URBAN CABLE TRANSPORTATION

A SUSTAINABLE MOBILITY SOLUTION







OPERATING ALL OVER

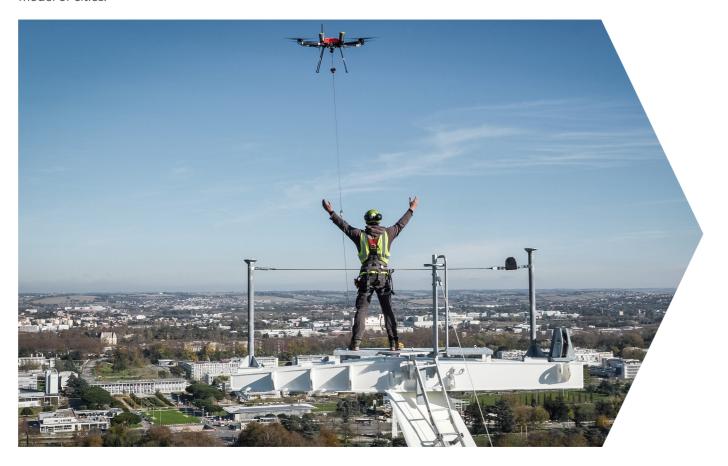
THE WORLD, POMA innovates to make daily life easier and more sustainable

From Ecuador, France and Colombia, to Korea and the Dominican Republic, cities throughout the world call upon POMA to incorporate cable transport solutions into their public transport networks. An increasing number of cities are becoming convinced of the benefits of sustainable, eco-friendly and economical transport which can overcome urban congestion problems while adapting to the needs, constraints and population density of each city.

After the opening in 2021 in Colombia of the 6th line of Medellin metrocable, and the opening of the longest aerial line in Pereira, other cable cars have taken off in Namur, Saint Denis de la Réunion and Toulouse.

The second urban line of Santo Domingo in the Dominican Republic is currently under development in the Dominican Republic. Meantime three new projects have also been announced, in Madagascar, Ajaccio and Grenoble, the POMA Group's historical home.

Acting innovating with POMA, these aerial urban lines open the way to cities and metropolis of France and all over the world, which want to be part of a sustainable model of cities.



the Challenge Facing Cities for a Successful Energy **Transition**

The transport sector represents 33% of energy consumption in France, and is the main source of CO2 emission, accounting for 39% of total greenhouse gas emissions (source: ADEME). At a time of energy transition, this represents a very high energy burden! But while cities look to limit their environmental footprint and improve quality of life, their populations are becoming denser and more widespread: it's estimated that 70% of the world's population will be living in urban areas by 2050. Urban road networks cannot absorb this level of pressure, so the average speed of traditional transport methods in cities (cars, buses taxis) is decreasing year by year. Cable transport offers an efficient solution to the congestion and gridlock problems of major urban centres, providing a sustainable and appropriate answer to the issue of ecoresponsibility. It was also identified by the Grenelle I discussions as an efficient alternative for combating greenhouse gases.

100% electric and silent, this low-carbon method of transport fits perfectly within the energy transition narrative. Each cabin is powered by a single electric motor that's less noisy than motorised transport and creates no air pollution.

Additional green energy sources - such as solar panels on the cabins and station roofs - can be easily integrated to reduce the system's energy consumption even further. The minimal space required for the stations and pylons also helps limit its impact on the public space, allowing it to blend in seamlessly with the urban environment.

Cable transport also solves the famous last mile problem. As a means of connection, it closes the gaps between sites separated by long distances (hospitals, factories, industrial zones, car parks, etc.).

By strengthening the mobility network and creating an intermodal link, cable transport also allows us to both increase the accessibility of sites and improve current transport infrastructure.

Last but not least, it is remarkably quick to install, with most urban cable projects taking between 18 and 24 months to complete. Cable lines can also be dismantled and moved, making for a flexible and reversible solution.

PRODUCTS WITH LOWER ENVIRONNEMENTAL IMPACT.

Even though all our product ranges are precisely tailored to the customer's needs, POMA goes further by proposing a mobility solution that is increasingly virtuous with regard to people and their environment. To this end, we have selected a set of highly proven products and services that we have modified to reduce their environmental impact. And we have new innovative products that integrate the environmental dimension into our work from the design stage. All the products in this selection are part of an incremental innovation

process. They are scalable and adaptable, more sustainable, for ever better performance and

energy efficiency throughout their lifecycle, pursuing the following areas of improvement: fewer raw materials, less energy in the manufacturing process, short supply chains, worker safety with fewer consumables and less impact of construction, reduced energy consumption, recyclability or reuse at the end of their life.

> Are you ready, starting today, to work together to conceive increasingly sustainable mobility, to connect people and places in complete harmony with our environment?

POMA and Michelin announce the launch of a new efficient and durable liner.

Michelin, a leader in sustainable mobility, and POMA, a global pioneer in ropeway transportation, have made a joint commitment to develop innovative and more sustainable products. This strategic partnership reflects a common desire to make everyday mobility and travel ever more environmentally friendly. In June 2022, after years of research and joint development, the two manufacturers unveiled their first patented innovation: a particularly efficient liner, whose performance has been proven and validated using advanced calculations and tests on test benches and on existing equipment. The rubber liner for carriage rollers is a highly technical component that interfaces with the rope and carrier grips. Due to its function, the liner is subject to extreme mechanical stress, both at the stations and on the line structures.

Michelin's expertise in flexible composite materials, combined with POMA's product expertise and experience gained from numerous installations around the world, has resulted in a solution that meets a large number of technical and environmental

The result of their research is an innovative, exclusive rubber specifically for roller liners in ropeway systems, with outstanding performance in terms of service life, load capacity, ease of maintenance, reduced energy consumption, vibration absorption and noise comfort. In line with the stated objective of both companies, to protect national industrial know-how, the liners will be manufactured in France, with a high proportion of durable bio-sourced materials using a low carbon process. Moreover, particular attention has been paid to the product's end-of-life, as the liner will be recycled or reused through existing recovery channels. This new efficient liner exclusive to POMA, will be available in various models and will be used in ropeway systems all over the world from next winter.



SOUTH AMERICA,

Championof the Urban Gondola

Gondola cabins have been dotting the skies of South America for nearly 20 years, slotting in seamlessly with the urban landscape and the daily lives of residents.



COLOMBIA'S FUTURE IS ON THE UP

Medellín is a pioneer in this area, paving the way for a new urban mobility model when it incorporated its gondola into its public transport network in 2004: a world first! MetroCable has set the benchmark for the world. With 5 lines in service capable of transporting 220,000 passengers per day over 14 kilometres of cable lines, MetroCable has now added a 6th line – Line "P", the world's first 12-seater urban gondola. Inaugurated on 10 June 2021, today it transports 4,000 people per hour to the city centre thanks to its connection with the metro via a multimodal station that allows it to use the long-established Line K.

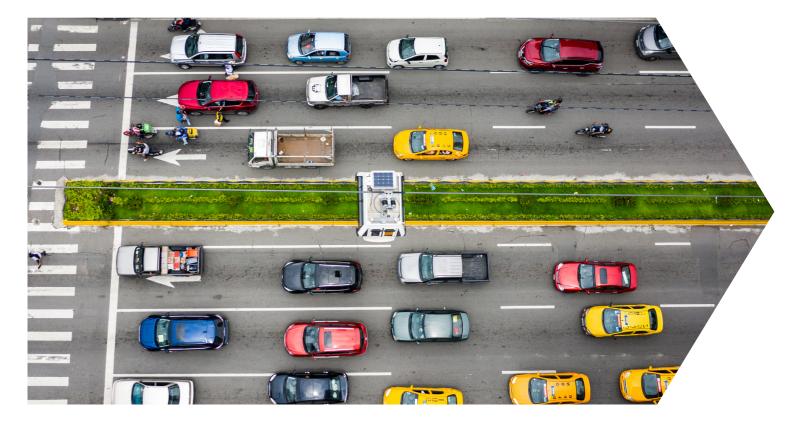
The cabins and stations were made in France, at POMA group industrial facilities. The pylons were made in Colombia and installed in Medellín in close cooperation with POMA Colombia, the local subsidiary created by POMA that provides trustworthy support to MetroMedellín in operating and maintaining the system.

Following in the wake of Colombia's economic capital, Pereira is breaking new ground itself in 2021. The city is introducing the same DirectDrive® technology high energy efficiency motor for its cable-driven urban transport system, Colombia's largest. It's an answer to the city's mobility and accessibility needs (Villa Santana-Pereira: 14 mins vs 45 mins) and to its environmental requirements.

DECUADOR'S UNIQUE INTER-URBAN CONNECTION SOLUTION, FLYING OVER GUAYAQUIL

The largest port on the Pacific coast of Latin America has chosen a low-carbon urban transport line, a 100% horizontal, 4 km-long aerial tramway with 5 stations, completing the city's public transport network and relieving semi-urban traffic. Operational since December 2020, the AEROVIA line cuts the commute between the Guayaguil business district and the residential neighbourhood of Durán from an hour by road to just 17 minutes by gondola. This cable transport line boasts 155 10-seater cabins, carrying up to 2,600 people per hour in each direction, for an estimated daily capacity of 40,000 passengers. Ecuador's first urban gondola, AEROVIA stands out for the way it has become such a seamless part of the daily lives of residents. The 3 city centre stations slot into the urban landscape by providing community services to passengers.





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EUROPE

Reaches New Heights

Europe is also introducing cable transport solutions into its daily transport network at an increasing rate. And the continent has found other uses for it, such as serving and enhancing tourist spots.



TOULOUSE FROM THE SKY

In Toulouse, the longest urban aerial tramway is stretching over 2.7 km, crossing the Garonne river and sailing over the Pesh David hill. The Téléo urban cable car system connects the Oncopole to the Paul Sabatier University via the Hospital of Rangueil in just 10 minutes, compared with 30 to 40 minutes by car. The aerial transport line was the obvious solution to serve three major hubs of the city of Toulouse. Téléo cable cars run at a frequency of one every one-anda-half minutes during rush hours, operating from 5.15 am to 12.30 am. It is expected to transport more than 8,000 passengers daily.

With only 5 towers on its 3km route, the aerial tramway stands out with regards to its minimal ground space requirements. Natural areas are entirely preserved as it simply passes over them. Téléo also sets itself apart in terms of its acoustic performance: its single electric motor is installed at the Paul Sabatier University station and equipped with special sound-proofing.

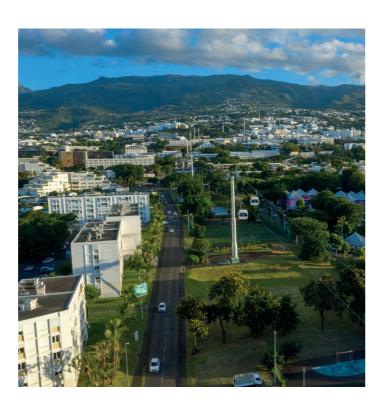
As well as providing a service to users, with Téléo POMA is offering a unique experience: travelling at 50 metres above ground, these interconnected, fully-glazed 34 -seat Symphony cabins will offer breathtaking views of the pink city and its surroundings.

INDIAN OCEAN'S FIRST URBAN CABLE CAR IN SAINT-DENIS DE LA RÉUNION IS UP AND RUNNING

Requested by almost 90% of the population, the Indian Ocean's first gondola line is preparing for take off. The gondola was chosen as the best way to improve the transport network when it comes to urban mobility, particularly for connecting the north and south ends of Reunion Island, still underdeveloped due to the natural obstacles of the sloping terrain.

The gondola will connect the Chaudron district east of Saint-Denis' city centre to the Bois de Nèfles Sainte-Clotilde district to the North via the Moufia district. And all in 14 mins. Stretching 2.7 km and comprising 5 stations, this line will be connected to the current Citalis transport network (over 21 million passengers annually). It also takes into account

21 million passengers annually). It also takes into account the Reunion Region's future Run Rail project connected to the university campus. The 46 10-seater cabins will provide a capacity of 1,200 passengers per hour in each direction. Featuring DirectDrive® technology, the gondola line provides a silent, efficient, lowcarbon method of transport.





> KICK START FOR THE NAMUR GONDOLA

Since 8 May 2021, a multimodal tourist gondola has been connecting Namur's historic city centre with its listed Citadel. The two trains of three 6-seater Diamond cabins run along the line at 6 m/s, carrying all members of the public, from pedestrians and strollers, to bikes and people with reduced mobility.

For a long time, the city has wanted to make it easier for Namur residents to access the Citadel, which was complicated by the steeply sloping ground, as well as by the Sambre and Meuse rivers. Now the challenge has been overcome! Linking Maurice Servais Square with the Citadel esplanade, the 650 metre long journey, covering a 103 metre slope, is completed in 3 minutes max.

Thanks to the cabin's large windows, users will also discover an entirely fresh view of the Wallonia capital.

Designed to slot into the urban landscape, the gondola proposes a modern architecture that respects the uniqueness of the site. The two discreet stations blend into their environment thanks to the red brick typical of Namur. The ingenious transparent effect of the glazed surfaces and the concealment of the technical parts of the gondola's mechanism have helped ensure it remains perfectly in keeping with the existing building. Particular attention was paid to the installation of the pylons: only one of the four pylons that punctuate the line is visible, with the others blending into the Terra Nova woods.

This is the very first project POMA has completed in Belgium, and its first European tourism concession.

AS A SOLUTION TO ITS GREEN AMBITIONS

In Grenoble, European Green Capital 2022, cable transport is helping to translate ambitious goals aimed at organising the city around sustainable mobility projects.

POMA has won the tender to connect the city with three of its surrounding communes. In 2024, a 3.7 kilometre aerial cable link will span two water courses and two dual carriageways to connect the "scientific" peninsula with Fontaine and Saint-Martin-le-Vinoux. A real technical challenge! 66 cabins will carry up to 3,000 passengers per hour, travelling at 19 km/h and completing the journey in 15 minutes. Proving that environmentalism and aesthetics can go hand in hand, the 6 stations will be built entirely of metal and wood, and the feet of the pylons will be covered in greenery, as will the station roofs that are designed to be "balconies" over the city. And since it's linked to tramway lines A, B and E, the cable transport line will be fully integrated into the public transport network.



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AND THROUGHOUT

the Rest of the World

A SECOND LINE TO IMPROVE URBAN MOBILITY IN THE DOMINICAN REPUBLIC

The New World's oldest city Saint-Domingue is experiencing an urban boom. The city needs to respond to several mobility challenges, including heavy traffic and frequent congestion that are extending people's journey times ever further. One of the solutions implemented by the local council in 2018 was a 5 km long, 100% horizontal urban gondola in the North East of the city connected to metro Line 2. Proof that even without a slope, cable-driven transport is reinventing mobility in the urban environment.

After the success of this first urban gondola in the Caribbean, the country has just renewed its faith in POMA for the installation of a second 4.2 km, 4-station gondola line in the North West of the capital. Residents of the Los Alcarrizos neighbourhood will be able to reach the city centre even faster thanks to the 4,500 passenger per hour capacity of this new line expected to be completed in 2022.





DURBAN CABLE CAR IN ANTANANARIVO: A SUSTAINABLE AND VIRTUOUS SOLUTION DESIGNED BY POMA TO RELIEVE CONGESTION IN THE CAPITAL CITY OF MADAGASCAR.

POMA, a world leader in cable transportation, has been awarded the contract for the future urban cable car in the capital of Madagascar, as part of a consortium comprising the companies COLAS PROJECT and COLAS MADAGASCAR. Sustainable, environmentally friendly and cost-effective, cable transportation transcends urban congestion problems by creating aerial links between urban and suburban areas, complementing or extending existing transportation networks.

The cable transportation project will therefore lead to a significant reduction in CO2 emissions and microparticles. The two cablecar lines, essential links in Antananarivo's urban transportation system, will serve 12 stations spread over 13 km between Antsako, Anosy and Ambatobe, with an initial carrying capacity of up to 40,000 passengers per day.

This cable transportation project reflects the commitment of the local authorities to significantly improve the public transport offering in the Malagasy capital.

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A la Carte SUPPORT



Whether it's in Reunion, Guayaquil or Namur, POMA always brings a specific solution to each client, from training, advice, technical management and commercial operation, to upkeep, technical operation and partnership-based maintenance.

POMA anticipates its clients' needs, offering support solutions that vary according to the requirement, ranging from start-up support to full assistance with the operation and maintenance of every installation.

After carrying out a diagnosis of the human resources and equipment (tools, spare parts, etc.) needed to guarantee the desired operating conditions (gondola opening hours, yearly usage times, permission and duration of stoppages, expected availability rate), the POMA teams are able to offer tailored support solutions.

The Group is then able to help its clients with operation and maintenance, whether that involves transferring acquired skills or the delegation of tasks to the dedicated POMA teams. These a la carte operation and maintenance contracts help guarantee the maximum availability of any type of urban installation, 20 hours per day all year round. Each proposal also takes into account the machine's operating conditions – as well as the "cable culture" of each country where the machine is installed – which ranges from start-up assistance to the full operation of the structure at a flat rate.

POMA guarantees the durability of every installation, supporting future operators through on-site and online training via a 3D simulator.

POMA Works

ALONGSIDE ITS CLIENTS

Some projects require more than POMA's expertise in design, installation and machine maintenance. Attuned to the needs of its clients, POMA offers personalised solutions in line with their expectations and the realities of the market. This end-to-end support can extend to putting local councils in touch with banks, institutional partners, lenders, investors and insurers. It's about finding the best possible synergies each and every time, like the relationship we have with the French Development Agency (AFD), who have supported our clients through urban projects in Medellín, Santo-Domingo and Guayaquil. Drawing on its expertise in interface management, POMA also develops clusters whose form, size and timeframe are unique to each project.





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