

HIGH-TECH SOLUTIONS

FOR SUSTAINABLE ROPEWAY OPERATION



#wemovesustainableideas

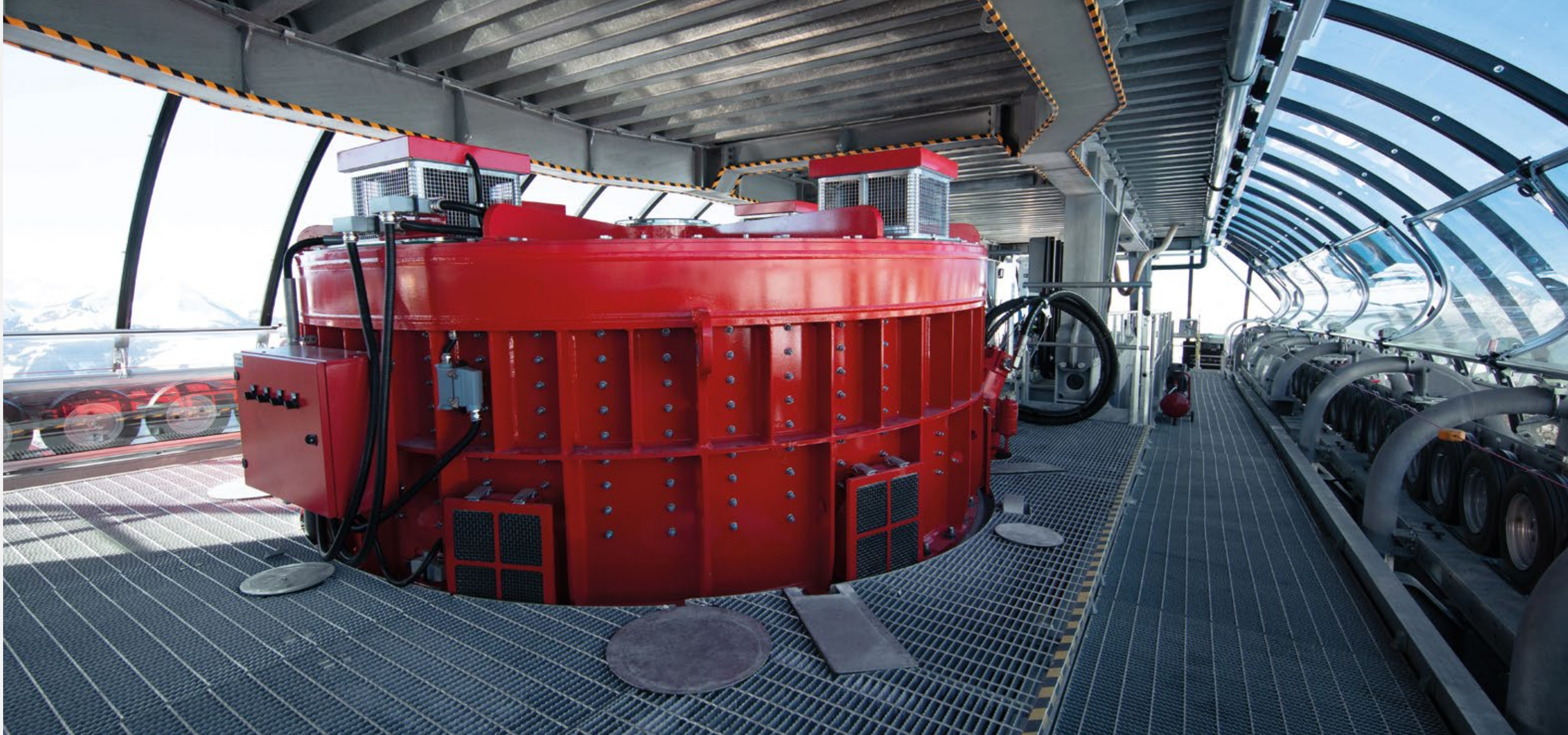
Products from LEITNER

SUSTAINABLE AND EFFICIENT

LEITNER is driven by passion for the mountains and has a special connection with nature. That's why we're especially keen to preserve these sensitive environments as carefully as possible. We use sustainable, cutting-edge technologies and innovative products to help shape future mobility, not only for winter sports but in urban areas as well.

Taking responsibility for future generations and the environment is not something negotiable. It's LEITNER's mission.





LEITNER drive solutions

LEITNER's gearless DirectDrive, the LeitDrive frequency converter and the LeitControl system have set standards in sustainability, reliability and environmental awareness. These three LEITNER developments, perfectly matched with each other, are in use all over the world and they stand for innovation and flexibility.

DirectDrive

Every safe journey on a ropeway is based on a reliable and powerful drive concept. Unmatched and unique: LEITNER DirectDrive. This drive system works entirely without gears and almost silently, and requires extremely little maintenance.

- + Low noise approx. -15 dB (A)
 - + Ecofriendly: no gear oil disposal.
 - + LEITNER DirectDrive offers 95% efficiency under full load and 96% in part load operation. Losses in the drive train caused by gears (5%) are eliminated by direct drive technology.
 - + General energy savings from 8 to 12%. The planetary gearboxes belonging to the Danter and Cepies ropeways in Val Gardena, Italy (LP300 and LP135 respectively), including their motors, were replaced by new LEITNER LD10 and LD5 DirectDrives in 2022. They measured energy savings of up to 12%.
 - + No gearbox means 100% less oil.
 - Ex. gearbox LP300 (Data according to the manual):
 - Quantity of oil required: 350 liters
 - Change every 6,000 operating hours
- In a system that operates for 1,500 hours per year and has a service life of 20 years, this means a saving of 1,750 liters.

LeitDrive

LeitDrive is a frequency converter entirely conceived and developed in house by LEITNER. Perfect coordination between motor and frequency converter guarantees high overall efficiency and a drive motor that runs smoothly and efficiently in any load range.

- + Power ratings ranging from 250 kW up to several MW, and perfectly matched motors and frequency converters.
- + Low noise.
- + Utilization of waste heat: liquid cooling enables waste heat to be used for heating and hot water.
- + Extremely compact, modular design: width per module 400 mm (space saving).

LeitControl

LeitControl is an innovative operating concept for ropeway systems. With its simple, centralized, highly intuitive control system, this LEITNER technology offers ropeway operators a new level of convenience. Training times for new employees are significantly reduced; so too are operator errors in daily operation and any associated outages, thanks to a function-oriented control concept.



LoadSim

LoadSim is essentially software with which mechanical brakes can be tested without loading the cabins/chairs with weights. Ropeway loads are simulated by the drive motor's electronic programs. The brakes actually operate. This means exact brake settings can be checked reliably and safely at any time.

- + The vehicles no longer need to be loaded with weight for periodic braking tests.
- + The system doesn't need to be specially prepared for performing braking tests. This means that tests can be performed much more frequently than prescribed by standards.
- + Braking tests can be performed easily after maintenance and repairs.
- + Time is saved because the tests are very easy to perform.
- + Cost reduction: purchase / leasing of weights; personnel.
- + Greater safety for ropeway operators, as braking tests can be performed more frequently.
- + Braking behavior can be compared over the ropeway's service life.

LEITNER EcoDrive

EcoDrive is designed to conserve the electrical energy used for the operation of ropeway installations.

Normally, the speed and thus also the energy requirement of the system is regulated by the operating staff. With EcoDrive a system is used, which regulates the speed of the installation autonomously, based on the number of waiting passengers in the entry areas of the ropeway.

Taking a chairlift as an example: up to 20% of the usual energy can be saved by automatically reducing the speed from 5 m/s to 4 m/s, without sacrificing ride comfort.



Photovoltaic modules on the stations and cabins

Renewable energies are becoming increasingly important. How best to use available space? One promising option is photovoltaic modules, ideally installed on station roofs or side panels.

Photovoltaic panels can also be fitted to cabins.

They aren't just ecologically advisable, they're also economically attractive. All in all, this way of generating energy is a promising way to make operations more sustainable.

Intelligent Heat Detector (IHD)

The IHD uses the electric gates (for chairlifts) and a heat sensor in a reference vehicle on the installation to control seat heating automatically, which helps save energy and make seat heating sustainable.

A sensor detects the temperature on the surface of the seats and passes this information on to the system. The chairs and cabins are heated (or not) as they pass through the station, depending on the temperature of the seat surfaces. This system can save a lot of energy, especially in the spring and in very sunny ropeways, because the seats are already warmed by the sun's radiation or the outside temperature, so they no longer need to be heated.

In chairlifts, a direct connection is established between the electric gates and the heating system. This connection ensures that only chairs on which passengers are sitting are heated.

The IHD system can also be integrated into existing seat heating systems with minimal effort.



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