A B2B MAGAZINE FROM SI SEILBAHNEN INTERNATIONAL, NO. 1 | 2022

SEILBAHNEN INTERNATIONAL

THE URBAN CABLE TRANSPORT MAGAZINE

URBAN

MOBILITY LAB

CENTER OF THE CABLE CAR WORLD

MOBILITY SOLUTION

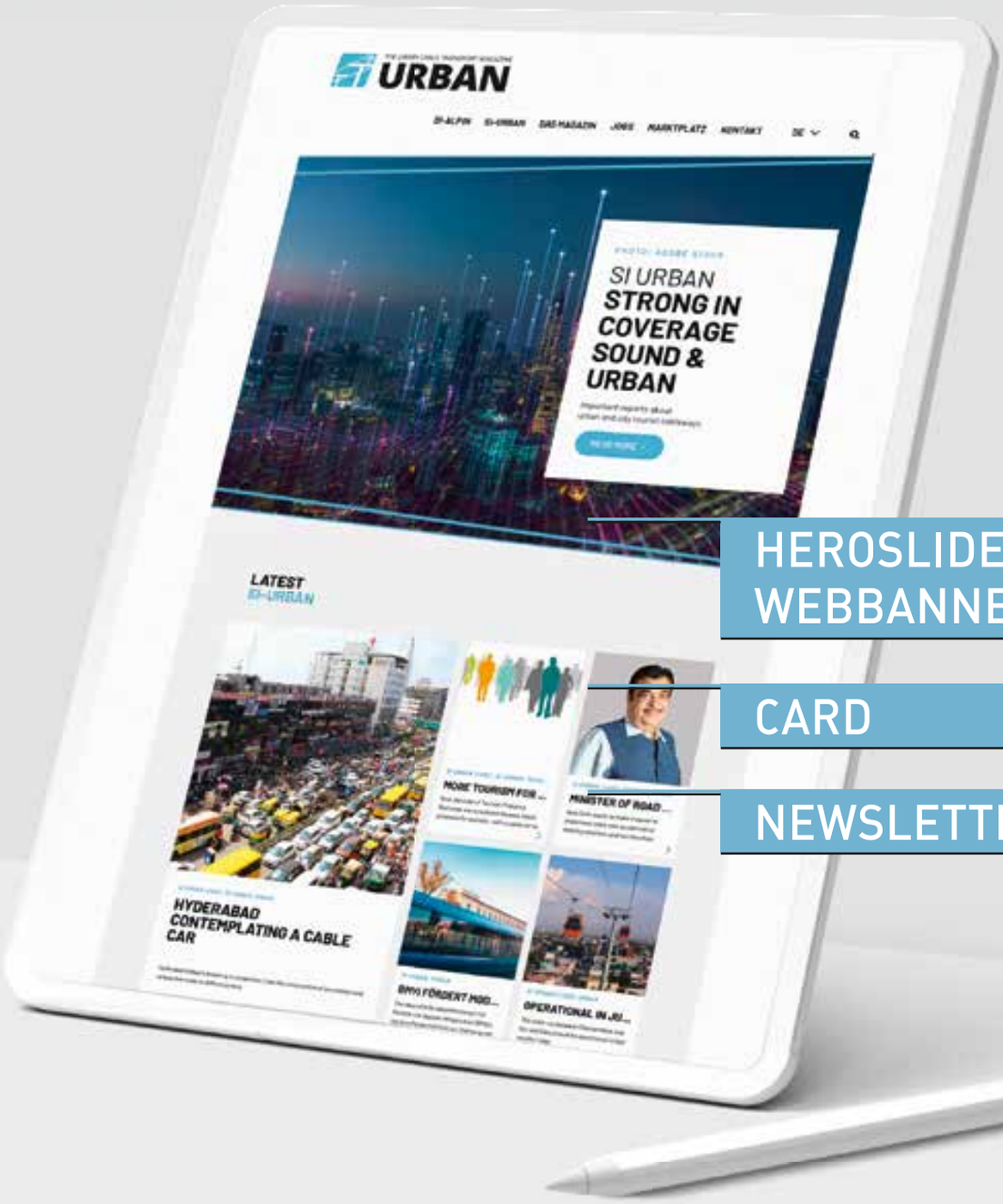
CABLE CAR FOR SOUTH KOREA

MOBILITY TOURISM

CABLE CARS AS AN ATTRACTION

THE URBAN CABLE TRANSPORT MAGAZINE

URBAN



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EDITORIAL

Gerald Pichlmair
Editor

"THE ONLY CONSTANT IS CHANGE"

All areas of everyday life are changing and developing. Even the area of mobility is subject to this constant change. Indeed, it is self-evident, as any standstill here would be an unparalleled paradox. Nonetheless, experts are predicting not only development but actual change in the mobility sector. Autonomous, eco-friendly, efficient: that is how the new transport system should be. Fortunately, the urban cable car covers all these areas optimally, as well as being suited to multimodality.

That is why many countries all over the world are already backing the cable-drawn transport alternative. We have presented many of them previously in this magazine, and a few more appear in this issue too. Even in Europe we can already see signs of the start of a victory for cable cars. As such, CABLE CAR WORLD will take place on 21st and 22nd June. The conference, which has an integrated specialist trade fair on the theme of urban cable cars, brings together experts from all industries and so encourages discussion. As a specialist medium, SI Urban will certainly be there, and we look forward to the interesting discussions.

DATES

1st – 8th February 2022
Sustainable Mobility Forum,
Paris (FRA) and online

29th March – 7th April 2022
Intertraffic,
Amsterdam (NLD)

10th – 12th May 2022
IT-Trans,
Karlsruhe (GER)

30th May – 1st June 2022
ITS European Congress,
Toulouse (FRA)

21st – 22nd June 2022
Cable Car World,
Essen (GER)

20th – 23rd September 2022
InnoTrans,
Berlin (GER)

2nd – 4th November 2022
SITCE – Singapore International Transport Congress & Exhibition
Singapore (SGP)

15th – 17th November 2022
Smart City Expo World Congress,
Barcelona (ESP)

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Printed in accordance with the Austrian ecolabel "printed products" directive. Druckerei Roser Gesellschaft m.b.H., UW no. 1037

201920025
PRINTED IN AUSTRIA

IN THIS ISSUE

CABLE CARS COMPLETED

CABLE CARS PLANNED

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CABLE CAR PORTFOLIO

ECONOMY

SOCIETY

ENVIROMENT

SAMAKSAN

CREATIVE SOLUTION AND POWERFUL PRODUCT FROM DOPPELMAYR FOR SOUTH KOREA

Ropeways are a special in the mobility sector because they are a both means of transport and an attraction. This is also evident in the new DOPPELMAYR gondola lift in South Korea. Here, the ride itself becomes an experience.

Samaksan is a mountain that attracts many tourists owning to its unique character and beautiful rivers. Because of its proximity to the South Korean capital. Seoul, many city dwellers use the Chuncheon-si region as a place of recreation. With a tourist development of this kind, it is important to ensure a seamless connection between the city and the recreational region. The ropeway has therefore been constructed in such a way that access to it is guaranteed both by car and by train.

3.5 kilometres barrier free

Until now, only hiking trails led up to Samaksan, which is over 650 meters high. Since the opening of the ropeway in October 2021, families with pushchairs, wheelchair users and anywone else can now enjoy the mountain world with its beautiful nature. The modern gondola lift from DOPPELMAYR is over 3.5 kilometers long and has a transport capacity of 1,200 people per hour. Furthermore, the system also has a number of

■ 8-MGD SAMAKSAN CABLE CAR

Length	*3,619 km*
Travel speed	*5 m/s*
Journey time	*approx. 13 minutes*
Stations	*2*
Gondolas	*66*
Capacity	*8*
Transport capacity	*1,200 p/h*
Altitude diffenence	*350 m*

The special red gondolas have a glass bottom and therefore offer an even more spectacular view. Photos: samaksancablecar.com

The ropeway is the first joint project of DOPPELMAYR and the Daemyung Sono group.

special features: it crosses several small streams and a wide river. The installation is one of the longest ropeways used by tourists in South Korea. During the implementation of the 8-seater gondola lift, the ropeway experts overcame many exciting challenges. For one thing, there are only paths for hikers, but no paved roads. The lorries to deliver the ropeway components were therefore unable to carry the materials to the destination. The solution was a robust freight ropeway. This made it easy to overcome the uneven terrain and slopes, and to transport the construction materials to the destination. Delivery for the support to be constructed in the middle of the river was even more special. Here, the DOPPELMAYR team used boats for delivery over the last few meters.

Exactly as the customer desires

The gondola railway was commissioned by the Daemyung Sono Group. The Korean business group wanted not only a ropeway across the river but for the transport system itself to become an attraction for visitors. For this reason, some of the *OMEGA IV* cabins from the Swiss manufacturer CWA are equipped with a toughened glass bottom. In addition, the company has opted for the *DDD*, the *DOPPELMAYR Direct Drive*, to drive the system. This features very low vibrations and noise, is energy-efficient and is easy to maintain. As it does not require a gearbox, there is no need for gear oil or the associated maintenance work.

Even on the opening day, 1,500 visitors came to use the state-of-the-art ropeway.

tm

Symbolic image: Levent Simsek/pexels

SAN MIGUELITO

THE INFRASTRUCTURE IS BEING EXPANDED IN PANAMA

The government wants to boost the country's economy significantly in the coming years and is therefore planning major investments.

According to the Panamanian government, three infrastructure projects should all begin construction in 2020. The plans here are for two motorway projects and an urban cable car. Also, in Panama, additional infrastructure measures are not excluded. To support these projects financially, as with previous measures, an appeal is being made to the IFC (International Finance Corporation). This international development bank has already provided subsidies (over 700 million US dollars) to support more than Thirty infrastructure projects in Panama. The planned urban cable car, which is being called Metrocable, should run over the district of San Miguelito in the north of Panama City and for a length of around eight kilometres. It will cross the six communities of Belisario Frias, Arnulfo Arias, Belisario Porras, Mateo Iturralde, Victoriano Lorenzo and Amelia Denis de Icaza. The planned system is intended to offer a better connection from existing underground lines 1 and 2 to the public transport and thus significantly improve the transport provision. Moreover, the planned cable car would significantly reduce journey times between underground stations. The distance of the stations from one another and the high volume of traffic in the city make it necessary to plan plenty of extra time. If the cable-drawn transport is implemented, an average time saving of twenty-two minutes is therefore expected.

Seven stations are planned, which will be built in the most densely populated areas of the communities. Metrocable is intended to be an efficient inner-city connection, which will both shorten walking distances and reduce traffic. Tendering for the project ended last year, although it is not yet clear whether the government has already awarded the project or when construction work is due to begin.

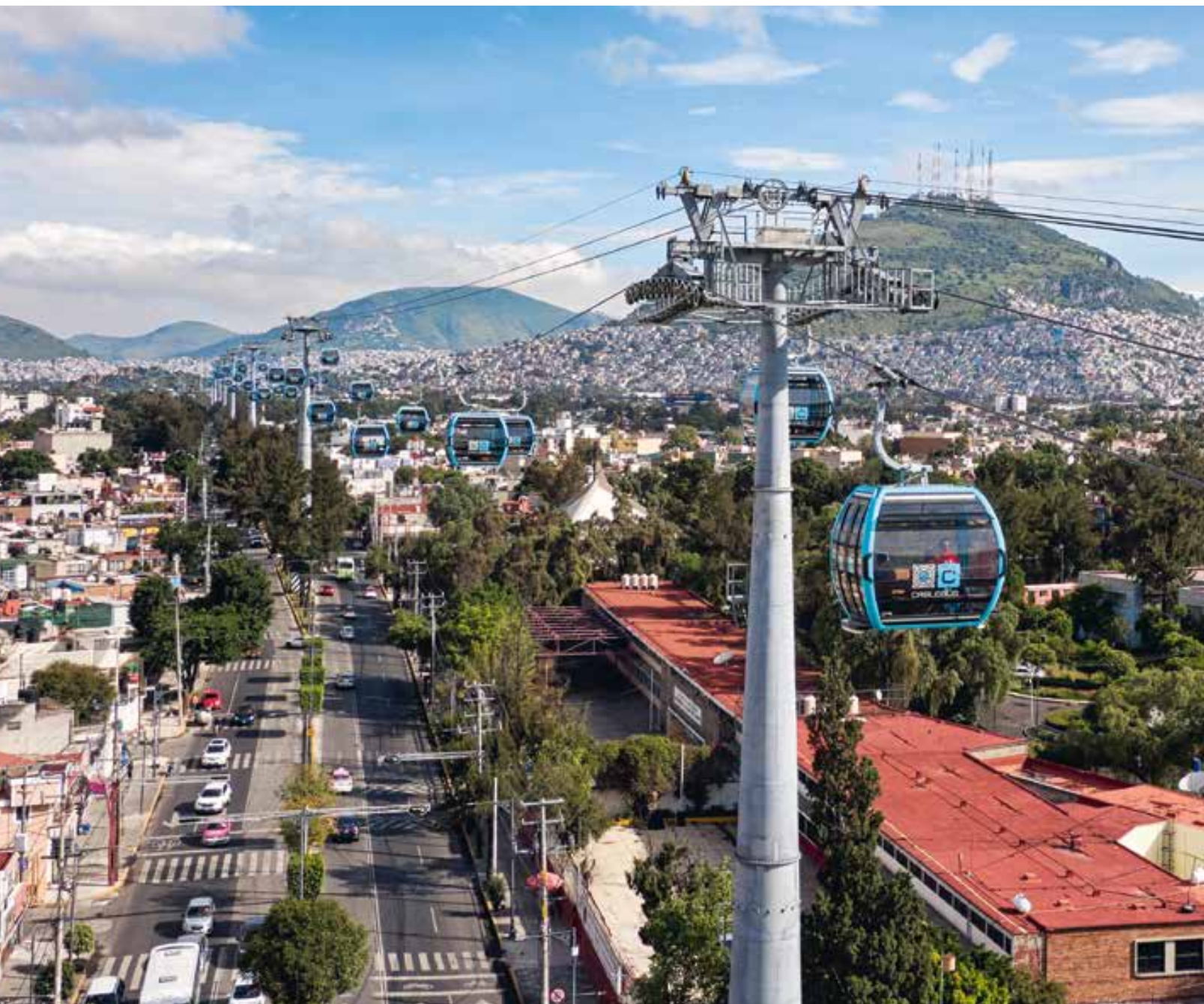
An investment volume of 120 million US dollars (109 million euros) is earmarked for the cable car project.

tm

Rope-propelled mobility in Mexico City

Since summer 2021, people who live in the Cuautepec district of Mexico City have been able to travel on a Doppelmayr ropeway. The almost ten-kilometer-long installation serving six stations is part of the public transport system and provides a direct link from Cuautepec to the city‘s largest transport hub, Indios Verdes, where passengers enjoy rapid, convenient and barrier-free transfer to the bus and metro. This modern 10-passenger gondola lift is a means of transport for all.

doppelmayr.com



HEIHE - BLAGOVESCHENSK

POMA CONNECTS CHINA AND RUSSIA VIA A DUAL CABLE CAR

French cable car manufacturer POMA refers to its current project across the Amur river as "Transborder". Between the cities of Heihe and Blagoveschensk, the company is constructing the first cross-border cable car between China and Russia.

The Chinese station in Heihe.
Photos: POMA

The two cities, Heihe and Blagoveschensk, are separated by the 720 metre-wide Amur border river, and there is no fixed connection between the cities. Indeed, there is a road bridge, but that is authorised only for freight traffic. Passenger transport is handled by ferries.

To give people a fast and convenient border crossing over the river, both countries are supporting a cable car at top political level. The contract for the project was awarded to French manufacturer POMA in 2019, as Operation and Business Development Director – POMA Beijing Edouard **Dovillaire** reports: "We won the tender with a bespoke concept, which based on our robust subsystems developed by our engineers. The system is being set up in the form of two identical aerial tramways. With this technical redundancy, we are close to 100% of availability of the route."

With its two supporting cables and one traction cable, the cable car is able to withstand the wind conditions, high and cold temperatures and challenging weather on the Amur river. At the same time, the solution of this cable car has maintenance and operating costs adapted for this route.

Two cultures – two gondolas

The "dual" aerial tramway will be 978 metres long and carry 1,800 people per hour and per direction. "Each of the two gondolas will carry 110 passengers. One will be designed as Chinese, the other as Russian," Edouard Dovillaire says. Other details will also be shared fraternally between the two countries: As such, there will be one 63-metre high support and one control center on each bank.

Both China and Russia will each maintain one of the two cable cars. Partially state-owned companies HJPC and ZED Developement will decide the organization of the operation in the next period.

Stations are mini airports

The two cable car stations will likewise be designed to be country-specific. They will act as mini airports, since they are where customs and entry will be handled. Restaurants, shops, car parks and connections to the local public transport are also planned in the large buildings.

The cable car fare will remain independent. The operators are expecting a million passengers in the first year and two million in the following years. The target groups are primarily Chinese and Russians, who want to shop and spend their leisure time in the neighboring country.

The investment volume is 670 million Yuan on the Russian side and 790 million Yuan on the Chinese side (equivalent to around 92 and 109 million euros respectively). "Construction work is already in progress and we expect the cable car to open in mid-2023," says Edouard Dovillaire, who can rely on a POMA team of 95 people in China. *ts*

The russian station in Blagoveschensk.

TECHNICAL SPECIFICATIONS

Type	*2 aerial tramways*
Length	*976 m*
Transport capacity	*1,800 p/h*
Speed	*12 m/s*
Supports	*2*
Gondolas	*2 (110 p each)*
Costs	*1.46 m RNB (~ 201 m EUR)*

MY CITY AND MUCH MORE

3S GONDOLA LIFT

Téléo - Toulouse - FRANCE

With «Téléo», POMA signs the very first Urban 3S cable car of France. It will take only 10 minutes to fly over 3km and connect 3 major poles of activities of the city that represent 85,000 jobs.

For a unique experience!

POMA

A CONNECTION WE SHARE

This is how the first cable car station on "Teleferico Linea 2" will look.

SANTO DOMINGO

POMA IS ALREADY CONSTRUCTING THE SECOND CABLE CAR LINE IN THE CARIBBEAN CITY

There has been an urban cable car in the Dominican Republic since 2016; the "Teleferico" in Santo Domingo was constructed and is also being operated by French cable car manufacturer POMA. A second cable car line will now follow – with a major impact on the district of Los Alcarrizos.

Over 20,000 people use Linea 1 on Santo Domingo's Teleferico every day. The cable car connects the northeast of the city to the centre and transports over 3,000 people per hour in its 195 10-seater gondolas. 23 districts and one underground railway line have connections to the five-kilometre cable car route.

This has produced a sharp improvement in quality of life for the people concerned, who can now get to their destination stress-free, reliably, quietly, conveniently and in a way that is environmentally friendly. As such, commuter travel time has fallen from an hour to just twenty minutes.

POMA at the second stroke

At the request of the government, the quality of life in the densely populated district of Los Alcarrizos will now also be improved with a cable car. For the first time, this will meet the mobility needs of many people who are cut off. Once again, POMA has won the tender and will construct the line together with regional partner J. FORTUNA Constructora. Commissioning tests of the first partial section are already

□ ***POMA Project Manager Guillaume Ployon***

"Our client, URBE (Unidad Ejecutora para la Readecuación de Barrios y Entornos), is renewing investment in an integrated, fast and modern public transport and thus adding to the successful experience of cable car integration into urban mobility. A big ´thank you´ to our customers and partners, who are showing courage in the pandemic and sticking with the project. They are investing directly in people's quality of life and in sustainable mobility."

planned for the end of 2022. "Linea 2 will initially cover a four-kilometre route and have four stations," POMA Project Manager Guillaume **Ployon** reports. 160 12-person gondolas should guarantee a transport capacity of 4,500 people per hour. "We are expecting significantly more passengers than on Linea 1, as there are more than 395,000 residents living in the catchment area of the new cable car," Ployon says. The operating hours should match those of the underground railway, and the cable car will be integrated into the charging structure of the public transport network.

The new cable car will run through the densely populated district of Los Alcarrizos.

Cable car connected intermodally

The first station will be connected to the underground railway, which is just being extended. As an intermodal hub, the station will also include a bus station and commuter parking. It will therefore serve as a new gateway for the west of Santo Domingo. "Accordingly, it is being designed as a large new district centre – with a garage for the gondolas, as well as restaurants and shops," Guillaume Ployon says. The two intermediate stations will be kept as simple as possible, as they are located directly in densely populated residential areas. The last station will be designed to be a little larger and will include a few shops. This is located close to a hospital.

The national flag as a design

In terms of design, the cable car is similar to its previously completed "sister": simple, attractive building architecture coupled with gondolas in the national colours blue, white and red. As such, the tourist factor of the cable car must also not be forgotten. Before the first cable car, there were few opportunities to get a view over the city. Yet, in the gondolas, the people can see Santo Domingo from above. So that this is also possible soon on the second cable car, work is already in full swing. "Thanks to our multinational teams on site, we were easily able to meet the challenges of topography, population and logistics," says Guillaume Ployon, who is able to rely on the 40-person POMA subsidiary in Santo Domingo.

Project characterised by courage

Despite the coronavirus pandemic, a change of government, and inflation, the people responsible have stuck with the "Teleferico Linea 2" project – and will continue to do so. In a second step, a further cable car will therefore be implemented with four stations.

Additional cable car lines are also conceivable, whether in Santo Domingo itself or in other locations on the island, such as Santiago de los Caballeros. The general public is certainly behind the transport solution and proud of its Teleferico – there is almost no headwind. This is an attitude that Guillaume Ployon would love to see in Europe too: "Cities should rely not only on the classics of local transport but also think a level higher. Latin America is leading the way!" *ts*

Santo Domingo's first cable car line is used by 20,000 people every day. Photos: POMA

■ TECHNICAL SPECIFICATIONS

Length	*4,156 m*
Capacity	*4,500 p/h*
Vertical rise	*15 m*
Stations	*4*
Towers	*29*
Number of cabins	*160*
Speed	*7 m/s*
Passengers per cabin	*12*
Expected passengers	*20,000 p/day*

EDMONTON

CABLE CAR FOR RESIDENTS AND TOURISTS

The planned cable car will start Downtown Edmonton, providing access to the burgeoning district of Rossdale and stop at the historic Power Plant. Prairie Sky Gondola will then cross the North Saskatchewan River, stop at End of Steel Park and finally terminate in the cultural district of Whyte Avenue.

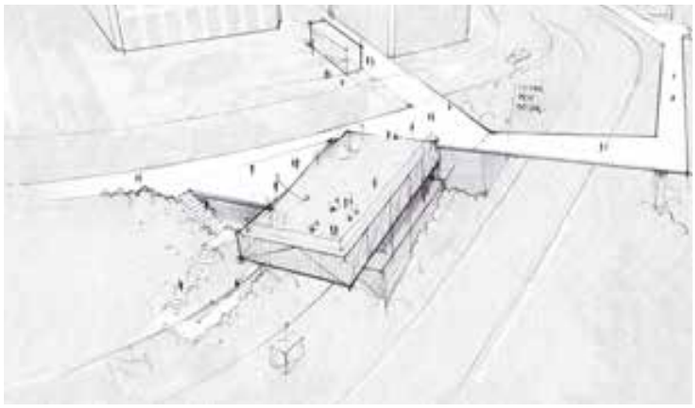
A cable car that relieves the strain on the road network, helps commuters, revitalises the city centre, attracts tourists and recognises the indigenous culture: this is the aspiration of Prairie Sky Gondola in Edmonton. The project is at an advanced stage, and the cable car should be in place by 2025.

The City of Edmonton in the Canadian province of Alberta has over a million residents and is buzzing with excitement: Starting in 2025 an urban cable car with five stations will run through the city centre, over a distance of 2.5 kilometres. The cable car is financed by private investors and has political support. The route runs over existing roads, public green spaces and the North Saskatchewan River. "The cable car will be manufactured and maintained by Austrian manufacturer DOPPELMAYR, constructed by EllisDon, and operated by Prairie Sky Gondola. Furthermore, it creates a tourist experience in the city centre and opens up access to Edmonton's river valley, Canada's largest urban park," Prairie Sky Gondola CEO Jeffrey **Hansen-Carlson** reports. The River Valley Alliance estimates that this park is visited by 10 million people per year.

With the cable car, the people responsible hope that 500,000 fewer car journeys will be made and that a proposed additional road or railway bridge over the river will be abandoned. "Not least, Prairie Sky Gondola should contribute to truth & reconciliation with indigenous peoples, by providing them with direct jobs and making it possible to literally experience their history and culture."

Starting point

The cable car idea emerged in 2018 in the course of the Edmonton project, an initiative of the local business community. A brainstorming competition was organized, which obliged business to implement any idea that won the competition – and the cable car won. 18 investors therefore set up Prairie Sky Gondola, enlisted the population in the project development and convinced politicians of their plan.



Downtown Station will have a roof terrace with a view, café, toilets and machinery. Images: Prairie Sky Gondola

Ortona Armoury Station will act as a catalyst for West Rossdale and include a café, ticket counters and a community space.

Stations

"The fact that the project has such strong support is due primarily to its five stations, which offer opportunities for transportation, city development, tourism and the business community as well as connecting existing pedestrian routes and modes of transport," Hansen-Carlson says. The cable car stations are designed to occupy a central position in the districts, the CEO emphasises: "We see the stations as a chance to create new spaces in Edmonton, which are positive for residents and guests alike. They are open, accessible and inviting. Their architectural character is exciting and dynamic, and it arouses the curiosity of passers-by." Each of the stations will be designed with a theme, reflecting either the intended use or the surroundings. At the same time, a compelling architectural language will act as a constant thread.

Route

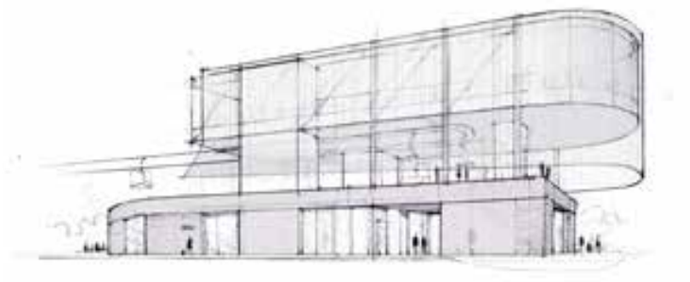
The cable car will start directly in Downtown Edmonton, conveniently connecting to its light rail and bus system. "Prairie Sky Gondola will connect the city centre with the business district of Old Strathcona and facilitate access to recreation on the river within only a few minutes – especially for senior citizens, children and people with disabilities," Hansen-Carlson is pleased to report. Rossdale, a district with development potential, is the second stop on the route (Ortona Armoury and Power Plant Station). "Many people want to live here in the future. The cable car could act as a catalyst for the real estate and development industries and the local economy, without overwhelming people," the CEO is convinced.

Rossdale Power Plant is a very special station. The industrial monument stands on a historic site, with cultural and archaeological significance that dates back 10,000 years. Tourists will be able to learn about the history of the indigenous peoples here, allowing members of the general public to interact and learn first hand from local indigenous people. "We want this station to become a hub for users and visitors to the River Valley," Hansen-Carlson affirms.

Moving forward, the next station, "End of Steel Park", will tell the story of the railway by integrating railway artifacts, wagons and tracks into the building. However, the majority of the railway station area will be used for commuting, parking cabins and maintenance areas.

The cable car ends at Whyte Avenue, where pedestrians, cyclists and buses come together. Here in the cultural district, bike parking, community spaces, shops and a restaurant play an important role.

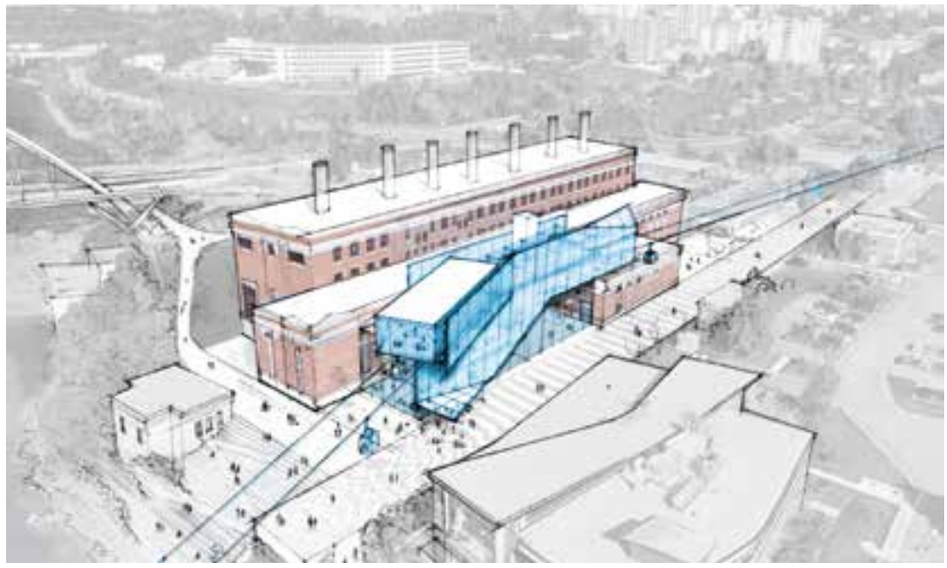
End of Steel Park Station will pay homage to the railway and feature integrated wagons, tracks and historical CPR photos.



On three levels, the Whyte Avenue Station will house community spaces, tourist info centre, machinery and a restaurant.

■ **PRAIRIE SKY GONDOLA**

Type	*10-seater single-cable circulating track*
Transport capacity	*1,800 p/h*
Length	*2.5 km*
Travel speed	*6 m/s*
Journey time	*12 min*
Stations	*5*
Gondolas	*86*
Supports	*20*
Investment costs	*approx. 154 m CAD (~ 106 m EUR)*



The Power Plant Station will tell the story of Indigenous peoples and offer space for a restaurant, café, arts & craft, tours and large meeting rooms with view of the river valley.

⇨ Cableway technology

A single-cable circulating track is planned, which will have 86 gondolas, 20 supports and a transport capacity of 1,800 people per hour. The cable car will operate 360 days per year, 16 hours a day. Parking will be spread across all stations, as there is not enough space for one large gondola depot.

All the gondolas will be furnished with folding heated seats, air conditioning and handrails, to accommodate mobility aids, bicycles, wheelcharis, strollers etc. The windows will open to ensure air circulation and be fitted with fly screens to prevent dirt from getting into the gondolas. "For safety reasons, each gondola will be equipped with an intercom system, which will form a connection between the gondolas and the stations," the CEO says. Furthermore, there will be an infotainment system, providing media, marketing and educational information for passengers, including best practice for safety and hazard prevention. "A few gondolas will be fitted with a glass bottom," according to Hansen-Carlsen. The energy needs of the gondolas will be met by individual solar panels.

□ ***Jeffrey Hansen-Carlson, CEO Prairie Sky Gondola***
"The key to our project is the storytelling. The cable car conveys the culture and history of the indigenous peoples and, at the same time, creates an experience for locals and guests. Prairie Sky Gondola and its stations will also make a significant contribution to the city development of Edmonton and improve the lives of residents. In general, I believe that there is great potential for urban cable cars in Canada."

Funding

The cable car will be privately funded and not paid for by the taxpayer. "The operating costs will be covered 75 percent by tourists and 25 percent by commuters, even though each group will respectively account for half of the passengers," Hansen-Carlsen emphasises the social fairness to the local population. Talks are currently being held with Edmonton Transit Service to integrate the cable car into the charging structure and transportation network.

Outlook

Moreover, Prairie Sky Gondola is in negotiations with the City of Edmonton and the Alberta provincial government, about the leasing of 42 sites for the towers and stations. A transportation impact assessment and business review have already been conducted and confirmed that Prairie Sky Gondola is financially sound.

"Steer Group, a globally renowned consulting company, has checked and confirmed the projections for passenger numbers and the business case of Prairie Sky Gondola, and given assurance that the project is necessary and feasible," Hansen-Carlsen adds.

In 2022, once again, there is plenty on the agenda: the environmental impact assessment, re-zoning, support and station design, as well as a robust engagement of the general public and indigenous people. Prairie Sky Gondola will offer a unique and unparalleled experience when it floats through Edmonton in 2025. *ts*