ANNEX 5 – THE APPLICATION FORM & SUBMISSION DOCUMENTS

The purpose of this document is to provide applicants with guidance about how to develop a strong application for the bi-lateral R&D programme managed by GITA and MAECI. This includes relevant information to help potential applicants in understanding the various processes and steps needed to complete a funding application. They should apply notwithstanding the specificity of the partner Country or the targeted priority sectors. GITA and MAECI funding applications are usually accepted through specific Request for Proposal (RFP) Announcement. Additional details related to partner Country, targeted priority sector(s), and participation of additional funders, will be clearly described in each Request for Proposal Announcement. Potential applicants are invited to regularly visit the GITA and MAECI web sites, and to sign up online to receive instant GITA and MAECI information to find out when the new RFPs are released.

1. The Innovation

- What is the current "best practice"?
- What are the current limitations? This is an opportunity to elaborate on the shortcomings that exist in the proposed area of innovation as a prelude to the description of the innovation and how it can overcome these shortcomings. Current limitations could include: high cost, sub-optimal performance, lack of attention to specific market opportunities, e.g., poor suitability to high-or-low-end markets, size, compatibility, non-conformance to standards, etc.;
- What is the idea? Sketches, diagrams and tables could be included to help describe the innovation. This description should clearly identify in what way(s) the innovation overcomes current limitations. How the idea overcomes these limitations is to be contained in this section;
- How much will the proposed programme cost and how long will it take to develop the product to the point of commercial readiness?
- What is the patent situation, including background patents and the potential for new patents? Are there any obligations to other agencies which have supported any part of the innovation development?
- Which standards relate to the developed product? Will the proposed product meet current and/or emerging standards?

2. Proposed R&D Programme

This section of the proposal could be organized in two parts: "Analysis of the Problem" and "Proposed Approach".

a) Analysis of the Problem

The purpose of this section is to establish a credible basis for the proposed RDI program, with the intent of identifying specific problem areas. These are the problems or challenges that need to be overcome in order to achieve the program objectives. For example, at the start of the project, the companies and participants are at Position A, which relates to the current limitations highlighted in the preceding section. By the end of the project, at the point of commercial

readiness, the companies and participants expect to be at Position B. What specific problems must be solved or overcome in order for the companies to reach Position B, consistent with the project budget and timetable? Clearly, these problems and their resolution should have been considered by the participants in formulating their Proposed Approach and in defining the Program Plan.

The problems may focus on a variety of technical issues – for example, how to achieve lower power consumption or higher circuit speed with data indicating both the current situation and the target values for the innovation. Process challenges may include how to enhance measurement accuracy; improve manufacturing yield; make the software platform independent; automate a process, etc. Product targets may relate to issues such as the design of a more streamlined system with fewer parts, improved temperature performance, greater reliability, smaller footprint, enhanced market appeal, or greater flexibility. In some cases, the problems may relate to the need for fundamental technological breakthroughs in order to develop a currently non-existent product. In others, for example, the technological problems may be relatively straightforward, with key issues relating to product integration into an existing line or management of a complex, inter-disciplinary, multi-task project.

Additional items to be addressed in this section may include:

- Definition of the required properties and functions of the end-product that will be used in the service environment. Often, this is referred to as "the specifications sheet". This is the “Position B” referred to previously in this section. What market input has contributed to formulating the end-product characteristics?
- Identification and description of problems associated with realizing the required properties and functions. This is an in-depth discussion of the problems that must be solved in order to achieve the programme's objectives. The participants should confirm that any critical technologies required are firmly under control.

b. Proposed Approach

This section must be sufficiently detailed for expert reviewers to assess the approach being followed for the research. It should include:

- A general plan of the proposed effort setting the stage for the more detailed task descriptions. This overall plan includes the achievements that will make it possible to realize the programme's objectives;
- Any technical or economic constraints;
- Identification and detailed description of each task. This is the heart of the technical part of the proposal, stating the objective for each task and identifying the participant with primary responsibility for the task;
- Describe - for each task - the specific approach that will be employed, i.e., detail the techniques to be used to solve the previously identified problems. In this section, the participants demonstrate that they are aware of the current best practice, its limitations and the opportunities inherent in the proposed innovation. As well, this section should demonstrate that the proposer understands the problems associated with developing the idea of commercial readiness;
- Discuss alternate approaches to resolving problems and the basis for selecting

the preferred solution. Even if a preferred solution has not yet been determined, the various alternatives should be reviewed along with their relative merits;
- The detailed description of the technical approach should provide the reviewers with sufficient information to perform a meaningful review of the proposal. For each task, provide supporting information that justifies the specific approach, where appropriate;
- Since the final objective is a product or process, tasks addressed should include compliance to standards (or why the product will not comply with applicable standards), prototyping, regulatory approvals, exhibitions, marketing activities, documentation, etc. Again, for those tasks relating to "testing", for example, details should be given as to what is to be tested, how many tests are needed, test objectives, test methodology, expected results, etc.

3. Programme Plan

Should the project be approved, the Programme Plan section of the proposal will be incorporated into the Project Funding Agreement and will be used by GITA and MAECI in monitoring/mentoring project progress. For projects with a duration of 18 months or less, the effort should be organized into one project period. For longer projects, the effort should be organized into two periods of roughly equal duration. Note that regardless of the project duration, progress and financial reporting will be required every six months, if not earlier.

The Programme Plan should consist of:

- A chronological schedule of programme activities presented in graphical form, clearly indicating the estimated time required for the completion of each task in addition to milestones. Specific participant assignments for each task should be identified in the Programme Plan even if this information was provided elsewhere, and task assignments for subcontractors and consultants should be delineated;
- A one page summary Gantt chart;
- A Work Breakdown Structure (WBS) detailing the planned time commitment for each task, covering the same project duration (see example in Table 1);
- And encompass the entire duration of a multi-period program, including all activities that must be performed until commercial readiness.

4. The Market

Although there are uncertainties implicit in predictions of future markets and possible competition for any new product or process, it is important to demonstrate that the participants have made a thorough analysis of the market. Such an analysis can typically include the following considerations:

- What market needs are served? Are one or more participants currently active in developing, manufacturing and selling similar types of products in this market? What is the basis for this market need?
- What is the total addressable market for the product? What is the current position of the participants in this market? What is the expected growth of this

market over the effective sales window of the product being developed, and what is the basis for this projection? What events could significantly alter this projection? What market share is expected to be captured in the year of market entry and over the product sales lifetime?
- What barriers, e.g., regulatory, might be encountered, and how will they be overcome?
- What competition exists or is expected to exist for the future? Provide an evaluation of the impact of competition on the commercialization of the proposed product.

This is not a complete list. The basic message is that developing innovative concepts for commercial gain is an intrinsically risky, uncertain, but occasionally highly rewarding undertaking whose prospects of success can be immeasurably improved by finely tuned objective and early planning. The participants should present whatever additional information they consider relevant.

5. Commercialization – Plans and Prospects

It is obviously beneficial to those making investment decisions regarding new technology if a single index can be derived which provides a "figure of merit" for deciding on a particular investment, or for evaluating various alternatives.

A preliminary financial analysis which includes the potential gain from successful implementation of the proposed project should be made using a Cash Flow Analysis approach of your choice.

Should the project prospects be encouraging, the commercial programme needs to be planned and implemented? Some of the questions to be discussed are:

- Will the participants be engaged in production? What are the existing manufacturing facilities and how can the proposed product manufacturing be incorporated into the existing infrastructure?
- Who will sell to which market regions? What is the current sales level of the participants in the primary target regions for the proposed product?
- Do any of the participants currently have a suitable sales and service network? If there is such a network, it should be described. Alternatively, does such a network need to be created from scratch? Describe the process by which the participants plan to establish such a network and the resources required;
- Considering the maximum cash requirements based on the cash flow analysis, to what extent are the necessary resources - financial or otherwise - available within the participating companies? If any additional resources will be required, how will they be mobilized? Describe all relevant potential sources.

6. Cooperation and Benefits

The clear expectation of risk and benefit sharing by participants during the product development and commercialization is essential under this programme. An important factor in evaluating the proposal, therefore, is the extent to which the participants will share in the research, product development and introduction to the marketplace, as well as the benefit to be derived by each participant during the product commercialization. Of equal importance are the expected socio-economic

benefits in each participating Countries in the form of new export markets, new employment opportunities, new capital formation, productivity improvements, etc. and including also societal benefits (economic and growth, environmental, welfare and social equality).

Please elaborate these issues in the context of the agreement between the participants with respect to their agreed-upon roles during the various project stages including the commercialization process.

If there are plans for exchange of young researchers involved in this project, please indicate the length of exchange and the role(s) to be played in the RDI activities. Also explain how the exchange of young researchers adds value to the project goals.

7. Organization and Management Plan

This section should contain a presentation of the proposed management procedures for the programme, including the internal review procedures and overall management plan that will ensure, barring unforeseeable circumstances, implementation to design specifications, on schedule and within budget.

- Describe the procedures to be implemented to maintain timely communications between lead participant's project team in each Country. Indicate the role of the review meetings (when, where, for what purpose, with whom) during the project;
- Provide an organization chart for the project, identifying each participant's project leader and the overall programme manager, and indicate the relationship of this ad hoc organization to the formal hierarchies in the participant’s organization. Identify the programme's key project personnel and their responsibilities;
- Regarding staff - indicate positions to be filled by new employees and identify the status of these staff;
- Identify the role of key consultants and subcontractors on the organization chart and indicate if a relationship between the consultants/subcontractors and the participants currently exist.

8. The Participants and the Project Personnel

In the final analysis, the determining factors in the successful commercialization of innovation are the people and the participating companies involved. Please provide information about each of the participants, including the following:

- In the case of company participants, please provide the year in which each company was established, company ownership and principal business of each company;
- Record of performance in similar/related undertakings. Describe the extent to which products similar or related to the proposed innovation have been developed and commercialized. What is the track record or history of each participant that also substantiates a positive prognosis for this proposed product's successful commercialization?
- Degree to which the proposed project can be absorbed into the existing structure of each participant. To what extent are the staff, equipment, facilities, etc., available for the project? Identify the need to hire staff, obtain (purchase, lease

or rent) capital equipment, or expand manufacturing operations;

- Relationship of the proposed project to other participant projects that receive/have received support from any outside agency for development of the proposed innovation;
- In the case of company participants, the financial information validating that the companies cannot only contribute their share of the project cost, but have the resources available for the commercialization phase. Public companies can submit annual and quarterly reports rather than specially prepared information. At a minimum, annual revenues expected during the current fiscal year and realized during each of the last two fiscal years should be given, in addition to an indication of the profitability of the company participant during this period. Number of employees at home, at field locations and abroad should be given, along with an indication of changes in the employment picture during the past two years;
- Description of relevant facilities, equipment, infrastructure, etc., which are expected to be utilized during the project and during product commercialization;
- Resumes of key personnel/researchers who will work on the project. The resumes should include each individual's role in the project, e.g., project manager, senior software engineer, field engineer, etc. Include the person's current affiliation with the participant's organization, job title, relevant job experience and significant accomplishments, starting from the most current position. List professional affiliations and committee memberships. Indicate higher education and degrees and provide a listing of relevant publications authored or co-authored (maximum, one page). Résumés of consultants should also be included. In general, the reviewers of the proposal need to see that the experience, education and capabilities of the professional staff are commensurate with the R&D tasks to be performed;
- Additional pertinent information, such as product brochures, expressions of interest from potential customers in the products or processes to be developed, marketing agreements, etc., should be included.

9. Intellectual Property Treatment

Most of the collaborative projects funded under this programme are expected to produce new intellectual property (IP). The programme also recognizes the value to the participants of any background IP they might bring into the project. In general, a participant's background IP will remain vested with the owner.

Please provide a detailed list of the background IP brought into the project by all participants. The proposal must describe, to the extent possible, the new IP which is expected to result from the project and must address the proposed treatment of all the intellectual property. This includes the ownership of new IP and sharing of the new IP between the participants. Any IP agreement between the participants must respect the IP laws of each Country along with the IP policies of the academic and other research institutions involved in the project. A signed IP agreement between all participants in the project is required before funds will be released to the project team.