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SEILBAHNEN INTERNATIONAL

THE URBAN CABLE TRANSPORT MAGAZINE

URBAN

CABLE CAR NEAR PARIS

A MODEL FOR EUROPE

CABLE CAR SOLUTIONS

FROM MEXICO TO OCEANIA

CABLE CAR AS A BOOSTER

FOR ECONOMY AND SOCIETY

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FRANCE TAKES THE LEAD, MEXICO SETS A PRECEDENT. AND GERMANY? STILL STUCK IN DISCUSSION!

"Cable Car near Paris: A model for Europe" – that is the leading headline on our front page. While the full impact of the "Câble C1" in the Île-de-France region, which opened in December 2025, cannot yet be assessed in detail, I am convinced that its influence will reach far beyond the Greater Paris area. Passenger forecasts are already being exceeded, and further cable car lines are being planned – fueling the debate in Germany, where projects in Bonn and Herne are currently the furthest along.

However, it is also clear that other regions of the world are operating at a significantly higher level. Mexico, in particular, is emerging as a true pioneer. Not only is the capital, Mexico City, planning additional systems, but Puebla is also designing an entire cable car network from scratch!

This rise of the urban cable car is now also reflected at the knowledge and networking level. The two major industry trade fairs, INTERALPIN and MOUNTAIN PLANET, are joining forces to alternately host the annual City Cable Car Solutions (3CS) congress. The first edition took place in Innsbruck, Austria, in 2025; the second will now be held from April 21 to 23, 2026, in Grenoble, France. As a media partner, we will, of course, be reporting live from the event. Perhaps we will see each other there – I would be delighted.

DATES

March, 3rd – 5th, 2026
IT-Trans, Karlsruhe (GER)

March, 10th – 13th, 2026
Intertraffic, Amsterdam (NL)

April, 21st – 23th, 2026
UITP Summit 2026, Dubai (UAI)

April, 21th – 23th, 2026
Mountain Planet, Grenoble (FR)
with City Cable Car Solutions 3CS

September, 22th – 25th, 2026
InnoTrans, Berlin (GER)

April, 20th – 23th, 2027 (!)
Interalpin, Innsbruck (AT)
with City Cable Car Solutions 3CS

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CÂBLE C1

CABLE CAR OPENS NEAR PARIS

In December 2025, the urban cable car Câble C1 welcomed its first passengers. The approximately 4.5-kilometer cable car line extends Metro Line 8, improving the connection of the southern suburbs of Paris to the Île-de-France transport network. This provides the region with a sustainable transport solution that meets all criteria for urban mobility and the services of the local transport authority.

Câble C1 is a milestone in the field of urban cable cars. © Laurent GRANDGUILLOT / IDFM

Expectations were already exceeded in the first few months by 1,500 to approximately 12,500 passengers per day: Câble C1 is the first urban cable car in the Île-de-France region and is considered a flagship project for future mobility solutions in densely populated metropolitan areas in Europe and worldwide. The project demonstrates how cable cars, as an integral part of the public transport network, can open up a new level of mobility, resolve traffic bottlenecks, and create new time-saving connections. With five stations over a distance of around 4.5 kilometers, the cable car significantly improves the mobility options for the communities of Créteil, Valenton, Limeil-Brévannes, and Villeneuve-Saint-Georges.

Reasons for the cable car

Câble C1 is part of the Île-de-France Mobilités strategy to expand the public transport offering in the Great er Paris area and promote innovative mobility solutions. With the cable car, Île-de-France has chosen a system characterized by its low ground footprint, fast construction time, and easy integration into existing infrastructure.

This allows passengers to conveniently transfer to other modes of transport such as bus or metro at all stations. The cable car is thus an intermodal, fast, barrier-free, and CO_2-free connection over busy roads and railway lines. In the future, it is intended to transport up to 11,000 passengers daily to their destinations. The travel time for the entire route is 18 minutes – half of the previous travel time.

Mobility for all

A central theme in the implementation of the new transport system was accessibility for all passengers. The *105 OMEGA V-XL* cabins offer seating for up to ten people. They are also comfortable and accessible at ground level for people in wheelchairs, those with reduced mobility, bicycles, and strollers.

This also includes real-time visual and acoustic passenger information, video surveillance, sufficient grab handles, and an intercom system for communication with operating staff. The stations also meet the requirements for accessibility in public

Câble C1 shows how cable cars can function as an integral part of the public transport network. © Laurent GRANDGUILLOT / IDFM

■ **CÂBLE C1 PARIS**

Capacity	*1,600 pphpd**
Length	*4.5 km*
Vertical rise	*40 m*
Speed	*6 m/s*
Travel time	*approx. 18 min*
Number of cabins	*105*
Cabin capacity	*10 p*
Number of stations	*5*
Number of towers	*30*
Manufacturer	*DOPPELMAYR*
Operator	*Transdev*
Client	*Île-de-France Mobilités*

** expandable to 2,000 persons (p) per (p) hour (h) per direction (d)*

VALÉRIE PÉCRESSE, President of Île-de-France Mobilités,

"Since 2016, we have been committed to an unprecedented expansion of public transport services across the Île-de-France region. At the height of the climate crisis, it is our responsibility to provide the residents of Île-de-France with genuine alternatives by simply reinforcing existing lines and creating new connections. The construction of the Câble C1 ropeway presents a unique opportunity. This urban ropeway, the first of its kind in Île-de-France, will provide an efficient and innovative transport solution for all residents of the region."

In the center (with white turtleneck): Valérie Pécresse, President of the Île-de-France region and Île-de-France Mobilités. On the left (with blue tie): Christophe Surowiec, Responsible for overall project management.

transport and offer fully barrier-free access.

Reaching the goal together

As the world market leader in cable car construction, the DOPPELMAYR Group was responsible for the planning, delivery, construction, and assembly of the entire cable car as well as the cabins. During the operation of the cable car, the DOPPELMAYR team will provide expert maintenance and service. A consortium was formed under the leadership of DOPPELMAYR France for the overall project implementation. The cable car specialists were supported by experts in infrastructure planning, landscaping, civil engineering, and architecture. Bernard **Teiller**, President of DOPPELMAYR France, highlights the good cooperation of the cross-company teams:

"A ropeway project of this scale and significance requires extensive coordination, expertise, and professionalism. We owe its successful realization to Île-de-France Mobilités, the companies in the consortium, and each and every member of our outstanding team."

Following the official opening ceremony, the Câble C1 ropeway began public operation on December 13, 2025. It is now a fully integrated part of the regional transport association. The facility is operated by Transdev Coteaux de la Marne on behalf of Île-de-France Mobilités.

ARNO INAUEN, Executive Board, DOPPELMAYR Group

"Câble C1 has already gained remarkable recognition as an innovative urban mobility solution – not only in Europe, but worldwide. We are proud our technology contributes to sustainably strengthening the transport network in the Paris Region. I am confident that this ropeway will serve as an inspiration for many other cities."

In the photo: Arno Inauen (left) from the Executive Board of the Doppelmayr Group with Bernard Teiller, President of Doppelmayr France.

Câble C1 is intended to transport up to 11,000 passengers daily to their destinations. The travel time for the entire route is 18 minutes.

NEW ZEALAND

LEITNER TO BUILD OCEANIA'S FIRST URBAN ROPEWAY

Preparations for a genuine mobility revolution are currently underway in Queenstown, on New Zealand's South Island. In a competitive tender process that began in May 2025, LEITNER has now been officially selected to build Oceania's first urban ropeway. It will connect Queenstown Airport via the Frankton bus station to the city center. The anticipated travel time is around 20 minutes and offers a reliable alternative to the heavily congested Frankton Road, as well as panoramic views over Lake Wakatipu and the Remarkables. The 200 million euro Queenstown ropeway network is expected to be operational by 2029.

Oceania's first urban cable car in Queenstown will open in 2029. © LEITNER

Queenstown's unique geography, as well as high property prices, make expanding roads or constructing dedicated bus lanes extremely costly and slow. "For this specific urban transport application, ropeway technology stood clearly above the rest," says Ross **Copland**, CEO of Southern Infrastructure Limited. Southern Infrastructure is a privately owned company based in Queenstown, providing expertise, investment, and commitment to deliver the region's necessary infrastructure.

Cable car project details

The gondola lift plans are based on previous studies which found that a gondola lift from the airport to the city center would be the optimal transport solution for Queenstown. The project submitted by LEITNER envisages a gondola lift with five stations along three sections, with an hourly capacity of up to 3,000 people. Thanks to the route, the installation will not only create added value for tourism, but also contribute to the city's long-term infrastructure planning. "Our first step with LEITNER is a pre-construction services agreement, which allows us to finalize the detailed engineering," Copland said. "That work will underpin a design-and-build contract when the project is ready to proceed to construction."

Next step: detailed planning & construction of the ropeway

With the transition to the next project phase, both the substantive and technical foundations will now be further developed. This phase includes detailed planning and construction of the ropeway, as well as the preparation of comprehensive environmental and technical assessments.

In parallel, structured consultations with property owners and the local population are planned to develop the project transparently and to consider regional concerns at an early stage. "The awarding of this project represents a milestone of great significance for LEITNER and is a strong sign of confidence in our technological expertise and our vision for sustainable mobility. With the realization of Oceania's first urban cable car, Queenstown is taking a decisive step toward an innovative, reliable, and seamlessly integrated urban transport system. We are proud to contribute our know-how to a project that combines innovation, sustainability, and long-term value for the region," said Martin **Leitner**, CEO of LEITNER.

Timeline: construction start & Scheduled opening

The start of construction is scheduled for 2027 – subject to the determination of the appropriate approval procedure and the granting of all required official permits.

The first section is currently planned to open in 2029.

LEITNER already has experience in New Zealand: The company has completed significant projects here such as the Coronet Express, the Sky Waka gondola lift, and the new 8-seater chairlift at Mount Hutt.

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PUEBLA

DOPPELMAYR BUILDS CABLE CAR NETWORK

The network in Puebla is to comprise four cable car lines and nine stations. © DOPPELMAYR

The government of the State of Puebla in Mexico has awarded ropeway manufacturer DOPPELMAYR the contract to develop a new cable car network with four lines and a length of 13.61 kilometers, which will significantly improve mobility in the city.

DOPPELMAYR was selected by the government of the State of Puebla through an international bidding process to develop a new ropeway network. The project will be implemented in Puebla, Mexico's fourth-largest city, and is part of a socially oriented national mobility strategy supported by the Mexican government under President Claudia **Sheinbaum Pardo.**

The aim of the initiative is to improve urban mobility and enhance the quality of life for people throughout the metropolitan area. The new ropeway network in Puebla will comprise nine stations and four lines with a total length of 13.61 kilometers. It improves urban connectivity, shortens travel times, and offers thousands of residents a safe, accessible, and efficient mobility alternative.

System with expansion potential

At the start, 154 cabins will be in use, enabling comfortable journeys as well as high capacity and efficient operation at a travel speed of 6 m/s (21.6 km/h).

The initial transport capacity of 1,000 passengers per hour and direction can be increased to up to 2,500 as demand grows.

Furthermore, the ropeway network will help reduce congestion and ensure continuous transportation. It strengthens mobility in the city by connecting key points – from Parque Juárez and the RUTA public transport system to Parque Biblioteca and finally to Cerro Amalucan.

Barrier-free mobility

Thanks to seamless and direct connections over crowded streets, the ropeway network will facilitate daily commuting for thousands. Overall, the four lines will shorten travel times by more than 50 percent and noticeably improve mobility in the city of 1.7 million inhabitants. Passengers will ride in modern OMEGA V cabins, characterized by high comfort and contemporary design. Each cabin is fully barrier-free and offers space for ten seated persons. "This project is another example of our commitment to developing and implementing high-quality, sustainable, safe, and innovative solutions to improve mobility in the country. Puebla is a constantly growing city and has now recognized ropeways as a complementary solution for its residents and their mobility," says Konstantinos **Panagiotou**, CEO of DOPPELMAYR Mexico.

Mobility for all

Laurent Grandguillot

Accessibility means meeting the needs of all people. We think holistically, from the road to the cabin and back again. Barrier-free cabin and station concepts with simple passenger flows and transitions to other means of transportation make it easier to use public transport.

A pioneering example of this in Europe is Câble C1 in the greater Paris area.

AJACCIO

POMA NOW OPERATES AND MAINTAINS THE CABLE CAR IN THE CORSICAN CITY

In October 2025, "Angelo" began operations – the first urban cable car in Ajaccio, the capital of Corsica. For POMA, however, the work does not end there; the French manufacturer is taking over the operation and maintenance of the system for the next ten years. This "all-inclusive" package serves as a model for future urban ropeway projects.

The Angelo cable car combines urban and touristic benefits.

Since autumn 2025, the three-kilometer-long "Angelo" cable car has been serving four multimodal stations in Ajaccio. The 12-passenger gondola lift connects the new hospital, schools, sports facilities, and the Mezzavia shopping center. The cable car is part of a comprehensive development plan by the city of Ajaccio aimed at improving mobility and reconnecting evolving neighborhoods such as Mezzavia, Stiletto, Finosello, Saint-Joseph, and La Citadelle.

With over 45,000 vehicles passing through the eastern city entrance daily, the area suffers from significant congestion. In this context, the cable car offers a genuine alternative to private cars, connecting Mezzavia, the Saint-Joseph district, and the waterfront in just twelve minutes. With a capacity of 1,500 passengers per hour per direction, it complements the existing public transport network and promotes intermodality through connections to buses, shuttles, and park-and-ride facilities. Furthermore, the cable car reduces noise pollution and CO_2 emissions, improves the quality of life for residents, and provides a boost to tourism.

A mandate beyond completion

The Angelo project officially began in March 2022 with the signing of the CREM contract (Design, Build, Operate, Maintain) between the CAPA community association and the manufacturer POMA. Following a two-year phase of studies and administrative preparations, construction began in March 2024. The project was implemented by a local and regional consortium – including POMA, Egis Rail, Raffalli, Groupe Rocca, and CAPO Architectes.

A key feature: the contract was strategically designed for the long term and includes operation and maintenance for ten years, with an option for extension. Consequently, the Angelo gondola was designed under POMA's LIFE R'way initiative to follow sustainable and innovative principles beyond the construction phase. LIFE R'way stands for Low Impact For Environment Ropeway: the goal is a low environmental footprint throughout the entire lifecycle, from planning to operation. Through optimized airflow and a minimal footprint, the natural environment and residential areas are preserved. The construction phases were also planned to minimize

The stations are designed as multimodal hubs that interconnect various modes of transport.

Boarding at the stations has been made easier and safer through adjusted speeds.

environmental impact. Every architectural decision served lands-cape integration – from green-painted towers to cabins decorated with "imperial bees" and lighting that respects the site's topography.

POMA provides reliability

The sustainable LIFE R'way approach is also reflected in reliable, safe operation with short maintenance windows, guaranteed by predictive, high-quality servicing. For this reason, POMA will operate and maintain the system through its subsidiary SECA in partnership with local companies for a ten-year period. This creates 28 direct jobs, with six employees constantly on duty during operating hours. SECA has continuous access to the expertise of the French ropeway manufacturer.

POMA guarantees top-trained personnel

The greatest challenge is ensuring optimal quality and continuity of service for users. To achieve this, POMA partnered with AFPA Corse and France Travail to recruit and train qualified technicians according to a specific schedule. This approach simultaneously contributes to the development of the local labor market by strengthening the skills and presence of specialists in the region.

"In education and training, we rely heavily on our digital training program, UPILOT," reports Michael **Fauche**, Strategy and New Market Director at POMA. The system tracks employee training units and provides high-quality content; POMA also utilizes a simulator. "Furthermore, many POMA experts come on-site to provide training on specific components like the grips. We also work with Domaine Skiable de France Formation (DSFF), who provide us with professional trainers for operations," Fauche continues.

■ ANGELO CABLE CAR AJACCIO

Length	*3,012 m*
Initial capcity	*1,000 p/h/d*
Final capacity	*1,500 p/h/d*
Vertical rise	*54 m*
Initial number of cabins	*34*
Final number of cabins	*50*
Number of stations	*2 + 2*
Speed	*5.5 m/s*
Number of passangers per cabin	*12 p*

All-Inclusive package, digital tools

From rope inspections and operational monitoring to the maintenance of ticket machines, the contract covers all tasks required to operate and maintain the cable car professionally – the client can rely completely on SECA. SECA utilizes the entire digital software suite of the HTI Group (which includes POMA): this starts with *Skadii* for monitoring and operations logs and extends to POMA-exclusive solutions like *COPILOT, UPILOT* and the *CALEM* maintenance system.

Conclusion: strategy put into practice

Whether planning, construction, or operation: the example of the Angelo cable car demonstrates how POMA's sustainable-innovative vision is consistently applied through all lifecycles of a ropeway. "The LIFE R'way strategy translates our corporate social responsibility into products, services, and strategies in a practical way. By managing operation and maintenance according to our standards, providing fair service, training local personnel, and creating development opportunities for employees, we bring LIFE R'way to life," concludes Fauche. *ts*

Green-painted towers carefully integrate the cable car into the surroundings.

The accessible cabins offer panoramic views of the city and coast through their large windows. The integration of bike racks also promotes combined use. © POMA

TOULOUSE

MORE EFFICIENT MAINTENANCE FOR MAXIMUM AVAILABILITY

© POMA

With the Strand Jack, POMA displaced the track ropes of Téléo in a record time of 4.5 days.

Time and safety – these are the critical factors in the maintenance of urban ropeways. The time windows are tight in order not to interrupt operations longer than necessary. With a great deal of expertise and internally developed tools, the French manufacturer POMA has optimized the maintenance of ropeways. The best current example is the track rope relocation on the "Téléo" in Toulouse.

The French city of Toulouse has had "Téléo" since 2022, the first urban tricable gondola lift in Europe. With a travel time of only ten minutes, it connects three important transport hubs in the metropolis in southwestern France: the university institute for cancer research "Oncopole," the "Rangueil" hospital, and the "Paul Sabatier University" with its 30,000 students.

Maintenance contract

The municipal transport company Tisseo Voyageurs is responsible for the operation and safety of the ropeway. In the first three years, Altiservice – an operator of two ski resorts in the Pyrenees – provided the entire staff to ensure a smooth start. For maintenance, Tisseo Voyageurs entered into a flat-rate maintenance contract for 20 years with the ropeway manufacturer POMA and Altiservice. POMA supplies maintenance technology and spare parts for the lift and ropes; Altiservice provides technicians and additional equipment.

Displacement in record time

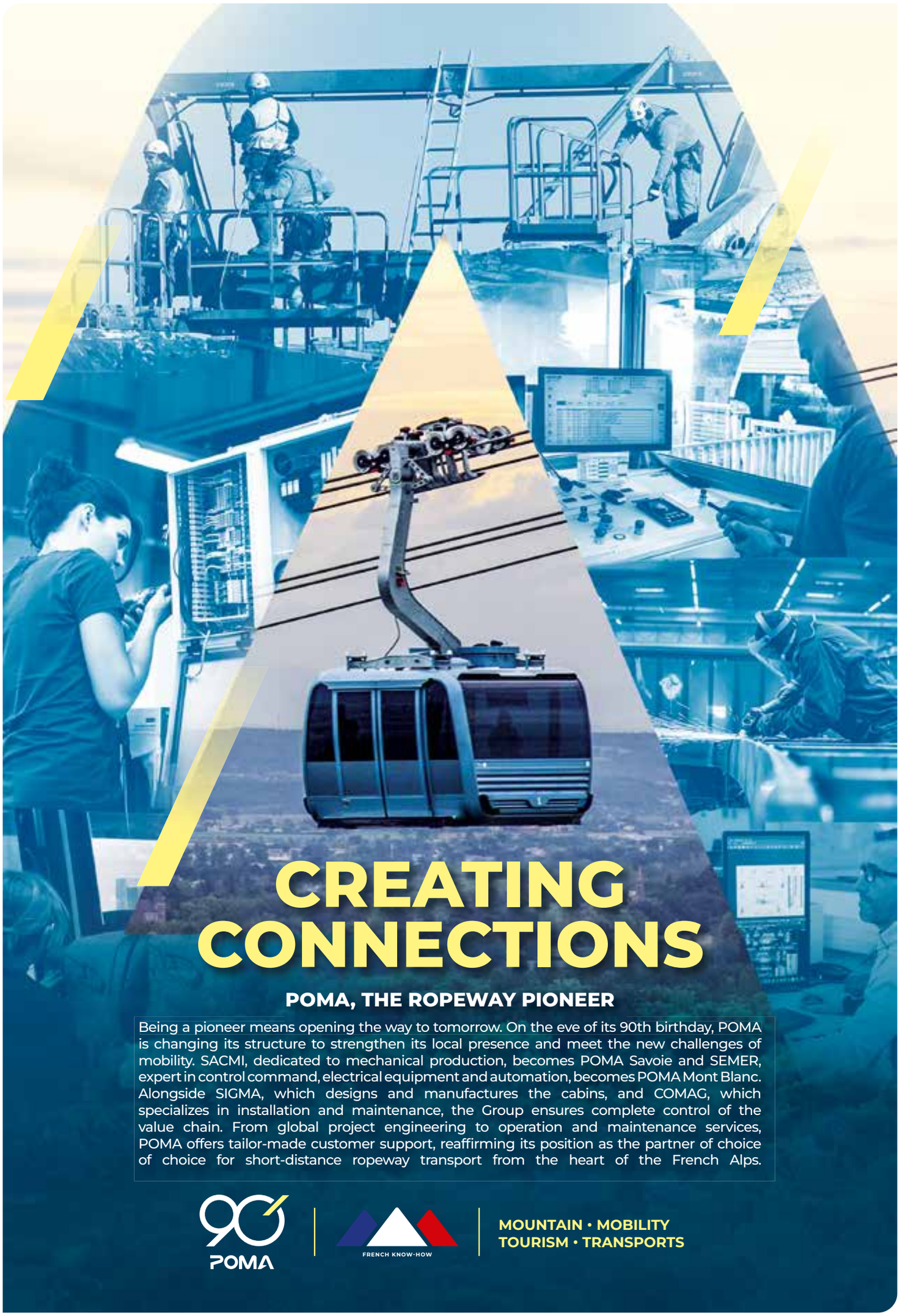
This also applies to the track rope relocation every three years to mitigate the point loading on the ropes. During this process, the track ropes are shortened by several meters on their supports (towers). During construction, an extra 400 meters of length was intentionally left for the track ropes for this purpose. "The challenge lies in performing the work within a tight time window so as not to interrupt operations longer than absolutely necessary," reports Michael **Fauche**, Strategy and New Market Director at POMA: "Since we cross roads and rivers and travel over private property, safety is our highest priority. Rope tension and position are monitored in real-time; furthermore, we plan all scenarios far in advance and execute the plan precisely."

Special tool Strand Jack

An important component is the use of the "Strand Jack": This innovative tool, developed one hundred percent in-house, was designed and manufactured by the teams of COMAG, POMA SAVOIE, and POMA to carry out complex maintenance work on multi-rope systems. Thanks to this new tool, the specialized teams were able to exert a force of 200 tons on the two track ropes of "Téléo" moving them simultaneously over a length of 30 meters. This handling with adapted equipment minimized the impact on operations and achieved all goals in a record time of just 4.5 days. "Combined with the concept and procedure, I estimate that we are three times faster as we would have been using conventional methods," says Cyprien **Carroso**, Maintenance Engineer from POMA. Additionally, cranes or scaffolding were avoided, saving costs and material. Finally, the procedure significantly reduced the physical workload of the employees.

Predictive maintenance

Less time, material, and labor – the track rope displacement according to the POMA concept is part of the LIFE R'way strategy, with which ropeways are planned, built, operated, and maintained sustainably, as POMA project manager David **Blanchet** can confirm with another fact: "We carried out the track rope relocation, which is actually required every six years, three years earlier to limit operational interruptions and optimize the availability of the ropeway." *ts*



CREATING CONNECTIONS

POMA, THE ROPEWAY PIONEER

Being a pioneer means opening the way to tomorrow. On the eve of its 90th birthday, POMA is changing its structure to strengthen its local presence and meet the new challenges of mobility. SACMI, dedicated to mechanical production, becomes POMA Savoie and SEMER, expert in control command, electrical equipment and automation, becomes POMA Mont Blanc. Alongside SIGMA, which designs and manufactures the cabins, and COMAG, which specializes in installation and maintenance, the Group ensures complete control of the value chain. From global project engineering to operation and maintenance services, POMA offers tailor-made customer support, reaffirming its position as the partner of choice of choice for short-distance ropeway transport from the heart of the French Alps.

90 POMA

FRENCH KNOW-HOW

MOUNTAIN • MOBILITY
TOURISM • TRANSPORTS

BARTHOLET's 8-person gondola in Meiling, Jiangxi, China, began operations at the end of 2025. © BARTHOLET

CHINA

TWO BARTHOLET CABLE CARS FOR CITY TOURISM

While one city tourism cable car in China has been successfully operating since the end of 2025, construction on a second system is progressing rapidly. The Swiss manufacturer BARTHOLET carries out these projects in unique natural settings, which place the highest demands on technology and planning – both climatically and geographically.

Cutting-edge technologies meets historical landscape

Nanchang, the capital of Jiangxi Province, lies on the southern shore of Poyang Lake, the largest freshwater lake in China. With over six million inhabitants, it is an important economic and cultural center with a history spanning more than 2,200 years. Numerous temples, pagodas, and museums shape the cityscape.

Just 15 kilometers away, the Meiling National Scenic Area stretches over 150 square kilometers. Bamboo forests, waterfalls, and rice fields alternate with historical sites and viewpoints, making the region a unique destination for visitors.

Here, the new cable car system by BARTHOLET has been officially approved and is now in operation. It connects the city of Nanchang with the park's impressive natural scenery.

8-person gondola in Meiling, Jiangxi

The new cable car system stretches over a total length of 5.5 kilometers, divided into two sections. The first section, at 4.2 kilometers, is the longest and offers an especially impressive ride. 112 panoramic cabins are available, designed by the renowned Studio F. A. Porsche.

They guarantee the highest level of comfort and an unparalleled view of the surrounding landscape. The system has been equipped with the latest cable car technology to ensure a safe and enjoyable ride. This includes a high transport capacity for smooth visitor flow, vibration-damped cabins for maximum comfort, and energy-efficient drive systems with automatic speed control. In addition, the system is complemented by comprehensive safety mechanisms such as redundant braking systems and continuous real-time monitoring.

Meiling, Jiangxi, offers 112 panoramic cabins for visitors.

Energy-efficient drive systems provide a safe and comfortable journey.

Xishan Scenic Area chairlift, before renovation. © BARTHOLET

Rendering: The new cable car in Xishan Scenic Area. © BARTHOLET

Xishan Scenic Area: The old chairlift needed replacement

The Xishan District is the only area within Kunming's urban space that combines natural landscapes with city functions. Located about 15 kilometers from the city center, the region offers a variety of scenic highlights. The cable car has been one of the area's main attractions. Built in 1993, the system extended over a horizontal route length of 1,050 meters and was designed as a fixed-grip circulating lift. Over time, its limitations became clear: long waits and peak loads affected the experience, and after more than thirty years, age-related wear made the safe operational lifespan nearly over.

Cabins instead of chairlift

However, the situation will soon improve significantly: BARTHOLET is renewing the cable car. The new, enclosed system will feature 33 cabins, each accommodating eight passengers, designed by Studio F. A. Porsche. With a travel speed of six meters per second, it will allow for significantly faster and more efficient transport.

The cable car is set to overcome approximately 127 meters of elevation and reach a total length of over one kilometer. The system is being constructed within the existing route corridor. Right next to the valley station is the garage with three track lines, space for all 33 Porsche-designed cabins, as well as a maintenance gondola. The supporting structure of the valley station building has already been completed, and sealing, insulation, and masonry work are currently underway. At the mountain station, structural construction is progressing, and the building is undergoing interior finishing. Foundation work for the new supports is also in progress, including excavation and reinforcement.

Challenging conditions

The altitude of 2,000 to 2,300 meters brings a subtropical highland climate with pronounced rainy (June–September) and dry seasons, placing high demands on slope protection measures and outdoor construction sites. In winter, temperatures remain moderate, but wind is a significant factor affecting both planning and operation. In addition, limited construction space restricts design options during planning and execution, and the topography makes the use of large construction machinery impossible. As a result, all work must be carried out using smaller, specially adapted equipment. Furthermore, the recreational area remains open throughout the entire construction period, which significantly impacts the construction schedule both in terms of time and organization.

Despite the challenging conditions, the work is progressing according to the plan, and soon the new cable car will delight visitors and significantly enhance the urban tourism experience.

MEXICO CITY

FIFTH CABLE CAR WILL BE THE LONGEST IN THE WORLD

DOPPELMAYR has implemented Cablebús Lines 1 and 3 (pictured) in Mexico City, and another cable car is currently under construction in Uruapan. This is creating the most extensive urban cable car infrastructure in Mexico City – with a future total length of more than 50 kilometers, providing improved mobility for over 350,000 passengers daily. © DOPPELMAYR

DOPPELMAYR Mexico has been selected as the company responsible for the design, supply, construction, and commissioning of the new Cablebús Línea 5, one of the most strategic mobility projects in Mexico City. It will be the longest urban ropeway line in the world, with 15.2 kilometers in length and twelve stations. With a total public investment of 7,9 billion Mexican pesos (372 million euros), this project reflects the Mexico City Government's commitment to more sustainable, safe, and inclusive mobility.

The new Cablebús Línea 5 will be the longest urban ropeway line in the world, with a total length of 15.2 kilometers and twelve stations, connecting the boroughs of Álvaro Obregón, Magdalena Contreras, and Benito Juárez. With a capacity of up to 3,000 passengers per hour in each direction, it will reduce current travel times by more than 50 percent. As an integral part of the public transport network, it will enhance the quality of life for residents and strengthen their connection to other areas of the capital.

The project is scheduled for opening in 2028. DOPPELMAYR will implement state-of-the-art technology designed to operate with high levels of safety, availability, and energy efficiency.

The system ensures:

- Stable operation under complex weather conditions;
- Access to all: Barrier-free, comfortable travel;
- Modern safety and monitoring systems;
- Lower environmental impact than any other public transport mode;
- Seamless connection: Provides shortcuts across busy roads.

The 15.2-kilometer-long cable car line comprises 12 stations, 462 10-person cabins, and 114 towers. The connection to the Mixcoac metro station (Lines 7 and 12) strengthens integrated mobility in the west of Mexico City. The time savings amount to more than 50 percent.

Sustainable mobility that reduces costs and emissions

Cablebús Línea 5 is notable for its operational efficiency and its direct contribution to more sustainable mobility. It also requires significantly lower right-of-way acquisition costs, as it does not rely on surface-level infrastructure and has a very small footprint, minimizing its impact on the ground. Furthermore, it will contribute to a significant reduction in pollutant emissions, thanks to a modal shift toward electric aerial mobility, improving air quality and the efficiency of the existing transportation network. The project Calebús Línea 5 strengthens the collaboration and shared vision between the Mexico City Government and the DOPPELMAYR Group for the development of sustainable mobility systems that address the challenges facing the country. This collaboration began in 2021 with Cablebús Líneas 1 and 3, as well as the Uruapan gondola lift, which is currently under construction in the state of Michoacán.

On the Vietnamese island Con Son, the construction of a cable car from the airport to the town center has been proposed.

VIETNAM

CABLE CAR FOR THE ISLAND AIRPORT

A cable car could be built on the Vietnamese island of Con Son, connecting the airport with the town center of Con Dao. The island is expecting a significant increase in tourism – authorities fear that the existing road will not be able to handle the traffic and are considering a cable car.

The government of Ho Chi Minh City in Vietnam has proposed the construction of a 15-kilometer cable car connecting Co Ong Airport with the center of Con Dao. The goal would be to reduce future traffic congestion while also preserving the island's forests, according to the media outlet VnExpress.

The plan was presented in a city report on measures to promote socio-economic development in the Con Dao Special Administrative Zone, as a significant increase in tourist arrivals is expected in the coming years.

Con Dao expects more tourists

The city authorities estimate that the airport will handle about two million passengers annually by 2030, increasing to three million per year in the following decade.

Currently, Co Ong Airport is connected to the town center by a narrow, two-lane mountain road, with travel times of 20-30 minutes. Moreover, the existing mountain road is winding and steep in many sections, creating a high risk of congestion as traffic increases.

Cable car reduces impact on the forest

Expanding the road to four lanes is considered unrealistic, as it would require cutting through mountains and clearing over 15 hectares of forest, which would have a significant impact on the environment. Transport via waterways is also deemed unsuitable due to rough seas and unpredictable weather.

According to preliminary estimates, the cable car would affect only about three hectares of forest – more than five times less than a road expansion would. Authorities emphasize that the cable car would not only meet transportation needs but also provide a scenic tourism experience, showcasing the forests, mountains, and coastline of Con Son – fully in line with the island's sustainable luxury tourism strategy.

Con Dao national park

Con Dao is an isolated archipelago in the South China Sea, south of the Vietnamese mainland coast. The only inhabited island is Con Son, and the largest town shares the same name as the archipelago: Con Dao. The island is being developed as a special economic zone focused on eco-, historical, and spiritual tourism, as well as nature conservation.

The major part of the island is a national park. © Pixabay

The Turmberg Funicular in Karlsruhe, Germany, is set to be modernized soon. © Verkehrsbetriebe Karlsruhe GmbH

KARLSRUHE

MODERNIZES THE TURMBERG FUNICULAR

The German state of Baden-Württemberg has announced funding for the barrier-free expansion and extension of the Turmberg Funicular in Karlsruhe. Work is scheduled to begin in 2026. Here are the project details.

The Government Presidium in the German city of Karlsruhe sent the funding approval for the barrier-free expansion and extension of the Turmberg Funicular in Karlsruhe-Durlach to the Karlsruhe Transport Company (VBK) at the end of 2025.

The state of Baden-Württemberg is supporting VBK under the State Municipal Transport Financing Act. Financially, Baden-Württemberg is contributing €17.49 million toward total costs of €32 million.

The funding comes from the LGVFG program for public transport With this instrument, the state of Baden-Württemberg supports counties, cities, municipalities and transport companies in building, expanding, and modernizing their transport infrastructure in line with sustainable and climate-friendly mobility. “Baden-Württemberg is a funicular champion: with the closure of Germany’s oldest funicular, the Turmberg Funicular, at the end of 2024, there was temporarily one less. But that won’t last: the funicular to Karlsruhe’s local mountain will be brought back into operation longer, more modern, and barrier-free with the help of the state. The grant of around €17.5 million enables VBK to move forward with the project. This is how we make an old technology future-ready,” said state transport minister Winfried **Hermann**.

Valley station visualization. © Garaventa / Forum 4

New vehicle visualization. © CWA Constructions SA/Corp.

Modernization plans

The plans for the Turmberg Funicular foresee a comprehensive modernization, a barrier-free upgrade, and an extension to the Bundesstraße 3. In spring 2026, the dismantling of the existing railway infrastructure and station buildings is scheduled to begin. Construction of the new railway line and the new mountain and valley stations could then start in mid-2026. The new construction work is expected to take around 15 to 18 months. As part of the redesign, a railway overpass will also be built over a pedestrian and bicycle path to cross the intersection of the streets Bergbahnstraße/Turmbergstraße/Posseltstraße/Kastellstraße.

New vehicles

The state of Baden-Württemberg is also supporting the purchase of two new vehicles with €1.755 million. Each cabin has a capacity of 70 passengers and feature a level adjustment system to keep the cars horizontal and ensure barrier-free access. The new system, including the two vehicles, will be built by GARAVENTA.

Integration into public transport

Once construction is complete, the funicular should be integrated into the Karlsruhe Transport Association. This will allow passengers to use the funicular with their regular public transport ticket. The planned automatic operation will extend operating hours while reducing operating costs.

Germany's oldest funicular

Since 1888, the Turmberg Funicular in Durlach had been transporting passengers up Karlsruhe's 256-meter-high local mountain. Over a track length of 315 meters, the railway overcame an elevation difference of 100 meters.

The final rides with the historic cars, which had been in service since 1966, took place on December 29, 2024.

The operating license expired on December 31, 2024, and service was subsequently suspended.

Mountain station visualization. © Garaventa / Forum 4

CONSTRUCTION CONTRACT SIGNED FOR URBAN ROPEWAY TO JENESIEN

Südtiroler Transportstrukturen AG (STA) and the South Tyrolean ropeway manufacturer LEITNER have signed the contract for the construction of the Bolzano-Jenesien ropeway. The executive project will be drafted this spring, and construction is expected to begin in the second half of the year.

This is what the valley station of the new Jenesien ropeway will look like. © LPA

Another step toward a sustainable and fast connection between Bolzano and Jenesien has been taken: Südtiroler Transportstrukturen AG (STA) has commissioned the South Tyrolean ropeway company LEITNER to build the Jenesien ropeway. LEITNER secured the contract for this major project as part of a consortium with the companies Unionbau and Elpo.

"With the signing of this contract, an important step has been taken toward a sustainable, fast, and convenient mobility solution between Bolzano and Jenesien. The realization of the new ropeway and the intermodal hub at the valley station is essential to offer locals and guests a strong alternative to private transport," emphasized Provincial Councilor for Mobility Daniel **Alfreider** on the occasion of the contract signing. Joachim **Dejaco**, Director General of STA, completed the signing with Giorgio **Pilotti**, Sales Manager at LEITNER, in late 2025. "We are now confident that the executive project will be finalized by the middle of next year and that construction can begin in the second half of the year," explained Dejaco.

At the contract signing: Giorgio Pilotti (left), Sales Manager of LEITNER, and Joachim Dejaco, Director General of Südtiroler Transportstrukturen AG (STA). © LPA

Financing

In August, the provincial government approved the updated technical specifications and the financing for the construction project. The total cost of the project amounts to approximately 39.7 million euros (31.5 million euros for the works and 8.2 million euros for administration). Of this, 37.5 million euros will be provided for the 2026 fiscal year by the Ministry of Infrastructure and Transport from the National Recovery and Resilience Plan (PNRR). The remaining balance will be covered by funds from the ERDF (European Regional Development Fund) and provincial resources.

About the project

The plan features a bicable aerial tramway from Bolzano (current valley station) to Jenesien (mountain station) with two cabins, each accommodating approximately 45 people. The intermediate station originally planned has been removed from the design. The route in the upper section will be slightly shifted to improve accessibility. Additionally, the valley station building will be moved approximately four meters toward the road. The maximum transport capacity will be around 350 people per hour. Bicycle parking is planned for both the valley and mountain stations, with an additional parking lot featuring 60 spaces at the valley station. *ts*

MADRID

CABLE CAR MAJOR UPGRADE KICKS OFF

In Madrid, the capital of Spain, renovation work has begun on the cable car that connects the city center with the Casa de Campo park. The old cable car was built in 1969 but has been closed since 2022 following an inspection. As part of the modernization, the technical system will be completely renewed, the cabins will be replaced, and the stations rebuilt.

Madrid is modernizing the 1969 cable car: visitors can look forward to more comfort.

The new route will maintain the existing 2.5 kilometers between the Pintor Rosales and Casa de Campo stations. However, due to technical and aesthetic improvements, the ride will offer a completely new experience. According to the portal El Confidencial, there will be 47 new cabins in the future – compared to 80 previously – with space for 10 people per cabin (previously six). The system will still be faster: the travel speed will increase from 3.5 to 6 meters per second. This is will be possible, among other things, because the new cable car will be converted from a two-rope system to a more efficient and modern single-rope system.

Smart technologies

The cabins and towers will be equipped with smart sensors that actively monitor safety. Artificial intelligence will track visitor flows and raise alerts if any issues arise.

Modern cybersecurity protocols, along with digital integration through interactive displays, apps, and real-time information, will create a connected, seamless experience.

Modern stations

The Pintor Rosales and Casa de Campo stations will be almost completely rebuilt. Most of the old buildings will be demolished, making way for new terminals that are larger, fully accessible, and energy-efficient.

More sustainability

The city government promises that the project will significantly reduce emissions, optimize energy use, and improve the CO_2 footprint. The new design focuses on energy efficiency and environmentally friendly infrastructure.

Timeline and costs

According to Madrid Secreto, renovation work is expected to take around 14 months from the actual start of construction. However, due to the technical and environmental complexity, the city government estimates that completing all phases could take up to 26 months. The total investment is €26.26 million.

The stations will be almost completely rebuilt and made fully accessible. The facades are planned to be clad in wood, so that they blend better into the surrounding landscape.

URBAN ROPEWAYS

FROM CONCEPT TO IMPLEMENTATION

The atmosphere among those responsible is one of relief and high spirits: The ropeway project near Paris was executed in an exemplary manner. © Aymeric-Guillonneau

Urban infrastructure projects require solid preparation and planning, yet for ropeways in particular, this is often ignored. Ideas are frequently presented to the public without first verifying which mobility needs are actually being met and what the impact of these improvements will be. The successfully implemented "Câble C1" project near Paris demonstrates how to do it right.

With around 12,500 passengers daily, the user numbers for Câble C1 in its first few months are already 1,500 above forecasts. As the first urban ropeway in the Greater Paris region (Île-de-France), it has established itself as an international flagship project for innovative transport solutions in densely populated areas. "The process, from the expression of political will to public operation with passengers, was exemplary," says Reinhard **Fitz,** Head of International Business Development at the ropeway manufacturer DOPPELMAYR. He outlines the ideal project workflow as follows.

Reinhard Fitz, Head of International Business Development at the manufacturer DOPPELMAYR, has more than 20 years of experience in ropeway project development.

Step One:
Political Will.

It begins with a political decision to improve mobility in certain areas of a city – regardless of how that goal is to be achieved. "In the community of Limeil-Brévannes in the Île-de-France region, this political will emerged in 2008," Fitz reports. It is crucial that strengthening mobility is seen as having no alternative and that politicians commit to implementation – whatever the final solution may look like.

Step Two:
Analyzing Mobility.

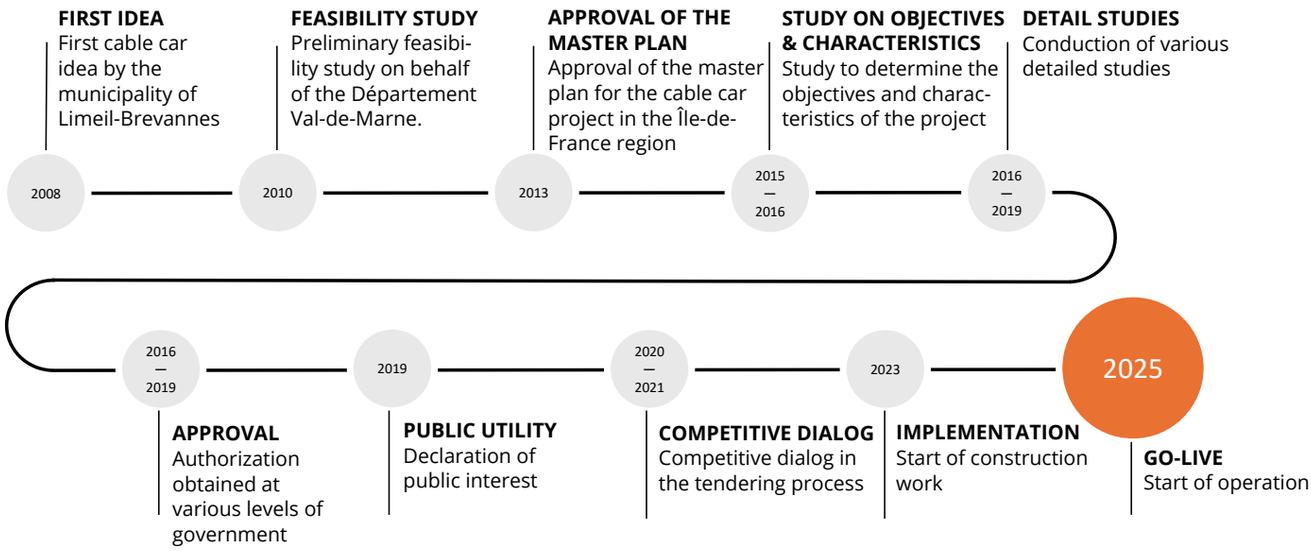
Building on this, the mobility needs of future passengers must be analyzed and current weaknesses investigated. "Decision-makers must ask: For whom do we want to improve mobility? Who is traveling from where to where? What needs to be improved and why?" says Fitz. At this stage, the necessary connections are formulated – still independent of the choice of transport mode.

Step Three: Preliminary Study of Transport Modes.

Only now does the selection of potential transport systems follow: Which modes of transport are even feasible? Whether bus, tram, or ropeway, the possible carriers are systematically compared and ranked. "It's not about just building a ropeway. It should only be built if it is the best choice economically, ecologically, and in terms of traffic engineering," Fitz explains. Ropeways cannot do everything other modes of transport can, but they can do many things others cannot. Therefore, ropeways must always be planned integrally as a supplement to existing transport systems.

"In the Île-de-France region, four suburbs were inadequately connected to the Metro and thus to the city of Paris because the Metro line ended too early," says Fitz. Furthermore, barriers such as industrial areas, a freight depot, a highway, and a high-speed rail line isolated these locations from the existing public transport network. "Buses had to take detours and were often stuck in traffic themselves," Fitz notes as a weakness. Here, the ropeway could fully play to its strengths and was rated higher than other modes of transport.

"With their ability to overcome physical and topographical obstacles, their continuous and reliable operation, as well as their small



Timeline of the "Câble C1" ropeway project in the Île-de-France region (Greater Paris). © DOPPELMAYR/SI URBAN

footprint and short construction time, urban ropeways are a powerful tool in the transport planner's toolkit and for successful urban development," Fitz continues.

Step Four:
Feasibility Testing.

Once the ropeway has prevailed against other solutions in a transparent, comprehensible, and fact-based manner, as in Île-de-France, the technical feasibility study takes place.

"For a successful project, a solid feasibility study is the essential building block for a smooth implementation process, a convincing business model, and a balanced distribution of risk between parties," Fitz affirms. In the case of "Câble C1," the Val-de-Marne department commissioned a preliminary feasibility study in 2010, followed by the approval of the master plan for the ropeway project in 2013. The time and cost of such planning steps are manageable and do not require a large budget. In the case of Île-de-France, officials then defined the project's objectives and characteristics and conducted various detailed studies from 2016 to 2019. "During this time, permits were obtained at various government levels, and ultimately, public interest and utility were established," reports Fitz.

Step Five:
Project Tendering.

Only now do the ropeway manufacturers enter the scene. In a competitive dialogue as a procurement procedure, all planning-related, design, and technical questions are clarified and evaluated in detail. "In the case of Paris, the procurement process took place from 2020 to 2021, in which a consortium led by DOPPELMAYR France was awarded the contract by the project sponsor, Île-de-France Mobilités," says Fitz. The ropeway specialists were supported by experts in infrastructure planning, landscaping, civil engineering, and architecture. Transdev Coteaux de la Marne emerged as the operator of the system in a later tender process.

Step Six: Design Approval and Implementation.

After the tender, the companies get to work, design the construction plans, and have them approved. Subsequently, the ropeway is built, tested, and put into operation. In Île-de-France, these steps took three years (2023 to 2025). In December 2025, the ropeway finally began operation and met with an immediate, overwhelming response.

Conclusion:
Holistic Project Development.

"With the ropeway, we already have a mature technology at our disposal today to respond quickly and cost-effectively to challenges," Fitz is convinced. The key is to efficiently integrate different modes of public transport. At the heart of planning is always holistic traffic project development and the cooperation of politicians, traffic planners, and urban planners. The goal is to optimize public transport for passengers and operators alike and to create social benefit, Fitz concludes: "The prime example of this is the Câble C1 near Paris!" *ts*

■ **CÂBLE C1 PARIS**

Capacity	*1,600 pphpd*
Length	*4.5 km*
Vertical rise	*40 m*
Speed	*6 m/s*
Travel time	*approx. 18 min*
Number of cabins	*105*
Cabin capacity	*10 p*
Number of stations	*5*
Number of towers	*30*

GERMANY

WHERE ARE URBAN CABLE CARS BEING PLANNED?

© Adobe Stock

There is a good chance that the UN Campus in Bonn will be served by a cable car.

Urban cable cars seem to be a perennial media topic, particularly in Germany: ideas pop up in many places, only to disappear shortly thereafter. However, there are projects that are being pursued with increasing seriousness. An overview.

Bonn aims for plan approval 2026

The cable car project in the federal city of Bonn is moving forward. The line in Bonn – running from Venusberg on the left bank of the Rhine across the river to Beuel on the right bank – would be the first urban cable car in Germany integrated into public transport that can be used with a standard local ticket, such as the "Deutschlandticket". The project is managed jointly by the City of Bonn and the Bonn Public Utilities (Stadtwerke Bonn). The city administration continues to work intensively on the project and is sticking to its goal of submitting the application for plan approval to the Cologne regional government in 2026. Current efforts are focused on route optimization and stakeholder dialogue. The next step is the preliminary project planning, which will form the basis for the functional tender to appoint a general contractor (cable car manufacturer). This will be followed by a plan approval procedure by the regional government to establish building rights. This process will examine and weigh the interests of residents along the route and public interest groups. Once the plan approval is granted, construction of the cable car can begin.

In Herne, the Blumenthal site is to be connected via a reversible cable car.

Herne sets the financial course

The cable car between Wanne-Eickel Main Station and the Blumenthal site in the city of Herne is also within reach. In December 2025, the State Parliament of North Rhine-Westphalia included the approximately €32 million project in the state's public transport requirement plan. This step paves the way for comprehensive financing: since the federal and state governments could cover up to 95 percent of the costs, the City of Herne views this milestone as a major success. A significant advantage for passengers is the tariff integration, as the cable car will become part of the Rhine-Ruhr Transport Association (VRR). Consequently, the connection can be used without additional costs with regular tickets, such as the "Deutschlandticket". Herne's Mayor, Frank **Dudda**, described the current development as a "milestone" for the project. In parallel, the city has already successfully completed the necessary standardized evaluation. Since this socio-economic analysis officially confirmed the economic benefit of the cable car, one of the most important formal hurdles for receiving subsidies has been cleared.

Furthermore, as of December 2025, the legal path is clear for the Herner Seilbahngesellschaft mbH (HSG): Transdev GmbH, one of the largest private mobility providers in Germany and part of one of the largest transport companies worldwide, will be the partner.

Technically, the concept envisions an areal tramway with two cabins, each capable of carrying up to 40 passengers. The gondolas will travel at a considerable height of 34 to 66 meters above the ground, supported by two newly built towers. Operation is planned daily between 6 AM and 10 PM, with frequency adjusted to demand: twelve trips per hour are planned during the four peak hours of commuter traffic, while six connections per hour will suffice during the remaining time. Overall, the system is designed to achieve a capacity of around 500 people per hour and direction.

© Robert Bosch Krankenhaus GmbH

Will a cable car provide access to the Robert Bosch Hospital in Stuttgart?

© Landeshauptstadt Potsdam/Robert Schnabel

Will a cable car run to the University of Potsdam's new campus?

Study gives Stuttgart a push

After five years of standstill, there is movement again in the Stuttgart cable car debate: a proposal from the Robert Bosch Hospital (RBK) gave the previously stalled idea fresh momentum at the end of last year. Although experts had recommended a detailed investigation for a route in Vaihingen as early as October 2020, concrete results have remained withheld from the public ever since. As reported by the Stuttgarter Nachrichten in early 2026, the hospital has now examined various cable car routes in an independently financed feasibility study to connect

the clinic campus with the Pragsattel transport hub and thus improve the inadequate transport links. Currently, the hospital is only accessible by public transport via buses, which frequently get stuck in traffic.

The authors of the study recommend a 500-meter-long route, with the valley station located on public land near the Pragsattel bus stop. The mountain station would be built on the hospital's property – near the future main entrance (the hospital is currently being remodeled). According to the study, the cable car would require five towers to transport guests in 14 10-person cabins. The travel time would be 1 minute and 40 seconds. The city hall, which has received the feasibility study, remains cautious for now: while the idea „has charm," it raises many questions that need to be intensively examined and discussed.

University of Potsdam examines cable car

The city of Potsdam, near Berlin, could also soon be heading high: Oliver **Günther**, President of the University of Potsdam, is proposing a cable car to develop the new campus on the Brauhausberg. Thousands of students, teachers, and employees could use it daily in the future.

The cable car is intended as a connection from the main station via the Brauhausberg to the Science Park on the Telegrafenberg. The steep incline from the station to the campus is currently considered an infrastructural weakness: bus connections are reaching their capacity limits, and additional roads are hardly feasible. A cable car would overcome the height difference in a few minutes while saving space that is barely available in Potsdam's densely built city structure. *ts*

If the voters say "yes" in November 2026, an urban ropeway could be running through Lucerne by 2033. © CityLink Luzern

SWITZERLAND

PLANS IN THE HOMELAND OF CABLE CARS

Ropeways are inextricably linked to Switzerland, shaping the country's image as a destination for sports and nature. However, the urban variant has struggled to gain a foothold. Nevertheless, several projects are underway, some of which are already quite far along.

Whether in Zurich, Basel, Geneva, Fribourg, Solothurn, or Lucerne-Kriens: there have been many ideas for urban ropeways in Switzerland, but unfortunately, most projects have failed to progress or have been definitively scrapped.

The biggest hurdle so far has usually been the consent of landowners, as Ueli **Stückelberger**, Director of the Swiss Public Transport Association (VÖV), pointed out to *SI Urban* back in 2021: "Landowners block many projects. And even if they agree, there are bound to be neighbors who oppose it." Many Swiss citizens are convinced that a ropeway would disturb their privacy, mar the landscape, and cause noise. Furthermore, the practical sense of such a transport solution is often questioned.

"The pressure of suffering is too low. In Switzerland, compared to other countries, we have enough financial resources to opt for more expensive alternatives, such as a tramway or a road tunnel. We would rather accept higher costs than argue over an urban ropeway," says Stückelberger. Despite this – as of 2026 – there are several ropeway plans that are progressing promisingly. Here is an overview: from rough ideas to advanced projects.

Vision "Zeropolis" in Biel

The ropeway project in Biel is still at the vision stage. The system is intended to connect the city center, the lake, and the town, while creating communal spaces. The urban ropeway would have a particularly positive impact on commuters; around 10,000 jobs are located in the target area of the route. The system would make it easier for residents to commute between the lake, the train station, the center, and the industrial zone. Plans include a 4.9-km city ropeway and a 1.9-km elevated railway over the lake.

The city center would be accessible to everyone within a fifteen-minute travel time. The project team behind "Zeropolis" aims to gain momentum by 2030 – the horizon by which gondolas should be floating over Biel.

Baselland evaluates ropeways

Traffic jams on the motorway and congested roads: in "Baselbiet" – the canton surrounding the major Swiss city of Basel – this is a daily reality for commuters. Gondola lifts integrated into the public transport network are intended to provide relief. As reported by Swiss Radio and Television (SRF), the Cantonal Council passed a proposal by Manuel **Ballmer** (GLP) with a significant majority at the end of 2025. Ballmer spoke of a "visionary idea" that triggered a surprisingly high level of resonance. Possible lines could serve the Pratteln area or even cross the Rhine into Germany.

High-altitude ropeway

Plans in the neighboring canton of Aargau are significantly more concrete. In the Sisslerfeld industrial area, a high-altitude ropeway crossing

the Rhine is being discussed. With two large stations on either side of the river, the facility could be an ideal solution for developing the roughly 200-hectare industrial zone, of which 85 hectares remain undeveloped. By 2040, up to 10,000 new jobs could be created there, and the ropeway would offer an efficient and environmentally friendly transport solution.

The cantonal parliament (the Grosser Rat of Aargau) has referred a corresponding postulate to the government. As part of an overall transport concept for the Frick-Stein-Laufenburg region, the government now intends to examine whether a ropeway is indeed a viable solution compared to other measures, such as expanding bus services or adding a new S-Bahn stop.

Zoo ropeway in the waiting room

And then there is the dream of the Zurich Zoo, which has been a topic of conversation in Switzerland's largest city for quite some time: the ropeway. A gondola lift is planned to run from Stettbach station to just outside the main entrance of the zoo on the Zürichberg. The key data: 2.1 kilometers long, 11 towers, 44 gondolas with 10 seats each, and a 7-minute travel time. In 2025, the Federal Court rejected initial appeals, though others are still pending. For now, the initiators can do nothing but wait for the rulings.

In Biel, the urban ropeway is currently still part of the "Zeropolis" vision. © Chris Gaethke/Project One

Lucerne makes great strides

The situation looks much better in Lucerne. As reported in the last issue of *SI Urban 2/2025*, an initiative there is pushing for the construction of an urban ropeway. The concept relies on an innovative combination of above-ground and underground sections and aims primarily to solve the tourist bus problem. A direct connection between an above-ground parking garage and the city center is planned. According to the concept, the "CityLink" will serve Lucerne's city center, the cantonal hospital, and the Ibach industrial area. It consists of two sections, each approximately one kilometer long. The centerpiece would be the world's longest ropeway tunnel (one kilometer), designed to bypass many time-consuming legal objections. As the portal "Blick" reported in late 2025, a feasibility study confirms its technical viability. The project will go to a public vote in November 2026. Implementation is slated for 2033 and is expected to be privately financed at a cost of 150 to 190 million Swiss francs.

In Sion, an urban ropeway is set to connect two city districts as early as 2028. © Charpente Concept

Sion ropeway is being built

In terms of ropeway technology, Sion (Sitten) is the furthest along. The city is realizing an urban ropeway between the districts of Bramois and Nax by 2028. Residents and commuters, as well as tourists, will be transported in just seven minutes. The ropeway, with a capacity of 50 passengers per cabin, will operate all day and late into the night – compared to the ten or eleven bus trips currently available per day. The valley station is optimally connected to the Sion city bus network and the regional rail line serving Sion and Sierre. The station in Nax offers connections to Vernamiège, Mase, and St. Martin.

The ropeway is funded by the Confederation, the Canton of Valais, and the municipalities. The project is currently in the coordination phase at the level of the cantonal master plan. Following this, an operating company will be founded, which will then submit an application for a concession and plan approval to the Federal Office of Transport (FOT). Consequently, the ropeway could go into operation as early as 2028. *ts*

An international industry platform for urban mobility – city cable car solutions (3CS) – invites everyone to join the dialogue at MOUNTAIN PLANET in Grenoble. © INTERALPIN

CITY CABLE CAR SOLUTIONS 3CS

NEW URBAN TRANSPORT PLATFORM MAKES ITS DEBUT AT MOUNTAIN PLANET

Urban areas around the world are facing growing mobility challenges: increasing traffic congestion, limited space, long-term climate targets, and the demand for efficient, integrated transport solutions. In this context, cable car systems are increasingly evolving into essential components of modern public transportation concepts. With City Cable Car Solutions (3CS), an international industry platform has emerged that highlights precisely this potential.

After its successful debut at INTERALPIN 2025, 3CS will now be showcased for the first time at MOUNTAIN PLANET in Grenoble on April 22, 2026.

A new thematic platform for a growing market

City Cable Car Solutions was launched by Congress Messe Innsbruck, the organizer of INTERALPIN, the world's leading trade fair for alpine technologies. Its close ties to the cable car industry and continuous exchange with manufacturers, operators, and planners laid the foundation for developing an independent congress and conference format specifically dedicated to the demands of urban mobility.

The initiative responds to a rapidly growing international market: projects in cities such as La Paz, Mexico City, and Paris demonstrate impressively how cable cars can serve as low-emission, space-efficient, and high-performance transport systems. City Cable Car Solutions builds on these developments, offering a structured platform for knowledge transfer and industry dialogue.

Premiere at INTERALPIN 2025

As a thematic platform, 3CS targets an interdisciplinary professional audience: manufacturers of cable car technologies, transport operators, urban and traffic planners, authorities, and political decision-makers. The focus is on concrete best-practice examples, completed projects, and new approaches for integrating cable car systems into

urban transport networks. The goal is to provide decision-making foundations, share experiences, and open up new perspectives for sustainable urban mobility. Already during its premiere at INTERALPIN 2025, the significant international interest in such an exchange format became evident – a momentum that is now being consistently continued in cooperation with MOUNTAIN PLANET.

At INTERALPIN 2025, representatives from the Ministry of Road Transport and Highways and the National Highways Logistics Management Limited presented India's mobility strategy at 3CS. © INTERALPIN

International cooperation: 3CS at MOUNTAIN PLANET

With the first edition of City Cable Car Solutions taking place within the framework of MOUNTAIN PLANET, the platform gains additional international reach. MOUNTAIN PLANET, organized by Alpexpo in Grenoble, is recognized as a central trade fair for planning and innovation in mountain regions and is held alternately with INTERALPIN. Going forward, 3CS will also follow this rhythm, alternating between Innsbruck and Grenoble. The cooperation between INTERALPIN and MOUNTAIN PLANET creates new synergies and opens City Cable Car Solutions especially to the French-speaking market – one of the most dynamic markets for urban cable car solutions worldwide.

At the premiere of 3CS at INTERALPIN 2025, experts from research, urban planning, and industry exchanged ideas. © INTERALPIN

Strong industry partners and a long-term perspective

City cable car solutions is supported by leading industry partners such as DOPPELMAYR and the HTI Group (POMA, LEITNER, BARTHOLET). This positions 3CS as a long-term international brand that addresses the global demand for exchange, information, and networking, while providing a professional framework for expert discourse on urban cable car solutions together with its leading industry partners. The next opportunity to experience City Cable Car Solutions live will be on April 22, 2026, at MOUNTAIN PLANET in Grenoble.

For more information, visit: www.citycablecar.solutions

The Technical University of Cologne and the think tank Urban Netways have developed and presented cable car routes for Cologne. The photo shows a visualization of the potential cable car station at Deutzer Hafen. © Lucy Giebat

COLOGNE

A NEW ATTEMPT – POSSIBLE CABLE CAR ROUTES

The idea of a cable car in Cologne (Germany) remains a focus for mobility experts. This various route options and potential stations were developed collaboratively by the Technical University and the think tank Urban Netways.

The Technical University of Cologne and the think tank Urban Netways recently presented the results of their joint results on supporting students in municipal transport planning. The aim was to integrate modern passenger cable cars into the public transport network. Based on existing proposals and new analyses, the students developed potential routes and stations.

A cable car for downtown Cologne

Eric **Schweden**, Bachelor of Engineering in Civil Engineering, examined the technical feasibility of cable car connections for downtown Cologne. The proposed cable car network consists of a north-south axis running from the Zoobrücke via Deutz to Ubierring, as well as an east-west axis between Cologne Central Station and the trade fair grounds. In addition, there is a branch route connecting the Bastei and Ebertplatz.

The system covers a total route length of approximately 7.3 kilometers with 16 stations along the Rhine. The chosen alignment primarily follows existing transport routes, public areas, or green spaces.

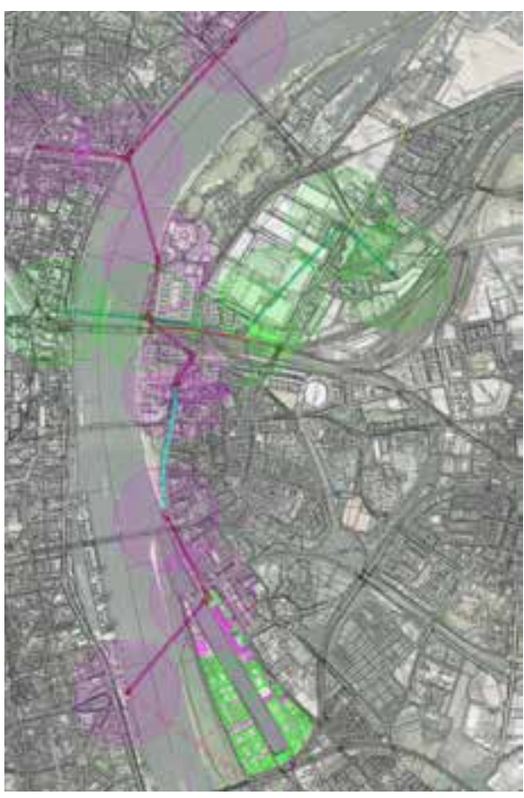
An innovative approach involves guiding the cable car on a rail-mounted track between the Deutzer Freiheit and Severinsbrücke stations, allowing it to follow the winding street layout.

Travel time calculations show that the proposed cable car lines could reduce journey times by up to 25 minutes compared to the current public transport system. The cabins are planned to operate at 30-second intervals.

According to the project, the potential cable car could cost around €200 million, placing it in a similar range as the two planned pedestrian and cycling bridges at Ubierring and Bastei, which have a total cost of approximately €160 million.

Station architecture for downtown Cologne

Architecture student Lucy **Giebat** designed two urban cable car stations for the city of Cologne as part of her master's thesis.



A potential cable car in downtown Cologne: Locations and service areas. © Eric Schweden

The visualization of the Ubierring Station.
© Lucy Giebat

During the day, the focus is on passenger traffic; at night, on logistics. The modular design system allows for flexible adaptation of the stations to different locations and enables rapid implementation.

The Ubierring station was designed as a minimal station for boarding and alighting. It is elevated to avoid interfering with pedestrian and bicycle traffic at Elisabeth-Treskow-Platz, as well as with shipping on the Rhine. A pedestrian bridge connects the station across Rheinuferstraße to the Ubierring Park and the public transport network.

The Deutzer Hafen station complements the new Cobe development and the existing public transport network. The facades are made of wooden triangles, partly covered with organic photovoltaic film. On undeveloped areas, a larger station can be constructed to serve as a service and logistics hub. At night, packages should be delivered and transported; during the day, the station becomes a lively space with cultural, recreational, and learning areas, as well as restaurants and a marketplace.

VOLKER STÖLTING
Transport planner and professor at the Technical University of Cologne.

"The cable car system has the potential to complement our traditional transport systems and make public transport even more attractive for citizens. The students' theses have impressively demonstrated that cable cars are a highly useful system, particularly for Cologne but also for other major cities. Now it is up to the public and, in particular, policymakers to make the necessary decisions."

Connection between Cologne Chorweiler and Leverkusen

For his thesis, Moritz **Kampschulte** investigated various options for a cable car line from Cologne Chorweiler via Merkenich to Leverkusen. He sees this as an opportunity to better connect the many industries and workplaces on both sides of the Rhine. In addition, public facilities, recreational areas, and tourism – such as routes to Leverkusen Rhine Park or Fühlinger See – could benefit significantly. As a result, he proposes a route of approximately 7.8 kilometers, which, according to his simulations, appears viable. For the route alignment, Moritz Kampschulte based his work on designs from Urban Netways and evaluated several options using simulation software. It was important to him that the cable car would only pass over public spaces. When comparing different systems, a dual-cable gondola with a high cable guide proved to be the most suitable, as it can easily cover long distances. He selected cabins for 10 to 15 passengers, which are fully accessible and suitable for carrying bicycles. With increased demand, this setup could transport up to 5,000 people per hour in each direction. His initial cost estimates range from €80 to €125 million.

The visualization of the Chorweiler Mitte Station. © Vincent Weisbrod

Time savings				
From	**To**	**Currently (Transfers)**	**With cable car (Transfers)**	**Time savings**
Köln Chorweiler	Leverkusen Mitte	34:00 min (1) (S 11, RE 5)	24:00 min (0)	- 10:00 min (approx. 30%)
Leverkusen Mitte	Köln Fühlinger See (Seeberg)	48:00 min (2) (RE 1, S 11, Bus 122)	15:00 min (0)	- 33:00 min (approx. 70%)
Leverkusen Mitte	Köln Merkenich	57:00 min (2) (RE 5, S 19, STR 12)	11:00 min (0)	- 46:00 min (approx. 80%)
Köln Chorweiler Aqualand	Leverkusen Mitte	49:00 min (1) (S 11, RE 5)	21:30 min (0)	- 27:30 min (approx. 55%)
Köln Chorweiler	Leverkusen Neulandpark/ Niederfeldstraße	58:00 min (2) (S 11, RE 5, Bus 208)	17:30 min (0)	- 40:30 min (approx. 70%)



The major overhaul of the "Polinka" areal tramway in Wrocław was completed within four weeks. © INAUEN-SCHÄTTI

WROCŁAW

COMPACT AREAL TRAMWAY GETS A MAKEOVER

With more than 500,000 rides over twelve years – roughly 114 trips per day – the system in Wrocław, Poland, is the busiest compact areal tramway operated by INAUEN-SCHÄTTI. The manufacturer was recently allowed to carry out the six- and twelve-year revisions. One fact in particular is surprising.

Bridge or tunnel – these are usually the only options when it comes to crossing a river. But not in Wrocław, Poland: there, the Technical University opted for a compact areal tramway. Since 2013, the "Polinka" has connected the new campus on the west side of the Oder River with the "old" university grounds on the east bank.

Busiest compact areal tramway

Of the 32,000 students and 4,200 staff, up to 2,100 use the Polinka daily. In addition, around 900 tourists and local residents take advantage of the ride on INAUEN-SCHÄTTI's compact areal tramway. Over twelve years, this has added up to roughly 500,000 trips – an average of 114 trips per day.

"The Polinka is the busiest compact areal tramway we've built, which made the 2025 revision project especially exciting for us," says Johann **Schiesser,** Technical Officer for Service & Maintenance of Cable Cars at INAUEN-SCHÄTTI. The Swiss company specializes in managing every stage of a (compact) areal tramway lifecycle – from planning, design, and construction to maintenance, service, revisions, and, if necessary, decommissioning.

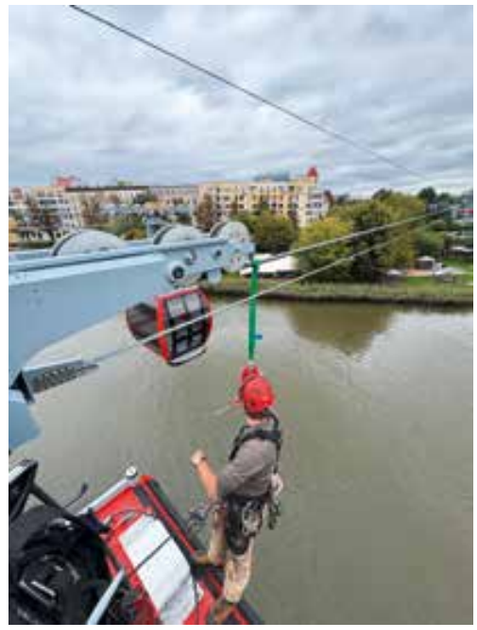
Very good overall condition

Given the high usage of the areal tramway, Schiesser was impressed by its excellent overall condition: "Maintenance has been handled by DOPPELMAYR Poland since the system was rebuilt. Despite the heavy use, the installation was very clean and well maintained, and wear was minimal." Still, the standard six- and twelve-year revisions needed to be carried out – and for that, INAUEN-SCHÄTTI, the compact areal tramway expert, was brought in. Johann Schiesser managed the planning and project coordination from Switzerland.

■ POLINKA WROCŁAW

Height of drive station:	*119.00 m*
Height of the return station:	*119.70 m*
Height difference:	*0.70 m*
Inclined length:	*373.19 m*
Towers:	*2*
Cabins:	*2*
Cabin Capacity:	*15 P/ 1,200 kg*
Max. Speed:	*5 m/s*
Travel time:	*1.95 min*
Capacity:	*366 p/h*





He organized spare parts logistics, the transport of tools (such as hoists and cable drums), and handled customs formalities.

On site, a service technician supervised the work for a month, supported for two weeks by two cable specialists. At all times, staff from DOPPELMAYR Poland and the operator assisted with the project.

Extensive revision work

In the first step, the drive units were dismantled and taken apart. "Fortunately, we found a Polish company that sandblasted, magnetically tested, and repainted the parts for us," emphasizes Schiesser. Meanwhile, the team overhauled the rope saddles on the towers as well as the sheaves in the stations, performing magnetic inspections on the components. A Polish expert was brought in to assist with this process. The insert ropes in the sheaves were also replaced, after which the drive units were reassembled.

Rope work included

"As part of the major overhaul, we also pushed the carrier ropes and replaced the haul rope. The old rope had reached the end of its service life due to heavy use," says Schiesser.

The new 20-millimeter haul rope was spliced by an expert from the manufacturer FATZER together with the entire team. Finally, the fully overhauled cabins were installed.

Deadline for the semester start

"Despite the extensive work, we were able to complete the revision within four weeks, working closely with all helpers – and still had some buffer time," reports Schiesser.

The deadline was set to coincide with the start of the university semester. Without the cable car, students and staff would have faced a twenty-minute detour across a bridge, disrupting teaching and research activities.

"The compact areal tramway system really helped here. Its compact design also keeps maintenance manageable," says Schiesser. With this major revision, INAUEN-SCHÄTTI has once again gained valuable experience. *ts*

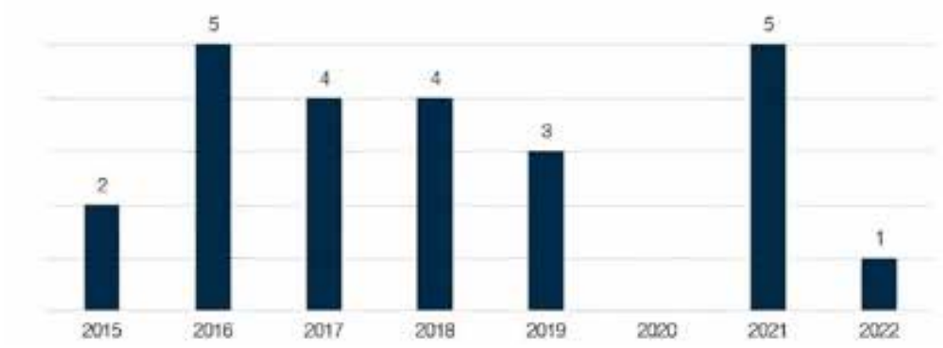


The cable car operator, DOPPELMAYR Poland, and INAUEN-SCHÄTTI worked hand in hand to carry out the major overhaul.

BUS, TRAIN, ROPEWAY

ACCIDENTS AND INJURIES COMPARED

A new study by the Technical University of Munich compares the safety of three urban modes of transport – buses, trains, and cable cars – based on European data from Germany, France, Austria, and Switzerland. The study shows that cable cars are the safest.



© Technical University of Munich

Injuries on cable cars in France, Germany, Austria, and Switzerland.

The methodology involves identifying key influencing factors such as human error, technical failures, and environmental conditions. The research draws on data from 2015 to 2022, sourced from Eurostat, national statistical offices, and the International Organization for Transportation by Rope (OITAF).

To enable a meaningful comparison, the study calculates the number of injuries and fatalities per 100 million passengers for each transport mode.

Ropeways: Number of injuries

In examining the safety of cable cars, the researchers focus on three specific types used in urban transport: aerial tramways, gondola installations, and funiculars. Accident figures for cable cars are very low and don't schow a big variation. However, due to the low numbers, a single incident can have a significant impact.

Between 2015 and 2020, there were no fatal accidents in France, Germany, Austria, or Switzerland. In both 2021 and 2022, one fatal accident was recorded each year. However, the researchers also point to incidents in neighboring countries. In 2021 there were two serious accidents with 14 fatalities in Italy (Stresa/Monte Mottarone), and one fatality in Czech Republic/ Jested. And on 17.04.2025 in Naples/ Italy, with four fatalities. In all three cases a rupture of the haul rope in combination with a malfunction of the track-rope brake was the reason. According the investigation reports, in both cases a lack of knowledge of the operators and no effective legal supervision and inspection strategy was origin.

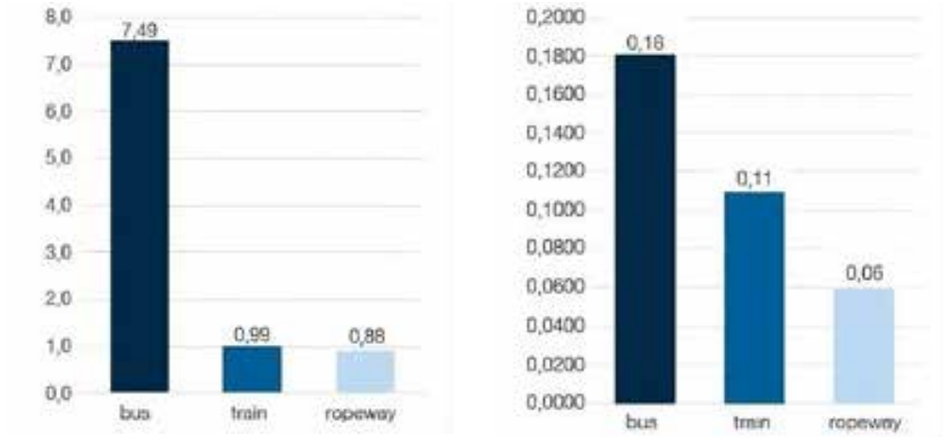
Bus, train, ropeway: a comparison

Buses and trams record an average of 7.49 injuries and 0.18 deaths per 100 million passengers – significantly more than trains or cable cars.

This higher accident rate is partly due to road traffic: buses and trams share the road with other vehicles, which increases the risk of collisions. Intersections, traffic lights, and unpredictable traffic situations further amplify this danger. Trains record 0.93 injuries and 0.09 fatalities per 100 million passengers.

Ropeways stand out as the safest mode of transport, with a very low number of injury or fatal accidents. The number of fatal accidents is practically zero for almost all years observed, highlighting the two single accidents recorded that have a huge impact on the numbers of the result. The average accident rate is 0.65 injuries and 0.07 fatalities per 100 million passengers.

Cable cars benefit from several safety factors: they are separated from road traffic, easier to monitor and automate, and are subject to strict standards and protocols.



© Technical University of Munich

Comparison of injuries (left) and fatalities (right) per 100 million passengers.

POTENTIAL AND BARRIER FACTORS

PROS AND CONS OF URBAN CABLE CARS: THE CASE OF GERMANY

The Munich metropolitan area, home to approximately 1.5 million residents, is heavily influenced by commuter traffic. At the same time, there are deficiencies in tangential cross-connections within the public transport network. What factors speak for or against implementing an urban cable car?

A research project by the German Federal Ministry of Education and Research, titled "MoveRegioM", specifically addressed this question. The analysis was carried out with the involvement of the City of Munich (Department of Mobility) and is based on literature reviews as well as feasibility and potential studies from several German cities – including Munich, Bonn, Stuttgart, and Heidelberg.

The project aimed to outline the key framework conditions and demonstrate how the potential of a cable car can be assessed. This approach also allows other cities to more easily evaluate whether an urban cable car is relevant for them.

Strengths of urban cable cars

A central potential of urban cable cars lies in their transport function. They can connect poorly accessible areas while overcoming topographical, structural, and traffic-related obstacles. By operating on a "+1 level" in the urban space, cable cars offer relief for congested traffic corridors without requiring additional ground space. Especially as feeders to high-capacity public transport services such as subway and suburban rail, they can close network gaps and improve intermodal connections.

In addition, cable cars provide a tourist appeal and can enhance the image of public transport as an innovative and modern mobility solution. From a constructional and operational perspective, urban cable cars also have significant advantages. Compared to city or subway systems, their construction times are relatively short, investment and operating costs are lower, and the level of automation is high.

Cable cars are also considered accessible, safe, and comfortable. These characteristics make them particularly attractive for densely built cities like Munich, where conventional infrastructure projects often fail due to space constraints and long implementation periods.

Challenges in implementation

However, numerous barrier factors make implementation difficult. The "hard" factors include traffic-related, regulatory, financial, and technical-operational requirements. Approval procedures, nature conservation concerns, and the still insufficiently standardized assessment of cable cars in funding regulations represent structural hurdles. Financing is particularly challenging when funding criteria are tailored to conventional rail projects. In addition to these formal conditions, "soft" factors play a decisive role. Acceptance among policymakers and the public, political consensus, and the courage to implement are central to project success. A pronounced skepticism toward this new mode of transport is evident, especially due to overflights of private property, potential impacts on the urban and landscape appearance, and perceived social effects such as rising rents. These external effects lead to intense public debates. At the same time, Germany still lacks precedents for fare-integrated urban cable cars, which further complicates decision-making.

The research project "MoveRegioM" examined the potential of urban cable cars using German cities as examples.
© SI/Gemini (AI-generated)

Recommendations for action

The analysis makes it clear that urban cable cars are not a standalone "miracle solution" for traffic problems. Their benefits are realized only when they are integrated into a city-wide transport and climate strategy. An open evaluation of all transport options is essential, accompanied by a clear communication strategy. To reduce conflicts, the focus should be on the city-wide impact of the cable car, allowing planners to identify latent benefits and maximize the system's positive effects. Early citizen participation is crucial for building acceptance and ensuring that the cable car contributes meaningfully to the urban mobility network.

DIGITAL NUDGING

HOW DO YOU GET PEOPLE TO BE SUSTAINABLY MOBILE?

Digital nudging motivates people to use more sustainable mobility options, such as switching from the car to cycling or public transport, or walking. The focus is on "soft interventions" that can be implemented digitally and work without restrictions or bans. A free handbook from Salzburg Research provides concrete recommendations for action and ideas for transport operators, authorities, and institutions.

Michael Thelen, Innovation & Value Creation by Salzburg Research

Local decision-makers in city administrations, transport planning, or public transport providers increasingly need and want to promote sustainable mobility – that is, walking, cycling, and using public transport (from buses to cable cars). The aim is to reduce CO_2 emissions, improve air quality, reduce noise, create an attractive environment for more physical activity, and thus make cities more livable.

Soft instead of hard interventions

The usual approach taken by city administrations, namely the use of so-called "hard" interventions such as introducing new regulations, infrastructure, and bans, is not always possible, cannot be applied in every situation, and often requires additional support to ensure that citizens actually change their behavior. So-called "soft measures", meaning behavioral interventions that do not involve restrictions or bans, are therefore a useful complement to policy measures and to promoting the use of sustainable mobility infrastructure. Examples of such soft measures include gamification methods or social or monetary rewards as incentives.

Actively involving and motivating citizens to change their mobility habits fosters a sustainable mobility culture and ensures that new infrastructures are successfully adopted. "A certain level of infrastructure must be in place so that people can use it. But it is also very important to understand and foster people's personal abilities and motivations," says innovation researcher Michael **Thelen** from Salzburg Research and co-author of the handbook "Digital Nudging for Sustainable Mobility", a result of the research project Dynamic Mobility Nudge (DyMoN).

How do people behave?

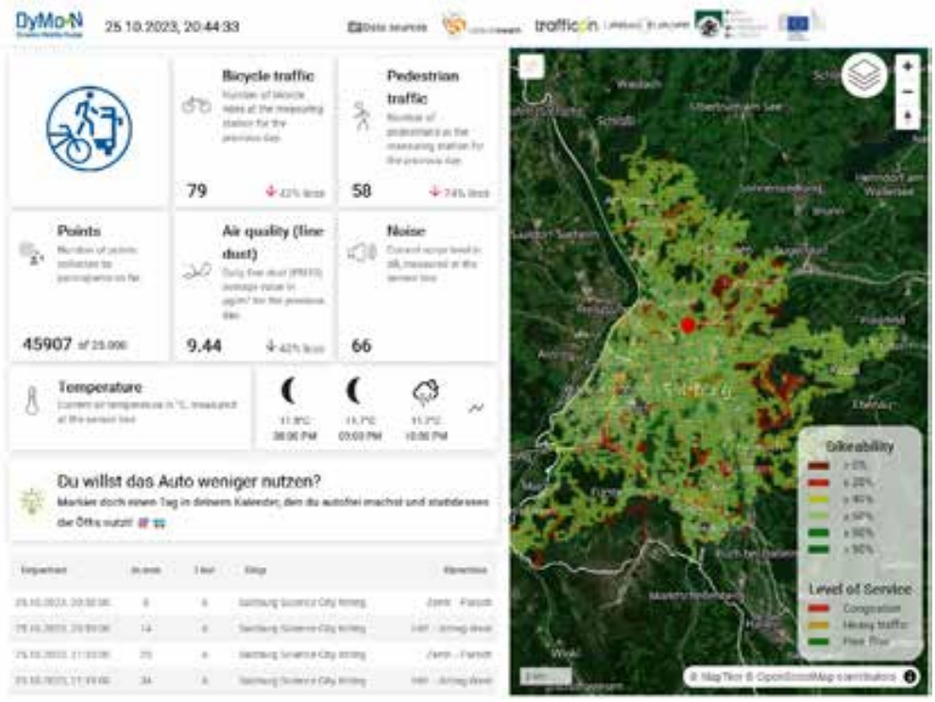
Why do people routinely drive cars even though they could easily walk, cycle, or use public transport? "Together with our environment and its contextual characteristics, our

behavior is often shaped by habits and routines – even the most irrational ones!" says Thelen. He refers to the COM-B model. "C" stands for capability, "O" for opportunity, "M" for motivation, and finally "B" for behaviour. In short, the model explains that a particular behavior occurs when a person has the capability and the opportunity to perform it and is more motivated to do so than to choose an alternative behavior.

How can behavior be changed?

Behavioral interventions are therefore used to steer behavior in a certain direction. Nudging does not restrict a person's freedom of choice and does not rely on threats or severe economic consequences. Instead, nudging aims to change the way decision options are presented in the environment in which we make decisions (the so-called choice architecture) – usually through rewording, providing new information, or social feedback.

1. Example "Capability": making bus timetables easier to understand
2. Example "Opportunity": free tickets or cycling infrastructure (parking facilities)
3. Example "Motivation": vouchers or cycling and walking campaigns



Using the dashboard, it is possible to analyze which nudges are effective. © Salzburg Research

What does digital nudging look like?

The use of digital tools to influence behavior in the physical environment is particularly well known from the fitness and sports sector (e.g. smartwatches). In mobility apps, such data can include information about the person (e.g. gender), the current situation (e.g. location), or past behavior (e.g. mobility preferences).

"This is also the interdisciplinary approach we pursue: bringing together psychology, mobility behavior, and geodata-based information to understand the situational factors needed to design context-aware digital nudges," says Thelen. Digital nudges also aim to remove barriers that prevent people from adopting certain behaviors – for example by providing reminders or new information.

Handbook

This handbook is primarily aimed at local decision-makers (e.g. city administrations, urban planning departments) and providers of transport infrastructure and services who are interested in increasing sustainable mobility in their community and who are conducting or planning motivational campaigns to this end. The free handbook "Digital Nudging for Sustainable Mobility" is available for download:

salzburgresearch.at/publikation/handbook-digital-nudging-for-sustainable-mobility

Information in mobility apps is intended to encourage people to leave their cars behind.

CABLE CAR AS A BOOSTER

HOW DO URBAN CABLE CARS EMPOWER ECONOMIES AND COMMUNITIES?

Urban cable cars are more than just a means of transport; they trigger positive social and economic effects. Clemens Schneider has researched exactly which effects these are for the Friedrich-Alexander University Erlangen–Nürnberg (Germany).

Ropeways can improve cities on several levels. © SI/ChatGPT (generated with AI)

How can urban cable cars strengthen economies and societies? Cultural geographer and economist Clemens **Schneider** explored this question for the Friedrich-Alexander University Erlangen–Nürnberg.

Socio-economic foundation

According to Clemens Schneider, urban cable cars are economically and socially successful when they meet certain basic socio-economic prerequisites. One of these is *physical barriers*: overcoming obstacles (e.g., mountains, rivers, tracks, roads, buildings) with ease is one of the greatest strengths of urban cable cars. The decision in favor of a cable car is made more easily when such a requirement exists. "Urban cable cars are also possible in flat terrain. Their potential has not yet been fully exhausted," Schneider emphasizes. Nevertheless, cable cars are receiving increasing political attention as a means of public transport.

Clemens Schneider, Content Operations at Helpbnk, formerly of Uni of Erlangen.

Poor accessibility actually leads to socio-economic disadvantages. People living in remote neighborhoods have to spend more time and money on mobility. "Under the geographical concept of accessibility, cable cars already contribute to the equality of living conditions in the Global South," Schneider reports. People without private cars, in particular, benefit from such connections. Evidence for this can be found in Bolivia and Colombia, among other places.

The *capacity and cost analysis* of various forms of mobility can also speak in favor of the cable car: for example, while gondola lifts with a maximum of 6,000 people per hour and direction are significantly less powerful than mass transit systems, they are also significantly cheaper, says Schneider: "Construction costs are difficult to compare because parameters – such as personnel costs, tunnels, or taxes – differ from country to country. In general, however, it can be said: a cable car costs only 1/3 of a tram and 1/10 of a subway."

Tools for Success

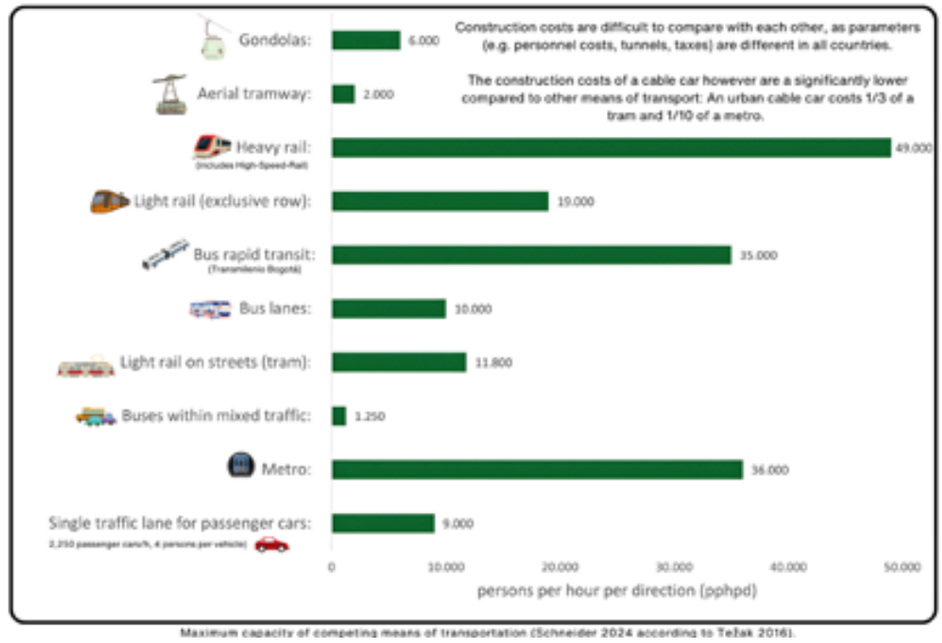
For urban cable cars to become truly successful on this basis, Schneider says instruments of regional transport development are required. The cultural geographer cites three examples.

Legal-financial interventions, such as a workplace parking levy to reduce traffic congestion and promote public

transport. “It works through a fee per vehicle parked at the workplace. In the case of the English city of Nottingham, companies with eleven or more parking spaces pay £650 per additional space per year – as of 2024,“ explains Clemens Schneider. This measure generates high revenues that are reinvested in public transport, representing a major opportunity for financing cable cars.

Integrated urban development projects: According to Schneider, Transit-Oriented Development aims to create compact, mixed-use neighborhoods around public transport hubs. This integrated approach promotes sustainable urban development through dense, pedestrian-friendly neighborhoods with good connections to public transport. “Another field of application for cable cars is mixed-use development. Developing the immediate surroundings of cable car stations holds great potential,“ says Schneider.

An *intermodal transport strategy*, which includes the seamless linking of different modes of transport. As part of such a strategy, cable cars can help make commutes more efficient, sustainable, and stress-free.



Analysis of capacities and investment costs of various modes of transport

Three types of effects

Through these instruments, urban cable cars trigger direct, indirect, and induced effects, according to the cultural geographer.

Direct effect: Improved accessibility. “Time savings on routes open up new opportunities for work and daily life. Experience from Colombia shows a reduction in travel times to central business districts as well as affordable mobility,“ Schneider explains. Improved accessibility is the basis for all social and economic effects.

Indirect effect: The increased attractiveness of the neighborhoods through which the cable car passes. Fast connections to the city center attract new residents, property values rise, and gentrification may occur, Schneider reports. A cable car can also attract new companies and thus jobs to the area. Furthermore, cable car stations can serve as social meeting points – with car-free, green, walkable areas – having positive effects on the quality of life in times of climate change. Better accessibility also leads to more opportunities in education and professional life.

Induced effects: These can be observed at the level of every resident, according to Schneider: “In the Global South, better accessibility to the city center ensures better-paid jobs, while in the Global North, cable cars can upgrade suburbs.“ Local public institutions near cable car stations – such as libraries, schools, and universities – could reduce social exclusion and increase educational levels.

“Last but not least, cable cars upgrade the neighborhood and the quality of life for residents, for example through shorter commute times, better air quality, and safe, quiet transport,“ Schneider concludes.

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The houses surrounding the Cablebús 2 in Mexico City were painted in vibrant colors. © LEITNER

The management of "Mi Teleférico" in Bolivia is working together with international partners on a model for self-generation of renewable energy. © Mi Teleférico

CABLE CARS & SOLAR:

HOW ROPEWAYS CAN HARNESS SOLAR POWER

In Bolivia's administrative center, La Paz, the "Mi Teleférico" cable car network is taking another step toward sustainability: while the cabins are already equipped with solar panels, the operator is now working on a model for generating its own renewable energy. The challenges and opportunities involved affect not only "Mi Teleférico" but many other cable car operators as well. Which aspects are particularly important, and what solutions are being implemented?

The managing director of the "Mi Teleférico" cable car in the Boliviancity of La Paz, Christian **Eduardo**, announced that negotiations are currently underway with international organizations to develop a model for self-generation of renewable energy. The goal is to reduce dependence on electricity from the public grid through local renewable energy generation. The cabins of "Mi Teleférico" are already equipped with solar panels, which, according to the operator, generate enough energy to power the lighting, intercom systems, and security cameras. In addition, the installation of photovoltaic systems on the roofs of various stations in the cable car network is planned as part of the implementation of the new line. Cable car manufacturers emphasize that there are several important points to consider when planning solar and other energy generation projects in cable car operations.

Energy saving in focus

Using the sun as an inexhaustible energy source is important and essential for a sustainable future – a point many experts agree on.

However, photovoltaic systems do not always produce electricity exactly when it is needed. The sun does not always shine when energy is required, and during downtime, electricity is generated that cannot be used immediately. This raises the crucial question: how can self-generated energy be stored and used efficiently – and how can overall resource planning be optimized?

"The focus must be on the overall energy balance: that is, the interplay of self-generated electricity, the use of renewable energy, and smart off-take planning in cases of

The Pico del Teide funicular in Spain uses the high-performance energy storage system, which stores locally generated energy and thus enables an almost energy-autonomous operation. © DOPPELMAYR

At the Waidoffen chairlift in Tirol, Austria, solar panels are directly integrated into the station buildings – a solution that is both aesthetically pleasing and functional. © DOPPELMAYR

Solar modules are used not only in urban but also in alpine cable car systems. In the photos: the Gauxjoch chairlift in the KitzSki ski area, Austria (left) and the Gifthittli chairlift in Zermatt, Switzerland (right). © LEITNER

overproduction," explains Lukas **Kirchmair**, Sustainability Manager at DOPPELMAYR.

According to Kirchmair, there is a clear demand for renewable energy among operators, and DOPPELMAYR has already implemented many projects characterized by an innovative overall energy system.

Examples include the Sierre–Montana Gare funicular in Switzerland or the Pico del Teide aerial tramway in Spain, which are equipped with a high-performance energy storage system (ESFOR) that stores locally generated energy – such as braking energy or photovoltaic electricity – and makes it usable.

In the alpine region, there are also cable car installations, such as the Hüttenkopf chairlift, the Glockner chairlift, or the Waidoffen chairlift, where solar panels are directly integrated into the station buildings – a solution that is convincing both aesthetically and functionally.

Significant energy-saving potential also exists in daily operations. With the ASC system (Adaptive Speed Control), it is possible, using AI, to adjust the operating speed of gondola and chairlifts according to demand, which directly saves energy.

Kirchmair emphasizes: There is no distinction between urban and alpine applications. What matters is whether the respective solution makes sense in the specific case.

Solar panels not only on stations and cabins

Experts emphasize that in generating electricity with solar panels, not only cable car stations or cabins are suitable. "The solution with solar panels on cabins has been in use for a long time and was developed in the Alpine region – but other surfaces can also be utilized," explains Günter **Tschinkel**, Technical Director Electrical Engineering at LEITNER. "Whether the surfaces of cable car stations are used depends on many factors, such as orientation, shading, and so on. It is also possible to use surfaces on storage buildings or other structures near the cable car or in the ski area," adds Tschinkel.

"Electricity doesn't have a label. This means that it does not matter where renewable electricity is generated, as long as it is consumed by a cable car. Therefore, there is no need to develop a special 'self-generation model,' but rather to find suitable locations for sustainable energy sources to supply the cable cars," concludes Günter Tschinkel.

Energy-efficient consumption as an important factor

In addition to electricity generation and storage, manufacturers recommend paying attention to technologies that enable more efficient energy use, reduce waste, and optimize overall system performance.

For example, the Austrian ski resort KitzSki, together with LEITNER, is implementing various energy-saving solutions: as part of the renewal of the aging Gauxjoch and Trattenbach ski lifts, two modern 6-person chairlifts are being installed.

Solar panels are also being used: the stations are covered with a photovoltaic system, with curved PV panels replacing the previous polycarbonate sheets.

Other technologies are also important: the LEITNER DirectDrive allows energy savings of up to twelve percent compared to conventional drives. Furthermore, waste heat from the liquid cooling system is used for the heating system and hot water production. Up to 20 percent of energy can be saved through an automatically adaptive speed control for cable cars, which is integrated into the control systems of both installations.

The technology adjusts the operating speed based on a camera system that counts the number of waiting guests at the stations. The Intelligent Heat Detector system is also used: using a heat sensor on a reference vehicle and the access gates, the seat heating can be automatically regulated, contributing to energy savings.

Consideration of the entire lifecycle

According to Kirchmair from DOPPELMAYR, it is crucial when planning energy production and consumption to consider the entire lifecycle of an installation, from its initial design and construction to daily operation, maintenance, and eventual decommissioning or modernization.

- **Planning and Implementation**: It begins with a vision to realize the optimal solution, one that is convincing both ecologically and economically.
- **Operation:** Data management and continuous analysis form the basis for turning acquired insights into concrete improvements.
- **End of Lifecycle:** At the end of each installation's life, a new beginning starts: components are repaired, materials are reused, or fed into the recycling cycle. This also applies to the modernization of installations or their upgrade to the latest technology – including the use of renewable energy.

CABLE CAR & HEALTH

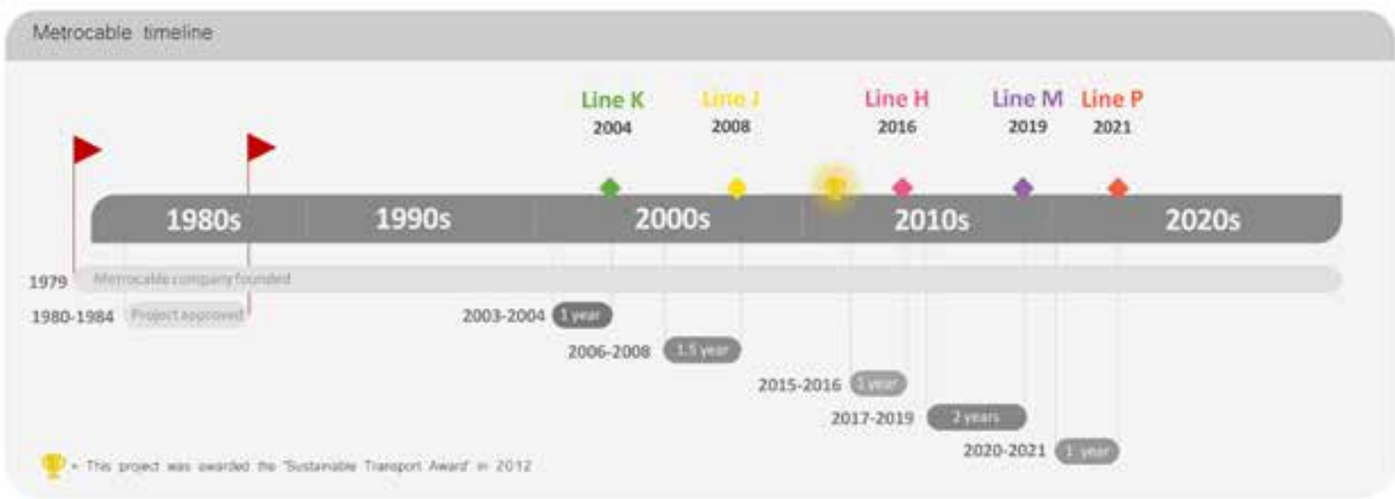
HOW THE REDUCTION OF CO2 THROUGH CABLE CARS INFLUENCES SOCIETY IN MEDELLÍN

The Colombian metropolis of Medellín has one of the largest urban cable car networks in the world, with 14.7 kilometers of route and 20 stations. This system leads to lower CO_2 emissions, with positive financial and social effects. The Vienna University of Technology has compiled relevant figures.

241 million passengers and up to 99 percent availability – the urban cable car network serves mobility in the Colombian city of Medellín remarkably well. According to researchers Cristiana **Czerwinschi** and Catrina **Ulici** from the Institute of Urban Design at the Vienna University of Technology, integrating the five cable car lines into the public transport system improves comfort while reducing both travel time and costs. They examined the impact of a new cable car system on geographic accessibility (contour measurements) and CO_2 reduction in Medellín. According to their findings, urban cable cars reduce harmful emissions in cities and improve accessibility. Stations are placed strategically so that both accessibility (travel time) and environmental outcomes (CO_2 emissions) benefit. Statistics show that the system reduces average travel time by up to ten percent, with an even stronger effect for people from lower socioeconomic groups.

Overview of emissions in Colombia

The death rate in Colombia due to air pollution is 0.37 per 1,000 people annually. This corresponds to 12,668 deaths each year from lung cancer, stroke, or respiratory diseases. Colombia is also heavily affected by climate change and must urgently adapt, according to the study's authors. Fossil fuels still account for 77 percent of the national energy mix, including fuels used in transport.



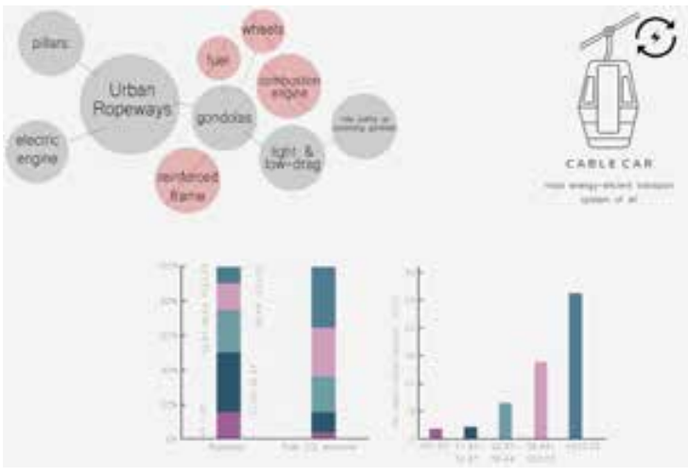
The development of the urban cable car network in Medellín over the decades. © TU Wien

Cable cars are the most energy-efficient mode of transport

The Vienna University of Technology study used technical data from the five cable car lines to evaluate several factors that positively influence society in Medellín. First and foremost, the system saves 979 tons of CO_2 annually. This is due to inherent system characteristics: cable cars require no combustion engines, fuels, wheels, or reinforced frames. They run on electric drives and only need stations, towers, and cabins. Thanks to their light weight and low air resistance, downhill cabins can also help pull the uphill cabins.

All this makes cable cars the most energy-efficient mode of transport, according to the researchers. The economic value generated from health benefits is estimated at 50 to 380 US dollars per ton of CO_2 saved. This exceeds the projected costs of reducing greenhouse gases.

The urban cable car network in Medellín comprises five lines.



The cable car is the most efficient mode of transport.

Additional advantages of the cable car

Beyond reducing CO_2 emissions, the urban cable cars in Medellín have prevented an estimated 5,176 traffic accidents, saving 3.43 million US dollars in costs. They have also saved 379 million US dollars in energy costs and created 30,000 square meters of new public space.

There is also a strong social component: the urban cable cars contribute significantly to reducing poverty in the population, the authors conclude, drawing on a wide range of sources. The cable car is the backbone of urban, integrated modernization projects.

An availability rate of up to 99 percent – the urban ropeway network serves Medellín well. © LEITNER

SI URBAN NEWS

PARIS CONSIDERS SECOND CABLE CAR

In December 2025, the urban cable car Câble C1 in Paris welcomed its first passengers. Already in January, the President of the Île-de-France region, Valérie **Pécresse**, expressed her desire for a second cable car, according to the portal "Sortir à Paris": "We allow ourselves to dream of the Vélizy–Pont-de-Sèvres line, which could save a trip on the motorway N118," she said on January 14 in her New Year's address to Île-de-France Mobilités. And although it is still only an idea, the media outlet "3 Paris – Île-de-France" reports that studies on this project could be resumed. The cable car would follow the route of the RN118 and be connected via Tram Line T6 to Vélizy-Villacoublay. The surveys conducted in 2017 for the same project did not yield a clear result.

According to Pascal **Thevenot**, the mayor of Vélizy-Villacoublay, commuters could save 10 to 15 minutes during peak hours thanks to the cable car. However, the French passenger association doubts the usefulness of the cable car: a bus runs between Pont de Sèvres and the Vélizy-Meudon business park and takes less than 15 minutes outside peak hours, so according to the association's president, the cable car will not be faster. © Laurent GRANDGUILLOT / IDFM

URBAN CABLE CAR IN PANAMA 2029

Panama City Metro recently announced a public forum as part of the environmental impact study for the country's first cable car, which will connect the Panamá and San Miguelito districts, according to the media outlet La Estrella de Panamá. During a Panama City council meeting, Metro representatives stated that construction is expected to take three years. As a result, the cable car is projected to begin operation in 2029.

The cable car project is part of a strategy to address the long-standing mobility crisis in Panamá and San Miguelito – both regions experiencing rapid population growth, increased demand for transportation, and urban expansion. The cable car will be 6.6 kilometers long, with six stations – two in the Panamá district and four in San Miguelito – and is expected to reach a travel speed of six meters per second It will connect to the Metro via Line 2 at the Cincuentenario station.

In February, the international tender process was completed. The project has already gone through a pre-qualification phase, after which two consortia were invited to submit their final bids. The Panamá district is the administrative center of Panama City, while San Miguelito is a densely populated suburb. © Pixabay

PARAGUAY FOLLOWS BOLIVIA

In the Paraguayan city of Fernando de la Mora, city council candidate Miguel **Cáceres** has proposed building a cable car as an urban transport system – modeled after the city of La Paz in Bolivia.

"Among the suburban train, Metrobus, or cable car, the cable car is the most cost-effective option in this order," explained Cáceres. He emphasized that the project would not incur any debt for the municipality, as it is planned as a private concession model.

According to the politician, costs per kilometer are estimated at around 14 to 20 million dollars.

"We are talking about roughly six kilometers in the northern and southern zones. That comes to about 100 million dollars. The concession would have to run for twenty years," he said.

Cáceres stressed that the project's profitability depends on daily usage by residents. "If out of 100,000 inhabitants a thousand use the cable car daily, it will be profitable," he assured. He also noted that La Paz has pledged to provide free technical consultancy for the cable car project.

Fernando de la Mora is a city in Paraguay, known as a heavily populated suburb of Asunción, the country's capital. © Wikimedia.org

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