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The Doppelmayr stand at SAM in Grenoble recorded outstanding visitor numbers.



Funitel with big wheel

The Galzig tramway in St. Anton am Arlberg, Austria, is to be replaced p.2

Funifor to the Portavescovo

Doppelmayr installs a high-performance Funifor in the Dolomites p.8

Another Doppelmayr lift for the Espace Killy

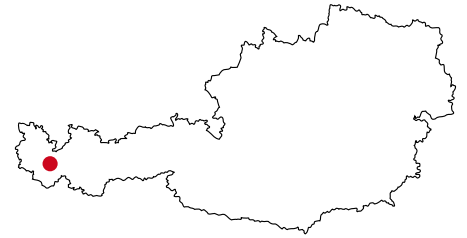
Doppelmayr builds the third chairlift in two years in Tignes p.10

Enhanced safety with RPD

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New Funitel for St. Anton

As from winter 2006, a Funitel is to replace the old Galzigbahn in St. Anton am Arlberg. The new Galzigbahn will be a unique technological and architectural solution: the most striking feature is the two eight-and-a-half-meter ferris wheels in the bottom station.

The project started off with the need to replace the proven but aging Galzig reversible tram¹. Needless to say, the new lift was to offer greater comfort. The two-storey bottom station, in particular, no longer met present-day requirements. Skiers had to access the cabin via a flight of stairs, which could be a rather laborious trek for people wearing clumpy ski boots.

To facilitate access for skiers, the initial idea was to provide an escalator. However, metal steps would have meant too great a risk of slipping for passengers. During the course of discussions with Managing Director Mario Stedile-Foradori of Arlberg Bergbahnen AG, the

people from Doppelmayr then hit on the idea of a kind of paternoster.

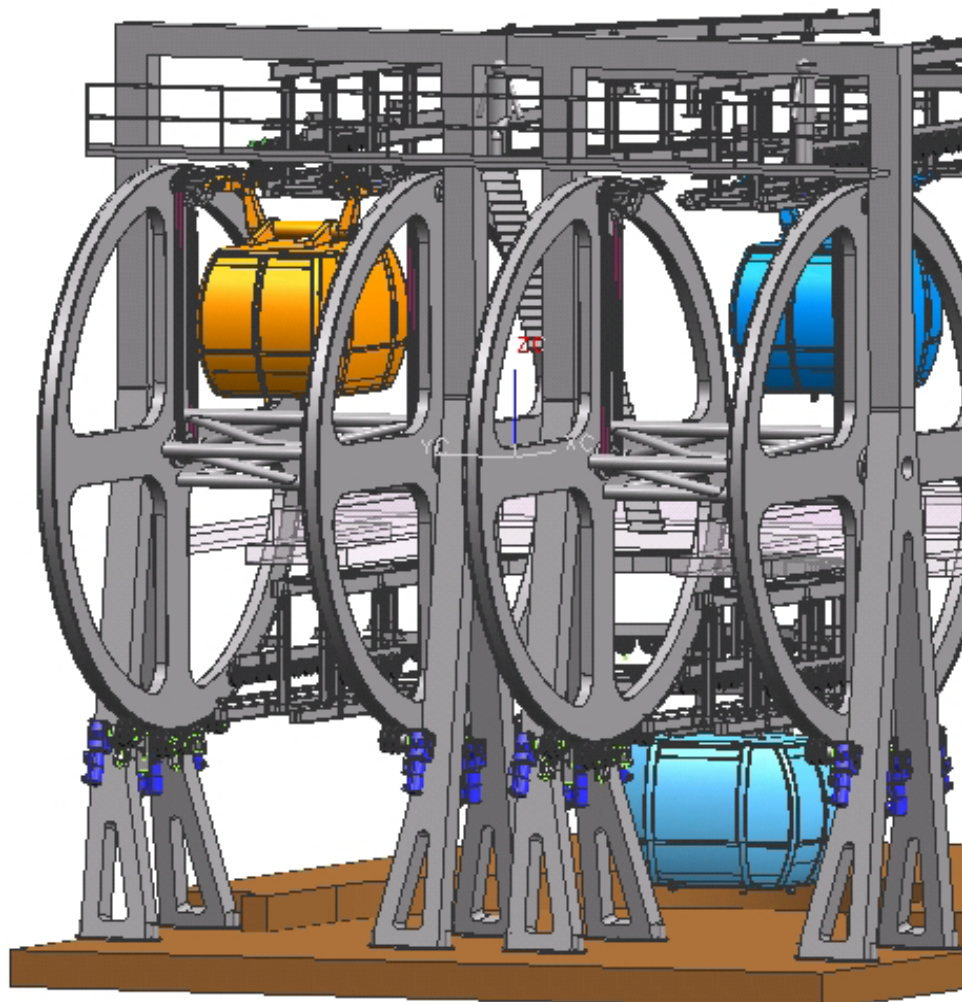
World first:

Big wheel for a gondola lift

This idea finally evolved into a big wheel solution for a gondola lift: the gondolas enter at the top level, are taken down to the level below by means of a big wheel and then follow a gentle curve through the loading and unloading area at creep speed until they are finally raised back up to the station exit by a second big wheel, from where they are launched onto the line.

This idea certainly was a brainwave: the skiers come off the trail and board the gondolas at ground level! The architect

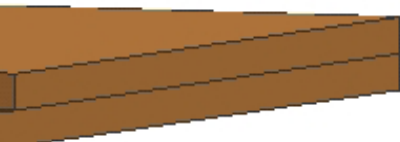
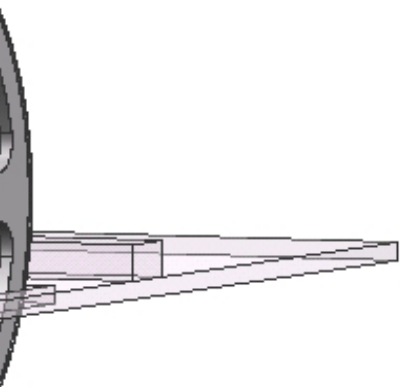
¹ 74-passenger tram built in 1937



added his own stroke of genius to enhance the wow factor of the new lift: the new building has all-round glazing. That means the technology is visible from the outside and the magnificent mountain-scape can be seen from the inside.

Despite the fact that major structural modifications will be required, the actual extent of the work is less than you might think. The top station, for example, – unlike the bottom station – will not be completely demolished, even if it will have to undergo extensive refurbishment.

The old Galzigbahn was only taken out of service in spring 2006, after the close of the winter season. If everything goes according to plan, the new Galzigbahn is scheduled to go into operation at the end of November as the Arlberg's brand new attraction.



The Funitel System in brief

A special feature of this system is the double configuration of the rope loop: one continuous rope produces four rope lines. There are two parallel ropes on both the uphill and downhill sides.

The drive is via a vertical bullwheel (in the case of the Galzigbahn with a diameter of 5.2 m).

The central counterweight tension system operates via three bullwheels on a common, movable carriage¹.

In the station curves, the gondolas are transported along running rails by means of tyre conveyors. The entire ropeway machinery is fixed to the roof beams of the building. No central columns are required which would hinder the passengers.

¹ Doppelmayr has also used hydraulic tension systems on other Funitels

24-Funitel Galzig	
Transport capacity	2,200 PPH
Trip time	9.0 min
Travel speed	6.0 m/s
Carriers	28
Interval	39.0 s
Inclined length	2,542 m
Vertical rise	766 m
Drive	Top
Return-tension	Bottom

Satisfied customers – a commitment

At the beginning of 2006, the Doppelmayr/Garaventa Group commissioned a survey to gauge the level of satisfaction among its customers. The results are now available and they are encouraging: our customers have given us a very good report and solid reasons to be proud of our achievements. At the same time, however, we also see the results as a challenge for the future against the background of the very high demands on our capability to deliver and our view that every customer is entitled to expect a lot from us.

The high level of customer participation in the survey provides us with the opportunity to concentrate our efforts on targeted improvements. The dedication of our customers shows how important it is to ensure a prompt and professional response to the concerns of each individual customer.

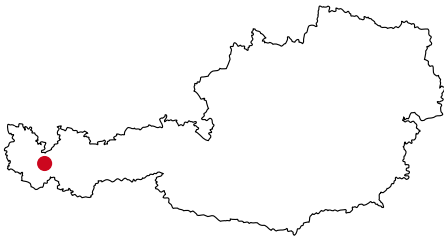
From this customer survey we therefore derive our will and commitment to be the best for our customers and to make sure we remain the best.

If each and every one of us devotes all his or her energy to this goal, we shall be able to successfully expand our market leadership and safeguard this role for the future.

Michael Doppelmayr

Ride comfort on the Hexenboden

The new 6-seater bubble chairlift with seat heating on the Hexenboden replaces the two triple chairlifts Hexenboden I (fixed grip) and Hexenboden II (detachable). "This has brought Hexenboden in line with the quality standard of the other lifts in the Lech and Zürs¹ region," stresses Josef Moser, Managing Director of Ski Zürs AG.



The new installation constitutes a radical rebuild of the Hexenboden chairlift: the previous two lifts have now been combined to form a single section and the lift-line has been retraced. The top station of the old Hexenboden II has been moved by 15 m, the bottom station of Hexenboden I by 20 m. The old stations have been demolished, with the exception of the old Hexenboden II bottom station. The lift users no longer have to queue up twice in order to get to the top station. (At one time there was a continuous surface lift here, but that was replaced by the two triple chairs in the mid 1980s.) The bottom station has been integrated into the local surroundings. It grows up from the ground "like a rock", an impressive composition in concrete, steel and glass, standing defiantly and elegantly in the way of any possible avalanches. The structure does in fact feature a whole series of safeguards. For example, all openings are fitted with avalanche protection doors.

The basement to the bottom station houses a fully automatic chair garaging facility. What was once the car park for the lift employees is now an underground car park which connects with the bottom station. Other elements of the infrastructure such as the garbage station, servicing areas and stores for electrical and mechanical parts are also located below ground.

Diversion of the Zürs river

In order to carry out the extensive construction and civil engineering work, a 100 m section of the "Zürsbach" had to be diverted and an access bridge built. In the interests of improved flood protection and conservation, two ramps and a biotope were built in the course of the river. To ensure that skiers can get safely to the bridge which leads to the other side of the main road, it was necessary to build a new ski path. The old bottom



station of the demolished Hexenboden II was incorporated in the snow-making system. This includes a transformer station, compressed air and pump station as well as a storage facility for the snow-making equipment.

The snow-making system has been extended up to the top station. It is integrated into the 15-kilometer ring main with the Zürs and Flexen lake reservoirs. The lift is fitted with the RPD system. The drive and tension system are located in the bottom station, the fixed return machinery is at the top.

6-CLD/B Hexenboden	
Transport capacity	2,400 PPH
Trip time	5.6 min
Travel speed	5.0 m/s
Interval	9.0 s
Inclined length	1,569 m
Vertical rise	531 m
No. of towers	17

¹ The ski region of Lech and Zürs offers a total of almost 84 lifts and 260 km of ski trails.



The top station is a conventional UNI-G. Disembarking skiers are protected by a wind break made of glass. At the front there is a platform for inspecting the rope; the station has a walk-on roof for service work. As there is no road up to the top station, a material ropeway had to be built and a helicopter used for the construction work.



The seats of the Hexenboden chairlift are heated. The following chairlifts in the Zürs-Lech region also have heated seats: Schlegelkopf, Kriegerhorn, Steinmähder, Petersboden, Hasensprung, Zürsersee and Seekopf.

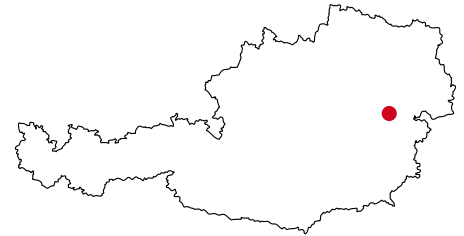


Ing. Josef Moser, Managing Director of Ski Zürs AG: The new Hexenboden lift fully meets the high standards of quality and comfort of the Zürs-Lech ski region.



Special importance was attached to the visual appearance of the bottom station. The building harmonizes well with the built and natural surroundings.

The Schneeberg Salamander



At weekends, thousands of Viennese head for the Schneeberg region. This area is well-served by transport systems: by the famous cog railway built under the reign of Emperor Franz Joseph as well as the new Salamander chairlift.

The trip with the new Salamander chairlift takes passengers from the Losenheim district (840 m) to the Faden (1,210 m). The Faden is the saddle between Schneeberg and Dürre Leiten. In the summer, the top station provides an ideal starting point for mountain walks. The summit tour around the Schneeberg with its breathtaking views of Vienna and deep into Hungary is seen as a special delight: you take the cog railway up to the top station Hochschneeberg, then follow the marked paths to the top station of the chairlift and from there enjoy a comfortable ride back to the bottom station. This tour is made all the more attractive by the common system of fares for the two installations. The cog railway does not operate in the winter. The chairlift, on the other hand, provides access to a small, family-friendly ski area which also has a surface lift and

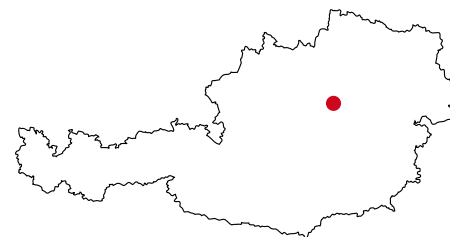
4-CLD Salamander chairlift	
Transport capacity	1,200 PPH
Trip time	4.0 min
Travel speed	5.0 m/s
Carriers	40
Interval	12.0 s
Inclined length	1,112 m
Vertical rise	337 m
Drive	Bottom
Return	Top

several ski slopes. Most of the visitors come for the day or the weekend from Vienna and the Viennese basin, Western Hungary and Slovakia.

The Salamander chairlift replaces a Girak double chair built in 1972. While the bottom station was retained, the lift-line was modified and the top station – the first UNI-G station for a detachable quad chair in Lower Austria – rebuilt.



Puchberg's mayor Michael Knabl (left; next to him MD Gerhard Stindl of Schneeberg Sesselbahn GmbH) points out that for the region, the lift represents an important step towards expansion of the tourism business. Water pipes had to be laid on the mountain for this purpose. There are no springs at the top of the limestone massif; water only emerges at the foot of the mountain where it meets impermeable layers in the rock. At the right Martin Wanzenböck, one of the two managing directors of Schneeberg Sesselbahn GmbH, the owner of the surface lift, district councilor and chairman of the Puchberg Tourist Association as well as landlord of the Forellenhof inn.



Hochkar: Everything from us

Hochkar is Lower Austria's biggest ski region with some 20 km of ski trails and nine lifts. All of them were supplied by companies belonging to the Doppelmayr/Garaventa Group. In 2005, Doppelmayr built two fixed-grip quad chairs, the Almlift and the Häsing.

Hochkar, 150 kilometers to the west of Vienna, was developed as a ski region in the mid 1960s: with a nine-kilometer toll road, a Doppelmayr surface lift and a one-seater chairlift. In the years which followed, nine installations were built and the older ones replaced. Today, Hochkar has almost 20 km of ski trails and nine lifts.

In 2005, Doppelmayr erected two installations: the surface lift dating from 1965 was replaced by the new "Almlift", a fast, comfortable 4-CLF with hydraulic tension system; the double chair up to the 1,728 m-high Häsing, built in 1973, made way for the new 4-CLF with fixed drive in the bottom station.

Every year around a quarter of a million skiers visit the Hochkar region. The

majority of them come from Vienna and Lower Austria, with roughly one third from abroad, in particular from Hungary. In the Hochkar Valley itself there is a large sports hostel with 230 beds and another 200 beds in hotels and private guest-houses, plus around 1,000 in the main town of Göstling.

In the summer months, Hochkar is a tranquil mountain valley where only the chairlift up to the Hochkar summit (1,808 m) is in operation. – But all that could well change. While MD Bernhard Putz says that there are no plans to boost summer tourism at the present time, the design of the Doppelmayr lifts means that they could readily be incorporated into a summertime concept.

4-CLF Almlift	
Transport capacity	2,361 PPH
Trip time	3.5 min
Travel speed	2.4 m/s
Carriers	71
Interval	6.1 s
Inclined length	507 m
Vertical rise	106 m
Drive	Top
Return	Top

4-CLF Häsing	
Transport capacity	2,378 PPH
Trip time	5.9 min
Travel speed	2.6 m/s
Carriers	119
Interval	6.1 s
Inclined length	924 m
Vertical rise	249 m
Drive	Bottom
Return	Top

The 500 m-long Almlift is a 4-CLF with child safety lock which serves a beginners' slope and a floodlit piste.





A convenient trip to the Portavescovo with the Funifor

The fastest option for getting from the idyllic mountain village of Arabba to the Portavescovo is the new Funifor from Doppelmayr. It replaces a reversible aerial tramway dating from 1971 and raises the transport capacity from 500 to 800 PPH. The Arabba Funifor is Italy's first CE-compliant reversible tram.

The ski region of Arabba-Portavescovo stretches from an altitude of 1,600 m to 2,500 m; with up to 30,000 admissions a day at the turnstiles, it ranks among the most frequented resorts in the "Superski Dolomiti" network. The operating company, SOFMA (Società Funivie Marmolada Arabba), owns a total of seven lifts (one Funifor, two DLMs, four CLFs). They provide skiers with direct access to 20 kilometers of ski trails.

Option of single or two-cabin operation

SOFMA essentially had three reasons for choosing the Funifor from Doppelmayr rather than a competitor product: firstly,

because the amount of rebuilding required in and around the stations was relatively low and the old station foundations could be used; secondly, because of the high wind stability, and thirdly, because of the great flexibility which the choice of either single or two-cabin operation offered. Moreover, the innovative solution of the patented Funifor concept was generally

Arabba-Portavescovo Funifor	
Transport capacity	800 PPH
Trip time	6.8 min
Travel speed	12,0 m/s
Inclined length	2,677 m
Vertical rise	872 m



The new Funifor has two cabins with a capacity of 80 passengers, and two lattice towers of 42 m and 18 m. The system offers enhanced wind and tracking stability, and does not require any special station entrance equipment.

impressive. The construction time for the Funifor, including the dismantling of the old installation and the approval process, was eight months. The track ropes which were replaced two years ago were wound

onto two rope drums in the bottom station during the construction work on the new installation, then reinstalled with two additional track ropes. Installation of the drives in the bottom station – previously the ten-

sion station – without modifying the outer dimensions of the building was a technical masterstroke. The return bullwheels in the top station are arranged at an angle for space reasons.

The Funifor System in brief

The Funifor is a bi-cable reversible aerial tram (two track ropes and two haul ropes per cabin). As in the case of a normal reversible aerial tram, each cabin travels on a separate track, but in this case each is independent of the other because the haul rope runs back to the bottom station - and not onto the track of the other cabin. Both cabins have their own drive. As the drives for each cabin are independent of one

another, no rescue ropeway is required. Passengers can be evacuated by crossing from one cabin to the other. For this purpose, the two cabins are connected with a sturdy evacuation bridge. The gauge width between the two track ropes is greater than the width of the cabin, which provides a very high level of wind stability. The haul rope loop is connected to the cabin via four horizontally arranged deflection sheaves. The short hanger arm means that low, compact station buildings can be used.





6-CLD in Tichots: A hat-trick in two years

The 6-CLD “Tichots” built in the Val d’Isère resort of Tignes in 2005 is the third detachable 6-seater chairlift from Doppelmayr in two years.

Val d’Isère/Tignes in the French département of Savoy is one of the biggest and most attractive ski regions in the Western Alps: 133 ski trails with a total length of 300 km; from an altitude of 1,500 m up to the glacier regions of the three-and-a-half-thousanders. There are ten reversible aerial trams, almost 50 chairlifts and some 40 surface lifts.

Tignes has three districts; one of these is Tignes-le-Lac with a population of 2,300 inhabitants, which at 2,000 m ranks as Europe’s highest municipality. Tignes hosted the first free-style world championships in 1989 and the Winter Olympics (Albertville) in 1992. This ski area has been named “Espace Killy” to commemorate the famous French skier Jean-Claude Killy, who comes from the region (1968 winner of three gold medals – downhill, giant slalom and slalom).

Tichots is one of the mountain faces in the ski region. The new 6-CLD also has an important function as a feeder from the car park in the valley. A high transport capacity is required above all in the mornings to ensure that as many skiers as possible can reach the slopes within

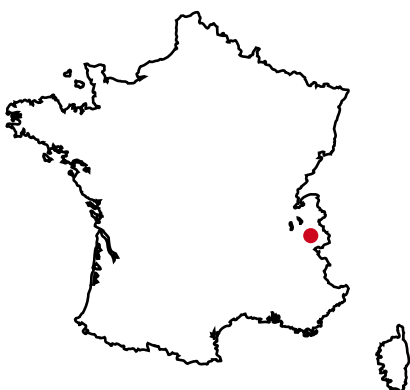
a short space of time. (The chairlift only operates in the winter season.)

World’s first tangential loading facility for a 6-seater chairlift

In order to provide the required high transport capacity of 3,600 PPH, Doppelmayr implemented a particularly ingenious innovation in the form of the world’s first “tangential loading” facility for a 6-seater chairlift.

The key feature here is the configuration of the path traced by the chairs as they transit the loading area in conjunction with a loading carpet. The chairs approach the loading area at an angle of roughly 45°. The loading gates open at staggered intervals, allowing the skiers to advance one by one onto the loading carpet. The resulting staggered starting positions now form a line in parallel with the chair. By the time the skiers stop at the end of the loading carpet they are back in a straight line, ready to board the approaching chair.

It is this combination of angled chair position and loading carpet which crucially





The top station is at an altitude of 2,468 m, the bottom station at 2,107 m (below) with its large car park. The chairlift has an important role to play as a feeder.

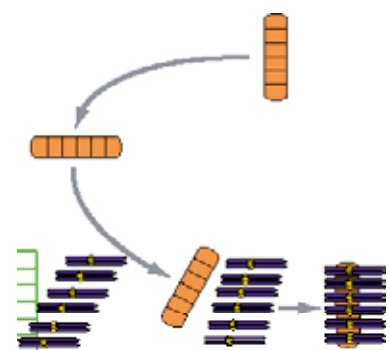
reduces the time interval between carriers and thus increases transport capacity. As the regulations stipulate a maximum capacity of 3,000 PPH for a conventional 6-seater chairlift, special tests were required in the case of Tichots, which led to approval being granted in November.

Doppelmayr pioneered the tangential loading system

Doppelmayr ranks as the forerunner of this system, the first of which was installed on the 8-CLD Les Tommeuses in Tignes in 2002 (transport capacity 4,500 PPH). The customer, Société des Télépheriques de la Grande Motte (STGM), has been a Doppelmayr customer for 15 years: during the course of the past two years, STGM has purchased a total of three chairlifts from Doppelmayr. In the case of Tichots, Doppelmayr was awarded the contract in May 2005 and the installation went into service at the end of November, following a six-month construction period.



6-CLD Tichots	
Transport capacity	3,600 PPH
Trip time	4.3 min
Travel speed	5.0 m/s
Carriers	85
Interval	6.0 s
Inclined length	1,169 m
Vertical rise	361 m
Drive	Bottom
Return	Top



The tangential loading facility synchronizes the movements of passengers and chairs. On peak days the lift carries up to 18,000 passengers.

Flower show gondola now running in Steibis in Allgäu



Having twice provided optimum service, it's now running for a third time: the lift in question is the 8-seater gondola which in 335 days transported millions of visitors at the gardening exhibitions BUGA/Munich and IGA/Rostock, and is now causing a sensation in the ski resort of Steibis in the Bavarian Allgäu.

The Imberg lift has the feel of a top-quality "nearly new" car. Roughly 40 percent of the components used for the BUGA installation have been used, the rest are brand new. All the sheave assemblies are new along with the rope, which is electronically monitored by an RPD system, parts of the stations and electrical equipment, and the OMEGA III LWI gondolas for which an easy-to-operate continuous loop parking facility has been built.

One of the main reasons for purchasing this lift was the drive concept: the leading-edge "Doppelmayr Sector Drive" (DSD) with its modern reluctance motor has low noise emission and is seven percent more energy-efficient than conventional DC motors. Approval of the entire installation to CEN guarantees state-of-the-art tech-

8-MGD Imbergbahn	
Transport capacity	1,600 PPH
Trip time	5.1 min
Travel speed	5.0 m/s
Carriers	34
Interval	18.0 s
Inclined length	1,230 m
Vertical rise	304 m
Drive	Bottom
Return	Top

nology. The high level of operational reliability obtained proves that the decision was the right one. As Thomas Lingg, one of the two directors of Imbergbahn & Skiarena Steibis, confirms: "We didn't have a single malfunction in the entire winter season."

The new Imberg lift replaces a 54-year-old single-seater chair and two surface lifts. The bottom station was relocated to provide more convenient boarding from the significantly enlarged car park in Steibis. The commercial premises at the bottom station include the cash desks, offices, mountain rescue service and a sports shop.

The addition of a Doppelmayr surface lift improves access to the ski arena and the connection between the Imberg and Bärenloch lifts. The new Fuchskar lift has an important distribution function.

The Oberstaufen region is also an attractive vacation area in the summer, with extensive walking routes and plenty of opportunities for practicing sports such as paragliding, sailing and surfing on the nearby mountain lake, horse riding, ballooning, mountain hiking or tennis; there is also an 18-hole golf course in the immediate vicinity of the bottom station to the Imberg lift and another two golf courses within half an hour's drive.



The Imberg gondola lift has an eventful history: it was initially used at the gardening exhibitions IGA Rostock (2003) and BUGA Munich (2005). Immediately after the close of the BUGA show on October 10, 2005, the dismantling operation was started. 14 days later, installation was underway in Steibis; by mid December the as-new installation was completed.



Ski boom in Ukraine

Doppelmayr recently installed two chairlifts in Bukovel. The Ukrainian customers are very satisfied and have already placed follow-up orders.

The ski resort of Bukovel lies in the heart of the Ukrainian Carpathian Mountains. It has seen an enormous upswing over the past few years. Two years ago, a detachable quad chairlift was opened here; last winter, Doppelmayr installed two fixed grip quad chairs.

Bukovel is a time-honored summer vacation and ski area in a typical low mountain zone: the highest mountain is Chorna Kleva at 1,370 m. Bukovel itself lies at an altitude of 700 m.

Since the beginning of 2000, this once sleepy mountain village has become a ski El Dorado: when President Victor Yushchenko arrived recently on a visit, Oleksandr Shevchenko, director of the

ski area's operating company, Skorzonera, proudly reported: "We shall soon be accommodating 30,000 guests and will have created 9,000 jobs!"

The guests are drawn primarily from the neighboring Central and Eastern European countries. Director Shevchenko describes Bukovel as the first Ukrainian ski region offering first-class quality and says they are not afraid of comparisons with the West. There are a whole series of lifts, ski trails with snow-making equipment and an excellent infrastructure of hotels and restaurants. They have a clear vision: in the foreseeable future they want to rank among the world's 20 biggest ski regions.

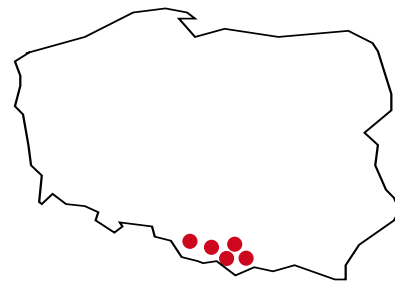
4-CLF Bukovel Lift 12



4-CLF Bukovel Lift 8	
Transport capacity	2,405 PPH
Trip time	5.6 min
Travel speed	2.6 m/s
Carriers	114
Interval	6.0 s
Inclined length	874 m
Vertical rise	187 m
Drive	Bottom
Return	Top

4-CLF Bukovel Lift 12	
Transport capacity	2,395 PPH
Trip time	6.6 min
Travel speed	2.6 m/s
Carriers	133
Interval	6.0 s
Inclined length	1,026 m
Vertical rise	227 m
Drive	Bottom
Return	Top

5 Doppelmayr lifts in the Polish Beskids



In the past few months, five Doppelmayr installations have gone into operation in the Polish part of the Beskid Mountains, reflecting the ski boom in Poland and the neighboring countries of the Czech Republic, Slovakia, Ukraine and Belarus. All the lifts are CEN-compliant, a factor which is of major importance in Poland.

In Szczawnica, Polskie Koleje Linowe Spółka z o.o. put the 4-CLD Palenica into operation at Christmas. PKL is Poland's biggest ropeway operator with reversible aerial tramways and funicular railways, both fixed grip and detachable chairlifts, and surface lifts.

Poland's first 4-CLD with station parking

Palenica, within view of the High Tatras, is a well-known summer tourist destination and local recreation area. The region has only recently become more popular as a ski resort, but nonetheless already had several lifts. The Doppelmayr ropeway replaces an aging lift. As the area is also well-known and loved for winter walks, the installation is designed for both walkers and skiers, with a separate loading area for pedestrians in the bottom station. Moreover, this is Poland's first detachable quad chairlift with station parking facilities. The carriers can be garaged in both the bottom and top stations. Doppelmayr delivered the lift as a turnkey project, including all the construction work such as the demolition of the old ropeway, erection of the line structures and station buildings through to paving the forecourt, the power supply, transformers, etc. The other four Doppelmayr lifts were also installed on a turnkey basis but excluding the construction work.

4-CLD Palenica	
Transport capacity	2,200 PPH
Trip time	2.9 min
Travel speed	5.0 m/s
Carriers	54
Interval	6.5 s
Inclined length	757 m
Vertical rise	263 m
Drive	Bottom
Return	Top

Second feeder for Bialka Tatrzańska

The Kotelnica 6-CLD is the second feeder lift for the Kotelnica Bialzanska area in Bialka Tatrzańska. It has met with a very enthusiastic reception: the number of skiers has shot up by 50 percent! Doppelmayr built a 4-CLF here in 2003 and installed a loading carpet on a 3-CLF (also supplied by the Doppelmayr Group) in 2004.

Rytko: all new and very modern

In the ski resort of Rytko, a new 4-CLF opens up the Jastrzebska Gora, while rapid expansion is planned for the near future. The customer, Ośrodek Narciarsko-Rekreacyjny "Rytko" sp. z o.o., has already established a modern hotel including restaurant along with the lift and the new ski slope. The restaurant's sun terrace offers a magnificent view of the piste and the mountain panorama. Before Ośrodek Narciarsko-Rekreacyjny "Rytko" sp. z o.o. came onto the scene there was only a small practice surface lift (which remains in service). In order to make the area more attractive, a new ski slope had to be provided as well as building a new lift. With an average gradient of 31%, this "red trail" is considerably more demanding than most of the others in the region (mostly 20% to 25%). In the area of the bottom station, the full width of the trail crosses a stream which

6-CLD Kotelnica V	
Transport capacity	3,000 PPH
Trip time	4.3 min
Travel speed	5.0 m/s
Carriers	77
Interval	7.2 s
Inclined length	1,284 m
Vertical rise	196 m
Drive	Bottom
Return	Top

therefore had to be conducted underground for approximately 200 m. The piste is illuminated and can be groomed with artificial snow.

Zieleniec: Good-quality service is more important than a short-term price advantage

The picturesque 100-inhabitant village of Zieleniec (in the direction of Silesia) lies in the heart of the ski region: the main road is lined on either side with no less than 20 larger and smaller surface lifts. The tourism business is now to be given a huge boost. The entire village is enjoying a mood of new beginnings. The road – which is so narrow that in the high season a one-way system is put in place in the mornings in the direction of Zieleniec and reversed in the evenings – is to be widened, new hotels are to be built and the existing ones refurbished. The aim of the customer (“Winterpol”) was to obtain fast, reliable service. That was why competitor offers were rejected.

Chelm: within reach of the city

The 4-CLF Chelm 1 in Myslenice is very well frequented, not least due to its proximity to Kraków. It was completed in March 2006. A new snow-making installation ensures continued operation in periods of low snowfall.



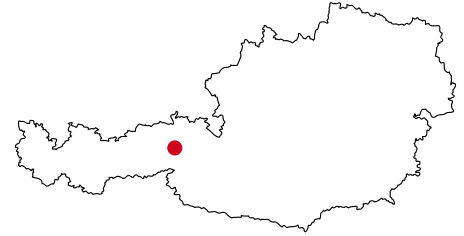
Poland's ski regions are making every effort to offer their customers more modern lifts and the best infrastructure in terms of snow-grooming, snow-making, hotel accommodation and leisure amenities. As there are numerous nighttime ski slopes, many of the lifts operate from 9 am to 10 pm. Pictured above is the new fixed-grip quad chairlift in Rytro.

4-CLF Jastrzebska Gora	
Transport capacity	2,008 PPH
Trip time	4.8 min
Travel speed	2.4 m/s
Carriers	82
Interval	7.2 s
Inclined length	694 m
Vertical rise	207 m
Drive	Bottom
Return	Top

4-CLF Chelm 1	
Transport capacity	2,392 PPH
Trip time	4.9 min
Travel speed	2.6 m/s
Carriers	100
Interval	6.0 s
Inclined length	771 m
Vertical rise	235 m
Drive	Bottom
Return	Top

4-CLD Zieleniec-Winterpol	
Transport capacity	2,376 PPH
Trip time	4.6 min
Travel speed	2.6 m/s
Carriers	93
Interval	6.1 s
Inclined length	720 m
Vertical rise	173 m
Drive	Bottom
Return	Top

The Sorcerer



Walter Eisenmann is managing director of "Berg- und Skilift Hochsöll GmbH & Co KG". He is also the operator and promoter of the "Witches' Water" theme park, which is a major driver of summer tourism in the Hohe Salve holiday region – and plays a decisive role in ensuring that the Hochsöll 8-seater gondola lift is well utilized.

Walter Eisenmann was a banker before being appointed managing director of the Söll lift company in 1986. It was not long before new marketing activities were developed to revitalize the summer business under the motto of "nature and tradition". The installation of the 8-seater gondola lift to Hohe Salve in early 2000 opened up new opportunities. The initial idea which set the ball rolling came from the Hochsöll landlord. He suggested building a Kneipp pool. "And because we have plenty of water from our storage reservoir for snow-making it seemed logical to use it for a theme park."

Off the beaten theme trail

Eisenmann was immediately able to inspire a landscape architect with his

the time, this was misunderstood and the women were accused of causing bad weather).

Numerous awards

The "Witches' Water" worked like magic: "In the first summer we increased our turnover on the lift by 40 percent, and then again by another 60 percent the following summer." – That was in 2003, in the year of the water. It was also the year when the Söll team won the provincial "Tirol-Touristika" award and the national tourism award of the Austrian Ministry of Economics. This was a marketing opportunity to be fully exploited and in 2004 – having expanded the theme park portfolio – led to another 25 percent increase in the number of trips sold in the summer



MD Walter Eisenmann: "I consider Doppelmayr to be reliable and competent."



For many lift users, the name 'Doppelmayr' is associated with a positive image.



That's why we only build Doppelmayr ropeways."

idea of creating a water experience trail which has caused a sensation in the tourist scene since 2002 and became known as the "Witches' Water". The brand name "Witches' Water" was a flash of inspiration: "We had to print the brochures. Time was pressing. Then we remembered the legend of the mountain farmer's wives who used to communicate with each other from one side of the valley to the other with their brooms." (At

season: 180,000. This year the Söll team has set itself the target of exceeding the 200,000 mark. All the investments in the "Witches' Water" – up to now around EUR 700,000 – have been financed through the extra business.

Doppelmayr – the ideal partner

Eisenmann sees Doppelmayr as the ideal partner. That's why all six lifts purchased

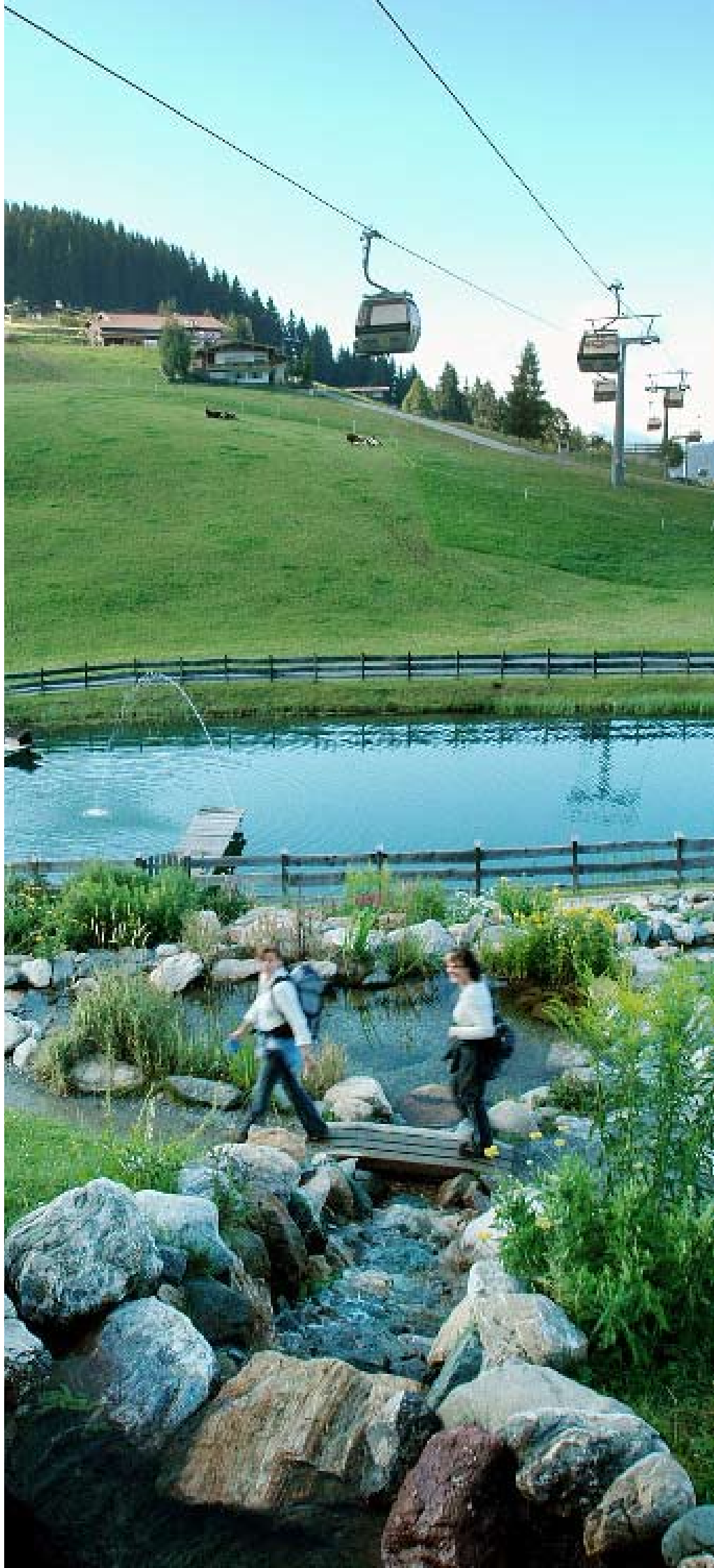
by the Hochsöll lift company since 1988 have been built with Doppelmayr. The most recent was the "Witches' 6-seater", a 6-CLD-B, in 2004. In the winter, this lift takes the load off the surrounding fixed-grip installations and ensures that the ski trails are well frequented. Moreover, it improves the integration of the Hohe Salve into the "ski world", which is prized as "Austria's biggest interconnected ski area".

Eisenmann uses team spirit to leverage his marketing opportunities and those of the region: in the winter he links up with Tourismus GmbH Wilder Kaiser-Brixental; in the summer he collaborates with the Advertising Association for Lifts to attract the patronage of day-trippers (who make up 25 percent of the customers of the Söll lift company).

The success formula: "With Nature"

He is rigid in his application of the principle "with nature, not against it". Increased ride comfort and passenger volumes are not the only things Eisenmann has in mind when building "his" ropeways, but also protection of the natural environment and conservation of the landscape. On the more recent installations, for example, the carrier parking facilities – including those for fixed-grip chairlifts – are located below ground; in the case of lifts which are taken out of service in the summer, the chairs are removed from the rope. The station of the 8-seater gondola lift at the summit of Hohe Salve is built into the mountain and does not impact on the landscape.

Eisenmann intends to stay faithful to his philosophy of gentle tourism; and also to his love of top technical performance: when he gave the go-ahead for the construction of the Hochsöll lift in 1988, he was the first person in Austria to sign a contract for an 8-seater gondola lift – and integrated the new Doppelmayr development into his marketing strategy.



Enhanced safety with RPD

The Rope Position Detection system (RPD) – a patented Doppelmayr development – can recognize a rope deviation from the liner groove, a lost sheave or a deropement where the rope has bypassed the catcher shoe and slow down the ropeway in good time or, if necessary, bring it to a complete stop.

How does it work? The slightly bigger than fist-sized RPD switches are installed on the towers. The switches detect a deviation of the rope from the centre of the rope sheaves. The ropeway is first slowed and – if the rope continues to deviate – shut down in the event of deropement. Conventional rope position monitoring systems such as those with break fork switches detect a deropement that has already happened but cannot warn of an imminent deropement.

Unique worldwide: RPD is a fail-safe system

The RPD is the only electronic rope position monitoring system worldwide which is fail-safe. On the other hand, changes to rope components due to operating conditions (age-related reduction in rope diameter, sheave liner wear, etc.) will not produce a shutdown.

RPD is robust

- o Resistant to high and low temperatures
- o Resistant to icing
- o Can be used in high humidity: 15% to 100%
- o Resistant to sunlight: 1,120 W/m²
- o Lightning protected (tested at the Technical University of Darmstadt's high voltage laboratory)
- o Degree of protection IP67: moisture-proof even in harsh environmental conditions

Which situations does the RPD detect?

- o Rope has left liner groove
- o Rope moving off side plate
- o Rope has bypassed catcher shoe
- o Deropement towards inside of tower
- o Blocked sheave
- o Non-permitted sheave liner wear
- o Lost sheave



The RPD system has been installed on 65 ropeways to date: on chairlifts, monicable gondola lifts and Funitels. This system makes it possible to prevent damage to equipment, and consequently economic losses due to interruptions in service, through precautionary action. Examples are to follow in the next issue of WIR.

Investments to increase capacity

Over the last six months, Doppelmayr has increased production capacity at its Hohe Brücke plant in Wolfurt. The goal is to ensure an even faster response to customer requirements and on-time delivery of the huge order volume.

On the machining tool side, three large machines have recently been installed. This includes an almost 40 m-long machining system for small and large series production of key components such as detachable grips, sheave assembly parts, etc. It consists of four horizontal machining centers, a pallet magazine and three external loading and unloading stations. The pallet magazine holds 50 pallets with workpieces. The investment in this installation was made to replace two machines and to expand capacity. A traveling column milling center with 16 m travel and extensive peripheral equip-

ment is used to manufacture sheave assembly parts, bullwheel center pieces, RopeCon tower bases, etc. This requires additional systems such as e.g. two dividing heads and a rotary table of 2x2 m. The loading and unloading of workpieces is performed successively at three stations.

A new universal milling center with shuttle table is used to manufacture chain wheels for drives as well as frame parts for Funitels, TGDs and DCC vehicles.

The cutting department has a new flame-cutting and drilling robot in operation; this can flame-cut, mill and drill, and is required for weld seam preparation for sheave assemblies and for machining frame tubes.

An additional welding robot can handle bullwheels of up to 5 m in diameter and 5 tonnes in weight in one piece. This is used primarily to manufacture bullwheel segments and center pieces, and also for welding-intensive components such as RopeCon tower heads or tower bearings.



DMC 200 U universal milling center with shuttle table



SHW Power Speed 5 traveling column milling center with 16 m travel.



IGM-IBS drilling robot for weld seam preparation



The IGM welding robot can handle parts of up to 5 tonnes in weight



The four interlinked Makino A81 machining centers (to the right of the photo) with three loading and unloading stations (in white) and component set-up area (front)

Doppelmayr plant near Beijing

Doppelmayr began producing ropeway components at its Sanhe plant near Beijing in March 2006. The workforce consists of 12 permanent employees.

Prior to the opening of the new plant, Sanhe Doppelmayr Transport Systems Co. Ltd. (DMS) did not do its own manufacturing: DMS contracted this work out, inspected the results, performed the installation supervision and commissioning of new installations and was responsible for after-sales service.

All critical and know-how-intensive parts continue to be sourced from Wolfurt

DMS was founded in December 1995 as a wholly owned subsidiary of Doppelmayr Seilbahnen GmbH.

The aim has always been to maintain a presence in China and to manufacture components for China as soon as there was the appropriate demand in the Chinese market. That is now the case. As DMS Managing Director Ernst Nigg explains: "We are increasingly being forced into this situation. Some ropeway types such as fixed-grip systems (CLF, pulsed movement gondola lifts, surface lifts, bi-cable fixed-grip lifts) are only covered by

local manufacturers." – DMS was established to secure a market, rather than with the idea of outsourcing. Consequently, the company started off with the production of support frames and simple steel structures.

Facts & Figures

The plant is located in the Yanjiao Economic & Development Zone, Yanjiao w/ Sanhe 101601, in Hebei Province, approx. 45 km to the east of the center of Beijing (Tian'anmen) on the outskirts of the city. • Plot size 6.67 ha • Shop floor: 102 m x 60 m = 6,120 m², of which 5,400 m² are enclosed + 1,800 m² roofed • Two-storey office block, approx. 1,200 m². A building of this size was necessary to prevent expropriation of part of the land. A section of the office space will initially be let. • Workforce: 12 permanent employees plus freelancers as required.

