

2022



International Ropeway Review

Österreichische Post AG | 17Z041206 M | Verlag Holzhausen GmbH | Traungasse 14 – 16 | 1030 Wien

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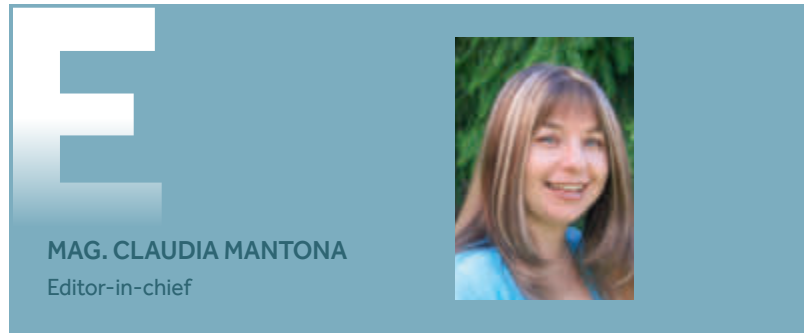
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DEAR READERS,

Just as so many other ropeway industry products – gondolas and cabins, snow groomers and snowguns – are given a new look every now and then, we thought it was time for a redesign for ISR. The result is what you now have in your hands. We have put a lot of effort into our new look and hope you like it. After a long period of absence caused by the coronavirus pandemic, some major international trade fairs and industry events have again been held in the flesh. Just how sorely the personal meetings needed to cultivate face-to-face business relationships have been missed is reflected in the very high numbers of exhibitors and visitors at these events and the consistently positive feedback. In Romania, too, the national ropeway association is organizing its own industry event in 2022 – and this is a first – in the form of the Carpathian Mountain Fair, which will be held in Cheile Gradistei on 9–11 June. ISR will also be there, represented by Petre Popa, jr., our long-standing correspondent for Romania and Bulgaria.

After two years of the coronavirus pandemic, ski resorts in Romania, Bulgaria, Poland, Slovakia and the Czech Republic have made a start on the road to economic recovery. In the Czech Republic, for example, the 2021/22 winter season almost reached the average figures of the pre-corona years, and planned capital investments for the summer are being implemented in several Czech ski resorts. However, the up-

ward trend is now being severely curbed by an overall political situation dominated by conflict (e.g. the war in Ukraine). The resulting steep rise in raw material and energy prices, and disturbingly high rates of inflation combined with disruptions in the supply chains are putting a damper on developments in the ski resorts. And yet ropeway people have always proven to be an extremely robust species with lots of fighting and pioneering spirit, which is why the industry will surely emerge stronger from this difficult situation. At all events, the summer season will shortly be upon us, and this year many people are again planning a vacation in the mountains, albeit for a slightly shorter period than in the past, as initial surveys show.

I would like to close by thanking everyone who has made a contribution to this issue of ISR, and I wish you, dear readers, a successful summer season and an interesting read with our 5 Countries Special.

Kind regards,

Claudia Mantona
claudia.mantona@verlagholzhausen.at



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Back to former strength together

INTERALPIN The biennial InteralpIn is the world's leading international trade fair for Alpine technologies. In addition to providing a central platform for presenting innovations, it is also a pilgrimage site for trade visitors from the ropeway industry.



In 2023, InteralpIn will be back for the first time since 2019.

Market-leading manufacturers and innovative companies from around the world flock to Tyrol for this international event. In 2019, the fair attracted 29,000 trade visitors from more than 117 countries, bringing together key industry players, service providers and decision-makers from the cable car industry.

Many trade visitors travelled from traditional core markets, such as the US, France, Italy, Switzerland, Scandinavia, Austria and Germany, but the event also generated a great deal of interest in emerging markets, including South Korea, Japan, Vietnam, Chile, Kazakhstan and China. With around 58% of visitors coming from abroad, InteralpIn boasts a high degree of internationality for the Alpine technology sector. The same highly international mix also applies to the exhibitors: around 650 companies, from leading players to new start-ups, travelled to the Tyrolean trade fair from approximately 50 countries in 2019. This makes InteralpIn the most



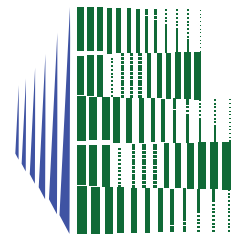
Visitors will have the opportunity to see the latest products and developments in Alpine technologies.

The next InteralpIn will be held on *April 19 – 21, 2023*.
For more information, go to www.interalpIn.eu

international trade fair in Austria and the central platform for all the latest developments in its industry. The proximity of the exhibition center to the modern Tyrolean ski resorts in the surrounding area and some manufacturers' production facilities is unique.

Visitors to the upcoming InteralpIn 2023 will have the opportunity to see the latest products and developments, with many exhibits having been launched during the last three years. There will also be information and discussions about the impacts of the coronavirus pandemic.

"We are delighted to welcome back the industry's immense innovative spirit and investment potential to InteralpIn in 2023 and to continue writing a success story that has been in the making since 1974," says Stefan Kleinlercher, project manager for InteralpIn.



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First D-Line chairlift in the Czech Republic

ISR REPORT In 2020, the first Doppelmayr/Garaventa D-Line lift in the Czech Republic was built in the Kraličák ski resort.



The first D-Line chairlift in the Czech Republic is now operating in the Kraličák ski area (here looking towards the bottom station).

The mountain village of Stříbrnice is politically part of the municipality of Staré Město pod Sněžníkem about 3 km away in northwestern Moravia. It is located near the Polish border, surrounded by the Králický Sněžník and Hrubý Jeseník Mountains. Until 2008 the ski area only had three short surface lifts.

NEW SKI AREA

In 2008 work began on the construction of a double chairlift up the wooded slope of Štvanice hill from Stříbrnice. Manufactured by Doppelmayr in Lana, this lift was in operation in Bormio, Italy, from 1982 to 2004. The chairlift was relocated to Stříbrnice to serve a ski slope about 1,000 m long, with an attractive steeper ski slope along the line of the lift added later. One year after the opening of the double chairlift, a new snowmaking system was installed and two surface lifts were built to connect Štvanice hill with Hynčice pod Sušinou in the neighboring valley.



This double chairlift was in operation in Stříbrnice between 2008 and 2020.

DYNAMIC RESORT DEVELOPMENT

As the owner of agricultural land (mostly mountain pasture), the investor Dušan Juříček triggered a new strategy for the area in 2011 with the aim of establishing Kraličák as a modern ski resort, paving the way for other tourist business operations and promoting economic growth in the region.

The first step was to upgrade the chairs on the Stříbrnice–Štvanice double chairlift.

The next new attraction was a freely accessible, 35-meter-high observation tower made of steel and larch wood, which opened near the top station of the chairlift in 2018. Because the tower is so slender, it was given the nickname Silver Twiggy.

In 2020, the municipality of Hynčice pod Sušinou opened the Kaple double chairlift on Štvanice hill. This Doppelmayr lift, which was formerly in operation on the Wildkogelscharte in Neukirchen am Grossvenediger, has hydraulic tensioning in the bottom station and an underfloor drive in the top sta-



A classic electric drive with gearbox is located in the top station of the 6-seater chairlift.



Bottom station ...



... and top station of the Stříbrnice-Štvanice 6-seater D-Line chairlift

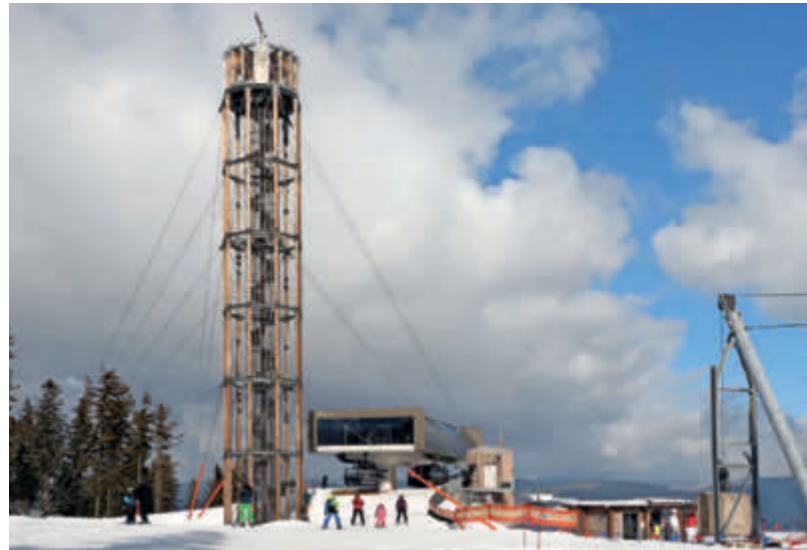
tion. Like the Stříbrnice-Štvanice chairlift, it also runs in summer, serving a network of paths for hikers to the line of the fortifications which were built between 1936 and 1938 on what was then the border between Germany and Czechoslovakia and are now promoted with 13 information boards and historical exhibitions in the old bunkers. In summer the two chairlifts also carry mountain bikers to their trails. After only twelve years of service, the operator decided to replace the Stříbrnice-Štvanice double chairlift with a 6-seater chairlift of the latest D-Line generation from Doppelmayr/Garaventa to cope with growing demand for access to the ski trails in Stříbrnice.

FIRST D-LINE ROPEWAY IN THE CZECH REPUBLIC

The new installation is the first D-Line ropeway in the entire region of the Czech Republic, Slovakia and Poland. In April 2020, work began on dismantling the old double chairlift, and by May 2020 construction work on the new 6-seater chairlift was already in full swing. The work was completed on schedule by the beginning of the 2020/2021 winter season and the operating permit issued.

Due to the measures imposed in response to the coronavirus pandemic, the chairlift was only allowed to carry pedestrians in the winter of 2020/2021, and skiers and snowboarders had to wait until the 2021/2022 winter season to enjoy this modern facility in full.

The 6-seater chairlift is equipped with protective canopies,



At the top station the Kraličák ski resort has a 35 m high observation tower.

heated leather seats with individual backrests and locking safety bars with footrests which – for maximum safety especially when transporting children – can only be opened at the station. The line of the ropeway remained unchanged except that the bottom station was moved closer to the parking lot. The drive in the top station is a standard three-phase elec-

PHOTOS: R. GRIC (3)

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The D-Line D 3000 detachable grips in use in the Kraličák ski area have helical springs in four different colors.



The chairs are parked on the turnaround in both stations.



The chairs have protective canopies, heated seats and locking safety bars with footrests. Note the hinged carrier for bikes and other sports equipment on the frame of the chair.



The Kaple double chairlift provides access to the Štvanice hill from the neighboring valley and connects the two entry points to the area for pedestrians and mountain bikers, too.

TECHNICAL DATA

Stříbrnice 6-seater chairlift

(D-Line with protective canopies and heated seats)

Elevation of bottom station	626 m
Elevation of top station	872 m
Line length	984 m
Vertical rise	246 m
No. of towers	8
Haul rope diameter	45 mm
Drive	top station
Rated output	293 kW
Tensioning	bottom station
No. of carriers	53
Max. line speed	5.0 m/s
Ride time	3.8 min
Rated transport capacity	2,550 pph

Contractors

Manufacturer,	Doppelmayr/Garaventa
year of construction	2020
Haul rope	Fatzer
Construction work	KERS s.r.o., Jičín

tric motor with gearbox. The hydraulic tensioning system for the return sheave is located in the bottom station. The 53 chairs are parked on the turnaround in both stations.

The options available with the D-Line permitted various individual design features to be selected for the carriers, with the grip springs, the chair suspension springs and the seams of the chair upholstery finished in yellow, ochre, orange or green. The distinctive character of the ski area is also underscored by various printed texts on the backs of the chairs.

MODERN SKI RESORT WITH PLANS FOR MORE TO COME

Today the Kraličák ski resort has two chairlifts and five surface lifts serving ten ski slopes varying in difficulty from blue to black with a total length of 7.6 km. At the bottom station of the D-Line chairlift in Stříbrnice, there is a ski school area with two covered conveyor lifts and a Sunkid snowtubing carousel. The sports equipment rental and service point has also been revamped. Contactless ski passes from Axess can be used to access all the lifts in the area. Kraličák is also a good place for cross-country skiing. For grooming the slopes, a new PistenBully PB 600 W Polar has been acquired, and there are plans to purchase a PB 100. The ski trails have also been extended. The total spend on the various measures taken (ropeway, snow groomer, snowmaking and ski trail upgrades, parking lot and sanitary facilities) amounted to 250 million Czech crowns (about 10 million euros).

In the 2022 summer season, a new Wiegand Alpine Coaster summer toboggan run will open at the Štvanice chairlift. Other plans for the further development of the resort include a detachable ropeway to replace the Kaple double chairlift and a snowmaking pond in the upper part of the ski area.

Roman Gric



The *Rakavlit* 10-passenger gondola lift provides a direct link between the centrally located *HaMiFratz* mobility hub and the *Technion*, Israel's largest research facility, and the Haifa University campus.

All good things take time

DOPPELMAYR Originally planned in 2006, the urban cable car in Haifa/Israel has finally been completed. The three sections of the *Rakavlit* monocable circulating ropeway now provide a direct link between the city's centrally located *HaMiFratz* multimodal transport hub and the *Technion*, Israel's largest research facility, and the campus of the University of Haifa on Mount Carmel.



Adam Ringer († May 8, 2009)

Adam Ringer was involved as a planner and site supervisor for almost all the ropeways built in Israel since 1981. He acquired international experience and qualifications in the field: He attended various courses at the Swiss Federal Laboratories for Materials Testing and Research (EMPA) and the ropeway course offered by the Technical University of Graz. That was also when his relationship with ISR began: For ISR 6/2007 and 1/2008 he wrote an excellent article on the subject of backup solutions for ropeways, providing full treatment of the options for increasing the availability of ropeway systems – a vital issue for modern urban ropeways.

As in many large cities the world over, creating an efficient local transit system was a major challenge for the Haifa municipal authority. A search for suitable solutions conducted at the beginning of the third millennium led to the proposal for the construction of an urban cable car as an additional public transport facility for Haifa, and the extraordinarily cre-

ative ropeway planner Adam Ringer was awarded the contract to design it.

THE HAIFA CABLE CAR PROJECT

The project initially got underway in 2006. For the link between the *HaMiFratz* mobility hub and the *Technion*, Israel's largest research facility, and the Haifa University campus on Mount Carmel, Adam Ringer presented a plan for a three-section 8-passenger monocable circulating ropeway. Figure 1 shows the line of the *Rakavlit* cable car in Haifa. The name given to the ropeway at the time was *Haifa Bay – Technion – University Ropeway (HBTU)*.

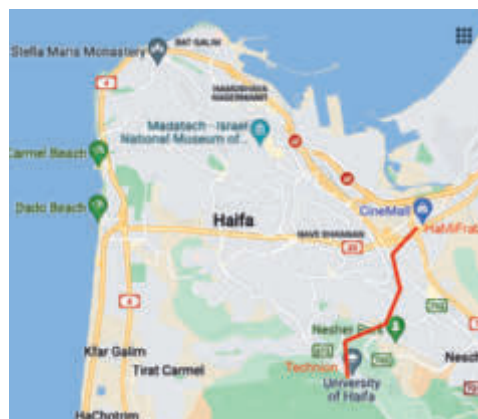


Fig. 1: The line of the *Rakavlit* cable car in Haifa (base map: Google Maps)

Due to the topography and existing structures on the route, the line had to be planned not only with horizontal angles of deflection between the three sections but also with an additional angle station on the line of each of the first two sections, so that the system has a total of six stations. Figure 2 shows the geometry of the haul ropes for the three sections:

- Section ABC: rope tensioning in A, angle station B, drive in C;
- Section CDE: rope tensioning in C, angle station D, drive in E;
- Section EF: drive in E, rope tensioning in F.

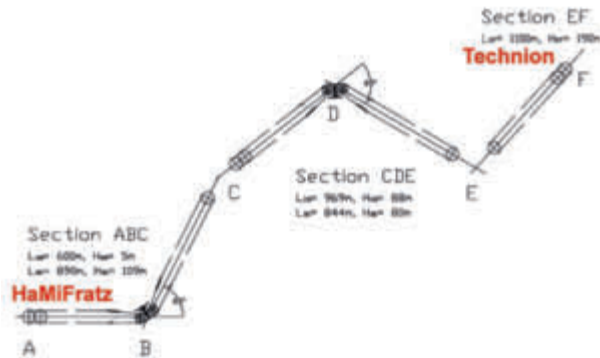


Fig. 2: Geometry of the haul ropes for the three sections ABC, CDE and EF. The drive units are located in stations C and E, and the tensioning systems in stations A, C and F. The haul rope runs continuously through the angle stations B and D.

TENDERING AND AWARD OF THE CONTRACT

It took another three years to resolve the various technical, operational and legal issues. As Israel had no adequate national ropeway engineering regulations, and the invitation to tender was practically only relevant for European manufacturers, it was decided that the project should be handled on the basis of the EU Cableway Directive and the EN Cableway Installation Standards.

At the beginning of 2009, the tender documents were ready for the *Haifa Bay – Technion – University Ropeway (HBTU)*. Adam Ringer, the ingenious planner of the HBTU ropeway, did not live to see the result of the tender process, in which Doppelmayer and Leitner participated; he sadly died of a severe pulmonary illness on May 8, 2009.

After several years spent examining and comparing the bids, during which senior representatives of the Haifa-based operating company *Netivei Israel – The National Transport Infrastructure Company Ltd.* also visited the production facilities of Doppelmayer and Leitner, Doppelmayer was ultimately awarded the contract in September 2017.

CONSTRUCTION AND COMPLETION

The civil engineering and structural works to be handled by the Haifa operating company began in April 2018, and Doppelmayer was able to start with the installation of the *HBTU*, which in the meantime had become a 10-passenger gondola lift by the name of *Rakavlit*. The coronavirus pandemic naturally impacted Haifa, too, causing delays to the construction work, mainly as a result of travel restrictions which also affected Doppelmayer’s personnel. Commissioning and acceptance testing finally took place in

May 2021. An extensive phase of trial running followed between July and September.

The cable car was officially handed over to the operating company in February 2022, with public services commencing on April 11, 2022.

WHAT IS THE RA KAVLIT 10-PASSENGER GONDOLA LIFT CAPABLE OF?

The new ropeway to the University of Haifa is Israel’s first urban gondola lift. A daily total of 20,000 passengers – mainly students and commuters – can use the ropeway, which operates from mornings to evenings for up to 19 hours a day. Of a total of six stations, three are currently in use for boarding and alighting. Passengers ride the almost 4.5 km long line in 19 minutes – with no traffic congestion and a unique view of the sea. The new ropeway offers a direct link to workplaces and teaching facilities on Mount Carmel, saving passengers up to 25 minutes each way.

HaMiFratz BASE STATION

The base station of the gondola is part of the *HaMiFratz* multimodal transport hub. Local and regional buses, the *Metronit* bus rapid transit (BRT) system and the railroad all converge at this point. Modernization of the *HaMiFratz* hub was completed in 2018 with the aim of making operations more efficient and simplifying transfers for passengers. The ropeway is an integral part of the local transit system and represents a further step toward multimodal, barrier-free transportation in Haifa. It is integrated in the local ticketing and fare network.

In addition to the multimodal transport facilities incorporating railroad, bus and ropeway, the *HaMiFratz* mobility hub offers passengers one of Haifa’s biggest shopping malls: the *Lev Hamifratz Mall* aka *CineMall*.

TECHNION TOP STATION

The campus is the destination not only of the almost 35,000 students of the Technion and University and their staff, but



The ropeway runs from mornings to evenings for up to 19 hours and can handle a daily ridage of 20,000 passengers.



Passengers ride the almost 4.5 km long line up to Mount Carmel in just 19 minutes – with no traffic jams and a fabulous view of the sea.



Project manager Thomas Nesler of the Doppelmayr company (left), accompanying Austria’s Economics Minister Margarete Schramböck and Foreign Minister Alexander Schallenberg on their ride on the *Rakavlit* gondola lift in Haifa

PHOTOS: M. GRUBER (1), DOPPELMAYR (1)

also of visitors with an interest in architecture: The university’s high-rise building by the name of *Eshkol Tower* is an architectural gem designed in 1962 by the world-famous Brazilian architect Oscar Niemeyer. The new cable car now makes it even easier and more convenient to admire his work.

HIGH-RANKING VISITORS FROM AUSTRIA

During their working visit to Haifa on March 29, 2022, Austria’s Economics Minister Margarete Schramböck and Foreign Minister Alexander Schallenberg enjoyed the com-

fortable ride provided by the *Rakavlit* cable car. The government representatives took advantage of the opportunity to promote Austrian exports with reference to a top-quality product from the Austrian flagship company Doppelmayr. In his statement, Alexander Schallenberg said: “As well as making a valuable contribution to the regional public transport system, the new gondola in Haifa is also an impressive example of the worldwide demand for the technological know-how of top Austrian companies. Roughly six out of every ten euros of Austria’s economic output are generated abroad. This is precisely where the Austrian Government is placing the focus with the economic initiative *ReFocus Austria*, which is aimed at driving growth in Austria’s exports. This will play a significant role in attracting international investments, creating new jobs and strengthening Austria’s position as a business location, which in turn will maintain our economic prosperity and finance our welfare state.” And Margarete Schramböck added: “Austrian exports are a success story. The new Doppelmayr cable car in Haifa impressively demonstrates the success of our companies on international markets. Our exporters and products with the made in Austria label are in demand worldwide. Exports safeguard every second job in Austria and ensure our economic prosperity. An active trade policy is a crucial driver in the development of an international business location like Austria.”

Josef Nejez

TECHNICAL DATA

***Rakavlit*, gondola lift, Haifa/Israel**

(monocable circulating ropeway with 10-passenger cabins in three sections)

Client: Netivei Israel – The National Transport Infrastructure Company Ltd.

Length	4,321 m
Vertical rise	472 m
No. of carriers	150
Cabin capacity	10 pax
Line speed	5.0 m/s
Transit time	19.0 min
Rated capacity	400 pph

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After twelve years of operation, the Buková hora quad chairlift is still very much up to date in terms of the quality of the ride.

The Buková hora success story

ISR REPORT In December 2010, a new ski area was created on the eastern slopes of Buková hora Mountain in the Orlické Mountains in the northeast of the Czech Republic. Following the creation of an interconnect with the traditional Čenkovice ski area, Buková hora developed into a popular summer and winter resort.

The Buková hora success story began in December 2010 on the eastern slopes of the mountain, which had not had any ski lifts until then. The most important capital investment item was the construction by Leitner of the 1,672 m long detachable 4-seater chairlift from Červená Voda to Buková hora. The installation was the first chairlift with heated and padded seats in the Czech Republic and also the first new



In its first winter season, the chairlift had chairs without bubbles and with low backrests.

ropeway built by Leitner there. The Czech operators had long been aware of the durability and reliability of the brand, as nine used Leitner installations were in operation in the country at that time. Since the construction of the Buková hora chairlift, Leitner has supplied a further seven new ropeways to the Czech Republic.

2010: FIRST MODERN CHAIRLIFT IN THE CZECH REPUBLIC

The bottom station in Červená Voda was integrated into a multi-purpose building with operations rooms, garage, service and refueling point for snow groomers, ticket offices, sanitary facilities and accommodation for personnel. The bottom station houses the drive unit and a semi-automatic parking facility for all the chairs. In spite of the space required for the drive and grip operation systems, a low enclosure was chosen for the grip engaging/disengaging lines and the turnaround. As the bottom station is integrated into the multi-purpose building, it was built with 90 degree loading.

The top station, on the other hand, which is a fixed return terminal, has a high enclosure that protects the various ropeway system components from the elements.

In 2011, just one year after the ropeway opened, the chairs were retrofitted at the manufacturer's plant with bubbles



The heated chairs with bubbles have comfortable green padding and high backrests and leave nothing to be desired in terms of comfort.



The top station of the Buková hora chairlift is a return station with a high enclosure.

and high backrests. To compensate for the additional weight, the number of chairs was reduced from 118 to 99 and rated transport capacity from 2,400 to 2,000 pph. The chairs had already been equipped with the KidStop child safety system in 2010. Half of the chairs that remain in operation during the summer are fitted with carriers for bikes and other sports equipment.

The Buková hora chairlift has had no significant technical problems in twelve years of service and is still fully compliant with the highest standards. Nor does the haul rope supplied by Redaelli in 2010 require replacement.

DEVELOPMENTS IN ČENKOVICE

The ski clubs in Česká Třebová and Čenkovice built a ski area with ski lifts in Čenkovice on the other side of Buková hora back in the 1960s. In 2011, the operators of this traditional ski area replaced two surface lifts with a used fixed-grip double chairlift manufactured by Steurer. The installation first did service in Werfenweng from 1982 to 2001 and then in the Czech Lipno – Kramolín ski area from 2003 to 2008. So Čenkovice is the third site of this chairlift, which was duly rejuvenated for the purpose, with a new drive unit, new control system, hydraulic tensioning instead of the original counterweight system for the haul rope, and the addition of a loading conveyor.



Ninety degree loading in the bottom station

BUKOVÁ HORA SKI RESORT

The Buková hora ski resort was created through the logical merger of the two ski areas at Čenkovice and Buková hora in 2013. The process was legally concluded in 2015 with the acquisition of Čenkovice’s shares by Buková hora.

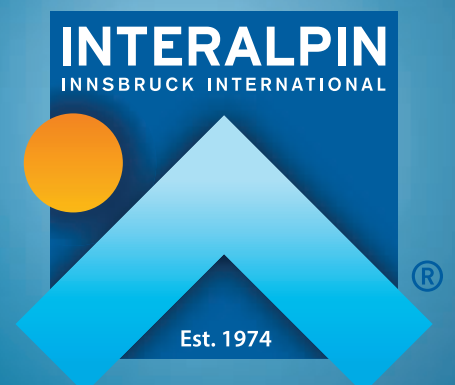
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Hydraulic tensioning is used for the drive platform and bullwheel in the bottom station.



Semi-automatic parking for the chairs in the bottom station



The used double chairlift on the Čenkovice side was fully refurbished prior to installation in the area.



The children's ski school in Červená Voda with its own surface lift

TECHNICAL DATA

Červená Voda – Buková hora quad chairlift
(with 90° loading, bubbles and heated seats)

Elevation of bottom station	556 m
Elevation of top station	956 m
Line length	1,672 m
Vertical rise	400 m
No. of towers	12
Haul rope diameter	42 mm
Drive	bottom station
Rated output	380 kW
Tensioning	bottom station
No. of carriers	99 (originally 118)
Max. line speed	5.0 m/s
Ride time	5.6 min
Rated transport capacity	2,000 pph (originally 2,400 pph)

Contractors

Manufacturer,	Leitner
year of construction	2010
Haul rope	Redaelli
Construction work	KERS s.r.o., Jičín

Today the ski resort has two chairlifts, six surface lifts and 8.9 km of blue and red ski trails with a Technoalpin snow-making installation. Contactless ski passes from Axess are valid in the entire area and are available in the e-shop at a discount compared with the ticket office price. Buková hora is also noted for its well built and maintained snow parks on both sides of the ski area. The snowpark on the Čenkovice side is more for advanced skiers, while the one on the Červená Voda side is popular with beginners and fun-loving snowboarders. Around Buková hora there are 60 km of gentle and groomed ridge trails for cross-country skiers. At the bottom station in Červená Voda there is a children's ski school with its own surface lift.

Future plans for the area include the construction of a storage pond in support of the snowmaking facilities.

SUMMER OPERATIONS

Both chairlifts are in operation in summer. The area scores with a dense network of hiking trails, to which the lifts offer convenient access without the strenuous climb. Both lifts carry bikes, and there is an e-bike rental facility. In Čenkovice, scooters and mountain carts are also available for rent and can be placed on the chairlift for the uphill ride. Buková hora also has a disc golf course and a pump track for bike riders and is popular with paragliders.

Roman Gric

Bike transport by chairlift now made even easier

LEITNER New transport systems create maximum flexibility for all bike adventure seekers.



A 6-seater chair carrying three bikes on the Geisskopfbahn (Germany)

Today more than ever before, ropeways have to impress with their maximum functionality for all types of use. Leitner, with its two new systems, is now setting the standard for flexibility, safety and comfort for all those who want to enjoy the mountains on two wheels. The transport solutions designed for chairlifts vary depending on the design of the chairlift – with or without bubble – and can be quickly and easily integrated. Add-ons, such as the bike box, make it possible for bikers to try the transport solution before boarding and get all the necessary information they need for a smooth ride.

Ease of use and assembly make the new systems very attractive add-ons that transform chairlifts into a perfectly sophisticated means of transport for bikes in just a few easy steps. On chairlifts without bubbles, the bike mount is fastened to the frame of the chair, keeping the loaded carrier perfectly balanced and preventing it from swinging to one side. Since there is no direct point of contact between the chair and the bike, the latter is fully protected from shocks and dirt during the ride. For chairlifts without bubbles, the CE-certified aluminum structure is available in different versions: Up to two bike racks can be installed on 4-seater chairs, up to three on 6-seater chairs and up to four on 8-seater chairs.

For chairlifts with bubbles, Leitner uses its specially designed transporter to carry the bikes. It can be hooked on with minimum effort and can take up to four bikes. To ensure stress-free and safe unloading at the top station, the transport carrier is stopped in the station in a stop & go operation.

GETTING ACQUAINTED WITH THE BIKE BOX

The Bike Box developed by Leitner as a test station allows bikers to familiarize themselves with the new system. The box can be set up near the ropeway boarding area, providing an opportunity to practice handling before boarding. In addition to the boarding procedure, bikers will also find information on the requirements for the bike to ensure safe transport. To make the boarding procedure even easier to understand, the box also features pictograms. Alternatively, a screen can be integrated into the box to display an explanatory video for the procedure.

ADVERTISING



One of the seven bike carriers for a maximum of four bikes in the top station of the Gran Paradiso 8-seater chairlift (Italy). A stop & go procedure is used for safe unloading.

Ropeway on Lake Maggiore

ISR REPORT Of the bucket lifts that used to be common in Italy especially, only eleven are still in operation in the country today. ISR recently paid a visit to one of them, the *cabinovia* in Laveno Mombello on Lake Maggiore.



The Funivia del Lago Maggiore has become the hallmark of Laveno.

In Italy bucket lifts are known as *cestovia*. In terms of ropeway engineering they are very simple systems; they are basically fixed-grip single chairlifts with open carriers for standing passengers instead of chairs. On some of these ropeways, the buckets were later replaced by enclosed cabins, also for standing passengers. Apart from the main advantage of protecting passengers in wet or cold weather, ropeways with standing cabins are classified as *cabinovia* (cabin lifts) instead of *cestovia*. So that is a relatively cheap way of enhancing the image of both the ropeway and the resort. Since the carriers are permanently attached to the haul rope, loading/unloading is performed while the carriers are moving through the stations, which limits line speed to between a mere 1.0 m/s and a maximum of 2.0 m/s and requires the active assistance of the station personnel.

This uncomplicated type of ropeway had its heyday in the 1950s and 1960s, when bucket lifts and fixed-grip chairlifts

were two of the most common systems used in Italy. With the development and growing popularity of detachable systems, these slow lifts with their limited transport capacities were soon sidelined in the major ski resorts. The bucket lifts still in service today provide access mainly to tourist attractions and places of pilgrimage.

RIDING UP THE LOCAL MOUNTAIN IN OPEN CARRIERS

Laveno Mombello is a historic community on the shore of Lake Maggiore in the province of Varese in Lombardy. The local economy is dependent on weekend tourism from Milan, from where there is a direct train service to Laveno Mombello. The municipality also benefits from the only ferry service across Lake Maggiore, from Verbania-Intra.

At the beginning of the 1960s, the proposal was made to construct a ropeway to serve the 1,062 m high Sasso del Ferro, Laveno's local mountain, and to build a restaurant and a hotel by the top station. The first bucket lift from Laveno Mombello to the top station, 90 meters below the summit of Sasso del Ferro, was built by Telemeccanica Atesina of Bolzano and inaugurated on April 24, 1963. The location of the top station was named Poggio Sant'Elsa after the wife of the man from Legnano who built it. The new ropeway's yellow bucket carriers for two standing passengers were known locally as *frying baskets*. In the first years of operation, a number of technical problems had to be solved, including replacement of the original rope grips, which had rubber components and proved to be insufficiently reliable.

The open-air ride soon became very popular. Unlike on a chairlift, where passengers can hardly take in the view behind them as they ride up the mountain, the open bucket carriers permit passengers to turn in any direction they want during the ride and enjoy 360° views of the lake and the landscape all the way to the highest Swiss mountains in the Monte Rosa massif. With the help of binoculars, it is even possible to see the towers of Milan Cathedral from the top station when visibility is good. Soon after the lift went into service, in 1965, a small ski area with a surface lift was established by the top station. It remained operational until the



The first ropeway from Laveno Mombello to Poggio Sant'Elsa had yellow open bucket carriers for two passengers.



Today, passengers can choose between open and enclosed vehicles. Both offer wonderful views





The bottom station is located in the middle of the built-up area of Laveno

early 1980s, when it closed due to a lack of snow. Since 1975 Poggio Sant'Elsa has become a popular take-off point for hang gliders and paragliders.

Over the years the ropeway, which carries about 50,000 visitors a year, has become an iconic symbol of Laveno. Despite various improvements, the ropeway reached the end of its service life in 2004 after 40 years of service and was threatened with closure.

REFURBISHMENT WITH STANDING CABINS

The operating company did not have the funds to finance a new ropeway, but in view of the importance of the amenity



The original reinforced concrete pressure frame outside the top station was replaced by two steel-plate towers with polygonal shafts.

as a key driver for the local and regional economies, the public authorities recognised the need to take action, and the necessary capital was finally raised by the province of Varese and the municipality of Laveno Mombello. That made it possible to start work on the new *Funivia del Lago Maggiore* on December 22, 2004.

The structures of the old top and bottom stations were retained and modified for reuse. The old latticework towers were replaced by steel-plate towers with polygonal shafts, and the reinforced concrete pressure frame outside the top station became two separate towers (nos. 16 and 17). The reinforced concrete shafts of the depression tower at the exit from the bottom station were also retained; only the cross member with the sheave trains was replaced. The drive was again located in the top station, and the return sheave in the bottom station tensioned with a counterweight system. Instead of the *frying baskets*, the new ropeway operates with enclosed cabins in addition to open carriers at a ratio of one to two. The cabins are especially important to ensure that hotel guests can use the facility fully protected from any inclement weather. The new green livery for both types of carriers blends in with the surrounding woodland. On January 25, 2006, the *CCM Finotello* company completed the work on the new installation, and on March 31, 2006 it was officially inaugurated. The refurbishment proved that this type of ropeway can still make sense under certain conditions.

Today the ropeway also carries bikes; on the Sasso del Ferro there are several downhill, freeride and mountain bike trails. Hang gliders and paragliders can take off from a launch ramp by the mountain station; tandem flights and flying lessons are also available. Adjoining the top station today, there is a panoramic restaurant with terrace, a hotel with 18 rooms, a bar and a souvenir store. Following the refurbishment, the *Funivia del Lago Maggiore* is set to remain a tourism flagship on the eastern shore of Lago di Maggiore for a long time to come.

Roman Gric

TECHNICAL DATA

Bucket and cabin lift Laveno Mombello – Poggio Sant'Elsa (Funivia del Lago Maggiore)

Elevation of bottom station	205 m
Elevation of top station	953 m
Line length	1,513 m
Vertical difference	748 m
No. of towers	17
Drive	top station
Haul rope tensioning	bottom station
Rated output	114 kW
Haul rope diameter	30 mm
No. of buckets	53
No. of cabins	27
Line speed	1.5 m/s
Transit time	16.8 min
Rated transport capacity	284 pph
Manufacturer, year	Telemecanica Atesina Bolzano, 1963
Refurbishment	CCM Finotello, 2006

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office@mountain-planning.com



Weidach 381a
6105 Leutasch
Tyrol, Austria



The double chairlift built in the 70s is still operating today.

St. Moritz in the footsteps of Borșa, or vice-versa?

ROMANIA The history of the Winter Olympic Games links the famous Swiss winter sport destination with the small Romanian mountain resort.

Located in the northern part of Romania, Borșa with its 30,000 inhabitants is situated in the valley between two national parks, Rodnei and Maramureșului Mountains, at an altitude of 830 m.

80 years ago, on December 25, 1941, the Olympia ski slope was inaugurated on the northern side of the Rodnei Mountains. Abandoned after World War II, the ski slope was re-opened to the public on December 20, 2021.

BACK IN THE 1940s

In 1940 István Déván, a Hungarian athlete and member of the International Olympic Committee, was looking for somewhere to hold the 1948 Winter Olympic Games. After several months of research, he suggested to the Committee that the northern slopes of the Rodnei Mountains – Borșa – would be the best location. As a result, on October 23, 1941, a FIS commission visited the area and approved the site.

In spring 1942 work started on the construction of the Olympic Center for the technical staff (Organizing Committee and referees). The next project was the construction of the Olympia Sport Hotel, which was opened in 1944. This

building still exists today; after standing empty for several years, the municipality of Borșa succeeded in taking it over and restoring it.

Also, in 1943 the engineer Frigyes Benedek and the Polish ski jumper Stanislaw Maruszak began to plan and build a ski jump, which was Europe's largest natural jump hill (no tower needed for the track). The ski jump was used until the 1990s and its remains can still be seen today.



Finishing area of the "Olympiapiste" for an alpine ski race in 1940

In spring 1944 work started on the construction of a cable car, but it remained unfinished because of the war.

Another landmark of that period in Borşa was the Anikó Chalet. Located at an altitude of 1,600 m, it had showers and bathtubs with hot water. It was officially opened in November 1942 by Iglóiné Eleőd Anikó, a famous skier of the time. At the end of the war, it was destroyed by fire.

One of the most important achievements in the creation of the new ski center was the Olympia downhill slope – which is now about to reopen 80 years later. Originally it was inaugurated with a ski race on Christmas Day, 1940. Four years later, the first international ski jumping competition was held. Detailed information on these events can be found in András Killyéni's book "Dreaming of a Winter Olympics in the Rodna Mountains" ISBN: 978-606-717-065-8.

Due to the events of World War II, all construction work was stopped in Borşa in the spring of 1944. After 1945, the communist regime in Bucharest decided to abandon the project, and the International Olympic Committee gave up the idea of organizing the 1948 Winter Olympic Games in Borşa.

The replacement venue was St. Moritz in Switzerland, where almost all the competition sites were still in good condition following the Olympic Winter Games in 1928. St. Moritz thus became the first city to host the Winter Olympics twice. Twenty-eight countries competed in the first post-war games there. Apart from a few alpine skiing events held at the 1936 Games in Garmisch Partenkirchen, alpine skiing made its Olympic debut in St. Moritz in 1948!

THE COMMUNIST PERIOD

Although the communist regime in Bucharest decided to abandon the Borşa project after the end of the war in 1945, the idea of creating a winter ski resort in Borşa was put back on the agenda in the 1970s. This time a different site was chosen, on nearby Mount Ştiol, and a 1,983 m long fixed-grip double chairlift and a 727 m long surface lift were built. Both installations, now owned by a private company, are still operating.

In addition to the Olympia Sport Hotel built in 1944 (now the Stibina Hotel), another three hotels were constructed, two located near the ski slopes and one in the center of the town. Two smaller ski-jumps were also added to the existing one, and in that period a number of national alpine ski contests and international ski jumping contests took place in Borşa.



Earthworks for the ski trail in the area of the top station

TECHNICAL DATA

8-passenger gondola lift

Altitude bottom station	855 m
Altitude middle station (uphill line only)	1,238 m
Altitude top station	1,633 m
Line length	2,274 m
Vertical difference	778 m
Number of towers	17
Line gage	5.2 m
Rope diameter	52 mm
Drive	top station
Tensioning	bottom station
Drive output (start / rated)	855 / 691 kW
Number of cabins	56
Line speed	6.0 m/s
Ride time	7.7 min
Transport capacity	1800 pph

Companies:

General contractor (2021)	Yanis Nord & TechnoAlpin
Supplier	Doppelmayr
Year of construction	2008 / 2021
Cabins	Carvatech 8 Ultra 2000
Rope	Teufelberger

Other companies:

Snowmaking	TechnoAlpin
Snow groomers	Kässbohrer

UNREWARDED ENDEAVORS

In the post-communist period, the local authorities made several attempts to revitalize the old projects. Development studies were prepared, but a lot of obstacles such as the lack of financing and issues regarding land ownership brought all the studies to a halt. The largest of these studies envisaged ten new lift installations as well as the modernization of the old ski jump (see the article in ISR 2/1997).

Later, with the prospect of financial support from the EU,



After ten years of construction work, the carrying-hauling rope was finally spliced.



The finished 8-seater gondola lift prior to issue of the operating permit



Professional snow grooming on the "Olympiapiste"



Bottom station of the ropeway



View from a cabin on the downhill line of the mid station located on the uphill line

the local authorities prepared another project, but this time only for a gondola lift for the old Olympia slope. The financing was finally approved, and a construction company won the tender. After a short while, however, the work was discontinued because the company went bankrupt. Some years later, this time with financial support from the government, a new tender was organized, and another company started on the work... until 2008 when it stopped once again, also due to insolvency.

TEN YEARS LATER (AND 80 YEARS LATER)

In the meantime, the citizens of Borșa had elected a new mayor, a determined and hard working man with a fighting spirit. Together with his team, he analyzed the entire ski resort project from the very beginning to the present, and a new vision took shape. In 2018 a new project was prepared to be financed by the government. This time, apart from the gondola lift (finishing the work started 10 years ago), the project also included the construction of the downhill slope, with a state of the art snow-making system and illumination for night skiing. The tender was won by a syndicate comprising a local construction company, Yanis Nord srl, and TechnoAlpin SpA from Italy.

The work started in spring 2020, and the new Doppelmayr 8-seater gondola received a permit for public operation just before Christmas 2021. The inauguration of the entire project is planned for 2022, when hopefully the restrictions caused by the Covid-19 pandemic will permit it to be organized properly. Besides, some works on the ski-slope itself on the upper part of the mountain are still to be finished, as well as installation of the snowmaking equipment and illumination system. However, as the gondola lift has a middle station, the lower half of the ski slope may open earlier.

TRIPLE PREMIERE

The new venture at Borșa resort is a triple premiere for the Romanian winter sport market, with regard to the gondola lift, the ski slope and the snowmaking system.

- The gondola lift has the greatest vertical difference in Romania, and it is also the only one with a middle station. Moreover, the middle station is located only on the uphill line.
- The ski slope, with a length of almost 2.6 km, an average width of 45 m and an average inclination of 32%, has the greatest vertical difference of any ski slope in Romania. According to the FIS specifications, it is suitable for downhill, slalom, giant-slalom, and super-G competitions. Also, the ski slope will be the only one in Romania with an illumination system of 100 lux according to EN12193.
- The snowmaking system will be the first in Romania to have snow-guns mounted on towers from top to bottom, and with the shortest snowmaking time estimated at between 60 to 40 hours.

More technical data on the ski slope itself, and the illumination and snow-making systems will be available after the inauguration of the entire project

Peter Popa

The world of the young digital “media maniacs”

INTERVIEW Ursula Weixelbaumer-Norz, expert for Kids & Family Marketing, kids&fun consulting, in conversation with Dr. Beate Grossegger, Scientific Director of the Institute for Youth Culture Research.

The Institute for Youth Culture Research works in the field of communication with young target groups. Media constitute a key element in young people’s leisure activities and are an indispensable part of contemporary youth culture(s). To understand today’s young people, you have to see how they interact with media. In this interview with Dr. Beate Grossegger, Scientific Director of the Institute for Youth Culture Research, we take a look at young digital “media maniacs”.

Dr. Grossegger, What do media mean for young people today?

For young people, media mean expanded experiential spaces. They offer them inspiration for individual identity work and also support cultural community building. The media we are familiar with from the pre-digital era, such as television or radio, and also books, play a lesser role; today’s youth is a digital generation. Born into the digital age, they are socialized with a wealth of digital resources, tools and gadgets, and they literally find using them child’s play. What seems new, interesting and perhaps a little irritating about their media habits from an adult perspective is a completely un-spectacular part of everyday life for young people.

So online media are becoming increasingly more important than offline?

Young people today do not act on the basis of an online/offline dualism; they go through life “onlife”. In other words, online and offline experiences are not completely distinct but, thanks to the mobile Internet, are interlinked in the vast majority of everyday situations and spheres of life. In practical terms, this means that smartphones and social media are as normal for young people today as the refrigerator or the TV are for their parents; they are a permanent fixture for young people in their everyday leisure activities.

Why are smartphones and social media so important?

Social media play a central role for young people in terms of self-definition. They mark the transition into adolescence, as it were, and even more so into youth culture, although – for the youngest players – social media use in the youth culture context still usually has a focus on digital play. On popular social media platforms, topics of relevance to youth culture are presented in a highly professional manner. Youth cultural lifestyles in the digital age depend on the self-presentation practices of lifestyle-oriented young people on the social web. Experimenting with self-portrayal has always been important in youth cultures, but today we are seeing a completely new dimension thanks to the potential of the mobile Internet and social media: Self-presentation by young people now transcends all spatial boundaries; popular social media platforms offer unprecedented scope for public visibility.

Are there any gender differences with regard to media behavior?

Yes, there are. Among female adolescents, “listening to music” is the most popular media leisure activity, all the more so as music plays a role in terms of mood regulation and personal mood management. The second focus of media use among young females is entertainment with a high “lean back” factor. Streaming services are popular, although old-style linear television is also used. A good one in two also reads books for relaxation and entertainment. Social media activities also occupy a very prominent place in the lives of girls and young women, with the emphasis on peer communication and the lifestyles dictated by current youth culture. Boys and young men, on the other hand, typically make use of technology as a toy. The keyword here is gaming. Video and computer games offer “action” and have a high recreational value for young males. For them, a “lean forward” experience is the dominant factor. With boys and young men, there is a clear pattern in the use of digital media. This is clear from the five most popular media-based leisure activities among young males. YouTube videos come first, followed by listening to music, preferably via music streaming services or YouTube, then series and movies on Netflix, Amazon Prime Video, etc. followed by video and computer games. Social media only come fifth and play less of a role in the media-based leisure activities of young males than they do with girls and young women.

Talking about leisure, what kind of content can be used to attract young people?

For young people, leisure time is literally “free time”. That is to say they feel free and self-empowered to make use of their time for all and for everything they are interested in and consider fun. The setting for leisure activities is primarily the peer group, and youth leisure is in general peer culture. In one way or the other, it is also media-based leisure. Young people’s leisure life revolves around a diverse offering of media content. They make use of media and digital tools in their free time for a variety of reasons: to chill out, have fun and amuse themselves, out of sheer habit or – in low-stimulus environments – as an acoustic backdrop to cope with unfamiliar silence. And their media-based leisure activities are often socially embedded. Collective binge-viewing or gaming sessions are just two examples of how shared media leisure functions in young people. In addition, individual media experiences are socially embedded via social follow-up communication. Popular Netflix series, for example, are a talking point among friends, so young people who want to be taken seriously make a point of viewing them, not simply for their entertainment value but above all to be able to join in the conversation in the peer group.

Ursula Weixelbaumer-Norz

Moving carpets for all age groups

SUNKID Bieszczad Ski in Wańkowa is a family ski area in the Bieszczady Mountains in the south of Poland. With a major capital investment over the last few years, the ski area has further enhanced its offering for families. The new facilities include three Sunkid Moving Carpets.



The new moving carpets installed at Bieszczad Ski in Wańkowa, Poland, are ideal for young and old to learn to ski.

The Austrian Sunkid company has made a name for itself in Poland in recent years, and in 2021 the Bieszczad ski area was added to its Polish customer base. As a Sunkid spokesperson put it, "For the ski center management, the most important factors were engineering competence for demanding solutions and an outstanding standard of workmanship". The three moving carpets installed in Bieszczad include such features as additional holding brakes, active-hydraulic tensioning and special speed options. This is seen as the key to maximum convenience for the ski area and its visitors.

MOVING CARPET AS A FEEDER

In order to make use of the entire area of the ski center, one of the three new moving carpets has been installed as a feeder installation. In the area of the chairlift near the bottom station there is a wide inviting slope, which was previously difficult to reach for inexperienced skiers and snowboarders. This has now changed with the installation of Sunkid's 189 m moving carpet.

LEARNING TO SKI AT ALL AGES

The second moving carpet, which is also 189 m long, is just a few meters from the feeder and serves as a lift to the top of the wide slope. This part of the ski area is ideal for visitors of all ages who want to learn or practice skiing and snowboarding in peace and without any hassles.

MOVING CARPET FOR THE KIDS, RESTAURANT FOR THEIR PARENTS

All good things come in threes, as they say. The shortest of the three new moving carpets is 39 m long and is located in the area of the restaurant and ticket office on terrain with a slope of about 8%. Here the little ones can make their first turns with the help of their parents or learn to ski with a qualified instructor. Parents can watch and cheer them on from the restaurant. So young and old can look forward to the upcoming 2022/23 winter season.



Moving carpet no. 1 serves as a feeder to moving carpet no. 2 at Bieszczad Ski. The two moving carpets of the same length offer easy access for beginners to the slope along the line of the chairlift.

TECHNICAL DATA

Moving carpet no. 1

Purpose	feeder
Length	189 m
Belt width	750 mm
Surface	Rufftop
Drive	22 kW
Max. speed	1.2 m/s

Moving carpet no. 2

Purpose	beginners' slope
Length	189 m
Belt width	750 mm
Surface	Rufftop
Drive	22 kW
Max. speed	1.2 m/s

Moving carpet no. 3

Purpose	beginners' slope
Length	39 m
Belt width	600 mm
Surface	Rufftop
Drive	5.5 kW
Max. speed	0.7 m/s

Efficient snow management for perfect slopes

KÄSSBOHRER GELÄNDEFahrZEUG AG Professional snow management is the basis for safe, efficient and economical ski operations and optimum slope quality throughout season. In this context digital solutions now play a key role. For more than 10 years, SNOWsat from Kässbohrer has been the partner for over 350 ski areas around the world.

Snow depth measurement is the basis for data-supported snow management, which is a decision-making tool for slope managers and snowmakers in their work and for management in strategic decision-making. SNOWsat provides a real-time overview of the snow conditions on slopes.

PREDICTIVE SNOW DEPTH MEASUREMENT

SNOWsat LiDAR is one of the world's first forward-looking snow depth measurement systems. With SNOWsat LiDAR, the driver not only receives the usual real-time data about the snow depth directly below the vehicle; now he also receives data on what is up to 50 m in front and what is alongside of his vehicle. This expanded data pool enables forward-looking work and optimizes the use of available snow resources – for planning at the office and grooming in the vehicle.

EFFICIENT RESOURCE MANAGEMENT

The production of artificial snow is one of the largest cost items in a ski area. SNOWsat provides detailed information about the location of unsuspected snow depots, about where the remaining snow cover is only very thin and deter-



SNOWsat LiDAR provides the operator with real-time data on snow depth up to 50 m in front of and alongside of the vehicle.

mines when which snow cannons need to be activated. This makes it possible to optimize the times at which snow groomers and snowmaking machines are used based on need. Maximum efficiency, operating safety and sustainable handling of the available resources – professional snow management is the guarantee for good slope quality and safe and economical operations from the first to the last day of the season.

10% LESS DIESEL

Gstaad ski resort in Switzerland has been using SNOWsat since the 2015/16 winter season. "Without SNOWsat, there is no way we would have been able to open the slopes on time over the last few seasons and keep them open, too. In recent years the system has evolved impressively – and has generated enormous savings. We saved at least 10% on diesel. The investment in our 20 slope and fleet management systems has paid off in just a few years," says Matthias In-Albon, Managing Director of Bergbahnen Destination Gstaad.

TECHNICAL DATA

SNOWsat - data driven snow management

- Decision-making tool for
 - identifying snow reserves and using them with maximum efficiency
 - replenishing snow in specific areas with maximum efficiency
- Saving use of resources and lower costs
- Excellent slope quality guaranteed throughout the season (identifying low snow cover in good time and preventing dirt from getting onto the slope)
- Sustainable slope structure for a successful season from the first day on



Snow depth measurement and snow management are part of the SNOWsat platform.

IMPRINT

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OWNER Verlag Holzhausen GmbH, A-1110 Wien, Traungasse 14-16, Telephone: +43(1)740 95-0, DVR 4018640 • **PUBLISHER** Verlag Holzhausen GmbH • **MANAGING DIRECTOR** Dr. Gabriele Ambros • **EDITORIAL STAFF** Editor-in-chief: Mag. Claudia Mantona (CM); Technical editor: Univ.-Prof. Dipl.-Ing. Dr. techn. Josef Nejez (JN), Mag. Dieter Krestel, Dipl.-Ing. Roman Gric • **MANAGING EDITOR** Nora Hrabý • **EMAIL** isr.at@verlagholzhausen.at • **INTERNET** www.israt.at • **ADVERTISEMENT SALES** Dietrich Kops • **LAYOUT & ELECTRONIC PUBLISHING** Bohmann Repro-Media und Online GmbH • **TRANSLATION** Dr. Christopher Marsh • **DISPATCH MANAGER** +43 (1) 740 95-466 • **SUBSCRIPTIONS** abo@verlagholzhausen.at, published 6 times a year + special issues • **SUBSCRIPTION RATES** one year: € 163,50 (excl. VAT, incl. mailing charges) • **BANK ACCOUNTS** UniCredit Bank Austria AG; IBAN: AT70 1100 0083 5325 3100 • **PRINT** Donau Forum Druck Ges.m.b.H., Wien • **CIRCULATION** 2nd half-year 2021: 4,900 • **CIRCULATION 5 COUNTRIES SPECIAL** 1,500.



The new *ProBlade* has integrated hydraulic transport tines. The wings can be tilted backwards for better snow transport.



With its enlarged flex angle and V / A position, the *ProFlex tiller* provides optimum adaptation to the slope.

Run Red – the new PistenBully 400

KÄSSBOHRER GELÄNDEFAHRZEUG AG “Run Red – Start the new PistenBully 400 now!” This is the tagline for the new PistenBully 400, which completes the new generation of Kässbohrer’s PistenBully family.

With the PistenBully 400, Kässbohrer completes the new generation of the PistenBully family – and places special emphasis on easy operation, clean exhaust gas technology and an attractive design. What remains of the old 400 is the perfect balance of power, weight and dimensions, and perfectly groomed slopes. The new features include assistance systems designed to make operation even easier and more efficient. In the case of the *ParkPro*, a version with a winch is available for the first time plus new, improved auxiliary equipment for snow park grooming to a professional standard.

RUN EFFICIENT

The new PistenBully 400 is designed for maximum efficiency. According to the manufacturer, the four model variants deliver impressive pushing capacity, easy operation, enormous range and long component service life. The *6-belt CombiPlus track* advances gradability and pushing capacity, while the robust running gear with the new main frame and tensioning axle supports this power on the slope. Combined with lower fuel consumption, the larger tank volume yields a greater range for maximum fuel security on long shifts. Electronic assistance systems like *AutoTracer* and *AutoWinch* make work more efficient and deliver ideal slope quality at the same time.

RUN SMART

Advanced slope grooming demands maximum concentration at work, even at night, in poor visibility and on steep slopes. A uniform operating concept (as in PistenBully 600 and 100) with intuitive, ergonomic double-joint joystick for four simultaneous movements of the blade and the identical arrangement of the controls across all models make for

easy orientation when operators switch vehicles. In addition, four memory slots are available for four individual operator settings. Easy operation is supported by the *iTerminal* with

RUN SMART ALSO IN THE PARK

ProBlade with side cutter, hydraulic transport tines and OneTouch Straight function:

- *ProFlex tiller* with enlarged flex angle, V / A position and freeze function for greater range of movement and optimum adaptation.
- Stick control for direct handling and steering as standard.
- *Winch 4.0+*: For the first time, the *ParkPro* is now also available with a winch.



Lightweight and agile – and now also with a winch – the PistenBully 400 *ParkPro W* is ideal for grooming slopes and snow parks.

ADVERTISING

PHOTOS: KÄSSBOHRER (3)

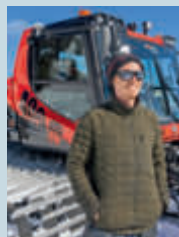
touchscreen. The Comfort cab offers more room to move, improved acoustic and thermal insulation, and a low-maintenance interior lining with beverage holders and storage compartments

RUN CLEAN

Further improvements have also been made in the interest of a minimum environmental footprint. Equipped with a 6-cylinder engine with 435 metric HP including a diesel particulate filter, the PistenBully 400 is compliant with EU Stage V / EPA Tier 4 final and has one of the most powerful engines in its class. The clean, maintenance-friendly engine reduces downtimes. It produces up to 90% lower CO2 emissions thanks to the use of fuel from plant and animal waste (HVO). With the help of SNOWsat LiDAR, snow depth can be measured up to 50 meters ahead of and to the side of the vehicle (2,600 m²). According to the manufacturer, the use of organic hydraulic oil increases service life by about 25% due to its superior lubricating characteristics.

SUMMARY

The four new models (PistenBully 400, 400 W, ParkPro and now the ParkPro W) embody the entire experience of the PistenBully engineers. According to Kässbohrer they have been developed and tested in the company's usual close collaboration with customers. The supporting offers include a dense service network, a fast and reliable response with spare parts, the company's well known proximity to customers, advanced quality assurance, and the Pro Academy.



MARKUS "DUDE" DEUTINGER

Departmental chief and head groomer at the Absolutpark in Austria

"After testing the new ParkPro for 800 hours last winter, I can say that the dynamic controls, including the new joystick and the combination of ParkPro and winch, exactly match our thinking in park construction today!"



All current PistenBully models are now identical with regard to the controls.

ADVERTISING

PistenBully Sales Manager Werner Seethaler retires

KÄSSBOHRER GELÄNDEFAHRZEUG AG After a lifetime of working for the PistenBully, Sales Manager Werner Seethaler goes into well-earned retirement.

He is and remains one of the faces of Kässbohrer: Werner Seethaler has been a PistenBully man for 43 years. "In all those years in sales he has got around a lot, achieved a lot and played a decisive role in shaping the success of PistenBully – and the legendary spirit of the PistenBully team. He not only built up the market in Eastern Europe but also significantly developed it over the years – just as he did later in the ski resorts in Asia." That is what it says in a press release from Kässbohrer Geländefahrzeug AG on the retirement of Werner Seethaler.

Customers in Scandinavia were always particularly close to his heart. He has also had a strong influence on this market, together with his longstanding local dealers. "On all his travels he experienced a lot and not only looked after his customers but also made many good friends. And even though he will certainly miss the business trips, he is now looking forward to the time he will have for his many hobbies and the completely free choice of vacation destinations for biking and skiing," says Kässbohrer.



They prepared the handover of the baton well together: Werner Seethaler (right) with his successor Alexander Dehm.

PHOTOS: KÄSSBOHRER (2), M. DEUTINGER (1)

Sklide: new frontier of fun

NEVEPLAST The name *Sklide*, combining the words “ski” and “slide”, speaks for itself. A colorful toboggan with a joystick in the middle, the new Sklidebob ensures healthy and intuitive fun and is an interesting product for the leisure business.



One of Sklide's strengths is the parallel run with tracks of equal length, one next to the other. This configuration allows for head-to-head challenges, adding even more adrenaline and entertainment to this sporting format.

With *Sklide*, children can launch themselves down a slope, challenging their friends on parallel tracks and trying to shave off hundredths of a second on every lap. Riders sit on the Sklidebob in an upright or semi-upright position, with the stick serving as a support and helping to steer the vehicle and adjust its trajectory. The option to brake autonomously – with the rider's legs free to move, and the centre of gravity low – makes the ride a very safe experience.

The Sklidebobs run on a *Sklide* track, with parallel lanes allowing for head-to-head challenges. The sliding surface is made of Neveplast's NP30 *Freeski*, combining durability with excellent gliding properties.

YEAR-ROUND FUN

Sklide is designed for relatively small spaces and can be enjoyed all year round, summer or winter. It is perfect for permanent or temporary installation in many outdoor or indoor locations, meeting the need for greater flexibility in theme parks, adventure parks, malls, and opening and other events. The attraction is non-polluting, does not require electricity or water to work, and benefits from low costs of installation and operation.

Sklide's target audience is children from the age of four. The toboggans are compact and light, so kids can carry them back up the slope without the need for a conveyor lift.

SIZE AND TECHNICAL FEATURES

Sklide can be assembled quickly and easily without help from Neveplast. The number and length of the tracks can be calculated on a modular basis. They are installed on well prepared soil or other smooth surfaces with a gradient of 8–15% without counter-slopes, plus a flat deceleration and

arrival area. The product can be customized in terms of size, track color and design.

NEW ADDITION TO THE NEVEPLAST PORTFOLIO

Neveplast's CEO Niccolò Bertocchi is delighted with the new product. "I am really happy and proud of the work we've done to create this new fun product, which I'm sure will be very successful. For years we had been looking for something new to introduce in the leisure business, alongside *Tubby* and *Skiddy*, which are still our reference products in this market. If I had to describe *Sklide* in just a few words, I would say: lean, fun, carefree and environmentally friendly. We gave a preview to our distributors during our corporate meeting at the end of April, and then we did a soft presentation at the Grenoble Mountain Planet trade fair. It is not easy and it takes a lot of courage to launch new products on the market, given the critical issues we are currently facing. However, we believe that it is more dangerous to wait and see what happens next..."



Riding a toboggan down a slope is fun for adults and children alike.

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PistenBully®

The new 400

Professional's First Choice



Run efficient. Run smart. Run clean.

RUN RED – Start up the new PistenBully 400! Featuring the cleanest engine, an intuitive operating concept with a patented 4-axis joystick, and optimum operator comfort systems. The 6-band CombiPlus track provides the best pushing, thrust and climbing performance. Assistance systems help make driving even easier.

The new PistenBully 400 ParkPro now includes an optional winch! The ProBlade and ProFlex tiller leave nothing to be desired. Perfect for the park, perfect for the slope. Always with Kässbohrer quality.

www.pistenbully.com/runred

 KÄSSBOHRER GELÄNDEFAHRZEUG AG

