PROTECTED A

# Expression of Interest – Enabling MASS Technologies

Submissions are due by **5pm (PST) January 29, 2021** and should be emailed as a .PDF to Fraser Winsor fraser.winsor@nrc-cnrc.gc.ca. Any questions regarding the Expression of Interest (EoI) should also be addressed to him. During the review process additional information from the applicant may be required. A presentation to the selection committee may also be requested.

Selected projects are anticipated to be announced on **February 26, 2021**, after which a detailed project proposal must be written and submitted to the NRC’s National Program Office (NPO) for an assessment of the project eligibility.

**Important notes:** Selected projects at this stagedo not guarantee approval for funding. Final funding decisions are made after a full proposal has undergone the necessary review, due diligence and approval processes.

All submissions must be a collaborative project with an NRC researcher.

The purpose of this document is to provide a general overview of a potential project (NRC and collaborator role) that will increase the impact of NRC’s current marine autonomous surface ship (MASS). Based on the information in this document, an assessment of the project’s merits will be determined, and projects will be selected. Selection will be based on a number of criteria, details of which can be found in Annex A. An overview of funding requirements and eligibility can be found in Annex B.

### Information on potential recipient(s)

|  |  |
| --- | --- |
| **Name of primary contact** |  |
| **Title of primary contact** |  |
| **Organization** |  |
| **Full address** | XXX Street Name Building XYZCity, ProvincePostal CodeIf multiple organizations or PI’s are being included, additional information can be inserted here. |
| **Email address** |  |
| **Phone number** |  |
| **Other information** | Provide any pertinent additional details, including but not necessarily limited to: (i) a CV – 3 pages maximum, showing experience of the lead researcher; (ii) brief history of research funding in the last 5 years; (iii) information on any current or previous funding received from the NRC (IRAP, Ideation Fund or foundational investments), including NRC contact information.  |
| NRC Researcher-Collaborator | Provide name and contact information. |

### Project overview

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| --- | --- |
| **Project title** |  |
| **Anticipated project start date** |  |
| **Anticipated project end date** |  |
| **Project Location(s) Identify major location (with title/address) and other locations as required** |  |

**Project Technology Readiness Level (TRL) at project start**

[ ]  1 [ ]  2 [ ]  3 [ ]  4 [ ]  5 [ ]  6 [ ]  7 [ ]  8 [ ]  9

**Anticipated project TRL at project completion**

[ ]  1 [ ]  2 [ ]  3 [ ]  4 [ ]  5 [ ]  6 [ ]  7 [ ]  8 [ ]  9

Guidance on TRL definitions can be found [here](https://www.ic.gc.ca/eic/site/080.nsf/eng/00002.html).

**Project summary (recommended maximum 2 page – additional as required)**

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| Briefly describe the high-level project objectives, activities and anticipated outcomes, including the roles of the NRC and the university collaborator(s). Show how the project will contribute to enabling MASS in Canadian waters.  |

**NRC Research Role – to be filled by NRC researcher**

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| Describe how this project will align with NRC work. At a minimum, describe : (i) how the project is aligned with NRC initiatives: (ii) what will be NRC’s research contribution; (iii) what impact will this project have on the maritime sector (can be long term impact).  |

**Is the recipient or any of the project collaborators currently under existing NRC agreements (IRAP, others) and/or part of other existing consortium agreements, collaboration agreements or other collaborative arrangements?**

[ ]  Yes [ ]  No

|  |
| --- |
| If you answered yes, briefly describe the collaborative agreement/arrangement and provide the names of the parties to the agreement/arrangement. Include any NRC contact information and details. |

Is the organization a for-profit corporation registered in Canada (federally or provincially)?

[ ]  Yes [ ]  No

If you answered yes, specify the number of employees currently working for the organization: Choose an item.

**Estimated costs of potential recipient project (excluding any In-Kind Costs/Contributions)**

Provide best-guess estimates in the table below. The amounts can be refined should the project move to the full proposal stage. The amounts entered below are the expected costs exclusive of any NRC support and therefore should reflect the full costs of recipient/subcontractors to complete the work identified in the project summary.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Cost category** | **2020/2021** | **2021/2022** | **2022/2023** | **Totals** |
| Direct Salaries | $ | $ | $ | $ |
| Direct Travel & Accommodations | $ | $ | $ | $ |
| Direct Equipment | $ | $ | $ | $ |
| Direct Research Support | $ | $ | $ | $ |
| Professional Services (subcontractors) | $ | $ | $ | $ |
| Indirect Costs\* | $ | $ | $ | $ |
| Total Eligible Costs (inc. indirect) | $ | $ | $ | $ |
| Ineligible Costs | $ | $ | $ | $ |
| Total Project Costs (incl. Ineligible) |  | $ |
| \* Indirect costs (overhead) are fixed at 15% of total eligible costs (sum of salaries, travel, equipment, research support costs). \* All cost estimates are to be exclusive of tax (GHT/HST) |

**Estimated In-Kind costs (contributions) of potential recipient project**

Provide best-guess estimates in the table below if necessary. In-kind costs/contributions considered essential to the project could be in the form of cash-equivalent goods or services, which, if not donated by the recipient or a collaborator, would have to be purchased with project funds (such as specialized skills and advice or access to special equipment, space, data sets, etc.). In-kind costs/contributions are considered Unfunded Eligible Costs however additional NRC support may be available for projects with in-kind costs/contributions on a case-by-case basis. The amounts can be refined should the project move to the full proposal stage.

**Recipient In-Kind (Academic Recipients Only)**

|  |  |  |
| --- | --- | --- |
| **Cost category** | **In-Kind Description** | **Estimated Value($)** |
| Direct Academic Professor or Principal Investigator Salaries |  | $ |

**Collaborator In-Kind**

|  |  |  |  |
| --- | --- | --- | --- |
| **Cost category** | **Collaborator (Identify)** | **In-Kind Description** | **Estimated Value($)** |
| Direct Salaries |  |  | $ |
| Direct Travel & Accommodations |  |  | $ |
| Direct Equipment |  |  | $ |
| Direct Research Support |  |  | $ |
| Professional Services (subcontractors) |  |  | $ |
| Ineligible Costs |  |  | $ |

**Rationale for equipment costs**

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| --- |
| If applicable, explain why equipment costs identified in the estimated costs of the recipient are reasonable and justified. Describe why this equipment is considered essential to the project. |

**Rationale for financial assistance**

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| Provide information as to why NRC assistance to the potential recipient is required. Describe the impact of the assistance on the financial viability and scope of the project. |
|  |

**NRC budget**

Provide an estimate of the costs that NRC will incur to complete its portion of the work on the project. To enter amounts, right-click on the table, select “Worksheet Object – Edit,” and enter the information (shaded boxes will auto-populate). When completed, click anywhere in this document outside of the table. **Important notes:** Amounts in this table are for estimation purposes only so as to understand the total level of effort expected to complete the project. Actual project tracking will be done through Sigma.



### GBA+

**How does the project consider diversity and inclusion? How will this be managed throughout the life of the project?**

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| --- |
| Provide a gender based analysis for the project |

### Blue Economy

**How does your project tie ocean health to ocean wealth?**

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| --- |
| Provide an overview of the economic and environmental benefits to this project. Show how the two are linked. |

**ANNEX B - COLLABORATIVE R&D INITIATIVE PROJECT COST PRINCIPLES**

**1.            GENERAL PRINCIPLE**

The Eligible Costs of the Project are the sum of the applicable Funded Direct Eligible Costs, Unfunded Direct In-kind Eligible Costs and Funded Indirect Eligible Costs and which are non-recurring and, in the opinion of the NRC, are, or must reasonably and necessarily be, incurred and/or allocated in the carrying out of the Project by the Recipient and/or Collaborators.

These costs must be determined in accordance with the Recipient’s cost accounting practices as accepted by the NRC and applied consistently over time. The cost accounting system must clearly establish an audit trail that supports all cost claims, in particular, In-kind contributions are identifiable, verifiable and auditable and Salary Costs, as described below, must clearly indicate the allocation of an employee’s hours worked on the Project.

**2.            REASONABLE COSTS**

A cost is reasonable if the nature and amount do not exceed what would be incurred by an ordinary prudent person in the conduct of a competitive business.

In determining the reasonableness of a particular cost, consideration will be given to:

1. whether the cost is of a type generally recognized as normal and necessary for the conduct of the business of the Recipient or carrying out of the Project;
2. the restraints and requirements by such factors as generally accepted sound business practices, arm's length bargaining, federal, provincial and local laws and regulations, and the commercially reasonable terms of relevant agreements;
3. the action that prudent business persons would take in the circumstances, considering their responsibilities to the owners , employees, and customers of the business, the Government of Canada and the public at large;
4. significant deviations from the established practices of the Recipient which may unjustifiably increase the Eligible Costs; and
5. the specifications, delivery schedule and quality requirements of the particular Project as they affect costs.

**3. Eligible Cost Categories**

* 1. **Funded Direct Eligible Costs (cash costs)**

The following are categories of Recipient Direct Eligible Costs:

* + 1. Direct Salary Costs, which are that portion of gross wages or salaries (exclusive of benefits) that are paid, or to be paid by the Recipient and from which the employer withholds payroll deductions to the proper authorities on behalf of the employee for activities which can be specifically identified and measured as having been performed on the Project and which is so identified and measured consistently by the Recipient’s cost accounting system as accepted by the NRC. Academic Recipient’s Principal Investigator salaries are Unfunded Eligible Costs and may be included as Unfunded Direct In-Kind contributions provided by the Recipient (see 3.3 (a) below).
		2. *Direct Equipment,* which is newly acquired direct equipment valued between $10,000 and $350,000 that is required for the Project  to be acquired and utilized during the Project, including reasonable costs incurred for the delivery and installation of, including reasonable and necessary costs of delivery, installation and commissioning.

*NOTE: Direct Equipment costs exceeding the $350,000 threshold, or combined Direct Equipment costs exceeding a cumulative value of $1,000,000 and/or representing a high share of total costs may be considered as an activity separate from the Project under a separate agreement and should be discussed with the NRC. Direct Equipment acquisitions under $10,000 are to be included in Research Support Costs. Facilities use costs (including the modification/use of existing equipment) are Research Support Costs.*

* + 1. *Direct Research Support Costs*, which are direct costs incurred on behalf of the Project, such as equipment/facility use costs, equipment/facility modifications, student stipend, research materials, testing tools, instruments, information technology costs, as well as direct costs incurred to collaborate externally, including but not limited to collaboration on reports and studies, seminars, conferences and workshops. Newly acquired direct capital equipment valued under $10,000 is also included in Direct Research Support Costs.
		2. *Direct Travel & Accommodations*, which are actual, reasonable and necessary expenditures on transportation, accommodation and meals incurred by the Recipient solely in the undertaking of the Project. All such costs shall be in alignment with Government of Canada guidelines wand considered Direct Eligible Costs up to the maximums authorized in the [National Joint Counsel Travel Directive](https://www.njc-cnm.gc.ca/directive/d10/en).
	1. **Funded Indirect Eligible Costs (Overhead & Operating)**

Indirect Costs, also called “Overhead & Operating”, are those costs which, though necessarily having been incurred during the Project for the conduct of the business in general of the Recipient, cannot be identified and measured as directly applicable to the carrying out of the Project.

Recipient Indirect Eligible Costs may include such costs as:

* + 1. *indirect materials and supplies (including but not limited to, supplies of low-value, high-usage items which meet the definition of Direct Research Costs described in 3(c) but for which it is commercially unreasonable, in the context of the Project, to account for their costs in the manner prescribed for Direct Costs);*
		2. *indirect labour;*
		3. *fringe benefits;*
		4. *public utilities expenses of a general nature including, but not limited to, power, HVAC, lighting, and the operation and maintenance of general assets and facilities;*
		5. *general and administrative expenses including, but not limited to, the remuneration of executive and corporate officers, general office wages and salaries, clerical expenses related to the administration and management of the Project, such as processing claims and reporting, and expenses such as stationery, office supplies, postage and other necessary administration and management expenses.*

Notwithstanding the definition of Funded Indirect Eligible Costs above, Recipient Indirect Eligible Costs will be calculated at a maximum fixed rate of 15% of the total Funded Direct Eligible Costs.

* 1. **Unfunded Direct In-kind Eligible Costs (non-financial contributions)**

Unfunded In-kind costs/contributions could be in the form of cash-equivalent goods or services, which, if not donated by the Recipient or a Collaborator, would have to be purchased with Project funds such as:

* + 1. *Recipient Direct In-Kind Costs include Academic Recipient Principal Investigators Salaries;*
		2. *Collaborators Direct In-Kind Costs may include but are not limited to, specialized skills and services or access to special equipment/facilities, data sets.*

To be accepted and recognized, an in-kind contribution must:

* + 1. *be directly related to the implementation of the project (in other words, the good or service would otherwise have been purchased to achieve the desired project results);*
		2. *be offered at no cost;*
		3. *be based on the fair value as opposed to the fair market value;*
		4. *be identifiable, verifiable and auditable throughout the project life cycle; and*
		5. *not have been paid for by the Department or from other federal government sources.*

*NOTE: In-kind costs/contributions are considered Unfunded Eligible Costs however additional funding may be available for projects with in-kind costs/contributions as determined by the NRC on a case-by-case basis.*

**4. Ineligible Costs**

Certain costs are not eligible for reimbursement (“Ineligible Costs”), regardless of whether they are reasonably and properly incurred by the Recipient in the carrying out of the Project.

Ineligible Costs include:

1. the purchase of land, leasehold interest in land or the payment of property taxes
2. GST/HST or any other taxes for which the recipient is eligible for a rebate
3. costs incurred by the NRC