



Construction Materials for Sustainable Cities: **Harnessing Eco-Collection to Transform Tires into Materials**

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Yo Amo Encarnación Park in the city of Encarnación, Paraguay, the first public park installed in Paraguay by Mamut
Photo credit: Mamut

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CASE STUDY

*Construction Materials for Sustainable Cities:
Harnessing Eco-Collection to Transform Tires into Materials*

AT A GLANCE

Company	Eminlaga SRL “Mamut”
Social theme(s)	Energy/Climate Change/Environment
Geography	Headquartered in Bolivia; Sales in Bolivia, Panama, & Paraguay
Year founded	2013
Revenues	€1-2 million annually
Legal structure	For-profit company
Clients	Construction companies; Public institutions; Educational institutions; Private companies; Individuals
Business model	Commercial for-profit company, generating revenue from sales (50% products + 50% services). Mamut is committed to reinvesting 90% of profits back into the company
Product/services	Mamut contracts with local tire recyclers, manufacturing recycled rubber products including flooring (sports, hospital, industrial), speed bumps, and curbs. The company also carries recycled rubber and other material collection programmes
Impact reach	Mamut has launched 10K+ projects in Bolivia, Paraguay, Brazil, and Panama, impacting the lives of 2.1M of users and preventing 800K tires from landfills

Background

Each year, approximately 1 billion rubber tires are retired from use, yet only a fraction of these tires are recycled.¹ When tires are added to landfills, they release toxins that harm soils and enter water systems. When tires are burned (a common practice), these toxins are released into the atmosphere.

Yet, end-of-life (ELT) tire recycling can provide a source of raw material for numerous beneficial products and contribute to livelihoods for small businesses who collect tires and connect them to manufacturers. Tires are just one example of numerous potential recycled products that can be used as raw materials to improve city infrastructure and contribute to a circular economy.

¹ <https://www.goldsteinresearch.com/report/global-tire-recycling-industry-market-trends-analysis>

About the Company

Mamut was founded by brothers **Manuel and Antonio Laredo** at their parents' kitchen table. When the brothers returned to Bolivia after obtaining advanced degrees in Industrial Engineering and Business Law, they decided to develop a sustainable business addressing environmental concerns. In Bolivia, there are more tires than people, but there is no formal recycling programme to collect them as in other more industrialised countries. Instead, there is a network of informal traders who collect tires for the raw material. The Laredo brothers realised they could develop construction products using these raw materials and harnessing this network of informal 'eco-collectors' to develop demand for a new and growing industry.



Rubber flooring located in the Pirai urban park in the city of Santa Cruz, Bolivia
Photo credit: Mamut

Sources of Impact

Customers: Who is served?

Mamut serves **construction companies, public institutions, educational institutions, private companies, and individuals**

Workforce: Who is employed?

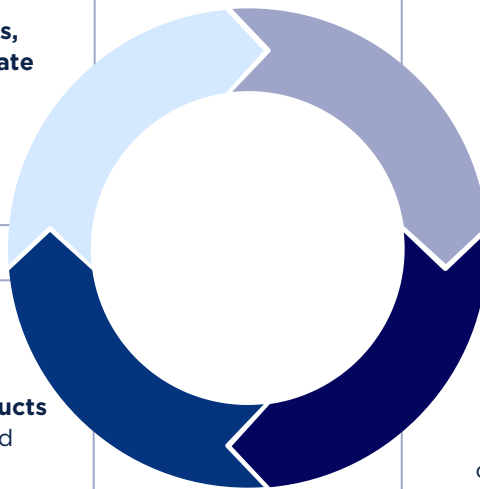
Mamut has a staff of **-40 employees**. Mamut's broader workforce includes **grassroots recyclers** who supply raw material for manufacture

Product/Service: What is delivered?

Mamut manufactures **14 products using recycled tire rubber** and also delivers services that contribute to sustainable urban infrastructure

Eco-System: What relationships are developed?

Mamut partners with **construction companies** and other organisations to promote their products and services



Innovation Activities

Mamut engages in several activities that drive innovation, both in the communities they serve as well as the larger eco-system:

INNOVATION ACTIVITIES



- R&D for new product lines:** Mamut has reinvested ~€500K into research & development to create a sustainable material laboratory where they are working to develop new materials
- Marketing to educate customers:** Mamut markets its products to customers who likely have not purchased recycled rubber products previously. Mamut therefore educates prospective customers on the value of the products they sell
- Identifying financing opportunities for entrepreneurs:** Mamut identified a Bolivian financing programme which reduced interest rates on private bank loans for entrepreneurs. They were the first company in Bolivia to receive the credit due to the transparency and rigour of their business plan and financials

Key Innovation Challenges & Learnings

Mamut works to build local solutions that are uniquely suited to Latin America, capitalising on the social and economic systems of the region. Through this process, they have encountered challenges and learnings:

- **Developing a circular economy linking informal and formal:** Rather than disrupt the existing informal market—which provides a social fabric—Mamut links the informal and formal markets, creating demand for the raw materials and enhancing livelihoods. Co-founder Manuel Laredo describes how Mamut works with the existing economy to transform it: *“Although Bolivia doesn’t produce tires, they arrive in the country due to subsidy programmes and contraband. After all this, we (Bolivians) develop a solution with less market, less technology, and less opportunity, and no formal collecting system.”*
- **Seeing the bigger picture of innovation:** Mamut sees their innovation going beyond products and recycling to transforming cities. Co-founder Antonio Laredo says, *“I believe the big innovation of Mamut is not the products, it’s the way we do things as a whole. These types of products change neighborhoods, they change the way that people use the public and private space. When neighborhoods start recycling and selling their garbage and making things with this garbage, we can make a lot of work. That is why in our values we will always use local garbage to make local products.”*

Featured Project: Gran Mi Ekoparque Seguro, La Paz, Bolivia

In 2021, the city of La Paz opened the Park of Cultures and Mother Earth, including the Gran Mi EkoParque Seguro. The park is the first of its kind in Bolivia, including rappelling, climbing, figures of animals representative of Bolivia, and adventure mounds that simulate the geography and biodiversity of the country.

Mamut was commissioned to build 1,103 m² of safe and cushioned flooring for the park, utilising 4,523 kg of recycled tire rubber. The company estimates that this project saved the equivalent of 94,847 trees over 10 years.



El Parque de Las Culturas y La Madre Tierra (the Park of Cultures and Mother Earth), Bolivia
Photo credit: Mamut