

Application Guidance for Projects between \$1.5 Million and \$8 Million

Applicants who meet eligibility requirements will be invited to submit an application providing:

- Names and contact information for each partner in the project
- The name of the leading project partner (this information may be disclosed publicly)
- A short title and description of the project to a maximum of 300 words (this information may be disclosed publicly)

Answer Ten Questions

- Guidance available below.
- Maximum 7,000 character including spaces answers for each question. No external links allowed.
- Two (2) appendices
 1. Project Plan (DOC, XLS, MSP, PDF)
 2. Risk Register (DOC, XLS)
- The application also includes details for:
 - m IP Plan - Template for the Project IP Plan Template Table is available on Salesforce.
 - m Financial Workbooks – one for each partner will be input into Salesforce fields in the application portal.

There are no templates for the Project Plan or Risk Register.

Graphs, charts, and images can accompany the application.

Applications will be assessed and scored by external independent experts.

Ten Assessment Questions – Guidance

1. What is the opportunity the project addresses?

RESPONSE GUIDANCE

- *Outline the big-picture motivation and the overall advanced manufacturing objectives that the project intends to achieve.*
- *Provide an overview of the project considering both technology and business impacts, highlight other strategic benefits.*
- *Outline what the project team needs to do to successfully achieve the project objectives within the desired timeframe and budget. What are the specific challenges, research questions, and/or technical complexities that need to be addressed within the timeframe of the project?*
- *Describe the nature of the challenges facing you and/or your potential customers, along with the potential market challenges or barriers to entry that the project addresses.*
- *How will the outcomes of the project overcome these challenges?*
- *Clearly describe the project partners and how the partners will collaborate towards achieving the overall opportunity the project addresses.*

2. What is transformative about the project?

RESPONSE GUIDANCE

- *Clearly define the transformative advanced manufacturing aspects of the project and what new knowledge pertaining to advanced manufacturing is being created by each partner organization.*
- *Identify the extent to which the project is transformative and innovative both technically and commercially:*
 - *Are the technologies new or are you looking to apply existing technologies to develop unique transformative manufacturing solutions?*
 - *Outline the current state-of-art manufacturing processes and technologies for your industry (or sector) and describe how this project pushes the boundaries in the context of advanced manufacturing*
 - *Will the project lead to technological and business advantages that will allow Canadian companies to leapfrog global competitors and become world leaders in the application and/or production of advanced manufacturing technologies?*
 - *Describe how the project could be recognized globally as conferring or strengthening Canadian leadership in advanced manufacturing.*
- *Explain how the project has the potential to transform or support the transformation of **each partner organization**.*
- *Describe any novel research that will be undertaken as part of the project. Highlight and explain the timeliness and novelty of these research aspects of the project in an industrial context.*
- *Outline your own background intellectual property rights, as related to the project, and include results of a Freedom to Operate search.*
- *What is the plan and rationale for the protection of IP, and or sharing of IP among your consortium partners and, beyond this, with other NGen members? (IP Strategy Appendix 3)*
- *Provide evidence for the above statements. This could include the results of:*
 - *patent searches,*
 - *competitor analyses,*
 - *literature surveys,*
 - *benchmarking,*
 - *strategic analysis/roadmaps.*

3. What is the nature and size of the potential market the project will address?

RESPONSE GUIDANCE

For each project partner, describe the market(s) that you are entering with the development of a new Advanced Manufacturing Technology OR Describe the existing market that you are operating within and how this advanced manufacturing opportunity will enhance your competitive position within the market.

- Consider including details of:
 - the target market, including the size, margins, market leaders, key competitors, price competition, barriers to entry
 - dynamics of the market(s) including historical and projected growth rates
 - quantify the market differentiators for your project outcomes
 - identify and analyze adjacent markets where the new knowledge could be commercialized
 - the specific target product, platform and service applications underpinning the market
 - the expected share of market to be captured because of this project
 - the opportunity timeline and when you expect benefits to be realized
 - the impact of the project on existing or future customer relationships
- Provide evidence for your statements about the market opportunities your project opens.

4. How will the results of the project be commercialized?

RESPONSE GUIDANCE

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,
 - Intellectual property, and
 - Applications
- Describe the potential to commercialize the outcomes in the existing market, future, or adjacent markets as defined in Question 3.
- 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.
 - The number of manufacturers or facilities the technology 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 (benefits to be described further in the response to Question 5.)
- Describe the plan for managing and commercialization of the Intellectual Property, including the license to manufacture, licensing of IP, manufacturing, or direct sales in your IP Plan (Appendix 3). (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, if applicable.
- Outline any other commercial spill-over opportunities and highlight how your activities will contribute to the wider industry and other sectors.

- Describe the manufacturing supply chain upstream and downstream impacted by this project and how the commercialization activities will support Canadian Manufacturing.

5. 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. Identify the economic benefits the project will have for participating project partners and other suppliers/partners inside and outside the project. How does the partnership help each partner achieve greater economic growth?

Consider:

- The impact over the duration of the project, 0-2 years after the project and 3-5 years after the project.
- If there are multiple manufacturers/facilities that could benefit from implementing the technology.
- Include tables showing the expected additional 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.

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 manufacturers/facilities
- The economic value associated with:
 - Efficiency gains
 - Reduced downtime
 - Reduced manufacturing footprint
 - Positive environmental benefits
 - Reduced material usage
 - Higher quality output
 - Reduced scrap and warranty.

Include a table 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.

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

Indicate any commercial opportunities for other manufacturers/industry sectors arising from the application of the technology. Define the economic benefits that the project can have on the whole Canadian supply network upstream and downstream.

Will the project create spin-off business opportunities (new businesses, new or expanded supplier or partner relationships) in Canada?

6. What is the impact on the broader advanced manufacturing ecosystem and Canadians?

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 manufacturing. It is important to highlight any workforce development and Equity, Diversity & Inclusion (EDI) opportunities practiced by the partners.

- Describe how the project will create widespread positive impact, leaving a legacy for advanced manufacturing in Canada for the partners and beyond (considering how the project impacts beyond the partners and throughout the supply network).

Social Benefits

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

Environmental Benefits

Outline the environmental improvements and impacts as an outcome of this project. Consider:

- 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 more efficient and optimized transportation and distribution within the supply chain
- Use or creation of sustainable materials
- Reuse, recycle, and remanufacturing
- Other life cycle benefits
- Other sustainability opportunities

Describe any other benefits that might be achieved because of this project.

- Regulatory,
- certification,
- standards development,
- supply chain transparency,
- workforce development,
- industry knowledge,
- collaborative networks,
- infrastructure support, and
- regional and policy benefits, etc.

7. What is the overall project plan?

A project plan that outlines the necessary steps and includes a Gantt chart should be uploaded separately onto the Salesforce portal

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 1 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, and work package costs.

The assessment and scoring for this question will consider both the written answer and Appendix 1. 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 the key milestones realistic?
- Is there a demonstration of sufficient resource commitment and capability to undertake the project?
- Is the Project Plan aligned with the costs described in the response to Question 10?

8. What is the overall risk management plan?

A Risk Register should be uploaded separately onto the Salesforce portal.

RESPONSE GUIDANCE

NGen recognizes that projects of this type are inherently risky and therefore 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 2.
- 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 and provide a relative ranking for 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.

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

RESPONSE GUIDANCE

- 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.
- Demonstrate that there are appropriate management reporting and governance structures between the consortium partners to manage and deliver the project. Consider including a governance structure diagram.
- Consider using the IP Plan (Appendix 3) to demonstrate the nature of the collaboration in terms of the licensing and access to background and foreground IP during and after the project.
- Demonstrate that the consortium has the right skills and experience to deliver the project successfully.
 - Include a high-level description of the partner's record of accomplishment in achieving similar projects.
- Describe the accomplishment of the project team members in undertaking and exploiting the results of projects to show your capability to develop and commercialize the technology.
- Demonstrate appropriate access to facilities and resources, including identifying and allocating appropriate space and infrastructure for the project to succeed (consider floor space, specialized equipment needs, specialized resources, etc.).

10. 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 1 or described in this section.

- Using the Financial workbooks, 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 providing additional explanation of the eligible costs in the finance workbooks. Including:

- **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.*
 - *The equipment is linked to the R&D capabilities supporting the creation of a new advanced manufacturing capability. It cannot subsidize full production.*
 - *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 pre-approval).*

Materials: *Please explain any excessive amounts of material or the use of expensive materials. Projects are not intended to subsidize production; the amount of material listed should be for the purposes of the project's R&D aspects. It should be linked to the prove-out of the advanced manufacturing 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.*
- *To further enhance the value for money case, please outline if the project has the potential to attract future government or private sector investment in the short, medium, and long term*
- *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.*

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 projects 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 members of the Global Innovation Cluster, to whom, and on what conditions.

Templates

[Application Agreement.pdf](#)

[Project IP Plan Template Tables](#)

References

[NGen Intellectual Property Strategy](#)

[Project IP Plan Guide for Applicants](#)

[Finance Guide](#)