

# Institucional Report

**Erasmus+ I2LATAM:** Strengthening research and innovation in young universities for regional development in Latin America.

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## Executive Summary

The NATIONAL UNIVERSITY OF RÍO NEGRO (UNRN) is a complex organization with numerous instances (Assembly, Superior and Headquarters Councils, Rector, Rector's Secretariats, Vice-Rectorates, Headquarters Secretariats, different forms of Research and Transfer Executing Units, different teaching roles and categories, profiles, and other characteristics). Therefore, the activity of reviewing the path traveled has been an important step to be able, on the one hand, to evaluate the productivity of the resources used, and on the other, to carry out an introspection that allows us to carry out a correct planning of the R + D + i function, a function of utmost importance in the bases and guidelines of this university.

The UNRN has focused its efforts on providing answers to the society in which it is inserted, upholding the principle of associativity as a strategy for development and quality and intends to deploy teaching, research and extension activities, respecting diversity, and pluralism. The UNRN was built based on a regional model, with the purpose of serving the large provincial

territory through the application of a headquarters structure.

The UNRN aspires to be an engine of regional development through associativity, excellence, knowledge, and innovation. Among its specific objectives, it is mentioned:

- Develop scientific, technological, and artistic research that combines the search for new knowledge with regional and national requirements, meeting the needs of sustainable development of the area of influence and the whole of the Nation, proposing solutions to the economic, environmental, and social problems of the country.
- Participate in the process of local, provincial, and national technological innovation, in an articulated way with social sectors, entrepreneurs and innovators, to achieve higher levels of technological autonomy and tend to the socioeconomic development of the region and the country.
- Develop technologies and provide technical and advisory services.

The UNRN is alert to the new trends in research production that are replacing the generation of knowledge with a "useful science" that, without abandoning the global explanations of a reality to predict its behavior, poses problems to deepen aspects of that complex reality, which provides remarkable achievements and findings. An imprint to define reality to phenomena analyzed at elementary levels and deduce their properties for the analysis of complexity, is what defines current research and is shown as a future trend (Nombela, 2017).<sup>1</sup>

Likewise, the current demands of the knowledge society attach importance to the dissemination and application of emerging and transversal technologies, this lies in the capacity of transmission of information and learning to venture into frontier areas of knowledge whose novelty ensures the competitiveness of the country, the region and the industrial sector involved (Casalet, 2006). In addition, it allows to generate an important critical mass of scientists and technologists who research and interact with their peers in the creation of knowledge and international cooperation through transdisciplinary networks as a form of scientific and technological research. This requires establishing research agendas based on priorities defined jointly by universities and government agencies in the socioeconomic, energy, environmental, health, food fields, among others, to generate value in health, agriculture, mining and industry and future impacts on the way of producing, distributing and consuming products and services (Villavicencio, 2017). Consequently, the production, dissemination, and assimilation of knowledge by the various sectors that make

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<sup>1</sup> Nombela, C. (2017). New trends in scientific research, in Nueva Revista (<http://www.nuevarevista.net>).

up society become a factor of change and innovation, and therefore an engine of development.<sup>23</sup>

Although there is a tendency in the communities of scientists to focus their interests and to develop practices of basic scientific research and, to a lesser extent, of applied research to propose solutions to national priorities, to reverse this proclivity requires policies that ensure quality postgraduate degrees and incentives that turn scientists to make more than publications in indexed international journals, consolidating capacities in the use of technological tools to generate and disseminate innovation, also strengthening infrastructure, human resources and encouraging research programs in areas of vacancy and in the resolution of social problems, the socio-productive system and others. As for the socioeconomic space in which the UNRN is inserted, it shows characteristics considered both as a starting point on which we work today, as well as a point of arrival of future trajectories. The economic activity of the province of Río Negro is basically anchored in primary sectors and export complexes that have not completed their potential to achieve higher levels of value-added creation and integration of productive chains.

The vision of the UNRN involves articulating the creation of capacities that, linked together through a multi, inter and transdisciplinary approach – where possible – contribute to strengthening the social, productive, and spatial fabric of a vast territory still weakly structured.

The previous gaps that may occur in the explanation in this process of Self-Evaluation, should not lead us to neglect the importance of what has been done and consolidated as the basis of the planning and model on which it is possible to propose deepening, changes, improvements, and others.

We have gone through so far, a process based on associativism with the productive and governmental sectors, but we are aware that this must continue to be strengthened, in order to achieve the expected impact on the environment, forming a virtuous circuit between company-academy-state, without moving away from the needs of the population that is the leitmotif of the creation of this house of higher studies.

Therefore, our activity in this report also highlights and synthesizes the strategic guidelines that guide us, as a basis for building new advances in the development of the institution.

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<sup>2</sup> Casalet, M. (2006). New trends in the organization and financing of research. Article presented at the International Seminar Globalization Knowledge and Development, UNAM: Mexico.

<sup>3</sup> Villavicencio, D. (Ed.). (2017). The vicissitudes of innovation in biotechnology and nanotechnology in Mexico. Metropolitan Autonomous University, Xochimilco Unit.



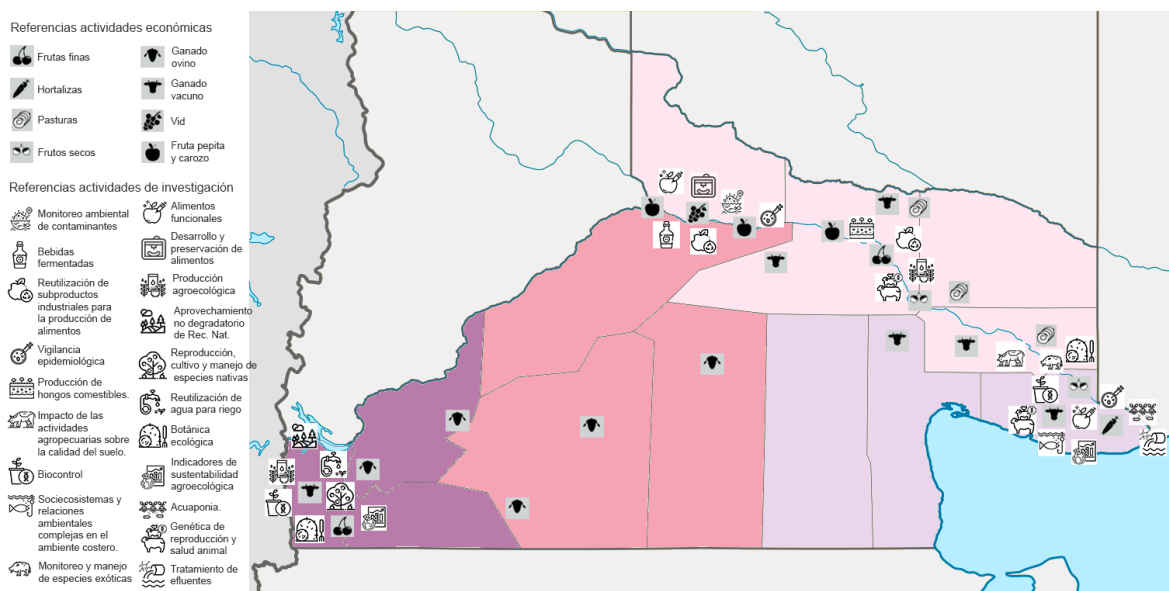
# Introduction

## About UNIVERSIDAD NACIONAL DE RÍO NEGRO and the province of Río Negro

The province of Río Negro stands out for its vast territorial extension, the richness and diversity of its natural resources and an economic trajectory strongly influenced by the evolution of a set of leading economic activities (tourism, fruit growing and hydrocarbons). The weaknesses of the specializations in natural resources that are observed in all the economies of the Patagonia region have a peculiar expression in Río Negro, given the diversity and quality of natural resources it has, as well as the presence of an outstanding scientific and technological pole at the national and regional level.

The economy of Río Negro is strongly influenced by the contributions made by the fruit complex in the region of irrigated valleys, tourism developments in the Andean region (more recently also on the Atlantic coast) and the exploitation of hydrocarbon reserves in the north of the province. However, Rio Negro also has important opportunities not only to extend its agro-industrial potential in the Lower Valley region, but also to advance in the exploitation of less used resources such as fishing and aquaculture, mining, and forest resources.

The following map shows the main economic activities that take place in the province and the investigations carried out by the UNRN.



Map 1- Economic activities and research -Province of Río Negro.

Source: own, based on IGN/DNREP data.



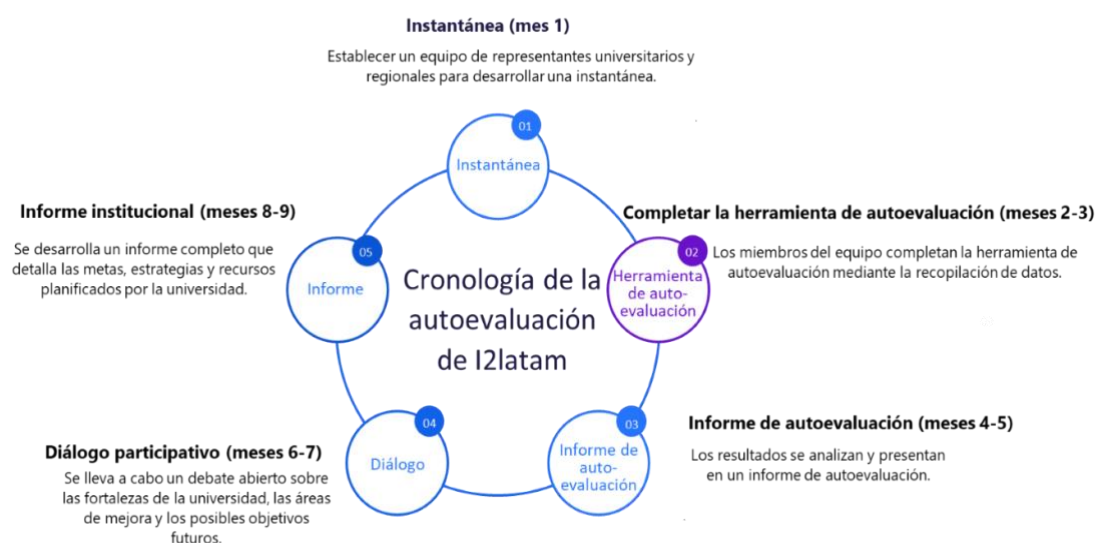
## About the I2LATAM self-assessment process

The I2LATAM Self-Assessment Process is a five-stage process that allows senior university management to assess their level of institutional support and design future actions to improve research and innovation activities related to economic development within their region. Specifically, it allows universities to:

- Assess your current and aspirational levels of support for research and innovation activities related to economic development within your region.
- Analyze the impact of the university and regional environment on participation in research and innovation activity related to regional economic development.
- Identify future actions to enhance research and innovation activity related to regional economic development.

A central feature of this process is the self-assessment tool that allows the university to score itself in 8 dimensions: profile of the regional innovation system, leadership, organizational capacity, human capital development, knowledge sharing, research collaboration, community participation and impact measurement. Your scores in these eight dimensions are then analyzed to determine your current and aspirational levels of support for research and innovation activity related to economic development within your region (see the Self-Assessment Report).

The self-assessment tool is applied through a five-stage process as follows:



## Pilot methodology at UNRN

The methodology used in this self-assessment process begins in the first WP of the i2latam project, since the analysis of existing capacities and opportunities made us reflect on the trajectory of the UNRN and the development of institutional policies.

This is how the focus allowed us to make an analysis of 4 instances of challenges:



And based on this and the guides provided, we worked on:

- leadership
- organizational capacity,
- development of human capital,
- knowledge transfer,
- research collaboration,
- community participation, and
- impact measurement.

This analysis was made with the collaboration of different institutional actors and considering different processes that the UNRN has had of self-evaluation in which the R + D + i function has been included, and in which external organizations have participated.

### *Thanks*

To our dear founding rector Juan Carlos Del Bello, who was the engine of this university, who challenged us to think that our ideas could materialize, who taught us as no one could have done, which is Science, technology, and innovation.

A Martina Brophy y Thomas Cooney de la Technological University Dublin (TU Dublin).

To all internal actors (teachers, researchers, non-teachers) and external actors who participate daily in the development of the UNRN.

# Self-Assessment Report: Analysis of the identified dimensions

## Leadership

### ANALYSIS DIMENSION LEVEL

Overall rating	Activity level	Level description	Our rating
0-20	Limited (1)	University leadership barely, if at all, supports R&I activity related to regional economic development.	
21-40	Modest (2)		
41-60	Moderate (3)	University leadership supports R&D&I activity. However, this support may be sporadic, informal, or not fully institutionalized.	
61-80	Good (4)		<b>76</b>
81-100	Very Strong (5)	University leadership fully encompasses R&I activity related to regional economic development. Leadership defends R&I activity at the institutional level and ensures that there is sufficient structural support for its development.	

### Current position: Explain the rationale for the ratings of the elements, with reference to the evidence collected in the snapshot phase

Research, development, and innovation has been an identity feature of the UNRN since its foundation, being a hybrid model, which presents elements of the Professionalist and Humboltian University, the latter with strong emphasis on the transmission and generation of knowledge. This is reflected in the policy definition that teaching and research occupy the same percentage of work commitment for full-time teachers.

This feature of the UNRN reflects the spirit of our founding rector, who dedicated his career to research on related issues in science policy and the development of higher education. In the following link, a review of our founder.

This young University presents a strong territorial anchorage, not only for the development of careers that address problems of the region of the province where they are located, but also for socio-productive development problems are addressed by the development of research groups that aim to give concrete answers. Groups that articulate their agendas with the different actors of the provincial system and plan joint goals.

The UNRN has also developed, as a service provider, to public bodies and private companies, and there is a great push from the executive for research teachers to be involved in complex technological services.

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**Suction position: refer to any aspiration activity specific to this dimension (see good practice statements)**

The UNRN has guided actions for research teachers to work towards the solution of problems in the environment where they are developed. In 2016, the UNRN received in the city of Oxford the award for the "Best Regional University" awarded by the European Business Assembly. We aspire to maintain this presence in the territory, meeting the needs of the region, fostering the virtuous link between academia and sectors.

In 2019, 10 years after its creation, the UNRN ranked 10th in the research function of Argentine Universities in the [SCImago Institution Rankings \(SIR\)](#), and in the [2020](#) and [2021](#) in position 9. This is a key indicator of the promotion of quality publishing, to give greater visibility to R&D&I development, with the implementation of clear policies related to institutional affiliation, and on which work will continue with the aim of maintaining or improving the position acquired.

We aspire to the internationalization of R + D + i, we support researchers to make stays abroad, the application of international awards, the application of projects with actors from other continents, we do it through the Directorate of Institutional Relations, which has direct contact with directors of Research Executing Units.

## Organizational Capacity Self-Assessment Report Template - Organizational Capacity

Overall rating	Activity level	Level description	Our rating
0-18	Limited (1)	Organizational capacity barely, if anything, allows for R&I activity.	
19-36	Modest (2)		
37-54	Moderate (3)	Organizational capacity allows, to some extent, R&D&I activity. However, the current level of capacity is insufficient.	
55-72	Good (4)		<b>55</b>
73-90	Very Strong (5)	Organizational capacity fosters R&I activity. Sufficient funding, experience and incentives are available to harness the potential of R&D activity between the university and the region.	

**Current position: Explain the rationale for the ratings of the elements, with reference to the evidence collected in the snapshot phase**

Since its inception, the UNRN has developed the infrastructure, not only

building but also related to HR and management, for the development of research, development, technology transfer and innovation activities. There has been a lot of initial effort to obtain sources of financing for the aforementioned investments. The Ministry of Science, Technology and Innovation has been one of these sources, since the UNRN presented itself to various calls related to the acquisition of large equipment, the development of projects of regional impact, etc. This could be developed by the degree of institutional commitment to the research function and with a solvent team of search for financing and formulation of projects. It should also be noted that this search considers all national, regional and international sources.

Regarding internal funding, calls are opened every year for research, artistic creation, development, and technology transfer projects for an approximate annual value of US\$60,000.00.

Funds from the national university budget are allocated for the assistance of resources that consolidate the research groups that are developed in executing units.

At the provincial level, it should be mentioned that the provincial government has not allocated resources for the promotion of research, only national calls have been made that allocate percentages to the financing of projects that are presented within the framework of the provinces, and the provincial application authority is the one who carries out the first stage of admission by selecting the projects under some criteria, that are consistent with the agendas that have been designed.

The UNRN has participated in several public-private consortia for the development of projects, mainly those that have a regional impact, and currently, in particular, participates in one with other state agencies: The Integrated Unit for Innovation of the Agri-Food System of Northern Patagonia ([UIISA](#)) is formed between the National University of Río Negro (UNRN), the National University of Comahue (UNCo), the National Institute of Agricultural Technology (INTA), the Institute of Development of the Lower Valley (IDEVI) and the Government of the Province of Río Negro, to promote research and development activities of the Agri-food System (SA) and promote the training of HR from the public and private sector in the east of Norpatagonia.

In relation to human resources, the UNRN has an active policy for the hiring of qualified personnel. Annually, the application of professionals to the various calls of the National Council for Scientific and Technical Research (CONICET) is encouraged not only for scholarship holders, undergraduate and postgraduate degrees, but also for income to the career of researcher.

The UNRN does not have a policy of economic incentive, or of any kind, for the incentive of research teachers related to the publications of their research.

Now, the UNRN does not have its own graduate scholarship program due to the lack of funding for these activities.

The communications area of the UNRN disseminates a weekly report of all activities, calls, etc. in the field of research, development, and technology transfer. And, in addition, he regularly conducts interviews with the various research groups that are then replicated in provincial, regional, national and many international media.

**Suction position: refer to any aspiration activity specific to this dimension (see good practice statements)**

- Maintain the maturity of the organizational structure achieved.
- Develop a management area related to the promotion of intellectual property activities, which not only fulfills purely administrative functions, but also accompanies researchers in the processes for the protection of innovative results.
- Seek sources of funding for the promotion of HR in relation to postgraduate studies.
- Seek sources of financing for the promotion of tarified publications that cannot be solved with own funds and transform it into an institutional policy.
- Collaborate in the development of a provincial R&D&I strategy that includes a survey of the current situation and possible sources of support for the development of the region.
- Develop an active collaborative institutional policy so that companies in the region know the support that the Regional Innovation System can provide to the development of their businesses.
- Consolidate a policy of internationalization of R + D + i through an individualized accompaniment of researchers so that they can formalize many actions that they currently carry out and that do not have an institutional framework.

## Human Capital Development

### Self-Assessment Report Template: Human Capital Development

Overall rating	Activity level	Level description	Our rating
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0-16	Limited (1)	The development of human capital barely, if at all, drives R&I in the university.	
17-32	Modest (2)		
33-48	Moderate (3)	The development of human capital, to some extent, drives R&I. However, the current range of human capital development activities explicitly linked to the region is limited.	
49-64	Good (4)		<b>57</b>
65-80	Very Strong (5)	Human capital development drives R&I. The close collaboration between the university and the region ensures that human capital is sufficient for the development of R&I.	

### **Current position: Explain the rationale for the ratings of the elements, with reference to the evidence collected in the snapshot phase**

Currently the UNRN does not have an active policy related to the undergraduate study plans contemplating activities related to the development of R + D + i, which generates that undergraduate student do not know what is done in the university itself and that they see this area as a potential for the development of their professional career.

Although the UNRN has been created to respond to regional problems, today there is a high percentage of careers where their curricula are not 100% oriented with this institutional mission.

Master's and doctoral theses with regional impact are supported by the UNRN, but there is no proactive policy for this activity to be a common denominator of these theses.

The lack of career academics in the region has led the UNRN to promote the incorporation of professionals in teaching activities, which is reflected in the regulations related to the types of teachers and their dedications, with a [profile of teaching and professional practice](#). Many of these additions began to go through postgraduate studies and to develop research activities, which brings the Institution closer to fulfilling its premise of Humboldtian model.

Although the UNRN has [regulations related to sabbaticals](#), at present there have only been cases where these licenses are taken to develop



investigations.

[The UNRN has a high commitment to the province in terms of young people who are in a position to start a university career in the region, without emigrating to other provinces.](#) This commitment is reflected in active institutional policies that seek to reduce university dropouts. The actions can be seen reflected in various scholarships.

The UNRN annually calls for the presentation of [Scientific and Technological Research projects](#) for the award of grants to Young Researchers.

It is not an institutional policy to grant specific incentives to researchers.

It is very important for the UNRN to involve its staff in research projects with external partners, but there is no active policy for this to happen as we consider that there is no formal consolidation of the links between academia and business. It should be noted that with the development of the i2latam project, active informal links between researchers and companies were detected.

## **Suction position: refer to any aspiration activity specific to this dimension (see good practice statements)**

- Work on a proposal for the academic area of the UNRN that incorporates R&D&I concepts in the undergraduate training, including joint activities (teaching and research) for the promotion of good practices.
- Propose a program for the Academic Units of the UNRN, to orient their curricula, and results (degree dissertations) to the regional perspective that appears in the founding documents of the University.
- Promote that the theses of doctoral and postdoctoral fellows have as their objective the approach and solution of regional problems.
- Work is being done to find sources of funding to increase the number of projects of young researchers.
- Formalize and increase the links between researchers and companies to achieve a virtuous circle, which tends to the solution of real problems.

## **Knowledge Transfer**

# Self-Assessment Report Template: Knowledge Transfer

Overall rating	Activity level	Level description	Our rating
0-20	Limited (1)	Knowledge transfer hardly stimulates R&D activity, if at all.	
21-40	Modest (2)		
41-60	Moderate (3)	The transfer of knowledge, to some extent, stimulates the activity of R & I. However, the current number and range of knowledge transfer activities explicitly linked to the region are limited.	<b>53</b>
61-80	Good (4)		
81-100	Very Strong (5)	Knowledge transfer is a driving force of R&I. An intense flow of knowledge transfer results from a wide range of channels between the university and the region stimulates the development of R&I.	

## Current position: Explain the rationale for the ratings of the elements, with reference to the evidence collected in the snapshot phase

While much has been achieved in promoting knowledge transfer activities, we are aware that we have a long way to go.

A very important aspect to highlight is that the UNRN includes within its council's members of institutions and companies of reference in the region, thus including regional stakeholders in governance functions.

In relation to the spaces for the incubation of technology-based companies that can contribute to regional development, so far, the effort has been oriented towards the formation of solid teams of basic issues, but little by little, and as far as possible, HR specialized in support related to the transfer of knowledge have begun to be hired. What we have been able to form is a solid management team that supports knowledge transfer activities.

We have worked on the creation of clusters that enhance regional economies, such as the [Cluster of Nuts of Norpatagonia](#), where we not only give technical assistance to problems, but we accompany their growth with a [specific postgraduate](#) offer.

We have evolved in the regulations related to the transfer of knowledge, adapting it and making it conducive to the participation of teachers, researchers, non-teachers and undergraduate and postgraduate students, since we consider that, in institutes, centers and [laboratories](#) there is a great potential to promote the linkage and transfer of technology.

We are a university that has an area that deals with the provision of services, but so far it has only been on demand not having a strong policy of link with potential plaintiffs. Although we want to act, and for this we have cataloged all our routine technical services, and we adapt to the demands of companies and institutions in consultancies, for which we assemble interdisciplinary teams and from different regions of the province where the University is present, which becomes a strength for our comprehensive responses and for the knowledge of the territory.

Today we do not have a professional development program related to continuing education. So far, the offer of it has been by proposals of teachers specifically, but these do not represent a programmed development plan.

There is an [intellectual property regulation](#) which has been drafted by conducting a study of the good practices of other national universities and the Ministry of Science, Technology and Innovation of the nation.

## **Suction position: refer to any aspiration activity specific to this dimension (see good practice statements)**

- Specify the habilitation of spaces for the incubation of technology-based companies with regional roots.
- Actively work in the development of clusters with regional economies, such as with the Bariloche Scientific and Technological Pole of Translational Research and Medical Supplies.
- Increase the exchange of knowledge with external actors through participation with chambers of professionals and businesses, promote the participation of students in exchange programs and internships, reformulate study programs and guide them to problem-solving learning in conjunction with regional companies.

Promote the balanced development of the Executing Units of Research and knowledge transfer, since there are units strongly linked to the environment and others with incipient connections.

- Diversify the provision of services, which are currently concentrated in certain specific areas by incorporating a survey of the equipment available at the University.
- Consolidate the transfer of technologies, as we have established in the [Institutional Development Plan 2019-2025](#) (PDI).
- Generate and articulate meetings between external applicants and the specialized professional of the University that allow to meet the current needs, as well as identify potential areas of opportunity to promote local and regional technological and productive development.
- Promote an IP policy, including training for internal and external actors, with the aim of promoting feasible developments in protection and its registration.
- Work with the Continuing Education area of the UNRN on the feasibility of carrying out continuous training programs that help the regional productive sectors, and to the demands of professionals.

## Research Collaboration

### Self-Assessment Report Template: Research Collaboration

Overall rating	Activity level	Level description	Our rating
0-18	Limited (1)	Collaboration in research barely, if at all, encourages R&I activity.	
19-36	Modest (2)		
37-54	Moderate (3)	Research collaboration, to some extent, encourages R&I activity. However, the current number and range of research collaboration agreements explicitly linked to the region are limited.	<b>49</b>
55-72	Good (4)		

73-90	Very Strong (5)	Research collaboration is fundamental to R&I. A wide range of recurring research collaboration agreements between the university and the region strengthen the development of R&I.	
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**Current position: Explain the rationale for the ratings of the elements, with reference to the evidence collected in the snapshot phase**

We are a very active University in the application of projects to obtain external financing. We are very active in the search, dissemination of calls, and then we accompany the groups until the applications can be specified, which are not in all cases selected, since we live in a very competitive national context and with few resources. Although the research groups that consider these proposals are few, since the system has the great weakness that the production is measured by publications and not by R + D + i projects where not being selected has a great probability and the demand for time in its formulation is high.

We have no income from licensing, the income from funds is based on specific consultancies demanded by different productive sectors and is very low in relation to the budget of the university.

Our income from the provision of technical services is incipient, since in our country companies are reluctant to pay for the services of public universities, since it is established in the group that because the institution is public, must provide services free of charge.

Companies in our country are going through a deep stagnation due to the fall in domestic consumption, and export restrictions, which makes the sponsor of chairs almost nil. Only a few isolated examples of large corporations (Banking) investing in the sponsorship of graduate students have been presented.

**Suction position: refer to any aspiration activity specific to this dimension (see good practice statements)**

- Consolidate our position by promoting post agreements of a collaboration with the actors of the context to achieve a virtuous process.
- Make a presentation of the most active technological offer, visiting regional

companies with researchers and technical staff. This will be the gateway to be able to think about carrying out joint actions related to continuing education programs and sponsoring academic and promotional activities.

- Work on the protection of research results, since at present the UNRN does not have specialized technical professionals, we work with a support group from another national university, this will facilitate the training of its own personnel.
- Put into operation large equipment acquired by the UNRN so that they can provide services. It should be noted that the main weakness is the lack of human capital for the start-up of equipment.
- Begin a process of dissemination of research activities so that more members of the university community can join.
- Carry out a survey of the most important networks in relation to research collaboration, to cover the participation of the UNRN.

## Community Engagement

### Self-Assessment Report Template: Community Engagement

Overall rating	Activity level	Level description	Our rating
0-10	Limited (1)	Community engagement barely, if at all, triggers R&I activity.	
11-20	Modest (2)		
21-30	Moderate (3)	Community engagement, to some extent, triggers R&I activity. However, the level of R&I committed to the community that is explicitly linked to the region is limited.	29
31-40	Good (4)		
41-50	Very strong (5)	Community engagement induces R&I. Community engagement between the university and the region prevails and is of strategic importance for the development of R&I.	

**Current position: Explain the rationale for the ratings of**

## **the elements, with reference to the evidence collected in the snapshot phase**

We are a university with a large territorial presence, contributing to the third mission, although we do not yet have mechanisms to measure this impact on the territory. In Argentina, these activities are called Extension, which are part of the institutional policy of the UNRN.

Extension is the university function that, together with Research and Teaching, constitutes one of the three pillars of academic activity. The characteristics of the UNRN, such as its territory (extension and diversity), its "relational" character, the interest in linking directly with the economic and political life of its environment, its incipient organization, its regionality, among others, generate the need to think of novel ways of working, as well as alternative channels, not only of communication but also of implementation and monitoring of Extension policies. The UNRN includes the Extension, characterizing it as the convergence of the remaining functions, with "breadth of spirit", sealing the commitment of the University with the resolution of social problems, with the attention of cultural development through the contribution to raise its level (that is, as an added value with knowledge). On the other hand, it alludes to the Extension linked to technological innovation articulated with social sectors; with community action and empowerment of citizens; with training at the service of the people and linkage with labor organizations (continuing education). The articulation with municipalities, with provincial agencies and with local social and cultural expressions, together with the promotion of activities to promote sensitivity for social commitment, are definitively manifested in various articles of its Statute. The "gray area" of the Extension function can be observed with actions and activities that are developed in R + D + i, such as technology transfer and scientific dissemination, among other issues, which have been discussed in the previous chapter and that for reasons of institutional organization it is considered convenient that both issues are addressed by the research area.

The complex social situations that our communities go through, the current demands demanded by professionals at the height of the circumstances, capable of responding, intervening, sharing and articulating their knowledge with those of the community, the interest and commitment of this relational University in participating in the designs of public policies, the fair and correct combination with the functions of Teaching, Research, among other purposes, constitute the scenario in which the Extension must deploy its development.

Actions aimed at the care, prevention and promotion of health, advice on



different topics that call for diagnoses and interventions in different areas and levels, accompaniment in processes of revitalization and / or strengthening of the cultural manifestations of indigenous peoples, the use of new technologies, the care of the natural resources of our region, the work with communities in conditions of vulnerability, the training of non-university citizens, the new forms of family, labor, economic organization, the defense of Human and Civil Rights, the new legal paradigms that force to rethink the work devices, gender issues, the construction of identity, violence expressed at different levels, environmental care, the restoration of cultural heritage and other issues constitute – just to mention a few among several others – those that demand a deep reflection on the professional role demanded by our ability to intervene from a public sphere and with a community order device, which attends to the current particularities in order to contribute to the resolution of problems.

In this way, the University Extension is in a process of constant growth. Management must be at the same time as new demands, contributing to improving the quality of life of the population, rebuilding the social fabric and strengthening identity.

In line with the previous expressions, the UNRN conceives of university extension in its broadest form, as part of the strategy and style of development of the institution.

In short, it is about assuming its social function: to contribute to the highest and best quality of life in society. The recipients are the vulnerable sectors, the public and private sectors (professional councils, community organizations and the third sector), the productive companies of goods and services and, of course, the university community itself.

The function of the Extension is thus developed by the entire educational community from its teachers, its students and researchers and its non-teaching technical staff, as well as its graduates.

In this way, the institution has consolidated itself through numerous Extension projects, in its various areas of intervention, as can be seen from the information recorded in the annual reports of the UNRN.

This opens up a great challenge to be faced in the coming years to achieve this goal. It is clear, then, in the light of the considerations expressed here – as well as the various processes of institutional diagnosis carried out in recent years – that the UNRN has defined and included since its creation the field of ideas and intervention around university extension and that what is prescribed in the [Statute](#) accounts for a political will on the subject. It is also true that there are still definitions around the guidelines that guide programs, plans, projects and activities of Extension. That is why,



considering it a substantive and strategic function of the university, the UNRN intends to adopt for the activity of Extension a model of integral development from the democratization of knowledge, assuming the social function of contributing to improve the quality of life of society for the social and economic transformation of peoples.

## **Suction position: refer to any aspiration activity specific to this dimension (see good practice statements)**

The general objective of strengthening university extension will be to strengthen the extension capacities of the UNRN through the development of actions that promote the hierarchy and quality of university extension in the institution.

With the specific objective of:

- Consolidate the work team and achieve the appropriation of the social approach of the Extension by the staff of the UNRN at all levels.
- Consolidate an Extension training program aimed at UNRN staff.

To prioritize the Extension in the academic recognition of the teaching staff of the UNRN and in the career of the non-teaching staff.

- Install the UNRN as an active and relevant institution in academic networks linked to University Extension and community participation.
- Strengthen linkages and co-management of proposals with the Rionegrin community.

We aspire that not only the community demands, but that the UNRN can be proactive in community problems, in those problems that are often not only solved with R + D + i but with knowledge transfer, with the organization of community processes, with providing guiding mechanisms for the harmonious social functioning.

We believe that it is necessary to work on a system of measurement of the result of the Extension activities in order to evaluate what has been the path traveled.

## **Measuring Impact**

## Self-Assessment Report Template: Measuring Impact

Overall rating	Activity level	Level description	Our rating
0-16	Limited (1)	Measuring the impact of R&I activity hardly occurs, if at all.	
17-32	Modest (2)		32
33-48	Moderate (3)	Measuring the impact of R&D activity occurs to a certain extent. However, certain valuation and evaluation methods are underdeveloped or unrelated to regional impact.	
49-64	Good (4)		
65-80	Very strong (5)	Measuring the impact of R&I activity is well developed. Specific and comprehensive evaluation, evaluation and feedback mechanisms and procedures have been implemented to measure the impact of R&D in the region.	

### Current position: Explain the rationale for the ratings of the elements, with reference to the evidence collected in the snapshot phase

Measuring the impact has been a problem until 2019, where the [PDI](#) was developed that established a series of strategic objectives 2019-2025. Based on this tool, a series of institutional indicators were established by areas to be able to measure the degree of progress of these. The process is constantly under review, and 2021 will be the third year of measurement.

According to the [PDI](#) in force at the UNRN, it is important to note that Río Negro has certain particular characteristics that deserve to be highlighted:

The production, dissemination, and assimilation of knowledge by the various sectors that make up society become a factor of change and innovation, and therefore an engine of development for the UNRN.

The UNRN consolidates capacities in the use of technological tools to generate and disseminate innovation by also reinforcing infrastructure, human resources, incentives for research programs in areas of vacancy and

in the resolution of social problems, of the system socioproductivo and others. It should be noted that by analyzing the data of the province where the UNRN has the highest percentage of activities, there is little impact on the socioeconomic and productive development that have had, to date, the institutions linked to R + D + i that, for historical reasons, have been based in this territory. Although its institutional objectives were linked to national level policies (e.g. nuclear and aerospace industry), its establishment can strengthen R&D&I policies focused on regional development.

In the first ten years of the UNRN, significant links have been established between academic and research activities with the entities, actors and economic, social and cultural processes of the province and region of Norpatagonia. The tour of the more than 600 research, development and technology transfer projects executed and in execution; as well as the object and lines of research related to the 16 Executing Units of research and knowledge transfer, show the concern or approach that has prevailed in terms of addressing the resolution of problems or social and economic needs with a perspective of regional development.

## **Suction position: refer to any aspiration activity specific to this dimension (see good practice statements)**

We aspire in 2025 to consolidate the institutional evaluation system that will allow us to evaluate what has been done, see the deviations and replan a horizon with more support, based on the experience of previous years.

It would be desirable to have metrics that allow us to:

- Determine the impact of our R&D&I activities.
- Determine the contribution to the regional economy.
- Determine the efficiency and effectiveness of the processes.
- Keep track of productivity.

Determine the extent to which the resources available to the UNRN can contribute to the potential for regional development.

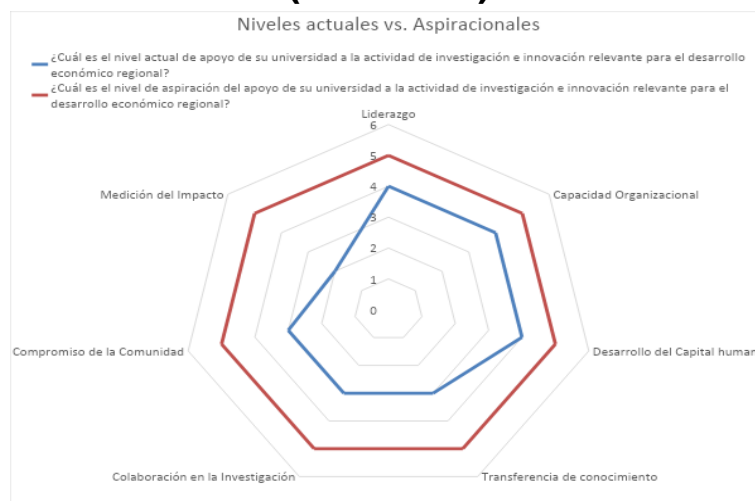
# Scorecard

## ANALYSIS TOOL LEVEL

### Scorecard - Current and Aspirational Levels (SAMPLE)

	What is your university's current level of support for research and innovation activity relevant to regional economic development?	What is the level of aspiration of your university's support for research and innovation activity relevant to regional economic development?
Leadership	4	5
Organizational Capacity	4	5
Human Capital Development	4	5
Knowledge transfer	3	5
Research Collaboration	3	5
Community Commitment	3	5
Impact Measurement	2	5

### Spider Diagram - Current and Aspirational Levels (SAMPLE)



# Participatory dialogue

## On participatory dialogue

Participatory dialogue is an open debate (e.g. a workshop) between university management, staff, students and key stakeholders from the region regarding the university's ability to engage in R&D activities related to regional economic development. The purpose is threefold:

1. Determine whether the results of the Self-Assessment Report fully, accurately, and fairly represent the degree to which the university is involved in research and innovation activities related to regional economic development.
2. Confirm swot and PEST analyses of research and innovation activity promoted by universities related to regional economic development.
3. Identify the future actions that the university should undertake to enhance research and innovation activity related to regional economic development.

First, the university's self-assessment team must submit the results of its self-assessment report. Second, the university's self-assessment team should receive feedback on SWOT analysis and PEST analysis (see analysis below) from external members. Third, all members of the participatory dialogue should articulate the future actions to be taken by the university to improve research and innovation activity related to regional economic development (see future actions below).

## About participatory dialogue at UNRN

Participatory dialogue between internal actors occurs naturally at the UNRN. On a daily basis we are rethinking our actions taking into account internal measurement mechanisms, which as mentioned in this document, we must work more, much more, on them.

That is why different meetings were held with key internal and external actors, in order to generate a "back and forth" and work on the formulation of guidelines.

## University

## **University Strengths: the areas of R + D + i in relation to the regional economic development in which the university is**

The UNRN has an ["Institutional Development Plan 2019-2025 UNRN"](#), conceived as an organizer of the institutional objectives and the desired socio-institutional practices, the result of a work of analysis of the data delivered by external evaluators and of the participatory elaboration of all the actors involved in university life, in which the R + D + i function occupies a substantive place.

Representation of external actors in the government of the University, involving the community in which it is based in the university and Institution policies. In particular, the participation of national and private Science and Technology organizations with voice and vote ([CONICET](#), [INTA](#), [CIATI](#), [INVAP](#), [Provincial Government](#)) is [highlighted](#).

High territorial presence, due to the multi-headquarters and multi-campus conformation established in the Statute of the UNRN.

Prolific activity of connection with other academic and scientific institutions in the country and abroad.

Adequate flexibility in the definition of lines of research, prioritizing in the foundational stage the recruitment of human resources of excellence over the current orientation of their projects. The development of the University during these years has allowed to reach a consensus on the importance of linking scientific-technological activities with regional needs.

Process of generation and definition of priorities for R + D + i supported by participatory mechanisms that generates a slow, but effective, reconversion of lines of research with which academics initially joined (in many cases, individual lines of research that had already been working in other institutions).

R&D&I is oriented to the academic offer of each of the regions of the province, and in most of these, academic development has been determined by opportunities and regional demand. This has given the UNRN a leading role in territorial economic development.

The proactivity to found and develop R&D&I capacities in the territory is highlighted, oriented largely to its themes, maintaining institutional integrity despite the diversity of the contexts of each headquarters.

Active and proactive institutional policy for the establishment of researchers.

From the installation in the territory of the different locations, which operate Research Executing Units, the demand for complementary economic activities to the installation of R + D + i itself has been generated.

R&D&I activity that combines long-standing projects and experience with topics that are beginning to venture into local and regional problems.

The multicampus territorial presence allows the joint and fluid work with intermediate institutions and municipal and provincial governments, to address emerging problems, coexists with the direct link between the generation and application of knowledge with different sectors of society.

## **Weaknesses (potential for improvement): the areas of activity of R & D +i related to regional economic development that the university could realistically improve**

- Lack of qualified HR in the region, such as, for example, project opportunities and other activities are lost due to lack of linkers, that is, human resources with training in these tasks.
- Remoteness and poor connectivity to large national urban centers, where the necessary equipment and supplies for R + D + i are marketed.
- Low or no postgraduate offer to accompany regional economic development.
- Although there is a permanent program of postgraduate scholarships, it is not implemented due to the lack of economic resources.
- Researchers and technologists do not have a pace of work that accompanies the urgency of the demand of the productive sectors.
- There is a lack of synchronization between university policies and the strategic guidelines of the municipalities where the UNRN headquarters are located.
- There are no systematic studies that allow identifying areas of vacancy for problem solving and thus determine projects and lines of R + D + i.
- However, in the Higher Research Council the representatives of headquarters participate, the collaboration in the definition of R + D + i priorities is null.
- Despite the interdisciplinary nature with which the University was created, in practice, there is little interdisciplinary work, that is, there is still not enough articulation between explicit policies and objectives with the implicit function and objectives of R + D + i.
- Informal links of researchers with the productive sector of the region, which makes it impossible to quantify the relationship between academia and business.
- Lack of spaces for the incubation of technology-based companies that can contribute to regional development, since, until now, the effort has been oriented towards the formation of solid teams of basic issues, but little by little, and as far as possible, hr specialized in support related to the transfer of knowledge have begun to be hired. What we have been able to form is a solid management team that supports knowledge transfer activities.
- UNRN does not have professional development programs related to continuing education. So far, the offer of it has been by proposals of teachers specifically, but they do not represent a programmed development plan.
- UNRN has failed to develop plausible licensing technologies.
- The activity of consultancies is still incipient, and the funds they contribute to the development of R + D + i are low in relation to the expenses that the same demands.

## **Opportunities: internal and external opportunities for the university to develop areas of R&D&I activity related to regional economic development**

- The interdisciplinary nature with which the University was created (focusing on problems rather than disciplinary fields) makes it possible to define internal policies and stimulus instruments to organize R&D&I activities around specific problems.
- The UNRN has a critical mass of HR in R + D + i to develop an active collaborative institutional policy so that companies in the region know the support that the Regional Innovation System can provide to the development of their businesses.
- The establishment of HR from other institutions provides opportunities for linkages that allow learning and improving skills.
- There is a potential for substantive development in one of the headquarters of the UNRN, Sede Andina, since there it meets in the city of San Carlos de Bariloche one of the largest concentrations of scientists in the country, occupying a prominent position in the rankings of the main indicators of CyT at the national level. It is a set of technology-based institutions and companies that carry out a wide variety of projects, mostly mobilized by national public funds.
- There is a potential for collaboration and knowledge transfer that the socio-productive environment is not able to demand.

## **Threats: external and international health for the university in areas in development of R&D&I activities related to regional economic development**



- There is a substantial backlog in technology and innovation in the region. As the regional economies develop in it, they are going through a time of stagnation caused by national economic problems. What it does, that these, concentrate on solutions to basic issues without being able to project the business.
- The business ecosystem does not have the practice of demanding R&D&I solutions from institutions of the system CyT, and on many occasions they consider that this collaboration should not be remunerated financially.
- Companies in our country are going through a deep stagnation due to the fall in domestic consumption, and export restrictions.
- The outstanding scientific capacities of the province face, despite the numerous efforts and recent advances, the challenge of achieving greater interaction and linkage with the provincial and regional productive fabric, in such a way that they contribute to the economic development of the province.

## Región

### **Political-regional factors (e.g. government regulation, funding) that could affect the university's engagement in R&D&I areas related to regional economic development.**

- At the provincial level, it should be mentioned that the government has not allocated resources for the promotion of research, only national calls have been made that allocate percentages to the financing of projects that are presented within the framework of the provinces, and the provincial application authority is the one who carries out the first stage of admission by selecting the projects under some criteria, that are consistent with the agendas designed.
- Inefficient development of a provincial R&D&I strategy that includes a survey of the current situation and possible sources of support for the development of the region. It is of recent creation the RN Innova Agency whose mission is to design transversal and integrative policies between the different organizational levels of the Provincial State, which allow optimizing their resources through innovation, modernization, and technological transformation

## **Regional-economic factors (e.g. employment rates, sectoral/business growth) that could affect the university's engagement in R&D&I areas related to regional economic development**

- The UNRN has economic autonomy since its dependence is on the National State. That is, we do not depend on regional economic resources to meet the objectives and fulfill the commitments assumed in terms of R + D + i.

## **Social-regional factors (e.g. culture, demographics) that may affect the university's engagement in R&D&I areas related to regional economic development**

- The exodus of students from the region to the large cities where the most renowned universities in the country are located is an important problem that the region had until the seat of the UNRN and the strengthening of this, that is why it is in constant study of the academic demand to be able to offer a variety of careers according to the mission for which the UNRN was created.
- The region is a vast territory of 203,013 km<sup>2</sup> in which very sparsely populated areas are located, where population growth is not projected either in the short or long term, due to a hostile climate for settlement and the lack of services for human development.

## **Regional technological factors (e.g. innovation rate) that could affect the university's engagement in R&D&I areas related to economic development**

- Today the region presents a high potential for new technological developments that will not only demand operational HR, but highly trained, such as Green Hydrogen. This represents an important technological development for the region, given that the UNRN has the resources to accompany it, which will enhance not only the participation of this in the process, but the seat of new professionals.
- As mentioned, the Andean region has the highest percentage of the nation in terms of the number of researchers per km<sup>2</sup>. This means that the region is prepared or has the capabilities to accompany the technological developments that arise, assuming challenges.

Therefore, we consider that the UNRN has great potential to accompany

regional development in terms of technological factors, and that since its creation a horizon based on R + D + i has been planned not only at the institutional level, but also at the level of regional impact.

## **Future accions**

### **Actions needed to maximize strengths in carrying out activities of R & D +i for the development of regional economy**

- It is essential to monitor the actions proposed in the Institutional Development Plan 2019-2025 UNRN (PDI), mainly in relation to R + D + i, since it also includes future objectives to maximize the link with the regional productive sectors, in pursuit of the enhancement of economic development. Currently, the UNRN is beginning the process of reviewing the PDI to measure deviations and begin working on the new plan 2026-2032.
- The external actors that are part of the UNRN government are fundamental to strengthen ties, relieve the demands of the region, and bring to discussion issues related to regional development. Therefore, an articulated and in-depth work with them is essential, so that they become strategic partners in this context of deep crisis. We believe that they can contribute to the efficiency that is sought at this time.
- The existing HR in management must continue with the processes of promoting the offer of services, strengthening links with intermediate institutions and provincial governments, in pursuit of a joint work that allows the UNRN to prioritize lines of research, collaborate in problems of companies related to the training of its staff, continue to orient the academic offer to regional demand. This will be part of the proactive policy maintained by the UNRN.
- Needless to say, a key factor in this whole process of maximizing strengths is the participatory and reflective dialogue with society, and this is achieved with a presence in discussion spaces.

### **Actions needed to take advantage of the opportunities of the activity of R & D +i for the development of regional economy**

From what is stated in the SWOT analysis, the opportunities are many, given the potential degree of development of a region that has directed its efforts to have a scientific pole in the province.

In this favorable context for professional development, actions aimed at developing a profile to strengthen R&D&I will continue, taking advantage of the [CONICET call](#) annual for universities of less development and also, looking for profiles among graduates for the beginning of their postgraduate courses oriented in the challenges that mark the course of the region.

The UNRN will accompany the region with specific actions with the development, for example, of the [RN Green Hydrogen Strategic Plan](#), [Bariloche Technology Park](#), among others.

To reverse the low demand of the business ecosystem, Search Conferences will be promoted with the different sectors to which the UNRN can provide services and technical assistance. Another possible action is to disseminate the success stories.

## **Actions needed to work on weaknesses in carrying out R & D +i for the development of regional economy**

The lack of qualified HR in the region is periodically mitigated with the search for personnel from other regions, with the opening of lines of research oriented in specific profiles and with the successive promotions of graduates of our Institution.

It collaborates with the training of HR in R&D&I management through the offer of training and with possibilities that are presented in distance careers.

In 2022, the dictation of the Specialization in Technological Management will be resumed at the Andean Headquarters of the UNRN, which trains professionals oriented to Technological Linkage, a necessary profile to enhance the Academy-University-State link.

This will be complemented by actions to find sources of funding for the promotion of HR in relation to postgraduate studies.

To strengthen, on the one hand, the link of our researchers with the productive sectors, and on the other, to formalize informal relationships, joint activities are projected between the different actors to promote a collaborative process in which our researchers can have more proximity with regional producers, links for interdisciplinarity will also be developed.

It is planned in the medium term, to work actively in the consolidation of spaces conducive to the generation of technology-based companies. It will be studied whether it could be realized with the support of entities already developed to make resources efficient.

Diversify the provision of services, which are currently concentrated in certain specific areas by incorporating a survey of equipment and HR. HH available at the University.

Promote an Intellectual Property policy, with the aim of promoting feasible developments of protection and its registration, for its subsequent licensing.

Establish a process of dissemination of research activities so that more members of the university community can join.

Carry out a survey of the most important networks in relation to research collaboration, to cover the participation of the UNRN.

We aspire in 2025 to consolidate the institutional evaluation system that will allow us to evaluate what has been done, see the deviations and replan a horizon with more support, based on the experience of previous years.

It would be desirable to have metrics that allow us to:

- Determine the impact of our R&D&I activities.
- Determine the contribution to the regional economy.
- Determine the efficiency and effectiveness of the processes.
- Keep track of productivity.
- Determine the extent to which the resources available to the UNRN can contribute to the potential for regional development.

## **Actions needed to protect against threats to the activity of R & D +i for the development of regional economy**

- In relation to the substantive delay in technology and innovation, in the region, the university will have to seek external financing and equip itself, to provide solutions that help mitigate the stagnation. Another possible action is to interact with regional consortia and producers to develop a culture of seeking external financing.
- To reverse the low demand of the business ecosystem, Search Conferences will be promoted with the different sectors to which the UNRN can provide services and technical assistance. These meetings should work to reverse the misconception that the university should provide advice / solutions free of charge because it is public. Another action is to disseminate success stories.
- Actively collaborate with the provincial government to strengthen the link and interaction with the provincial and regional productive fabric, especially in the generation of trust, lost after many years of non-fulfillment of promises or agreements.

