

AUT-UFRO INNOVATION FUND FIRST CONTEST

BACKGROUND

a. Presentation

The University of La Frontera (UFRO) and Auckland University of Technology (AUT) are embarking on a collaborative research partnership that promises to advance the frontiers of knowledge and innovation. This partnership, anchored by the AUT-UFRO Innovation Fund, is designed to foster scientific and technological cooperation, leveraging the strengths of both institutions to address critical challenges/problems/opportunities in both regions. By integrating research efforts, UFRO and AUT aim to create a synergy that will drive impactful projects and deliver tangible benefits to society and the environment.

The effort will be in four key areas: *Indigenous Futures and Co-creating Partnerships with Communities; Enhancing Tourism and digital technologies; Agriculture Technologies; and Affordable and sustainable housing.*

b. Auckland University of Technology (AUT)

AUT is the second largest, one of the eight government-funded universities. AUT aspires to be known for the desirability of its contemporary education, built on the commitment to: creating exceptional learning experiences, discovery and application of knowledge for well-being and prosperity, responding to its place in the world, building its position as New Zealand's University of Technology, and being a place where people love to work and learn.

c. La Frontera University (UFRO)

La Frontera University is a public, state-owned, secular, pluralistic, inclusive, and autonomous institution of higher education located in the Araucanía region of Chile. It safeguards and promotes cultural heritage and sustainable human development. Established as an autonomous institution in 1981, it has consolidated its position as a comprehensive university with the fourth successful accreditation process by the National Accreditation Commission (CNA) in five strategic areas for six years (2018-2024).

Its mission is to generate, develop, and transmit knowledge in diverse areas of knowledge and cultural domains. It recognizes, promotes, and incorporates the worldview of indigenous peoples, especially the intercultural relationship with the Mapuche people, fostering respect and equitable development.

With a commitment to excellence and quality, it undertakes the comprehensive training of individuals with critical and reflective abilities, who promote rational dialogue and tolerance, contributing to the formation of a citizenry inspired by ethical, democratic, civic, and socially

responsible values; contributing to a critical and transformative social consciousness; and being ethically responsible for the needs of the region, the country, and the international community, for the achievement of the common good.

It promotes and contributes to the country and the Araucanía region, assuming a preferential and relevant role, through education, science, technology, innovation, creation, and engagement with the community. The University supports a culture of innovation that cultivates research, development, and innovation as a driving force for development and improving the quality of life of people and as a contribution to economic and social impact at the regional, national, and international levels.

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1) OBJECTIVES

a. General Objective

To promote collaborative R&D proposals among researchers from both universities aimed at developing solutions that contribute to target the needs of the public/private sector and/or civil society in New Zealand and/or Chile.

b. Specific Objectives

- To foster collaboration and international knowledge transfer among researchers from AUT-UFRO for the development of technological initiatives in strategic areas for both countries-regions.
- To enhance the development of science and technology-based innovation to target challenges/problems/opportunities in the public/private sector and/or civil society of New Zealand and/or Chile.
- To develop and mature technologies in the early stages, advancing them to at least TRL 3 proof of concept (Annex 1).
- Promote the transfer of new knowledge and technologies to the market establishing the necessary legal documentation for technology scaling.

2) THEMATIC AREAS

Proposals should focus on target challenges/problems/opportunities from the ecosystem existing in each country/region, leveraging the outstanding research and innovation capabilities of both institutions.

Based on the above, this call expects project proposals in the following thematic areas:

- ***Indigenous Futures and co-creating partnerships with communities:*** UFRO and AUT share a strong focus on indigenous knowledge and partnerships. This theme underscores the importance of integrating indigenous perspectives and working closely with Māori and Mapuche communities. Collaborative projects will aim to enhance the understanding and implementation of indigenous wisdom in modern contexts and innovation initiatives, promoting cultural preservation, ethical perspectives and sustainable practices.
- ***Enhancing tourism and digital technologies:*** Tourism is a vital industry for both New Zealand and Chile (Focused in La Araucanía). This theme will focus on enhancing tourism through digital technologies. Research will explore the development of digital tools and platforms that enhance the tourist experience, improve marketing strategies, and optimize operations. Innovations in this area can drive sustainable tourism growth and provide significant economic benefits.
- ***Agriculture technologies:*** Agriculture is a cornerstone of the economies of both countries/regions. This theme will involve research and development of advanced agricultural technologies. Projects will focus on improving crop yields, enhancing sustainability, and

implementing smart farming techniques. UFRO and AUT aim to monitor and optimize agricultural processes in real-time, leading to more efficient resource use, better crop management, and increased productivity.

- ***Affordable and sustainable housing:*** Affordable and Sustainable Housing and urban planning is a critical theme for both universities. In Chile, stringent building codes and continuous improvement efforts are essential to mitigate risks associated with social and climate changes. Meanwhile, in New Zealand, ongoing innovations are crucial for ensuring the safety and resilience of housing amidst frequent natural events. Both regions, such as the Araucanía Region and New Zealand, have a variety of resources, including timber, that can be utilized in construction. Both universities leverage their expertise to enhance building resilience and promote sustainable housing solutions in response to these environmental and social challenges.

Projects focused on areas different than those prioritized **WILL NOT BE EXCLUDED**.

The projects to target the prioritized areas will have an extra 5% in the final grade (Section N° 14).

3) PROPOSAL PARTICIPANTS

a. Research team

This call is directed to researchers from Auckland University of Technology (AUT) and La Frontera University (UFRO), on a joint work modality and belonging to different knowledge areas. The conformation of teams with complementary (interdisciplinary) skills is expected to advance in the development of solutions oriented to solve challenges/problems/opportunities in the ecosystem.

Teams must be composed for at least two leaders, one being a researcher from AUT and the other a researcher from UFRO. In addition, the teams must demonstrate complementarity capacities and technical knowledge.

It will be favorably considered in the evaluation if there is at least one woman in the project leadership (Section N° 12)

b. Interested institution

The project must involve at least one public, private, or civil society interested institution that can validate the relevance of the challenge or opportunity being interested in adopting the project's outcomes.

Each application must consider the following requirements and limits:

- Each project submission requires a letter of support from the interested institution (Annex 2)
- Researchers from both universities must participate jointly in this call, meaning they should be currently employed by these institutions.
- Researchers can only participate in one application as a director.

- The project's leadership must be distributed among the researchers from both universities, and their contractual relationship should be a contract permanent position in the case of UFRO, or its equivalent in the case of AUT.

4) EXPECTED DELIVERABLES

- Two progress reports containing evidence of achieving the objectives outlined in the work plan based on the schedule and dates established in section 10 of this call.
- Final Technical Report including:
 - Evidence of achieving the stated objectives (at least a laboratory-level operating proof of concept (TRL3)).
 - Evidence of knowledge transfer between AUT and UFRO
 - Evidence of validation with key stakeholders.
- Legally signed document among the parties (AUT, UFRO, and External Entity), enabling the technology's scaling.
- Technology scaling plan, considering intellectual property protection strategy and regulations (with support from institutional OTT/OTL).
- Financial report considering an account of the total amount of support granted, including information on unused or unapplied resources in the project and how this impacted the final deliverable.

5) ELIGIBLE EXPENSES

The "Eligible Expenses" are those specified as necessary for the execution of the project and must be stipulated in the budget submitted by each institution. Each applicant must ensure that the required services or products are genuinely necessary and are in line with market value. These may include:

- *Specialized Services:* subcontracting of national or international scientific and/or technological activities or services that are crucial for the validation and/or scaling of the solution, prototyping, technical-commercial validation of the product or prototype, field tests, technical specifications to meet industrial standards, registrations, certifications, among others, explicitly defining the scope and objective of the service and the various assigned tasks with their deliverables.
- *Technological Services:* involves hiring tests, analyses, laboratory tests, stability tests, safety and efficacy tests, simulations, or developments that the proposing company or solver is unable to carry out and are necessary for the validation and/or compliance with regulatory requirements of the market necessary for scaling the solution (no recognition of personnel or stationery costs in this category).

- *Mobility*: includes fares, per diems, and national or international transfers that contribute to knowledge transfer activities between both regions, institutions, and research groups and for local fieldwork of the beneficiary researchers or their team. (Top: 30% of the budget)
- *Materials and Supplies*: includes the cost of acquiring materials, laboratory and/or field elements, and supplies necessary in the execution of tests and/or validations derived from the needs diagnosis based on the maturity level of the technology and the regulatory requirements required for the evaluation.
- *Equipment Rental*: This includes the cost of renting equipment necessary for the validation of the solution derived from the needs diagnosis based on the maturity level of the technology and the regulatory requirements required for the evaluation.
- *Intellectual Property Expenses*: Costs related to the project's outcomes, such as applications and other actions aimed at obtaining protection for new creations (patents, industrial designs, and layouts of integrated circuits, among others) in New Zealand and Chile. This also includes expenses related to trademark protection and copyrights directly related to the developed project.
- *Certifications*: Product certifications required for marketing.
- *Other*: Expenses such as financial support for undergraduate and postgraduate students.

NON-ELIGIBLE EXPENSES

- *Fees for consultants in areas such as entrepreneurship, marketing, or technology transfer*: Resources cannot be allocated to hire consultants in areas such as entrepreneurship, marketing, or technology transfer.
- *Fees for scientific personnel and/or the project team*: Fees paid to scientific personnel or the project team, whether involved in direct or indirect activities aimed at achieving the project's objectives, are not eligible.
- *Surcharges, Fees, Compensation, or Financial Incentives for university personnel*.
- *Infrastructure adjustments*: Investments for the adaptation of laboratories and/or pilot plants directly or indirectly related to the project's objectives are not allowed.
- *Results dissemination*: Registration for conferences or expenses related to publishing in specialized journals or other outlets, including the design, elaboration, or distribution of technical brochures, posters, advertising, among others.
- *Administrative Expenses*: Expenditures or costs such as office materials and supplies, unforeseen expenses, and general services are not part of the categories to be financed by this call.
- *Equipment purchase*: Electrical and/or electronic equipment of any nature.
- *Software*: The acquisition of general-purpose software licenses, such as office software packages, database management, social networks, and the like, will not be recognized.

6) PROJECT DURATION

The project duration will be 12 months, encompassing both the process of execution of the project and the technological transfer of results to key stakeholders; however, projects may be extended for up to 6 additional months in execution, solely for the technological development phase. This extension will be evaluated on a case-by-case basis by the Technical Commission of the contest.

7) FUNDING

The maximum budget will be up to NZ\$ 50,000 per project o CLP\$ 28.000.000. New Zealand researchers will be supported by AUT, while Chilean researchers will be supported by UFRO. Each institution will contribute equally per project. Resource management will depend on each institution and will be communicated to the winning groups once the call has been awarded.

The disbursement will be made in two installments, one at the beginning of the project and the second based on the progress report of activities (sixth month of execution) and presentation of budgetary progress, which will be validated by the Technical Commission of the contest.

8) CRONOGRAM

The deadline to submit projects begins on the 14 of November 2024, and ends on the 18 of December 2024 at 18:00 hours Chilean time, 19 of December 2024 at 10:00 hours New Zealand time.

9) REGISTRATION AND SUPPORT

Applications must be completed and by email within the specified deadline to innovacion@ufrontera.cl with a copy to ricardo.chacon.mestre@aut.ac.nz In this same context, workshops will be conducted to support the preparation of proposals and address any questions regarding the process.

10) APPLICATION FORM

The proposal must contain:

1. PROPOSAL IDENTIFICATION

- Title of the proposal
- Executive Summary

2. PROJECT OVERVIEW OF THE PROPOSAL

- Problem, Opportunity, or Challenge
- Thematic areas (if required)
- Description of the interested institution
- Proposed Solution
- Previous Results
- State of the Art Analysis

3. WORK PLAN OF THE PROPOSAL

- Scientific Hypothesis and Research Component
- Objectives and results
- Research and Development Methodology

- Activities and Gantt chart
- Budget
- Research Team

11) INTELLECTUAL PROPERTY

All intellectual property generated within the projects funded by this fund will be shared equally by both institutions, with 50% of the intellectual property generated for Auckland University of Technology and 50% for the University of La Frontera, unless an institution demonstrates advances in R+D and/or pre-existing intellectual property assets related to the project.

12) EVALUATION AND AWARDING

- Proposals must include all conditions established and described in these contest guidelines.
- Projects will be evaluated by a Technical Commission created by Auckland University of New Zealand and the University of La Frontera. The Commission will be composed by members from each university, who will be appointed by the Vice-Rector for Research of UFRO and the Vice-Chancellor of AUT.
- The Commission will select projects based on the established evaluation criteria, and its decisions will be final. The Commission may, if applicable, choose not to select any if they do not meet the established selection criteria.
- The Commission will assess the projects based on the submitted documentation and **an external evaluation of the proposal**. Additionally, the Committee may request an oral presentation of the proposal by the research team (if required by the Committee).

12.1 Project Evaluation Criteria

The evaluation criterion and weights are detailed in the following table, and the score for each project is obtained from the weighted average of the evaluated criteria.

Evaluation criterion	Description	Percentage
Proposal Identification, Challenge/Opportunity Description and Solution	Clarity of the executive summary. Detailed description of the challenge or opportunity, providing quantitative and qualitative information. Description of the interested institution's link to the challenge or opportunity. Description of the solution. Previous background, state of the art, and degree of novelty.	65%
Work Plan	Coherence between objectives, results, and work plan within the established timeframe, use of the budget, and balance in the	35%

	execution of activities. Background and complementarity of the work team.	
Total		100%

Each criterion will have a scale with values from 0 to 5, so the final score It is obtained by adding the product of the grade for each criterion by its weighting. The score for each item will be determined as indicated below.

Scale	Value
Not satisfactory	0
Unsatisfactory	1
Regular	2
Satisfactory	3
Very satisfactory	4
Excellent	5

Additionally, the final grade obtained may be weighted and increased if the proposal comply any of the following conditions:

Condition	Explanation	Weighting
Gender equality	If the proposal presents at least one female director.	5%
Priority lines	If the development of the proposal target to a prioritized line of work according to point 2	5%

As an example, if a project has a score of 3.9 and one of its directors is a woman, the final score will be:

$$3.9 + 3.9 * 0.05 = 4.095$$

MINIMUM SCORE FOR QUALIFICATION

Proposals must achieve a minimum weighted score of 3.75 to be eligible for award consideration.

AWARDING PROCESS

Once the winning projects are awarded, the awardee researchers must sign a document outlining their rights and obligations with their respective institutions. Directors are responsible for obtaining ethics/bioethics certificate, if the proposal requires it. The deadline to obtain ethics/bioethics certificates is 2 months from the resolution of the contest. The fund will be available once the internal agreement resolution is signed and the ethics/bioethics certificate (if applicable) is obtained.

13) CONTACT

For any questions or clarification regarding the contest guidelines, please contact with the Innovation Department of the University of La Frontera (innovacion@ufrontera.cl) and Dr Ricardo Chacon – Auckland University of Technology (ricardo.chacon.mestre@aut.ac.nz).

14) ACCEPTANCE OF TERMS

By merely submitting projects to this call, it is understood, for all purposes, that the applicants are aware of and accept the entire content of these guidelines.

15) ANNEX

ANNEX 1 TECHNOLOGY READINESS LEVEL SCALE

This corresponds to a measurement type used to assess the maturity level of a particular technology. Each technology project can be analyzed and categorized based on the parameters of each technology level, and then assigned a rating based on the technological progress of the research outcome. In summary, there are 9 levels ranging from the basic principles of the new technology to its successful testing in a real environment:

TRL 1 - Basic Research: Initial scientific research has been conducted. Principles are qualitatively postulated and observed. Focus is on new discovery rather than applications.

TRL 2 - Applied Research: Initial practical applications are identified. Potential of material or process to solve a problem, satisfy a need, or find application is confirmed.

TRL 3 - Critical Function or Proof of Concept Established: Applied research advances and early stage development begins. Studies and laboratory measurements validate analytical predictions of separate elements of the technology.

TRL 4 - Lab Testing/Validation of Alpha Prototype Component/Process: Design, development and lab testing of components/processes. Results provide evidence that performance targets may be attainable based on projected or modeled systems.

TRL 5 - Laboratory Testing of Integrated/Semi-Integrated System: System Component and/or process validation is achieved in a relevant environment.

TRL 6 - Prototype System Verified: System/process prototype demonstration in an operational environment (beta prototype system level).

TRL 7 - Integrated Pilot System Demonstrated: System/process prototype demonstration in an operational environment (integrated pilot system level).

TRL 8 - System Incorporated in Commercial Design: Actual system/process completed and qualified through test and demonstration (pre-commercial demonstration).

TRL 9 - System Proven and Ready for Full Commercial Deployment: Actual system proven through successful operations in operating environment, and ready for full commercial deployment.

ANNEX 2.
LETTER OF SUPPORT FROM INTERESTED INSTITUTIONS

(Location and date)

(COMPANY LOGO)

To whom it may concern,

I hereby express the interest of my company/organization ([name of the entity](#)) in participating in the "UFRO-AUT Joint Fund", with the project ([project name. It must be the same as the one registered in the proposal](#)), which addresses an important xxxxxxxxx issue for us. I accept the terms of reference of this program and commit to the following:

Participate in the identification, development, and validation to ensure that the team's proposal meets a specific demand of my company/organization.

Accompany the development of the prototype throughout the program to provide feedback to the team and to ensure that the prototype is designed based on the needs and context of my company.

Present and carry out a plan for the evaluation and validation of the technology and, if applicable, its assimilation into the operational processes or portfolio of new products of my company, indicating the activities and objectives in which collaboration will take place jointly.

Sincerely,

Full Name
Position
Email Address
Contact Phone Number