September 2008 No. 176 • 33rd Year





A RopeCon installation carries gold ore from the interior to the coast on Simberi Island in Papua New Guinea. p.20



The Sölden experience Jakob Falkner and Bergbahnen Sölden have big ideas. p.4 Continuous modernization in Andorra One 6-CLD goes into operation on the Pic del Cubil. Another is to follow. p.8 Poland's first 8-MGD Doppelmayr erects the first Polish 8-MGD in the Giant Mountains. p.12 New ski resort in Northwestern Siberia Doppelmayr delivers a combined 4/8 lift. p.14 Major contract in the Caucasus Five Doppelmayr lifts are operating in Gudauri, Georgia. p.15 Key competence in hot-dip galvanizing Doppelmayr sets the international benchmark. p.22 2008 sees the start-up of 15-passenger gondola lifts in three Algerian cities as part of the urban transport network. Other cities are to follow. p.6



Magazine for Customers and Employees

# A new boost for Rangger Köpfl



Bergbahnen Oberperfuß has vastly improved the ski and hiking area on Rangger Köpfl with the construction of the new 8-seater gondola lift.

The new 8-MGD Peter Anich - named after the famous cartographer (1723 -1766) from Oberperfuß – provides access to the charming ski resort of Rangger Köpfl. It lies between altitudes of 1,000 and 2,000 m, has four surface lifts, 17 kilometers of ski trails (including two kilometers which are illuminated) plus a toboggan run, and attracts daytrippers from Innsbruck as well as tourists from Holland (60 percent) and Germany (30 percent). The village of Oberperfuß itself offers 500 beds and has a significant catchment area. The resort's gentle slopes make it particularly popular with families. And the lift prices are also very family-friendly, as Managing Director Alois Loidl is quick to point out. He was responsible for planning and building the new lift which is owned by the municipality. The prime movers behind its construction were the Mayor, Ewald Spiegel, and Peter Paul Schmid, Chairman of the local council's Lift Committee.

# Summer operation for the first time thanks to the gondola lift

The 8-seater gondola lift went into service in mid December 2007. It largely follows the same route as the old double chairlift. The top station of the previous lift was pulled down and the bottom station rebuilt. This houses the cash desk, offices, toilets, service rooms and – as its crowning glory on the top floor – a circular ski bar with an awesome view of the far-reaching Inn Valley. The gondolas are parked in the stations.

# Gondola lift provides the ideal solution

For Oberperfuß, a gondola lift proved to be the ideal solution: first because it's a convenient way to travel for parents with children, and second because it can also carry toboggans. The toboggan run, a ten-kilometer forest track which is



illuminated most of the way, leads downhill from the restaurant at the top station. When the snow conditions are right, there are as many tobogganists as skiers, around 1,000 a day. In addition, the illuminated track enables people to head for the mountain after a day's work.

### Designed for further expansion

The lift was built within a short time frame: the initial planning permission hearing was on October 4, the approval hearing on December 18. Doppelmayr was responsible for the mechanical and electrical equipment, while the lift operating company took charge of the building construction and tower foundations. Designed for the addition of a second section at a later date which would go up to the top of Rangger Köpfl, the lift provides a sound basis for the future.





As Managing Director, Alois Loidl was responsible for the installation of the new lift. The gondola lift has since proved very popular with winter and summer guests alike.

8-MGD Peter Anich	
Transport capacity	1,515 PPH
Trip time	5.2 min
Speed	6.0 m/s
Cabins	22
Interval	19.0 s
Inclined length	1,535 m
Vertical rise	512 m
Towers	11
Drive	Тор
Tension	Bottom

The bottom station of the 8-MGD Peter Anich lies just outside the village at an altitude of 851 m, the top station is at 1,363 m. 2008 is the first year that a summer service has been available in Oberperfuß, much to the delight of families and day-trippers.

### Our everyday task

During February/March 2008, a wellknown market research organization conducted 180 interviews in 18 countries as part of our large-scale customer satisfaction survey. Owners, CEOs and senior managers from 173 ropeway operating companies readily agreed to take part. Companies with no Doppelmayr/Garaventa lifts were also included. The fact that 90 percent of the people approached were willing to participate in an interview is sensational and proves the close relationship we enjoy with our customers. Our sincere thanks go to everyone involved in this project.

The survey revealed very good satisfaction scores and confirms our clear pole position as technology, innovation and quality leader in the international ropeway market.

But that's no reason to rest on our laurels. On the contrary, it should inspire us to do even better. We take all suggestions and criticism very seriously, and are already looking at ways to improve.

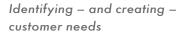
Michael Doppelmayr

# Jakob Falkner: The Sölden experience



For many years, Managing Director of Bergbahnen Sölden Jakob Falkner has held steadfastly to his belief: "The vacation must be an experience for our guests!" – And, for a resort like Sölden, which specializes in snow vacations, ropeways play a key role. Jakob ("Jack") Falkner can't remember how long he's been Managing Director of Bergbahnen Sölden. "It feels like forever," he grins.

He certainly didn't start out at the top, but at the cash desk in the Giggijoch Restaurant and at the ski pass cash desk in Hochsölden. Then he worked his way up. But being so well-known on the ski scene is no big deal: "I'm the front man because I'm the managing director. However, Bergbahnen Sölden belongs to several families from the region. We have around 50 shareholders." – Seilbahnen Sölden operates exclusively with domestic capital.



For Jakob Falkner, it is particularly important to respond to and create customer needs. As he likes to point out, a lot of ski resorts have high mountains. Not so many have glaciers. Even fewer have glaciers and snow-making in a high-altitude area. And having three "three-thousanders" with three large ropeways and the ultimate viewing platforms in the ski resort as Sölden does is something which is quite unique and has to be communicated.

### Putting natural resources to optimal use

Whether in print or online, these attributes form the key marketing message: "As Austria's number one ski destination, Sölden has three 3000ers to offer, also known as the BIG3, which can be accessed by ultra-modern ski lifts."

But where would the BIG3 be without the right infrastructure and the friendly staff working in hospitality or on the lifts? Bergbahnen Sölden employs 500 people and they all have to meet the quality expectations of the guests. Self-evident perhaps, but for Jack Falkner a crucial area where there can be no compromises.



A staunch Doppelmayr fan: Jakob Falkner, Managing Director of Bergbahnen Sölden

### High quality standards – therefore Doppelmayr lifts

He also demands high quality standards when it comes to lift installations. Sölden has 32, with a total hourly capacity of over 65,000 passengers. But that alone is not the decisive factor. What is important is making sure that the lifts match the capacity of the ski trails and restaurants, that they meet the very latest standards and offer maximum comfort.

Jack Falkner sees no need to underline the fact that Doppelmayr lifts satisfy these criteria. He has only ever bought lifts from Doppelmayr.

### The "soft factors" are also important

Last but not least, Jack Falkner sees modernity and a focus on the "soft factors" as the key to success. In other words, all the peripheral amenities. You have to provide the guests with everything they want 24/7: restaurants offering every level of culinary experience, music events, ski races, "choreographed" ski demonstrations by up to 100 ski instructors on illuminated slopes, etc. These are the things that keep Sölden on the success path.

Being successful in the winter tourism business in no easy task: "At one time, you



Sölden makes every effort to maintain and raise the ski resort's very high standards. Photo: the Gaislachkogelbahn.

invested to attract more guests. Nowadays, you have to invest a lot of money to maintain your capacity utilization levels."

# New: 8-CLD Giggijoch with orange bubbles

Sölden sets a high standard in every respect. Keeping that standard and raising it here and there call for major invest-

8-CLD-B Giggijoch	
Transport capacity	3,700 PPH
Trip time	4.6 min
Speed	5.0 m/s
Chairs	70
Interval	7.8 s
Inclined length	1,232 m
Vertical rise	316 m
Towers	12
Drive	Bottom
Tension	Bottom

ments. Not an easy matter.

But Jack Falkner remains undeterred. The new 8-seater chairlift with orange bubbles on the Giggijoch will be completed for the start of the winter season 2008/09. It will replace a fixed-grip triple chairlift built in 1982 and, as well as being an eye-catcher, the lift will greatly improve traffic flows and consequently the attractiveness of the ski slopes in this part of the terrain.

In addition, the restaurant is to be refurbished and the ski trails extended. The chairs will be parked in an underground facility in the completely new bottom station.

### Major expansion plans

The expansion plans continue. The lift company intends to build a completely new ropeway, the 8-MGD Center Lift. Its bottom station will be right in the center of town, within reach of the 160-bed 5-star Central Hotel, which also belongs to the lift company. If this project does not get off the ground this year, Jack Falkner will be focusing on the modernization of the Gaislachkogelbahn, a 24-DLM dating from 1988. This would then be replaced by an 8-MGD in the winter season 2009/10.

# Indoor ski center for the Hamburg region

In the meantime, investments are not limited to the Tyrolean resort of Sölden. The Snow Dome indoor ski center in Bispingen, on the A7 between Hamburg and Hanover, was also built by Bergbahnen Sölden. This facility features a 100 m wide, 300 m long ski slope, a detachable 6-seater chairlift and a platter lift (both from Doppelmayr) as well as five restaurants. - The Snow Dome is not just an independent profit center. It is also aimed at whetting the appetites of potential north German skiers for vacationing in Sölden ...



## Urban ropeways in Algeria: huge crowds

This year will see gondola lifts going into service in three Algerian cities<sup>1</sup> – Constantine, Skikda and Tlemcen – as part of the public transport network. Following the opening of the lift in Constantine at the beginning of June, the installations in Skikda and Tlemcen are scheduled to go into operation in the late fall. All three lifts are similar in terms of their construction and role. They differ only marginally in technical design, such as in the angle of the lift line. Their purpose is to act as a feeder, bringing passengers from residential areas to the city center (mid station) and commercial areas, the exception being Tlemcen, where the lift provides access to a local recreation area.

In Constantine, the lift became extremely popular within a short time after completion. Despite the fact that it has initially only been operating from 9 am to 7 pm, 24,000 passengers have been carried on a daily basis. The goal is to operate a regular service between 6 am and 11 pm. (This is roughly four times the average operating hours of a winter sports installation). The operational organization



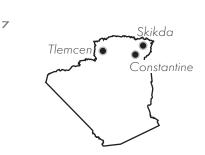
In the Atlas Mountains, gondola lifts provide the ideal transport solution for urban centers with steep as well as narrow streets. Photo: Constantine.

is being successively expanded for this purpose. The lift company first has to train personnel and also wants to gather experience before progressing to the next stage.

### Ideal for built-up areas

The rapid and wide acceptance of the lift installations is largely explained by the explosion in traffic volumes and consequent traffic jams. Moreover, an aerial ropeway provides a much simpler transport solution than road vehicles which have to wend their way through the narrow, winding streets of city centers.

The urban transport company which runs the local buses, Entreprise de Transport Constantine (ETC), is responsible for operating the lift in Constantine. They are assisted by a four-man team from Garaventa consisting of three mechanics and an electrician. Garaventa also acted as general contractor for this project and





The gondola lift is the answer to commuter transport needs.

organized all the civil engineering works including line structures as well as the infrastructure such as cash desk and access system.

### Perfect planning

The planning was perfect. The extreme climatic conditions – which include large temperature variations between day and night as well as flying sand which acts like emery paper – are under control. The only thing that had to be retrofitted was an upgrade of the PA system as the delighted passengers wanted continuous background music. The original equipment was not designed for this purpose. To assist the solar panels, the gondolas were fitted with batteries which are recharged overnight in the stations<sup>2</sup>.

In the meantime, Garaventa is already working on the next urban gondola lift project: The 15-MGD Qued Koriche is scheduled to go into service in Algiers during the course of 2009.

<sup>&</sup>lt;sup>1</sup> WIR Magazine No. 175, September 2007 <sup>2</sup> A comparable power supply system has proved highly successful on the rotating gondola lift Sattel-Hochstuckli, completed in the Swiss canton of Schwyz in 2005.

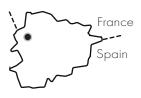
8

## Continuous modernization in Vallnord

In the winter season 2007/08, a detachable 6-seater chairlift went into operation on the Pic del Cubil in Andorra. Another lift is to follow for 2008/09. To date, Doppelmayr has installed a total of 16 lifts in Andorra. The first was a fixed-grip triple chairlift in 1982. The biggest are the Funitel at Encamp (1999), the reversible aerial tramway Pal-Arinsal (2000) and the over two and a half kilometer long 16-passenger gondola lift La Massana.

The ski resort of Vallnord<sup>1</sup>, which local tourism organizations proudly advertise as "Le Mountain Park des Pyrénées",

<sup>1</sup> 1,100 ha ski trails with a total length of 92 km



was created in 2004 through the merger of the Pal-Arinsal and Ordino-Arcalis resorts. Thanks to the gondola lift, the area has also succeeded in making a name for itself across Europe as an all-terrain paradise for mountain bikers in the summer.

### Great customer satisfaction

Last winter saw the opening of the new 6-CLD from Doppelmayr on the Pic del Cubil (2,358 m). It is used essentially to



serve the adjacent slopes but is also an important link connecting the ski trails in Pal with the other sections of the Pyrenean Mountain Park. And it represents another important step towards the future development of the region: "The new lift plays a major role in achieving customer satisfaction," emphasizes José Maria Gelabert, Technical Director of Pal-Arinsal. He goes on to explain that it is "thanks to the high transport capacity of the new 6-CLD that the long waiting times on the old fixed-grip quad chairlift it replaces



have become a thing of the past". In addition, lift users appreciate the enhanced comfort and convenience when loading and unloading.

# Comfort and high capacity are key success factors

Comfort is an important aspect of the region's tourist amenities which are primarily aimed at families, while there is always "something for everybody", as José Maria Gelabert is keen to point out. – Arcalis offers undisturbed natural landscapes to delight the freerider; Arinsal has everything the downhill skier's heart can desire; and Pal is perfect for children and skiers who like a bit more tranquility.

Vallnord successfully caters for the wishes of skiers from many different nations. Half of the guests come from Spain, 15 percent from the UK and ten percent from France. Russians (currently three percent) also account for a growing number of winter tourists.

Doppelmayr France designed the wooden cladding of the UNI-G stations. Doppelmayr Andorra took charge of installing the ropeway equipment including the stations (completed in five months). The building construction and work on the line was the responsibility of the client, EMAP – Estació de Muntanya de Pal, Comu de La Massana.

# Another Doppelmayr 6-CLD under construction

The region is expanding its lift infrastructure. In view of the excellent experience with Doppelmayr, another 6-seater chairlift was ordered. This ropeway will be going into operation at Christmas 2009.







Unanimous agreement (from the left): Miguel Medina, General Director of Pal-Arinsal (Vallnord); José Maria Gelabert, Technical Director of the Pal-Arinsal

sector; Marti Rafel, General Director of Vallnord; Josep M<sup>a</sup> Camp, Mayor of La Massana. "The Doppelmayr lifts fully live up to our expectations." Vallnord is already working on the next 6-CLD project with Doppelmayr because the resort "works constantly to improve the attractiveness and the amenities of the ski region".

The 6-CLD Cubil. The bottom station lies at an altitude of 1,890 m, the top station at 2,346 m.

6-CLD Cubil	
Transport capacity	3,000 PPH
Trip time	4.0 min
Speed	5 m/s
Chairs	83
Interval	7.2 s
Inclined length	1,376 m
Vertical rise	461 m
Towers	14
Drive	Bottom
Tension	Bottom

# First 6-seater chairlift in the Jungfrau region

Jungfraubahn Holding AG erected a detachable 6-seater chairlift with bubbles to replace the Honegg ski lift. The new lift went into service on December 8, 2007. It is the first 6-seater chairlift in the Jungfrau region.



The area covered by the Jungfrau lift network is Switzerland's biggest summer tourism region; it also ranks amongst the country's top five winter tourism destinations<sup>1</sup>. Roughly 60 percent of sales revenues are generated during the summer season.

Doppelmayr/Garay

### Access to super ski slopes

Grindelwald lies at 1,000 m, at the foot of the 3,970 m Eiger. The new lift, which will be used exclusively for winter tourism, provides access to the sunny slopes of Honegg. It replaces a 40-year-old surface lift and frees up the terrain for wider and more attractive ski trails.

The chairs are fitted with bubbles. Compared to the surface lift, capacity has been doubled but nonetheless carefully designed to provide acceptable traffic levels on the slopes, which are now also equipped for snow-making.

This all adds up to a positive experience for skiers, who also enjoy the full benefit of the landscape straight from the lift. The bottom station (1,838 m) lies immediately beneath the world-famous climbing route on the north face of the Eiger. From the top station (2,300 m) – lift users also have a direct view onto the north face.

### Special wooden cladding for the bottom station – additional benefit for the local timber industry

Garaventa's wooden cladding for the stations is seen as a specialty of Berner Oberland (Bernese Highlands) and has been used for various structures in Adelboden over the past few years. This design enables the stations to blend in with their natural surroundings and harmonize particularly well with the alpine huts which dot the landscape.

As well as lending the ski resort a special flair, the use of this material also means that local timber companies can be involved in the projects. For mountain regions, where the building season is often short in the summer, this provides an appreciable economic boost.

The top station was equipped with a standard station enclosure including undercover and automatic weather protection doors which shield the mechanical equipment against drifting snow.

Garaventa was responsible for the electrical and mechanical side of the ropeway equipment; the Jungfrau lift company coordinated all the construction work.

The logistics called for considerable fine tuning as a number of projects were handled simultaneously: the chairlift, the ski bridge and the complete snow-making installations. As a consequence, storage space was very limited on the mountain and equipment deliveries had to be closely coordinated between the various suppliers involved. At the same time, consideration had to be given to the many summer guests in the area. It took ten months from the start of construction to approval of the lift.

### New hub in the Jungfrau region

The popular Honegg at the foot of the Eiger's north face has significantly increased its attractiveness thanks to the new high-capacity lift. Once the 6-seater chairlift between Arvengarten and the

6-CLD-B Arvengarten-Honegg	
2,000 PPH	
6.3 min	
5 m/s	
68	
10.8 s	
1,736 m	
464 m	
14	
Тор	
Bottom	



Top station of the 6-CLD-B Arventgarten-Honegg (above): The lift blends in well with its natural surroundings. As summer tourism generates more revenue than winter tourism in the Jungfrau region, particular importance is attached to minimizing the visual impact on the landscape. Below: Wooden-cladded bottom station from Garaventa.



Eiger Glacier is completed in 2009 (Garaventa was awarded the contract in March 2008), a new hub will have been created in the Jungfrau ski trail network. Three high-performance lifts will then meet at this intersection: Arvengarten-Kleine Scheidegg, Arvengarten-Eiger Glacier and Arvengarten-Honegg; all three installations are from the Doppelmayr/Garaventa Group.

<sup>1</sup> The Jungfrau lift company operates roughly two-thirds of the 44 mountain ropeways in the region.



Christoph Egger, a member of senior management at the Jungfrau lift company: "The new 6-seater chairlift from Garaventa exactly meets our requirements in terms of performance and comfort. It also fits in well with our overall concept for winter operations."

Doppelmayr/Gara

## Poland's first 8-MGD

Doppelmayr built Poland's first 8-MGD in the Giant Mountains, not far from the city of Świeradów-Zdrój.

Nestled between the borders of Germany, Poland and the Czech Republic, the Lower Silesian spa town of Świeradów-Zdrój (also known as Bad Flinsberg), remains a popular health resort to this day. In addition to health cures and hiking, skiing has long been an established pastime in the area. Construction of the new 8-seater gondola lift to the nearby Stóg Izerski, the 1,107 m "Heufuder", will not only increase the appeal of the popular hiking region but also open up a new skiing area.

### Top comfort

Sobiesław Zasada, the investor and owner of the conglomerate Sobiesław Zasada AG<sup>1</sup>, had set itself the goal of making sure its ski resort offers optimal comfort and state-of-the-art equipment. Features include level boarding of the cabins, the wide range of amenities housed in the bottom station and the gondola parking facility next to the bottom station. Snow-making is also available for the new ski trail.

8-MGD Stóg Izerski	
Transport capacity	2,400 PPH
Trip time	7.2 min
Speed	6.0 m/s
Cabins	71
Interval	14.4 s
Inclined length	2,171 m
Vertical rise	443 m
Towers	14
Drive	Тор
Tension	Bottom

<sup>1</sup> Automobiles are the core business. Zasada is Poland's biggest Mercedes dealer, has authorized repair centers for VW and Audi, manufactures buses and special trucks, etc. The group also encompasses other production and service operations, including hotels and leisure centers.





Summer and winter tourism in Świeradów-Zdrój.



The majority of guests are from Poland and Germany. Dresden is just two hours' drive away, Berlin three.

## Ski jump lift

In the Polish winter sports resort of Szczyrk, Doppelmayr installed a double chairlift for the new ski jump facility.

The 2-CLF Skalite has a mid station and underground vault drive. The ski jump towers and the shorter ski jumps are accessed from the mid station. Three jumps were erected in total.

### Well-known alpine skiing region

Szczyrk is a small town in Upper Silesia. The area has mountains ranging in height between 1,000 m and 1,300 m, and a large number of surface lifts.

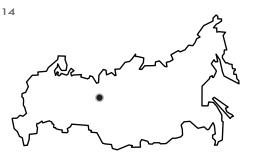
New attraction at the elite sports center

The state-owned elite sports center was established in Szczyrk some time ago and is now particularly attractive for ski jumpers thanks to the new facilities. Doppelmayr built the lift in collaboration with long-time partner Mostostal as general contractor. The lift was handed over to the customer in mid July.

### 2-CLF Skalite

Transport capacity	409 PPH
Trip time	2.8 min
Speed	1.5 m/s
Chairs	20
Interval	17.6 s
Inclined length	254 m
Vertical rise	96 m
Towers	5
Drive	Bottom
Tension	Тор

# New ski resort in Northwestern Siberia

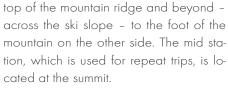


A new alpine ski center has been created on the edge of Khanty-Mansijsk, a city of 60,000 inhabitants, not far from the confluence of the mighty Irtysch and Ob rivers. Doppelmayr delivered a 4/8 combined lift for the resort. Khanty-Mansijsk is well-known in international winter sports. It hosted the Biathlon World Championship in 2003 and the Biathlon Mixed Relay World Championship in 2005; the Biathlon World Championship will again be staged there in 2011. In addition, it provides the venue for Biathlon World Cup and Summer Biathlon Competitions.

### Mid station for repeat trips

Construction of the Doppelmayr 4/8-CGD in Khanty-Mansijsk took from September 2007 to the end of January 2008. This lift serves a highly impressive ski region where an imposing chain of hills rises up from the plain. On the hillside facing the city, an attractive ski slope has been constructed with the aid of earthworks.

The combined lift traces a route from the hotels at the outskirts of the city, passing over rugged terrain to the



The lift also operates in the summer, serving the popular local recreation area.

4/8-CGD Khanty-Mansijsk	
Transport capacity	2,000 PPH
Trip time	5.1 min
Speed	5.0 m/s
Carriers	56
Interval	5.1 s
Inclined length	960 m
Vertical rise	83 m
Towers	8
Drive	Bottom
Tension	Bottom

Khanty-Mansijsk: Alpine skiing since 2008 at the Mecca for biathletes





# Major contract in the Caucasus

June of the second seco

Doppelmayr realized an ambitious project in Gudauri, in the Georgian part of the Greater Caucasus Mountain Range, during the period from the fall of 2007 to January 2008: Four 21-year-old chairlifts were completely overhauled and a new fixed-grip quad chairlift was installed. The village of Gudauri nestles at an altitude of 2,196 m against the 3000 m high Kudebi Mountain. Once upon a time, the post coaches would change their horses here en route to Vladikavkas.

The beginnings of winter tourism go back to the 1970s. The first four Doppelmayr chairlifts were erected in 1986; Austrian and Swedish investors built a four-star hotel in 1988. Since then, several hotels and apartment blocks have been constructed. Tourists come primarily from the neighboring CIS states but also from the USA, Germany, Israel and Turkey.

### Heliskiing and FIS-approved trails for skiing into May

There are 19 kilometers of ski trails covering every level of difficulty and offering top quality: FIS has approved them for all alpine disciplines. The resort has become world-famous thanks to its opportunities for heliskiing.

There is also plenty of summer tourism in and around Gudauri. Popular tourist destinations are the Chada hut at 2,670 m,



Gudauri: Skiing against the impressive backdrop of four and five-thousanders. The trails lie at altitudes ranging from 1,900 m to 3,000 m. There are now five Doppelmayr chairlifts operating in Gudauri.

located at the end of the mountain valley of the same name, and the Devdoraki Glacier.

### New 4-CLF

wir

Doppelmayr/Gara

15

Doppelmayr installed the new 4-CLF Sadzele, named after the 3,056 m high Sadzele Pass. The construction of this ropeway began in September 2007 and was completed at the end of January 2008.

The handover was delayed slightly following heavy snowfall: Overnight the chairs were covered in a meter of snow and first had to be precisely located before they could be dug out and attached to the rope. But the owners remained unfazed by the situation. In the Caucasus the skiing season starts after New Year's Eve and in '08 the good snow conditions allowed activities to continue into May.

### New from old

When it came to modernizing the lifts dating from 1986, the fitters had better luck with the weather, despite often having to clear the snow from the construction sites. One detachable quad chairlift and two fixed-grip triple chairlifts went into service on December 22, 2007; the third fixedgrip triple chairlift opened for skiers on December 30.

### 4-CLF Sadzele

Transport capacity	1,344 PPH
Trip time	9.6 min
Speed	2.6 m/s
Chairs	109
Interval	10.7 s
Inclined length	1,504 m
Vertical rise	483 m
Towers	13
Drive	Bottom
Tension	Bottom

16

# Mt Buller: Keep winter cool

"M

In Mt Buller, one of the most well-known ski resorts in the Australian Alps, Doppelmayr has installed Australia's first detachable six-seater chairlift, the 6-CLD Holden Express chairlift/Abom<sup>1</sup>. The Mt Buller ski resort, just over three hours' drive to the north of Melbourne, prides itself on being Australia's number one destination for skiers. The resort offers "more runs, more lifts, more adrenaline", thanks to 243 ha of skiable terrain catering for all levels of skill and a network of 24 lifts as well as snow-making facilities covering a large proportion of the trails.

The new 6-seater chairlift replaces a fixed-grip triple chairlift (which Doppelmayr built in 1986) along with the second section of the Blue Bullet lift, a detachable quad chairlift built by Doppelmayr in 1984. The first section of the Blue Bullet lift was retained as a separate installation.

# Chairlift station converted into parking facility

The top station of the Blue Bullet 2 has been converted into a parking facility for the chairs of the Holden Express; the bottom station of the new lift is located on the edge of the village, not far from the ski school. (Blue Bullet 1 is accessed



### from the village center).

The new high-speed lift not only significantly improves traffic on the busy adjacent slopes but also makes other parts of the terrain more readily accessible. Greater comfort and convenience as well as the increased skiing amenities for beginners enhance the user's experience of the resort.

### ISO 14001 for the ski resort

The infrastructure and power supply at the ski resort have been designed with

the environment in mind. It will therefore come as no surprise to hear that Buller Ski Lifts was the first Australian ski company to achieve certification to the international standard for environmental management systems, ISO 14001.

Doppelmayr was responsible for the ropeway equipment including line structures, Buller Ski Lifts for the station buildings.

Buller Ski Lifts is part of the family-owned Grollo Group, which includes operations dedicated to tourism, education and sport. Mt Buller is a year-round destination which also offers conference and seminar facilities. Mountain biking is a rapidly growing sport in Australia, and Mt Buller offers lifted access to a range of downhill and cross-country tracks with the Doppelmayr 4-CLF Horse Hill. The majority of guests come from Melbourne and the surrounding areas. In addition, a large number of visitors are drawn from other parts of Australia as well as a growing percentage from Asia and the Middle East.



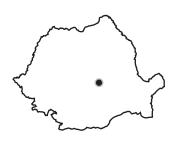


Prominent guests at the opening of the Holden Express: (left to right) Andrea Doppelmayr; Gavin Jennings, Victoria's Minister for the Environment; Monica Grollo; Nick Whitby, CEO Buller Ski Lifts; Laurie Blampied, General Manager Buller Ski Lifts; and Philip Brook, Holden's National Marketing Director (chair sponsor).

6-CLD Holden Express	5
Transport capacity	3,200 PPH
Trip time	3.7 min
Speed	5.0 m/s
Chairs	65
Interval	6.8 s
Inclined length	127 m
Vertical rise	997 m
Towers	9
Drive	Тор
Tension	Bottom

<sup>1</sup> The car manufacturer Holden, a subsidiary of General Motors, saw the ropeway as a highly effective means of advertising; the lift is to carry the name of Holden for five years.

# 8-seater gondola lift for the pearl of the Carpathians



Christmas 2007 saw the opening of an 8-seater gondola lift in Sinaia, one of Romania's most traditional and upmarket holiday resorts. Sinaia is prized as the "Pearl of the Carpathians". The first king of Romania, Carol I of Hohenzollern-Sigmaringen (1866-1914), had a sumptuous summer residence built on a mountain meadow not far from Sinaia Monastery (named after Mount Sinai); the castle was subsequently extended several times. Thanks to the good access provided by the railroad line from Bucharest, the town of Sinaia developed into one of the most well-known tourist centers in Romania, attracting day-trippers and weekly guests from home and abroad.

### Additional feeder capacity

An entrepreneur in the ski resort was already operating a surface lift, a fixed-grip double chairlift, a detachable quad chairlift and two reversible aerial tramways. One of these tramways was used exclu-



Doppelmayr/Gara

19

sively as a feeder as there was no ski trail down to the valley up until last winter. However, this tramway was unable to handle passenger volumes, leading to hour-long waiting times and dissatisfied guests. At the same time, parking spaces were scarce at the bottom terminal which lies in the town center.

To address these shortcomings, the municipal council decided to invest in an 8-seater-gondola lift. The new ropeway was constructed at a short distance from the town center on a site where a new parking lot could also be built. The municipal council is also in the process of constructing a ski trail down to the bottom station.

### First RPD in Romania

The new gondola lift is the first in Romania to be equipped with an RPD rope position detection system. Both the top and bottom stations have Doppelmayr full roof enclosures. A manually operated dead-end parking facility is housed in the bottom station.

### Flying colors

The lift has passed the test with flying colors, opening up new opportunities for networking urban and recreational tourism.



Mayor Vlad Oprea was proved right: The new gondola lift has made a significant contribution towards revitalizing both summer and winter tourism in Sinaia.

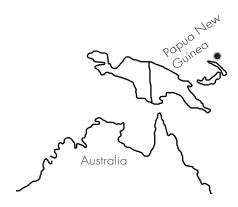
8-MGD Sinaia	
Transport capacity	1,700 PPH
Trip time	4.9 min
Speed	6.0 m/s
Cabins	34
Interval	16.9 s
Inclined length	1,384 m
Vertical rise	410 m
Towers	8
Drive	Bottom
Tension	Bottom





## RopeCon for a gold mine

On the Pacific island of Simberi in Papua New Guinea, Doppelmayr Transport Technology erected a RopeCon installation for transporting gold ore from the mine in the interior to the processing plant on the coast. RopeCon is a bulk material handling system which combines proven ropeway and conveyor technology.



The 80 km<sup>2</sup> Simberi Island belongs to the Tabar group, 250 kilometers south of the equator and far off from shipping routes and large ports. The climate is hot and humid, the rugged terrain covered by impenetrable tropical rain forest. Building and maintaining a road in such an environment would only be possible at great time and expense. For this reason, Allied Gold Limited<sup>1</sup> decided on the construction of a material transport system with a limited number of tower structures.

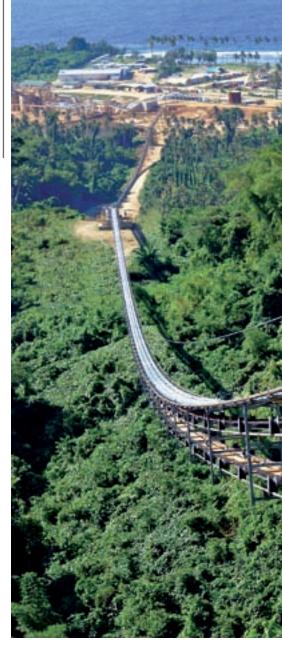
### Ideal transport for ore

The RopeCon proved ideal for this purpose: It crosses the terrain without a hitch, guarantees a constant transport capacity and therefore continuous loading of the ore processing installations, has low operating costs and is easy to maintain. Allied Gold had the complete Simberi Oxide Gold Project up and running in just three years. The processing facility and the open-pit mine as well as the line structure foundations for the RopeCon were built by Allied Gold.

The RopeCon was designed by Doppelmayr Transport Technology, manufactured in Wolfurt and constructed by an installation team from Garaventa with electrical fitters from Doppelmayr under the technical management of Doppelmayr Transport Technology.

### Major logistical challenge

The remoteness of the island posed the first major challenge: While Allied Gold took charge of transport from the port of Hamburg, the marine transport took two months. The tropical climate also takes its toll on human resources and equipment. This is where the solid workmanship and hot-dip galvanizing of components stood the test. The installation has only three towers; the largest rope span is 850 meters in length.



Fully automatic operation, low maintenance requirements

The installation produces 200 kWh of electrical power<sup>2</sup>, which is consumed by the refinery. Operation is fully automatic and synchronized with the loading belt from the mine. For maintenance purposes, a self-propelled service trolley is provided, which uses the two upper ropes as a track. It is pulled by means of a separate rope with fixed anchoring. The customer is extremely satisfied with the installation. Allied Gold's Chairman Mark Caruso praises the RopeCon as "an excellent piece of Austrian technology", adding that "Doppelmayr can be very proud of the installation".

<sup>&</sup>lt;sup>1</sup> This Australian company prospects for gold, silver and non-ferrous heavy metals in Oceania, Australia and Mexico.
<sup>2</sup> This would be enough to supply well over 400 households in the EU.



The RopeCon on Simberi Island transports gold ore across the jungle to the processing plant on the coast. There the gold is separated from the rock and poured in bars. Doppelmayr Transport Technology took on the contract in September 2006. The installation work was completed in seven months. The RopeCon went into operation at the beginning of May 2008.



Sledges were made to transport the almost 60-ton rope drums. They were then pulled from the quay to the installation site by a 60-ton bulldozer as no mobile crane was available.

RopeCon Simberi	
Transport capacity	450 t/h
Max. lump size	80 mm
Belt speed	3.3 m/s
Belt width	650 mm
Side wall height	120 mm
Motor output	-221 kW
Horizontal length	2,700 m
Vertical rise	-237 m
Average gradient	-8.9 %
Drive	Mine side
Tension	Plant side
Towers	3
Track ropes	2x62 mm 2x52 mm 2x42 mm

22

# Doppelmayr: Key competence in hot-dip galvanizing

At Doppelmayr, hotdip galvanizing is the number one method of corrosion protection. Almost three-quarters of all steel components such as towers, yokes, etc. are currently hotdip galvanized; in the future, that proportion is set to increase. Hot-dip galvanizing is a reliable and long-lasting form of corrosion protection. This method of surface treatment has a kind of self-healing effect. Minor damage - such as scratches - "grows" together again within a relatively short space of time. Nonetheless, extensive specialist know-how is required on the one hand to prevent crack formation in the base material and on the other to ensure the required corrosion protection - not least the cavity protection - while maintaining an attractive outer appearance.

#### Doppelmayr took the initiative

Doppelmayr became aware of this problem in the year 2000 on tower yokes stored in the warehouse. It was found that hairline cracks – invisible to the naked eye – can form beneath the zinc layer. Doppelmayr immediately launched a program of magnetic particle testing on some 100 ropeway installations around the globe.

- As it was soon discovered, comparable crack formations were known elsewhere, but the steel fabricators and galvanizers involved had dismissed them as unrepresentative one-off cases.

Doppelmayr, on the contrary, took the matter very seriously and set out to investigate the cause of these sporadic crack formations through systematic research with EMPA (Swiss Federal Laboratories for Materials Testing & Research) as scientific partner. It was not until the football stadium in Kaiserslautern had to be closed shortly before the World Cup in 2006 due to cracks in the galvanized support structure that this problem began to be taken seriously as a possible source of risk among a wide section of steel fabricators and galvanizers.

By then, Doppelmayr's investigations into ways of avoiding cracks during hot-dip galvanizing had long been completed and implemented in the form of a process specification within the Doppelmayr/Garaventa Group<sup>1</sup>. This specification encompasses the entire product creation chain, from the material selection through design and manufacturing to hot-dip galvanizing.

The problems encountered at the stadium in Kaiserslautern prompted the Austrian Structural Steel Fabricators Association and the Galvanizers Association to take action. At a crisis meeting at the end of 2006, Doppelmayr agreed to disclose its specification, know-how and experience. This then provided the basis for a harmonized Austrian process directive for the hot-dip galvanizing of steel parts and contract hot-dip galvanizers.

# Doppelmayr internationally recognized as technology leader

Today, that Doppelmayr know-how is not only applied by the Austrian galvanizers but also by large galvanizing operations in other countries.

<sup>1</sup> Process specification VF0001 for Doppelmayr components which came into effect in 2001. Since the merger in 2002, this applies throughout the entire Doppelmayr/Garaventa Group. Doppelmayr only uses hot-dip galvanizers who are certified in accordance with this specification.

Dipl.-Ing. Markus Winkler, Doppelmayr Quality Management, was instrumental in developing the process specifications for reliable hotdip galvanizing.



Security against hidden crack formation and attractive appearance - these are the requirements which Doppelmayr expects hot-dip galvanized components to meet. (Photo: tower in a zinc bath).



### Versatile Snow Shuttle

Doppelmayr has developed a multifunctional means of transport known as the Snow Shuttle. It is proving highly successful as an exclusive carrier - thanks to the 6-passenger bubble offering magnificent panoramic views - for conveying VIPs, for press visits and race services as well as for carrying the injured. The stretcher can always be included on board; it is ready for use in next to no time and is compatible with all common rescue vehicles. The telescopic mechanism incorporated on the vehicle enables gentle handling of an injured person on the stretcher without great effort.

The Snow Shuttle has been awarded the CE mark. It is simply docked onto the blade of the snow groomer and is ready for use. The Snow Shuttle can also be deployed in difficult terrain: Under fairly normal snow conditions, the Shuttle can be used on gradients of up to 40° respectively 80% (longitudinal and transverse). When using the stretcher, terrain gradients can be readily compensated with the aid of an electric motor.

The Snow Shuttle is marketed by Input, a company belonging to the Doppelmayr/Garaventa Group.



### Satisfaction analysis: Customers give Doppelmayr an excellent report

Doppelmayr commissioned a renowned consulting firm to conduct a large-scale customer satisfaction analysis in 2008. This involved evaluating the results of a comprehensive, worldwide survey among ropeway operation managers.

For Doppelmayr, the analysis is part of the ongoing dialog with market participants. It helps to pinpoint areas of achievement as well as possible deficits. At the same time, customer needs can be identified and translated into products and services which address specific target groups. Precisely 55 percent of respondents were loyal Doppelmayr customers, a quarter were "switchers" and the remaining 20 percent were ski resorts who use competitor products.

From an external perspective it was confirmed that Doppelmayr/Garaventa is quality, innovation and technology leader, and possesses outstanding brand values. In particular, the technical and social competencies of personal contacts as well as the great innovation capabilities of Doppelmayr/Garaventa are rated highly. Key areas of concern for customers were shown to be cost pressure resulting from raw material prices, recruiting qualified personnel and increasing the attractiveness of ski resorts for summer tourism.

Proprietor, editor and publisher: Doppelmayr Seilbahnen GmbH, A 6961 Wolfurt • Editing, graphics and layout: WIR Public Relations Wolfgang M. Wagenleitner, Weißacherg. 19, A 6850 Dornbirn • www.wirpr.at