



CRITM

**VECTEUR DE
TRANSFORMATION
MÉTALLIQUE**

Consortium de recherche et d'innovation
en transformation métallique

critm.ca

Partenaire financier

Québec 

12TH CALL FOR PROJECTS

**GUIDELINES FOR
FUNDING APPLICANTS**

FEBRUARY 2019 UPDATE

1. INTRODUCTION

CRITM – Metal Transformation Research and Innovation Consortium) is a sectoral cluster of industrial research organizations that provides funding for collaborative research projects involving research companies and research institutions: universities, Technology Transfer College Centres (in French: CCTT), and other research centres, such as CRIQ, NRC, INO, etc.

CRITM currently numbers over 70 active members. Since its inception and after 11 Calls for Projects, the Board of Governors has approved 51 projects and awarded more than \$16.5 M. Today, 32 projects worth over \$36.3 M are in operation with \$8.8 M in direct contributions from CRITM.

CRITM is launching its 12th Call for Projects in 2019 and invites interested parties to submit their projects according to the following schedule:

- Start date: February 23, 2019;
- Memorandum of intent (optional);
- Submission deadline: May 31, 2019;
- CRITM Board approvals: July 2019.

Please note that the memorandum of intent is an extra step allowing to assess the eligibility of a project based on a summary. However, any applicant whose project is already well defined can skip that step and submit a detailed application directly. Non-members are allowed to submit projects provided they become members prior to the closing date of this Call for Projects.

CRITM funding comes in two forms with specific conditions:

- The first is aimed at projects with a Technological Readiness Level (TRL) of 1, 2 or 3, **at the beginning of the project, not at the end;**
- The second is for projects with a TRL of 4, 5 or 6 **at the beginning of the project.**

These guidelines provide the instructions needed to prepare and submit a funding application to CRITM.

2. PURPOSE OF THE RESEARCH PROGRAM

In funding research projects, CRITM aims to achieve the following overall goals:

- Generate new knowledge and technologies to the benefit of members, businesses, and research institutions;
- Transfer and disseminate such technologies and knowhow to industries, in an effort to improve productivity and profitability;
- Initiate new development opportunities for Quebec's metal transformation industry;
- Grow the competitiveness of member companies;
- Create partnerships among member companies and research institutions across Quebec;
- Create collaboration opportunities for diverse resources to participate in projects funded by the Consortium, this to help member companies in their search for qualified personnel;
- Use the Consortium's funding to leverage complementary funding programs from other sources.

3. ORGANIZATION ELIGIBLE FOR CRITM FUNDING

SMEs and large-scale companies working in first, second and third transformation of such metals as steel, aluminum, zinc, magnesium, titanium, copper, etc., as defined by Statistics Canada, are eligible for CRITM funding.

- **First metal transformation**

This subsector includes organizations whose main activity involves casting and refining ferrous and non-ferrous metals from ore, pig metal, and scrap metal in the blast and/or electric furnaces. Chemical substances can be added to concoct metal alloys. Usually in the form of ingots, casting and refining end products are used to make metal sheets, strips, bars, rods, and wires through the rolling and extruding processes. Molten metal can also be used to make moulds and other base metal products.

- **Second Metal Transformation**

Second transformation involves processing crude metal into a product destined for specific usage. This sub-sector, called metal product manufacturing, comprises all enterprises whose main activities include forging, stamping, forming, turning and/or assembling ferrous and non-ferrous metals to make cutlery, hand tools, architectural products, structural elements, boilers, tanks, shipping containers, hardware, springs and other metal wire products, turned products, bolts, nuts, and screws.

- **Third Metal Transformation**

Third transformation involves incorporating second-transformation products with finished products used in various industries. At this stage, products from the metals industry are injected into other industrial networks in Quebec, such as aeronautics, ground transport, environmental technologies, and/or equipment and machinery manufacturing. Therefore, third transformation companies are clients of first and second transformation enterprises. However,

the key difference from the first two stages is that metal is only a small part of finished third-transformation products.

4. AREAS OF RESEARCH

The areas of research prioritized by CRITM are:

- **Transformation process development**
 - New processes, improved processes (productivity, product quality), automation, industry 4.0, additive manufacturing, etc., from molten to formed metal (casting, forming, assembling, machining, surface treatment, etc.);
- **Advanced metal product design**
 - New alloys, improved manufacturability, lighter structures, products and/or equipment development and improvement, metal powders, etc.;
- **Environmental footprint**
 - Lower emissions, waste management (reduce and reuse), reduction of inputs;
- **Energy consumption**
 - Technological development and improvement, heat recovery, alternative energies, etc.

5. GENERAL RULES OF ELIGIBILITY FOR CRITM FUNDING

- All project partners must become members to have access to CRITM funding. Moreover, as members, they must remain active throughout at least the full duration of their projects;
- Projects must be in line with CRITM research priorities;
- Contributions from government partners, if necessary, are considered public inputs and, as such, are included in the summation of public funds (NSERC and other government departments);
- Funding applications must be submitted by the research institutions;
- All industrial partners shall provide **letters of commitment to the project detailing their cash and in-kind contributions.**

6. TERMS AND CONDITIONS OF THE PROJECT FUNDING PROGRAM

Research projects are eligible for CRITM funding based on the terms and conditions listed in the table below, and in line with their Technology Readiness Level (TRL), as defined in Standard ISO16290, available from CRITM. For a brief description, go to:

http://fr.wikipedia.org/wiki/Technology_Readiness_Level).

Éléments	Funding 1 : TRL 1-3	Funding 1 : TRL 4-6
Maximum project duration	36 months	36 months
Minimum number of partner companies	2*	1**
Eligibility of Canadian or foreign companies, or industrial associations	YES, as a second partner company	YES, as a second partner company
Minimum number of institutions (university or CCTT)	1	1
Eligibility of research centers	Must be associated with a CCTT or an university	Yes
Maximum CRITM non-refundable grant (% per project)	40% of total cash value	20% of total cash plus in-kind value
Industrial contribution	*20% minimum of project total in cash or more	40% minimum (20% in cash and the rest can be in-kind)
Maximum summation of public funds per project	80% of project cash total	75% of project cash total
Maximum CRITM funding per project	\$25,000 to \$1500,000 per project (\$500,000 per year)	\$25,000 to \$1500,000 per project (\$500,000 per year)

* Commitment of the second company (TRL 1-3) must be at least equal to 4% of total funding budget in cash (see example on next page).

** No obligations for participation in a second organization for TRL 4-6.

7. ELIGIBLE EXPENSES

The amount granted shall cover part of eligible direct costs committed to the project by the research institution(s). This covers wages and fringe benefits, materials (including small laboratory apparatus), consumable goods and office supplies, equipment rental fees, travel and accommodation expenses, knowledge dissemination costs, platform costs (heavy metals,

etc.), intellectual property rights, professional fees for a small fraction of the total budget (contracts, subcontracts, etc.), and CRITM management fees.

CRITM management fees are 8.5% of its contribution to a maximum 3.4% of the total project cash cost.

Indirect university research costs are not considered in the project’s financial structure; however, they shall be covered as extras by the CRITM.

Universities are responsible for collecting indirect research fees from the project’s industrial partners and funders.

The part of the CRITM fees financed by companies is not supported by certain programs such NSERC.

The CRITM form is to be completed by the research institution on the basis of information provided by each partner. For TRL 1-3, Section 7 – Projected Expenses include only those incurred by research institutions.

For TRL 4-6, companies’ in-kind expenses must appear since they are part of eligible expenses in CRITM funding.

8. EXAMPLES OF FINANCIAL STRUCTURES

The table below shows two examples of financial structures for TRL 1-3 and TRL 4-6 projects worth \$100,000 in eligible costs.

	CRITM with complementary funding	
	TRL 1-3 (\$)	TRL 4-6 (\$)
Company 1 (cash) minimum	16 000 ¹	20 000
Industrial 2 (cash) minimum	4 000	0
Total companies (cash) minimum	20 000	20 000
CRITM (cash)	40 000	20 000
Complementary funding (cash)	40 000 ²	40 000 ²
Cash total	100 000	80 000
In-kind total	N/A	20 000
Project total	N/A	100 000

¹ The two companies, or more, may decide to distribute the funds differently, such as 50/50.

² Companies may decide to forego complementary funding and only partner with CRITM for the project.

9. PROJECT SELECTION PROCEDURE

Research projects are assessed according to relevance, quality, and economic, social and/or technological benefits for Quebec. The following selection criteria apply:

- The degree of innovation in the project/process: Projects must feature products/processes that clearly bear innovative aspects over previous products/processes;
- The ability of the partners to complete the project, including the level of commitment by partner companies in bringing fruition to the project;
- The expected technological and economic benefits for partner companies and their respective financial participation;
- The quality of the research team and public-private partnership;
- The economic benefits in Quebec;
The benefits in terms of student and highly qualified personnel training.

10. DECISION-MAKING PROCESS

Every project received before the final submission deadline shall be assessed by a selection committee made up of independent experts. The Board of Governors shall decide, on the basis of the selection committee's recommendations, whether to fund or reject any project and shall inform the applicants of its decision.

11. INTELLECTUAL PROPERTY

CRITM shall not claim any rights regarding the intellectual property of the funded projects. However, the Consortium shall require that an agreement be concluded between the partners to cover, at least, the intellectual property management rights and results of research.

12. CONTACT

For further information, please contact:

CRITM

2900 ch. Quatre-Bourgeois, suite 207

Quebec City, Qc, G1V 1Y4

Phone: 418 914-1163

Website: www.critm.ca

Mr. Ahcène Bourihane

Associate Director

Email: abourihane@critm.ca

Cell: 581 994-4352

Ms. Mariem Zoghلامي

Project Manager

Email: mzoghلامي@critm.ca

Phone: 418 914-1163