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2024

ISR

International Ropeway Review

OFFICIAL ORGAN OF OITAF

5-COUNTRIES SPECIAL

ROPEWAYS

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ISR INTERVIEW

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MAG. CLAUDIA MANTONA
Editor-in-chief

DEAR READERS,

By the time you are holding this issue of ISR in your hands, the summer season will already have started in most European ski resorts. All-year operation remains a growing trend for mountain resorts, and the development is becoming increasingly urgent from a commercial point of view. At present, however, the lion's share of revenues is still generated in winter for many ropeway operators. The overall picture in the last winter season was more or less the same in the Czech Republic, Poland, Bulgaria, Romania and Slovakia: A very promising start was made at the beginning of December, with abundant snowfall and perfect conditions on the slopes. Recent investments in snowmaking systems and new ropeway installations were also looking good. Visitor numbers and sales were very encouraging in the first half of the season (up to the end of January). As a result of the Covid 19 pandemic, many people in the region now seem to prefer to do their skiing and snowboarding at home rather than abroad, a development that naturally benefits the local ropeway operating companies. From the beginning of February, however, the second, much less positive half of the season began. It rained heavily for several weeks, only improving towards the end of the month, and there was flooding in some places, also due to a thaw with well above average temperatures. These freak weather conditions adversely affected visitor numbers and sales. From the end of February or end of March in some cases, ski resorts began to curtail operations, and some had to end the season early. So a winter season that started very well ended up below average and fell far short of initial expectations. This naturally applies to the lower-lying resorts even more than to those at higher altitudes.

I would also like to draw your attention to this year's Carpathian Mountain Fair, which will be held at the Cheile Gradistei Fundata Resort from June 5 to 7. ISR will have a stand at the event and will be represented by Petre Popa, jr., ISR's long-standing correspondent for Romania and Bulgaria.

Finally, may I remind you that our bilingual Newsletters (DE/EN and DE/FR) also provide information on current developments in the international ropeway and winter sports industries and mountain tourism. Simply register for the Newsletter on our website at **www.isr.at**, and you will receive it free of charge.

As always, I would like to thank everyone who has contributed to this issue of ISR, and I wish you, dear readers, an interesting read with our 5-Countries special.

Best wishes

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Industrial safety and ropeways

UNIV.-PROF. DIPL.-ING. DR. TECHN. JOSEF NEJEZ
Technical Editor of ISR

In connection with his professional activities in the field of ropeway engineering – as a lecturer and assistant professor, sworn expert to the courts and public bodies, and technical editor of ISR – Professor Josef Nejez has personally witnessed the developments in the ropeway industry over the last fifty years and has many a story to tell.

If you ask them, ropeway companies will always say how important it is to prevent occupational accidents on ropeways. But if you dig deeper, you will find that the necessary measures relating to workplace safety are not usually high on the agenda for either ropeway manufacturers or operators. For many, accident prevention suggests inconvenience and inefficiency, which is why the subject is often marginalized, forgotten and inwardly rejected. This is the psychological situation we are confronted with. The subject of industrial safety for ropeways is not new. Back in 1978, the ISR published an article by H. Andrae, Hamburg, an employee of the German Employers' Liability Insurance Association for Tramways, Subways and Railroads, and an acknowledged expert in the field of occupational health and safety, in which he gave an overview of both the general principles of occupational safety and the specific problems of ropeway operations. Excerpts from this article are presented below.

MAINTENANCE QUALITY

According to Andrae, the primary focus in ropeway component design is naturally on functionality, but it is nevertheless essential that systems can be repaired reliably in the event of a malfunction. On the subject of the quality of maintenance work, the author says:

> *This is a principle that applies to all technical equipment, but which is disregarded in the case of automobiles just as often as it is in aerial ropeway installations. The quality of the maintenance work carried out by the employees of an aerial ropeway has a direct influence on the safety of the passengers, because operating faults usually endanger the passengers – quite apart from emergency situations like an immobilized aerial ropeway.*
>
> *The quality of maintenance work depends directly on*
> *- the accessibility of all the parts requiring maintenance,*
> *- the safety of the workplaces where the maintenance is carried out,*
> *- the technical knowledge of the employees.*
>
> *The basic stipulation that all parts that require maintenance be accessible is today formulated in various statutory standards.*

WORKPLACE SAFETY

There are workplaces and workplaces, as the author shows with a striking comparison:

> *The influence that workplace safety has on the quality of maintenance work can be illustrated using a simple comparison. The electrician who has to fit a new limit switch in place of a defective one in a dry, heated workshop using a machine tool can pay full attention to the quality of his work. The aerial ropeway employee, on the other hand, is standing with one leg on the strut of a latticework tower, while kneeling on the haul rope with the other. He has to lean right out in order to replace the switch in a cramped position. And all the time a cold wind is blowing snow in his face.*

Andrae sees a particularly high risk in the outdoor use of leaning ladders. On ice and snow especially, it is almost impossible to find a firm base and prevent slipping, which is why they are no longer permitted where regular access is required – but this was not always the case.

Example of a tower head with platforms for safe working on the sheave trains

LINE TOWER AND STATION WORKPLACES

Minimum safety requirements for line tower equipment derive from the above considerations:

- fixed ladders for tower access
- hoops or cages at the top of the ladders
- sufficiently large platforms from which work can be performed.

Similar requirements apply to workplaces in stations, for example on overhead drives.

Moving parts, such as bullwheels and haul ropes, are a particular source of danger in the stations. If it is not possible to cover them, or where the covers have to be removed for maintenance work, lockable safety switches must be provided to prevent unintentional restarting of the installation while work is being carried out in such hazardous areas.

For the removal or mounting of carriers on chairlifts and hangers on surface lifts, a stable stand is of great importance; stepladders do not provide adequate safety. A safe setup must also be created for visual rope inspection work.

PHOTOS: ARCHIVE ISR, ARCHIVE OF J. NEJEZ

Access and platform for servicing the brakes on the bullwheel of an overhead drive

The platforms on the carriage are a particularly striking feature of this old reversible aerial tramway. They are designed to ensure safe working when the track rope brakes have to be released following emergency braking.

PHOTOS: J. NEJEZ

ROPEWAY CARRIERS

Andrae devoted a separate section to ropeway carrier design from an occupational safety perspective, including an overview of all the issues that need to be resolved for rescue operations from an immobilized cabin. The original text reads:

> *In carrier design, thought is rarely given right from the beginning to passenger rescue from an immobilized cabin and to the measures to be taken by ropeway personnel in the event of a malfunction. It is only when an emergency occurs that the relevant questions are posed: How does the rescue party get to the stranded passengers? How do you open the gondola doors on a lift from the outside when you have to climb down from the haul rope? Where is there a hold for hands and feet when climbing down? Where can abseil equipment be attached if that mode of rescue is possible? A question in the case of large cabin tramways is how the attendant can access the releasing device of an actuated track rope brake. Can personnel walk safely on the cabin roof without slipping or putting their foot through the roof? Have suitable treads been fitted? Is there a suitable platform for them to stand on to reach the carriage? What tools do they need to release the brake? Tools which can be dropped and then fall to the ground are useless. These are all questions which must be answered for ropeway operations in the context of occupational health and safety.*

It would be unfair to suggest that ropeway designers in general do not give thought to these issues. Significant improvements have in fact been made over the last few decades – not least as a result of the EU ropeway standards outlined below.

THE HUMAN FACTOR

In the perception of the individual, workplace accidents are a rare occurrence. This is why people tend to suppress the fact that accidents could happen in their own lives that affect them personally or their employees. This is a psychological threshold that is present in all spheres of life where accident prevention measures are required. To overcome this threshold, Andrae says:

> *Safe practice requires insight on the part of the person involved. Insight can only be replaced by habit or coercion. … Where insight is lacking, habits must be formed through training, instruction and supervision, and if necessary coercion exercised.*

By way of example, the author cites the use of safety helmets on construction sites. They are often worn, not because it makes sense to the individual but because it is a regulation and/or has become a habit. The same applies to the use of safety harnesses and other items of personal protective equipment.

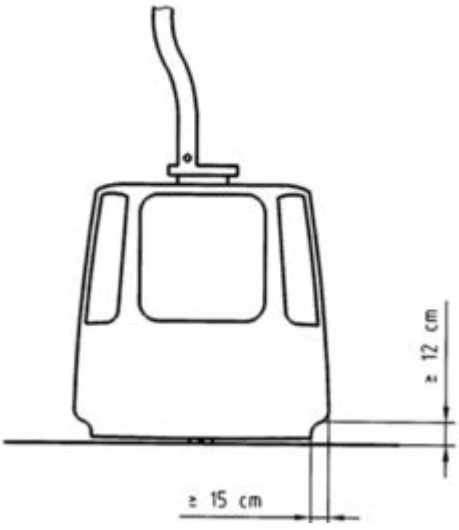
DEVELOPMENTS IN THE FIELD OF OCCUPATIONAL HEALTH AND SAFETY REGULATIONS FOR ROPEWAYS

Since the publication of Andrae's paper, time has not stood still in the field of occupational health and safety. As in the case of the technical ropeway standards, national health and safety regulations have been replaced or supplemented by provisions that apply at a European level. This has been achieved through the work of Technical Committee TC 242 (*Safety Requirements for Passenger Transportation by Rope*) of the European Committee for Standardization.

On the subject of occupational health and safety, a separate ad hoc working group was set up in TC 242, comprising experts in the field nominated by the various countries. I was a member of this body as head of the relevant Austrian employee protection authority. Many of the experts came from the engineering industry and knew nothing about ropeways. This resulted in frequent cases in which these people wanted to apply regulations from their fields of work to ropeway operations, for which they were entirely unsuitable, – and to lengthy negotiations, sometimes with heated discussions.

A lot of time was spent in the meetings of TC 242 debating whether the health and safety regulations should be combined in a separate sub-standard of the ropeway standards or whether it would be better to incorporate them into the various parts of the ropeway standards. In the end, the latter solution was adopted. Although this reduces the clarity of the overall picture of the health and safety regulations, the individual regulations can be found in the sub-standards for the components or operational processes for which they are relevant. A good example is the European ropeway standard EN 13107 (*Safety requirements for cableway installations designed to carry persons - Civil engineering works*), which contains two and a half pages of detailed provisions for the following aspects in Chapter 12:

12.1 Carrier foot clearance
12.2 Work platforms
12.3 Access to work platforms
12.4 Gangways for return stations
12.5 Rope lifting devices
12.6 Running rails for carriers
12.7 Provisions for load handling devices
12.8 Handling devices for drive elements
12.9 Anchor points for tensioning ropes



Example of safety regulations in the ropeway standards: In order to prevent foot injuries to both passengers and ropeway personnel, the specified clearance must be observed in the design of the carrier foot – with the exception of platforms for level access.
(Source: ÖNORM EN 13107)

In this staged scene, an employee wearing a full safety harness finishes up in the upright position after a fall. When the fall of a person who is only secured with a body belt around the waist is arrested, the pull of the rope may cause the body to bend unnaturally, resulting in serious injury.

In the context of the periodic revisions of the EU ropeway standards, the relevant health and safety regulations are also updated and further developed.

OCCUPATIONAL SAFETY VIDEO: "SICHERHEIT AM SEIL" ("ROPEWAY SAFETY")

I well remember the work on a video that was filmed in 1991 as the Austrian entry for an international competition for occupational safety videos. The director and camera team were from the Austrian Broadcasting Corporation (ORF), and I was called in as the representative of the relevant authority to select appropriate occupational safety topics and advise on realistic staging. *Arlberger Bergbahnen*, the Tyrolean ropeway company that operates the St. Anton am Arlberg ski resort, agreed to make two of its chairlifts available for shooting the video, and a number their employees were happy to serve as actors in the chosen scenes.

We shot scene after scene in glorious weather. They showed critical situations and errors made by ropeway personnel that could cause accidents such as touching the running haul rope or working under a tower without a safety helmet when work is being carried out on the tower head at the same time and tools could be dropped. For these scenes, a banana was used to illustrate the risk of fingers being trapped between the rope and a sheave, while the employee's unprotected head under the tower was drastically simulated with a watermelon.

I know very little about the closing event of the international film competition, which was held in India, apart from the fact that Austria was awarded one of five second places, which was considered an admirable result. The occupational safety video was subsequently made available to ropeway operators and served as a popular teaching aid for staff training.

Josef Nejez

PHOTO: J. NEJEZ

Jubilee edition of Interalpin

LEADING TRADE SHOW **What began on a small scale in 1974 has developed over the past five decades into what is probably the most important venue for the international ropeway industry. The jubilee edition of Interalpin will be held at Messe Innsbruck from May 6-9 2025.**

Fiftieth anniversary of Interalpin: The industry will once again be gathering at Messe Innsbruck on May 6-9, 2025.

The anniversary edition of Interalpin will once again be a hotspot for the international ropeway and alpine technology industries. In the right place at the right time – this in a nutshell describes the origins of Interalpin. With the expansion of alpine technologies and the boom in winter tourism in Tyrol, the trade show became one of the world's most popular industry venues with a great global appeal.

THE RISE OF A MUST-ATTEND EVENT

In 1974, a ropeway industry product presentation took place in the framework of the International Ski Congress at the Kurhaus in Igls, which is now run by Congress Messe Innsbruck (CMI) as *congresspark Igls*. One year later, the presentation was held at *Kongresshaus Innsbruck* and renamed Interalpin. Fifty years ago, everything was a lot smaller, but within a few years the event had become a growing platform with a global appeal. In 1977 Interalpin was held as an independent exhibition for the first time – under the tagline "Trade Exhibition for Winter Service Equipment" – with 72 exhibitors and visitors from over 20 countries. In 1978, the number of exhibitors increased to 84 and in 1980 to 120. With Congress Innsbruck bursting at the seams at the beginning of the new millennium, Interalpin moved to Messe Innsbruck in 2002, where it is still held and continues to grow today. In 2023, Interalpin attracted over 35,000 trade visitors from approx. 130 nations and around 650 exhibitors from over 50 countries.

PREPARATIONS FOR THE ANNIVERSARY EDITION

On May 6-9, 2025, Interalpin will once again be showcasing the latest innovations and topics in the industry. "The 50th anniversary of Interalpin provides an opportunity not only to look back but above all to look forward to future developments. More than ever, it is important to explore the responsibility the industry has in times of multidimensional societal and climate changes and see how these can be utilized as opportunities. Numerous specialists will contribute their expertise to the range of products and information on offer at Interalpin 2025," says Project Manager Stefan Kleinlercher.

The event will start on the first day with the opening ceremony followed by the *Austrian Ropeway Conference* organized by the Austrian Ropeway Association and will conclude with the festive *Interalpin Snow Crystal Gala*. The *Interalpin Inspiration Days* on days 2 and 3 will highlight current issues in the industry with high-calibre keynote speakers and expert presentations and provide a platform for discussion.

As regular items at Interalpin, the General Assembly and seminar of the International Organization for Transportation by Rope (OITAF) also forms part of the program. An Interalpin delegation will be attending the 2024 OITAF International Ropeway Congress to be held in Vancouver on June 17- 21. For further information on the jubilee edition of Interalpin, go to www.interalpin.at.

TS

At Interalpin 2023, trade visitors from over 130 countries came to Innsbruck to get the latest information on developments in the industry.

PHOTOS: CONGRESS MESSE INNSBRUCK, ÜBERALL

New installations for Central Eastern Europe

LEITNER With no fewer than eight installations completed in 2023, Leitner has made a major contribution to the further development of winter sports and mountain tourism in Bulgaria, Poland and Slovenia. Leitner is also building its modern ropeways there in 2024.

Bottom station of the CD6 *Malina* 6-seater chairlift in Pamporovo (BG) with *EVO Premium* chairs with luxury padding

The Leitner *DirectDrive* in Pamporovo has a rated output of 794 kW.

"The last two years have seen a clear upturn." That is how Michael Teissl, Sales Area Manager at Leitner for a region that includes Slovakia, Poland, the Czech Republic and Bulgaria, explains business developments in Central Eastern Europe to ISR. "Maybe it's due to the corona virus pandemic, but many people have realized that they also have great ski areas in their own countries – and the skiing experience, along with good food and mood, makes it comparable to the most well known places in the Alps." These countries are accordingly enjoying a real boom regarding all aspects of the mountain experience, and ski resorts are investing heavily, whether in new facilities (in existing ski areas) or in replacement installations.

PAMPOROVO SKI ZONE

The Pamporovo winter resort in Bulgaria, which is also a well-known climatotherapy center, is located at an altitude of 1,650 m in the heart of the Rhodope Mountains at the foot of Snezhanka (1,928 m). Back in the 1980s, before the fall of communism, there were already four fixed-grip and one detachable chairlift as well as three surface lifts in the area. With the construction of the new CD6 *Malina* detachable 6-seater chairlift as a replacement for a detachable 3-seater chairlift built by Poma in 1986, Leitner has brought the efficiency and quality of a modern transport system to an area with almost 30 kilometers of ski slopes. The installation operates with a Leitner *DirectDrive* and 104 *Premium* Chairs *EVO* with padded and heated seats. At final capacity, the chairlift will carry an impressive 3,000 pph on its 2,056 m long line.

"The decision to replace the old 3-seater chairlift was triggered by the installation of a snowmaking system on the northern slopes of the resort," says Marian Beliakov, CEO of Pamporovo, and he adds: "This has led to a significant increase in the flow of tourists to the Malina Ski Area, as well as a general increase in both Bulgarian and foreign tourists visiting Pamporovo." As a ski destination, the resort is renowned for its popularity among novice skiers, making it a preferred choice for families with young children. The primary clientele of the Pamporovo resort includes Bulgarians,

The 10-seater *Hala Skrzyczeńska* gondola lift built in 2017 is one of the seven Leitner installations in the Szczyrk area (PL).

PHOTOS: LEITNER (2), R. GRIC

British, Irish, Romanians, Turks, Serbs and Macedonians. Before the conflict between Russia and Ukraine, the resort also attracted many tourists from Russia, Ukraine, Moldova and Belarus. During the summer months, there are currently two lifts operational in Pamporovo, primarily serving the downhill mountain biking trails. However, there are plans to add more lift facilities to accommodate the development of new bike trails and various attractions, says Marian Beliakov.
The CD6 *Malina* 6-seater chairlift opened on December 8, 2023 after an eight-month construction period, and according to Marian Beliakov the resort was highly satisfied with the work done by Leitner: "The process of constructing and installing the new towers and stations, and commissioning the facility just before the start of the winter season was executed seamlessly."

NEW LIFT IN POLAND

Leitner built the SL2 *Jaworzyna* surface lift in the Szczyrk Ski Resort in southern Poland in the 2023/2024 winter season. It has a capacity of 800 pph and is the seventh Leitner installation opened in the resort since 2013 (two detachable 4-seater chairlifts, three detachable 6-seater chairlifts and a gondola lift). The surface lift also serves an all-season toboggan run (Mountain Coaster). "It is very important for us and makes us proud to be on board as a partner in Szczyrk, one of Poland's leading winter sports resorts and a key training location for top Polish athletes," says Teissl.

SIX NEW INSTALLATIONS IN SLOVENIA

An impressive number of new installations have also been built in Slovenia. The Krvavec Ski Resort is one of the most popular in the country. The ski area opened in 1958 with the construction of a detachable 2-seater gondola lift made in the former Yugoslavia. This feeder system was replaced in 1973 by a Poma 4-seater gondola lift with its typical egg-shaped cabins, which finally had to make way for today's 6-seater gondola lift in 1999. This winter sports area in the Gorenjska region (Upper Carniola) serves as the local mountain for the capital Ljubljana and has a total of 30 kilometers of pistes and 13 lifts at an altitude of between 1,450 and 1,970 meters above sea-level. Here, too, the construction of a new 6-seater chairlift makes a significant contribution towards modernizing the ropeway infrastructure. The new CD6C *Zvoh*, with *Premium Chairs EVO*, padded and heated seats, and bubbles, replaced a double chairlift. With a capacity of 1,460 pph, the new chairlift serves a red and a black slope from Zvoh (1,971 m), the highest peak in the ski area.
Velika Planina is a family ski area and extensive walking area located on a karst plateau above the valley of the Kamiška Bistrica river, about an hour's drive from the Slovene capital Ljubljana. From the valley, the area is accessed by a single-span aerial tramway with a line length of 1.6 km. When the ropeway, which has since been refurbished several times, was opened in the former Yugoslavia in 1964, the *Šimnovec* single chairlift was built from the top station to the 1,666 m high summit of Gradišče. In 2000, this was replaced by a fixed-grip double chairlift (pre-owned). Over 20 years later, this installation was showing its age and was replaced in December 2023 by a modern 6-seater chairlift. With its 41 chairs, the new Leitner ropeway can transport 1,500 passengers per hour to the top of Gradišče, providing access to three kilometers of red and

In Krvavec (SLO), this 6-seater chairlift serves a red and a black slope in the ski area from the summit of Zvoh (1,971 m).

Top station of the CD6 *Šimnovec* 6-seater chairlift in Velika Planina (SLO) on the 1,666 m high summit of Gradišče

Bottom station with loading conveyor for the new CF4 *Ruška* fixed-grip 4-seater chairlift in Mariborsko Pohorje (SLO)

The Mariborsko Pohorje Ski Resort has been served by Leitner's *Pohorska Vzpenjača* 8-seater gondola lift since 2009.

PHOTOS: LEITNER, ERŽEN GREGA, VISIT POHORJE, R. GRIC

blue slopes and a toboggan run. Like its predecessor, the new 6-seater chairlift also operates with the *Zeleni Rob* midline station, which is the location of a mountain restaurant of the same name plus a snack bar and is the starting point for several hiking trails in summer.

Kope is a mountain tourism and winter sports destination in the highest, westernmost part of the Pohorje mountain range above the town of Slovenj Gradec and serves as a center for skiing and outdoor leisure activities for the Koroška region of Slovenia. Leitner built two fixed-grip 4-seater chairlifts in the area in 2006 (Kaštivnik) and 2011 (Pungart). Based on the excellent performance of these ropeways, it was decided in 2023 to further upgrade the area with the construction of two more ropeways of this type, namely the CF4 *Kopnik* and CF4 *Pahernik* plus the SL1 *Velika Kopa*. The two new chairlifts, each with a capacity of 2,000 pph, operate with 56 and 69 chairs respectively.

In Mariborsko Pohorje, Slovenia's largest ski resort, where the country's first gondola lift opened in October 1957, a new fixed-grip 4-seater chairlift, the CF4 *Ruška*, was built for the 2023/2024 winter season. With its 102 chairs and a line length of just under 1.3 kilometers, the new chairlift has a rated capacity of 2,000 pph. The Maribor ski area, which is well known as the venue for women's World Cup races, has 35 kilometers of slopes and 14 ropeways. Thanks to the high standard of slope maintenance, skiing conditions here are ideal despite the relatively low altitude. The winter sports resort also boasts one of Europe's longest night skiing slopes.

OUTLOOK ON 2024

The new Leitner CD6C *Doliny III* 6-seater chairlift, with a line length of 1,150 meters and a transport capacity of 1,800 pph, is scheduled to open in time for the upcoming winter season in Szczyrk, Poland. Due to the instability of the slope in the area of the bottom station, civil engineering works for the ropeway have been delayed and the opening of the ropeway planned for 2023 has had to be put back. The client is COS – Centralny Ośrodek Sportu (Central Sport Center), who is constructing a 300 m long inclined elevator with an intermediate landing with Leitner in the nearby Wisla Ski Resort to serve a ski jump. The project includes the development of a new 40-passenger vehicle based on a 3S *Symphony* cabin configured as an inclined elevator – a first for this cabin type. Instead of the middle bench, the cabin has a fixture for transporting the long jumping skis. The ropeway, a replacement for a Leitner double chairlift, will also be used for tourism in summer and thus operate all year round.

In Bulgaria, a 4-seater chairlift with bike carriers for all-season operation is being built at the Malyovitsa Ski Resort.

At Bachledka Ski & Sun, a Slovakian family ski resort and summer tourism center, a new 6-seater chairlift (CD6C *Malá Franková*) will open in winter 2024/2025 to serve the *Furmanec I* and *II* trails. The lift, which will only operate in winter, will have 66 chairs with padded seats, bubbles and individual footrests and will run at 5 m/s over a line length of 1,100 m for a rated transport capacity of 2,950 pph. The Leitner *DirectDrive* and haul rope tensioning system are located in the bottom station, where the chairs will also be parked. Parallel to this investment, the snowmaking system on *Furmanec II* will also be upgraded. The main ropeway in Bachledova dolina is a modern 10-seater gondola lift built by Leitner in 2018.

SUMMER ON THE MOUNTAIN

Summer attractions are becoming increasingly important in the region of Central Eastern Europe. The ski resorts there are mostly located at lower altitudes, and reliable snow cover is an issue – as the last winter season showed once again. For Leitner's Sales Manager Michael Teissl the situation is clear: "People in these countries are aware of the problem and are investing in their summer offerings. I see more gondola lifts being built than chairlifts, and all-season operation is now a key consideration. Summer tourism on the mountain is currently very much on the upturn in these countries." He sees growing demand for green, nature-oriented tourism in addition to exciting sports activities and is convinced that such solutions as the new bike rack developed by Leitner or automated Mountaincart transportation, as implemented on the new GD10 *Plose* gondola lift in Brixen in South Tyrol, will also find their way to Central Eastern Europe.

Roman Gric/Thomas Schweighofer

This Leitner double chairlift, which is used for the ski jump in Wisla (PL) in winter and by visitors in summer, will be replaced this year by an inclined elevator, also from Leitner.

In the Bachledka Ski and Sun resort (SK), where Leitner is building a new 6-seater chairlift this year, this 10-seater gondola lift was opened in 2018.

PHOTOS: R. POLCER, R. GRIC

Extend your reality!

XR, AR, VR and MR will change the travel experience of the future.

MAG. URSULA WEIXLBAUMER-NORZ
Expert for Kids and Family Marketing
kids&fun consulting

Extended reality (XR) is an umbrella term covering various technologies that blur the distinction between the physical world and the virtual world. XR combines three main forms of immersive technology: virtual reality (VR), augmented reality (AR) and mixed reality (MR). Each of these technologies offers a unique experience that revolutionizes how we perceive the world and how guests will consume their travel experiences.
Let's start by taking a look at these three main concepts:

1. Virtual reality (VR): Virtual reality is a technology that transfers the user into a completely artificial, virtual environment. It involves the use of dedicated VR headsets or goggles to fully capture the user's visual and sometimes auditory perception. This results in the user feeling completely immersed in a computer-generated world.

2. Augmented reality (AR): Augmented reality adds digital content to the physical world. Computer-generated elements are integrated into the user's field of vision and combined with the real environment.

3. Mixed reality (MR): Mixed reality is a further development of AR, which merges virtual content seamlessly with the real environment. Unlike AR, however, the virtual objects in MR interact dynamically and realistically with the physical world. The technology recognizes the environment and adapts the virtual objects accordingly.

Extended reality has the potential to impact many fields of life, including tourism. With the development of increasingly powerful devices and advanced software, XR is becoming more accessible and offers endless opportunities for innovation. In the future, we could see a fusion of the physical and virtual worlds, with XR as an integral part of our everyday lives. We already call Generation Alpha, i.e. children born between about 2010 and 2025, "virtual natives"; they are the first generation to grow up with virtual and augmented reality. For them, it is all normal, and we have to adapt to this generation and their technology mindset in tourism as well.
In the future, XR will play an even greater role in tourism and will further enhance the travel experience for our guests. Here are some ways XR might be applied in the tourism industry in the years ahead.

1. Virtual travel planning: Tourists could make use of XR technologies to virtually explore potential destinations in advance. Through immersive VR "visits", they could assess various mountain experiences, hotels, attractions, and activities and so make better informed decisions for their trip.

2. Augmented reality as a travel companion: AR applications could be employed by visitors on their trip to display useful information about sights, restaurants, stores and public transport. They could use their smartphones or AR glasses to find their way around and receive local insider tips.

3. Virtual tourist attractions: With guests able to experience virtual attractions in a mix of AR and VR, it would be possible to reduce visitor numbers and manage crowds at popular locations in the real world.

4. Personalized travel experiences: XR can be used to offer personalized travel experiences that match visitors' individual interests and preferences. Based on VR profiles and user data, tour operators could create customized tours and activities tailored to visitors' specific needs and ideas.

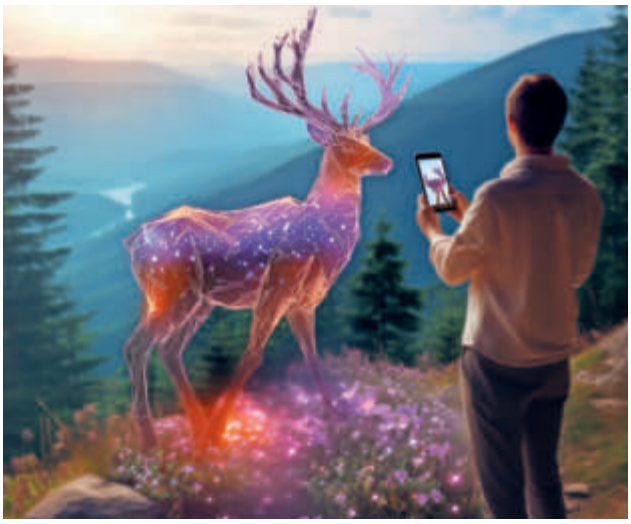
5. Cultural and historical interaction: XR can help bring historical events and cultural traditions to life. A virtual tour of a mountain, for example, would allow guests to experience its beauty at different times of the year or to see how the mountains were managed in times gone by. This would help them achieve a deeper understanding of the region.

6. Interactive travel experiences / story living: XR can make the travel experience more interactive through full immersion in stories. For example, guests could participate in a virtual tour or scavenger hunt in a mountain experience world.

7. Sustainable tourism: XR could help reduce the environmental footprint of tourism by promoting virtual travel experiences. Instead of physically traveling to certain places, guests could visit them virtually and so minimize the environmental impact. Perhaps people will pay for such experiences in the future.

By integrating XR applications, guests can discover the region in new and exciting ways while benefiting from personalized, interactive and sustainable travel experiences.

Ursula Weixlbaumer-Norz



PHOTOS: ANDREA FRÜHRNSCHOPF, MIDJOURNEY

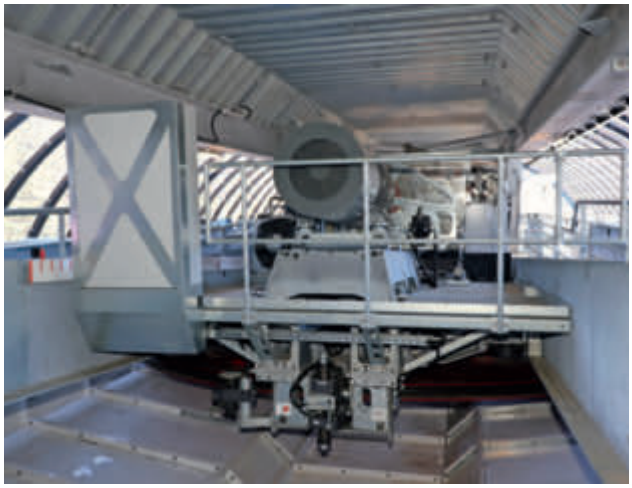
Biggest ropeway capital investment project in the Czech Republic in 2023

DOPPELMAYR GROUP **On December 16, 2023, a new Doppelmayr 6-seater chairlift was opened in the largest and very popular Bílá Ski Area in the Moravian-Silesian Beskids.**

Top station of the new *Bílá – Zbojník II* 6-seater chairlift

Bottom station of the *Bílá – Zbojník II* 6-seater chairlift

Doppelmayr *Connect* control system in the bottom station



Hydraulic tensioning for the overhead drive unit in the bottom station

Bílá is a mountain village in the valley of the Bílá Ostravice river, about 45 minutes by car from Ostrava, the third largest city in the Czech Republic. It had a ski jump back in 1937, but that was dismantled in the 1960s. In the early 1960s, students from the local forestry college who were keen on skiing cleared a strip of forest to create the first ski slope in the area by the name of *Zbojnická*. In 1965 the *TJ Vítkovice* sports club, the direct predecessor of the current operator, designed and built the first ski tow. In 1980, it was replaced by a Tatrapoma surface lift with detachable hangers, which was followed in 1997 by a modern Doppelmayr surface lift. In 2003, another surface lift was built on the opposite (southern) slope, also by Doppelmayr – with an unusual triangular rope configuration, i.e. an angle tower for the uphill rope but with the empty downhill rope running in a straight line high above the ground.

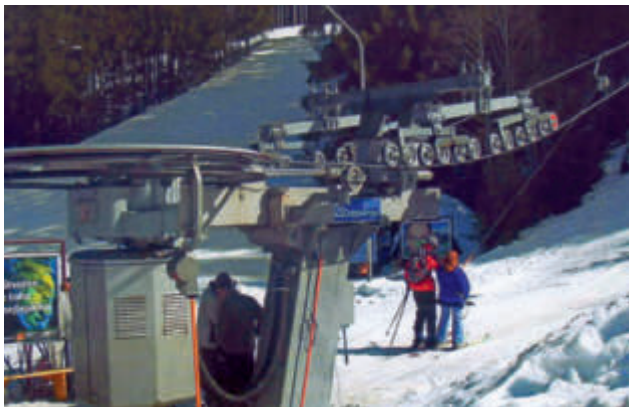
FIRST CHAIRLIFT IN THE AREA

The growing popularity of the ski area led to long lift lines at the *Zbojnická* surface lift on busy days, and the decision was taken to replace it with a chairlift with a rated transport capacity of 2,400 pph, namely a Doppelmayr fixed-grip quad with conveyor loading and *ChairDrive*, which was opened on December 8, 2006. The surface lift built in 1997 was later re-erected as a parallel lift on the northern slope to provide additional transport capacity.

MOST MODERN ROPEWAY IN THE MORAVIAN-SILESIAN BESKIDS

In view of the well-known drawbacks of fixed-grip chairlifts,

PHOTOS: R. POLCER, R. GRIC (3)



The first Doppelmayr installation on the line of today's chairlift was this surface lift, which is still in operation as a parallel system to the chairlift.

The first chairlift in Bílá was this Doppelmayr fixed-grip quad (2006 – 2023).

PHOTOS: DOPPELMAYR GROUP, R. POLCER

the first plans were made after about ten years of operation to invest in a modern detachable chairlift with heated seats and bubbles. In 2023, all the necessary approvals for the new installation had finally been obtained and the financing secured. On April 23, 2023, the fixed-grip quad chairlift was used for mountain biking races, and just one day later work began on dismantling it. This was done with the greatest care as the ropeway was still in very good condition and was subsequently sold to the nearby Karolínka Ski Area as a replacement for a surface lift.

TECHNICAL DATA
6-seater chairlift *Bílá – Zbojník II*
(with heated seats, bubbles and 90-degree loading)

Elevation of bottom station	544 m a.s.l.
Elevation of top station	743 m a.s.l.
Line length	806 m
Vertical difference	229 m
No. of towers	11
Haul rope diameter	43 mm
Drive	bottom station
Rated output (starting/continuous)	403/314 kW
Tensioning system	bottom station
No. of chairs	41 (48)*
Chair spacing	45.0 m (38.6 m)*
Max. line speed	5.0 m/s
Transit time	3.1 min
Rated transport capacity	2,400 pph (2,800 pph)*

*) final design in brackets

The new 6-seater chairlift has the same line as its predecessor. At 2,400 pph, the rated capacity is also identical, but transit time has been almost halved. All 41 6-seater chairs have high backrests, heated seats and bubbles. They are parked on the turnarounds in the two stations. Seven more chairs can be added for a final design capacity of 2,800 pph, but that will not be done until a planned beginners' slope with a length of about 1 km has been built. As Bílá is popular with mountain bikers, the chairs have hooks for transporting the bikes.

The new ropeway has *UNI-G* stations with a high enclosure. The overhead drive in the bottom station is a classic solution comprising an electric motor and a gearbox, with the complete drive unit and bullwheel tensioned hydraulically. There is also a platform for maintenance work and grip inspections. For reasons of space (skiers arriving from the slope), the chairlift has 90 degree loading and a loading conveyor.

The line has eleven towers. The existing footings were reused in four cases, while three had to be upgraded prior to

The new chairlift is popular in winter and summer. View of no. 11 tower and the line from the top station

reuse, so that only four completely new footings were required.

POPULAR IN WINTER AND SUMMER

Bílá is not only the largest ski area in the Ostrava region, but also the most varied. The practice slope and ski school are located on the more gentle southern slopes, while the steep northern slopes feature long red trails and a racing piste with FIS homologation. For freestylers, the area also has a 300-meter-long snow park. In keeping with the popularity of the ski area, the snowmaking systems and snow groomer fleet are constantly being modernized.

Given the limited accommodation options, the area attracts mostly day visitors, and free parking is available for 750 cars. The abbreviation z.s. in Ski Vítkovice-Bílá z.s. means the company is a registered association, and the ski area is one of the last in the Czech Republic that is still owned by a citizens' sports club. Of the total sum of 150 million Czech crowns (approx. 6.0 million euros) invested in the new chairlift, the National Sports Agency and the Moravian-Silesian Regional Authority contributed CZK 55 million (2.2 million euros). The remainder was financed out of the association's own funds, from the sale of the fixed-grip chairlift and through loans.

"The premature end to the winter season in February 2024 due to high temperatures and heavy rain was obviously disappointing, although a poor winter season following the opening of a new facility is something of a tradition for us. At all events we are optimistic about the future of the area and are constantly upgrading our summer season offering, e.g. with the construction of single trails and the addition of further facilities for families with children," says Jaroslav Vrzgula, Managing Director of Ski Vítkovice-Bílá z.s.

Roman Gric

90-degree loading in the bottom station

Help is provided for loading and unloading the bikes.

Bílá is a paradise for mountain bikers in summer.

PHOTOS: R. POLCER, R. GRIC (4)

Whether the prospects remain positive and where the challenges lie were the subject of interviews recently conducted by ISR with the chiefs of the ropeway associations in Switzerland, Germany, South Tyrol and Austria. (pictured: Stubaier Gletscher in Tyrol, Austria)

Fit for the future?

INDUSTRY TRENDS **ISR asked the chiefs of the ropeway associations in the German-speaking countries of the Alps what answers the industry has to such challenges as today's labor shortages, climate change and economic crises.**

BERNO STOFFEL
Director of the SBS (Swiss Ropeway Association)

ISR: Herr Stoffel, have the markets changed in the last few years? For which guest groups or markets do you see positive trends?
Berno Stoffel: During the coronavirus pandemic, Switzerland was the only country that did not impose a lockdown in the winter of 2020/21 and did not introduce a mandatory vaccination certificate in 2021/22. That resulted in an 8% increase in Switzerland's share of the European market. What we currently see is that the Swiss have remained loyal to their domestic vacation destinations, while the European market has recovered, and market shares are returning to around their previous levels. The transatlantic market is developing particularly well, both in winter and summer. And we are seeing very positive trends in the excursion business, particularly with regard to the Asian market.

ISR: The SBS is promoting relevant training schemes under the banner *Alpine Tech Heroes*. What do you hope to gain from the campaign?
Berno Stoffel: The apprenticeships in Ropeway Mechatronics and Ropeway Operations are excellent entry points for a career in the ropeway industry, and yet not so many people are aware of these opportunities. With our trainee campaign, we want to change this situation. In addition, around a third of the technical managers of Switzerland's ropeways will be retiring in the next five years. These people are certified ropeway specialists and have usually completed an apprenticeship in ropeway mechatronics. As a result, there is increasing pressure to train more ropeway mechatronics engineers and then technical managers to fill the upcoming gaps.

ISR: Ropeway companies have long been implementing climate protection measures. How can this commitment to the environment be better communicated to the public?
Berno Stoffel: It is true that ropeway operators are doing a lot to protect the environment and mitigate climate change and are making significant contributions in this field. Unfortunately, there is little public awareness of these efforts, and ropeways tend to have a negative image in terms of environmental impact. This doubtless has to do with the conflicting goals of land use and environmental protection. We are currently working on a broad survey in which ropeways can report their positive initiatives so that we can then collect, process and communicate them.

ISR: How well have the ropeway companies weathered the crises of the last few years?
Berno Stoffel: It is well known that political, climatic and economic crises have negative impacts on tourism. Switzerland's ropeways have shown time and again that they are resilient – be it the context of the strong Swiss franc, the coronavirus pandemic, the rise in electricity prices or the threat of power shortages like last winter. But they are also innovative – as demonstrated by the projects that were nominated for and won the *Swiss Mountain Award* last year.

PHOTOS: ANDRE SCHÖNHERR, SEILBAHNEN SCHWEIZ/THOMAS HODEL

MATTHIAS STAUCH
Chairman of the Board at the VDS (German Ropeway Association)

ISR: Herr Stauch, there is plenty of interest in winter sports and the mountain experience, but this cannot be taken for granted. What can the ropeway operators do to maintain this level of demand?
Matthias Stauch: Our job is to focus more on the positive emotions associated with skiing. And we need to get more children and young people back on the slopes – my generation learned to ski on the village lift. We need more ski camps again. Many enterprising ski schools are working hard to address this issue and communicate the joys of sport. Unfortunately an absurd discussion is taking place, especially in the cities, about whether skiing is ethically defensible in the present situation. The winter sports bashing that is now so common is something we must counter resolutely and provide the public with factual information.

ISR: The VDS argues that ropeways are the "allies of nature and the climate" with an optimum "social, economic and ecological footprint". But are there any ways in which the industry could still adjust?
Matthias Stauch: This is a subject that we take very seriously indeed. One of the keys is doubtless the question of the mode of travel to and from the resorts. To encourage rail travel, for example, we have developed combined tickets in cooperation with Deutsche Bahn. Grooming the slopes is another issue: Ropeway operators are making increasing use of HVO (hydrotreated vegetable oil) and e-fuels but are coming up against capacity constraints. The issue of power generation also needs to be addressed. Austria, for example, is ahead of Germany when it comes to hydropower. Approval procedures here also need to be streamlined. So ropeways still have significant opportunities for reducing their ecological footprint. With regard to snowmaking, too, progress continues to be made in terms of system optimization. Individual measures such as eliminating single-use packaging in the hospitality trade are also relevant. We must continue to make adjustments in all areas. So yes, there are many ways in which the industry can continue to move forward.

ISR: What role can and should urban ropeways play in the future?
Matthias Stauch: Here again people sometimes have strange reservations: Some are afraid that passengers on an urban ropeway will be able to see into their bedrooms or that the townscape will be cluttered with towers. Germany has a few examples of urban ropeways, such as those built for the Federal Horticultural Shows in Koblenz and Berlin. I hope there will be many more such projects in the conurbations of regions like North Rhine-Westphalia. The advantages of urban ropeways are obvious; in certain situations they make more sense than subways. But further awareness building is definitely required.

ISR: Economically speaking, how well positioned are Germany's ropeway companies for the future?
Matthias Stauch: Germany's ropeway operators coped well during the crisis years by reacting quickly to the challenges and adapting accordingly. The aid provided by the government, especially the short-time work scheme, was also clearly helpful. Climate change is certainly hurting the industry, but our summer product is one of our strengths, and there will be a growing focus on the year-round offering. The important thing is to analyze the situation correctly.

HELMUT SATORI
President of ANEF South Tyrol (South Tyrolean Ropeway Operators Association)

ISR: Herr Satori, all players are called upon to implement climate mitigation measures. How active are the South Tyrolean ropeway companies in this respect – and with regard to communicating the measures taken?
Helmut Sartori: Our operators are doing a lot and are always looking for ways to make further improvements, with a focus on efficient capital spending in the right places. With regard to the production of green electricity, for example, some of our members in South Tyrol also operate hydropower plants. We are constantly working on these challenging tasks and will be focusing even more on these issues in the future. In terms of communication, too, there is still a lot to be done.

ISR: What role does the summer in the mountains play for South Tyrolean ropeways?
Helmut Sartori: We have 358 lifts in South Tyrol (note: as at the end of 2022 according to the Provincial Institute for Statistics), just over a hundred of which are also in operation in summer. What we have seen in recent years is a bigger increase in sales in the summer months than in winter. I am convinced that there will be something of a market shakeout in winter, whereas the summer months will deliver more growth.

ISR: What challenges will South Tyrolean ropeway companies be facing in the foreseeable future?
Helmut Sartori: In the next few years general operating conditions will continue to change. Higher inflation rates in recent years have led to cost increases. As I said, I am expecting a market shakeout in winter. For ski areas of a certain size, it is becoming more difficult to implement capital spending

PHOTOS: BAYERISCHE ZUGSPITZBAHN BERGBAHN AG, VERBAND DER SEILBAHNUNTERNEHMER SÜDTIROLS

programs as quickly as they would wish. On the other hand, we must not forget that many destinations, in some cases entire valleys, are dependent on tourism, especially winter tourism. So solutions have to be found.

ISR: What developments are giving you optimism for the future?
Helmut Sartori: It's great to see that interest in snow experiences has remained high this winter season and that skiing is still very popular. This makes me feel very optimistic. Visitors to South Tyrol have also become more international, although Germany and Italy remain our core markets.

FRANZ HÖRL
Chairman of the Ropeway Operators Group at the Austrian Chamber of Trade and Industry (WKÖ)

ISR: Herr Hörl, among other things, the ropeway engineering apprenticeship scheme and the Ropeway Academy are ambitious initiatives for recruiting qualified personnel. How successful are these measures?
Franz Hörl: In our opinion, the challenges relating to the employment situation are primarily attributable to demographic trends and the resulting shortage of skilled personnel. Recruitment has become more challenging for ropeway companies in recent years. In the current season, however, we have seen a slight improvement compared with the last two years. Our efforts are already having an effect. The latest industry-wide employee satisfaction survey indicates positive developments in almost all areas.

ISR: Ropeway operators have long been investing in environmental protection measures. How can this commitment be better communicated to the general public?
Franz Hörl: Austrian ropeways have been targeting climate neutrality for several years now – and not through offsetting or greenwashing, but through meaningful capital investment in the infrastructure. This far-sighted entrepreneurial approach is reflected, for example, in our communication project *Sustainable Skiing Every Day*, with which we have made 100 sustainability projects from our regions visible and accessible for all interested parties since the start of the season in the form of clear and transparent messages on our online communication channels – no greenwashing, no marketing gimmicks but measures with a real and verifiable impact.

ISR: Ropeways are a major economic factor. Where can policymakers make improvements to the operating framework so that companies can remain fit for the future?
Franz Hörl: When it comes to sustainability, Austria's ropeways are up with the leaders – also in comparison with other industries. Ropeways are 100% electromobility; snowmaking systems run on local green electricity, and the energy needed for buildings and eateries usually comes from a PV array on the roof. In terms of the proportion of energy consumption based on renewables, ropeways are among the top 3 in Austria! The industry is committed to sustainability and is looking to make transparent progress on its path towards climate neutrality. But the industry's achievements in terms of sustainability must also receive due recognition. In this context more fairness and greater objectivity are needed in the public debate. There are two other areas in which we are working for improvements on the part of policymakers: faster processing for permits and more support for attracting young people to a career with ropeways. This also involves improving the situation with regard to ski courses provided by schools.

ISR: What makes you optimistic with regard to the future?
Franz Hörl: Austria's annual total of over 50 million skier days shows the undiminished popularity of winter sports in the mountains. Around 70% of our guests come to ski and almost 90% are highly satisfied with our skiing-based product.

Thomas Schweighofer

The interviews were conducted in March 2024.
ISR would like to thank the interviewees.

PHOTO: FACHVERBAND DER SEILBAHNEN IN DER WKO

A last-of-its-kind witness to ropeway history

ISR REPORT The *Oldřichovice – Javorový vrch* single-seat chairlift in the Czech Republic is the last example of the first generation of this type of ropeway still operating in the former Czechoslovakia.

The *Oldřichovice – Javorový vrch* single-seat chairlift operates all year round.

The Wiesner company in Chrudim built the very first chairlift in Europe, the *Ráztoka – Pustevny* single-seat chairlift, back in 1940. After the Second World War the company, which had been nationalized in the meantime and was operating under the name Transporta Chrudim, acquired a license for the construction of chairlifts from the Swiss Von Roll company and used their system to build a total of nine sections of detachable double chairlifts with *VR101* grips in what was then Czechoslovakia. One of these lifts, the *Krupka – Komáří Vížka* (or *Komáří Hůrka*) chairlift in Krušné hory (Ore Mountains) is the last chairlift using the *VR101* grips still in operation in the world today (see ISR 6/2022, pp. 28-30).

BACK TO FIXED GRIPS

In response to infringements of the license agreement with the Swiss Von Roll company committed by Transporta Chrudim under pressure from the Communist government, which wanted to prevent cooperation with the "evil" West at all costs, Von Roll terminated the agreement, and the Czechoslovak company was forced to develop chairlifts of its own design. These were fixed-grip chairlifts, which were a much simpler and also cheaper solution. The first single-seat chairlift of this type was built in 1954/1955 for Sarajevo in what was then Yugoslavia. However, the customer refused to take delivery of the ropeway, and a substitute location had to be found for the chairlift in Czechoslovakia. Four years later, a ropeway was finally built in Sarajevo by Transporta, a detachable bicable gondola lift with 4-passenger cabins, which was damaged during the war in Yugoslavia at the beginning of the 1990s and replaced by a 10-passenger gondola lift from Leitner in 2018.

But back to our chairlift: It was finally decided to install this lift on Javorový Hill in Oldřichovice near the town of Třinec. The idea was that the chairlift should serve the recreational needs of the employees working in the harsh conditions of the local Třinecké železárny ironworks.

AN UNWANTED CHILD FROM THE START

The 1,310 m long chairlift went into service on July 7, 1957. The overhead drive and the counterweight tensioning assembly for the haul rope are located in the bottom station, as is a diesel generator recycled from a submarine with an output of 100 kW, which serves as an emergency power source. The top station simply houses a fixed return sheave. The original chairs had wooden seats and a small canvas canopy. Coil springs were fitted to the chair hangers to dampen the jolts caused on passage over the sheave trains and under the vertical deflection sheaves installed on the line at the exit and entrance to the bottom station and also

The suspended rope sheaves and the canvas canopy

Bottom station in the first years of operation. The station was not originally enclosed; the station building was a later addition.

The station building added later

PHOTOS: R. POLCER (2), ARCHIVE OF R. POLCER, R. GRIC

on towers nos. 6 and 10. These deflection sheaves had the same function as the sheave trains on modern hold-down towers.

Lattice towers were used for the line. This was the solution adopted by Transporta for five of its first single-seat chairlifts until the much more attractive tubular towers were introduced for the construction of the company's sixth fixed-grip chairlift, the *Krásetín – Kleť* chairlift built in South Bohemia in 1961. As with most ropeways from the 1940s and 1950s, the Czechoslovak State Railways (ČSD) were appointed to operate the chairlift. The ČSD were not particularly happy with this decision and tried to sell the lift at the end of 1957. As no one was interested in buying it, however, it continued to be owned and run by the ČSD until 1996. Apart from the need to replace items of the electrical system in 1985, no refurbishment work was carried out on the chairlift under the management of the ČSD.

The upper section of the line is flanked by trees.

The clearly marked loading point

PRIVATIZATION AND MODERNIZATION

On June 1, 1996 the ropeway became one of the last in the country to be privatized. The new owners, Bytoslan s.r.o., undertook the necessary refurbishment in 1997. New sheave trains were installed to replace the original suspended rope sheaves, and the chairs were also replaced, with chairs obtained from the discontinued Slovakian *Turecká – Krížna* chairlift. As the Slovakian installation had a much longer line, there were enough chairs left over as spares.

Even after this much-needed refurbishment, the system and character of the chairlift have hardly changed.

The single-seat lift is in operation all year round. In summer it provides access to popular hiking trails and in winter to groomed cross-country ski trails and a small ski area with two surface lifts. The district authority contributes to the maintenance of the chairlift and preparation of the slopes and cross-country ski trails to ensure continued operation of the ropeway and what is a popular local recreation area. There are currently no plans to renovate the installation.

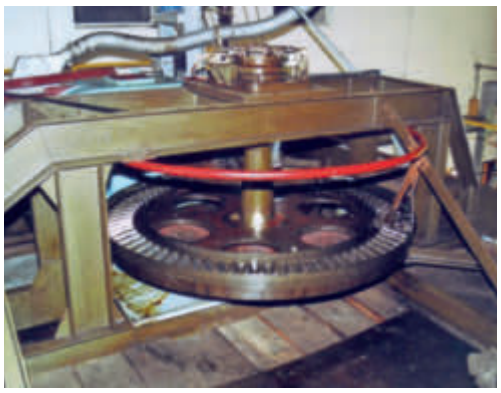
Roman Gric

TECHNICAL DATA

***Oldřichovice – Javorový vrch* single-seat chairlift**

Elevation of bottom station	424 m
Elevation of top station	886 m
Line length	1,310 m
Vertical rise	462 m
Number of towers	27 + 1 pressure frame
Number of chairs	120
Rope diameter	28 mm
Drive	bottom station
Tensioning system (counterweight)	bottom station
Rated output	62.5 kW
Max. line speed	2.0 m/s
Carrier spacing	22 m
Ride time	12.0 min
Rated transport capacity	324 pph
Manufacturer, year of construction	Transporta Chrudim, 1957

The 62.5 kW overhead drive with the service brake and the gearbox (blue) in the bottom station



Power transmission from the gearbox to the bullwheel is via an open gearwheel and ring gear.

The short pressure frame on the approach to the top station

PHOTOS: R. GRIC(4), R. POLCER

The goal of all *Pro Academy* training courses: to prepare a consistently excellent slope and conserve resources at the same time

Groomer operator training in the ski area

KÄSSBOHRER The Pro Academy offers on-site training sessions in the ski area, at regional training centers or online. An initial consultation with the *Pro Academy* trainers is free of charge.

Are operators familiar with all the settings and options on their machines for maximum sustainability? Do they know how they can use *SNOWsat* efficiently? Do they know the tricks when grading in the preseason? Regardless of the manufacturer of the machines, *Pro Academy* trainers help employees to grow their competence. Starting from traditional user training, a wide range of courses have been created for operators, mechanics and managers over the years. The training content ranges from manufacturer-independent beginner training courses for corporate customers and private individuals to customized consulting for management. The *Pro Academy* also offers training courses on-site: The training content of these courses is oriented toward individual requirements and wishes, and the courses take place in the client's ski area. The training courses build on each other and are designed to make the first steps easier for newcomers to the job and also to provide further training for operators who already have some experience. They are also offered for the preseason, peak season and postseason. The various courses for the individual *SNOWsat* solutions are also designed to release hidden potential in the processes.

TRANSFER OF KNOWLEDGE BASED ON EXPERIENCE

Developed by experts from knowledge gained in practice for use in practice, the training courses are also taught by experienced professionals. But they always take into account scientific facts, for example, from the Institute for Snow and Avalanche Research (SLF) in Davos, Switzerland.

Well-trained operators also contribute to efficient and sustainable handling of the machines and the resource of snow as well as to safety on the slope. When they succeed in producing better pistes, the ski area also has more satisfied customers. When operators accomplish this in a shorter time, this reduces the consumption of operating materials and extends the maintenance intervals and the service life of the machines. Last but not least, resource-conserving work also makes economic sense.

TS

Pro Academy

- For operators, technicians and managers
- Beginners, advanced learners and experts
- Practical training for operators, technology training and *SNOWsat* training
- Lessons that build on each other
- Always tailored to your situation
- Training courses online and in-person and also on-site in your ski area

Contact with the trainers:
www.proacademy.info/en

Anthony Bowman, Trainer Germany & Rest of World

PHOTOS: KÄSSBOHRER

New software application in the snow groomer

KÄSSBOHRER In order to satisfy increasing requirements, Kässbohrer Geländefahrzeug AG is presenting the *SNOWsat iX*. One of the highlights is the option of creating customized views , which groomer drivers can save and take with them to other machines.

The option to arrange split screens at will means the operators can see all the information relevant for their particular application at a glance. Since there is no problem calling up the user profile from other snow groomers, there is no need to switch or reconfigure personal views, and it is easy for the operator to start working.

"I can concentrate much better on the actual work, since the system actively moves along with me and I hardly have to click anymore." This is how Matthias Sommer (operator in Laax, Switzerland) explains how the operator's work is made easier by the intuitive *SNOWsat iX*. The sophisticated user interface provides optimum support for the work processes, so the operators can concentrate on their main tasks. Thanks to the familiar operating templates, the operators have no difficulty getting started and can quickly use the application to its full potential.

The system offers additional comfort with its Light Mode and Dark Mode. Just a click in the personal preferences sets the user interface to ensure optimum displays in various lighting conditions – no matter whether the sun is shining brightly, or the darkness of the evening hours has set in.

WORK SMARTER, NOT HARDER

SNOWsat iX has the latest hardware and software, so it is ready for use with *SNOWsat LiDAR* for snow depth measurement. This innovative and one-of-a-kind technology is already able to measure snow depths up to 50 meters in front of and to the side of the machine. This means the operator can identify snow reserves and respond to spots with little snow early on.

The vehicle application satisfies state-of-the-art and secure technology standards, also providing real-time data and seamless data transmission. Thanks to a powerful optimized algorithm, snow depth measurement is now even more accurate – for optimum work results.

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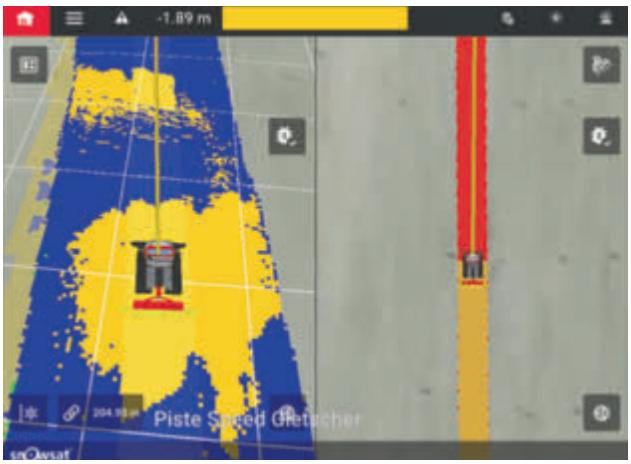


SNOWsat iX allows operators to customize their favorite views, save them in their user profile and call them up in other snow groomers at any time.

"I think it's great that I can set and save everything I need in my user profile. Then I can get into the machine and get right to work," says Matthias Sommer, operator for the Weisse Arena Group in Laax (CH), about *SNOWsat iX*.

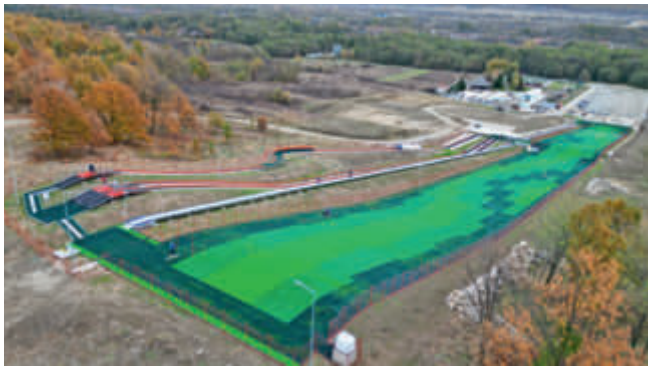
More info

In *SNOWsat* online training courses various application options, use cases, evaluations, etc. are interactively demonstrated, made easy to understand and rounded off with a quiz. For the details on *SNOWsat* training and the latest information on *SNOWsat*, go to

www.facebook.com/snowsatworld

www.snowsat.com/en/user-interfaces/snowsat-ix

PHOTOS: KÄSSBOHRER



The Neveplast artificial ski slope at the Aprilia Park is 311 meters long.

Increasing the fun factor: three tubing tracks running parallel to the ski slope

A year-round ski slope in Romania

NEVEPLAST One of Neveplast's most recent projects is the new ski slope and tubing facility in Aprilia Park, which is located in Gorj County in Romania.

While Romania's ski resorts may not be as famous as those in some other countries, they still offer enjoyable skiing in a picturesque mountain environment. Until now, skiing in the summer without snow was not possible, however. The new Neveplast ski slope is 311 meters long, and the skiable area covers over 7,000 square meters, providing ample space to enjoy the skiing experience. The slope is serviced by a conveyor lift that allows skiers, from recreational to elite, to quickly return to the top after completing the descent or the slalom course.

A TOURIST ATTRACTION

As an integral part of a water park, the Neveplast ski slope itself is a unique attraction but, in addition, the new facility also includes three parallel tubing tracks: two straight tracks and one with parabolic curves and tunnels to offer the 360-degree fun typical of a snow park.

For Aprilia Park, the installation of a Neveplast ski slope is a true milestone. The decision was motivated by the desire to attract tourists and families throughout the year and to allow skiing and snowboarding even in unfavorable weather conditions. This initiative aligns with the trend for diversified tourist activities beyond the traditional winter season, enabling resorts to leverage infrastructure even during the warmer months.

Furthermore, the existence of a year-round ski slope helps consolidate Romania's reputation as a skiing destination with unique entertainment options on offer. The facility is expected to generate more substantial tourist inflows.

"The Neveplast ski slope at Aprilia Park was inaugurated at the end of summer (note: completed in August 2023), and only a few months since the opening the feedback is positive. Here, too, snow fun is now available to everyone, and for elite skiers the slope is a valuable training ground, with year-round skiing, including training with slalom and giant slalom gates," says Niccolò Bertocchi, CEO at Neveplast.

Aprilia Park, which has been operational since 2011, is famous for its water park with 4000 square meters of beaches and large pools. It also offers a variety of sports activities such as basketball, beach volleyball, ping pong, and now year-round skiing. **TS**

PHOTOS: APRILIA PARK

The 4000th Moving Carpet

SUNKID Something to celebrate at the Hochzillertal Kaltenbach Ski Center. Sunkid's technology now in use in more than 80 countries.

Millions of skiing novices have benefited from the Moving Carpets since they were invented as a modern conveyor lift back in 1996. It has become a staple as a beginners', feeder and connecting lift as well as in many other capacities in skiing areas and leisure destinations around the world. The Moving Carpet was initially developed as a lift for ski schools. "Since then it has become a year-round transport solution for people, goods, boats and tubes that is virtually unbeatable in terms of diversity of use," says Sunkid CEO Emanuel Wohlfarter.

February 2024 saw the official handover of the 4000th Sunkid Moving Carpet delivered worldwide. The Hochzillertal Kaltenbach Ski Center (Austria) now has one highlight more. With a length of 142 meters, the Kaltenbach conveyor was implemented with the latest *Type N* technology. It offers roofed-over entry and exit areas with five emergency exits in the form of easy-to-open self-rolling tarpaulins and sports a custom design. The cameras installed on the gallery arches provide a great overview for the lift personnel to keep an eye on the facility. The new conveyor lift generation also sets standards in terms of maintenance and operation. The drive output of 22 kW delivers a conveyor capacity of up to 1,650 persons per hour.

"The new Moving Carpet means added value for the children's and beginners' areas near the top station. The system is well integrated into the terrain and the slope, and now connects directly with the top station exit of our feeder lift on one level," says a delighted Maximilian Schulz, Managing Director of Hochzillertal Kaltenbach Ski Center.

FOCUS ON SPORTS AND TOURISM TRENDS

An internationally active group of companies headquartered in Imst, Tyrol, Sunkid offers a wide range of products for tourism regions, theme parks and adventure worlds. The company's vision is to be the first port of call for leisure attractions for children and families around the world.

Summer facilities are becoming increasingly important in mountain tourism regions. In addition to the bike parks that are now being built in many locations, more and more leisure offerings that allow Sunkid to score with its varied product portfolio are also being implemented – from summer adventure worlds with playing stations, family rides in theme parks and tubing slopes to special Sunkid conveyor belts for rafts in water parks and kayaks in artificial whitewater channels.

FLEXIBLE, SUSTAINABLE, AND INTERNATIONAL

Sunkid is able to serve all of these areas with its varied range of products. Long conveyor lifts are now proving especially popular. The systems can be delivered with various gallery options, including timber frame structures and photovoltaic roofs, to protect users from the wind and weather and further increase operational safety. Roofs with PV modules produce all the power the system needs plus a surplus that can be fed into the grid.

This year will see some new standards being set, with two double conveyor belt systems going into operation in Spain's Sierra Nevada. And with three installations in Armenia, Sunkid is now present in more than 80 countries worldwide.

TS

The Sunkid Moving Carpet is a valuable addition to the facilities and a quality enhancement for the ski area.

Official handover of the Hochzillertal installation with Sunkid's CTO Herbert Zopf, Hochzillertal Kaltenbach Ski Center Operations Manager Christian Knapp, Managing Director Maximilian Schultz, Sunkid's CEO Emanuel Wohlfarter and Operations Manager Daniel Steinlechner (from left to right)

Herbert Zopf and Emanuel Wohlfarter test the 4000th Moving Carpet.

PHOTOS: SUNKID

Fast and fun

MOUNTAINCART **Over the past 20 years or so, Mountaincarts have become a mainstay of summer business for many ropeway operators and ski resorts, and a financial and tourism success.**

The carts can be used on grass or gravel in summer and snow in winter.

Mountaincarts can also be conveyed uphill using surface lifts (here in Altenberg in the Ore Mountains).

For operators, the big advantage of Mountaincarts is that the existing mountain infrastructure can often be used without any significant additional investments or lengthy approval procedures. More than 150 mountain destinations worldwide have introduced this family-friendly visitor attraction to maximize capacity utilization of their ropeways and other infrastructure. For many of them, Mountaincarts are the only way to achieve a profitable summer season.

POPULAR VISITOR ATTRACTION

In addition to a large number of rental stations in the Alps, some of which have been operating for many years already, more and more mountain destinations in Central Eastern and South Eastern Europe are turning to the tried-and-tested downhill carts manufactured in Germany. Mountaincarts are already particularly well established in Slovakia. Tatry Mountain Resorts, the largest ski resort operator in Eastern and Central Europe, offers Mountaincarts at several of its Slovakian destinations, such as Vysoké Tatry in the High Tatras and Jasná, the country's largest ski resort. Mountaincarts have been available there and at other Slovakian destinations for ten years or more.

For bike parks like the one in Ružomberok, Slovakia, Mountaincarts have proven to be an ideal addition to the facilities provided, enabling the operator to attract a wider range of visitors in addition to downhill bikers. The Mountaincart offering in Bachledka, Slovakia, which was launched in 2023, has also met with a very positive response, and the number of carts in use there has been gradually increased, with further additions planned for the 2024 summer season.

MOVING MOUNTAIN EXPERIENCES

In Romania, too, Mountaincarts are now a common summer attraction and have been for many years in some places. In Cheile Gradistei, the venue of the *Carpathian Mountain Fair*, Mountaincarts have been generating local summer business and ensuring better utilization of the surface lifts there since 2022. Numerous other destinations in Central Eastern and South Eastern Europe now offering Mountaincart rentals are evidence of a growing trend among the region's mountain resorts towards family-oriented year-round operation. They include the Kopřivná ski area in the Czech Republic, Malyovitsa in the Rila Mountains in Bulgaria, Bukovel, the largest ski resort in the Carpathians, and several ski resorts in Serbia operated by the Skijališta Srbije company.

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PHOTOS: MOUNTAINCART

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