

Business innovation in Latin America



LANZBC
Latin America New Zealand
Business Council



Mexico City
@carlosaranda

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About this report

Commissioned by the Latin America New Zealand Business Council (LANZBC), the leading business organization in New Zealand, focused solely on the promotion of trade and commerce between New Zealand and Latin America. Our goal is to showcase Latin America's economic dynamism and encourage NZ exporters to diversify into these thriving markets.

We found success stories across the continent, focusing on sectors that New Zealand businesses can identify with.

The nine stories presented here highlight pioneering entrepreneurs who contribute to thriving Latin American ecosystems, from agri-tech to gaming.

The leaders interviewed responded to the pandemic in different ways. They developed new technologies, re-focused their work, swiftly reduced the size of operations, and every company included doubled down on innovation.

Looking to the future, we see a global mindset under development, with companies looking to expand globally, investing in sustainable technologies, and seeking to have a greater impact in the communities they work with.

The leaders we talked to held a positive view of New Zealand, generally citing the country's success early in the pandemic and its leadership in domains as diverse as sustainability, agri-tech, gaming and software development.

The aim of this report, is to help build bridges across the Pacific, build awareness of LatAm entrepreneurship and expose New Zealand business leaders to potential partners, and like-minded companies in Latin America.

 **yellow boots**
to and from latin america.

The **Latin America New Zealand Business Council** (“LANZBC”) is the leading business organisation in New Zealand, focused solely on the promotion of trade and commerce between New Zealand and Latin America.

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01. Introduction

São Paulo, Brazil.

@yb

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Introduction

In recent years, Latin America has emerged as a hub for entrepreneurship and innovation, with a growing number of startups and tech companies attracting significant investment and attention from around the world.

The pandemic posed new challenges for Latin American entrepreneurs, with many facing disruptions to supply chains, reduced demand, and a lack of access to capital. Despite these challenges, some companies have managed to pivot their business models, leverage technology, and tap into new opportunities to not only survive, but to thrive.

This report highlights the stories of nine such companies, each of which has demonstrated remarkable resilience and innovation in the face of the pandemic. These companies represent a diverse range

of industries, including agri-tech, gaming, feminine hygiene products, and more, and they hail from across Latin America, including Argentina, Brazil, Chile, Colombia, Ecuador, Mexico, Paraguay, Peru, and Uruguay.

Through their stories, we will explore the strategies and tactics that these companies have employed to navigate the pandemic and emerge stronger on the other side. We will also examine the broader trends and opportunities that are driving entrepreneurship and innovation in Latin America, and consider the role that these companies can play in driving economic growth and social impact in the region.

Overall, this report aims to showcase the resilience and creativity of Latin American entrepreneurs in the face of one of the most challenging periods in recent history.

By highlighting their stories and celebrating their successes, we hope to inspire others to follow in their footsteps and contribute to a brighter and more prosperous future for the region and the world.

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02. Regional update

An update of what Latin American countries went through at the height of COVID-19, and what is next for the region.

Buenos Aires, Argentina.

[@patricioasc](https://www.instagram.com/patriciоasc)

yb

Social and economic impacts of COVID-19 and beyond

The continent was one of the hardest hit by the pandemic, both socially and economically. According to data compiled by [Amnesty International](#), the continent accounted for 28% of deaths, despite having only 8.4% of the world's population.

Economically, it experienced the deepest recession, with the GDP declining 7% and unemployment peaking at 10% of the labor force in 2020, according to the [IMF regional economic account](#).

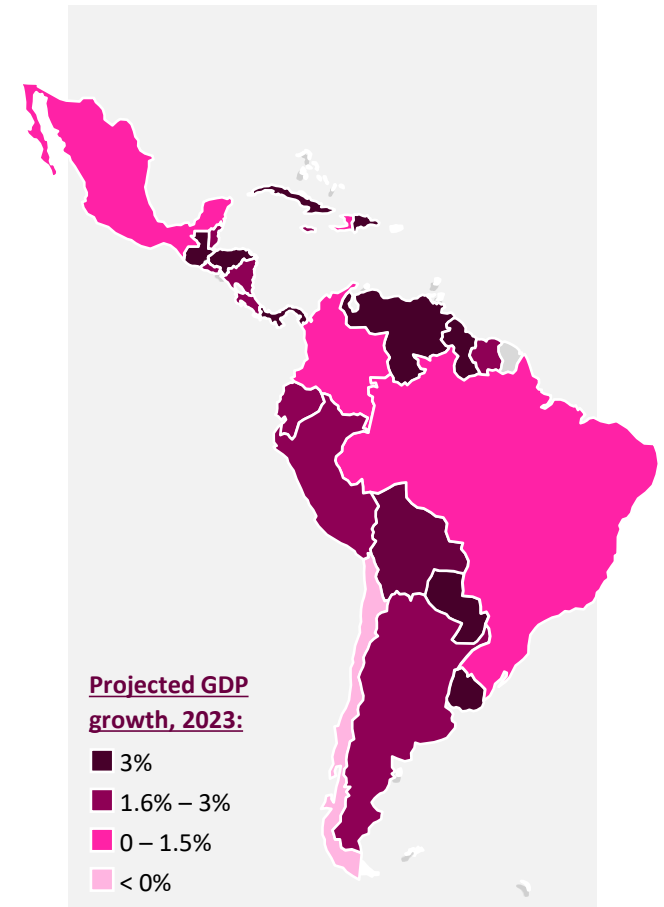
Governmental support through [efficient public programmes](#) that many Latin countries already had in place helped the unemployed remain afloat at the height of the pandemic. Expanded cash transfer programs also contributed to the speed of recovery.

If mortality rates showed the inadequacy of Latin American healthcare infrastructure, then the speed of vaccination demonstrated the strength of its public inoculation system.

Aided by vaccine production in Brazil, Cuba, and México, the continent to become the [world's most vaccinated region](#) by December 2021.

Due in part to fast vaccination, the region also registered the fastest economic rebound of 2021, growing by 6.9%. This growth was driven by Central American economies, the Dominican Republic, Peru, Chile, and Argentina.

Although infection numbers remain high, death rates dropped, and pressure on hospitals eased. This allowed countries to refocus, moving from emergency policies to solving the region's historic challenges of inequality and escaping [the middle-income trap](#).



IMF Blog, based on information available up to mid-Jan 2023

A snapshot of the region

Tailwinds

Commodity prices

Latin America's five most exported commodities (Oil, Copper, Iron, Soyabeans, and Gold) reached record high prices in 2021/22, according to the [World Bank](#).

Increase in export revenues helped countries to maintain their fiscal balances during the pandemic and may boost private sector investment in the medium term.

Devalued currency

The region's currencies depreciated during the pandemic, making exports – including manufactured goods and services – cheaper abroad.

In the short term this trend will likely boost private sector investment. In the medium term it can help Latin American economies [overcome the middle-income trap](#).

Regional and global integration

Overall global trade, as a per centage of GDP, has slowly declined since 2008 – [this trend may have been accentuated by the pandemic](#) and has affected regions in very different ways. Latin America, for example, went in the opposite direction, with trade now accounting for 55% of the continent's GDP, up from from 48% in 2008.

Recently elected left-leaning leaders may re-ignite regional and south-south integration – which was on a gridlock over the past decade, with the continent's largest economies looking internally or to the USA and European countries.



"Brasil 1", VO 70 built in Brazil, Farr Yacht Design.

@LuisAlves (cc)

Headwinds

Inflationary pressure

Inflation in Latin America ended 2022 above 14%, reducing purchasing power of Latin Americans.

While inflation is becoming subdued, forecast to close 2023 at 9.5%, it is at the cost of a tighter monetary policy. [High policy interest rates](#) are a disincentive for investors and will hurt economic prospects for the region.

Devalued currency

Weaker currencies benefit exporters but hurt sectors that depend on imported inputs and capital goods.

Devalued currencies can delay capital investments, especially within non-tradable sectors.

Rise in inequality

The continent experienced the world's highest unemployment increase during the pandemic, exacerbating [inequality](#), which remains above pre-pandemic levels².

Education losses due to the pandemic can have a long-lasting impact on inequality, increasing the time it will take to reduce wealth concentration – currently, the richest 1% of Latin Americans hold 45% of the region's wealth, according to the [World Inequality Database](#).

Latin American governments face the [challenge of meeting the high expectation of voters](#), who are demanding greater social justice, good jobs, and better public services.



Santiago, Chile

[@jsaintemarie](#)

03. Analysis of nine success stories

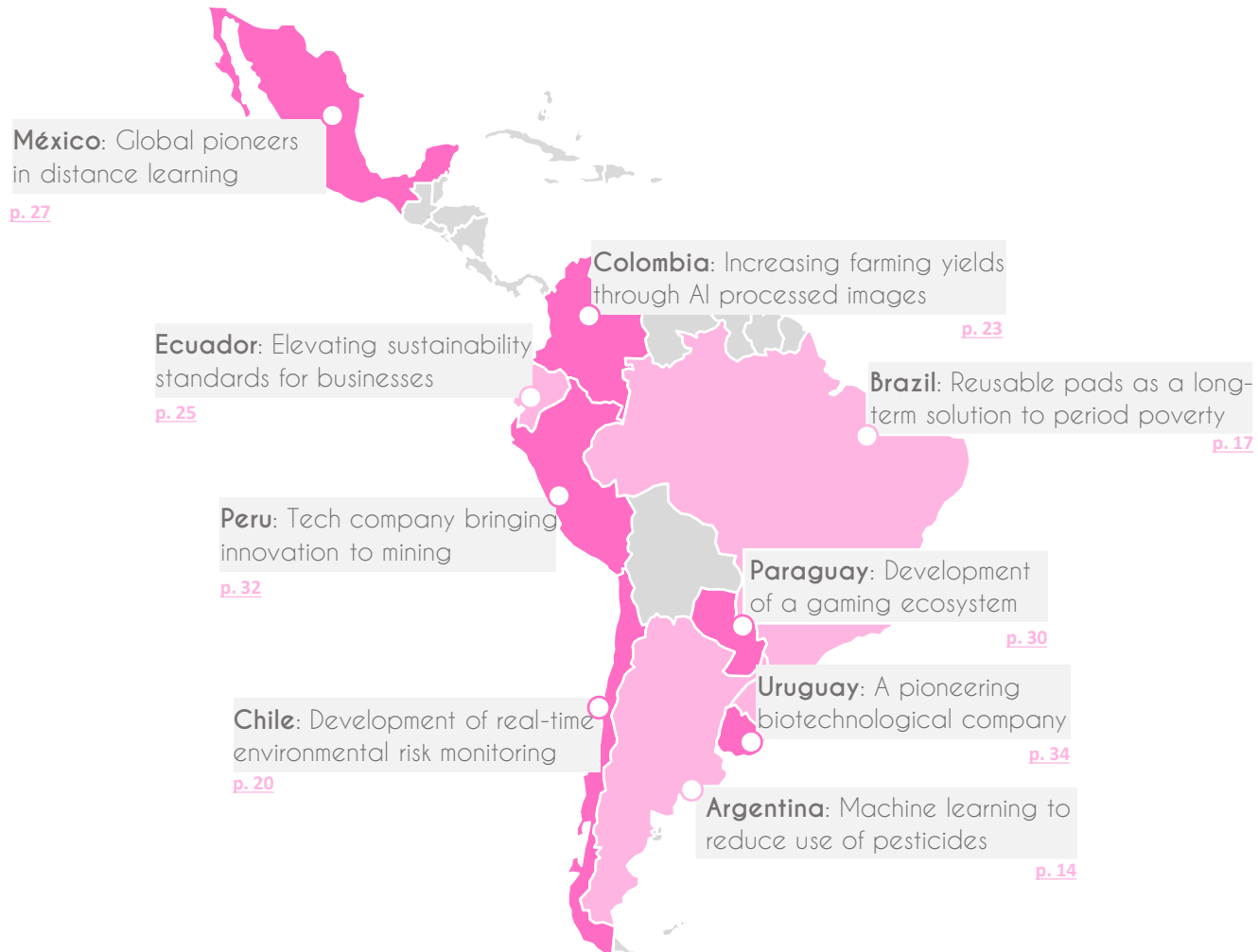


Medellín, Colombia:

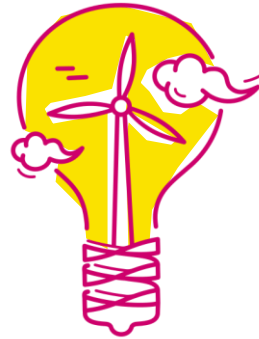
@yb

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Location of these stories



Five common themes across all conversations



Innovative

“Innovate”, “new”, “innovative”, and “innovation” were all among the most-mentioned words in our notes.

Leaders interviewed innovated in product and format. The companies developed entirely new product lines, changed communication channels, and pivoted to cover different wants and needs.



Customer-centric

Innovations were invariably driven by customer pains and targeting their most sought-after gains.

Being customer-centric meant that every company interviewed invested in creating feedback loops with their customers, carefully listening to their preferences and needs before developing a unique value proposition.



Environmentally conscious

All leaders interviewed identified sustainability as a core value in their operations.

Indeed, some of the companies work directly with environmental care, but environmental consciousness and sustainability goals were common across the board.



A community mindset

When asked about the future, leaders always responded with their communities at the centre of their thoughts.

There was a general sense of giving back to the communities and sectors in which they operate. Companies are doing this in a variety of ways, such as through thought leadership, by fostering good jobs, or by training future leaders.



With a global outlook

Another common view of the future is in taking a global outlook.

Companies interviewed look abroad for innovations, collaborations, and potential markets. Generally, leaders are looking to get established in Latin America before crossing oceans, but there is a globalized view of all operations, whether it be finding partners abroad or increasing global impact.

Argentina: Machine learning to reduce use of pesticides

Mercosur countries – Argentina, Brazil, Paraguay, and Uruguay – account for about a quarter of all herbicides used globally. It was those herbicides, machinery, and other agricultural inputs that placed this southern corner of the Americas among the world’s top agricultural producers, in terms of both volume and yields. However, by now that growth in output seems to be reaching limits imposed by dynamics from inside and outside the production fields.

Inherent to the widespread use of herbicides is a resultant growing population of resistant weeds, which presents a challenge to farmers who then need to apply greater quantities of herbicides and/or buy more expensive products. Furthermore, the use of herbicides has a direct impact on biodiversity and populations living near the agricultural fields. Lastly, climate change is worsening

the size and length of droughts – researchers in Argentina forecast that 2023 will be the third in a row with severe



Marcos Mammarella,
DeepAgro Co-founder

drought, which can lead to economic losses as high as US \$10.5 billion.

The five founders of DeepAgro grew up

amid soybeans, wheat, and maize fields in Santa Fé, a leading agricultural production province in Argentina, and also one of the hardest hit by recent droughts. All from farming families, the five took an unusual turn when choosing a career. Instead of choosing agricultural courses, the five entered Rosario University taking computer science and electronic engineering courses.

It was by combining this new university knowledge with their earlier experiences in the fields that the group began to develop a herbicide precision spraying technology that allows producers to save between 70 to 90% in pesticide usage, thus reducing environmental impact and the appearance of herbicide-resistant weeds. Lower pesticide usage also means a reduction in water use of around 70 litres per hectare, as well as less need for single-use plastics used to transport the agrochemicals.



Neural networks applied to agriculture

Early in 2017, the DeepAgro leadership team began to develop a solution for excessive herbicide use, aware that if they were to create a solution adapted to local needs, they would have to go beyond the precision spraying technologies that were already being marketed locally. It took the team a five-year trial-and-error process to finalize their innovation by developing a system that combines a microcomputer using machine learning software, RGB cameras, and precision solenoid valves hardware.

According to Marcos Mammarella, Co-founder and COO at DeepAgro, it was important that the five founders all came from farming families. Their family farms provided cost-effective controlled testing fields and allowed the team to train and test their machines in very different scenarios. Then after testing, the team could sit at a family farmhouse dinner table to discuss the

results, allowing for more time to listen in depth about the producer's pains and the actual gains brought by the technology.

Initially operated as a part time gig, the five funded their technology development through their own savings, local investors, prizes, and public incentives they received along the way, such as the IB50k prize they received in 2019 from Instituto Balseiro, Argentina's leading physics and atomic energy institute. As their innovation started to show promising results, larger investors joined the projects, allowing them to expand the technology to some of the world's largest agricultural producers for feedback.

Through testing within the particularities of production in Mercosur countries, both on their home farms and with multinational producers, DeepAgro arrived at their solution. Usually, precision spraying technology is known as "green on brown," as it relies on colour to identify and target

weeds. However, this sort of technology does not work well within production schedules like that of Brazil, which grows soybeans and other grains year-round, with two (often three) harvests per year, requiring a technology that can identify weeds amongst green crops.

It was because of this need that DeepAgro decided to take a longer development route and embed more technology in their solution in order to develop a "green on green" technology. That is, a technology based not only on colour, but also on a set of additional characteristics for identifying weeds, such as morphology and growth patterns. Effectively, the innovation is based on a neural network that mimics the brain of an agricultural engineer identifying weeds.

The innovation developed, called SprAI, was officially launched last year, quickly attracting the attention of farmers in Mercosur countries. Developing a hardware



that is easily adapted to any sort of sprayer and with high precision, operating up to 18 km/h, was essential for that quick uptake in pilot implementations.

Looking to the future

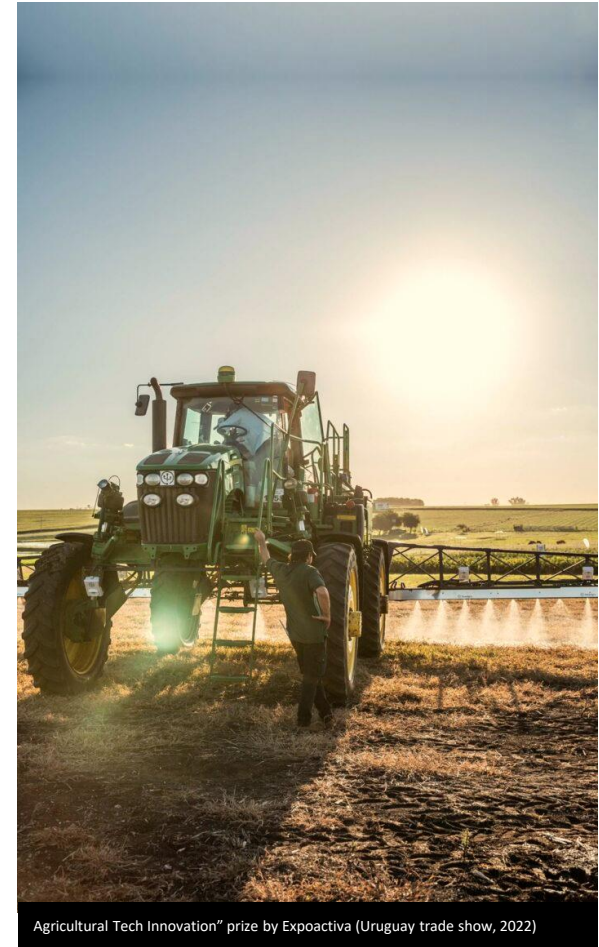
After the first implementations early in 2022, all piloted by Argentinian producers, the technology called the attention of producers in neighbouring Uruguay, which has a similar soil, climate, and production schedule. Late in 2022, Brazilian producers, accounting for 36% of the world's soybean production, also started a pilot programme to test the technology, which is much better adapted to its production methods than previous technologies.

DeepAgro is now looking to consolidate its presence in the Mercosur region, while also starting to develop technologies for other crops. To do so, DeepAgro must overcome a lingering challenge – to find a steady supply of technological components that will allow

results, allowing for more time listening in depth about the pains and gains of the technology.

The inputs shortage, initially exacerbated by the pandemic, is now continued by government restrictions on imports and Argentina's capital controls, which has led the team to consider neighbouring countries for their manufacturing base.

Due to the novelty of the technology, DeepAgro is already working with partners in Mersocur countries so they can provide quality post-sales service to new users and continue collecting feedback to continuously improve the product. While still in its early stages in Latin America, DeepAgro has pioneered a technology with the potential to have deep impact on the world by reducing the use and impact of herbicides and water among the world's leading agricultural producers.



Agricultural Tech Innovation" prize by Expoactiva (Uruguay trade show, 2022)

[@Ingenio, start-up incubator in Montevideo](#)

Brazil: Reusable pads as a long-term solution to period poverty

Brazilians buy and discard 15 billion disposable sanitary pads every year, filling public landfills with materials that will require at least 400 years to decompose. At the same time, this relatively high consumption masks a dire inequity in Brazil, where one in four women do not have adequate access to menstrual products.

Biodegradable, long lasting, and cost-effective products are part of the solution to both challenges. Pantys, a new brand of reusable pad developed in Brazil, is pioneering an extensive line of menstrual products to help change consumption habits, reduce trash generation, and save consumers money in the long run.

Pantys first launched online in 2017, experimenting in both online and offline channels. Since inception, customer feedback informed expansion of Pantys



product lines. As well as leading it to create a community-driven donation campaign in order to reach populations that wouldn't otherwise have access to menstrual products.

Experimentation as a driver of innovation

According to Pantys co-founder Emily Ewell, there are three characteristics that make Brazil an ideal base for her aspiring global brand. First, Brazil is one of few countries that can provide the entire supply chain Pantys needs – from cotton growing and biodegradable yarn production, to product design and manufacturing. Second, Brazil has the world's 5th largest internal market for feminine products, with a preference for pads. Finally, Brazil's well-developed online commerce and media channels help new brands reach customers faster.

When Pantys launched online and at a pop-up store on São Paulo's trendy Oscar Freire Street, its first pads were out of stock in 3 weeks. Yet despite this embrace from early adopters, Pantys' success quickly reached a ceiling, with most potential customers still reluctant to experiment, concerned about Pantys' comfort and reliability.



Part of Pantys strategy to overcome this scepticism was to make the pop-up store permanent and slowly increase the brand's offline presence. The interactions in Pantys brick-and-mortar stores were instrumental to identify and address customers' needs, then responding directly to the specific concerns raised.

Social distancing measures accelerated customers' experimentation with Pantys, since working from home provided the perfect time to try new menstrual products in a safe space. This increase in demand also brought Pantys to a new demographic, with yet another set of wants and needs. More buyers also meant more feedback, boosting Pantys' capacity to innovate.

Attentive to market demands, information from customer interactions has become an integral part of Pantys' research and development process. According to Emily, most of the brand's innovations stem from customers' ideas.

Pantys' active social media presence also helps customers feel connected with the brand and its mission, inviting even more interactions. Based on customer feedback, Pantys expanded its portfolio to include boxers for men who menstruate, bikinis, incontinency and maternity products.

Online interactions became central to Pantys' community-driven donation programme as well. Through this programme, customers are invited to share their experience using Pantys products on Instagram. Pantys tracks mentions through Instagram tags, then converts those into donations. In the two years since 2021, the brand donated more than 8,500 reusable pads.

Since launch, Emily and Pantys partner Duda Camargo have not ceased to innovate within their product lines and outreach channels. Now they are looking ahead to new destinations.



Pantys pop-up store in Galerie Lafayette, Paris

[@pantys](#)

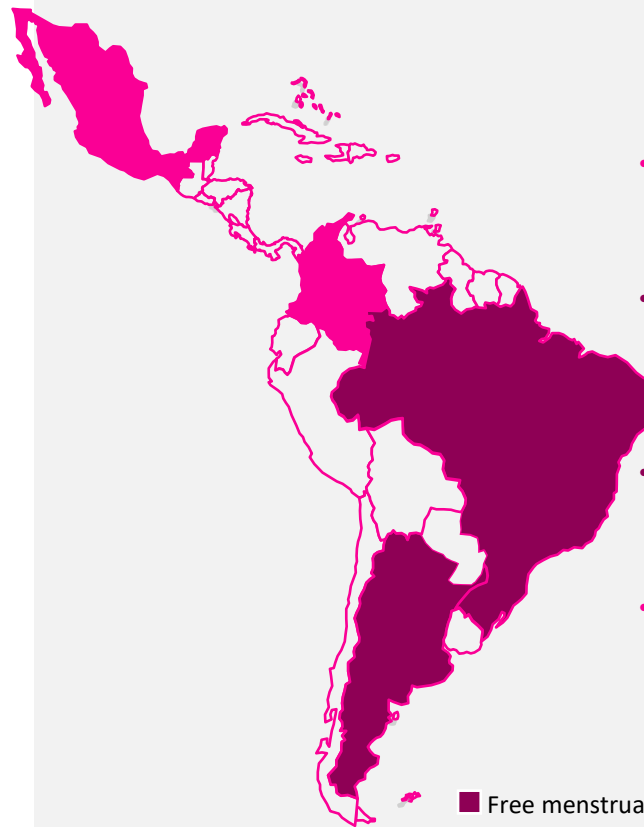
Looking to the future

On the other side of the Atlantic, the brand found partners interested in making the product available. Pantys is now listed in some of Europe's iconic stores, including Galerie Lafayette (Paris), Selfridges (London) and de bijenkorf (Amsterdam), and it aspires to become a global brand.

Co-branding and collabs with other Brazilian and foreign companies helped Pantys to get carbon neutral certification and to become the world's only reusable pads brand that is clinically tested, for health (pH, vaginal flora, and temperature), comfort, and reliability.

The success of Pantys, and other reusable pad brands, can contribute to significantly reduce environmental impact, given the reusable's lifecycle that is a hundred times shorter than that of the disposable option. In countries with widespread menstrual poverty, as Brazil, it can offer to the public sector a more cost-effective solution for the problem in the long term.

Menstrual healthcare policies in Latin America:



- **Colombia** was first Latin American country to eliminate taxes on menstrual products, in 2018 ([El País](#))
- **Argentinian** cities and provinces started including menstrual rights in its healthcare system since 2020 ([Feminiacida](#))
- **Brazil** promulgated a law in 2022, to deliver free menstrual products to its vulnerable population ([Senate](#))
- **Mexico** followed Colombia and eliminated taxes on menstrual products in 2022 ([National Human Rights Commission](#))

- Free menstrual products to part of the population
- Eliminated taxes on menstrual products

Chile: Development of real-time environmental risk monitoring

Support for Chile's transition to renewable energy is one of the few things that crosses party lines, with 91% of Chileans agreeing that climate change should be treated as a government priority¹. With a pledge to become carbon neutral by 2050, Chile could be at the heart of global energy transition due to its vast lithium reserves and enormous potential for renewable energy production.

Green hydrogen is at the centre of Chile's ambition to become a global supplier of clean energy. In 2021, the government estimated that Chile can supply as much as 13% of the world's hydrogen using wind energy – a much cleaner alternative to the “grey” hydrogen produced using fossil fuels. The country is on track to lead global transition, with its wind energy production doubling between 2018 and 2021.

As with any transition, new sources of energy also present new challenges that

require technological solutions. Ecometric is one of the Chilean technology companies innovating to help respond to those challenges.



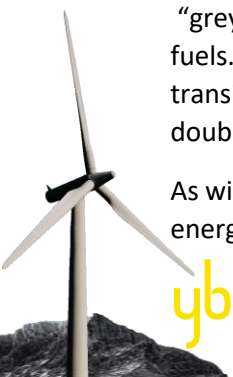
Benefiting from Chile's supportive environment and learning in the process, Ecometric listened carefully to customer needs and developed innovative autonomous solutions that can be used by

wind farms and general industrial sites to monitor environmental risks in real time.

From consultancy to artificial intelligence

Ecometric is a technology development company that offers real-time monitoring of environmental risk to industrial sectors, mainly wind farms. Its solutions are based on monitoring cameras and microphones that, through AI, identify risks and raise flags to the companies, while also building a database of tracked measures.

Founded in 2007, Ecometric operated for eleven years as an environmental consultancy, before shifting its operations. Ecometric's leadership team spent the past four years learning about their customer's desire for real-time monitoring of the dynamic variables and about the environmental impacts they are working to mitigate. Andrés Lopez, Executive Director at Ecometric, describes those years as



learning side by side and developing right along with customers.

The leadership team at Ecometric went through a long process of empathy interviews, learning about the specifics of their customers' objectives and testing a variety of technologies, before zeroing in on an AI-based solution to monitor the two focal problems caused by wind turbines – first noise, and then blinking lights.

While Andres acknowledges that Chile did provide supportive conditions for their endeavour – including a highly qualified talent pool and an environment of growing demand supportive to innovative solutions – this shift from consultancy to selling an entirely autonomous solution wasn't without its challenges. Customers, used to

the consultancy model that used static measurements analysed by humans, had to overcome initial scepticism and have their feedback incorporated in the technology

It was through working even more closely with customers that Ecometric developed its first two AI sentinels, focused on monitoring sound and light environmental risks. The AI model improves upon the data that monitoring alone can generate because it can, without human input, detect anomalies (i.e. changes in heat or noise) that deviate from what the machine has learned is typical. When abnormalities occur, the AI system can quickly raise a red flag for its human managers.

This immediate information in turn helps companies track their impacts as well as

more quickly adjust and remediate when needed, in order to better serve the communities where they are located. It took 3 years of constant feedback between Ecometric and its customers to fine tune the solution and establish it as an offering.

With the first two offerings in place, Ecometric formed a highly technical team comprised mostly by computer engineers and developers, so it could adapt the offering to other sectors, expand its portfolio, and develop AI sentinels to monitor wildlife and water streams. With new software and hardware at hand, the company is now looking to go beyond Chilean borders and service its customers globally.

Looking to the future

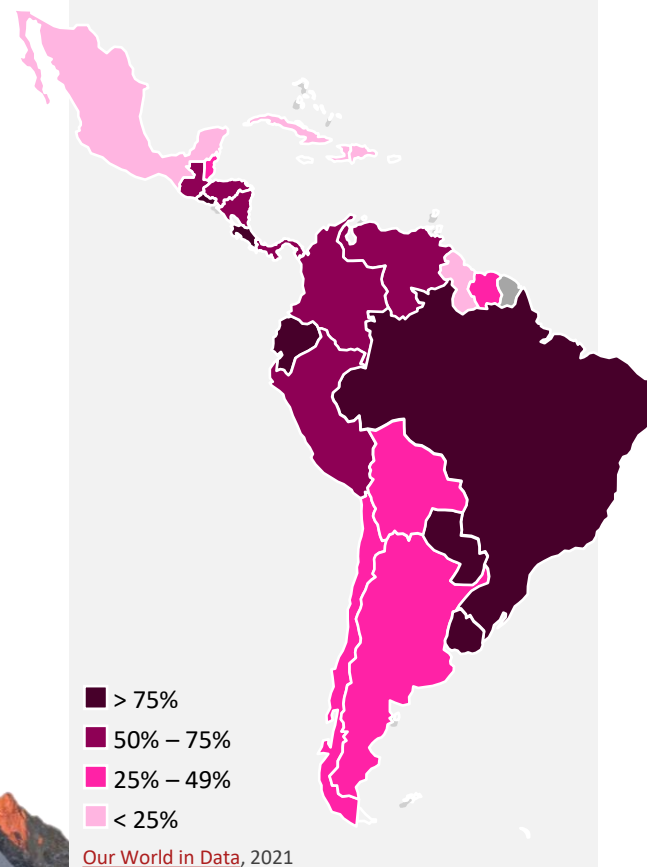
Ecometric has two main objectives in the medium term. First, the company aims to continue expanding its product lines in Chile. Second, with Andres at the lead, the company aims to grow internationally. Ecometric's internationalization plan is based on proximity, both geographical as well as proximity to customers, going wherever customers' new wind farms are locating and expanding with them, moving into new territories alongside existing relationships.

Chile was an ideal place to start given its public and private focus on renewables and Ecometric recognizes that its base in Chile will also be supportive of its plan for future growth. Outside of Chile, broader global shifts toward sustainable energy will also

help Ecometric work towards its second goal to grow internationally. For example, nearby Brazil manufactures wind turbines and already gets 12% of its energy from wind. Argentina has moved in the same direction, doubling its wind production capacity in just one year.

Ecometric has already gained some international recognition for its work as well. Although it is a small operation, Ecometric's work was recently endorsed by [Endeavor](#) – world's leading non-profit with support to social entrepreneurs – and its research and development programme is supported by Pontificia Universidad Catolica (PUC), Latin America's [QS top-ranked university for the past 6 years](#).

Share of electricity from renewables:



Colombia: Increasing farming yields with AI processed images

In a pledge against habitat loss and fragmentation, the biggest threats to biodiversity conservation, 190 countries recently signed the [UN's 30x30 agreement](#), committing to protect 30% of global land and oceans. With half of all habitable land already dedicated to agriculture, increasing yields in low-productivity farmlands is a step needed to sustainably feed 9 billion people.

A large portion of the [farmlands with great potential to increase yields are in Colombia](#) and neighbouring Andean countries. To make the most of this fertile soil, Colombian farmers must adopt cost-effective technologies adapted to farming fields in the difficult Andean terrain.

To effectively cover large swathes of farming land, the technology must be simple and well-suited to the terrain. Manglar, a Colombian computer vision and data science company, found that

automated flight drones were the ideal tool for collecting data that could then feed into Manglar's artificial intelligence tool.



Manglar developed a robust tool to process the drones' ultra high-quality images. Through partnerships with some

of Colombia and Mexico's largest producers as early clients, the company developed a system that is now helping producers increase yields in a more sustainable way.

Processing ultra-HD drone images

Mapping drones are ideal for making image collection easier for producers given their easy deployment and capacity for covering large areas. The millimetric resolution of images allows Manglar's image processing tool to identify plants' characteristics with high accuracy. Based on those images, Manglar's technology helps agricultural producers more sustainably increase yields.

For example, farms using the system can save water by using its water flow maps to optimize the planting area, reduce pesticide application through weed identification and a plant stress assessment, and increase plant density by identifying areas with low



density and accurately mapping and optimising furrows.

The images are uploaded and processed in the cloud, thus requiring only three days to deliver results. The company currently works in mainly two niches: sugar cane production in Colombia and agave production in México. The development process started five years ago, when the company decided to develop its own AI tool for the agricultural sector.

Based in Cali, the capital city of Colombia's largest sugar cane producing state, the company developed the core of its solution alongside some of the largest sugarcane companies in the region. After development, Manglar's effectiveness caught the attention of agave producers in Jalisco, the global capital of tequila and state-of-the-art agave farms.

Through a process of internationalization, the company relied on feedback from the companies in México and other local contacts to fine tune its solution. Now, with the core technology in place, the company is looking to continue expanding to new crops and regions in the Americas.

Looking to the future

In the short term, Manglar is looking to grow its presence in Colombia and México beyond Valle de Cauca and Jalisco. Then, working with producers in Central and North America is Manglar's plan for the medium term.

Contact with new crops will allow the company to fine tune its technology and continue expanding the types of solutions offered to customers.





Ecuador: Elevating sustainability standards for businesses

Ecuador was the first country to have the rights of nature enshrined in its constitution. Based on the Kichwa pillar of “Sumak Kwsai,” which professes a “life in plenitude,” the country recognized nature’s (Pacha Mama) right to integral respect for its existence, maintenance, and regeneration.

Since the promulgation of the progressive constitution in 2008, Ecuador has been slowly changing its institutional laws to make public and private practices more sustainable. The resource and extractive sectors, which account for about one third of Ecuador’s exports, were the first to be regulated.

It was at that time in 2016, when sustainability investments were concentrated in the resource and extractive sectors, that SICMA – an

environmental consultancy with presence across Ecuador - began to operate. Its objective was to target secondary and



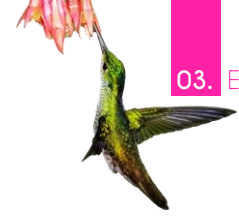
tertiary sectors in Ecuador that were just starting to invest in sustainable practices but were driven by different wants and needs and had different levels of capability.

Adapting sectors new to sustainability

Unlike the resource and extractive sectors, in which demand for sustainable practices was mostly driven by regulation, other sectors saw demand stemming from a different set of factors, from consumer pressure to company mission. By acting before regulations were imposed, SICMA was challenged to create demand for sustainability in fields that were only starting to consider it.

Servicing companies from pharmaceuticals to legal firms, the SICMA team had to adapt its offerings to the needs of professionals with very different backgrounds. Environmental management is full of bureaucratic processes and technical KPIs that are constantly changing – SICMA became is first Ecuatorian consultancy to develop an environmental management that automates many of the tasks of environmental management.





Francisco and Maria Elisa, SICMA CEO and Corporate Affairs Manager, agree that modifying SICMA's communication was essential to its growth. By working closely with customers and hearing about the important role end-consumers play in influencing sustainability investments, Francisco and Maria Elisa understood the importance of communicating sustainability advances in a way that could be easily passed on to the final consumer.

Furthermore, feedback loops built through this listening process helped Francisco and Maria Elisa build a friendly interface for companies to track sustainable practices. Providing access to real-time data on environmental licensing, monitoring, and planning can be game-changing for decision makers looking to instill a new business culture and reduce a company's environmental footprint.

Consultancies, which initially focused solely on technical requirements, now cover more

ground, helping their customers to go beyond having zero impact to making a positive one. Moving before regulations, and going beyond it, has helped SICMA's customers to raise their profile within the communities to which they belong.

Looking to the future

To Francisco and Maria Elisa, economic growth and brand longevity go hand in hand with sustainable practices. They share a symbiotic worldview, seeing discussion of environmental issues as the only way to make environmental licensing a reality for the 86% of the Ecuadorian market that does not yet have a license.

However, there will be no sustainable development without cultural changes within the companies. For that, they see it as an essential step to build partnerships with companies across the globe in order to raise decision makers' awareness of the positive impact that companies of every sector can have on the world.



A shared cosmivision

a. Pacha Mama and Papatūānuku

"Mother Earth" is part of the cosmivision of indigenous populations globally and is central to understanding environmental protection in Latin America.

b. Sumak Kawsay and Kaitiakitanga

There is an implied notion of respect, reverence and caretaking in both concepts. Not coincidentally, both served as a base for constitutional changes in New Zealand and across Latin American countries.

c. A diverse indigenous epistemology

While there is a shared indigenous epistemology, more is missed in translation than is translated. Latin America is home to a diverse population, with more than 500 indigenous languages spoken and an even greater number of world views.



México: Global pioneers in distance learning

Professor Luis Manuel Lopez del Puerto participated in the development of Mexico's first community educational centres in February 2001. The city of Doctor Arroyo, 400 km south of Monterrey, was chosen to receive the first of over 2,900 long-distance Community Learning Centres (CLS) in México and abroad. Focused on inclusion, the centres brought social mobility to Latin Americans across the western hemisphere.

The centre in Doctor Arroyo was an extension of Latin America's oldest satellite education programme, originally formed by Tecnológico de Monterrey in 1989. At the time, Massive Open Online Courses (MOOC) were a distant dream as Mexico started this first satellite education programme using its own two-way satellite communication to train University teachers.

To shift from training small groups of teachers to servicing over 100,000 students at a time, primarily in remote regions of

México, was a challenge that ultimately brought recognition to Tecnológico de Monterrey as a leader in Student-Centred Collaborative Learning, and to México as a global leader in distance learning.

“It is challenging to use technology in isolated areas, but distance learning courses have been fundamental to increasing literacy of underserved communities and for the preservation of indigenous languages.”

Prof. Luis Manuel Lopez del Puerto



Impacting communities in the Americas

Tec de Monterrey's team that arrived in the city of Doctor Arroyo went prepared with lessons for adults, only to find an empty 10

by 10 metre room. However, it wasn't long before curious children started approaching the room and taking the seats in front of its two computer desks.

The Tecnológico de Monterrey team knew from the outset that if the programme was to reach the most remote places in México, they must also keep in close contact with the communities they aimed to impact. Starting with a completely different audience than expected in the very first class made this need even clearer. As strong educators know to do, the professors seized the teachable moment, adapted on the spot, and made student-centrality an essential part of the programme's development.

Two months later, in April 2001, the Federal, State and Municipal governments, along with the Secretariat of Telecommunications, joined the initiative, which already had 30 centres operating.

It was through those partnerships that the community learning centres expanded from 30 to more than 2,900 locations. For many of the communities, this was the first time they connected to the internet and had the opportunity to build learning bridges with the world.

In analysing the demographics of those the programme reached, the team decided to start including courses taught in indigenous languages. This was essential both to preserve the languages, and to bring educational opportunities to even more geographically-isolated communities.

Furthermore, internet connections in those 2,900 locations also began to serve a plethora of needs not initially envisioned. The centres that were set up in the US became a point of connection between the immigrant community and their families, going beyond the initial purpose of distance education to become an even bigger support to extended families.

Catering to different needs, and through partnerships with other institutes, more than 5,000 hours of content reached tens of thousands living in México and abroad, bringing with it the possibility of greater social mobility. Professor Luis Manuel saw students start moving into careers that would not have been possible before their involvement with one of the centres.

In México, the CCAs were present in social rehabilitation at internment centres of three municipalities in the State of Puebla, in south-central México. Six years after operating the CCAs, the Tecnológico de Monterrey created a social incubator to support the creation of micro enterprises.

The team's work resulted in countless diplomas conferred to children and adults, improved online literacy, allowed students to use course knowledge to open their own businesses, and more. The community centres were crucial for the development of the distance learning system, which is now

fully virtual and independent from the computer rooms, which were phased out in recent years as personal computers reached most of the Mexican population. Hence the renaming of the system to Virtual Learning Centres (CVAs)

Currently, the programme's main challenge is to increase the number of scholarships to CVA's distance learning courses, so that it can continue impacting the most vulnerable populations. In addition, Professor Luis Manuel sees a secondary challenge – to make education and financial independence go hand in hand.

Looking to the future

The social impact resulting from the programmes developed by Tec de Monterrey and its partners was significant, and it brought international recognition to México as a distance learning pioneer. Now, with the technology in place, it is time to focus on teaching-learning methodologies

in order to increase learning outcomes for those they serve.

With this mission Prof. Luis Manuel joined the “Voluntariado por la Educación,” a programme using a “train the trainer” model to teach professors in Mexico’s public education system active learning methods so they can increase learning and make a greater impact in the communities they serve. Trained professors will be able to better empower students through active learning and by instilling a spirit of entrepreneurship in students so that education can also lead to financial independence.

In the future, Professor Luis Manuel envisions distance education teaching an even broader set of skills and lessons, ultimately making students more active, life-long learners, leading development in their communities and accelerating social change.



Tec de Monterrey library, [Honor Awards for Design Excellence](#) and [best interior design \('18\)](#)
[@ludodelot](#)

Paraguay: Development of a gaming ecosystem



In the past decade, Paraguay grew faster than its peer economies, while sustaining lower deficits and reducing poverty by half. It reached upper-middle income level in 2014¹, as defined by the World Bank (USD4,126 to \$12,735), supported by its booming agricultural sector, factories at the Brazilian border, and innovative companies contributing to ecosystems that foster good jobs.

Phacktions, an award-winning indie game released by Posibillian Tech in January of 2018, is at the heart of Paraguay's growing gaming ecosystem. The game, based on geolocation, began development three years before the release of Pokémon Go in mid-2016, which was what brought the genre to mainstream.

The first Paraguayan company to work with this technology, and a continental pioneer,

Posibillian Tech benefited from Paraguay's friendly business environment and young workforce, while becoming an active contributor to the ecosystem it was nurturing.

“You must be resilient, it is key to know how to grow efficiently, as much as it is to know how to scale down competently”



Juan de Urroza,
Posibillian Tech
Founder

Games that take you outside during COVID

While Latin America's gaming sector flourished during COVID, growing by 10.3% in 2020 and closing the year at US\$ 6 billion,

according to Newzoo research, the same did not apply to games played outdoors. Reduced demand for geolocated games was not the only factor that increased early investors' scepticism in Posibillian Tech. Remote work also meant that Posibillian Tech would have reduced capacity to train new developers and absorb demand.

Cash strapped and with lower capacity to develop games, the leadership team started to look for alternative ways to finance Posibillian Tech's proprietary games and growth. The participation at two acceleration programmes abroad, in Finland and Singapore, were instrumental to create connections with game development networks in other parts of the world.

The bridges built at this time were essential for Posibillian Tech to resume growth and increase its investment to foster a constant flow of trained game developers and digital artists. Working as a services provider to



partners abroad has been pivotal to Posibillian Tech financing its own projects and investing in the Paraguayan gaming networks to which they belong.

Together with four other game development companies, Posibillian Tech is a member of the [Paraguayan Chapter of the International Game Developers Asociacion](#), which offers scholarships and facilitates access to game development courses. Different from neighbouring countries, there is no formal game developer training in Paraguay, so the private sector has taken the lead in training local young talent.

By contributing to the gaming cluster in Asunción, Posibillian Tech has elevated the city as an outsourcing destination for developers, attracting demand and funds to the innovative games being developed in the city.



Looking to the future

Governmental support to innovative companies through funds that help reach target markets ensured Posibillian Tech could sell their products outside the continent. Supported by those government funds, Posibillian Tech visited seven countries to showcase their work. The connections made during those visits contributed to accelerated growth and allowed them to make the most of Paraguay's demographic dividend and low taxation rates.

With increased demand for their services, the company recently moved to a new office better suited for their growing team, currently with 65 gaming developers and artists. The office space anticipates their need for additional training and already has space to accommodate the 200 workers the company aims to have within the next 3 to 5 years.



To keep growing and developing their name, Posibillian Tech is already looking toward the next innovative technologies they will incorporate into games, and the expertise they will need to develop in order to do so. Games that integrate blockchain technologies, the metaverse, and use artificial intelligence are already under work either through partnerships or following the same innovative spirit that existed when Posibillian Tech was founded.

Community impact



[LSApp](#), developed by conjunction with Vanessa Barán is a free app to that facilitate the learning of the Sign Language Argentina.

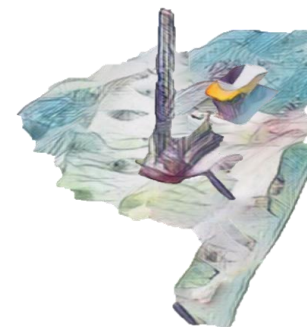
Images in this page are from Posibillian's [Romance Go](#), which is partially funded by Paraguay's government.

Peru: Tech company bringing innovation to mining

Visiting the largest **mining tradeshow** in Peru, Perumin 2017, business partners Emilio and Martín first conceived LinkMiners. Initially developed as an **online marketplace** to connect both ends of the sector's supply chain, the platform grew as the mining sector also evolved from a business to-business broker, to become entirely innovation-driven.

Two years later at Perumin 2019, the first open mining innovation event helped bring innovation to the centre of the mining conversation, pushing companies of all sizes to actively look for new ways to operate. LinkMiners' timing was just right also because the tool appeared shortly after COVID struck Peru and social distancing measures caused greater demand for Mining 4.0 technologies, pushing more companies to seek ways to innovate their operations.

Increasing digital presence and transforming into an innovation-driven business model were essential steps for LinkMiners to continue increasing the tool's impact in the mining sector during and after COVID.



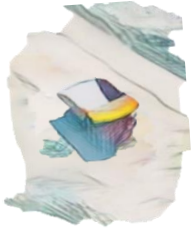
From an eCommerce to a SAAS

Emilio and Martín spent the first two years working closely with both sides of the chain, listening and learning about emerging sector challenges, as well as scouting for innovative suppliers at home and abroad. From hearing customers' pains, they realized that a challenge-driven platform could both facilitate matchmaking and provide valuable data for analysing sector trends.

When COVID hit mining in Peru, LinkMiners was already collecting valuable data that was shared back to industry leaders. With fewer in-person operations, LinkMiners invested in digital tools that helped highlight emerging sector challenges and encourage adoption of potential solutions from their partners.

LinkMiners was also among the first Peruvian companies to host a livestream on





LinkedIn, and its nine “Conexión Minera” webinars averaged 259 attendees, attracting the attention of companies and associations. The success of LinkMiners’ virtual strategy culminated in an online open innovation event that called for innovations in 4 different areas, all related to COVID-19, from remote work tech to sanitization and worker safety.

The event garnered responses from 161 companies representing 8 countries, and LinkMiners had plenty of material from which to select the 21 most promising solutions. Peru’s Southern Peru Mining Cluster and Mining Innovation Hub then partnered with suppliers to run a demo day, bringing those 21 solutions closer to mining companies.

The digital growth registered during this period helped increase LinkMiners’ impact beyond COVID. It attracted the attention of more than 2,000 mining technology providers, many of which then contribute

to solving the 200-plus mining technology challenges posted on the LinkMiners platform.

Looking to the future

Looking ahead, Emílio and Martín expect accelerated adoption of solutions to reduce the environmental impact of mining. Once existing only in large mining projects, now small and medium companies are also investing in sustainable technology.

Emilio and Martín also anticipate that companies of all sizes will become increasingly committed to the social development of communities affected by their activities. Following one sectoral trend, LinkMiners is planning to globalize its platform in order to help solve challenges in other Latin American countries as well. LinkMiners also aims to follow the mining trend toward using artificial intelligence, hoping to increase the LinkMiners platform ability to predict trends and improve matchmaking



Mining paths in LatAm

a. “Mining Trade Show”

It wasn’t by chance that Linkminers came to life during a trade show. Trade shows, particularly those in countries with state-of-the-art mining practices as Chile and Peru, attract decision makers from across the continent and dictate sectoral trends.

b. “Webinars” and “LinkedIn”

Research conducted by NZTE (2023), interviewing Latin mining decision makers, showed that webinars will remain relevant for the sector, being a preferred format to learn about sectoral innovations.

c. “Mining Cluster”

The sector is organized in regional clusters in Latin America. Those clusters work as connectors and innovation hubs, helping to accelerate network building.



Uruguay: A pioneering biotechnological company

Political and economic stability, an investor-friendly environment, and government support to entrepreneurial innovators are some of the ingredients contributing to Uruguay's recent economic and environmental success. Laura Macció, founder of Aravanlabs, is one of the pioneering entrepreneurs using Uruguay as home base to open new business frontiers.

Biologist by training and experienced in quality control and research and development, Laura founded Aravanlabs in 2014. With support from ANII (the National Agency for Research and Innovation), Aravanlabs became Uruguay's first company to produce certain microbiological control agents, and the company is now innovating around environmental control of microorganisms.

Building trust and links to customers

Building trust is perhaps the greatest barrier to entry for pioneering companies in areas with thin margins of error. Those buying

“We had to scale up quickly, due to the unprecedented demand (...) but the pandemic brought the team closer together, as we all began to see Aravanlabs as a life saving enterprise”



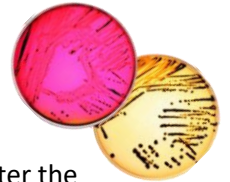
Laura Macció,
Aravanlabs
founder

biological control tests, which are used to identify pathogens and microorganisms, rely on reputation when selecting a supplier. This makes it difficult for new companies to enter the market and increases the cost of

mistakes. The barrier is even greater the closer a product is to human health and consumption.

To get into the market, Aravanlabs started with microbiological control tests for ready-to-eat food products. It was a way to work in an industry Laura was familiar with and to demonstrate success before moving into human health. At that time, Laura was accompanying buyers through their shopping journey. It was through those exchanges with customers that the company became service oriented – important because Aravanlabs products deliver more value when accompanied by adequate training and supervision.

As the company grew, it started to develop products and services for different sectors, including meatpacking, breweries, fruit packers, and poultry. The next bold step, moving into human health, would have taken longer if it hadn't been for COVID-19.





On March the 13th, the government confirmed the first cases of COVID in Uruguay. Less than a month later, on April 9th, the first COVID PCR test kits were produced. Within three more months, Aravanlabs began to 3D-print its own swabs to aid testing in the country.

Internally, the company had to make the most of its many microbiologists. Precaution measures were implemented before COVID arrived in Uruguay, and ultimately only 2 employees tested positive for COVID throughout the entire period. The busiest months during COVID actually brought renewed passion to the staff – for the first time the team saw first hand their role in saving lives.

Strengthened bonds helped the company produce more than 1 million COVID kits. Their speed of response helped raise Aravanlabs' profile in the market and attract public attention. Since then, the company has conducted more than 60,000

microbiological control tests and is expanding into new markets and investing in an innovative spin off.

Looking to the future

Aravanlabs has sold more than 3 million biological control tests to an ever-growing number of sectors, and now the company is looking to grow into other markets too. Neighbouring countries are the first target, starting with Paraguay's thriving agri-food industry, given its lower barriers to entry due to regional agreements between the countries.

To Laura, Aravanlabs' success to date has been in great part due to the good mix of risk-takers and conservatives on its board. Balanced views and a flair for data-backed arguments have helped the company grow sustainably and make the right business decisions.

Arvanlabs' next bold move is a spin-off company called Metabix Biotech, co-



founded with Oscar Figueira. Its combination hardware plus software solution aims to automate biological control tests, making food production safer through the automatic detection and analysis of pathogens like salmonella, listeria, and O157.

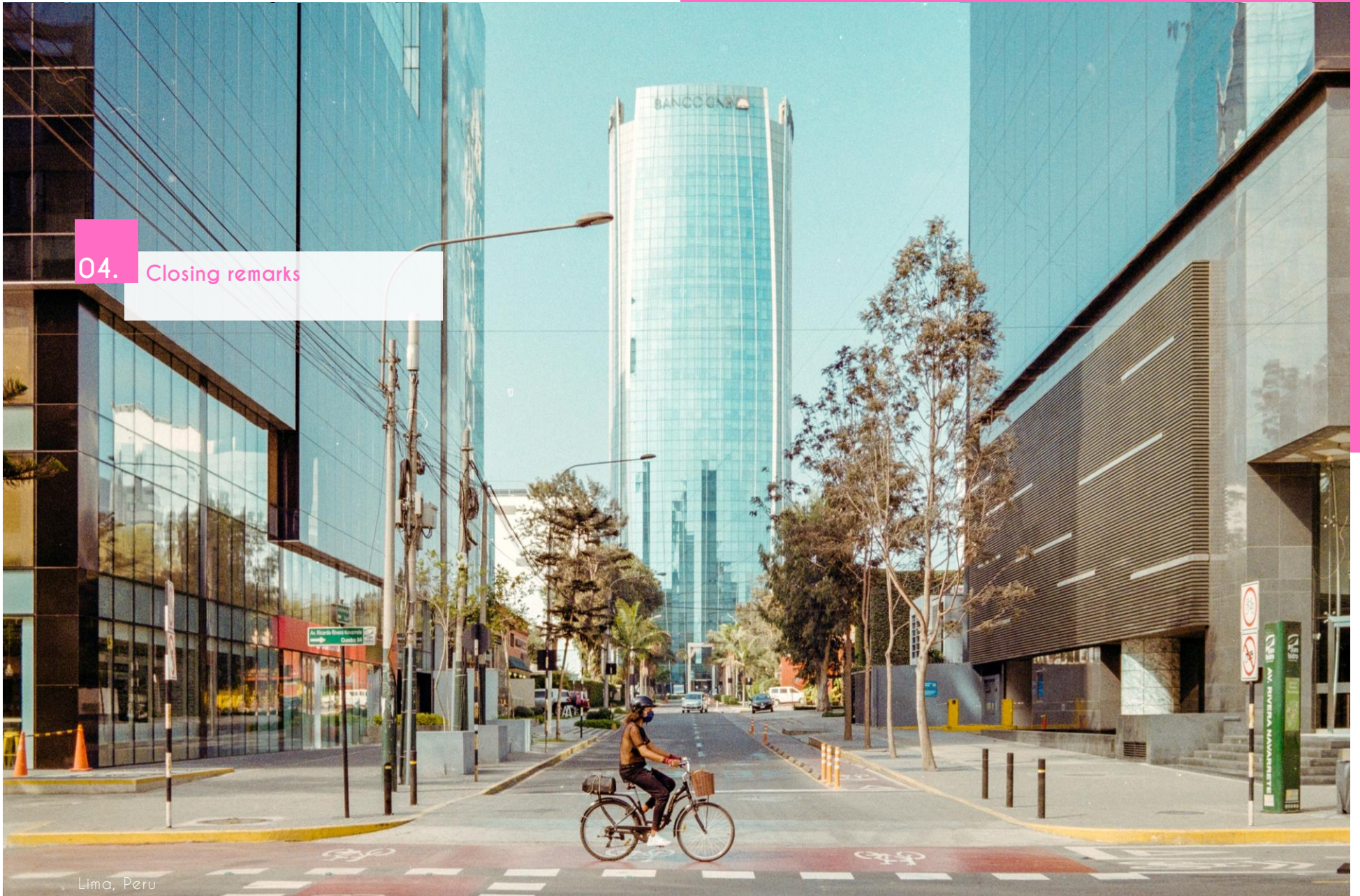
Technoparks

[Pando Science and Technology park](#), where Aravanlabs is headquartered, is one of Uruguay's seven technology parks.

Those parks are at the fore-front of scientific development in LatAm. Some, as Brazil's [Cenpes](#) and the [Sirius particle accelerator](#), are among the world's most advanced and offer opportunities for collaborations with foreign companies and researchers.



04. Closing remarks



Lima, Peru

[@nestormorales](#)

Closing remarks

Of the five themes common to all conversations, only one appeared by design. All others appeared by serendipity.

By design, we had looked for innovative companies. We purposefully conducted conversations around *innovation* and the *development* of new products or services. But we were surprised by the universality of four other themes: *customer centrality*, *sustainability*, *community mindset*, and *global focus*.

The nine leaders interviewed talked about how central user experience was to developing solutions – customer centrality appeared both as an enabler and as a promoter of innovation. Sustainability goals and investments were also part of our conversations, with new products and services contributing directly to a more sustainable economy.

When talking about the future, leaders shared a desire to increase the companies’

impact in the communities to which they belong. This set of Latin American ventures was born global, growing through partnerships with companies abroad and implementing an internationalization strategy. It was remarkable to see so much common ground among leaders from very different corners of Latin America.

Latin America’s diversity and openness are central to the success of its innovation ecosystems. Expanding its network in New Zealand would only contribute to make the innovation process more diverse and effective on both sides of the Pacific.

We hope this report will raise more awareness of the calibre and diversity of businesses in Latin America, to encourage NZ exporters to see the significant unrealised trade potential. There are endless opportunities for NZ exporters to collaborate, diversify and invest in this dynamic region.



Frequency word-cloud, based on edited notes.



Sulpayki

Gracias

Obrigado

Aguije

Thank you

Tlazohcamati miyac

Yuspagara

B'antiox

...

yellow boots

Ngā mihi nui

Thank you!

LANZBC
Latin America New Zealand
Business Council



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Report commissioned by the [Latin America New Zealand Business Council](#).

Authored by [yb.](#) [Molly Robinson](#) served as copy editor.

Links included as part of the texts take readers to some of our favourite journalistic pieces, authors, and podcasts, about and from Latin America.



yellow boots

About us: We are a Latin America-based boutique market research and design thinking agency, working on internationalization of cultural and commercial goods and services.

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