

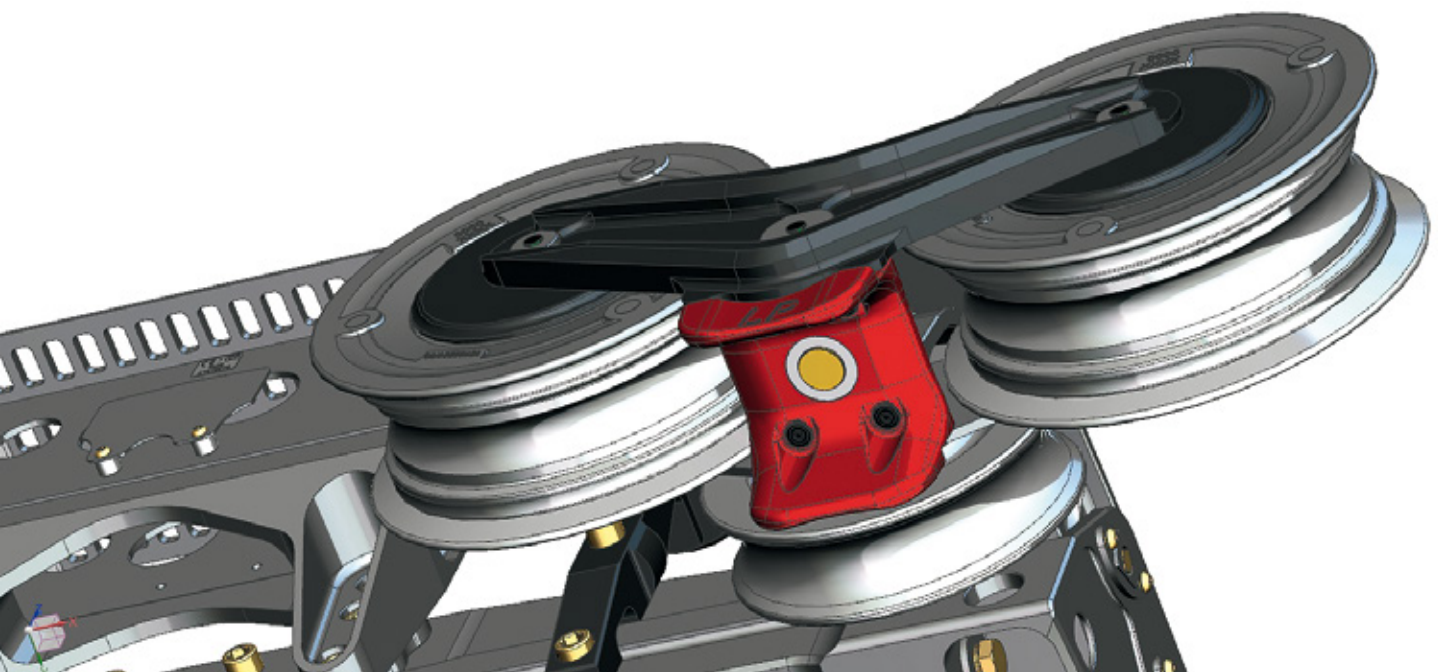
TRICABLE GONDOLA LIFTS





The 3S system

Overview

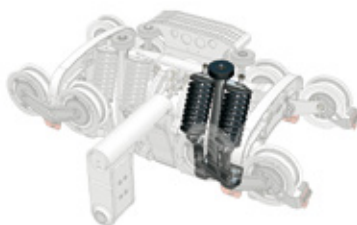




Tricable ropeways have a **single haul rope** and **two carrying ropes**. The system is implemented using detachable grips and offers very high transport capacity. They guarantee increased wind resistance and can also cross major spans of over 2,500 meters. In addition, the **3S system** is useful for bypassing obstacles in cities.

The vehicles can be slowed in the stations and, with the new **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





HIGHLIGHTS

The cabin designed by Pininfarina:
Symphony

"The new 3S cabin demonstrates that we can integrate outstanding design into nature. Working together with LEITNER and their cabin designer SIGMA, we have conceived an innovative cabin whose distinctive character, elegance, and comfort make for a unique mountain experience".

Paolo Pininfarina, president of the Pininfarina Group

The new 3S cabins by LEITNER ropeways bear the mark of 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 seating comfort as well as standing room for seven passengers. The all-round glazing with panoramic windows provide the best views during the ride.

Numerous innovative designs include exterior lighting as well as the sophisticated interior illumination tailored to the color scheme of the individual customer. The lighting concept was developed in collaboration with Bartenbach Lighting Design. The styling exudes individuality and is immediately recognizable.

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 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.

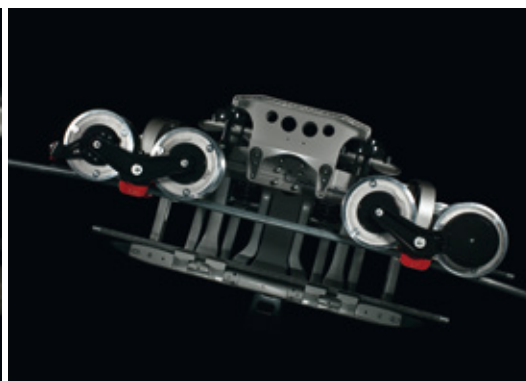
Important safety feature: the vehicle detector is built directly into the carriage and indicates possible roller defects. This informs the operator of the exact place on the vehicle where an inspection of the track rollers is required. The affected vehicle can now be safely transported to the end station.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

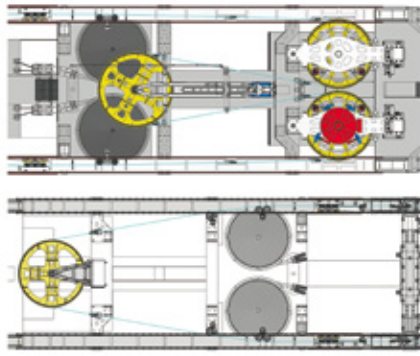
Careful consideration was also given to the design of the new carriage. The color of every carriage component can be customized, except for the rollers and grips. In this way, the ropeway can be individually adapted to the operator's corporate design.





The advantages of the LEITNER 3S system

Economically and
ecologically beneficial.

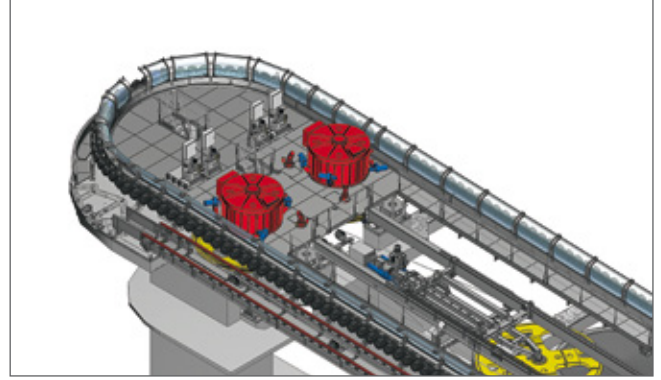


SIMPLE ROPE DEFLECTION

3S gondola lifts by LEITNER are equipped with a single 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



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

PATENTED HAUL ROPE ROLLER WITH SPRING SYSTEM

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



COMPACT STATION DESIGN

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

- + Cost savings
- + Flexibility



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

Reference at Ritten / Bozen IT

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 over 1,000 meters, sparing residents and visitors a long and winding stretch of road and saving them from having to find a parking space. On the way, they can enjoy spectacular views over the Dolomites.

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

Reference at Avoriaz FR



The ropeway 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:	2x 530 kw
Total number of vehicles:	4
Total number of towers:	2





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TD32 Eisgratbahn

Current project at the
Stubai Gletscher AT

The tricable gondola lift “3S Eisgratbahn” will be in operation throughout the year. It will meet the highest requirements in terms of performance, cost-effectiveness and environmental sustainability and represent a new generation of technology. The installation will be the first tricable gondola lift realized in two sections and to use the environmentally friendly DirectDrive.

Inclined length:	4,092 m
Vertical rise:	1,137 m
Transport capacity:	3,000 people/h
Power:	2x 530 kw
Total number of vehicles:	48
Opening:	2016



TD28 Zermatt

Current project at Zermatt CH

The highest top station in the Alps is getting a new modern ropeway. The ride with the 3S gondola lift from LEITNER ropeways to the Matterhorn glacier paradise (Klein Matterhorn) at an altitude of nearly 4,000 meters will be significantly faster and more comfortable. After a three-year construction time, the new ropeway will significantly improve the connection between the Swiss and Italian sides while ensuring year-round operation at the Matterhorn.

Inclined length:	3,760 m
Vertical rise:	900 m
Transport capacity:	2,000 people/h
Total number of vehicles:	25
Opening:	2018

LEITNER 3S



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