

# WIR

The Customer Magazine of the Doppelmayr/Garaventa Group Issue 3/2015

 Doppelmayr®

  
GARAVENTA

40<sup>th</sup> Year/No. 197

## Highlights in the city

Urban ropeways bring new possibilities for mobility

## Customized innovation

Unusual cabins on aerial trams incorporate state-of-the-art fittings

## Eye-catcher at airport in Doha

New Cable Liner from DCC features impressive design and technology



### One ropeway or 2,000 cars?

From Singapore or Istanbul to Oakland: These cities and many others are already benefiting from the advantages of an urban ropeway. Eco-friendly, using a dedicated route, virtually noiseless, no waiting times – what more could you wish for?

### Even nicer than flying

Rotating cabins with 360° panoramic views, open-top cabins with sun deck, or cabins with heated seats, flooring and windows – all this is possible with custom-design aerial tramways.



## Landing in the future

...that's the impression passengers at the new airport in Doha will get when they see the futuristic glass-roofed Cable Liner. It runs noiselessly, carrying passengers above the check-in desks inside the terminal building.



## Doing a professional job – with the right tools

In the new tool catalog, Doppelmayr presents a range of specialist tools and equipment for working safely and efficiently on ropeway installations.

## Working together to create new ideas



Once again, the Interalp show in Innsbruck was a big success for the Doppelmayr/Garaventa Group. The 40<sup>th</sup> edition of the exhibition attracted some 23,000 trade visitors from 80 countries around the globe. Over 90 percent of them visited our stand to find out about the latest 3S developments, try out our chair models, discover the latest from the world of CWA cabins or exchange views with our customer support staff. As in previous years, we demonstrated our ability to deliver top performance and the importance we attach to personal contacts with our customers.

In our core market, which is the winter business, we set a high benchmark. New ideas and the ambition required to turn them into reality strengthen our position as innovation leader. The Pardatschgrat 3S with all its technical highlights such as the carriage wheel generator is an impressive case in point. Projects like the Skyway Monte Bianco also set new standards. The new chair suspension, already in use on the Aualm lift, brings even greater ride comfort for guests. We work with passion, confidence and professionalism to satisfy, if not to exceed, our customers' expectations. Quality based on state-of-the-art technology is a prerequisite for achieving that aim.

At the present time, we also see great potential in the urban environment, where ropeways are becoming a means of public transport. This is an entirely new application for our products and services, and consequently involves a new set of requirements. We work with our customers to enhance the quality of life for city dwellers. Whether it's an airport shuttle in Doha or gondola lifts in the Andes, our rope-propelled systems offer impressive solutions – as borne out by the many successful projects worldwide. Set us a challenge! We welcome the opportunity to put our performance capability and implementation strength to the test at any time.

Michael Doppelmayr  
CEO

## At home around the globe: The Doppelmayr/Garaventa Group

International comparisons confirm the position of the Doppelmayr/Garaventa Group as the world's leading ropeway manufacturer. And the figures are impressive: To date, Doppelmayr/Garaventa has built some 14,600 ropeway installations on six continents. Ropeway manufacture takes place at seven production sites. The Group's installations can be found in 89 countries around the globe.

To ensure proximity to our customers and personal service, Doppelmayr/Garaventa already has subsidiaries or agents in 42 countries. | ↴



# 14,600

Installations on six continents

# 42

Countries with subsidiaries and agents



# 89

Countries in which Doppelmayr/Garaventa has built ropeways

# 7

Production sites

## An attraction in its own right

Great Britain's first urban ropeway, the Emirates Air Line in London, was built across the River Thames and opened prior to the start of the Olympic Games in summer 2012. The means of public transport integrated into the urban transport network has proven itself as a highlight for tourists and for commuters.

### Transport for London

TfL is a large organization of approximately 30,000 people that delivers all transport services to London on behalf of the Mayor. It is responsible for Surface Transport (buses & roads) and London Underground and Rail, which includes the underground and overground railway networks, trams, the Docklands Light Railway (DLR) and the Emirates Air Line Cable Car (EAL). | ↴



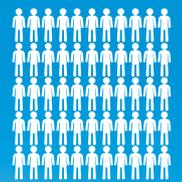
Technical availability



Service availability<sup>1</sup>



Customer satisfaction



1,800,000 Passengers/year

Transport for London officially extended its contract with DCC UK Ltd on May 28, 2015. This means that the operation of the Emirates Air Line has been entrusted to the ropeway specialists for another two years – up to June 2017.

<sup>1</sup> including downtime due to wind, shipping and passengers

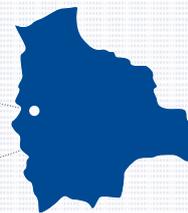


## Foundation laid for Phase II in Bolivia

The laying of the foundation stone for Phase II of the world's biggest urban ropeway project took place in Bolivia on May 23, 2015. In view of the positive reaction to the first aerial ropeway connections between La Paz and El Alto, another six lines – also detachable 10-passenger gondola lifts – are to be added. The official foundation laying ceremony for the Línea Azul (blue line), the first of the Phase II installations, was attended among others by Bolivian President Evo Morales and the mayors of La Paz and El Alto. The Azul and Blanca (white) lines are scheduled to go into service as early as 2017. Doppelmayr is ensuring optimal local assistance for the operating company Mi Teleférico with a customer support team and a spare parts store. The availability of the ropeways which have already been completed is currently 99.7 percent. | 1

**Population of La Paz and El Alto**  
approx. 2,000,000

**Population of Bolivia**  
10,389,903



**No. of passengers carried as of 08.02.2015**



26.8 million

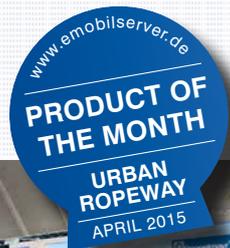
	Lines	Length	Stations	Capacity
Phase I	3	10 km	11	18,000 PPH
Phase II	6	20 km	23	34,000 PPH
<b>Total</b>	<b>9 lines</b>	<b>30 km length</b>	<b>34 stations</b>	<b>52,000 PPH capacity</b>

## Five years of the Koblenz gondola

In June 2015 – i.e. after just five years in service – the gondola lift in Koblenz celebrated its ten millionth ride. Originally, it was envisaged that the ropeway, which was built in 2010 for the Federal Horticultural Show, would remain in operation for a limited period of three years. More than 105,000 Koblenz residents signed a petition in favor of keeping the installation. The lift provides a magnificent view of the UNESCO World Heritage Site known as the Upper Middle Rhine Valley. The positive effect on tourism: Guest numbers in Koblenz have risen by 30 percent since the ropeway opened. | 1

**30 percent up:** Development in guest numbers in Koblenz

**More than 105,000 votes** in favor of keeping the lift



## Accolade

After the i-Mobility show in Stuttgart, the portal [www.emobilserver.de](http://www.emobilserver.de) named the urban ropeway "Product of the Month". | 1



EVO

BOLIVIA ESTAC

# One ropeway instead of 2,000 car journeys

Urban ropeways from Doppelmayr/Garaventa bridge, link and add – they are reliable and relieve pressure on the transport network.

**O**n average, it takes 2,000 automobiles to transport 10,000 people on an hourly basis – or 100 buses – or one ropeway, which glides noiselessly and with minimal environmental impact along a dedicated route above the roofs of the city.

The Doppelmayr/Garaventa Group has been building ropeways for almost eighty years. Today, they are used in winter tourism, as a tourist attraction, to transport materials and as a means of public transport in cities and suburban areas. This great wealth of experience is what makes today's ropeways from Doppelmayr/Garaventa so reliable and attractive. That's why more and more decision-makers and planners see ropeways as the mode of urban transport for the future. The smooth handling of operations that can run for up to 24 hours a day and the safety of this means of transport are factors which are driving its development.

## Enhanced quality of life in cities

When Doppelmayr/Garaventa can complete a ropeway installation in a densely populated metropolis in a matter of months, the advantages are plain to see – and not just for urban planners. Urban ropeways can be readily adapted to harmonize with a city's architecture and integrated into the existing infrastructure. Linking them up with the existing transport network is also a straightforward process. There are virtually no obstacles for the alignment of a ropeway, irrespective of how steep and difficult the terrain might be. Moreover, the ropeway occupies significantly less space in comparison with other means of transport as well as being particularly eco-friendly and virtually noiseless. It provides an attractive, barrier-free transport link, which also works perfectly as a tourist attraction. Thanks to their high level of availability and transport capacity, urban ropeways from Doppelmayr/Garaventa are extremely cost-effective.





**For cities and for industrial, commercial and recreational zones**

Urban ropeway projects develop their own dynamics. Doppelmayr/Garaventa can provide effective support for regional and urban planning professionals right from the planning stage of an urban installation. The company's experts contribute their many years of experience and offer customized services extending far beyond the project engineering and construction of a ropeway. They analyze the traffic situation and advise on the alignment and the most cost-effective, energy-saving and attractive solution as well as on the design of the stations – which act as hubs and lead to the creation of new centers of activity. They know what is required to link industrial and com-

mercial zones with public transport systems, or to close gaps in the provision of access to recreational areas or other traffic zones. They are competent advisers when you need to look at how to reduce traffic congestion. Clients can save considerable costs with the help of the know-how provided by Doppelmayr/Garaventa's experts. As well as opening up new dimensions in mobility, it ultimately enables them to set new milestones with forward-thinking transport policy.

**Attractive means of transport: the path is the goal**

Urban ropeways from Doppelmayr/Garaventa combine two decisive factors: attractiveness and transport. A ride on a ropeway is not only

a punctual and stress-free way to travel – the views enjoyed during the relaxing trip are an added bonus. Passengers also benefit from the high level of comfort offered by modern carriers – and, needless to say, that also applies to wheelchair users as well as passengers with bicycles or baby strollers. Johannes Winter from the Urban Solutions team and head of Operations Services at Doppelmayr Cable Cars sums it up as follows: "Conventional means of transport in cities are subject to a timetable and at the mercy of other road users. A ropeway, on the other hand, runs continuously along its own dedicated pathway. 'Running for the bus' becomes a thing of the past, as do collisions with other road users." [📌](#)



"Get on this cable car immediately! It's beautiful and a stunning piece of engineering."

**Boris Johnson, Mayor of London**

**Examples of urban ropeways from Doppelmayr/Garaventa**



**3S lifts**

The ropeway in Koblenz, Germany's first tri-cable gondola lift and built for the 2011 Federal Horticultural Show, glides across the River Rhine. It has 18 cabins and achieves an impressive transport capacity of 3,800 an hour in each direction.



**Gondola lifts**

Three lines consisting of detachable 10-passenger gondola lifts with an overall length of almost 10 kilometers form the biggest ropeway network in the world linking the cities of La Paz and El Alto. They save time and make life much easier for local residents and commuters.

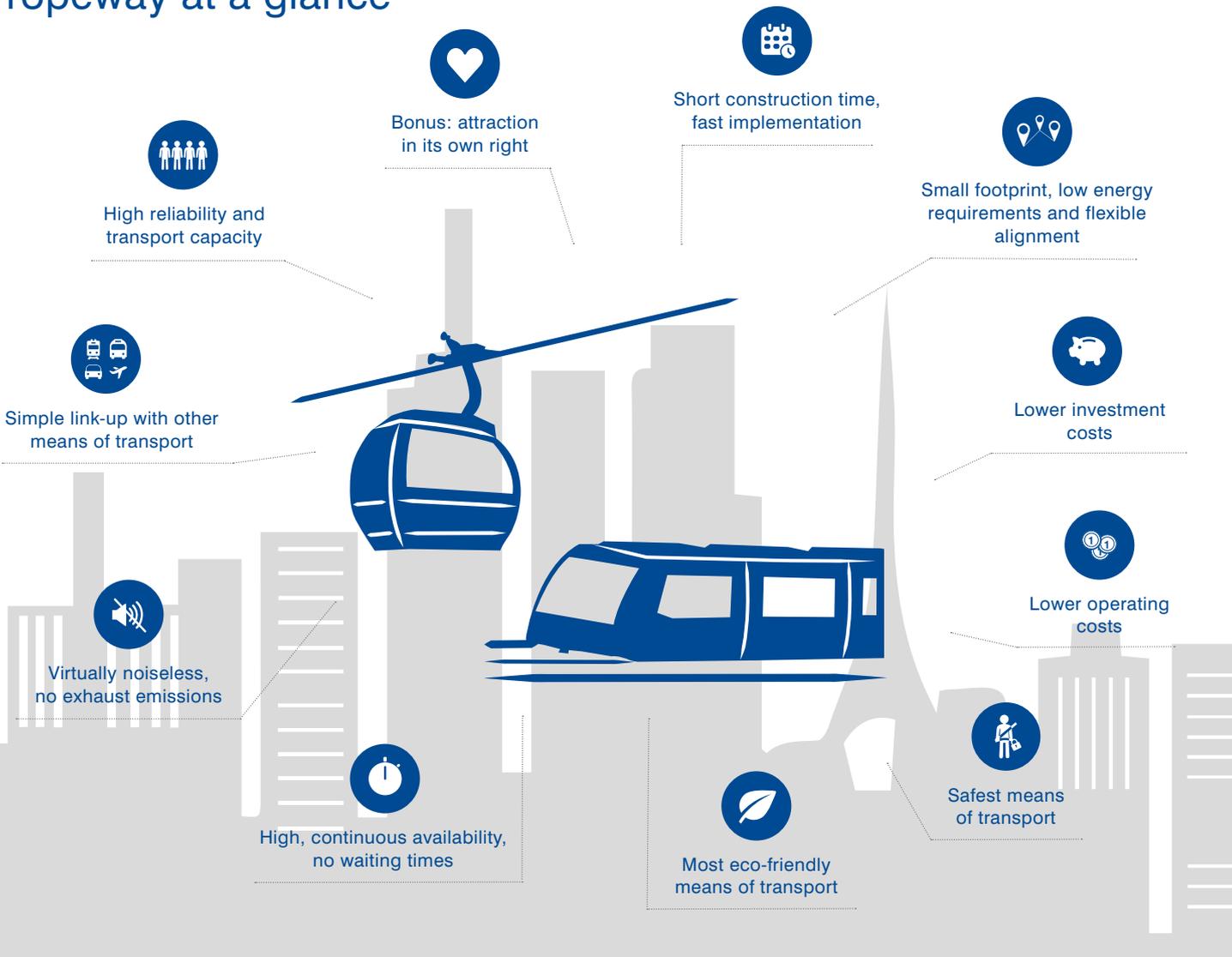
**➤** Video clip of the Koblenz 3S lift



**➤** Video clip of the world's biggest ropeway network



# Benefits of the urban ropeway at a glance



### Reversible aerial tramways

The Marquam Hill aerial tramway in Portland, Oregon, is a public transport system which has carried around 12 million passengers in just eight years, saving some 3.5 million automobile kilometers and approximately 1,000 tons of greenhouse gas emissions in the process.



### Funicular railways

Azerbaijan's capital Baku, which hosted the Eurovision Song Contest in 2012 and the European Games in 2015, has a funicular which runs from the boulevard at the coast up to the Flame Towers where visitors can enjoy superb views.



### Cable Liner®

BART to OAK is the biggest project ever handled by DCC. The Cable Liner® in the San Francisco Bay Area links Oakland International Airport with the Bay Area Rapid Transit system. It operates 20 hours a day with an availability of > 99.5%.

▶ Video clip of reversible aerial tramways from Doppelmayr/Garaventa



# A ropeway is a means of transport and an attraction

WIR spoke with Jeremy Manning, Engineering and Assurance Manager, Transport for London



Great Britain's first urban ropeway, the Emirates Air Line (EAL) in London, is integrated into the urban transport network and has proven itself as a highlight for tourists.

**WIR.** The 10-passenger gondola lift was part of the revitalization project for the Royal Docks and improves access to the district. How did the idea of an urban ropeway arise?

**Manning:** A cable car had been identified as an environmentally friendly option rather than the increased traffic and pollution generated by another road bridge. It became a reality when the idea gained the full support of the Mayor of London. The solution was considered to be unique and innovative. As well as being a valuable link in the transport network, it would also provide spectacular views of London's skyline.

The EAL was built to provide an additional crossing point of the Thames in East London, an area that will see thousands of new homes built as well as retail and entertainment venues and new businesses. It opened after a very short construction phase of just one year.

**WIR.** After only two months of operation the ropeway had already recorded one million passengers. Where are we today?

**Manning:** On June 28, 2015 we celebrated our third birthday, having reached a figure of 5.5 million passengers carried, and the upward trend continues. Our customer satisfaction score averages out at 93%, which is higher than any other TfL business. A Trip Advisor certificate of excellence confirms this. Our good reputation by having the highest standards of safety and reliability is extremely important to TfL. In this respect we have been fortunate to be working with Doppelmayr

**WIR.** During the first two years of operation, the EAL reached a technical availability of 99.93% and is, thus, the most reliable transport system in London's urban traffic. How do you rate the potential of urban ropeways in Europe?

**Manning:** In London we have demonstrated that an urban ropeway is a safe and reliable mode of transport that is very popular. A ropeway can be constructed and brought into

operation quickly, offering flexibility in design to suit a range of requirements in terms of capacity and route whilst imposing a minimal footprint on the ground.

The majority of our downtime is due to high winds. We also close as a safety precaution when a long ship of more than 130 m passes under the ropeway. Technical availability is excellent with > 99.9% being the normal.

An urban ropeway would provide a solution to any city that was looking for an innovative and cost-effective addition to their transport network, particularly for cities that attract large numbers of visitors or could offer panoramic views. They have the potential to not only solve a specific transport problem but become an attraction. Significantly, they can achieve this in an environmentally friendly way without creating further pollution. I would very much welcome the opportunity to openly share our experiences with other urban operators in the business. 

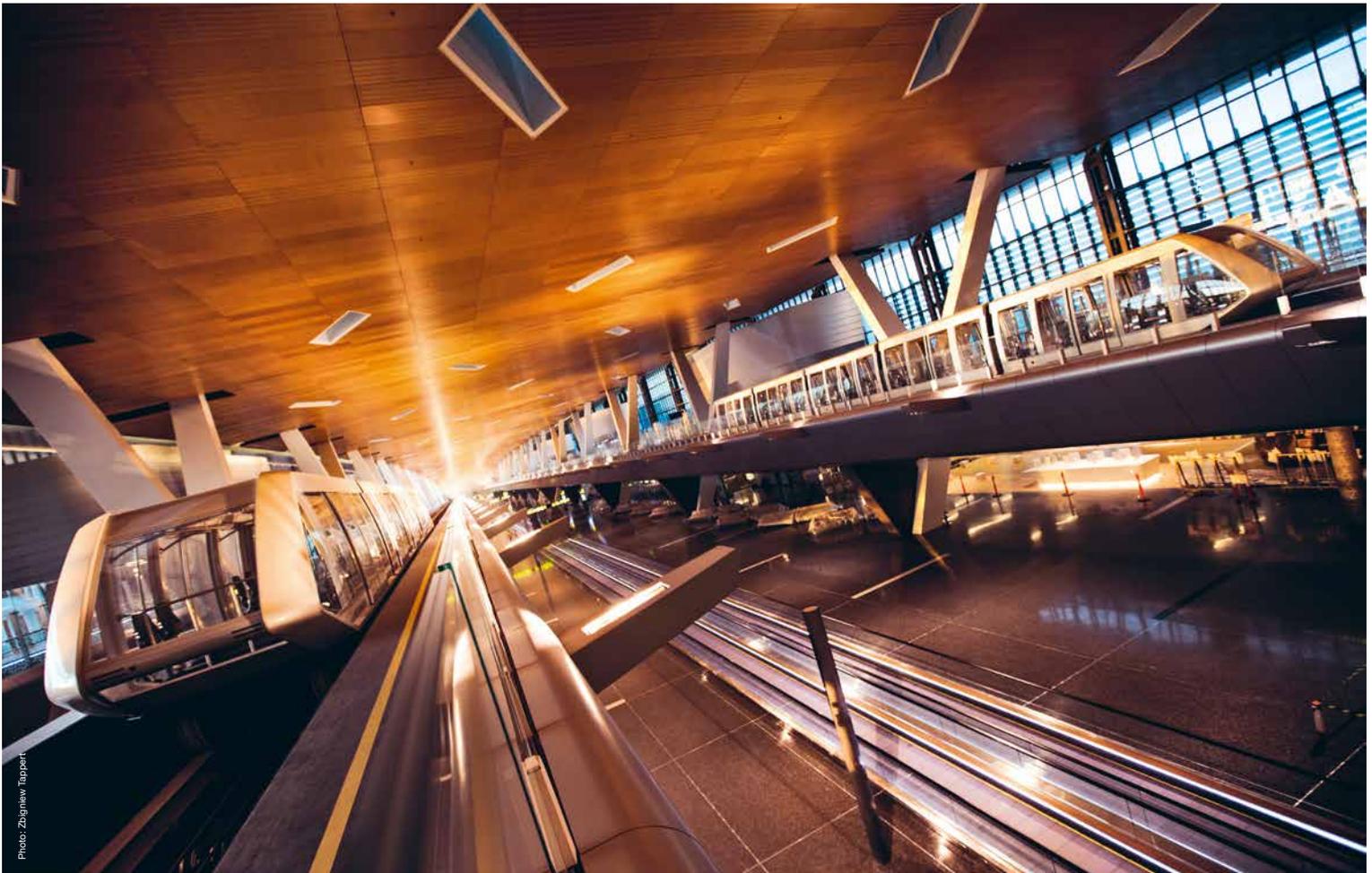


Photo: Zbigniew Rajpert

## Unique eye-catcher for the new airport in Doha

A rope-propelled DCC Cable Liner at one of the biggest international transport hubs

Doha's new Hamad International Airport creates an important new transport hub in the Middle East. The airport is expected to handle 50 million passengers a year and become the central hub for long-haul flights. Passenger flows between the terminals are optimized by a feeder system supplied by Doppelmayr: a customized Cable Liner Double Shuttle with glass roof. The futuristic cars designed by CWA run inside the terminal building above the check-in desks – moving noiselessly above the heads of the passengers. DCC was awarded the contract because this rope-propelled, track-bound system was the only one which met the requirements of the owner in terms of noise level, costs and flexibility. "In this particular case, it

quickly became obvious why our Cable Liner scores so highly in comparison with conventional vehicle-driven transport systems. They're whisper-quiet and emission-free," explains DCC's CEO Markus Schrentewein

**24-hour availability including team on call** DCC guarantees round-the-clock availability. The Hamad International Airport Shuttle operates 24/7. This is made possible by two independently driven trains. As in the case of other projects, DCC will also be responsible for system operations once the shuttle goes into service and is currently conducting on-site personnel training to ensure safety and availability. | [↓](#)



First indoor Cable Liner® (quiet/emission-free)



Completion and commissioning during on-going airport operations



Newly developed vehicle air suspension for even greater ride comfort



Hamad International Airport Shuttle

Owner	<b>Hamad International Airport</b>
Location	<b>Doha (QAT)</b>
System	<b>DCC Cable Liner® Double Shuttle</b>
Length	<b>500 m</b>
System capacity	<b>6,000 PPHPD</b>
Speed	<b>45 km/h</b>
Headway	<b>110 s</b>
Train capacity	<b>190 passengers/train (5-car trains, 38 passengers/car)</b>
Guideway	<b>Steel track on concrete truss</b>

# Even nicer than flying

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Innovative aerial tram cabins guarantee  
breathtaking rides



Innovations give cities and regions fresh appeal. The Doppelmayr/Garaventa Group thinks ahead and provides effective support for its customers when implementing new technological developments. Working closely with cabin manufacturers enables the ropeway specialists to satisfy every customer wish with individually developed ultramodern cabins – and to give guests a unique ride experience.

A reversible aerial tramway provides mobility in cities, crossing hills, valleys and rivers with ease. Unsupported rope spans of up to three kilometers in length are possible. Passion and innovation capability ensure that Doppelmayr/Garaventa always creates a special experience for ropeway passengers. For that reason, tram cabins are available in a range of designs and sizes – including custom versions. In technical terms, they leave nothing to be desired – the striking visual impression makes the aerial tramway a true magnet for visitors. | [↗](#)



## Aerial tramway projects with special cabins (extract)



### Piz Val Gronda, Ischgl (AUT)

Most passengers using the Piz Val Gronda tram for the first time are surprised to see that both of the tram's cabins are "upside down". At the request of the customer, the entire cabin design was literally turned over 180 degrees. This is also the first tram to be fitted with heated seats.

Manufacturer CWA  
Capacity 150 passengers/cabin



### Stand – Titlis, "New Rotair", Engelberg (CHE)

The Rotair on the Titlis made history in 1992 as the first ropeway with rotating floors in the cabins. A new cabin has recently been installed which revolves 360° about its own axis. This enables passengers to enjoy a unique panoramic view of the glacier landscape as well as giving them more room and greater comfort.

Manufacturer CWA  
Capacity 75 passengers/cabin



### Marquam Hill, Portland (USA)

The cabins have a light and airy feel which combines perfectly with the elegant architecture of the terminals in the heart of Portland. They reflect the sunlight and float like "soap bubbles" along the one-kilometer route from the university campus on the hill to the parking lot further down.

Manufacturer Gangloff  
Capacity 78 passengers/cabin



### Fräkmüntegg – Pilatus Kulm, Lucerne (CHE)

The striking cabins are reminiscent of a cockpit and aerodynamic in design. Passengers can enjoy panoramic views from their seats thanks to the all-round glazing. This creates the sensation of flying while taking in the breathtaking sights.

Manufacturer CWA  
Capacity 55 passengers/cabin



### CabriO® Kälti – Stanserhorn, Stans (CHE)

A spiral staircase in the double-decker custom-design cabin gives passengers access to the sun deck from the lower floor. On top, visitors have a completely unhindered all-round view and experience an entirely new ride sensation.

Manufacturer Gangloff  
Capacity 60 passengers/cabin



### Skyway Monte Bianco, Courmayeur (ITA)

The cabins on the Skyway Monte Bianco provide passengers with a 360-degree view. As well as completing a full rotation about their own axis during the trip, the cabins are the first to be fitted with floor heating as well as heated windows to prevent icing. Views of the natural world below the cabin are shown on video screens.

Manufacturer Carvatech  
Capacity 80 passengers/cabin

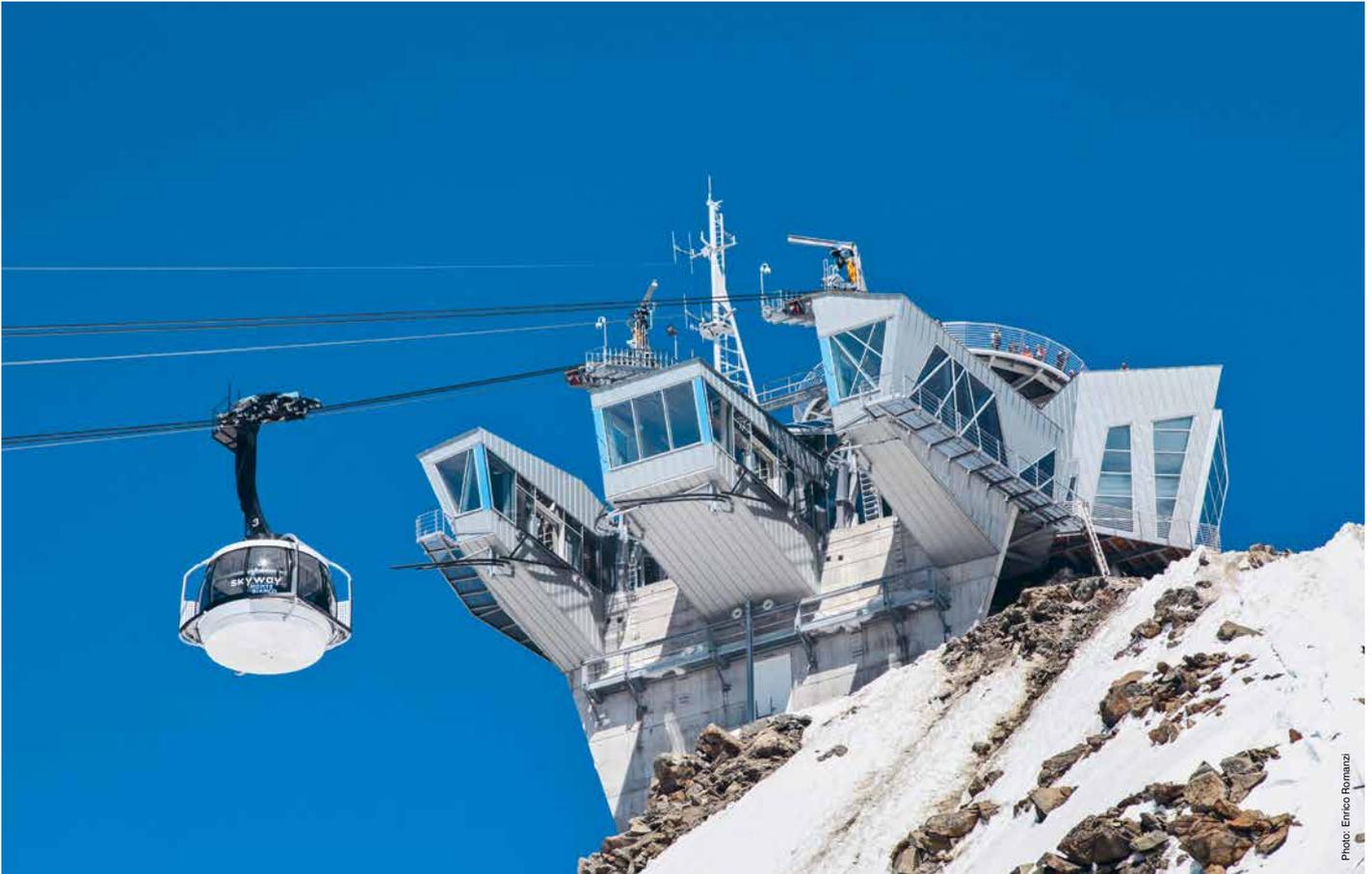


Photo: Enrico Romanzzi

## 360° mountain panorama on the Skyway Monte Bianco

The new aerial tramway with rotating cabins is a technical highlight and a magnet for visitors.

Monte Bianco (Mont Blanc) on the Franco-Italian border is regarded as Europe's highest mountain and every year provides the destination for many thousands of tourists. Since June 2015, the massif in Aosta has had another unusual attraction to enhance its appeal. A new aerial tramway takes visitors up to an elevation of 3,500 meters and enables them to enjoy the spectacular scenery along the route.

The new tram is known as the Skyway Monte Bianco and replaces an older installation which covered the route in three sections and had been in operation for four decades. The connection between Courmayeur in Aosta and the Pointe Helbronner now consists of two sections. The tram climbs 2,200 vertical meters over the total length of 4.3 kilometers. The terminals themselves cover their energy requirements from a mix of photovoltaics and a heating installation with heat recovery. In addition, a regenerative braking system captures energy in the form of electricity from the cabins traveling downhill and feeds it back into the network.

The specially developed cabins feature panoramic windows and rotate 360 degrees during the trip, giving a unique view of the four-thousand-meter mountains. The cabin interior incorporates ultra-modern fittings and leaves nothing to be desired. 



"We are very proud to have built one of the most attractive tramways in the world, set against the stunning backdrop of Mont Blanc and Courmayeur to complete the picture. The large numbers of tourists who visit here every day also confirm that this is a fantastic achievement." | **Roberto Francesconi**, CEO of Funivie Monte Bianco S.p.A.



### 80-ATW Skyway Monte Bianco

Owner	<b>Funivie Monte Bianco S.p.A. (ITA)</b>
Location	<b>Courmayeur (ITA)</b>
Inclined length	<b>4,300 m</b>
Vertical rise	<b>2,200 m</b>
Terminals	<b>Pontal d'Entrèves (1,300 m) Pavillon du Mont Fréty (2,200 m) Pointe Helbronner (3,500 m)</b>
Speed	<b>9.0 m/s</b>
Capacity	<b>800 PPH (first section) 600 PPH (second section)</b>
No. of cabins	<b>4</b>

## Annaberg provides easier access to the Dachstein West ski area



### 8-MGD Donnerkogelbahn

Owner	<b>Bergbahnen Dachstein West GmbH</b>
Location	<b>Annaberg-Lungötz, Astauwinkel, Riedlkopf (AUT)</b>
Inclined length	<b>1,985 m</b>
Vertical rise	<b>608 m</b>
Speed	<b>6.0 m/s</b>
Carriers	<b>58 cabins, 8 passengers each</b>
Trip time	<b>6.9 min</b>
Start-up	<b>December 2014</b>
Official opening	<b>January 2015</b>

Marcel Hirscher's home ski resort presents its new Donnerkogel lift.

Doppelmayr has built the new two-section Donnerkogel lift in Annaberg, which is part of the Dachstein West ski area. The detachable gondola lift brings guests direct from the Annaberg Astauwinkel parking lot up to the family ski resort at an altitude of 1,475 meters and replaces the Riedlkar double chairlift built in 1981. The gondola lift is two kilometers long and has a capacity of 2,000 passengers an hour.

The rope loop for the lower section is propelled by the reliable, low-maintenance and exceptionally quiet Doppelmayr Sector Drive (DSD) in the bottom station. In the intermediate station the rope runs over a twin-grooved bull wheel

which in turn drives the upper rope loop. Operations are assisted by a remote maintenance system. Despite the challenges involved with the very steep terrain in the upper section, construction was completed in just five months. | 

#### Convenient access to extensive practice terrain

"Several challenges had to be addressed when building the Donnerkogel lift in Annaberg. In view of the fact that the locations of the top and bottom stations of the old double chairlift were not ideal and the lift line had to be moved, we had to provide a new way of accessing the practice terrain. For that reason the Donnerkogel lift was built with a mid station. This now means we have an ultramodern means of reaching our extensive new practice area, offering all beginners comfortable and convenient access. This last winter season

has proven the success of the mid station. All (regular) guests are smitten with the solution. And what's more, we now save on the two surface lifts that were previously needed." | **Barbara Kronreif, Managing Director of Bergbahnen Dachstein West GmbH**



## The world's longest aerial ropeway



Doppelmayr/Garaventa is to build a 3S lift stretching over six kilometers on Vietnam's highest mountain.

At 3,143 m, Mount Fansipan ranks as Vietnam's highest peak – and most Vietnamese hope to visit the "Roof of Indochina" once in their lives. It is here that Doppelmayr/Garaventa is building a world record ropeway – a spectacular 3S lift up to a high plateau near the summit – which will bring the mountain communities and tourists closer together. Construction of the future all-year ropeway installation near the Chinese border is going ahead under ar-

duous conditions. Only the base station can be reached by truck; access to the top station involves a two- to three-day trek on foot, making it difficult to carry tools and equipment.



The entire excavation work for the towers and stations is being performed manually using picks and shovels. Working together with local labor under challenging weather and terrain conditions, the Doppelmayr/Garaventa teams are achieving a remarkable feat. The very constructive and uncomplicated collaboration between Doppelmayr/Garaventa and the customer Sun Group has already delivered half a dozen ropeway installations. In Ha Long Bay to the east of Fansipan, they are currently working together on another sensational project, which we shall be reporting on in a forthcoming issue. | 



## Sentosa uses ropeways to provide eco-friendly mobility



Singapore’s popular resort island has expanded its infrastructure to include its second cable car system.

With 20 million visitors to Sentosa Island in Singapore, the new Sentosa Line featuring a detachable 8-passenger gondola system will go a long way in facilitating the convenient commute of island visitors to key attraction zones. As an emission-free means of transport for the tourist destination, the ropeway helps to reduce its carbon footprint while ensuring a balanced distribution of visitors over the island. It is an impressive trip across jungle, beach and sea and gives riders a bird’s eye view of all the various action and experiences happening on the ground below. The ropeway is not only a welcome alternative to the diesel buses but adds a burst of color to the Sentosa skyline with CWA’s eye-catching cabins in five different colors.

Together with the existing Mount Faber Line, which has transported visitors from Faber Peak Singapore across the highway and harbor and into Sentosa Island since 1974, the two cable car systems form the Singapore Cable Car Sky Network. The new Sentosa Line will connect

guests to three new stations (Merlion, Imbiah Lookout and Siloso Point) and main attraction clusters in Sentosa Island. The existing Mount Faber Line was built by Doppelmayr in 2010 and ‘flies’ visitors between Faber Peak Singapore and Sentosa Island for leisure, attraction hopping or dining on a hilltop. In 2005, Doppelmayr also built a chairlift as part of the Sentosa Skyline and Luge attraction. 

“The new Sentosa Cable Car line will add great value to our guests riding on our Cable Car Sky Network. It offers a serene ride over our beautiful island. We expect it will become the preferred mode of transport for our guests. It is also a great complement to our walking trails on Mount Imbiah and Siloso Point.”

**Mike Barclay, CEO**  
Sentosa Development Corporation



### 8-MGD Intra Island Cableway

Owner	<b>Sentosa Development Corporation</b>
Operator	<b>Mount Faber Leisure Group</b>
Location	<b>Sentosa Island (SGP)</b>
Lift type	<b>Detachables gondola lift</b>
Capacity	<b>2,200 PPH</b>
Inclined length	<b>880 m</b>
Carriers	<b>51 cabins, 8 passengers each</b>
Speed	<b>4.0 m/s</b>
Opened	<b>July 2015</b>



## Dragon Ride tramway – the closest thing to flying



Largely built during the winter months, the new aerial tramway brings more room for passengers and higher availability.

The new reversible aerial tramway known as the Dragon Ride replaces its 60-year-old predecessor on Pilatus Kulm in Switzerland. The more spacious cabins with panorama windows and the shorter trip time give the tram higher capacity. It now takes guests just 3.5 minutes to reach the top terminal from Fräkmüntegg. Whereas the “old” tram could carry 480 passengers an hour, the new installation has a capacity of close on 600. The ropeway experts

integrated the larger, modern installation into the existing upper and lower terminals.

The attractive aerodynamic CWA cabins travel safely to their destination even in high winds. In addition, the new tramway features an integrated recovery concept which enables the cabins to be run back to the terminal at any time and dispenses with the need to build a conventional rescue ropeway. The Pilatus tramway went into service after a construction period of just seven months. Most of the building work was performed during the winter. | 1

### 55-ATW Fräkmüntegg – Pilatus Kulm

Owner	<b>Pilatus-Bahnen AG</b>
Location	<b>Luzern (CHE)</b>
Lift type	<b>Reversible aerial tramway</b>
Cabin capacity	<b>55 passengers + 1</b>
Inclined length	<b>1,386.7 m</b>
Towers	<b>1</b>
Vertical rise	<b>646.6 m</b>
Speed	<b>9.0 m/s</b>
System capacity	<b>590 PPH</b>
Cabin design	<b>CWA Constructions SA, Olten</b>

“We installed the Dragon Ride for the most part during the winter months, which is unusual. The unreliable weather conditions and the tight schedule made heavy demands on the ropeway fitters. But despite all that, we were able to complete the project in record time.”

Godi Koch, CEO  
Pilatus-Bahnen AG



## Climb aboard and enjoy in the SkiWelt Wilder Kaiser

The new Aualm lift brings guests to the slopes in the utmost comfort.

Skiwelt Wilder Kaiser – Brixental has invested in the infrastructure and the comfort offered by the resort. Since the 2014/2015 winter season, skiers and snowboarders in Austria’s biggest interlinked ski region have benefited from a new 8-passenger chairlift with a novel comfort suspension. This lift connects the Brixen and Scheffau ski regions and replaces one of the most highly frequented lifts: a 25-year-old quad chairlift used by one million winter sports guests in 2013/2014 alone. The modern Aualm lift ensures that waiting times have become a thing of the past – even on peak days.

The elegant design of the black and red chairs is not the only attractive feature of the new Aualm

lift. Bubbles and heated seats ensure a pleasant trip even in snow or wind. Locking restraining bars with individual footrests, which are automatically released in the top station, provide top comfort and safety for winter sports enthusiasts of all abilities. | 1



### 8-CLD-B Aualm

Owner	<b>Bergbahn Scheffau am Wilden Kaiser GmbH</b>
Location	<b>Scheffau (AUT)</b>
Capacity	<b>3,700 PPH</b>
Vertical rise	<b>290 m</b>
Inclined length	<b>1,038 m</b>
Opened	<b>2014/2015 winter season</b>

“With twice the capacity we had before as well as top comfort, we can now offer our guests an even better ski experience.” | KR Johann Haselsberger, Managing Director of Bergbahnen Scheffau GmbH & Co KG

## Mont Pèlerin accessible for all

Following an upgrade, the funicular railway on Vevey's local mountain is now barrier-free.

The fully automatic funicular Vevey – Chardonne – Mont Pèlerin at Lake Geneva has undergone a complete refurbishment and now offers barrier-free access for all passengers. The new



level compensation drive ensures that the cabins stop in the right position in the stations. Convenient access and operating buttons on the doors are also provided. This smoothes the way for everyone – including those with impaired mobility – to enjoy the spectacular views of the UNESCO-listed wine-growing area of Lavaux, which lies between Lausanne, Montreux and Lake Geneva.

The funicular links up with the urban public transport network of the “Waadtland Riviera” and includes four intermediate stations on its way up to Mont Pèlerin. As well as carrying day-trippers to Vevey's local mountain, it provides access to the village of Chardonne. Both the cabins and the station zones now comply with the new regulations of the Federal Act on Equal Rights for People with Disabilities. | 



### 80-FUL Vevey – Chardonne – Mont Pèlerin

Owner	<b>Transports Montreux – Vevey – Riviera SA</b>
Location	<b>Vevey (CHE)</b>
Lift type	<b>Funicular ropeway</b>
Trip time	<b>11.0 min</b>
Inclined length	<b>1,528 m</b>
Vertical rise	<b>418 m</b>
Speed	<b>4.0 m/s</b>
Interval	<b>13-18 s</b>
Start-up	<b>June 2015</b>
Opened	<b>July 2015</b>



## Gondola lift mobilizes Andean resort

Visitors can reach Colombia's new leisure resort on the Cerro del Santísimo by means of an 8-passenger gondola lift.

The Ecoparque on the Cerro del Santísimo in the mountains of Colombia will gain a new dynamic through the addition of a detachable 8-passenger gondola lift. Doppelmayr was responsible for the manufacture, installation and handover of a turnkey ropeway to the operator and for providing support for the local crew during the first three months of operation as well as the appropriate training. The stand-out feature of the new leisure resort at the top station is a statue of Christ which stands 33 m tall in the center of

the park. Visitor amenities include several restaurants, an open-air stage, an events hall and accommodation.

The mountain resort is an hour's flight from Bogotá and lies high above the city of Bucaramanga, capital of the Colombian province of Santander. More than a million people live in the metropolitan region around the newly created leisure destination. Santander's governor expects the project to boost the regional economy and to attract around two million tourists a year. The gondola lift was officially opened in June 2015 and is the first ropeway in the immediate area surrounding the regional capital. | 



### 8-MGD Cerro del Santísimo

Owner	<b>Gobernación de Santander</b>
Location	<b>Bucaramanga (COL)</b>
Inclined length	<b>1,382 m</b>
Vertical rise	<b>444 m</b>
Trip time	<b>approx. 6.0 min</b>
Carriers	<b>24 cabins, 8 passengers each</b>
Speed	<b>5.0 m/s</b>
Capacity	<b>1,020 PPH</b>
Opened	<b>June 20, 2015</b>

## Le Family as a showcase project in Pyrenees

The French Département Pyrénées-Atlantiques has chosen Doppelmayr for a third time – and set a new benchmark.

The new detachable 6-seater chairlift, and also the first, at the ski resort of La Pierre Saint-Martin is a showpiece. The public owner, the Pyrénées-Atlantiques department, has yet again placed its trust in Doppelmayr France following the successful completion of two lifts, in 2001 and 2006. The ropeway specialists took charge of everything from the planning stage through to start-up and will be providing ongoing support for the operator.

Challenges involved with this project included the karst landscape of the Pyrenees, which

made it necessary to anchor the towers directly in the rock without a foundation, and the changeable damp, foggy weather conditions. The lift nonetheless opened punctually in December 2014. It replaces a double chairlift plus a surface lift. Individual footrests, automatic restraining bar locking and the RPD safety system for monitoring rope position provide even greater safety and comfort. Le Family sets a high benchmark for quality in the Pyrenees and raises the entire ski area to a new level. | 📌

“Construction work on the lift ran entirely without a hitch and Doppelmayr delivered exactly on time and on budget.” | Jérôme Mitjana, Direction du Développement territorial, Conseil général des Pyrénées-Atlantiques



### 6-CLD Le Family

Owner	<b>Conseil Général des Pyrénées-Atlantiques</b>
Location	<b>La Pierre Saint Martin (FRA)</b>
Inclined length	<b>1,593 m</b>
Vertical rise	<b>402 m</b>
Speed	<b>5.0 m/s</b>
Construction	<b>May – November 2014</b>
Capacity	<b>2,500 PPH</b>
Opened	<b>December 2014</b>



## High capacity with the new Bassetta – Monte Vigo lift

The new quad chairlift can carry up to 500 passengers an hour.

Since December 2014 the new Bassetta – Monte Vigo lift in Trentino has been bringing guests from the ski resort of Folgarida into the surrounding ski centers Marilleva and Madonna di Campiglio. Following a general inspection, the operating company decided it was time to replace the old fixed-grip triple, which had been in service for 30 years, with a new detachable chairlift. The new installation uses the same alignment and achieves a higher capacity, a requirement that had to be met in view of the high passenger volumes. The route length of almost 850 m is covered by the new quad chairlift in three minutes, unlike its predecessor which took seven. This now means an additional hourly capacity of just under 500 passengers.

The lift is located in the heart of the Brenta Dolomites in the expansive ski area Dolomiti di Brenta, where Doppelmayr has already installed a large number of projects. Winter sports enthusiasts benefit from over 150 km of ski trails and 62 lifts. | 📌



### 4-CLD-B Bassetta – Monte Vigo

Owner	<b>Funivie Folgarida Marilleva SpA</b>
Location	<b>Folgarida di Dimaro (ITA)</b>
Inclined length	<b>843 m</b>
Speed	<b>5.0 m/s</b>
Capacity	<b>2,400 PPH</b>
Opened	<b>December 2014</b>



# Doppelmayr Cable Car – professionals in the urban environment

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APM construction, urban ropeway operation and urban business development are the specialist areas covered by DCC.

**A** fast connection to the airport or a link to major transport hubs is crucial for an efficient and attractive infrastructure in any major city. Gliding above the city without any interference from other traffic, the rope-propelled systems offered by the Doppelmayr/Garaventa Group open up a host of possibilities and represent a dream come true for many urban planners.

The urban ropeway solutions provided by the Doppelmayr/Garaventa Group are awakening interest worldwide. Addressing the growing demand for rope-propelled systems and the associated services is the mission of Doppelmayr Cable Car (DCC). DCC plans and builds automated people movers (APMs), takes care of operations for many urban ropeways and also undertakes business development for ropeways in the urban environment.

## APM: the core product of DCC

DCC, a fully owned Doppelmayr subsidiary, plans and builds automated people movers (APMs). These fully automated systems run on special elevated guideways and offer impressive features in terms of efficiency, environmental friendliness and top reliability. In Oakland/California, the rope-propelled vehicles enable passengers to enjoy their journey from the city to the airport from a height of several meters above the ground and at the new Doha International Airport ensure a relaxed trip from terminal to terminal with a service frequency of less than two minutes.

## Trend identified at an early stage

The headquarters of DCC are located in Wolfsburg. From here and another seven sites, a total team of 145 employees works to support customers. DCC was set up by Doppelmayr

in 1996 for the planning and manufacture of APMs and to establish rope-propelled systems in the urban environment. The great demand for ropeways in cities confirms that this was the right decision and has enabled the company to expand its expertise in this area: "Doppelmayr has decades of experience in ropeway construction. DCC leverages this know-how to continue developing products and services for the urban ropeway market," says DCC's CEO Markus Schrentewein.

## Urban ropeway operator

DCC also takes charge of operating urban ropeways on request. Whether it's a Cable Liner or a gondola lift, such as the Emirates Air Line in London, DCC has the requisite know-how for all aspects of running an urban ropeway and can therefore offer the customer an inclusive no-hassle package: from organization

“Rapid urban development means a strong rise in traffic volumes and alternative modes of transport are becoming increasingly important as a consequence. Our ropeways make a valuable contribution toward alleviating congestion and provide an eco-friendly solution.”

Markus Schrentewein, CEO of Doppelmayr Cable Car



## Doppelmayr Cable Car GmbH & Co KG

Founded	<b>1996</b>
Activities	<b>Planning and manufacture of APMs (Automated People Movers – Cable Liner®)</b>  <b>Operations services in conjunction with urban ropeways</b>  <b>Business development for urban ropeways including project development</b>
Sites	<b>UK (2), Canada (1), Qatar (1), Mexiko (1), USA (2), Macau (1)</b>

Want to find out more about ropeways in the urban environment? Please feel free to contact us: [dcc@doppelmayr.com](mailto:dcc@doppelmayr.com)  
Additional information can also be found on our website: [www.dcc.at](http://www.dcc.at)

advice and training of the customer's team to setting up an operating company and the complete running of the ropeway installation. “Our strength lies in being able to find the right solution for every requirement. Our ability to then implement that solution quickly, reliably and at reasonable cost is what sets us apart,” explains Johannes Winter, Head of Operations Services at DCC.

### Business development in the urban sector

As well as being used as a means of public transport in inner-city areas, ropeways are particularly popular as tourist attractions and as an integral part of projects in the leisure sector. The Urban Solutions team at DCC provides information on the individual possibilities and opportunities that urban ropeways can open up. Its role is also to support the entire Doppelmayr Group worldwide with the marketing of urban installations. Whether it's a reversible aerial tramway, a funicular railway, a gondola lift, a 3S lift or a Cable Liner® – DCC will develop the right solution for every project. Markus Schrentewein sums it up as follows: “Our expertise in the customer's environment is what makes the decisive difference when it comes to providing advice. A requirement can involve an urban ropeway or an airport shuttle; we always work intensively with the customer to analyze and understand their operations.”

## Milestones

**Cable Liner® Single Shuttle**  
International Airport Shuttle,  
Mexico City, MEX



**Cable Liner® Double Shuttle**  
Mandalay Bay Tram,  
Las Vegas, USA



**Cable Liner® Double Shuttle**  
Air-Rail Link,  
Birmingham, GBR



**Cable Liner® Double Shuttle**  
International Airport Link,  
Toronto, CAN



**Cable Liner® Double Shuttle**  
MGM CityCenter Shuttle,  
Las Vegas, USA



**Cable Liner® Double Shuttle**  
Hamad International Airport  
Shuttle, Doha, QAT



**Cable Liner® Bypass**  
Tronchetto – Piazzale Roma,  
Venice, ITA



**Cable Liner® Pinched Loop**  
Caracas Cabletren Bolivariano,  
Caracas, VEN



**Cable Liner® Pinched Loop**  
Oakland Airport Connector,  
Oakland, USA





# Doing a professional job – with the right tools

The new tool catalog presents a fascinating array of special tools

**D**oppelmayr Customer Support provides assistance for operations managers and their teams worldwide. The new tool catalog presents a range of special tools and equipment. Some of these have been specifically developed and constructed for working safely and efficiently on ropeway installations.

Conventional tools do not offer all it takes to cope with the work requirements which are specific to ropeways. For this reason, Doppelmayr develops and builds special-purpose

tools which give ropeway technicians maximum safety and help them to perform their day-to-day jobs swiftly and professionally. The most important and the most commonly used tools are now presented in the new tool catalog.

#### Clear overview

Having the right equipment not only boosts the competence of personnel but also helps to reduce running costs. The tool catalog provides a clear overview of special tools which are key for the various jobs to be performed on a ropeway and outlines their purpose along with

any accessories or associated articles. The complete updated and extended range covers further applications. All the items are available 24/7 and worldwide on the Doppelmayr service platform: [service.doppelmayr.com](http://service.doppelmayr.com). 

#### Milling tool for removing bull wheel liners



Example from the catalog

This device can be used to cut a groove in the rubber to make it easier to lift and remove the rubber liner from the bull wheel. This makes much lighter work of liner removal. The tool is available to order.

#### Direct contact for special tools

The new tool catalog and any other information required in this connection can be obtained from Richard Moosbrugger: [richard.moosbrugger@doppelmayr.com](mailto:richard.moosbrugger@doppelmayr.com) or on +43 5574 604 1040 as well as at [aftersales@doppelmayr.com](mailto:aftersales@doppelmayr.com)





## Welcome to the management team

Thomas Pichler will be joining the management team of Doppelmayr Seilbahnen GmbH in Wolfurt as of September 1, 2015. The designated successor to Michael Doppelmayr was born in South Tyrol and will be focusing on the areas of sales and technology. From the fall, the management team will therefore comprise Michael Doppelmayr, Hanno Ulmer, Anton Schwendinger and Thomas Pichler.

Thomas Pichler has been working for the Group for 26 years and most recently as sales director and deputy managing director of Doppelmayr Italia GmbH. He brings extensive know-how of the ropeway sector to his new role. In addition to his work in sales, Thomas Pichler possesses experience in project management for major contracts, in tender management and in the areas of project finance and operating licenses. 

### Ropeway Course

## Academic ropeway know-how on the way up



The master's program for ropeway specialists, which goes under the title "Ropeway Engineering & Management", has been offered at the Vorarlberg University of Applied Sciences and Schloss Hofen in cooperation with the Doppelmayr Group since 2013. The course has already proven successful and will be getting its second intake of students this fall. The academic studies combine practice and theory, and cover all areas in compact form – from complex ropeway engineering know-how through to solid business expertise. Students have the option of studying engineering or management in greater depth. "The goal of this university

course is to offer a specific academic course of study for the entire ropeway industry. In this respect, the ropeway course is aimed at both managers and technicians," explains MMag. Rainer Längle MPH, director of studies at the Schloss Hofen training center.

Christoph Hinteregger, technical director and member of the board of Doppelmayr Seilbahnen GmbH, adds: "Professionals from our company and other experts from the German-speaking ropeway industry provide the students with first-hand knowledge of engineering and management in our specific field." 



### The world of ropeways in pictures

As quality, technology and market leader in ropeway construction, Doppelmayr/Garaventa operates worldwide. Its transport systems set benchmarks. Thanks to the Group's know-how, pioneering spirit and flexibility, projects become reality – for winter and summer applications, in urban and in rural areas. 

 [Link to new image film](#)



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[www.doppelmayr.com](http://www.doppelmayr.com)

## First-class service

Safety, comfort and optimal quality are the defining features of ropeway installations from Doppelmayr/Garaventa. They are also the aspirations which drive our customer support team. With competence, dedication and an extensive range of services, the employees in our close-knit network are there to provide assistance for our customers. This enables us to guarantee fast, reliable and professional support for all Doppelmayr/Garaventa ropeways worldwide.

In the interests of long-term success and optimal results in terms of availability and operational safety, we constantly strive for a comprehensive offer and an all-embracing service strategy. Precision problem-solving whenever you need it is the service you can depend on from Doppelmayr/Garaventa customer support. Your trust in our capabilities, products and services motivates us to provide you with top performance every time. As your partner we take pride in our reliability.

[service.doppelmayr.com](http://service.doppelmayr.com)



... to partners.



From customers ...