



## Ruta N

connects academia, businesses, and government to develop the science, technology, and innovation ecosystem of Medellín

**Ruta N develops** the science, technology, and innovation ecosystem of Medellín to bring disruptive transformations to social processes. It seeks to connect organizations and attract foreign and local capital to use as donations or seed funding in social-impact initiatives.

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### LOCATION:

Medellín, Colombia



### MAIN PARTNERS:

- Alcaldía de Medellín
- Empresas Públicas de Medellín, EPM
- UNE
- Proantioquia
- Medellín Chamber of Commerce for Antioquia Universidad Eafit
- Universidad de Antioquia Accenture
- Fundación Saldarriaga Concha
- Others



### TYPE OF INVESTOR/SILO:

Public sector and multilateral institutions



### MOTIVATION/PROBLEM TO TACKLE:

Lack of investment and tools to support social innovation projects with potential impact on the city's development; the need to set up an entity in charge of channeling resources for initiatives in the Science, Technology, and Innovation (STI) ecosystem of Medellín.



### FINAL BENEFICIARIES:

Entrepreneurs involved in science, technology, and innovation with a positive social or environmental impact.



### DURATION

2019 –now



### TYPE OF FINANCING:

Donations, equity, hybrid mechanism.

### RESOURCES INVESTED OR DONATED:

USD 25,000 on average



### NON-FINANCIAL SUPPORT OFFERED:

- Business model and/or strategy
- Financial management
- Governance
- Operational (marketing, logistics, IT, sales, purchases, legal.)



### SECTOR:

- Technology
- Economic and social development



### SDGS ADDRESSED:

### IMPACT:

COP 1.9 billion approximately

USD 500,000

attracted in capital to finance social business and innovation initiatives.



45 social businesses strengthened.

More than

600 individuals

trained in entrepreneurship, especially youth in Adolescent Criminal Liability Facilities, students in grades 10 and 11 in public education institutions, and adolescent mothers.



13 connections

with investment capital or donation resources.





## BACKGROUND AND CONTEXT

Medellín has been one of the Colombian cities most affected by war and violence. Phenomena such as drug trafficking, the presence of illegal armed groups, and threats to the civilian population have greatly affected the city. When Ruta N was created in 2010, expenditures for defense, security and justice, and Plan Colombia accounted for approximately 5%<sup>1</sup> of GDP while—according to the Science and Technology Observatory (OCyT)—investment in science, technology, and innovation activities was 0.411%<sup>2</sup> of Colombia's GDP.

However, the city understood that it had great potential to develop this field in order to promote socio-economic development. Several institutions—including Comité Universidad, Empresa y Estado—identified the need to establish an entity in charge of channeling resources to promote innovation and knowledge as a driver for change, realizing the lack of investment and tools to support this type of projects.

Ruta N was thus created, with the purpose of proving that science, technology, and innovation can be used to tackle the country's social challenges and improve the quality of life of citizens, bringing together academia, businesses, and government.



## DESCRIPTION

Ruta N is a public institution that works to develop the science, technology, and innovation ecosystem of Medellín. One of its main focuses is social innovation: it seeks to connect different organizations and attract foreign and local capital to deliver it in the form of donations or as seed funding. In addition, Ruta

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<sup>1</sup> Otero Prada, Diego (2016). *Los gastos de la guerra en el conflicto interno colombiano, 1964-2016* (Pag. 82). Instituto de Estudios para el Desarrollo y la Paz, Indepaz - Corporación Universitaria de Ciencia y Desarrollo. Accessed at: <http://www.indepaz.org.co/wp-content/uploads/2018/09/Los-Gastos-de-la-Guerra.pdf>

<sup>2</sup> Periódico Portafolio (July 2011) En Colombia necesitamos más innovación. Accessed at: <https://www.portafolio.co/opinion/redaccion-portafolio/colombia-necesitamos-innovacion-132068>

Ruta N works to bring together actors to lead economic evolution and effect disruptive transformations in social processes.

Ruta N is a non-for-profit corporation owned by Alcaldía de Medellín (Mayor's Office), EPM,<sup>3</sup> and UNE<sup>4</sup>, which makes it a public entity governed by private law. Its Board of Directors, chaired by the Mayor of Medellín and composed of different actors from the public and private sectors, sets out the main guidelines for the organization. An agenda is defined on economic development issues, which helps determine the challenges for the city and how to encourage the ecosystem's actors to participate in solutions.

In addition to being involved in science, technology, and innovation, the social businesses that Ruta N supports must meet special criteria: i) have a potentially self-sustainable (in financial terms) business model, ii) be at a validation stage, after a management review, and iii) have 2-5 years' experience since its creation.



## IMPLEMENTATION

Ruta N seeks to organize the science, technology, and innovation ecosystem to transform Medellín into an economy of knowledge, where innovation is the main driver for development and acts to respond to economic and social change.

To achieve this, Ruta N has set out four pillars of transformation.<sup>5</sup>

- Human talent that responds coherently to the needs and requirements of the knowledge-based economy.

<sup>3</sup> EPM: Empresa de Servicios Públicos de Medellín (public utilities company).

<sup>4</sup> UNE is an EPM telecommunications company.

<sup>5</sup> Gutiérrez, José. Apuesta de una ciudad por la innovación: caso Ruta N. Universidad EAFIT. Accessed at: <https://www.eafit.edu.co/escuelas/administracion/emprendimiento-academico/bitacora-de-innovacion/casos-catedra-de-innovacion/Documents/Articulo%20Ruta%20N%202018.pdf>

- ... Business and entrepreneurial capacities to be competitive and productive in the creation of high added value.
- ... Financial capital available to the city's enterprises and entrepreneurs, based on science, technology, and innovation.
- ... Social capital that enables the creation of an innovation ecosystem in the city.

Ruta N brings together enterprises, universities, government, and civil society to make these four pillars possible, which facilitates working conditions and eliminates barriers in the innovation scenario. In addition, it attracts talent for social-business projects, as well as international and national capital to finance businesses and projects.

### Tailored Finance

To provide financial support to social businesses, Ruta N acts as an articulator between supply and demand, leveraging approximately COP 70 pesos from external sources for each peso that it invests in a fund. This is the case of the fund for the research agenda of the universities of Medellín, in which it invested COP 250 million (approximately USD 70,000)—today it has around COP 18 billion (approximately USD 5,000,000).

Funds are granted to the entrepreneurs in the form of a donation, convertible debt, or hybrid mechanism, depending on the social business' conditions and return capacity. If they are at a very early stage, conditions are offered to promote the social business. However, if they are more mature and have growth possibilities with concrete projections, they are offered convertible debt or equity (the latter in very few cases.)

Another alternative to enable capital is by educating the corporate sector to invest in innovation. Ruta N created training programs to guide large companies on investment in innovation and the tools needed to make this type of investment. Additionally, it has worked hand in hand with banks to make them more flexible and help them understand the world of risk investment and innovation, so that they can provide



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more flexible lines of credit for startups or innovation projects, thus strengthening their role as a market builder in the city.

With this in mind, Ruta N has enabled—together with Bancolombia—around COP 95 billion (approximately USD 25 million) in lines of credit. These loans are both for SMEs and small social businesses (with grace periods of up to 18 months and financing ranges from COP 100 to 500 million), and for mature businesses—7 to 15 years, with loans of up to COP 2 billion (approximately USD 540,000). These lines of credit are not aimed at working capital but at specific projects that are already generating sales. The latter line has been led jointly with other public organizations such as Fondo Nacional de Garantías and iNNpulsa.<sup>7</sup>

Ruta N has organized Smart Capital, an event that is part of these initiatives for financing and access to capital. Smart Capital focuses on attracting investors from all over the world to connect them with outstanding enterprises and projects in the city.



### Non-financial Support

Ruta N makes calls so that organizations that offer seed funding or donations connect through different exchanges, such as events and activities, to promote social businesses that are scalable, sustainable, and relevant for the social context of the city.

Non-financial support provided to entrepreneurs depends specifically on their needs. It seeks to build capacity through different vehicles, such as the business innovation laboratory, by means of which entrepreneurs structure their business idea in five sessions. “It is a space where the participating enterprises’ teams meet with the consulting team, partners from the STI ecosystem, and subject-matter experts, in order to validate new service models, products, or business models by using streamlined methodologies, tools, and best practices.”<sup>8</sup>

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<sup>7</sup> Fondo Nacional de Garantías (National Guarantees Fund) was created by the Colombian government to improve access to credit for small and medium-sized enterprises through a guarantee model in which the fund acts as guarantor of the debt in the event of default before financial intermediaries.

<sup>8</sup> Ruta N. Laboratorio de innovación. Accessed at: <https://www.rutanmedellin.org/es/oferta/empresarios-y-emprendedores/item/lab-innovacion>

Moreover, human talent is supported by identifying their capabilities and developing their soft skills. The participation of local and foreign accelerators is also encouraged, so that entrepreneurs can work with them in programs to strengthen their social businesses.



## RESULTS

Ruta N has played an important role in strengthening the city's innovation ecosystem. Since its creation, the percentage of investment in science, technology, and innovation activities with respect to the city's GDP is 2.45%. As of 2012, it is estimated that about 10,217 jobs have been created as part of the innovation district. Additionally, in 2020 (figures as of August 15), Ruta N had already supported 96 social businesses, achieving 47 conceptual prototypes for products and services that use technology and innovation to meet citizens' needs.<sup>9</sup>

In 2019 alone, they managed to attract COP 1.9 billion (approximately USD 515,000) in capital to finance social-business and innovation initiatives. 45 social businesses have been strengthened, more than 600 individuals have been trained in entrepreneurship—among them youth in Adolescent Criminal Liability Facilities, students in grades 10 and 11 in public education institutions, and adolescent mothers—and 13 connections have been established with investment capital or donation resources.



## LEARNINGS AND PERSPECTIVES

Ruta N began in 2013 with a social laboratory and has been steadily growing. This has allowed it to create an ecosystem with solid enterprises that support impact, thereby allowing for an evolution in investment.

One of the biggest challenges Ruta N has faced is the limited capital available for innovation. Therefore, an important lesson learned is the need to bring the ecosystem together.

<sup>9</sup> Informe de gestión, Juan Andrés Vásquez. <https://www.rutanmedellin.org/documentos/informe-de-gestion-juan-andres-vasquez-retiro-del-cargo.pdf>

It has realized that it is very important to have the right mechanisms that allow investors to understand at what stage social entrepreneurs are and what kind of support they need. Furthermore, it has learned that the solutions that entrepreneurs need are not the same in all cases, i.e., they have different challenges, needs, contexts, and are at different stages. Dedication and proximity are therefore needed to know the specifics and provide the necessary solutions and support.

It has also shown that equity is a complex mechanism to use in the public sector of Colombia, as it requires many rules related to controlling and justifying commitments.

In the context of the current COVID-19 crisis, Ruta N—together with Andi—has brought together several science, technology, and innovation actors to create InnspiraMED, an initiative that seeks to develop three mechanical ventilator prototypes for the treatment of patients with respiratory complications caused by the coronavirus. This is a quick response that shows the potential of the articulation among academia, businesses, and the government, as well as the relevance of having an actor that connects and links them around common purposes.