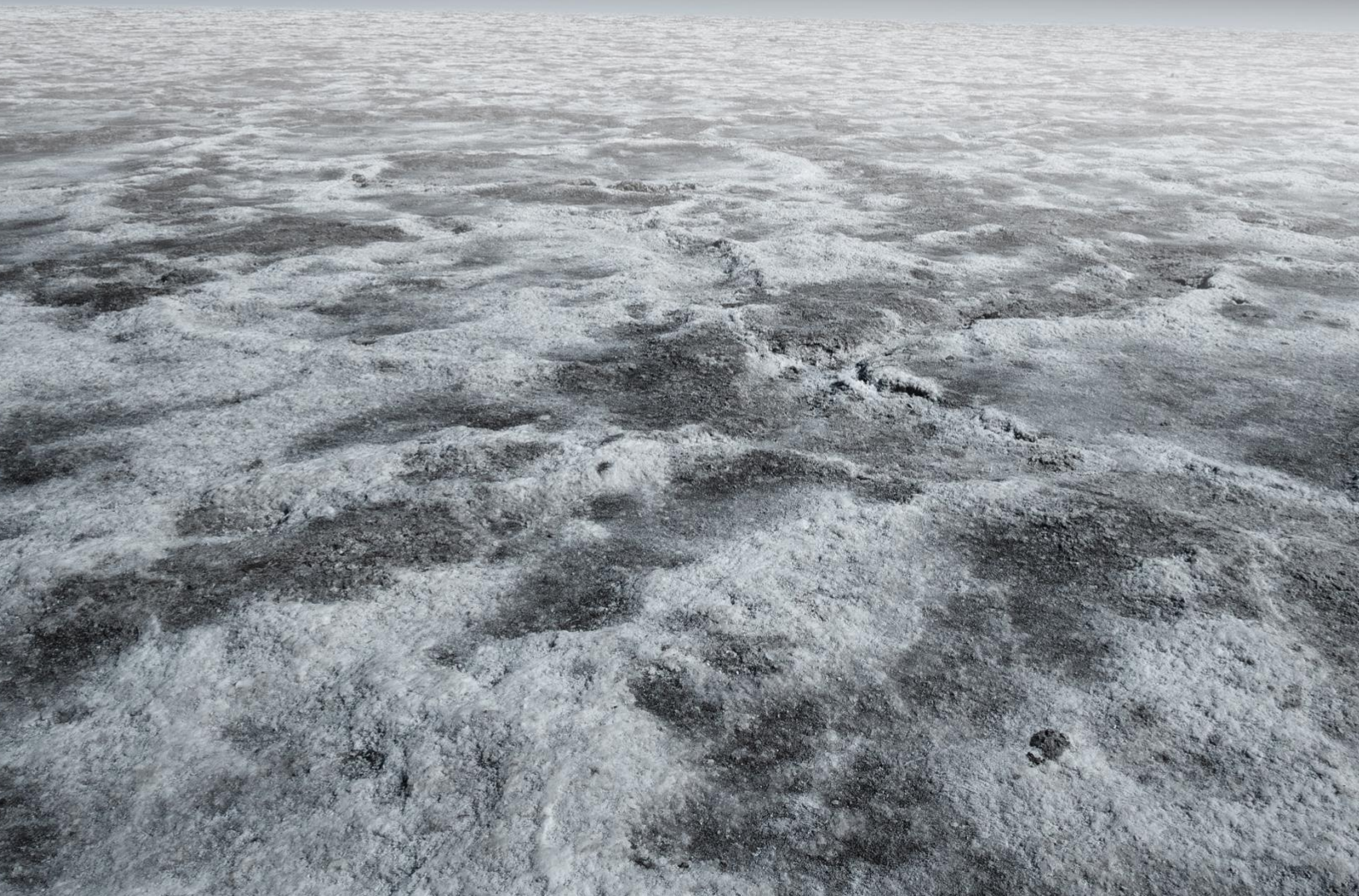




Project Application Guide

**Moonshot 4 Mining, Minerals & Manufacturing (M4M³) Call for
Projects**



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NGen Moonshot 4 Mining, Minerals and Manufacturing (M4M³) Call for proposal

1. Overview

Next Generation Advanced manufacturing Canada (NGen), an industry-focused, not-for-profit corporation dedicated to building world-leading advanced manufacturing capabilities in Canada.

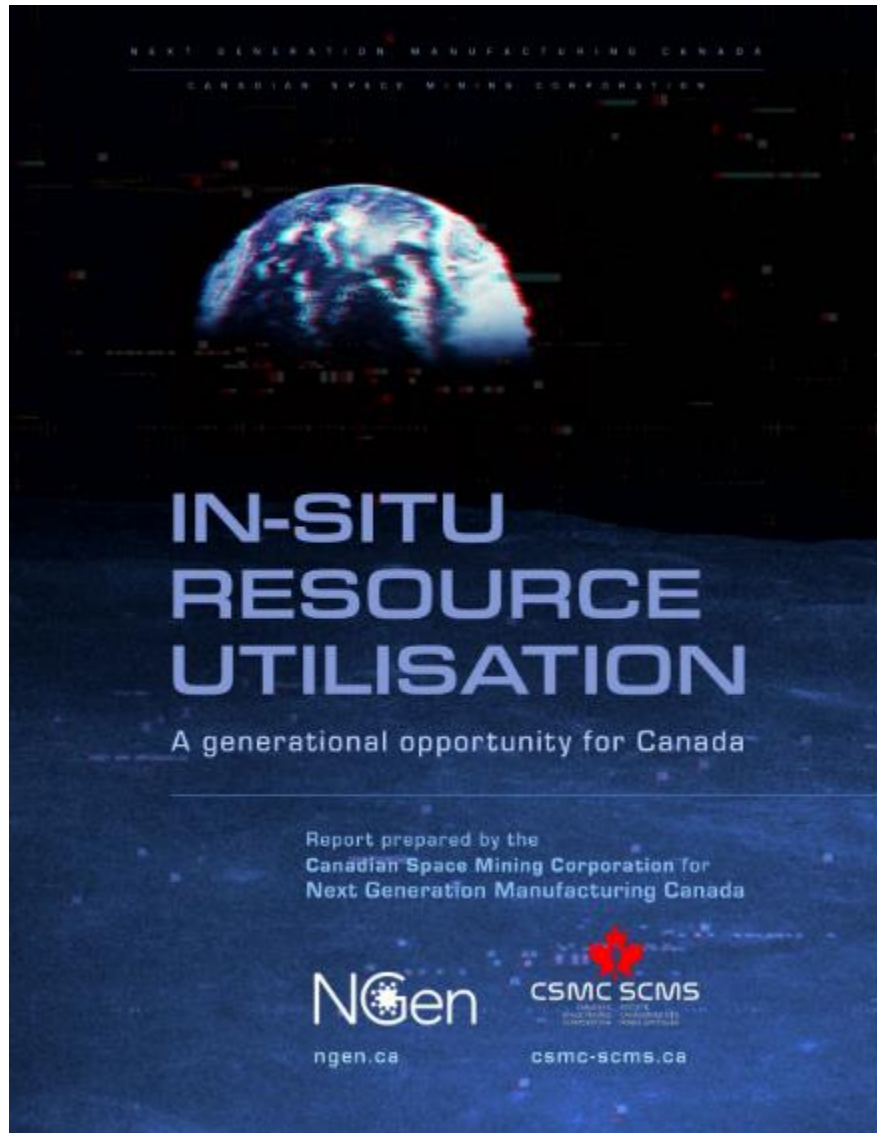
NGen aims to connect and strengthen collaboration among manufacturers and technology companies to accelerate the development and scale-up of transformative capabilities in Canadian advanced manufacturing.

The M4M³ program will support the development of novel In-Situ Resource Utilization (ISRU) solutions for mining, mineral processing, and advanced manufacturing for both the lunar and on earth environments. The solutions must have dual-use applications that will strengthen Canada's technological leadership in space and help revitalize the long-term competitiveness of our most important industrial sectors. It will lead to next-generation innovations leveraging Canadian strengths in fields like AI, robotics, quantum sensing, and advanced manufacturing that can be applied on both the moon and earth and that will have immediate and lasting impacts on environmental sustainability, productivity, talent and job creation in Canada's mining, mineral processing, and advanced manufacturing sectors.

a) The Challenge Goals:

NGen's M4M³ program is undertaken with the financial support of the CSA, following an [Announcement of opportunity](#) and through funding from the Government of Canada Global Innovation Clusters program of ISED (Industry, Science and Economic Development).

At the center of the new era of space activity is the development of in-situ resource utilization (ISRU): the practice of advanced manufacturing products with local materials, rather than relying on materials from Earth. Earth's gravity is too strong to perpetually fly resources into space. Here is a link to the ISRU final report: [https://www.ngen.ca/hubfs/M4M/20230822_In%20situ%20resource%20utilisation_REPORT_FINAL%20v2%20\(1\).pdf](https://www.ngen.ca/hubfs/M4M/20230822_In%20situ%20resource%20utilisation_REPORT_FINAL%20v2%20(1).pdf)



ISRU is intrinsically driven by sustainable, clean technologies for natural resource management, energy generation, and energy storage. It in-turn gives rise to transformative technologies with the potential to help reach global climate goals and clean energy transition within the next 10 years.

The innovations being developed for ISRU underlie some of Canada's most important industrial sectors: Natural resources prospecting, extraction and processing; advanced manufacturing and construction; aerospace; and energy production. Together these sectors represent over 40% of Canada's GDP and employ 2,626,000 Canadians.

In this challenge, NGen is targeting a co-investment with industry of up to \$5M million to promote ISRU solutions in mining, mineral processing and advanced manufacturing for earth and lunar environment.

NGen is looking to invest in projects that:

- Are focussed on ISRU development of critical resources that are found on both the moon and earth, with a focus on:
 - Mining
 - Mineral processing
 - Advanced manufacturing
- Are business-led, collaborative and ultimately aim to enhance the efficiency, agility, and competitiveness of Canadian manufacturers
Will be dual-purpose: support transformative innovation for Lunar and terrestrial industrial operations.
- Create jobs for a diverse and inclusive workforce skilled in the advanced manufacturing space sector, and contribute to environmental sustainability and supply chain resilience.

It should be noted that previous performance in NGen projects will be considered in project selection.

A portfolio approach looking at the balance of mining, mineral processing and advanced manufacturing projects will be taken as part of the assessment process.

b) Who is Eligible to Apply?

Any business member of NGen may submit an application for project funding or apply to be considered as a partner or co-investor in M4M³ (Moonshot 4 Mining, Mineral and Manufacturing) projects. Free registration to become an NGen member at www.ngen.ca/join.

- Recipients of M4M³ funding must be a business registered in Canada and have a value-added presence beyond a sales office.
- Funding recipients must be:
 1. for-profit organizations,
 2. not-for-profit organizations that facilitate and fund research and development on behalf of the ecosystem and whose funding and/or revenue is received primarily from private-sector or industry organizations,
 3. non-federal Crown corporations whose funding is derived from commercial activities, or
 4. indigenous organizations.
- Other publicly funded not-for-profit organizations, post-secondary institutions, federal Crown Corporations, and government departments or agencies are not eligible to receive funding directly, although they may bring their own contributions to projects or be sub-contracted by funded recipients to carry out project activities.
- International organizations (offshore companies and research organizations without a registered business presence in Canada) may also participate in M4M³ projects, but any project activity undertaken by these organizations may not be eligible for funding.

Involvement of the National Research Council of Canada (NRC)

NGen welcomes the participation of the NRC in its projects. The mechanism for the NRC to participate in a project would be through a subcontract to an industry partner.

There are options on how NRC will be treated in an NGen project:

- NRC will be part of the consortium Collaboration Agreement recognizing that they will bring value to the consortium, that may be bringing IP or are critical part of the project delivery.
- NGen will recognize the NRC as a partner in the publications and promotion of the project activity.
- NRC's portion of the project would be subcontracted directed by an industry partner – the agreement is solely between the industry partner and the NRC. NGen may recognize the NRC as a partner in publications and promotional activity as agreed to by the consortium.

2. Project Eligibility Criteria (Scope):

a) Project Areas

The M4M³ call for projects will support ISRU solution development and commercialization in three areas such as:

- Mining
- Mineral Processing
- Advanced manufacturing

If in doubt about the project scope and eligibility of a project idea, the NGen project team is available to provide support throughout the application process at m4m@ngen.ca

b) Funding distribution:

NGen is targeting a co-investment with industry of up to \$5M million.
NGen will reimburse 50% of total eligible project costs.

NGen is expected to fund anywhere between 7 to 12 projects, depending on their respective sizes:

- 1 project of approximate total value of \$2.2-\$2.6M related to one or a combination of the three ISRU areas. It is encouraged to consider more than one : mining, mineral processing or advanced manufacturing.
- 6 to 11 projects of approximate total value between \$250K to \$500K in the ISRU solution development and commercialization related to critical mineral processing and advanced manufacturing.

c) Project Requirements

The projects must be transformative, applied, enduring, and collaborative and meet the scope criteria below:

- **Transformative** – should have dual-usage (earth & space) as well an impact to mining, mineral processing and / or advanced manufacturing performance as well as the potential to confer a significant global competitive advantage to the Canadian industry.
- **Applied** – should have significant potential for commercialization.

- **Enduring** – should provide broader benefits to Canada's mining, mineral processing and / or advanced manufacturing ecosystem by helping promote Canadian space industry capabilities in advanced manufacturing, sharing industry knowledge, providing general education, training, and EDI opportunities, and/or enabling access to applied research, testing, and demonstration capabilities.
- **Collaborative** – project should demonstrate meaningful collaboration between partners, developing industry relationships, building trust and sharing in knowledge, risk, investment and the resulting benefits. Projects should involve the participation of multiple industry partners and must include a small and medium-sized enterprise (SME).

All projects must demonstrate the development or application of ISRU solutions in support of Canadian industry.

Projects must be in addition to the regular business undertakings of the applicants.

Project partners are expected to have in place a cyber security strategy with protocols for managing, protecting, and sharing data.

Projects must have the potential to deliver significant commercial benefits and jobs among project partners and beyond.

Projects must include at least one SME (Small, Medium Enterprise) partner. An SME is defined as an organization that has less than 500 employees globally.

Projects are expected to create jobs for a diverse and inclusive workforce skilled application in industry and contribute to environmental sustainability & supply chain resilience.

Project activities that are out of scope and will not be funded include:

- Activities where benefits accrue to a single firm or organization.
- Projects that would be undertaken at the same scale or scope and within the same timeframe without M4M3 funding.
- Projects that are entirely focused on mining, mineral processing and advanced manufacturing on earth, with no possible application to lunar ISRU.
- Projects that are entirely focused on space and lunar ISRU, with no possible application on Earth.
- Projects that are enabling ISRU but not linked to mining, mineral processing and advanced manufacturing (i.e. advanced manufacturing of communications systems, etc...)
- Projects that focus primarily on product development or the design of products themselves.
- Any routine or periodic changes made to existing products, production lines, manufacturing processes, services, and other operations in progress, even if those changes may represent improvements.
- Projects related to experimental or theoretical work without any direct commercial application or use.
- Production activities themselves or activities that subsidize full-scale production.
- Capital investment for purposes not related to the project.
- Activities that could be viewed as anti-competitive.

d) Financial Due Diligence

NGen will undertake a financial assessment of each participating project partner to ensure they will be able to support their commitment to the project for its entire duration. Factors which will be evaluated include but are not limited to: Profitability, Liquidity, Leverage/Indebtedness and Cashflow.

In the event the supporting financial information provided by the applicants is insufficient to demonstrate the ability to complete the planned project as proposed, NGen Canada will:

- Request additional information from the participating member,
- Reject the proposed program on the grounds that the project team does not appear to have the ability to fund the proposed project to completion, or,
- Approve the project for a reduced amount of NGen funding until such time the participating members can provide further assurances on liquidity.

e) Additional information

If in doubt about the project scope and eligibility of a project idea, the NGen project team is available to provide support throughout the application process at m4m@ngen.ca

Projects must also meet the Government of Canada's requirements for the following conditions by assuring that:

- The Project is not a "designated project" or a "project" under the Impact Assessment Act (S.C. 2019, c. 28, and the Applicants will ensure that the Project does not become a "designated project" under the Impact Assessment Act
- The Applicant is in compliance with Sanctions; and neither the Applicant nor any of its officers or directors is a Designated Person; and the Applicant will conduct its business at all times in compliance with Sanctions. "Sanctions" means economic or financial sanctions or trade embargoes imposed, administered or enforced from time to time by the Government of Canada (under the Special Economic Measures Act (S.C. 1992, c.17) or otherwise). "Designated Person" means a person that is (i) designed under the Special Economic Measures Act, or (ii) listed on any other Sanctions-related list maintained by the Government of Canada, or (iii) listed on any other Sanctions-related list or is a "designated person" under any applicable Canadian law

3. Funding:

Projects must involve at least two (2) unassociated Canadian industry partners (a lead and partner(s)) contributing to project costs.

Must include at least one (1) small to medium-sized (SME) company (an SME is defined as an organization that has fewer than 500 employees globally as a partner).

Project activities and expenses must be undertaken and incurred in Canada. Companies or organizations incorporated outside Canada are not eligible for M4M³ funding but may be involved as project partners. NGen will reimburse 50% of total eligible project costs.

Project Stream 1 : The projects linked to the ISRU solution of Mining, Mineral processing or Advanced manufacturing are expected to have total project costs between \$250k\$ and \$500k each. Any minor deviations to this will require written NGen approval. These projects will need to submit written answers to eight questions in their application.

Project Stream 2 : One larger scope project linked to the ISRU solution of Mining, Mineral processing or Advanced manufacturing is expected to be funded at a value of between \$2.4M to \$2.6M. Any minor deviations to this will require written NGen approval.

Projects in both stream 1 and stream 2 will need to submit written answers to eight questions in their application.

Eligible project costs will be defined in the Project Finance Guide available online : [Programmes de financement : Projets Moonshot | Ngén \(ngen.ca\)](#)

This call for proposals will support organizations in creating new ISRU advanced manufacturing capabilities. Capital expenditures of up to 30% of the total project costs will be allowed. Any minor deviations to this will require written NGen approval. The expenditure needs to support the project.

The total amount of sub-contracted or consulting costs cannot exceed 40% of total project costs, and the work must be performed in Canada.

Project partners cannot also be sub-contractors for labour services or consultants within the project.

No individual partner may receive more than 80% of NGen funding.

Projects are expected to be completed and all claims for eligible, paid expenses submitted by all partners by the 31st of March 2025.

a) NGen Admin fee:

NGen is a not-for-profit organization. Project administration fees are applied to projects as a condition of funding. The fee is a non-refundable project administration fee payable to NGen equal to 5% of the total cost of the project. Payment of the fee is a non-negotiable condition of project funding. 3.5% is payable at the point of project launch and 1.5% is payable within the subsequent 9 months. The fee enables NGen to support projects through its project monitoring and claims management process.

b) Challenge Timeline:

The web page, project guide and ISRU white paper will be available on November 7th 2023.

Projects must be registered on the Salesforce portal as early as possible so that NGen can screen for fit and alignment to the scope criteria.

The Salesforce portal will be open to receive project registrations on November 7th 2023.

i. First-round of application

The deadline to express your interest in submitting a proposal is January 11th 2024.

This is to enable NGen to ensure the project is in scope and complete the necessary financial due diligence. The Deadline for submitting the Financial Due Diligence is January 16th 2024.

The First-round application deadline is : January 18th 2024, 5PM Eastern

Failing to meet this deadline will mean the proposal will not be considered for funding until the second round. In this stage the applicants will complete all the application questions and include appendices and submit to NGen for final application.

Applicants will be notified of results, and contracting will begin week of February 5th 2024.

ii. Second-round of application (only if funding is still available after Round 1)

The deadline to express your interest in submitting a proposal is February 15th 2024, 5PM Eastern

This is to enable NGen to ensure the project is in scope and complete the necessary financial due diligence. The Deadline for submitting the Financial Due Diligence is February 16th 2024.

Second round application deadline (If needed): February 22nd 2024, 5PM Eastern

This is to enable NGen to ensure the project is in scope and complete the necessary financial due diligence.

In this stage, any applicant not accepted in the first round can incorporate relevant NGen feedback and resubmit for the second round, if funding remains available.

Failing to meet this deadline will mean the proposal will not be considered for funding. In this stage the applicants will complete all the application questions and include appendices and submit to NGen for final application.

Applicants will be notified of results, and contracting will begin in March 2024.

c) Applying for Project Funding:

A dedicated portal for applications can be accessed by NGen Member organizations on November 7th 2023. The portal is required to enter the project information.

To apply for funding, start by joining NGen as a member: www.ngen.ca/join
Then apply for funding within the NGen portal.

It is recommended that the project be registered early on the NGen Grant Management portal (*Salesforce*) so that NGen can review and support the project through the screening process. This is to ensure that the project is eligible for funding before completing the full application.

i. NGen Support for Project Applications

NGen's project team are available to assist in the development of project applications prior to their assessment. NGen staff may assist by:

- Providing high-level advice and guidance with respect to scope criteria, funding rules, eligible activities, and project requirements, and draft responses to the eight questions.
- Identifying potential project partners.
- Identifying other sources of funding for project activities.

Resources are limited, and the support will be provided on a first-come, first-serve basis. Support can be requested by email at: m4m@ngen.ca

Emailing confidential or sensitive documents is not recommended. NGen can support the review of project information through the secure portal with Salesforce or via a SharePoint secured folder.

ii. Partner Collaboration Portal

NGen has set-up a collaboration portal that will support projects in finding partners.

Companies can post information related to the project and the types of partners they are looking for.

The portal can be accessed through the Challenge main page:

iii. Project Screening

NGen will screen all proposals to ensure they meet basic eligibility requirements for projects.

Applicants will be asked to:

- Complete an Application Agreement – template here [Programmes de financement : Projets Moonshot | Ngén \(ngen.ca\)](#)
- Certify that they have read, understand, and are willing to comply with NGen's project requirements.
- Describe the purpose of their project and how it contributes to ISRU and advanced manufacturing capabilities in Canada.
- Indicate that their project is collaborative and identify the lead private sector partners.
- Certify that private sector partners looking for funding are incorporated in Canada and that the project will be carried out in Canada.
- Certify that the project team has or will develop cyber security plans.
- Certify that their project would not be undertaken in the same form without funding.
- Provide an estimate of project costs and indicate that they are willing to invest in the project within the timelines of NGen's funding horizon.
- Certify that they have adequate financial means and project management capabilities to carry out the project.
- Confirm that there is an SME in the project.
- Attest that they follow Canadian Sanctions and Environmental Assessment regulations.
- Agree to provide information necessary for NGen to conduct Financial Due Diligence.

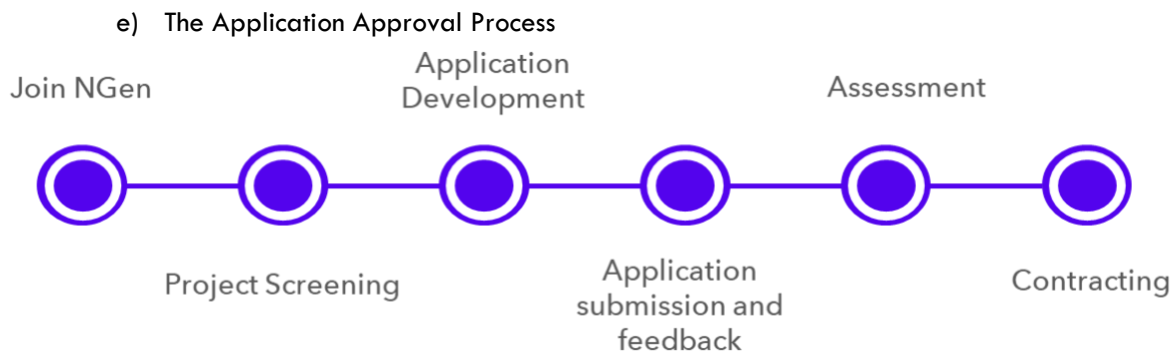
d) Financial Due Diligence

NGen will undertake a financial assessment of each participating project partner to ensure they will be able to support their commitment to the project for its entire duration.

Factors that will be evaluated include but are not limited to Profitability, Liquidity, Leverage/ Indebtedness, and Cashflow.

If supporting financial information provided by the applicants is insufficient to demonstrate their ability to complete the planned project as proposed, NGen Canada will:

- Request additional information from the participating member.
- Reject the proposed program because the project team does not appear to have the ability to fund the proposed project to completion, or
- Approve the project for a reduced amount of NGen funding until such time the participating members can provide further assurances on liquidity.



Applicants who meet eligibility requirements as part of Project screening will be invited to apply.

The application consists of:

Stream 1 : Answers to eight questions for project value between \$250k-\$500k- maximum 4000 characters per question.

Stream 2 : Answers to eight questions for project value between \$2.2M-2.6M value projects – maximum 7000 characters per question.

To ensure that the level of information provided is fair for all applicants:

- Any information provided above 4000 characters for \$250k-500k\$ projects or 7000 characters for \$2.2-2.6M value projects will not be sent out to the assessors.
- No external links are allowed.
- Additional information, such as reports are not allowed to be submitted in the appendices.
- Please include any information in the application's questions and cite a suitable reference if appropriate.
- Consider utilizing graphs and charts, as they will not count toward the total word count. Text-heavy tables will count towards the question word count.

The questions can be answered within the portal or by providing answers on this application questions template and uploaded in the section for eight questions.

Four (4) appendices

1. Intellectual Property Plan (DOC, PDF)
2. Project Plan (DOC, XLS, MSP, PDF)
3. Risk Register (DOC, XLS)
4. Financial Workbooks – one for each partner

Templates for the Project IP Plan, Financial Workbook, and Application Agreement are available online : [Programmes de financement : Projets Moonshot | NGen \(ngen.ca\)](#).

There are no templates for the Project Plan or Risk Register; the company is expected to use the project management tools available within their company.

Each project application will be assessed based on eight questions by up to 5 independent assessors.

Responses are equally weighted in assessments.

Applications will be scored out of 80 marks (10 marks per question) by independent experts.

The assessors will answer two yes/no gateway questions.

- Is the project in scope for funding for this challenge?
- Is the project recommended for funding based on the overall application?

If the majority of assessors answer no to either gateway question, the application will not be considered for funding, regardless of the overall score. It is recommended throughout the application process that advice is sought from the NGen project team to ensure the project meets the scope criteria.

i. Independent Expert Assessment Panels

All project proposals will be subject to an independent assessment process undertaken by up to five external experts. The expert assessment panels will ensure that approved projects are of high quality, meet NGen's strategic objectives, and are selected fairly. These panels may also include Government representatives.

NGen funding is limited. NGen aims to fund the highest quality projects based on an independent assessment of industry experts.

NGen reserves the right to take a portfolio approach across the call for proposal project areas.

NGen's external experts include former CEOs of advanced manufacturing and technology companies, former senior advanced manufacturing, engineering, and technology executives, senior personnel at universities and colleges, and executives from business consulting organizations.

The identity of experts participating in individual project assessments will be kept confidential. Assessors will sign non-disclosure agreements and conflict of interest disclosures to ensure independence and confidentiality.

ii. Acceptance or Rejection

Following an Assessment and Recommendation from the Independent assessors, NGen staff will advise all applicants directly if their project has been successful or not.

iii. Feedback

All applicants will receive feedback from the assessment process, outlining why they were approved or not, and provided recommendations to strengthen their application.

4. Assessment questions

To satisfy these requirements, project applicants must answer a total of eight questions that will inform the assessment process.

To the best of your ability, please address the guidance provided for each question.

Please include any other pertinent information not covered in this guidance.

This guidance is to be answered by all applicants, not just the lead partner, so that the impact and anticipated benefits that will accrue within the consortium are well defined.

Throughout the application, provide information specific to the project and, where possible, quantify and provide evidence for the statements.

The response guidance below each question guides the project team on how to respond to the questions. Please respond to all relevant guidance and add additional points of relevance to the question to strengthen your proposal.

Stream 1

\$250k-\$500k total project value - (4000 characters per question)

Stream 2

\$2.4M-\$2.6M total project value - (7000 characters per question)

Q1 . What is the opportunity the project addresses?

Response guidance:

- Outline the big-picture motivation and describe the objectives that this project intends to achieve.
- Describe how this project aligns to at least one of the three scope areas :
 - Mining,
 - Mineral processing and / or
 - Advanced manufacturing.
- Describe how the project develops ISRU solutions aligned to one or more of the three scope areas defined.
- Provide an overview of the project considering both technology and business impacts, highlight other strategic benefits.
- Outline the gap and or opportunities that the project will be addressing in growing and strengthening Canada's ISRU capabilities.

Describe in detail the solution being deployed and what it is intended to do outlining:

- How the solution is being implemented, with both Lunar and Earth dual usage.
- The current stage of development.
- If the solutions are new or existing applications.
- Clearly describe the project partners and how the partners will collaborate towards achieving the overall opportunity the project addresses.

Q2. What is transformative about the project and how does it impact both Terrestrial and Lunar applications in mining, mineral processing and / or advanced manufacturing?

Projects must be globally transformative in nature. This is a core pillar of NGen projects. Projects that are not adequately transformative will be deemed out of scope for funding, regardless of the quality of the rest of the proposal.

- Identify the extent to which the project is transformative from both a technical and business (e.g., business models, processes, and practices) perspective.
 - Outline the current state-of-art for mining, mineral or manufacturing processes and technologies and describe how this project pushes the boundaries.
 - Explain how the project has the potential to transform or support the transformation of each partner organization.
- Provide evidence for the above statements. This could include the results of:
 - patent searches,
 - competitor analyses,
 - literature surveys,
- If applicable, you should also outline your background intellectual property rights, as related to the project. Describe the plan and rationale for the protection of IP and sharing of IP among your consortium partners and, beyond this, with other NGen members.

Q3. What economic benefits is the project expected to deliver to those inside and outside the consortium and over what timescale?

Response guidance:

Projects must deliver significant economic benefits to the partners involved.

- Identify the economic benefits the project will have for participating project partners and other suppliers/partners inside and outside the project.
- Revenue
 - Outline the terrestrial economic impact - Include tables (included in Salesforce) showing the expected revenue that will be generated for each partner over:
 - the duration of the project,
 - 0-2 years after the project, and
 - 3-5 years after the project.
- Outline the potential longer-term terrestrial and lunar economic impact – (table not included in Salesforce) showing the expected revenue that will be generated for each partner over a 6-10 year timeframe or longer as appropriate. Direct and indirect jobs Include a table (included in Salesforce) showing the job impact for each project partner (and if appropriate for suppliers):
 - over the duration of the project,
 - 0-2 years after the project and
 - 3-5 years after the project.

Also include the longer-term impact to direct and indirect jobs (table not included in Salesforce) over the 6-10 year timeframe or longer as appropriate.

Please identify:

- the number of direct jobs created, and
- the number of direct jobs safeguarded,
- the number of indirect jobs created within the supply chain (consider referencing multiplier effects based on direct jobs),
- the number of indirect jobs safeguarded.
- Highlight the type of jobs that the partners will create.

- Indicate any additional commercial opportunities arising from the application of the technology solutions and use cases involved in the project.
- Will the project create spin-off business opportunities (new businesses, new or expanded supplier or partner relationships) in Canada?

The economic case can be further strengthened by representing additional direct and indirect economic benefits. Examples include:

- The potential economic opportunity to implement the solutions in multiple industry sectors.
- The economic value associated with:
 - Efficiency gains
 - Reduced downtime
 - Reduced footprint
 - Positive environmental benefits
 - Reduced material usage
 - Higher quality output
 - Reduced scrap and warranty.

Q4 How will the results of the project be commercialized?

Please ensure there is a compelling commercialization plan describing how this proposal's benefits will be achieved.

- The commercialization plan should highlight the new business opportunities anticipated by each partner in collaboration and individually.
 - Describe what will be commercialized, such as new or improved:
 - Products,
 - Services,
 - Processes,
 - Capabilities and
 - Applications
 - The potential to commercialize the outcomes in the existing market, future or adjacent markets should be considered.
 - Describe the market(s) for the ISRU solution(s) adopted in this project.
 - Consider including:
 - the target market,
 - the market size,
 - potential margins,
 - market leaders,
 - key competitors,
 - price competition,
 - barriers to entry.
 - Provide a description of how each of these outputs will be achieved along with a timeline for commercialization.
 - Consider:
 - A roadmap showing the route to market, including details of specific channels being targeted, and estimated timelines.
 - The number of manufacturers or facilities the ISRU solution will be implemented in.
 - Highlight your competitive advantage and value proposition.

- Include insights into the sales and marketing plan aligned with the direct and indirect economic benefits.
- The plan for managing Intellectual Property (appendix 1). (Please note: IP is not just patents and includes trade secrets, know-how, copyrights, industrial design, etc).
- Outline the plan for protecting and sharing IP among your consortium partners and, if appropriate, beyond this with other NGen members.
- Include a patent filing plan for domestic and foreign jurisdictions.
- Describe opportunities to commercialize the Intellectual Property, including the license to manufacture, licensing of IP, or direct sales.

o Outline any other commercial spill-over opportunities and highlight how your activities will contribute to the wider industry and other sectors.

Q5 What is the impact on the broader Canadian Ecosystem?

Response guidance:

Projects must provide enduring ecosystem benefits. Benefits cannot accrue to one partner; the project must leave a legacy beyond the partners for Canadian industry. It is important to highlight any workforce development and Equity, Diversity & Inclusion (EDI) opportunities practiced by the partners.

- Describe how the project will help promote Canadian capabilities and create a widespread positive impact leaving a legacy in advanced manufacturing in Canada for the partners and beyond (consider how the project impacts beyond the partners, throughout the supply chain, and internationally). To highlight this, consider the following:

Describe any other benefits that might be achieved because of this project, for example:

- Describe any expected positive social impacts, for example:
 - Diversity and inclusion, including activities that will be undertaken to ensure that women and underrepresented groups are meaningfully represented in, and benefit from the project
 - Enhanced quality of life
 - Social inclusion
 - Health and safety
- Outline the environmental improvements and impacts as an outcome of this project, examples include:
 - GHG, Particulate Matter reduction
 - Process and Resource Efficiency
 - Better Energy Management
 - Reduced Volatile Organic Compounds
 - Reduced Land degradation
 - Reduced Water usage
 - Footprint Reduction
 - Reduced emissions due to more efficient and optimized transportation and distribution within the supply chain
 - Use or Creation of Sustainable Materials
 - Reuse, Recycle, and remanufacture
 - Other Life cycle benefits
 - Other sustainability opportunities
- Describe other benefits that may arise from the project, for example:
 - Regulatory,
 - certification,
 - standards development,
 - supply chain transparency,
 - workforce development,
 - industry

knowledge, • tools, • testbeds, • collaborative networks, • infrastructure support, and • regional and policy benefits, etc.

Q6 What is the overall project plan and what is the overall risk management plan?

Response guidance:

- Describe the overall Project Plan, identifying key project management tools and mechanisms (e.g., Quality Management Systems) that will be implemented to provide confidence that sufficient control will be in place to deliver the project on time, within budget, and according to the specifications.
- Provide a summary of the project, including work package descriptions, a description of the key project milestones, resource, and management requirements, and key metrics to measure success.
- As part of Appendix 2 provide a detailed project plan consisting of a Gantt chart that details the Work Packages, tasks, timelines, milestones, deliverables, dependencies, and resource allocation for all partners.

The assessment and scoring for this question will consider both the written answer and appendix 2. In evaluating the project plan, the assessors will consider the following:

- Is there sufficient detail provided when considering the complexity of the project?
- Is there sufficient detail to understand the tasks involved and the resources required?
- Is the timing of key milestones realistic?
- Is there a demonstration of sufficient resource commitment and capability to undertake the project?

NGen recognizes that projects of this type are inherently risky and therefore seeks assurance that the projects it funds have adequate arrangements for managing this risk.

- Describe the Risk Management approach, including the management tools and mechanisms to identify, evaluate and address the project risks.
- Key risks identified in the risk register can be elaborated upon as part of the answer to this question.

Provide a comprehensive risk analysis as part of the risk register appendix 3.

- Identify the key risks within the project. Please provide enough information in the risk statement so that the cause, uncertainty, and effect are clear.
- Provide an analysis of the likelihood and impact of each risk.
- Identify the management strategies for each risk. Strategies can include:- Avoid, Transfer, Mitigate (reduce), Accept (and manage).
- For complex, high-risk projects, it would be advantageous to provide the effect of each risk management strategy in terms of the residual risk.
- Include at least the following risks categories:
 - Technical,

- Commercial,
- Managerial,
- Resource
- Financial,
- Intellectual Property
- All relevant risks should be identified. Additional risks categories could include and are not limited to:
 - Freedom to Operate,
 - Safety,
 - Regulatory,
 - Legal,
 - Environmental
 - Supply chain risks.
- Assessors will be looking to see that all key risks are identified and that there is sufficient risk in the project to warrant NGen funding.

Q7 Describe the collaboration and the partner skills, experience, resources, and access to facilities to deliver the identified benefits?

Response guidance:

Projects must demonstrate meaningful collaboration. This is a core pillar of NGen projects. Projects that do not adequately demonstrate collaboration will be deemed out of scope for funding, regardless of the quality of the rest of the proposal.

- Describe the collaborative nature of the project and how the consortium working together will achieve more than if they were working individually.
- Describe how the project partners will develop relationships, build trust, and increase knowledge sharing.
- Describe any additional collaborative activities related to suppliers, sub-contractors, and academic or research organizations involved in the project. Academic and research institutions will be recognized as contributing partners to the project, even though they cannot be formal industry partners.
- Consider using the IP Plan (Appendix 1) to demonstrate the nature of the collaboration in terms of the licensing and access to background and foreground IP during and after the project.

Describe the track record of the project team members in undertaking and exploiting the results of research and development projects.

- Consider whether:
 - the project team has the right available mix of skills and experience to deliver the project successfully. Provide a high-level description of the partner's track record in achieving similar R&D projects.
 - there are appropriate management reporting and governance structures between the consortium partners to manage and deliver the project. Consider including a governance structure diagram.

- there is appropriate access to facilities and resources, including identifying and allocating appropriate space and infrastructure for the project to be successful (consider floor space, specialized equipment needs, specialized resources, etc).

Q8 Why is NGen funding being requested, and what is the financial commitment for the project?

Response guidance:

Projects must clearly articulate why NGen funding is being requested, how it will benefit the project, and demonstrate that the project activities are in addition to the regular business undertakings of the applicants.

Questions to consider:

- Will the project's technical or commercial scope be affected by NGen support?
 - Why is NGen funding critical to undertake the project as proposed?
 - Does NGen funding allow the project to be undertaken differently (more quickly, at a larger scale, with more partners)?
 - Would the collaborative partnerships have been formed without the project?
 - Is the project too risky for commercial investors?
- Provide a breakdown of the costs per work package and by milestone, showing how it aligns with the project plan. Consider adding this to appendix 2 or described in this section.
 - Using the Financial workbooks (appendix 4), indicate the anticipated project costs, making clear the level of contribution from all project participants and the level of funding required from NGen.
 - Supporting information and an explanation of extraordinary or specialized project costs should be provided in this section.
 - For each partner, ensure that all key points relating to these costs are described per cost category.
 - Ensure that project funding is not subsidizing production.

Consider:

- **Labour:** Justification for the use of labour with especially high rates.
- **Subcontract:** Explain the reason for and use of subcontractors, their impact on the project, and why they are not formal project partners.
- **Equipment:** It is essential that:
 - The equipment purchase is directly linked to the project goals. This can include pilot production, where the project team is proving out the new AI capabilities.
 - It is creating a new capability that does not already exist within the organization.
 - It is not the purchase of multiple similar pieces of equipment that would be seen as subsidizing future production activities.

- Considering the points above, please describe the capital required with a justification of why it is necessary to achieve the goals of the project and a rationale for any pieces of capital equipment exceeding \$1M CAD (Please note: these costs require the Government of Canada approval).
 - **Materials:** Please explain any excessive amounts of material or the use of expensive materials. The amount of material listed should be for the project's R&D aspects and for the prove out of the AI capability.
- It is recognized that other funding sources may be required to complete the project. Specify other government or private sector funding sources necessary to achieve the project goals.
- Please identify any potential follow-on funding from government or private sector sources.
- To further enhance the value for money case, please outline if the project has the potential to attract future private sector investment in the short, medium, and long term. Describe how the project can help attract, retain, and promote industry investment in Canada.

In evaluating this question, the assessors will consider the following questions:

- Has the project presented a clear case that these activities are in addition to regular business undertakings?
- Has a realistic budget breakdown been provided, and is the budget realistic and reasonable for the scale and complexity of the project?
- Is a financial commitment from other sources demonstrated for the balance of the project costs?
- Is the project providing value for money for NGen funding? Considering the project's total potential impact and return against the amount of funding being requested.

5. Documents Required for Assessment

Compliant projects that have provided the following information will be sent for assessment. If documents or information is missing NGen will not assess the project.

- Signed Application Agreement template - – template available online.
- Answers to all eight application questions
- Appendix 1 - Intellectual Property Plan – see IP plan guide and tables
- Appendix 2 - Project Management Plan
- Appendix 3 - Risk Register
- Appendix 4 - Financial Workbook template – one for each partner – template available online.

6. Upon Agreement

- Upon the final recommendation of the independent assessment panel, NGen will conclude a Master Project Agreement (MPA) with selected funding recipients detailing project requirements, reporting, and NGen's compliance obligations.
- There must be a Collaboration Agreement in place among the members of project consortia defining the roles of project partners and joint risk management provisions.

- The Collaboration Agreement must also set out how foreground IP arising in the project will be shared among project partners. In addition, project participants must indicate the types of foreground IP they would be prepared to share with other NGen members, to whom, and on what conditions.

7. Templates guides and reference documents

Available for download here : [Programmes de financement : Projets Moonshot | Ngén \(ngen.ca\)](#)