DND within the conversation as soon as possible after submission or after the CFPMN closing date.

All submissions will be screened initially for eligibility criteria. Late application(s) will not be assessed.

All Connect conversations must remain open until at least 30 business days after the CFPMN closing date and time.

The file number assigned by DND should be identified in all electronic communications.

Transmission issues or late submissions

DND will not be responsible for any failure attributable to the transmission or receipt of the Letter of Intent or Full Proposal form including, but not limited to, the following:

- receipt of a garbled, corrupted or incomplete submission;
- availability or condition of the Connect service;
- incompatibility between the sending and receiving equipment;
- delay in transmission or receipt of the submission;
- illegibility of the submission;
- security of submission information or data; or,
- inability to create an electronic conversation through the Connect service.

Submissions which are submitted late will be deleted. Connect conversations initiated by DND via the Connect service pertaining to a late submission will be deleted. Records will be kept documenting the transaction history of all late submissions. The only piece of evidence acceptable to DND relating to the time and date of submission of a LOI or Full Proposal form is the CPC Connect service date and time record indicated in the CPC Connect conversation history that clearly indicates the submission date and time.

Part 3: Evaluation Assessment Criteria

DND is committed to a consistent, fair, and transparent project selection process in order to identify, select, and approve the allocation of funding to projects that best fit the program’s objectives. LOI and Full Proposals will be assessed in accordance with the entire requirement of this CFPMN including the evaluation criteria.

12. Letter of Intent Assessment Criteria

The LOI will be evaluated based on the following mandatory criterion:

Assessment	Description
Micro-Net Team	The Applicant must provide a list of Partner Organizations/Institutions and describe the core activity of the partner organizations and their expertise related to the proposed solution. Explanation must be provided on how each partner organization will be actively involved, especially, describe how the Canadian Provincial, Territorial, Municipal government organization(s) is involved in advancing the S&T solution and in the activities/organizations of the Micro-net.
Research Project Summary	The Applicant must provide a statement of the objectives of the proposed research, a summary of the scientific approach, and the expected outcomes. The Applicant must clearly demonstrate how the proposed research is aligned with the S&T challenge of this CFPMN.
Benefits to Canada	The Applicant must clearly describe the general benefits to Canada and to stakeholders by outlining how the proposed research will strengthen Canadian capabilities such as: <ul style="list-style-type: none"> • Technology benefits (e.g. TRL stages advanced, lasting impact on the field in Canada; creation of intellectual property); • Operational benefits (e.g. novel insights by synthesizing a body of knowledge, integrating existing capabilities, employing novel user technologies, or through other means); • Social and economic benefits (e.g. patents filed, jobs created, training opportunities for students, revenues expected, cost reductions from using your solution over solutions commercially available today); and, • Other benefits (e.g. if the project includes a diverse team, leadership positions held by women, Indigenous peoples, youth, persons with disabilities, and visible minorities).
Funding and Duration of Funding	The Applicant must outline that the proposed solution’s budget requested from DND will be equal to or less than the maximum of \$2,000,000 (excluding other sources of funding) and that the proposed solution’s project activities funded by DND will conclude before the end of June 2027.

13. Full Proposal Assessment Criteria

Proposals will be assessed using mandatory criteria (MC) and point-rated criteria (PRC). To be eligible for funding, proposals must meet all mandatory criteria. The responsibility lies with the Applicant to demonstrate that the proposed project clearly meets each criterion.

Mandatory Criteria (MC)

Criteria	Description
Micro-Net Composition / Budget and Timeline	The Applicant must demonstrate all eligibility requirements for the Micro-net composition, budget and timeline of the proposed solution. The amount of funding requested from DND must not exceed the maximum of \$2,000,000, for a maximum period up to the end of June 2027, and the Applicant must provide the information required in the Proposal form: Table 1 – Work Plan - Project Activities and Budget.
Alignment of Proposed Solution to the Science & Technology (S&T) Challenge	The Applicant must describe the project objective(s) and demonstrate the scientific and technological basis of how the solution meets the outcomes of the S&T challenge.
Technology Readiness Level (TRL) of Proposed Solution	The Applicant must identify the current TRL of the proposed solution and must be within 1 and 6 (inclusive). The Applicant must describe the research and development (R&D) activities that have taken place to bring the proposed solution to the stated TRL.

Point-Rated Criteria (PRC)

Criteria	Description
Innovation - Novelty	The Applicant must demonstrate the novelty of the proposed research and how it advances basic and applied research, analysis, technology development and knowledge transfer in support of the S&T challenge.
Innovation – Transformative	The Applicant must list the key outcomes expected from the research and outline how the outcomes have the potential to be transformative, how the knowledge, science, or technology that is developed through the proposal will be exploited, and/or achieve competitive advancements over existing technologies. The Applicant must be able to demonstrate the current TRL (1 to 6) of the proposed solution and anticipated TRL of the proposed solution at project completion.
Scientific Quality	The Applicant must describe in detail the proposed scientific strategy, methodology and analyses that will be implemented to accomplish the stated outcomes. The Applicant must formulate the research questions and goals and outline the key scientific risks, potential impacts, and mitigation strategies.
Micro-net Management Capabilities	The Applicant must describe the Micro-net Applicant/Lead Recipient’s management capacity and structure to deliver and complete the research project. Address as applicable: financial and management systems and controls; technological and operational capabilities; human resource management/requirements; and previous project management experience. The Applicant should confirm the Applicant/Lead Recipient’s capabilities to manage the disbursement of funds to Partners/Ultimate Recipients and ensure accountability of

Criteria	Description
	eligible expenditures. The Applicant must describe the potential management/administrative (non-scientific project risks), potential impacts and mitigation strategies.
Micro-net Scientific Capabilities	<p>List the Micro-net team partners and include information for each on: time commitment, responsibilities in the proposed project, areas of expertise, and publications relevance to the proposal.</p> <p>Notes:</p> <p>Time commitment: provide hours/week, and total months of active involvement in the Micro-net.</p> <p>Responsibilities: for example “overseeing activity x and y” or “performing statistical analyses for activity x and y”</p> <p>Expertise: indicate the formal discipline (e.g. Biochemist, Electrical Engineer, etc.), any particular areas of expertise brought to the Micro-net, and a brief description of the relevance of this expertise to the success of the proposal.</p> <p>Publications: if applicable, list and provide reference links to the Partner’s five most relevant journal publications published in the last five years.</p>
Micro-net Collaboration	The Applicant must demonstrate in detail how the Micro-net Partners/Collaborators will work collaboratively on project activities and outline the benefits/advantages of the multidisciplinary membership.
Sustainability	The Applicant should describe how the Micro-net activities will be sustainable after DND funding concludes. Indicate whether it is anticipated that any project activities, collaboration, and/or work that builds on this project will continue beyond the period of DND funding.
Gender-Based Analysis Plus	<p>The Applicant must select the statement that best reflects how GBA+ and its factors have been considered and incorporated within the proposed solution and substantiate the statement.</p> <p>The Applicant must substantiate what, if any, GBA+ analysis has been conducted and the associated results to demonstrate GBA+ considerations, and what analysis is planned to demonstrate future GBA+ considerations. The Applicant must provide sufficient and clear information that permits concrete analysis that the proposal addresses one of the four scenarios.</p> <p>(GBA+) considerations have been identified</p> <p><i>Integration of GBA+:</i></p> <p>The proposal clearly and fully demonstrates how Gender-Based Analysis Plus (GBA+) consideration is embedded in the overall analysis. And when pertinent, its findings are mentioned throughout the document.</p> <p><i>Intersectionality and impact:</i></p> <p>Multiple relevant intersectional factors and their compounding importance have been clearly considered in assessing the potential impact of this initiative (the proposal) on diverse groups of Canadians.</p>

Criteria	Description
	<p><i>Data:</i> The data presented is thorough and clearly supports the conclusion.</p> <p><i>Response:</i> The proposed response clearly addresses all the issues emerging from the GBA+ analysis</p> <p><i>Monitoring:</i> Indicators clearly stem from integration of GBA+ considerations to overall analysis and propose intersectional targets where relevant. Collected data supports indicators.</p> <p>No GBA+ considerations have been identified There is insufficient data or information available to rule out the possibility of GBA+ considerations. In this regard, the proposal has set out a plan to secure the information or data that would be needed for the GBA+ analysis. The proposal shows evidence that GBA+ analysis was undertaken and supports the conclusion of no GBA+ considerations.</p>
Work Plan	<p>The Applicant must clearly describe the feasibility and approach of the work plan to achieve the proposed solution’s objectives in the research proposal. Describe how the approach is adequately developed, well-reasoned and appropriate.</p> <p>The Applicant must demonstrate a feasible work plan by completing information required in the proposal form: Table 1 – Work Plan - Project Activities and Budget and must provide details for each activity of the research proposal including expected outcomes, anticipated challenges/risks, partner involvement, budget and other sources of funding for each activity. Notes: Budget forecast will be required for each fiscal year of the project duration.</p> <p>For timelines, use monthly increments (i.e. M1 to M36 for a three-year project) to enter both the start and end dates for each activity. For example, a nine-month activity starting in the twelfth month of the project should be indicated as starting at M12 and ending in M20.</p> <p>Micro-nets including participation of an eligible international partner must ensure no more than 50% of total eligible costs are incurred outside of Canada.</p> <p>Note that all micro-nets are required to produce a final project report that contains a comprehensive description of the project’s objectives, methodology, scientific analysis, test results, conclusions, recommendations, and any other relevant information. The final project report should be listed in the work plan as a distinct work item/deliverable.</p>

Part 4: Other Information

This section contains information which will be relevant only to those Applicants whose proposals are selected for funding by DND. The Initial Recipient shall ensure that all agreements with Ultimate Recipients or contractors are consistent with the rights granted in the Contribution Agreement between the Initial Recipient and Canada.

14. Act Respecting the Ministère du Conseil exécutif (M-30) for Québec Applicants

The *Act respecting the Ministère du Conseil exécutif (M-30)* may apply to an Applicant that is a municipal body, school body, or agency located in the province of Québec. These Applicants will be required to complete an additional information form and, if they are subject to the requirements of the Act, to obtain written authorization and approval from the Government of Québec prior to execution of any contribution funding agreement.

15. Redistribution of Funds

Approval by DND is required prior to the redistribution of funding by a contribution Recipient to one or more individuals or entities.

Contribution Agreement provisions will address the requirements of the Treasury Board Policy on Transfer Payments and the Terms and Conditions of the program. These Terms and Conditions must also be reflected in the agreements signed between the Initial Recipient and the Ultimate Recipients.

If an Initial Recipient redistributes funding to one or more Ultimate Recipients:

- the Initial Recipient has independence in the choice of Ultimate Recipients, with minimal guidance from DND, and will not be acting as an agent of the government in making distributions;
- the Initial Recipient funding agreement will address the provisions set out in Appendix G (27 to 34) of the [Directive on Transfer Payments](#); and
- Ultimate Recipients receiving redistributed funding must be approved eligible recipients and must utilize funding for the type and nature of eligible costs as defined in Annex B - Eligible Costs.

16. Research Security

In March 2021, the Government of Canada released a [Research Security Policy Statement](#) encouraging all members of the research community, including academia, private sector, and government to take extra precautions to protect the security of research, intellectual property, and knowledge development. Members of the joint [Government of Canada–Universities Working Group](#) are working to develop specific risk guidelines to integrate national security considerations into the evaluation and funding of research projects and partnerships.

These guidelines will better position researchers, research institutions and government funders to undertake consistent, risk-targeted due diligence of potential risks to research security and provide recommendations for complementary tools and measures to ensure researchers and research

organizations working with national security partners have the capacity and resources necessary to implement the guidance.

When available, it is envisioned that the guidelines will be integrated in the due diligence assessment process undertaken by DND in support of research and development initiatives.

In the meantime, Initial and Ultimate Recipients of this CFPMN are encouraged to work collaboratively to identify and mitigate potential security risks by utilizing existing tools available through the [Safeguarding Your Research portal](#) and [Safeguarding Science's](#) workshops. Recipients should conduct consistent and appropriate due diligence review of potential security risks to research activities of the Micro-net and put in place timely measures to appropriately mitigate these risks.

DND may review Micro-net activities on national security grounds to ensure any national security risks are identified and addressed.

17. Reporting Requirements

Specific reporting requirements will be defined in the Contribution Agreement. Each Micro-net will be assigned a DND Portfolio Manager who is a DND/CAF subject matter expert assigned to assess the progress of Micro-net activities and act as a link between the Micro-net and the defence and security community. Regular communication between DND CSSP/IDEaS program, Portfolio Manager, and the Initial Recipient will be implemented to monitor progress. DND will request the Initial Recipient to report on but not limited to the following:

- Four (4) Progress Reports per fiscal year – two (2) verbal and two (2) written. An example of information requested within the Progress Reports may include the following:
 - Status of progress achieved on project activities and progress toward objectives;
 - Report on Scientific/Technical Advancements;
 - Number of peer-reviewed publications and/or patent applications;
 - Number and type of presentations at scientific conferences, and other outreach activities;
 - Number and type of new partnerships and/or collaborations created or sustained;
 - Amount of additional funding obtained through leveraging of contribution funds;
 - Collaboration check between Initial and Ultimate Recipients;
 - Number of highly qualified personnel supported; and
 - Information on Gender-Based Analysis Plus (GBA+).
- Forecast of Cash flow Requirements and Record of Expenditures/Actuals Report (semi-annual or quarterly).
- Annual challenge meeting /symposia to bring together all Micro-net projects selected under the challenge. See Symposia section below.
- A Final Project Report that contains a comprehensive description of the project's objectives, methodology, scientific analysis, test results, conclusions, recommendations, and any other relevant information.

DND may request that other project performance measurement metrics be provided.

18. Challenge Engagement

The CSSP anticipates organizing a challenge engagement meeting for this S&T challenge. Funded Micro-nets will be required to participate and present recent developments in their research, and exchange information with other scientists working in related areas. The purpose of the challenge engagement is to show case the work of the Micro-net and engage other innovators, officials from DND and other government departments. Each Micro-net will provide a general overview, project background and overview; key findings and advances; and highlight successes. The event planning and logistics will be coordinated by DND. In the planning of the proposed project, Micro-nets should account for member participation in two challenge engagements.

19. Communication Activities

The Micro-net's activities, results and accomplishments should be conveyed to external audiences, including potential participants from all sectors, public policy makers, the media and the public. Micro-nets are encouraged to communicate or publish their websites and other materials in both official languages where possible and as appropriate for their audiences.

The Initial Recipient must, prior to publication, provide notification and a copy of publications, including without limiting, proposed scientific publications, reports, demonstrations, conference proceedings and presentations arising from the Micro-net's work (both Initial and Ultimate Recipients) to the CSSP for review and to determine if information could be sensitive or prejudicial to national security to which DND may impose measures for the Initial/Ultimate Recipient to protect national security.

The Initial Recipient shall acknowledge Canada's contribution in all information made public that is produced as part of the project by mentioning the Micro-net is made possible through the contribution of the CSSP of the DND, in conjunction with the Canada wordmark. The Initial Recipient must make a reasonable effort to notify the CSSP at least fifteen (15) work days prior to the communication. The CSSP will provide approved acknowledgement of funding and/or disclaimer script/wording.

20. Intellectual Property

All intellectual property (IP) rights that arise as a result of this program shall vest in the Recipient. Canada may, at its sole discretion, include a provision in the Contribution Agreement requiring that the Recipient grant Canada, in perpetuity, a non-exclusive, irrevocable, royalty-free and world-wide licence, to use or have used, the intellectual property for government purposes. This licence allows Canada to do anything that it would be able to do if it were the owner of the IP, other than exploit it commercially, or transfer or assign ownership of it.

21. Conflict of Interest

The Initial Recipient's organization/institution should consider any potential or perceived conflict of interest against its own conflict of interest guidelines. If selected for funding, the program may request documentation showing that the Initial Recipient is aware and has considered any potential or perceived

conflict against its own conflict of interest guidelines. The Contribution Agreement will include Conflict of Interest terms outlining that the Initial Recipient shall notify DND of any conflict of interest situation.

22. Network Sustainability

The Initial Recipient is encouraged to develop a sustainability plan to continue to form larger sustainable national Innovation Networks dedicated to further research and operate the network beyond DND Contribution funding.

23. Audit Rights

The Initial Recipient must:

- keep proper accounts and records regarding the project(s), for at least six (6) years after the project completion date;
- permit Government of Canada representatives to audit, inspect and make copies of those accounts and records at all reasonable times, up to six (6) years after the project completion date;
- grant the Government of Canada's authorized representatives access to audit and inspect the qualifying project and related facilities;
- furnish the Government of Canada's authorized representatives with such information as they may from time to time reasonably require with reference to the documents referred to herein; and
- promptly refund to DND any overpayments of the contribution disclosed by an audit, no later than thirty (30) calendar days from the date of Canada's notice.

Annex A – Science and technology Challenge Statement

Lighting the path with AI: Advanced analytics and decision support for first responders

Positioning first responders and emergency management service providers to operate with:

- improved frontline situational awareness;
- improved protection of responders; and
- advanced decision supports in managing routine and critical events.

In response to the varied and revolutionary potential promised by advanced decision support technologies, the Department of National Defence (DND) and the Canadian Armed Forces (CAF) is seeking to advance the application of promising advanced decision support technologies including, but not limited to, artificial intelligence and machine learning (AI/ML), intelligent sensors, wearable technologies, Internet of Things (IoT) connectivity technologies (e.g. 5G, Long Range (LoRa)), and synthetic environments technologies (e.g. Virtual Reality (VR), Augment Reality (AR), Extended Reality (XR), Mixed Reality (MR)) in the safety and security domain.

What CSSP provides

Up to \$2,000,000 (over three years) to develop a research micro-network, known as micro-net, to stimulate collaboration and build a network of expertise in support of Canada's current and future defence and security needs.

What innovators bring

Led by a Canadian organization, innovators bring a self-organized multi-disciplinary group of researchers to collaborate and advance research in the advanced decision support domain that have public safety and security applications, specifically: Big Data and Algorithm-Based Tools for Strategic and Operational Levels of Analysis; Responder Analytics for the Frontline; Artificial Intelligence (AI) Tools for Detecting Tri-Service/Emergency Management Trends, Activities, and Information Fusion, and Improved situational awareness science and technology supports that go beyond current industry offerings.

The challenge: Lighting the path with AI: Advanced analytics and decision support for first responders

In today's information and data rich environment first responder organizations have the requirement to create action-based intelligence from multiple sources that is the foundation for advanced decision making. However, due to the volume of data and wide type of technical systems, advanced capabilities and processes are required to achieve this goal. Key to this effort is to have the ability to identify, prioritize and execute S&T that enhance the capabilities of first responder communities, including their information processes, planning support and operations by integrating analytic tools, models, and data to advance decision-making. To address first responder (police, fire and paramedics) S&T requirements, the CSSP is looking to develop several research micro-nets focusing on safety and security applications, specifically: Big Data and Algorithm-Based Tools for Strategic and Operational Levels of Analysis; Responder Analytics for the Frontline; Artificial Intelligence (AI) Tools for Detecting Tri-Service/Emergency Management Trends, Activities, and Information Fusion, and Improved situational awareness science and technology supports that go beyond current industry offerings.

Formation of Innovation Networks

Recognizing that successful and sustainable research networks take time to build, this call for proposals is meant to establish the creation of small innovation networks, or micro-nets. The benefit to Canada and DND will be the development of a critical mass of researchers, highly qualified personnel and expertise within the Canadian innovation community that supports basic and applied research.

Background and context

To leverage ongoing research and industrial investments and advances in advanced decision support technologies in order to enhance capabilities in the safety and security context, there are four areas where innovation is required:

- Big Data and Algorithm-Based Tools for Strategic and Operational Levels of Analysis;
- Responder Analytics for the Frontline;
- Artificial Intelligence (AI) Tools for Detecting Tri-Service/Emergency Management Trends, Activities, and Information Fusion; and
- Improved situational awareness science and technology supports that go beyond current industry offerings.

Proposals are being sought that exploit advances made possible by advanced decision support technologies within these areas that address one or more of these focus areas:

Big Data and Algorithm-Based Tools for Strategic and Operational Levels of Analysis

- Develop and integrate artificial intelligence and machine learning algorithms, big data, and cloud computing to support anticipatory analytics, foresight, technology foraging and decision making, at the operational and enterprise-wide/strategic levels. This includes improving the ability to incorporate critical incident data into decision making.

Responder Analytics for the Frontline

- Develop and integrate means for distilling operationally useful metrics and analysis from information gathered in the field, giving responders an informational edge, with real-time or near real-time updates with connectivity to the cloud.

AI Tools for Detecting Tri-Service/Emergency Management Trends, Activities, and Information Fusion

- Develop software, models, tools, and enabling technologies that exploit field and open source data to support responder and Emergency Management (EM) organizations in detecting, mapping, analyzing, and understanding the full range of all-hazard high-consequence public safety and security events.

Improved situational awareness science and technology supports that go beyond current industry offerings

- Develop and integrate cutting-edge science and technology advancement to push the boundaries of what is currently available in industry and enhance situational awareness across various sectors in the public safety and security domain to enable proactive decision making and timely intervention.

Expected outcomes:

We are seeking proposals from Micro-nets to exploit the developments in advanced decision making to develop, integrate and demonstrate technologies to improve current capabilities and to introduce new concepts. Example areas of research may include, but are not limited to:

- Advanced decision supports and analytics which improve linkages among front-line operators and with command and control (i.e.: recent large scale public order demonstrations and mass casualty incidents);
- Facilitate development of structured S&T requirements and investment challenges that benefit Canada and a broader first responder constituency;
- Create a more robust and representative R&D network for first responders and their communities;
- Leverage ongoing S&T investment and promising solution options to respond to the S&T challenge of building actionable intelligence and advanced decision support architectures;
- Leverage Internet of Things oriented devices and applications of machine-to-machine communication to support operations and risk mitigation;
- Application of artificial intelligence to enhance individual wellness, organizational performance, security, and interoperability of communications; and
- Leverage synthetic and immersive environments (AR, VR, XR, MR) for training and operational use

As part of the micro-nets, safety and security partners including DND/CAF will look for opportunities for knowledge and expertise exchange. This may include opportunities for micro-net members to learn more about responder needs and operations, as well as for micro-net members to educate DND/CAF and members of the safety and security domain about advanced decision support technologies and the possibilities inherent in them.

Annex B – Eligible and Ineligible Costs

Eligible costs are limited to the following categories:

Cost Category	Restriction
1. Stipends, salaries and benefits for students, research assistants and technical staff	Must be directly related to project activities and reflect exact costs associated with payment of salary and benefits. Benefits: maximum 20% of salaries Salary: not to exceed \$120,000 per full-time equivalent (excluding benefits).
2. Equipment acquisitions or rentals	Maximum \$5,000 per acquisition Maximum 20% of total approved eligible costs
3. Consultant services (provided by third parties not affiliated with the Micro-net)	None
4. Laboratory analysis services	None
5. Materials and supplies	Meets at least one of the following conditions: a) is an expendable tangible property; b) has a useful life of 1 year or less; or, c) has a cost of less than \$2,000.
6. Publication, outreach and communication costs	None
7. Travel expenses	Must be in accordance with the National Joint Council's Travel Directive
8. Administrative overhead costs	15% of eligible costs before overhead

1. Stipends, Salaries and Benefits for students, research assistants and technical staff

Salaries and benefits are eligible as long as they are directly related to project activities, including project management, and reflect the exact costs associated with the employees.

Benefits are defined as employment costs paid by the employer and may include the following:

- Employer's portion of CPP/QPP
- Employer's portion of Employment Insurance (EI)
- Employer's portion of group insurance
- Employer's pension contributions

Benefits must not exceed 20% of an individual's salary.

Maximum remuneration

Contributions from the Micro-net funds toward the total annual remuneration (fixed or variable) of each Micro-net member must not exceed \$120,000 per full-time equivalent (excluding benefits). This maximum applies to all positions (including employment contracts) and shall be pro-rated on the basis of the proportion of time worked relative to the full-time equivalent.

2. Equipment Acquisitions or Rentals

Equipment is defined as any item (or interrelated collection of items comprising a system) which is used wholly or in part for the research proposed and meets all three of the following conditions:

- 1) non-expendable tangible property;
- 2) having a useful life of more than one year; and,
- 3) a cost of \$2,000 or more.

An item that fails to meet all three conditions listed above shall be classified as materials and supplies.

The equipment category also includes research infrastructure such as scientific collections and information databases used wholly or in part for the research proposed.

The Recipient will be responsible for obtaining the fair value of equipment at the time of purchase.

Equipment category must not exceed \$5,000 per acquisition and 20% of total approved eligible costs.

3. Consultant Services (provided by third parties not affiliated with the Micro-net)

Upon request, Recipients will provide DND a copy of contracts for services under the project.

The Micro-net Contribution Agreement should not be used or replicated for contracting with other parties. A Recipient's own contract should detail the activities and outcomes to be achieved under that contract, the costs, and deliverables.

It is the responsibility of the Recipient to ensure that all costs from service providers providing contracted services are eligible project costs.

4. Laboratory Analysis Services

Examples include physical, chemical or biological property analysis of samples, standardized testing laboratory services, and calibration services from fee-for-service laboratories.

5. Materials and Supplies

Material and supplies includes items that meet at least one of the following conditions:

- 1) expendable tangible property; or,
- 2) useful life of 1 year or less; or,
- 3) a cost of less than \$2,000.

As an example, a laptop computer that costs less than \$2,000 would be considered a consumable even though it is a non-expendable tangible item with a useful life of more than one year.

6. Publication, Outreach and Communication

This cost category may include publication costs related to web support, newsletters, brochures, translation costs, printing and mailing costs, public relations associated expenses, and the costs of

publishing in open access journals and/or outreach costs related to scientific conference fees relevant to the project activities.

7. Travel Expenses

Travel expenses must be incurred in accordance with the National Joint Council Travel Directive - Consult website at <https://www.njc-cnm.gc.ca/directive/d10/> for further details.

8. Administrative Overhead

Administrative Overhead costs are indirect expenditures incurred by Initial and Ultimate Recipients, which are required for the research activities, but cannot be specifically identified as project costs. These costs relate to the use of the organization's resources, which may include, but are not limited to:

- Administrative support (e.g. accounting, payroll administration, meetings);
- Information Technology support;
- Internet, telephone, excluding long-distance charges;
- Use of photocopiers, fax machines, and other office equipment;
- Use of existing workstations, including furnishings and equipment (e.g. computers, scanners);
- Normal office software (not including software specifically required for the project);
- Memberships and subscriptions only if required to complete project activities;
- Staff recruitment and training;
- Routine laboratory and field equipment maintenance (e.g. oil changes);
- Building occupancy and operating costs (i.e. use of space); and,
- Facilities maintenance.

The administrative overhead costs cannot exceed 15% of the total Eligible Expenditures (before overhead).

9. Ineligible Costs

Ineligible costs include, but are not limited to, the following:

- Salaries and benefits for university investigators receiving direct and continuous salary through the university;
- In-kind contributions;
- Professional training or development, such as computer or language courses;
- The purchase of land or buildings;
- Costs of moving a lab;
- The purchase or lease of private/personal vehicles, vehicle maintenance costs or "Rental" charges for company-owned vehicles;
- Assets and capital items not specifically required for the execution of the project;
- Normal costs of establishing a commercial operation;
- Costs for activities that are deemed to be part of normal business practice for any Recipient, such as: Review engagements and audits, unless required in the agreement, Board of Directors' meetings, Insurance
- Depreciation;
- Interest or overdraft charges and credit card fees;
- Refundable portion of the GST/HST, value-added taxes, or other items for which a refund or rebate is receivable;

- Hospitality including alcohol, entertainment, honorariums, gifts (e.g., gifts for speakers or facilitators);
- Monthly parking fees for vehicles, unless specifically required for field work;
- Costs of regular clothing;
- Membership fees, unless specifically required for the project, must not already have membership;
- Discretionary employee benefits (e.g., parking at employer's location, relocation costs for employees hired for the project, supplementary employment insurance benefits for maternity/paternity leave, staff awards and recognition);
- Patent fees;
- Costs for activities intended to directly influence/lobby governments;
- Direct marketing, business promotion or one-on-one extension types of activities;
- Costs associated with the review of graduate and PhD thesis; and,
- Other costs not specifically required for the project.

Annex C – Technology Readiness Levels

This CFPMN will advance proposed solutions from Technology Readiness Levels (TRLs) 1 to 6 inclusively.

The TRLs is a scale from 1 to 9 used to define the level of maturity of a research project. The TRL encompasses the full spectrum of innovation and science progression. The TRLs are defined as follows:

- TRL1. Identification and observation of basic principles and properties.
- TRL2. Definitions of practical applications. Formulation of concepts.
- TRL3. Observation and analysis through analytical research, laboratory research or experiments.
- TRL4. Proof of concept that is based upon the integration of applications and concepts to demonstrate viability.
- TRL5. Validation defined as the refined integration of applications or concepts to confirm validity.
- TRL6. Simulated demonstration of a near-end state solution and testing in a simulated environment.
- TRL7. Real-world demonstration of a near-end state solution and testing in an appropriate real-world environment.
- TRL8. Qualified solution which is the completion of end state solution and refinement through testing.
- TRL9. Proven solution that is based upon final solution implementation and success.