

TRICABLE GONDOLA LIFTS



LEITNER®





The 3S Technology

Tricable ropeways have a **single haul rope** and **two carrying ropes**. The system is implemented using detachable grips and offers very high transport capacity. They guarantee increased wind resistance and can also cross major spans of over 3,000 meters.

The vehicles can be slowed down in the stations and, with the **stop-and-go technology**, they can even be stopped completely. This ensures additional comfort when entering and exiting the cabin.

Capacity: up to 6,000 people/h

Speed: up to 8,5 m/s

Cabin capacity: up to 35 people



The 3S cabin Symphony

Designed by Pininfarina, the famous designer of Ferrari and Maserati sports cars.

When boarding, passengers immediately sense upscale quality reflected in the wider and higher entryway which also reduces boarding and deboarding times.

The cabin offers 28 comfortable seats with exceptional comfort as well as standing room for seven passengers. The all-round glazing with panoramic windows provide the best views during the ride.

The innovative design includes interior illumination as well as the sophisticated exterior lighting tailored to the color scheme of the individual customer.

Close cooperation with qpunkt, the expert in air conditioning in the automotive sector, resulted in the development of a new climate control concept with continuously variable air volume and improved air flow velocity, which significantly enhances the ride experience.

The state of the art energy concept employs supercaps, a roller generator, and solar panels. This makes it possible to install a multimedia system with a sound system, high-resolution LCD screens, and WiFi in the cabins.





The LEITNER ropeways 3S carriage

Manufacturing technologies and precision components like those used in aircraft construction.

Most parts are milled from solid pieces, eliminating the need for numerous safety welds. The design offers significantly more stability with the lowest possible weight.

In the station and garaging areas, the cabin runs on additional rollers that can travel in both directions along the smallest curve radii.

Important safety feature: the vehicle detector is built directly into the carriage and indicates possible roller defects. This informs the operator of the exact place on the vehicle where an inspection of the track rollers is required. The affected vehicle can now be safely transported to the end station. In addition, maintenance requirements can be reduced since the grip can simply be removed.



There are also significant improvements when it comes to ride comfort: the lateral damping system integrated into the carriage ensures smooth running. It also provides greater wind resistance and eliminates the swaying effect.

The system features an eco-friendly roller generator, which represents part of LEITNER's comprehensive energy concept and makes an important contribution to the power supply in the cabin.

Careful consideration was also given to the design of the carriage. The color of every carriage component can be customized, except for the rollers and grips.





The strengths of the LEITNER ropeways 3S system

Economically and ecologically beneficial.

COMPACT STATION DESIGN

LEITNER 3S stations are highly compact. The low installation height reduces cubage and costs. The 3S carriage permits minimal curve radii in the station and the very narrowest curves in both directions in the garaging area:

- + Cost savings
- + Flexibility

PATENTED HAUL ROPE ROLLER WITH SPRING

The lift-off load on the haul rope is minimized by the spring roller system on the support towers. The lower lift-off height results in fewer vibrations on the haul rope and considerably lower loading of the carrying ropes by the carriage rollers.

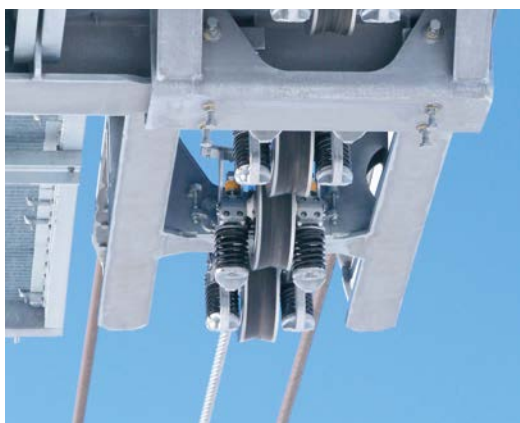
- + Increased service life of the carrying ropes
- + Improved quietness



OPTIMIZED ACCESSIBILITY

LEITNER stations are very easily accessible. All mechanisms are directly accessible and thus easy to check and adjust. The outer station turnaround is accessible while walking upright. This enables ergonomic and safe working.

- + Simplified maintenance
- + Safety for maintenance staff





OPTIMUM REDUNDANCY FOR MAXIMUM SAFETY

If required, an independent drive can be installed for both drive sheaves. This is also the case for the emergency/evacuation drive. Of course, the LEITNER DirectDrive can be used.

- + Redundant design for maximum safety and availability

SIMPLE ROPE DEFLECTION

Tricable gondola lifts by LEITNER ropeways are equipped with a simple haul rope deflection mechanism. LEITNER 3S systems only require four sheaves. Up to two drive sheaves and one return sheave are installed in the drive station. There is one return sheave in the return station.

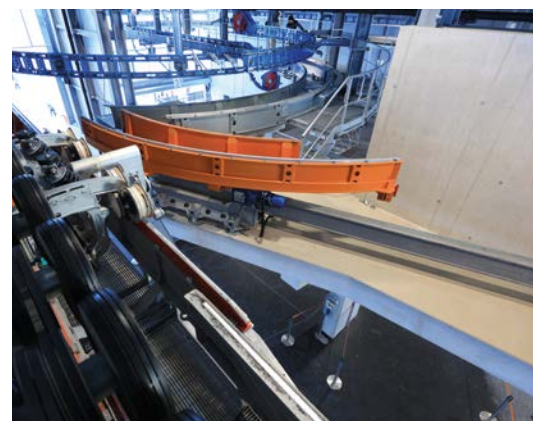
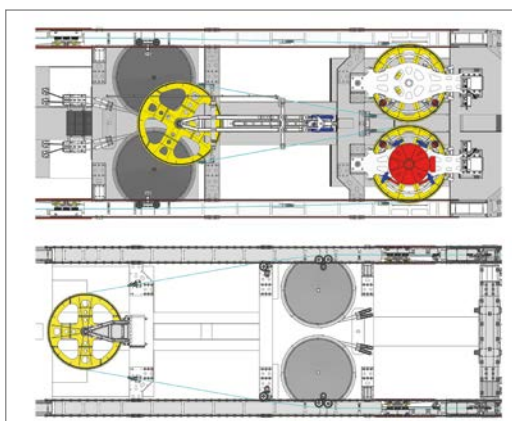
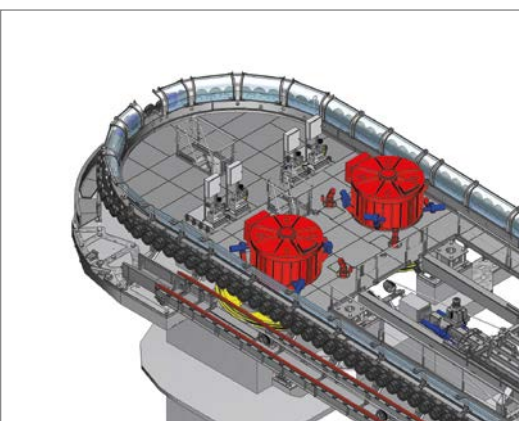
- + The haul rope is distinguished by its longer service life and lower maintenance costs



THE FLEXIBLE SWITCH POINTS SYSTEM

The switch points are designed for optimum flexibility. The rapid switching cycles allow the vehicles to be pushed in and out during operation. The garaging procedure can be executed at running speed. The compartment-style system enables manual control of the switch points.

- + Flexibility
- + Time saving
- + Availability





TD35 Ritten / Renon

Bolzano / Bozen (BZ) - Italy - 2009

One impressive reference is the tricable gondola lift on the high plateau of Renon near the city of Bolzano. In only twelve minutes, the ropeway ride covers a rise in altitude of nearly 1,000 meters, sparing residents and visitors a long and winding stretch of road and saving them from having to find a parking space.

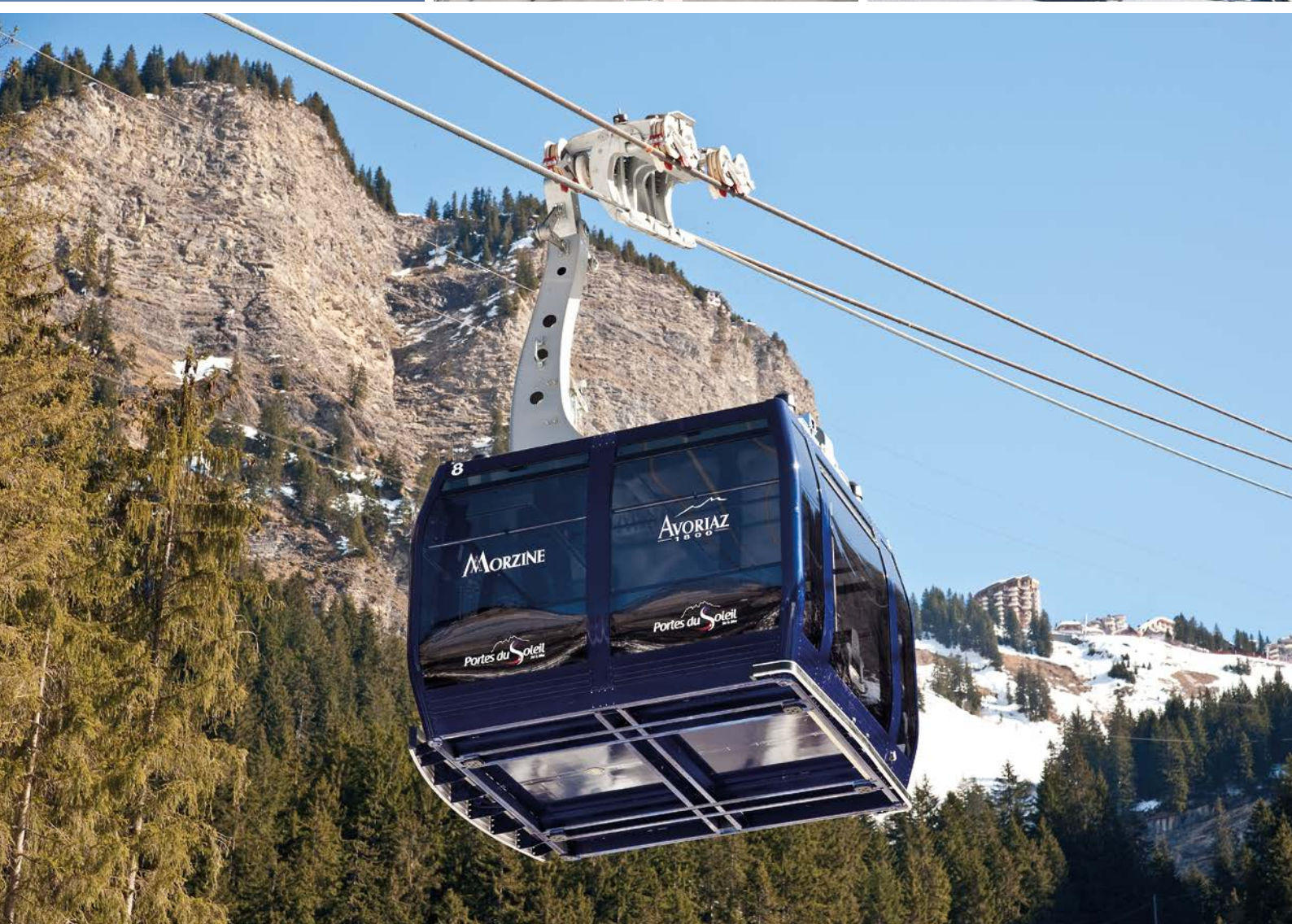
Inclined length:	4,544 m
Vertical rise:	949 m
Transport capacity:	726 people/h
Power:	900 kW
Total number of vehicles:	10
Total number of towers:	7

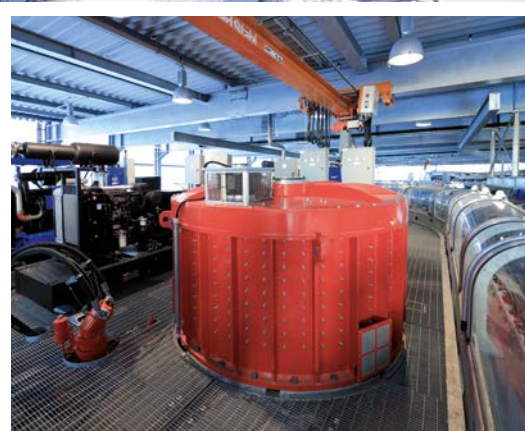
TD35 Les Prodains

Avoriaz - France - 2013

The TD35 Les Prodains serves as the main link connecting Morzine and Avoriaz and is used by skiers as well as tourists travelling to and from Avoriaz. It therefore functions as both a winter sports installation and an innovative means of urban transportation.

Inclined length:	1,751 m
Vertical rise:	576 m
Transport capacity:	2,400 people/h
Power:	2 x 530 kW
Total number of vehicles:	14
Total number of towers:	2





TD32 Eisgratbahn I & II

Stubai Glacier - Austria - 2016

The longest 3S gondola lift in the Alps and the world's first tricable gondola lift in two sections featuring non-stop operation. The Eisgratbahn gondola lift represents a new generation of technology. Construction was completed in just 16 months and it is the perfect synthesis of innovative technology and modern design.

Inclined length:	4,686 m
Vertical rise:	1,188 m
Transport capacity:	3,014 people/h
Power:	997 kW
Total number of vehicles:	48
Total number of towers:	7

TD28 Trockener Steg - Matterhorn glacier paradise

Zermatt - Switzerland - Winter 2018/2019

The most spectacular ropeway project in the Swiss Alps is going according to plan. Up to winter 2018/2019, LEITNER ropeways is building the world's highest tricable gondola lift on the Klein Matterhorn for Zermatt Bergbahnen.

Inclined length:	3,765 m
Vertical rise:	900 m
Transport capacity:	2,000 people/h
Speed:	7,5 m/s
Total number of vehicles:	25
Total number of towers:	3



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