PRIMA Quebec-NRF Joint Research Program Proposal 2023

|  |
| --- |
| **I – APPLICATION SUMMARY [[1]](#footnote-1)** |

|  |  |
| --- | --- |
| **Project title:(IN ENGLISH)**  |  |
| **Project title:(IN FRENCH)**  |  |

|  |  |  |
| --- | --- | --- |
| **Principal Investigator (Québec)** | Name:Phone:Email:Research unit: | Organization:Address: |

|  |  |  |
| --- | --- | --- |
| **Principal Investigator** **(Korea)** | Name:Phone:Email:Research unit: | Organization:Address: |

|  |  |  |
| --- | --- | --- |
| **Signatures and dates (Québec)** |  |  |
| SignatureMain academic | Print Name and SignatureVice-rectorate or research office |

|  |  |  |
| --- | --- | --- |
| **Signatures and dates (Korea)[[2]](#footnote-2)** |  |  |
| SignatureMain academic |  |

|  |
| --- |
| **Academic partners or public research center - Québec** |
| **Contact** | **Establishment** | **Main activity** |
| 1  | Name:E-mail:Phone:Research unit: | Name:Type: Choisissez un élément. |  |
| 2 | Name:E-mail:Phone:Research unit: | Name:Type: Choisissez un élément. |  |
| 3 | Name:E-mail:Phone:Research unit: | Name:Type: Choisissez un élément. |  |

|  |
| --- |
| **Academic partners or public research center - Korea** |
| **Contact** | **Establishment** | **Main activity** |
| 1  | Name:E-mail:Phone:Research unit: | Name:Type: Choisissez un élément. |  |
| 2 | Name:E-mail:Phone:Research unit: | Name:Type: Choisissez un élément. |  |
| 3 | Name:E-mail:Phone:Research unit: | Name:Type: Choisissez un élément. |  |

|  |
| --- |
| **Business partners - Québec** |
| **Main contact** | **Main activity** | **Additional information** |
| 1  | Business:Name of the contact:E-mail:Phone: | Main activityProduction and/or R&D in Québec: [ ] Yes [ ] No  | Business number (NEQ): Number of global employees:Number of employees in Québec:Number of R&D employees in Québec: |
| 2 | Business:Name of the contact:E-mail:Phone: | Main activityProduction and/or R&D in Québec: [ ] Yes [ ] No  | Business number (NEQ): Number of global employees:Number of employees in Québec:Number of R&D employees in Québec: |
| 3 | Business:Name of the contact:E-mail:Phone: | Main activityProduction and/or R&D in Québec: [ ] Yes [ ] No  | Business number (NEQ): Number of global employees:Number of employees in Québec:Number of R&D employees in Québec: |

|  |
| --- |
| **Business partners - Korea** |
| **Main contact** | **Main activity** |
| 1  | Business:Name of the contact:E-mail:Phone: |  |
| 2 | Business:Name of the contact:E-mail:Phone: |  |
| 3 | Business:Name of the contact:E-mail:Phone: |  |

|  |
| --- |
| **Project indicators** |
| **Thematic focus for PRIMA**(see instruction guide**)** | [ ]  New or improved advanced materials[ ]  Formulated materials or finished or semi-finished products incorporating advanced materials[ ]  Processes, surface treatment, scaling[ ]  Additive manufacturing | [ ]  Printable electronics[ ]  Characterization technique and instrument[ ]  Simulation[ ]  Quantum technologies or materials[ ]  Use of artificial intelligence[ ]  Critical and Strategic Minerals |
| **Quantum thematic axes, if applicable**(several choices possible) | [ ]  Quantum communications[ ]  Quantum computation | [ ]  Quantum materials[ ]  Quantum metrology and detection |
| **Application sectors**(several possible choices) | [ ]  Transportation/Infrastructure[ ]  Energy[ ]  Environment [ ]  Textile  | [ ]  Chemistry[ ]  Microelectronics/telecommunication[ ]  Health [ ]  Other (specify):  |
| **INITIAL TRL LEVEL:**1 [ ]  2 [ ]  3 [ ] 4 [ ]  5 [ ]  6 [ ] 7 [ ]  8 [ ]  9 [ ]  | **FINAL TRL LEVEL:**1 [ ]  2 [ ]  3 [ ] 4 [ ]  5 [ ]  6 [ ] 7 [ ]  8 [ ]  9 [ ]  |  **Duration of the project:**12 Months [ ] 24 Months [ ]  |
| **People involved in the project** The numbers indicated in this section must correspond to those justified in the request |
| **Researchers:** number of researchers involved in the project, including the principal applicant (professors, institutional researchers) | Québec:  |
| Korea:  |
| **Employees of research centers:** number of employees of the centers involved and whose salaries are partially paid by the project (eligible expenses) (assistants, associates, research agent, technicians) | Québec:  |
| Korea:  |
| **Employees of partner companies:** number of company employees **involved** in the project. Their contribution is, for example, recorded as a contribution in kind. | Québec:  |
| Korea:  |
| **Students:** number of students receiving a scholarship or doing an internship. (DCS, ACS, bachelor, master, doctoral, PDF) | Québec:  |
| Korea:  |

|  |
| --- |
| **Executive summary in everyday language** |
| * "What it is" in one sentence (clearly indicate what is developed without preambles)
* "What it gives" in a sentence or two (expected results, impact in Québec and in Korea)
 |

|  |
| --- |
| **Abstract (Non-confidential summary of the project, in lay terms).**In a few simple and popular sentences, describe:* + - 1. Why is this project necessary (what is the problem)?
			2. What does this project want to achieve and what are the expected results?
			3. What will be the spinoffs for industrial partners and for Québec?
 |
| *In French– 250 words maximum* |
|  |
| *In English – 250 words maximum* |
|  |

|  |
| --- |
| **Resume of budget request****Total Korea budget must be higher than 30% of the Total budget Québec + Korea** |
| **Québec** | **Korea** |
| **1st Year** | Company (Cash): CAD KRWPRIMA (Cash): CAD KRWComplementary funding (Cash): CAD KRW | **1st Year** | Direct costs: KRW CADIndirect costs: KRW CAD |
| **2nd Year** | Company (Cash): CAD KRWPRIMA (Cash): CAD KRWComplementary funding (Cash): CAD KRW | **2nd Year** | Direct costs: KRW CADIndirect costs: KRW CAD |
| **Total** |  **CAD** **KRW** | **Total** |  **KRW**  **CAD** |
| **TOTAL BUDGET (Québec + Korea):**  KRW CAD |

|  |
| --- |
| **II – CONTEXT OF THE PROJECT** |

|  |
| --- |
| Describe the general context of the project. If this project comes from previous projects, then describes the history. And if this project is placed inside a larger project describe the larger project and the importance of the latter of this project submitted **(max. 1 page).** |
|  |

|  |
| --- |
| **III - DETAILED PRESENTATION OF THE PROJECT** |

|  |
| --- |
| Describe the research project, including its environment (regulations, market trend, state of the art, etc.). Explain the possibility of carrying out this research project, specifying its anticipated objectives and results as they relate to the industrial partners’ needs. Specify the methodology and key scientific challenges to be met. **(max. 5 pages)** |
|  |

|  |
| --- |
| **IV – PROJECT MANAGEMENT** |

|  |
| --- |
| 1. Present the project’s main activities in the form of a GANTT chart, **including key Go/No Go milestones**.
 |
| * **Québec**
* Key activities
* Project Schedule

|  |  |  |
| --- | --- | --- |
| **Year** | **Objectives** | **Schedule** |
| **1st Quarter** | **2nd Quarter** | **3rd Quarter** | **4th Quarter** |
| 1st year |  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
| 2nd year |  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

* **Korea**
* Key activities
* Project Schedule

|  |  |  |
| --- | --- | --- |
| **Year** | **Objectives** | **Schedule** |
| **1st Quarter** | **2nd Quarter** | **3rd Quarter** | **4th Quarter** |
| 1st year |  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
| 2nd year |  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

 |

|  |
| --- |
| 1. **Specify all the academic and industrial collaborators:** Describe how the collaboration makes it possible to cover the different skills necessary for the accomplishment of the project. Specify the level of involvement of each member of the team.[[3]](#footnote-3)
 |
| **KOREA**

|  |
| --- |
| **Research establishment # 1:** |
| **Name and title of researcher # 1:** **Skills and contribution to the project:**  |

|  |
| --- |
| **Industrial # 1:** |
| **Name and title of researcher # 1:** **Skills and contribution to the project:**  |

**QUÉBEC**

|  |
| --- |
| **Research establishment # 1:** |
| **Name and title of researcher # 1:** **Skills and contribution to the project:**  |

|  |
| --- |
| **Industrial # 1:** |
| **Name and title of researcher # 1:** **Skills and contribution to the project:**  |

 |
| 1. Describe how the project will be managed and the interaction and synergy between all partners

**(max. 2 pages)**. |
|  |

|  |
| --- |
| **V – IMPACT AND SPINOFFS OF THE PROJECT** |

|  |
| --- |
| 1. Describe the intellectual property strategy **(max. 1 page).**
 |
|  |
| 1. **Benefits for the academic partner(s):** HQP training, knowledge enhancement (transfer, publications, intellectual property, etc.), technological developments (new products, processes, standards, methods, etc.), scientific expertise (acquisition, development or consolidation), use of infrastructure. **(max. 2 pages)**
 |
| 1. **KOREA**
2. **QUÉBEC**
 |
| 1. **Benefits for the industrial Québec partner(s):** Technological developments, enhancement of knowledge, improvement of the company's positioning in the value chain (improvement of productivity, increase in sales or market share, diversification of production, investments, etc.), personnel.

**Add as many tables as there are companies** |
|

|  |
| --- |
| **Company:** |
| **Targeted numbers of jobs created or maintained** (check all that apply) |
| [ ] Full time: [ ] Partial time: [ ]  Temporary: Explanations:  |
| **Knowledge enhancement** (check all that apply)[ ] Knowledge transfer [ ] Patent [ ] Improvement of know-how [ ] Other:Explanations:  |
| **Commercial potential** (check all that apply)Does this project strengthen your current market or lead you to new markets? Thanks to[ ]  New products [ ]  Product improvements [ ]  New processes [ ]  Process improvements[ ]  Other:Specify the region of your current market or new target markets?[ ]  Québec, [ ]  North America, [ ]  South America, [ ]  Africa, [ ]  Asia, [ ]  Europe [ ]  Other: |
| Explanations and justifications for the commercial potential:What influence do you foresee that this project will have on the growth of your turnover in the medium term? |

 |

|  |
| --- |
| 1. **Expected Outcome**
 |
| **D1. If applicable, describe the impacts of the project for the adoption of quantum technologies in the business sector. (max. 1 page)** |
|  |
| **D2. Benefits for Québec (maximum 1/2 page)** |
| [ ]  Productivity, [ ]  Environment, [ ]  Social-economic, [ ]  Other: Explanations:  |
| **D3. Benefits for Korea (maximum 1/2 page)** |
| [ ]  Productivity, [ ]  Environment, [ ]  Social-economic, [ ]  Other: Explanations:  |
| **D4. Impact for Québec – Korea collaboration :** Description of the impact of the project on research and innovation activities as well as transfer and promotion of your organization, attraction of investments, clients and research contracts and of innovation, attraction of researchers or highly qualified personnel, consolidation of a research or innovation axis, development and strengthening of networking abroad, international mobility of researchers or the workforce, international influence , visibility, etc. **(maximum 1 page)** |
|  |
| **D5. Continuation of the collaboration:** Do you see collaboration beyond the supporting period by this program? Please indicate how. **(maximum 1 page)** |
|  |

|  |
| --- |
| **VI – FINANCIAL ASPECT** |

|  |
| --- |
| 1. **RESEARCH MANDATE’S ESTIMATED BUDGET FOR QUÉBEC**

Indicate all direct expenses eligible for the projects |

|  |
| --- |
| **In the case of a university or a CCTT collaborating with a public research centre,** it is necessary to append a copy of this table with only expenses on the university side to allow the calculation of IRC’s. |

|  | The budget items highlighted below are eligible for the Indirect Research Cost. | **Year 1** | **Year 2** | **Total** |
| --- | --- | --- | --- | --- |
|  |
| **Salaries and fringe benefits[[4]](#footnote-4)** |
|   | Technicians |  |  |  |
|   | Researcher: |  |  |  |
|  | Other |  |  |  |
| **Students grant** |
|  | 1st, 2nd and 3rd-cycle students |  |  |  |
|   | Postdoctoral research interns |  |  |  |
| **Materials and supplies** |
|   | Materials for tests and trials |  |  |  |
|   | Laboratory consumables  |  |  |  |
| **Equipment or installations (Max 25%)** |
|   | Rental |  |  |  |
|  | Equipment[[5]](#footnote-5) (max $25K each) |  |  |  |
| **Travel[[6]](#footnote-6)** |
|   | Conferences or conventions  |  |  |  |
|   | Field work  |  |  |  |
|   | Work-related travel |  |  |  |
| **Other** |
|   | Platform fees |  |  |  |
|   | Outside services[[7]](#footnote-7) |  |  |  |
|   | Prototypes  |  |  |  |
|   | Fees for dissemination of knowledge |  |  |  |
|   | Intellectual property management fees |  |  |  |
|  | Translation and design costs for legal documents for the consolidation of partnerships (maximum $ 10,000) |  |  |  |
| **Direct project cost** |  |  |  |
| **Management fees from PRIMA Québec (5%)** |  |
| **TOTAL Budget** |  |

|  |
| --- |
| 1. **RESEARCH MANDATE’S FINANCING PLAN QUÉBEC**
 |

|  |
| --- |
| Note MITACS funding is not permitted.Detail in section C, cash and in-kind contributions of companies |

|  |
| --- |
| 1. **FINANCING**
 |
|  | **Year 1** | **Year 2** | **Total**  |
| **Industrial Partners (min. 20% of the research mandate)** |
| Companies’ contribution in cash:  | **Min (20 %)** |  |  |  |
| Companies’ management fees |  |  |
| **Public Financing** **(max. 80% of the research mandate)** |
| PRIMA Québec | **Max (50 %)** |  |  |  |
| MEIE management fees |  |  |
| Additional funding (specify)[[8]](#footnote-8): |  |  |  |
| **TOTAL Funding**  |  |
| 1. **IN-KIND CONTRIBUTION FROM INDUSTRIAL PARTNERS**

**(Not considered in the calculation of the subsidy)** |
| Total Companies Contributions: |  |
| 1. **ADDITIONAL CONTRIBUTIONS FROM INDUSTRIALS AND MEIE**
 |
| *Contribution to the management fees of PRIMA Québec 5%* ***(max $50 000)*** |
| Companies: **3% of the amount of research mandate or max $30 000** |  |
| MEIE: **2% of the amount of research mandate or max $20 000** |  |
| *Additional PRIMA QUÉBEC’s contribution to indirect costs of research, if applicable* |
| 27% of the contribution of PRIMA Québec to the research mandate for eligible costs. All financial partners must also contribute to ICR. |  |
| 1. **SUMMARY OF FUNDING BY PRIMA**
 |
| Contribution to the Research Mandate |  |
| Contribution from MEIE (Management fees) |  |
| Indirect Costs of Research (If applicable) |  |
| **TOTAL PRIMA funding****(**Max $163 000/years or $326 000 for 2 years) |  |

|  |
| --- |
| 1. Justify the expenses presented in the research mandate budget. **(no page limit)**
* Detail cash and in-kind contributions for each company
* Detail each line of the project budget table for which you entered an expense.
* In the case of expenditure on a prototype, show the ability to produce this prototype.
* **Also add for information a summary of the Korea budget**
 |
| 1. **COMPANIES CONTRIBUTIONS**
 |
| Company Name | Cash Contribution | In-kind Contribution |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
| 1. **BUDGET JUSTIFICATIONS**
2. **SUMMARY OF THE KOREA BUDGET**
 |

|  |
| --- |
| **VII – BIBLIOGRAPHIC REFERENCES** |

|  |
| --- |
| List of bibliographical references **(max. 2 pages)** |
|  |

|  |
| --- |
| **VIII - INFORMATION ABOUT THE FORM SUBMISSION** |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **For a submission to PRIMA*** Are you having difficulties, do you have questions? Do not hesitate to contact your advisor or Michel Lefèvre, michel.lefevre@prima.ca, 514-284-0211 ext 227.
* Email your duly signed application in single file - PDF format (Adobe Acrobat) **before noon, May 8, 2023 (Montreal times),** to: laura.salatian@prima.ca.

**Check list**

|  |  |
| --- | --- |
| ☐ | **First page signed** by the applicant AND by the establishment (Vice-rectorate or research office) |
| ☐ | Form fully filled and maximum page number of rubrics respected |
| ☐ | **CV** of the main contributors (academics and industrials) |
| ☐ | **Signed support letters ((in French or in English)** support from each of the Québec and Korean industrial partner specifying their role, the benefits that the company expects to derive from carrying out this project and the amounts of money in cash and in kind allocated to direct research expenses. For Québec industrial partners, the letter must also specify PRIMA Quebec's management fees. |
| ☐ | Have you informed the industrial partners of their contribution to the **management fees of PRIMA Québec?** |
| ☐ | All project partners in Québec (Industry and academics) must be a **member of PRIMA Québec** if the request goes into a full proposal. |
| ☐ | Funding will only be awarded upon proof that the complementary funding (NSERC, NRC-IRAP, or others) has been approved. **The complementary funding MUST be submitted within one week after the application at PRIMA to allow the project to start October 2023.**Once the request for additional funding has been submitted, a copy must be sent to PRIMA Québec. |

**For a submission to NRF*** Should you encounter problems or have questions, do not hesitate to contact Ji-Won Yoon at 02-3460-5703 or jw9356@nrf.re.kr
* Applications must be submitted to IRIS system ([www.iris.go.kr](http://www.iris.go.kr)) **before 18:00on May 8, 2023 (Seoul Time).**
 |

1. Please note that the names of promoters, collaborators and participating companies, as well as the summary of the project and the amount of the grant are public data and may be used by the MEIE and PRIMA Québec for promotional purposes. [↑](#footnote-ref-1)
2. This signature is mandatory to confirm the Korea budget [↑](#footnote-ref-2)
3. Attach the CVs of each researcher at the application form [↑](#footnote-ref-3)
4. See the guide for eligible salaries. [↑](#footnote-ref-4)
5. Expenses related to the purchase of small equipment or the rental of equipment are a maximum of 25% of the total eligible expenses.

The purchase value of each piece of equipment must be equal to or less than $25,000 before taxes. [↑](#footnote-ref-5)
6. Travel expenses must be justified and represent less than 15% of the budget. [↑](#footnote-ref-6)
7. Outside services must be justified and accounts for a very small part of the budget. [↑](#footnote-ref-7)
8. If there are several complementary fundings, specify the amount for each source (add rows if necessary). Provide proof of additional funding (copy of the application once submitted). [↑](#footnote-ref-8)