REPORT 2023

HTI

Focus on Future Technologies

As a globally active group of companies, we are shaping our future through innovative, resource-saving technologies and outstanding design. That’s how we move people.

Innovation: High Technology Industries

LEITNER

Rope-powered passenger transport systems for use on mountains and in cities

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POMA

Rope-powered passenger transport systems for use on mountains and in cities

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BARTHOLET

Rope-powered passenger transport systems for use on mountains and in cities

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agudio

Material transport systems

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Prinoth

Snow grooming, tracked, and vegetation management vehicles

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DEMACLENKO

Complete solutions for fully automatic technical snowmaking

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skadii

Open digital resort management platform

Page 64 – 67

TROYER

Electromechanical equipment for hydropower plants

Page 68 – 71

LEITWIND

Gearless wind turbines in the megawatt category

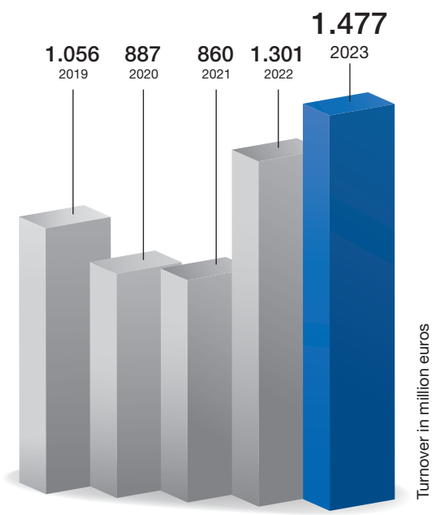
Page 72 – 75

Expanding Competencies

Turnover

Group turnover was
€ 1,477 million in 2023.

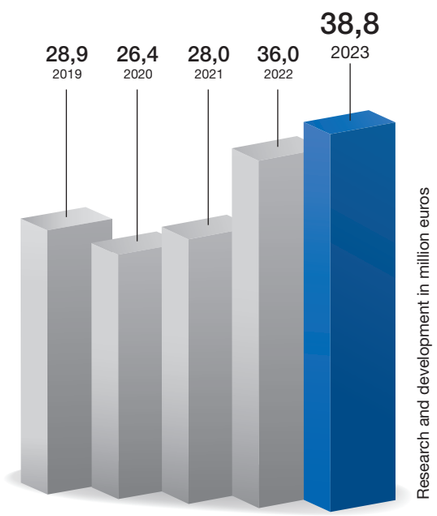
- 97 Ropeway systems
- 1,238 snow grooming, tracked, and vegetation management vehicles
- more than 2,100 snow guns
- 8 wind turbines
- 12 hydroelectric power stations



Research

For the group of companies, technological innovations are a matter of course. In 2023, € 38.8 million were invested in research and development.

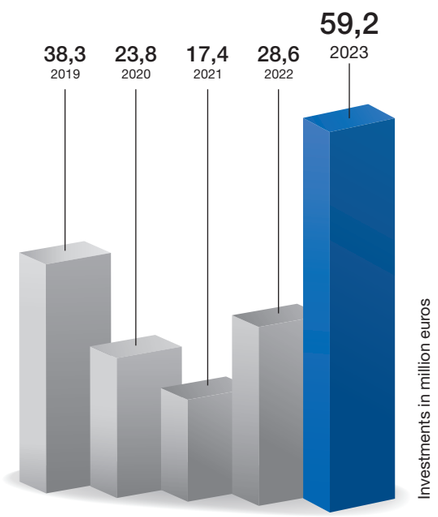
- Ropeway systems: Further development of detachable stations and development of ConnX hybrid solution
- Snow grooming, tracked, and vegetation management vehicles: Product optimization and weather development of the existing product portfolio, such as Husky eMotion, Panther T14R and T7R; market launch of the Panther T8F and the Grizzly M550e and M450e forestry mulchers
- Market launch of the “Olympia” fan gun



Investments

In 2023, the network of the group of companies was expanded with an investment of € 59.2 million.

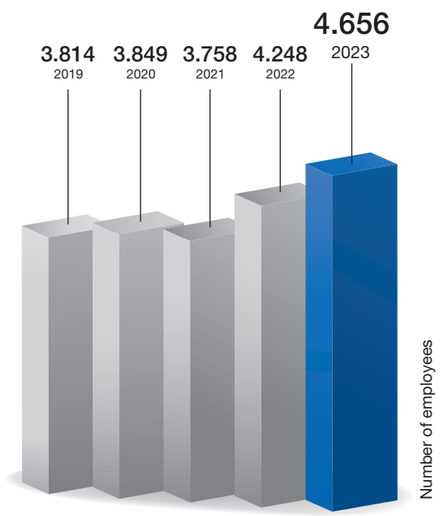
- Expansion at the company headquarters in Herdwangen/Germany, Stará L'ubovňa/Slovakia, Granby/Canada and Leinì/Italy
- New subsidiaries in Tooele/USA and Oppeano/Italy
- Integration of the company TROYER into the Group



Employees

In 2023, the Group had an average of 4,656 employees worldwide.

- Approx. € 2.7 million for training and further education



Pioneering the Way for 135 Years

Zell am Ziller / AT

LEITNER®

2023 was LEITNER's 135th anniversary as well as one of the most successful years in the company's history, making it a cause for celebration. We completed 45 ropeway projects in 15 countries where our presence in Eastern European markets grew specially well, with new systems in Slovenia, Bulgaria and Montenegro.

From a product point of view, the focus last year was on extending the ways in which ropeways can be used, and fulfilling technically challenging customer requests. An example of this is the new gondola lift "Plose" in Bressanone, which features a world first in the loading of bikes and mountain carts. With its new 6-seater chairlifts in Kitzbühel, LEITNER demonstrated its latest technologies for reducing energy consumption and increasing operational efficiency.

These two sustainable ropeways feature photovoltaic systems on the roofs of their stations.

2023 also saw LEITNER complete a true landmark project. The Matterhorn Alpine Crossing is the highest border traverse in the Alps and runs between the Swiss town of Zermatt and Breuil-Cervinia in Italy. This new tricable gondola lift ropeway is the impressive result of an idea from more than 80 years ago. Its vision has now become reality, thanks to LEITNER's engineering expertise and ultra-modern technology.

Kotor / MNE

MONTENEGRO – KOTOR

Best Practice

In Kotor in summer 2023, LEITNER completed an extraordinary technological feat which is unique in the way it is built and the way it works. It's a 3.9 km long 10-passenger gondola lift, which ascends 1,316 meters from the sea to the mountain, providing sustainable mobility between Kotor and Lovćen National Park. The GD10 "Dub Kuk's" 40 Diamond EVO cabins are fully glazed, equipped with wooden seats and night time lighting, and able to transport 1,200 passengers per hour. They sail up to the top in just eleven minutes, escaping traffic congestion on the busy access road below. Not only is it a much quicker and more comfortable way to get there, but it also significantly reduces carbon emissions. This unique gondola lift provides a sustainable transport solution coupled with a unique experience which showcases the beauty of the region. It's an example of best practice and is designed as an inspiration for other regions that would like to install pioneering mobility solutions like LEITNER's.

GD10 Dub Kuk

Inclined length (total):	3,917 m
Vertical rise:	1,316 m
Power:	880 kW
Transport capacity:	1,200 p/h
Number of towers:	19
Number of cabins:	48

Kotor / MNE

ITALY – BRIXEN

Dawn of a New Era

The completion of a 26 million euro project in the Bressanone/Plose region brings modern, ecofriendly, innovative quality transport. The new 10-passenger gondola lift "Plose", which has been built along the existing ropeway route, consists of two sections. Its 78 Diamond EVO cabins can carry up to 2,400 people per hour. Special attention was given to creating a simple solution for carrying bikes and mountain carts. Unlike before, sports equipment is now carried on the outside and bottom of the cabins instead of inside. A fully automated mountain cart loading and unloading system at the bottom and top stations is a world first. Some of these processes are entirely underground, so they don't obstruct passengers getting in and out. This sophisticated system for transporting sports equipment also features the new LEITNER bike holders, which allow bikes to be easily attached to either side of every other cabin. The holders can fold away after use, which means they don't affect spacing between the vehicles in the garage.

GD10 Plose	I	II
Inclined length (total):	1,502 m	1,141 m
Vertical rise:	556 m	424 m
Power:	793 kW	793 kW
Transport capacity:	2,400 p/h	2,400 p/h
Number of towers:	10	11
Number of cabins:	43	35

Bressanone/ IT

Zermatt / CH

SWITZERLAND – ZERMATT

Major Connecting Project

The Matterhorn Alpine Crossing is a unique, once-in-a-generation project which has created the highest border crossing in the Alps and connects tourist destinations in Italy and Switzerland throughout the year. The construction of the new "Matterhorn Glacier Ride II tricable gondola lift" has closed the last gap between Zermatt and Breuil-Cervinia, thus bringing to fruition a long-held vision. As well as its pioneering technical implementation, which includes bridging the distances between the top and bottom station on the Matterhorn Glacier Ride II, without towers, much emphasis was placed on sustainability. For example: an additional photovoltaic system was commissioned on the facade of the new top station and will supply around 16,875 kWh of electricity each year. This project is unique in a number of ways. It involved pioneering work on the construction sites at extreme altitudes, as well as collaboration between two countries on a joint project which connects two tourism areas yearround.

TD28 Matterhorn Glacier Ride II	
Inclined length (total):	1,675 m
Vertical rise:	362 m
Power:	485 kW
Transport capacity:	1,300 p/h
Number of towers:	0
Number of cabins:	10

PROJECTS 2023

High Performer

ITALY—BIG ROPEWAY REFURBISHMENT

LEITNER has installed no fewer than eleven new ropeways that provide unique ropeway experiences in big-name Italian ski resorts. In Campiglio Dolomiti di Brenta, for instance, the new "Doss del Sabion" 10-passenger gondola lift replaces an old chairlift and boasts underground stations as well as a VIP cabin with a glass floor. In the Colere Ski Area, in the province of Bergamo, LEITNER was commissioned to build a 10-passenger gondola lift and a 6-seater chairlift. The new GD10 "Baby Express" built in the Andalo ski resort in Trentino is LEITNER's most compact and shortest ever gondola lift, with a length of just 414 meters.
Equipped with weather bubbles and heated EVO premium seats, the new CD6C "Valena" detachable 6-seater chairlift can carry 3,000 p/h and represents a significant comfort upgrade for guests at Pontedilegno-Tonale.
And in the winter sports regions of Civetta, Monte Magnola – Ovindoli and Folgaria, LEITNER's comfortable, super-modern chairlifts augment the experience for winter sports enthusiasts.

Kitzbühel / AT

Andalo / IT

AUSTRIA—STATE OF THE ART

LEITNER built a total of five ropeways in Austria in 2023, providing a new standard of transport at popular destinations. At the Schlick 2000 ski center near Innsbruck, the new "Galtbergbahn" 10-passenger gondola lift featuring loden seats replaces an old surface lift that's been around for over sixty years. Zeller Bergbahnen in Zillertal has also invested in a modern, direct connection between Zell and Gerlos with its new "Wilde Krimml" 10-passenger gondola lift. This ropeway is equipped with Diamond EVO cabins in their XL Deep version, providing lots of space and the latest comfort for passengers, with heated seats.

The new CD6C "Gauxjoch" and CD6C "Trattenbach" 6-seater chairlifts in Kitzbühel deliver sustainability with the very latest technology. The company has integrated its latest technologies to achieve minimum energy consumption combined with maximum operating efficiency. As well as LEITNER DirectDrive, it incorporates LEITNER EcoDrive, an automated, adaptive speed control system that saves up to 20% in energy, as well as an Intelligent Heat Detector (IHD). These two sustainable Kitzbühel ropeways also feature photovoltaic systems on their station buildings. In Kaprun, LEITNER completed its intensive program of building by constructing a surface lift.

Chamrousse / FR

SWEDEN, NORWAY AND FINLAND—
INVESTMENT IN NORTHERN EUROPE

In Sweden, Norway, and Finland, no fewer than six ski resorts installed LEITNER's modern ropeway technologies in 2023.
Finland's first ever 8-seater chairlift, the CD8C "Masto Express", offers an impressive capacity of up to 4,000 people per hour and was built by LEITNER in the Ruka resort. This technically sophisticated ropeway features vibration dampers and EVO Premium chairs. It was built in a record five months and includes bike transport for year-round operation.

In the Norwegian ski centers of Hafjell and Hemsedal, operators once again turned to LEITNER to construct two modern 6-seater chairlifts and a surface lift.
A new 6-seater chairlift was also on the investment plan in Järvsö in neighboring Sweden. Now fully extended, the CD6 "Västexpressen" has 50 seats and can carry 2,600 people per hour, leading over a little more than 900 meters to a ski area popular with families.

GERMANY AND FRANCE—
GREATER TRANSPORT CAPACITY

In Germany, LEITNER built the GD10 "Ochsenkopf" Nord 10-passenger gondola lift, which represents the first phase of a major project in the Bavarian vacation region of Fichtelgebirge.
This comprehensive investment aims to make this traditional sports and recreation area even more accessible and usable for as many people as possible. It includes equipping the new ropeway with components that enable barrier-free use. In 2024, the ambitious construction program will continue with the modernization of the southern ropeway up the Ochsenkopf, which will double transport capacity and significantly reduce waiting times.
In France, three new LEITNER ropeways deliver the latest transport quality in the Haute-Savoie, Auvergne-Rhône-Alpes, and Pyrenees.

In Font-Romeu, the new "Airelles" 10-passenger gondola lift carries twice as many people per hour as its predecessor.
LEITNER built a 6-seater chairlift in 2019 in the Les Portes du Soleil ski resort on the border between France and Switzerland, and is now upgrading the quality of facilities in this huge ski area once again. The new CD6 "Du Lac - Intrets" 6-seater chairlift has a total capacity of 3,000 people per hour and is to replace an ageing system.
The new "Bérangère" 6-seater chairlift provides 50% more capacity (3,000 p/h), greater comfort, and greater operating efficiency on one of the main ski routes in the Chamrousse resort.

Ruka / FI

EASTERN EUROPE, GREECE, AND TURKEY—QUALITY BOOST

By building nine new ropeways, LEITNER has positioned itself as a strong partner in the development of winter sports in eastern Europe. In Slovenia, the ski resorts of Velika Planina, Krvavec, Kope, and Mariborsko Pohorje are enjoying a major quality boost on account of LEITNER's modern, comfortable chairlifts. In the Polish ski resort of Szcyrk, following a surface lift built in 2023, a new 6-seater chair lift will be built this year with a length of 1,150 meters and a capacity of 1,800 people per hour.
LEITNER has completed its ropeway premiere in the well-known ski region of Pamporovo by building the comfortable CD6 "Malina" 6-seater chairlift. Guests at this Bulgarian resort can now enjoy agreeable transport on premium EVO seats with luxury upholstery.
In Greece, at the Kalavrita ski region, which is in the west of the country's mainland, they have invested in a modern 10-passenger gondola lift built by LEITNER. The little ski resort of Lailias – Serres in the Greek region of Macedonia has added a surface lift to its facilities.
By building a new 8-passenger gondola lift near to Istanbul, LEITNER has provided an ecofriendly transport option up a hill with splendid views out over nearby Lake Sapanca. In the bay of Bodrum, a new funicular built by LEITNER connects multiple levels of a modern hotel and residential complex.

Sapanca / TR

Ecatepec / MX

MEXICO—ROPEWAY SUCCESS STORY

The Metropolitan region of Mexico City in Central America is considered a global pioneer when it comes to integrating ropeways into the urban transport network, providing safe, quick, ecofriendly mobility for its residents. The third ropeway to be built by LEITNER in Mexico, the GD10 "Mexicable Linea Verde A-B-C", represents a perfect addition with its ingenious routing. The ropeway begins at the second station of the GD10 "Mexicable Linea Roja" (which was also built by LEITNER), and carries passengers in around 300 cabins over a distance of 8.5 kilometers and seven stations to the Indios Verdes subway station. This system, which consists of three interconnected ropeways, carries around 35,000 people daily from the municipios of Ecatepec de Morelos and Tlalnepantla de Baz to Mexico City, quietly crossing the nature reserves of Zacatenco in the Gustavo A. Madero district as it goes.

Outlook 2024

AUSTRIA—HAUSER KAIBLING

Dual Commission as a Premiere

An 8-seater chairlift and a 10-passenger gondola lift are being built on Hauser Kaibling as part of the Schladming ski resort. These two ropeways will be powered by the resource-saving LEITNER DirectDrive system. The "Kaiblinggrat" 8-seater chairlift, which features heated seats and premium upholstery, will be built in 2024 and will carry up to 3,800 people per hour in its final extent. One of its special technical features is that it can be adapted as a gondola lift for operation in summer. The GD10 "Senderbahn" will be built in 2025. These two ropeways are the first to be built by LEITNER in this popular ski resort.

SWITZERLAND—AROSA LENZERHEIDE

Sustainable Ski Adventures

In Arosa Lenzerheide, one of the biggest ski resorts in the Swiss canton of Graubünden, LEITNER is replacing a 4-seater chairlift with a model of the latest generation. This is being fully retrofitted in line with sustainability principles. The CD4C "Stätzertäli" will run along the existing route, and most of the towers will be used and preserved. Furthermore, PV panels for generating sustainable energy will be installed on the roof of the ropeway's top station, which features LEITNER DirectDrive and EcoDrive.

Lenzerheide / CH

Manizales / CO

EASTERN EUROPE AND GREECE

Ropeway Trend Continues

The trend towards ropeways continues unabated in eastern Europe as well. In Poland, LEITNER is building the "Doliny III" 6-seater chairlift in the Szczyrk Mountain Resort and an inclined elevator in Wizla featuring a 3S cabin for 40 people. Two new 6-seater chairlifts are set to upgrade facilities at the well-known ski resorts in the Slovakian town of Mala Frankova and in Kalavrita in Greece. At the Malyovitsa ski resort in Bulgaria, a 4-seater chairlift with bike transport has been built for year-round operation.

COLUMBIA

Ropeway Success Story

With a length of 2,300 m and a capacity of 2,100 people per hour, the third ropeway to be built by LEITNER in Manizales will soon be augmenting the public transport system. The GD10 "Manizales Linea 3" consists of four stations, and its 60 cabins will dock onto the two existing ropeways, extending the ropeway network in Manizales to 4,885 meters.
The new gondola lift will connect people living in the north of the Colombian metropolis with the financial and business district and the city's transport center.

ITALY—KASTELRUTH

Top Views All Round

The new GD10 "Marinzen" 10-passenger gondola lift will connect the center of Kastelruth with the eponymous Marinzen Alm at the foot of the Bullaccia. The new ropeway will feature XL Deep Diamond EVO cabins including panoramic doors (one of them even has a glass floor), as well as fully automated station garaging, to replace an old two-seater chairlift. To minimize impacts on the natural surroundings, the bottom station has been integrated into an existing building, while the top station features only a small hangar for maintaining vehicles.

ITALY—PREDAIA

Flying Apples

A new ropeway built by AGUDIO, LEITNER's specialist in material transport, will connect the processing center belonging to the Melinda consortium—which produces 400,000 tonnes of apples each year—with storage facilities in the mines of Rio Maggiore. This monocable gondola lift with detachable cabins will run over a distance of 1.3 kilometers and continuously carry just under a tonne of apples per vehicle, making 40,000 tonnes of fruit each year, which are loaded and unloaded fully automatically. This will eliminate 6,000 truck journeys each year, and a total of 12,000 kilometers of driving.

Ropeways on the Up

Zhuhai / CN

POMA ropeways provide an efficient solution to today's mobility problems in an ever-changing world. In China, three tricable gondola lifts connected in a triangle have become a leading attraction in an unusual leisure park. In India, the Pelling gondola lift is literally at the heart of a spiritual journey.

Ropeways are on the rise in urban settings as well. POMA, for instance, has already built its third urban gondola lift in the Dominican Republic within just six years—an important contribution to making public transport more sustainable.

POMA's operation and maintenance services remain a key asset to delivering high safety and availability rates—the gondola lift in Santiago, for instance is the 25th ropeway to be operated by the Group.

And in the mountains, it's been about efficient modernization. Take for example the "Luchon Crémaillère Express" gondola lift, which gives everyone access to the mountains at all times of year, and is part of an investment program to promote responsible tourism. The new gondola lifts in Valmorel and Serre Chevalier in the French Alps provide greater transport capacity thanks to adaptive speed, providing energy efficient operation based on passenger volume.

Innovations by POMA have once again underlined the benefits of ropeways in 2023.

CHINA – ZHUHAI

Ropeway Triangle in China's Top Theme Park

The Chimelong Group runs an extensive leisure area which includes theme parks and hotel complexes in Guangzhou and Zhuhai, in the Chinese Province of Guangdong. Guangzhou Safari Park, one of the largest zoos in Asia, was equipped with three ropeways connected in a triangle in 2017. They have since become one of the zoo's biggest attractions. More recently, another triangular installation featuring three detachable ropeways has been installed between two new business areas and the Ocean Kingdom, a park which boasts the world's biggest aquarium and was visited by 8.5 million people in 2016.

The operators placed special emphasis on the design of the stations, innovation, and safety. This explains, for example, the tricable technology, which guarantees high stability in high winds and a maximum capacity of 5,700 people per hour—365 days a year, 18 hours a day.

The cabins are the Symphony model, with 32 seats and LED strips, designed by Pininfarina. These extremely comfortable vehicles have extensive glazing and facilitate breathtaking views over the Macao Bay Area.

TD35 Zhuhai	I	II	III
Inclined length (total):	1,629 m	967 m	1,737 m
Vertical rise:	364 m	117 m	247 m
Transport capacity:	5,777 p/h	5,786 p/h	5,757 p/h

Zhuhai / CN

Zhuhai / CN

Santiago de los Caballeros / DO

DOMINICAN REPUBLIC – SANTIAGO DE LOS CABALLEROS

Third Urban Ropeway for Dominican Republic

Santiago de los Caballeros, the second-largest city in the Dominican Republic, is building SITS (Santiago Integrated Transport System), a sustainable mobility system that includes a monorail, bicycles, electric buses and a nearly four-kilometer-long 12-passenger gondola lift.
As in Santo Domingo before it, the 12-passenger gondola lift in Santiago—which is the third POMA ropeway to be installed in the Dominican Republic in just six years—is equipped with DirectDrive and carries 4,500 people per hour at a speed of 7 m/s. The ropeway passes over the most congested areas in the city, connecting a total of four stations in just ten minutes.
This means that the ropeway node at the main rail station, where a monorail station will also soon be accommodated, has become an important intermodal hub. Teleferico lines 1 and 2 operate for 17 hours a day, 355 days a year. POMA has again been given the contract for operating and maintaining this new system.

FRANCE – LUCHON

Gondola Lift Promotes Tourism in the Pyrenees

The spa town of Luchon in the heart of the Pyrenees has a new gondola lift, which connects it with its ski resort at 1,800 meters above sea level. The old gondola lift had already been operating for 30 years, and the new "Luchon Crémaillère Express" gondola lift brings with it the benefits of a new generation of ropeways epitomizing modern, sustainable transport. Throughout the whole year, up to 2,000 people per hour can now easily get to the various activities in the ski resort and upon the Superbagnères plateau using the latest generation of 10-passenger cabins.
This gondola lift climbs 1,150 meters in just eight minutes at an average gradient of 49%. Like in the neighboring municipality of Peyragudes, where the Skyvall ropeway has been a resounding success since its opening in 2019, the new "Luchon Crémaillère Express" gondola lift is part of a plan to revitalize the spa towns of the Pyrenees.

GD10 Luchon Crémaillère Express

Inclined length (total):	2,362 m
Vertical rise:	1,144 m
Transport capacity:	2,500 p/h

Luchon / FR

2023 PROJECTS

Flying High Worldwide

FRANCE – VALMOREL
STUNNING VIEWS
In the heart of Valmorel, which is the gateway to the Tarentaise Valley in the high alps, the Sofival Group has equipped itself with a new gondola lift which acts as a feeder from the village to the rest of the ski resort via the Combe de Beaudin, operating all year round. The Planchamp ropeway is equipped with 75 modern 10-passenger cabins of the latest generation of X-Line EVO, and has a capacity of 3,600 people per hour. This ropeway offers a stunning view over the Savoyard Valley during its 4.5 minute journey. The ropeway is one of the first in France to achieve a speed of 7 m/s. It also achieves clear energy savings by precisely controlling its speed in relation to the number of passengers.

FRANCE – SERRE CHEVALIER
AT THE CUTTING EDGE
In Serre Chevalier, two aging ropeways have been replaced by a new 3.6 km-long gondola lift with Direct-Drive. The new 10-passenger Pontillas lift carries its passengers at a speed of 7 m/s more quickly, reliably, and comfortably than before. During the winter time, it strategically serves a new space dedicated to ski learning, innovatively relocated at an altitude of 2255 metres. By installing this new ropeway, the Compagnie des Alpes in Serre Chevalier has laid down another marker for sustainable tourism development at its ultra-modern ski resort.

Serre Chevalier / FR

Catedral / AR

ARGENTINA – CATEDRAL
NEW CONNECTIONS IN PATAGONIA
Ever since skiing began to establish itself in South America in the 1960s, POMA has supported the development of ski resorts in the Andes by installing around 50 ropeways. Most recently, the company has been busy in Argentina's Cerro Catedral—the biggest ski resort in South America. Because of its enormous potential and the fact that this resort attracts more visitors than any other in South America year after year, the CAPSA investment company contracted POMA to undertake a major project for the modernization of the year-round ski area.
During the past winter season, in summer 2023, skiers took to one of the new chairlifts for the first time, which carried them 1,000 vertical meters upwards. POMA replaced two older, fixed-grip chairlifts built in 1979 and installed a third ropeway which opens up the ridge at 2,040 meters. In 2024, another ropeway will be installed in the same resort, giving skiers even more opportunities, beginning in the winter season which starts in July.

INDIA – PELLING, SIKKIM
SPIRITUAL JOURNEY THROUGH THE MOUNTAINS
The tourism authorities in the Indian federal state of Sikkim launched the Pelling ropeway project in 2022. What is now the 12th POMA ropeway in India consists of a one-kilometer-long detachable ropeway with 14 cabins, each with 8 seats, and involving distances of more than 500 meters between each set of two towers. The ropeway arrives near the Sanghak Choeling monastery, making it easier for people to visit the Bodhisattva Chenrezig at the top of the mountain. This project will attract more people to Pelling, which is an important tourist destination in the mountainous state of Sikkim.

USA – ASPEN, COLORADO
NEW ACCESS

There are ongoing efforts to enhance each of the four mountains at the world-famous ski resort of Aspen Snowmass. The latest drive applies to Aspen Mountain. In time for the 2023/24 season, 62 hectares of new terrain was opened up in what is known as the Hero's Terrain, giving the area accessed by ropeway an additional 20 percent, which is the first major territory expansion on the mountain since 1985. The Hero's Terrain is reached using the new "Hero's" ropeway, a 4-seater chairlift made by LPOA. The next upgrade at Aspen will be the Coney Express on Snowmass Mountain, another LPOA detachable 4-seater chairlift with an angled station, to be completed in time for the 2024/25 winter season.

Aspen / USA

Winter Park / USA

USA – TAOS SKI VALLEY, NEW MEXICO
CUTTING EDGE SKI EXPERIENCE

Taos Ski Valley, which hosted the World Pro Ski Tour World Championships, installed two new LPOA ropeways 2023/24 in time for the 2023/24 ski season as part of a long-term plan of modernizing the ski resort. "Lift 4", a detachable 4-seater chairlift, replaces a fixed-grip POMA Alpha 4-seater chairlift and cuts the previous journey time in half. Taos has also replaced its Pioneer Lift with a fixed-grip LPOA Alpha 3-seater chairlift, which is designed primarily for beginner skiers and snowboarders.

USA – WINTER PARK, COLORADO
MORE COMFORT

Winter Park is one of the oldest and best-known ski resorts in Colorado and boasts more than 1,200 hectares of skiable terrain. The new "Wild Spur Express" 6-seater chairlift has a uniquely angled middle station, allowing people to get on and off. This makes it easier to use the slopes on the popular Vazquez Ridge.

USA – SNOWBASIN, UTAH
DOUBLE CAPACITY
Snowbasin Resort got a new LPOA ropeway in 2023. The new "DeMoisy Express" is a 6-seater chairlift covering a distance of 2,100 meters. This ropeway has increased capacity significantly, because it doubles ascent capacity in the Strawberry Region of the Snowbasin Resort, provides access to new slopes, and makes it easier to reach the mountain from this area.

USA – STEAMBOAT, COLORADO
SETTING OFF FOR COMPLETELY NEW SLOPES
Following a major change in 2023, the Steamboat Ski Resort is now the second largest in Colorado. Expending to include Mahogany Ridge and Fish Creek Canyon gives the resort an additional 263 hectares for advanced and experienced skiers and snowboarders. To provide access to this exciting new area, Steamboat installed the "Mahogany Ridge Express", an LPOA 4-seater chairlift climbs 550 meters.

USA – KEYSTONE, COLORADO
ACCESS TO HIGH ALPINE TERRAIN
Areas of the Keystone Resort previously only accessible by hiking are now open to all winter sports enthusiasts, thanks to the "Bergman Bowl Express", a new POMA 6-seater chairlift. Named after Bill Bergman, one of the people who founded the Keystone Resort, this ropeway provides comfortable, quick access to the Bergman and Erickson ski runs, which encompass over 220 hectares of high alpine terrain.

USA – BRECKENRIDGE, COLORADO
MORE POWER IN COLORADO
Breckenridge ski resort has continued its upgrade program by installing its second LPOA ropeway in a span of two years. The ‘Five’ 4-seater chairlift on Peak 8 replaces the old Five Chair, which was installed more than 50 years ago, and doubles its carrying capacity. The new ropeway represents a major capacity upgrade for one of Colorado’s favorite and snowiest ski resorts.

Keystone / USA

Snowbasin / USA

Outlook 2024

CHINA – SHANGHAI

Two Ropeways for the New Ski Hall in Shanghai

A completely new complex which includes an indoor skiing area will soon be opened near to the Shanghai Disney Resort and the Haichang Skyway (a POMA gondola lift opened in 2018). Beginning in 2024, an 8-passenger gondola lift and a 4-seater chairlift featuring DirectDrive will carry up to 2,000 skiers per hour. These ropeways will be a world first, because this ski hall will be the first to have two detachable ropeways. For locals, the Shanghai skidome will offer an amazing new experience.

UK – SWANSEA

Through the Outdoor Park by Ropeway

On the slopes of Kilvey Hill near the coastal town of Swansea in South Wales, an outdoor park focused on sports, adventure, and fun is due to open in 2026 and will be run by international SKYLINE company. The various areas of this adventure park will be serviced by two POMA ropeways in its heart. An 8-passenger gondola lift and a 4-seater chairlift will soon provide a convenient connection between the catering area, the ziplines, the luge, the sky swing, and the mountain bike trails. It will allow all of the visitors to take themselves and their equipment in comfort to the various activity areas spread across the facility.

CHINA – CHANGSHA

Peace and Quiet in the City Park

Daoxiang Park in the heart of the Chinese city of Changsha, with its seven million inhabitants, is an extensive, wooded area which provides the metropolis with a green lung. At the end of 2024, a new POMA gondola lift will provide direct access to the top of Yuelu Mountain, taking less than four minutes to carry people up to its panoramic viewpoint over the provincial capital. The Yuelushan (Yuelu Mountain) ropeway is being fitted with DirectDrive® technology so that the park, which is a popular romantic spot for couples, remains a relaxing and peaceful place to be. The city administration has also chosen POMA's comprehensive services, as well as opting for its world renowned technology.

FRANCE – PARADISKI

En Route to a New Transarc

Les Arcs, a subsidiary of Compagnie des Alpes, will be replacing the famous Transarc in the 2024 season to service the descents from Arc 1800 in Paradiski. A new 10-passenger gondola lift will be fitted with EVO Wide cabins, providing space and comfort for passengers. It will be operating at a speed of 7m/s during the peaks of affluence. A longer station will also make getting in smoother. The new Transarc will carry up to 3,600 people an hour to an altitude of 2,100 meters, where passengers will enjoy a majestic view from Tarentaise all the way to Mont Blanc. The second leg covers 3.3 kilometers and will require 10 towers less than the previous ropeway. This investment, like the replacement of two fixed chairlifts by a gondola lift in Villaroger, is part of an upgrade plan aimed at improving access to the ski resort from the eponymous village.

Les Arcs / FR

Saint-Gervais-les Bains / FR

FRANCE – LA PLAGNE

Four Gondola Lifts for La Plagne

SAP (Société d'Aménagement de la Plagne), a subsidiary of Compagnie des Alpes (CDA), has commissioned POMA to build four gondola lifts that will connect Plagne Bellecôte with the Glacier de la Chiaupe via the Roche de Mio plateau, forming a new backbone for the la Plagne ski resort. These four new ropeways will replace the aging 6-passenger gondola lifts at Plagne Bellecôte – Belle Plagne – Roche de Mio and Roche de Mio – Glacier de Bellecôte, which were also built by POMA between 1975 and 1978 along various routes. The new ropeways, featuring 10-passenger EVO 2 XLINE cabins, will provide a breathtaking 360 degree view over the entire terrain. Comfort, performance, availability, innovation, and sustainability are the main focus of this overall project to upgrade access from Plagne Bellecôte to the glacier. The total number of towers will be 21 less than it was previously, while capacity will be almost doubled. The stations will also be equipped with LIFE roofs for the first time.

FRANCE – SAINT-GERVAIS-LES-BAINS

Flagship of Green Mobility

Saint-Gervais-les-Bains is the European municipality with the greatest variation in altitude: it is 4,200 vertical meters from Le Fayet to the summit of Mont Blanc. The municipal council appointed POMA to build three ropeways for delivery in summer 2024. The Fayet 10-passenger valley lift's bottom terminal will be right inside the railway station, guaranteeing a fast, multimodal connection to the center of St. Gervais and its ski resorts. As part of the overall project, the second part of the connection and the main route, which connects directly to the foot of the slopes, will be replaced by a 4.3-kilometer-long 10-passenger gondola lift. Both ropeways will have EVO XLINE cabins and the latest POMA technologies, including a world first: LIFE R'way. As the third project in St. Gervais' new, sustainable mobility services, the new municipality is investing in an innovative, ecofriendly funicular which connects the center of the village with the thermal spa near Fayet. Unique in France, this innovative, ecofriendly system will be one of the few in the world to be run using waste water. In conjunction with a generator, up to 80% of the electricity used to operate it will be produced.

BARTHOLET

Making a Global Impression

Flims Laax / CH

BARTHOLET can look back on a successful 2023 full of stunning launches, thrilling projects, and unique innovations. One of these was the new bike holder, which increases capacity and allows bicycles to be positioned flexibly. Up to five bikes can fit in a 10-passenger cabin and up to four in an 8-passenger cabin, together with four or five passengers in each cabin. Loading and unloading the bicycles can be done without the help of personnel. The holders are also easy to install, and can be fitted and disassembled by just one person.

There was another reason to celebrate in 2023: the Beijing North Bartholet Ropeway Joint Venture in China celebrated its five year anniversary. It's a prime example of the innovative potential of intercultural collaboration. This is epitomized by the new 8-passenger gondola lift in Nalati, with its fully automated ropeway carriage designed by Studio F. A. Porsche. "Nalati, Nalati" means "there is the sun" in Chinese, and is one of the country's most beautiful mountain and grassland regions. The area has an average altitude of around 2,200 meters and offers spectacular views over majestic mountains and picturesque valleys.

There has been some far-sighted investment in infrastructure as well. The purchase of two new CNC turning and milling centers with 5-axis simultaneous machining for the Flums site has optimized working processes while saving time and delivering maximum precision.

PROJECTS 2023

Innovating in Style

ROPETAXI HAS ARRIVED

The long-awaited vision has finally become reality: following a planning and test phase, the first two sections of the "FlemXpress Ropetaxi" were completed in December in the Swiss municipality of Flims. This gondola lift is known as Ropetaxi® and is a pioneering example of innovative technology. The cabins move autonomously inside the station by means of an eMotion drive. This self-powered system enables flexible and convenient transport, and the kinetic energy at entry and exit is also converted into electrical energy for stationery operation. The batteries in the cabins are charged while passengers get in and out. The FlemXpress Ropetaxi can operate all year round and eliminates the need for tire conveyors in the station environment, which means less noise and less wear. The efficient functionality of operation makes it easier for passengers, who don't have to change cabins and can reach their destination at the press of a button.

Thyon / CH

Flims Laax / CH

SWITZERLAND—TELEMIX AND THE FUTURE OF SKIING.

The new telemix ropeway in the Swiss skiing region of Thyon provides a state-of-the-art connection between Les Collons 1860 and Thyon 2000. The ropeway has 28 six-seat chairlifts and eight 10-passenger cabins, and can transport up to 2,000 skiers per hour—as well as mountain bikes—and runs in the evening as well as the day. The Telemix ropeway was designed by Studio F. A. Porsche and provides an efficient connection between Les Collons and Thyon 2000 for skiers. It also provides new mobility opportunities for walkers.

UZBEKISTAN—ROPEWAY PREMIER AND NEW SKI RESORT

In Zaamin, Uzbekistan, BARTHOLET recently built a detachable 8-passenger gondola lift, which is the Swiss manufacturer's first ropeway in this central Asian country. A new resort and skiing area is currently being developed at around 2,500 meters in the middle of the national park. The comfortable gondola lift made by BARTHOLET and designed by Studio F. A. Porsche carries a total of up to 1,200 people up the mountain each hour. Equipped with 36 cabins, the ropeway travels 530 meters vertically and 2,102 meters horizontally. Moving at a speed of five meters per second, the journey takes around seven minutes.

2024 Outlook

INDIA – VARANASI

First Urban Ropeway Takes Shape

BARTHOLET is developing India's first urban ropeway in the city of Varanasi, whose population is 1.5 million and which is one of Hinduism's most sacred sites. Relieving the city of traffic and the massive flows of pilgrims and tourists visiting more than 2,000 temples, the ropeway operates for 16 hours a day as a transportation hub between the railway station and the temple area of Godowlia Chowk. This L-shaped route has four sections and connects a total of five stations. Work on India's first ever urban ropeway has been in full swing since the ground was broken in 2023.

AUSTRIA — ALTAUSSEE

Sustainable Ropeway Technology at Altaussee

BARTHOLET is currently developing a new 10-passenger gondola lift in the Altaussee region. The ropeway has 76 cabins and will carry 1,800 people per hour between the bottom station, the Augstalm middle station and the Loser Alm top station. This scenic ropeway will be fitted with cabins designed by Studio F. A. Porsche, which feature large panoramic windows to provide an all-round view of the landscape during the ten-minute journey. One of the key points of the project was sustainability: photovoltaic systems were installed on all the buildings along the route. Another ecological side-effect is that road traffic up the Loser is expected to be reduced by around 30,000 vehicles per year.

Altaussee / AT

Xi'An / CN

Nanchang / CN

CHINA — XI'AN

Floating Above the National Forest Park

Shao Huashan National Forest in Central China extends over a total of 6,300 hectares and boasts a remarkable 90% forest coverage. The park features deep gorges, clear waters, imposing cliffs, dense forests, and Buddhist temples. It is here that BARTHOLET will develop a single rope gondola lift with 8-passenger cabins providing modern, comfortable transport and significantly increasing transport capacity in the area. Up to 1,500 people will be transported each hour in each direction along the 2.9 kilometer route.

CHINA — NANCHANG

Idyllic Mountains and Colorful Panoramic Cabins

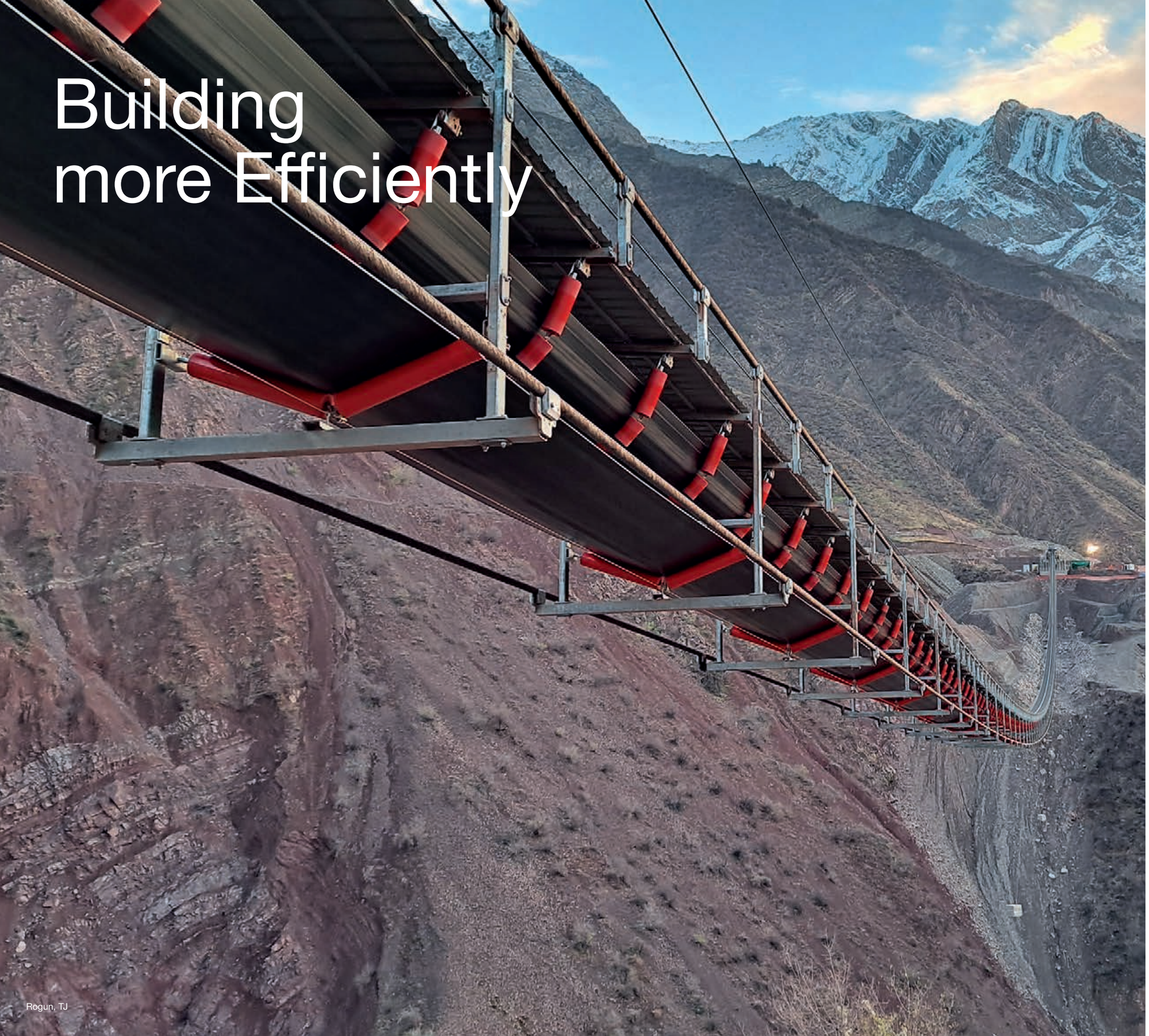
BARTHOLET is developing a new ropeway in the middle of the picturesque mountainous idyll of the Meiling National Scenic Area in central southern China. It will feature 112 colorful panorama cabins designed by Studio F. A. Porsche. The area is around 15 kilometers from Nanchang and is considered a spiritually important region. It also attracts tourists for leisure pursuits because of its pleasant climate. The new ropeway will cover a total length of 5.5 kilometers and carry up to 1,500 passengers per hour. Its two sections will be able to operate independently from one another; the first of them covers an unusually long distance of 4.2 kilometers.

CHINA — YIXING

Ropeway Above the Bamboo Sea

Yixing Bamboo Sea Park is in the southern mountains of Yixing in Eastern China. It is often referred to as a "Bamboo Sea" because it's full of lush bamboo forests that form an emerald green landscape. The area attracts tourists on account of its natural beauty, the influence of Zen spiritualism, and its ceramic art and bamboo culture. BARTHOLET is replacing a 4-passenger gondola lift with a modern, 1.3 kilometer long 8-passenger gondola lift. After modernization, the ropeway will be able to carry 1,200 passengers per hour over a vertical distance of 395 meters. It will feature comfortable, spacious cabins designed by Studio F. A. Porsche, not only improving the transport situation in the park, but also providing an attraction in itself.

Building more Efficiently



Rogun, TJ

AGUDIO in 2023 continued to reinforce and extend its global reputation as an expert in customized material handling solutions. The reliability, performance, and flexibility of AGUDIO's material ropeways enable them to be used in a wide range of applications. These systems have proven particularly useful for transporting material at quarries and processing plants, as well as on construction sites that have limited space or morphological constraints. AGUDIO's Flyingbelts and cablecranes provide considerable added value by reducing investment costs through eliminating the need for huge and expensive support structures as well as by reducing operating costs, making site operations easier and faster.

But these systems are not just suitable for transporting gravel and excavated material. Year 2023 marked an important milestone to think about the use of ropeways in other sectors and applications, such as the transport of fruit. One project in particular is currently being implemented and shows how ropeways can effectively contribute to greater sustainability when used as a link between production and storage.

2023 PROJECTS

News from the East

TAJIKISTAN—FLYINGBELT FOR MEGADAM

In 2023, AGUDIO completed the installation of the first high-capacity Flyingbelt to be used in the construction of the Rogun Dam in Tajikistan which, at 335 meters, will be the highest dam in the world. During the first phase of this megaproject, the Flyingbelt will operate to carry the excavated material from the construction site to the temporary storage, and then from the storage to the dam itself. AGUDIO's high-capacity Flyingbelt consists of four 65 mm thick suspension ropes and a 1,400 mm wide steelcord. This Flyingbelt will carry up to 3,000 tons of material per hour over a span of 650 meters. The Flyingbelt significantly shortens the transport chain and also reduces costs, because it can be installed without support structures.

TURKEY—THREE CABLECRANES FOR HYDROPOWER PLANT

The Yusufeli hydroelectric power plant entered into service at the end of 2023 and is one of Turkey's most important energy infrastructure facilities. For eight years, three cablecranes made by AGUDIO were used to set up the construction site and build the dam. The Yusufeli dam is 275 meters high, making it the highest in Turkey and the third highest arch dam in the world. Because of the nature of the terrain in the river gorge and the difficulty in accessing the construction site, the AGUDIO cablecranes helped to save money and time when conveying machines and concrete. The three cablecranes were indispensable for the work at the construction site and for transporting the 3,500,000 m^3 of concrete needed to build the dam.

Yusufeli, TR

Rogun, TJ

Outlook 2024

AGUDIO was involved in some impressively innovative projects in 2023 in which material was transported sustainably by ropeways.

A position that will be further strengthened in 2024. A prominent example is the construction of a cableway for transporting apples for the Italian agricultural consortium Melinda in the province of Trento. In Predaia, 40 km north of Trento, in the Rio Maggiore mines, 15 kilometers of tunnels have been excavated over the years. Melinda has exploited of this naturally cool environment to create a unique fruit storage facility. Each year, during the harvest season, 40,000 tons of apples are transported into the "Hypogeal cells" and then, throughout the year, the apples are picked and sent back to the distribution center to be delivered to the market, all by truck. Starting from next year this will be done, in both directions, with an AGUDIO ropeway that will transport up to 460 bins of fruit every hour over a distance of 1.3 kilometres.

A unique single-rope gondola system equipped with detachable LEITNER technology will eliminate 6,000 truck journeys and significantly reduce CO2 emissions.

Diverse Expansion

Leitwolf / IT

In 2023, PRINOTH experienced growth and expansion across its divisions. Notable achievements include the inauguration of two new production halls in Herdwangen, Germany and the initiation of a warehouse expansion plan in Telfs. In North America, investments in facilities in Granby, Quebec, and Tooele, Utah, along with strategic stocking and relocation efforts, positioned PRINOTH favorably to enhance product availability and customer service. The company also expanded its presence in the southern hemisphere, Japan, and Poland.

PRINOTH's commitment to sustainability remained strong with continued sales of its electric snow groomer, the Husky E-Motion. Moreover, the continued customer adoption of PRINOTH Connect's digital products lead to increased resource allocation and optimization.

Crawler Carriers had a successful year overcoming economic challenges, expanding dealer networks, and entering the Japanese forestry market with the Panther T8F. The addition of new dealers in the U.S. further strengthened PRINOTH's presence in the western states.

PRINOTH Vegetation Management established a North American entity and introduced new products. Jarraff, post-acquisition, achieved strategic milestones, integrating systems and expanding product accessibility through a new dealer network.

Overall, 2023 was a year of strategic growth, sustainability, and global presence for PRINOTH across its diverse divisions.

Snow Groomers

The past year brought exciting growth in numerous areas around the world for the Snow Groomers division. In Telfs, Austria, PRINOTH's worldwide hub for snow groomer spare parts, the warehouse expansion plan began. When finished, both stock capacity and the automatization will be improved enabling a more efficient handling of goods. Thanks to synergies within the HTI Group, the facility in Stará Ľubovňa, Slovakia was expanded and will be used for the production of the snow groomer tracks.

Concord / USA

Bison X / JP

From major factory expansions to site relocations and increasing efficiency of operations, PRINOTH enhances its support to customers and increases its service capabilities. In North America, the New Hampshire regional distribution center moved to a larger and easy to access facility in Concord. In addition, PRINOTH parts became available in-stock at the Jarraff Industries headquarters in St. Peter, Minnesota particularly benefiting customers in the Midwest region. The groundbreaking ceremony for a new HTI campus in Tooele, Utah, occurred in October allowing PRINOTH, alongside other HTI Group companies to move to a 130,000 square foot facility in 2024. Besides major investments, the PRINOTH Snow Grooming team continued to expand their market presence not only in Central Europe and North America but also in all other regions such as Eastern Europe, Japan and the Southern Hemisphere.

Husky E-Motion / IT

Snow Measurement

SUSTAINABILITY

Sustainable Innovations

With further sales of its electric snow groomer, PRINOTH continues its commitment to helping ski resorts and cross-country centers reduce their carbon footprints. The Husky E-Motion has been in series production since 2022, and is the only available electric snow groomer on the market. So far, the E-Motion has been sold to customers in the Alps, Scandinavia and the United States.

In addition to reducing emissions, PRINOTH is helping resorts save resources, time, and money through digitalization. PRINOTH Connect is a series of connected services and products that provide operators and managers with real-time information. Currently, there are four services under PRINOTH Connect including snow measurement, fleet management, task overview and maintenance manager. Each service enables ski-resort employees access to information through their desktop, mobile device and even the snow groomer itself. Resorts are investing in PRINOTH Connect's fleet management system to gain better insights into how their vehicles are working, which maintenance and repairs need carried out and their fuel consumption. They are also benefiting from the snow measurement system that lets them know exactly how much snow is on the slopes, helping reduce snow production, extend the ski season and be more sustainable. In addition, 3D modeling provided by PRINOTH's Snowpark Services' team, helps ski resorts and cross-country centers plan, execute and maintain parks, funlines and trails throughout the entire season. All the services have one thing in common—keep costs down for the customers while being more sustainable with their resources.

COOPERATION

Worldwide Collaboration

2023 marked a continuation of PRINOTH's support of its numerous partners around the globe, from local sponsorships to industry leading world-wide cooperations. PRINOTH is honored to be the official snow groomer of a variety of international partners including the International Ski and Snowboard Federation (FIS), Ski Austria (ÖSV), the International Biathlon Union (IBU), the U.S. Ski & Snowboard Team, and Snowboard Canada. Partnering with these organizations allows PRINOTH to support skiing and snowboarding by providing world-class race courses, parks and cross-country trails for our partners. The cooperations provide an excellent platform to learn from each other's experience and knowledge. While PRINOTH is involved in the build of the project, the partners invaluable feedback, often based on athletes input, help design and optimize the courses. It's a perfect opportunity to try out the latest technology which can easily be adopted for everyday operations in ski resorts.

Cortina / IT

Crawler Carriers

In 2023, Crawler Carriers experienced a positive year marked by overcoming economic challenges in Europe and Asia. The team's success included securing several new dealer signings and effectively leveraging relationships in the expanding electric utility sectors of North America. As a consequence, vehicle sales were up on 2022 and aftermarket sales grew at a rate of 10%. This made 2023 another record year for the company which was particularly a positive outcome considering the fact that our largest market, the US, flattened.
Additionally, North America saw investment, growth and expansion. The extension of the production and warehouse facility in Granby, Quebec increases production capacities, modernizes manufacturing and adopts industry 4.0 practices.
In 2023 PRINOTH Crawler Carriers entered a new market with the introduction of the Panther T8F to the Japanese forestry industry. PRINOTH introduced this new product during a large forestry show in the 3rd quarter of 2023 in central Japan. The show provided many leads and a successful introduction into the new application.
Further important tradeshows in 2023 included one of North America's largest shows, Conexpo in Las Vegas with a focus on the construction industry and the Utility Expo in Louisville, Kentucky with an emphasis on the power electric market. Both shows reported record numbers of attendance and the exposure for crawler carriers generated new retail sales.

Papé Machinery

Panther T14r / USA

DEALER

North America Dealer Expansion

In a significant stride towards expanding the reach of the crawler carriers' business in the US, the addition of new dealers played a pivotal role. By early 2023, Coastline Equipment (serving Southern California and Nevada) and Western States CAT (operating in Idaho, Montana, Wyoming, Oregon, and Washington) officially became PRINOTH partners. Later in the fall of 2023, Papé Machinery (covering Northern California, Oregon, Washington, and Hawaii) also aligned itself with the PRINOTH Crawler Carrier division. These newly onboarded dealers boast extensive coverage across the western states, further bolstering the presence of the crawler carriers in the region.

Vegetation Management

PRINOTH Vegetation Management continues to focus on expansion in 2023. The establishment of PRINOTH Vegetation Management North America LCC, the finalization of the expansion project at the production site in Herdwangen and the introduction of new products all lead to an exciting year. The establishment of the company in North America not only reflects the ongoing commitment to the North American market but also the passionate mission to provide reliable solutions for sustainable vegetation management. The new location enables PRINOTH to offer faster and more efficient services to local partners and adapt products to specific regional requirements.
In July 2023, PRINOTH Vegetation Management opened two new production halls, totaling an additional 2,300 m2 of production and storage space. Construction began in November 2021, and one and a half years later, the new building was inaugurated with a celebration. The production capacity can now be more than doubled and the foundation for further growth has been laid.

Production Plant Herdwangen / DE

Grizzly M650m

Ox R800m

Beaver S700e

Attachment Innovations

In November, the world's leading trade fair for agricultural machinery, Agritechnica, took place in Hannover. PRINOTH participated as an exhibitor, showcasing a diverse product portfolio and key product innovations. The fair provided the perfect opportunity to introduce the new attachment names to a broad audience. PRINOTH mulchers are now called Grizzly, the rotavators Ox, and the stump grinders Beaver. These names better reflect the strength and performance of our equipment and align with PRINOTH's overall naming strategy. In addition, the new forestry mulchers for excavators and newly developed tools were also presented to the public for the first time at this event.

With the introduction of the new forestry mulchers, the Grizzly M550e and Grizzly M450e, PRINOTH expanded and optimized its portfolio of excavator attachments in 2023. These new additions are ideal for shredding entire trees, bushes, underbrush, and shrubs in the maintenance of roadside and railway fringe areas. They also excel in the upkeep of green spaces in residential and commercial areas, vegetation management in forestry work, stump removal, and creating firebreaks.

Grizzly M450e / DE

Jarraff’s Growth Initiatives

2023 was a year of strategic execution and preparation for Jarraff, implementing notable changes following its acquisition by PRINOTH. One of Jarraff’s significant accomplishments was the successful integration into the Group-wide IT landscape ERP system, resulting in better data visibility and greater cohesion with other business units.
Additionally, Jarraff took a major step forward in expanding its reach throughout and beyond the Right of Way Maintenance market. Previously sold directly to customers only, Jarraff Tree Trimmers are now offered, on a limited basis, via a new dealer network that’s being assembled by the Vegetation Management North American sales team. This strategic decision is expected to place Jarraff and T-Rex products in front of new and diverse audiences and applications, generating valuable new opportunities for growth.

The robust Grizzly M550e is designed for 21 to 32 ton excavators, making it the largest in its category. It is particularly well-suited for demanding tasks involving the shredding of large tree stumps. The Grizzly M450e, designed from the ground up, is tailored for medium-sized excavators ranging from 15 to 21 tons. The machine's sturdy construction and the counter-cutting concept for enhanced material shredding, provide versatility across a wide range of applications.

Grizzly M550e / DE

Jarraff / USA

Powering to Success

Titan 4.0

2023 was yet another successful chapter in the DEMACLENKO story. As well as setting a turnover record, it was the first time that more than 2.100 snow guns had ever been sold in a year.

Orders for snowmaking projects came in from all over the world, allowing DEMACLENKO to expand its global presence further. Projects worthy of special mention include the Stubai Glacier (AT) and Myler Mountain (AM), and work around 'FIS Freestyle WM St. Moritz Engadin 2025' (CH) as well as ongoing collaboration with SkiStar in Scandinavia.

There was also a rise in demand for 'all-weather snowmaking', because more and more winter sports destinations are keen to have temperature-independent solutions for snowmaking to add to their conventional snowmaking systems.

The focus of research and development in 2023 was on optimizing resource efficiency, especially in energy and water management, and the forward-looking development of our broad product range.

WLP gained attention in 2023 with "Olympia". This innovative fan gun represents a new, efficient approach to looking after turfs in football stadiums.

Stubai Glacier pump station

Project of Superlatives

The highlight of 2023 for DEMACLENKO was the construction and commissioning of the new snowmaking system on Stubai Glacier, Austria's biggest glacial skiing area. DEMACLENKO was responsible for building multiple pump stations with cooling towers, supplying snow guns, and digitally incorporating the entire snowmaking network into DEMACLENKO's Snowvisual 4.0 control software. This combines all of the components of the configuration into one intelligent, networked system, enabling water and energy to be used sparingly and efficiently.

The new snowmaking system at Stubai Glacier is one of the world's biggest. The project was planned with foresight: potential extensions were incorporated into the planning phase. Should the system need adapting later on, this can be done relatively easily and without major interventions in the landscape. The project required extensive work with the authorities beforehand. Strict criteria and conditions had to be met.

Cooperation with SkiStar Continues

DEMACLENKO is especially proud to have expanded its market position in the Scandinavian market. The SkiStar Group has become a powerful long-term partner which relies on DEMACLENKO's expertise. As part of a comprehensive investment plan, tenders were invited for extending snowmaking systems in no fewer than five ski resorts belonging to the Group in 2022. The concept submitted by DEMACLENKO made the most sustainable impression and was awarded the contract. What impressed them especially was DEMACLENKO's suggestion of snow guns designed specially in "SkiStar-Red".

Equipment installed included 25 fan guns, 110 lances and 125 pits and over 10 kilometers of cast iron pipes were laid.

This successful and trusting alliance continued in 2023, with SkiStar turning to DEMACLENKO for more important projects. In Sweden, two pump stations were automated at the Vemdalen ski resort, and a connecting piste was equipped with a new snowmaking system in Åre/Duved. A compressor station was extended in Hemsedal in Norway.

Ventus 4.0 Blizzard / SkiStar Åre

First Big Contract in Armenia

A winter sports destination called ‘Myler Mountain Resort’ is currently being developed around 50 km north of the Armenian capital of Yerevan. DEMACLENKO was chosen as the snowmaking partner and was awarded the contract to supply all of the snowmaking equipment, which would be used especially to make the lower-lying slopes snow-sure. This new, fully automatic system incorporating over 80 snow guns and two pump stations will be commissioned before the end of 2024.

Official Supplier to Engadin 2025

2023 also marked the beginning of another long-term collaboration: In preparation for the ‘FIS Snowboard, Freestyle & Freeski World Championships’, which will be held in Engadin in Switzerland in 2025, large sections of the snowmaking infrastructure belonging to participating ski areas are being gradually modernized and extended. DEMACLENKO performed the first work in 2023 and supplied new snow guns. DEMACLENKO will also support this major event as an official supplier.

All-Weather Snowmaking Growing in Demand

DEMACLENKO offers the largest range of powerful, energy-efficient snow guns for conventional technical snowmaking, as well as "all-weather snowmaking". The product range encompasses a wide range of technologies with which technical snow can be produced regardless of climatic conditions. This involves strategic partnerships with leading companies in the refrigeration sector. On this basis, systems were implemented throughout the world in 2023 together with our partner, KTI. Customers in Europe include resorts such as Marmolada (IT), Saas Fee (CH), Szczyrk (PL) and Tošovice (CZ). In the USA, a project was successfully completed in Powder Ridge, giving the ski resort the earliest season start in its history.

Ventus 4.0 Blizzard

SNOWPRO

Olympia

Innovation in the Service of Sport

WLP, which has been part of DEMACLENKO since 2020, developed "Olympia", a special machine that helps to improve the care of turfs in football stadiums and other sports venues. These machines are already being used in stadiums belonging to the Italian Serie A football clubs Juventus, Sassuolo, and Atalanta. This innovative idea combines WLP dust suppression machines with DEMACLENKO snow guns.

Wherever conventional sprinklers struggle to perform, the WLP Olympia solves several problems at once. Its ingenious nozzle technology atomizes the water much more finely, forming a protective shield over the turf. This helps avoid the lens effect typical of conventional sprinklers, which can make the ground even hotter in sunshine and damage it. In the winter, the turf can be aerated using the Olympia. This prevents the mold which can be caused by dew.

Outlook 2024

DEMACLENKO has some important product news coming up in 2024: The Evo 3.0 fan gun – known and loved by customers as a compact, powerful snow gun – will be presented on the market in a fully revised version 4.0. This will bring the machine in line with the Titan 4.0 and Ventus 4.0 Blizzard, creating a new standard in DEMACLENKO fan guns, especially regarding resource efficiency. Another focus will be on expanding market shares in all-weather snowmaking, and continuing the successful diversification that began with WLP.

DEMACLENKO Austria will be relocated in 2024 from Zirl to Telfs, where LEITNER and PRINOTH are already based. This will enable better synergy while optimizing working processes and warehouse management. The branch’s responsibilities will continue to include supporting customers in Austria and Germany, as well as global spares.

Resort Management Redefined

skadii

At the forefront with over 500 global clients placing their trust in Skadii, the tool is designed to simplify the lives of managers and operators of ski resorts. User-friendly and easily navigable, it enables the user to manage the entire infrastructure of a ski resort from one place, providing a real-time overview of critical data and serving as a central communication hub. The modular and customizable design allows Skadii to adapt perfectly to meet the unique needs of each resort. Moreover, Skadii is an open platform, welcoming integration with various hardware and software solutions, including, for example, data from access providers.

This flexibility, coupled with Skadii's reporting system, not only makes it a valuable asset for day-to-day operations but also positions it as an optimal basis for investment decision-making. This approach empowers clients to make informed decisions swiftly, ultimately saving valuable resources and time. The unwavering commitment to clarity, adaptability, and efficiency remains strong as Skadii looks toward continued growth and innovation in the ski resort management industry, together with its leading industry partners and customers.

Skadii – anytime, anywhere

DIGITAL DEVELOPMENT 2023

In the dynamic ski resort management landscape, Skadii's software applications remain pivotal, optimizing ropeway, snow groomer, and snowmaking operations. In 2023, we made significant strides in third-party integration, incorporating data from access providers to provide valuable insights on guest numbers, rides, and revenue within our platform.

Addressing task and maintenance challenges, Skadii introduced a calendar view in the Task Manager for streamlined slopes management. The Maintenance Overview now allows users to integrate manuals independently, enhancing safety during task execution.

Skadii also presents the Object Editor, enabling users to customize the Skadii Global map with specific objects such as anchor points, lakes, garages, cash desks, restaurants for a personalized experience. The mobile app's performance was enhanced for efficient on-the-go use.
Skadii Flow, our privacy-compliant counting system, saw success, accurately tracking skiers and tourers for real-time insights into slope utilization.

In 2023, Skadii moved further into the new era of efficiency and customization.

Skadii – your central communication tool

Skadii – one platform for all your application

NEW FEATURES 2024

Stepping into 2024, Skadii remains steadfast in its commitment to continuous improvement, optimization, and innovation. New features and enhancements are currently in development and will be unveiled throughout the year. Early glimpses of these advancements will be showcased at industry-leading events worldwide, including the Mountain Planet in France and NSAA National Convention & Trade Show in America.

In 2024, Skadii reaffirms its commitment to fostering strong relationships with industry partners and customers. Together, the company looks forward to exploring new horizons and pushing the boundaries of innovation in ski resort management. Exciting updates are anticipated as Skadii navigates the challenges and opportunities that lie ahead.

Troyer – Reliability Beyond Tomorrow

Avise / IT

Hydroelectric technology is gaining renewed momentum from the global market to find sustainable solutions to the energy crisis and climate change. With its headquarters in Vipiteno and branches in Flums (CH) and New Delhi (IND), TROYER represents an important reality in the sector, thanks to its tailor-made customer solutions. In fact, the company's "water to wire" offer encompasses the conception, design, production and installation of small and medium-sized hydroelectric plants, including hydraulic turbines, ball valves, electromechanical systems, automation, as well as service activities, renowned for their efficiency, reliability and innovation. In 2023, TROYER became part of the HTI Group, a testament to the commitment to invest further in renewables and in the local human capital. The company has managed to expand its business by completing many contracts and meeting the growing demand for the renovation of existing hydroelectric plants, also thanks to the synergies established between the companies of the Group. The increase in turnover and an increase in hires to meet international orders show a change of pace for the company and are the stepping-stone towards a future full of satisfaction and success.

PROJECTS 2023

Ongoing Development

2023 was an important year for the development of TROYER. Numerous brand-new plants were brought into service around the Alps and several refurbishment projects were completed. In addition, the company completed over 500 service interventions. Internationally, two hydroelectric plants were successfully put into operation, which witness the ability of the company to carry out global projects: in Nepal, the first TROYER plant in the country generates sustainable electricity for the local community. In Norway, the work on the second project - realized for the same customer - was successfully completed, bringing the number of TROYER plants now active in Scandinavia to three. Moreover, the hard work of the past year has produced numerous successes in terms of new contracts to be partly completed already in 2024. The number of hydroelectric projects signed by TROYER in Nepal rises to 8 (with a total power capacity of 200 MW), and a new assignment came from Georgia for a large project of over 90 MW and which includes three cascading hydroelectric plants.

Hydropower plant Kelchsau-Zwiesel, Kelchsau / AT

Hydropower plant Super Chepe, Gorka District (Gandaki) / NP

Outlook 2024

2024 promises to be a year full of challenges. At the international level, the completion of numerous Nepalese plants, the installation of two plants in Brazil, as well as the start on the Bakhvi cascade power plants in Georgia are in the spotlight. Furthermore, the Swiss and Austrian markets show signs of recovery both for the planning of new hydroelectric plants as well as for the refurbishment of old ones. The growth in the electrical and automation sectors as well as in service are additional objectives that TROYER intends to pursue during the year to consolidate its presence in the market.
The company's 90th anniversary in 2024 is a milestone that should not be ignored: since 1934, when founder Valentin Troyer began his adventure in the hydropower industry, the company experienced a continuous growth. This adventure continues today with more than 120 employees who are already embracing the challenges of tomorrow.

Favorable Winds

© Klaus Rockenbauer

LTW80 1,500 kW, Lüleburgaz, TR

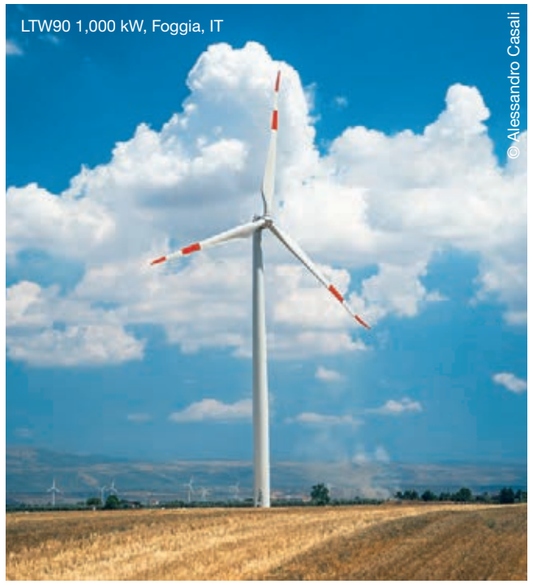
LEITWIND has installed more than 400 wind turbines worldwide, and more than half of these are in Europe. Italy is currently the country in which LEITWIND has the highest concentration of wind turbines, and it has a significant local presence. But in recent years, including those marked by the energy crisis, lots of other markets have been presenting new opportunities as people seek ways of differentiating their energy supply. This has enabled LEITWIND to extend its product range to an ever-broader, international clientele.

Innovation Always First!

LEITWIND differs from leading manufacturers on account of its project-based approach, and offers attractive tailored solutions to a growing number of international markets. Because its wind turbines are modular and its product range is so comprehensive, it is now in a position to offer the optimum solution for every project. Its ability to adapt to the latest customer needs and market trends has now yielded contracts in Turkmenistan, Slovenia, and Belgium. Expanding into these new markets has made the business more global: there are now LEITWIND turbines operating in 19 different countries.

LEITWIND has added the LTW90 and LTW80 wind turbines with nominal outputs of 500 kW to its portfolio, in order to meet the requirements for faster, simpler authorization procedures without limiting performance. The first of these wind turbines—the LTW80 500 kW—was installed in the Italian city of Brindisi in summer 2023. Another important milestone was the development of the D4.1 generator. It offers a number of advantages by utilizing brakes efficiently, complying with grid codes, and reducing noise emissions. The new generator was first deployed last year in Turkey.

LTW90 1,000 kW, Foggia, IT



LTW90 1,000 kW, Foggia, IT

LTW80 500 kW, Brindisi, IT

Outlook 2024

ITALY—LEITWIND LAUNCHES IN SICILY
Italy, LEITWIND's home market, will remain a primary location for its innovative power producers this year. Its first wind farm in Sicily, in the province of Trapani, featuring three LTW90s with 80 meter towers, is due to be built in spring 2024. This Wind farm will have a total capacity of 3 MW and will be able to generate over 12,500 MWh per year. This makes the LTW90, with its output of 500 kW to 2 MW, one of the top products in the LEITWIND portfolio, both in Italy and on the international market.

USA—WIND POWER PREMIERE IN THE USA
The first LTW42 250 kW wind turbine to be installed overseas will also enter operation this year. The turbine will be erected in Tooele, Utah, about 35 miles southwest of Salt Lake City.
This LTW42 250 kW will be used to cover the energy needs of the new branch of LEITNER-POMA of America. It's an example of how the HTI Group's technological synergies can be leveraged inside the company and contribute significantly to sustainable business.

Energy Revolution

Queenstown / NZ

The green energy revolution has already begun and has become a major force in the global fight against climate change. Our group of companies has recognized this sign of the times, and integrates green technology into as many of its operating processes as possible. This includes developing new technologies and products, reusing existing systems and facilities, and generating renewable energy in buildings, locations, and ropeways. The focus is on taking responsibility for our own actions and those of others. Our energy-efficient ropeway technology is already making a considerable contribution to protecting the climate in ski resorts around the world, and to using our precious natural resources sparingly. Our unequivocal commitment is visible in all of our actions and has placed our portfolio more and more in the service of climate protection.

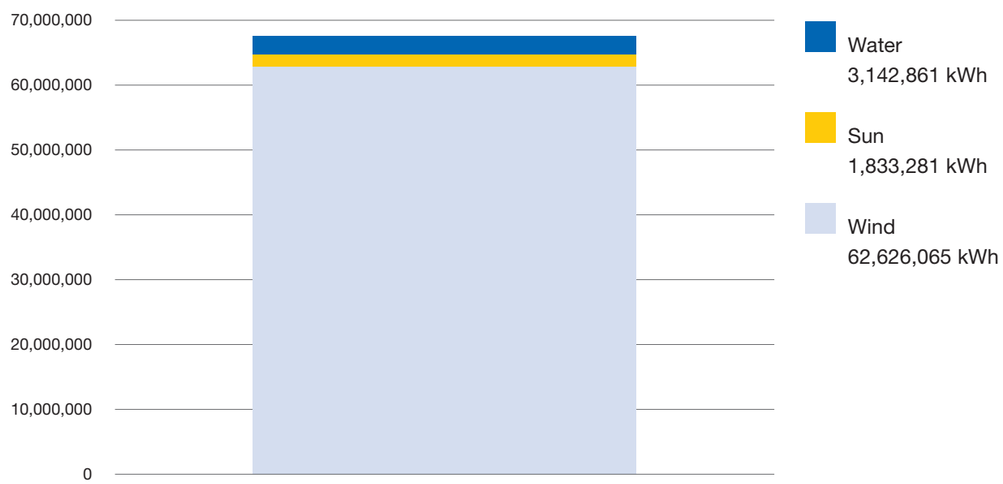
Electricity Generation on the Rise

GROUP BUILDS SIGNIFICANTLY ON RENEWABLE ENERGY

2023 saw a continued expansion of solar power production at the Group, with new plants at Via Brennero and Campi di Sotto in Vipiteno (IT), Lacedonia (IT), Grand Junction (USA), and an extension of our existing plant at Telfs (AT). In anddition to solar plants, electricity is generated using wind and water within the Group. There are currently 27 wind turbines and two hydroelectric plants either partially or fully owned by the Group. These figures demonstrate the immense impact of the energy transition that is taking place within the company. Power production within the Group in 2023 was, taking into account ownership shares, more than 67 GWh, which is equivalent to the energy required to power more than 22,000 households. Of this, 92% was generated by wind, 5% by water and 3% by the sun.

67,000,000 kWh
annual production

Energy production HTI 2023 (kWh)



Solar Wings

SOLAR WINGS—TECHNOLOGY WITH A FUTURE

BARTHOLET's Solar Wings are a unique innovation offering numerous potential uses in urban, rural, and alpine environments. These panels automatically adjust to weather conditions in strong winds, moving themselves into sail-like positions to minimize loads. The positions of the Solar Wings can be programmed individually so that they can be adjusted daily, hourly, or even at intervals of minutes, as required. Their design is also impressively efficient. Their lightweight construction spans large distances without unnecessary supports, so that the ground beneath the installation can still be used and construction costs are significantly reduced because fewer foundations are required. Furthermore, because they can follow the movement of the sun along two axes, they produce 20 to 35% more energy.

20–35%
more energy yield

After

QUALITY NOW LASTS LONGER
Used vehicles from PRINOTH are the best proof that quality never goes out of date. Our engineers check every component in detail and carry out any repairs that are required, using genuine PRINOTH spares to do so. PRINOTH used vehicles are made available for major events such as the ski world cups in Val Gardena, Hochgurgl, and Bormio, ski jumping at Bergisel, and ski flying at Kulm. Well over 200 vehicles are overhauled and repaired each year. This gives snow groomers a second life, extending their use on ski slopes, where they can still perform at maximum efficiency. And even vehicles which are no longer suitable for preparing slopes can still be reused. One old snow groomer, for instance, was converted into a food truck for a customer at Mount Etna in 2023.

Rotovator after

NEW LIFE FOR OLD CABINS
Extending the useful life of existing installations is a significant contribution to sustainable operation and the optimal use of resources. This includes overhauling older cabins, whose lifespan can be lengthened considerably by taking appropriate steps. Refurbishing cabins can be done according to customer needs. For instance, mechanical components such as the door mechanism, blocking rollers, and cross braces can be upgraded to the latest versions. And components with visual signs of wear can be refurbished to meet aesthetic and comfort standards. Our portfolio of services includes refurbishing benches using new materials, reglazing and installing additional tilting windows, reflooring, and repainting cabins (inside and out).

Before

Rotovator before

Setting the Tone

SOURCING FOOD LOCALLY, CONSCIOUSLY, AND RESPONSIBLY

LEITNER, PRINOTH, DEMACLENKO, LEITWIND, and TROYER employ over 1,000 people in Vipiteno, most of which eat lunch at the company restaurant. Completely redesigned, it now focuses more on local food and reducing food waste. Guests can use a free app to find out about menus, recipes, food intolerances, and preparation methods, and order the meals they want.

Because meals are preordered using the app, less food is wasted. Meals are also prepared seasonally, with a focus on quality and using as much local produce as possible. Not only does this protect the environment, it also strengthens local farming and has a positive impact on staff satisfaction, motivation, and physical and mental health.

Company restaurant in Sterzing (IT)

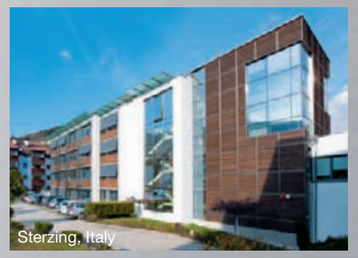
Company restaurant in Sterzing (IT)

POMA FOUNDATION: COMMITTED TO NATURE AND OUR FELLOW HUMAN BEINGS

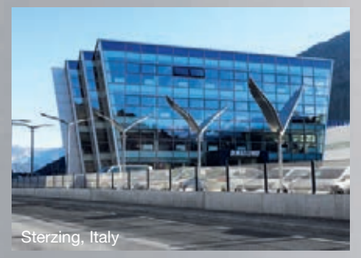
The POMA Foundation has become an integral part of solidarity within the Group and supported some important social and environmental causes in 2023 once again. A total of eighty staff got involved in 34 collaborative activities together with 20 charitable organizations.

Since the POMA Foundation was set up in 2020, no fewer than 130 staff at all five French branches have participated in various activities, with around 30 of them appointed to choose and manage projects. No less than €135,000 of funding has been awarded by the POMA Foundation over the past three years. And further conservation projects will be supported in 2024. This year, a project week and a number of workshops involving the climate, environment, and sustainability are planned to coincide with European Sustainable Development Week. There will also be new initiatives to build awareness about people with disabilities and to strengthen inclusion. And on Giving Tuesday, the POMA Foundation will be busy collecting food, clothing, and toys and passing them on to local charities.

Global Production and Administration Locations


Sterzing, Italy

Sterzing, Italy


Sterzing, Italy

Sterzing, Italy

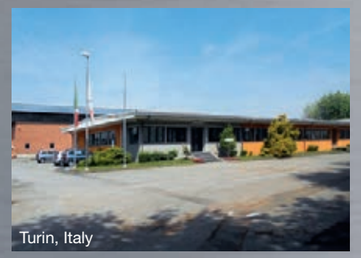
Telfs, Austria

Starà L'ubovňa, Slovakia

Flums, Switzerland

Castelnuovo, Italy

Lacedonia, Italy


Turin, Italy

Voreppe, France

Gilly-sur-Isère, France

Montmélian, France

Passy, France

Veryns, France

Herdwangen, Germany

Granby, Canada

St. Peter, USA

Grand Junction, USA

Beijing, China

Chennai, India

Salt Lake City, USA

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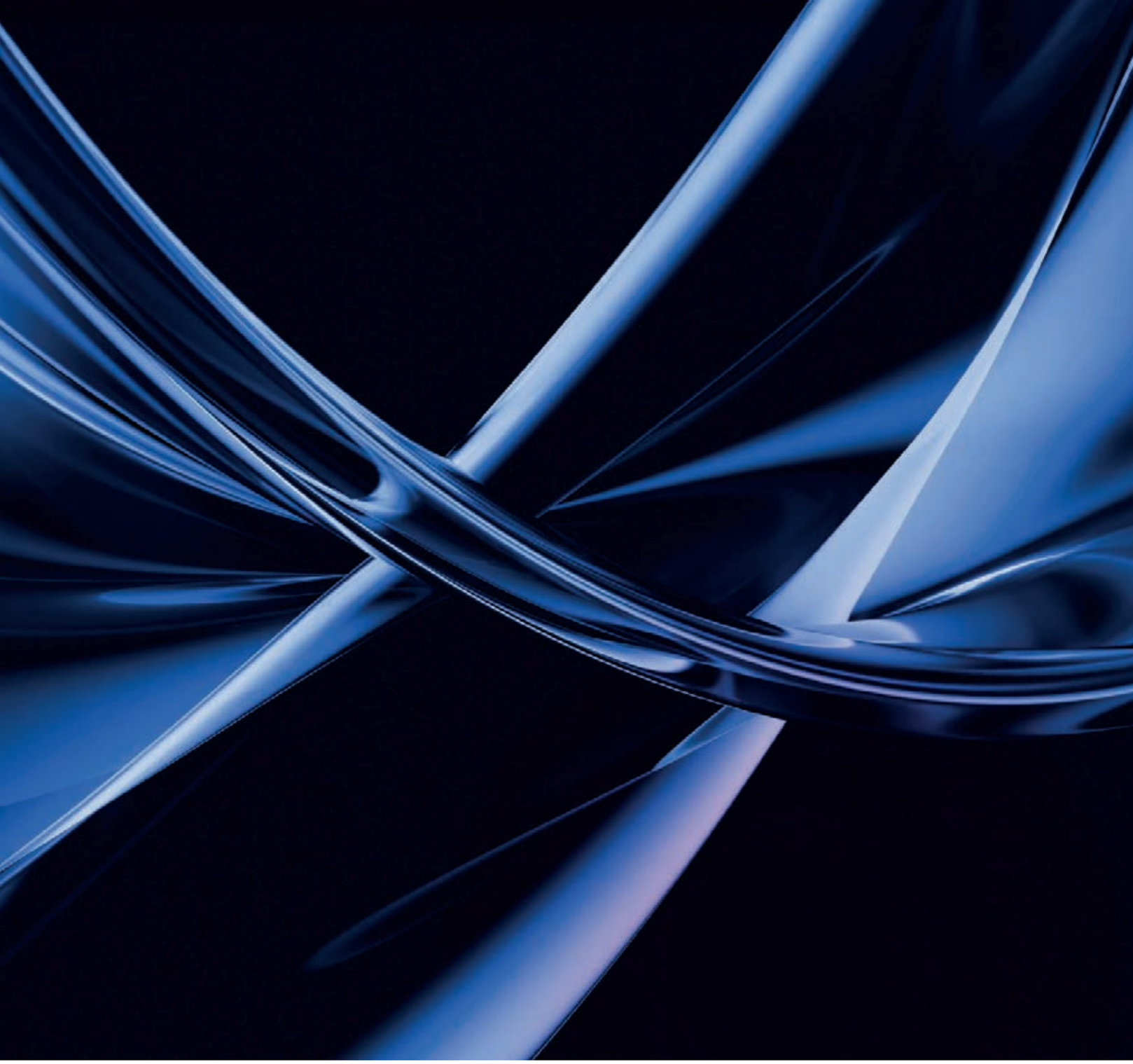

COMPANIES OF HIGH TECHNOLOGY INDUSTRIES

LEITNER POMA BARTHOLET agudio Pinoth DEMACLENKO skadii TROYER LEITWIND