



LEITNER® | **ROPERA®**

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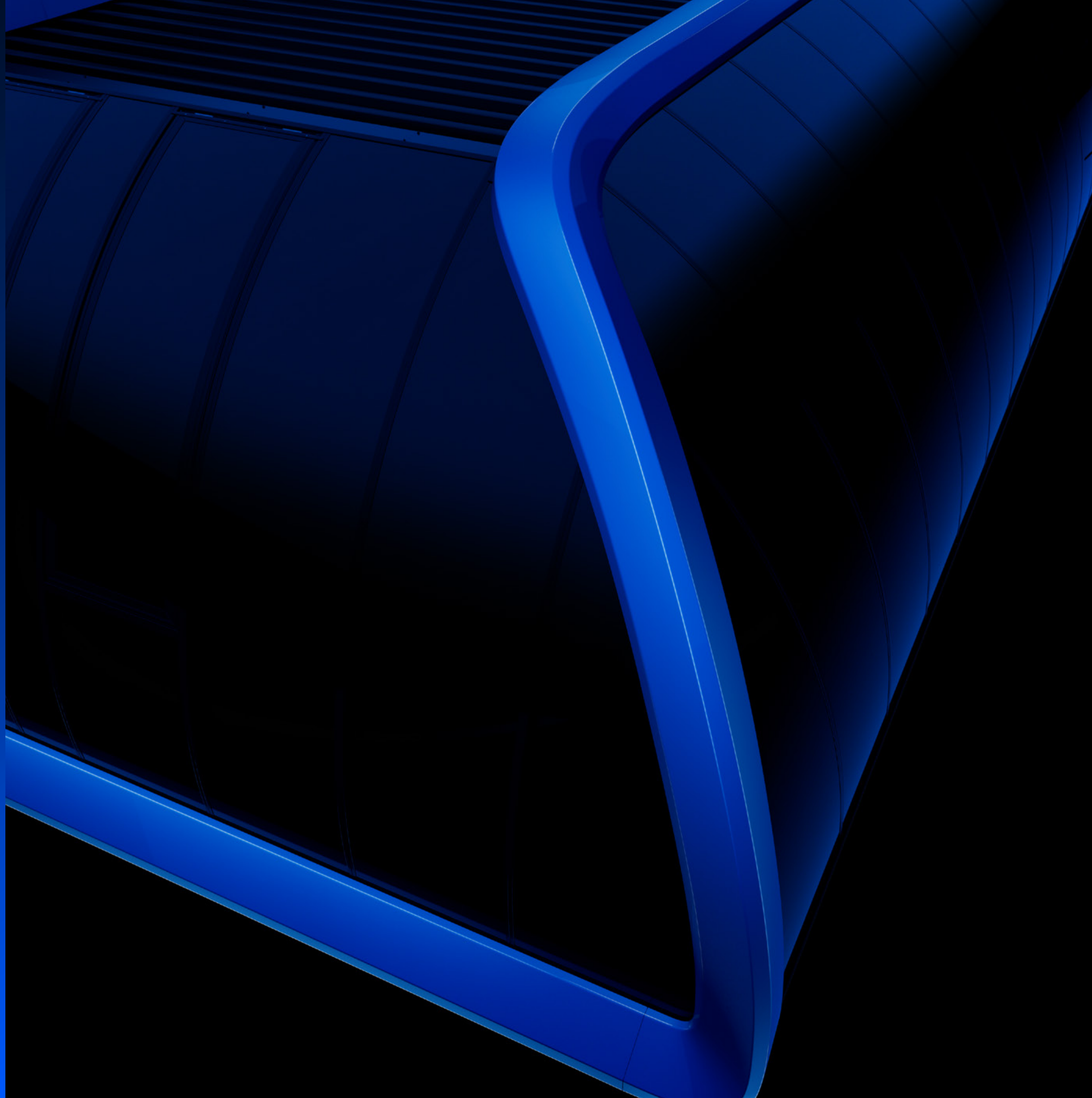
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ROPERA® - The new Era of Ropeways

At LEITNER, we strive to be innovation leaders in our daily work and to create the most efficient, sustainable, and user-friendly ropeway solutions. Our many years of experience, continuous research and development work, and close collaboration with our customers were the prerequisites for developing a new ropeway standard. We are pleased to present this groundbreaking solution, which meets the changing needs of the industry, under the name **ROPERA®**.

This new development is the result of our continuous commitment to constantly improving the operational efficiency and environmental sustainability of our systems. With **ROPERA®**, we want to offer operators a solution that is as flexible and individually adaptable as possible. We also guarantee perfect alignment with the station size, structural integrity, and components designed to meet the specific requirements of each individual installation. **ROPERA®** enables optimal performance and sustainability, whether in the mountains or urban environments. With advanced design features - including a state-of-the-art tensioning system, modular construction, and optimised station covering - we have completely redefined what a ropeway system is capable of.

ROPERA® is not only a milestone for the industry, but also demonstrates how design, technology, and functionality can work together to provide a smooth, reliable, and sustainable experience for both passengers and ropeway staff and operators.



ROPERA®

High performance & low noise
Efficient & sustainable design
Worker safety & easy maintenance
Reduced life-cycle costs

High performance & low noise



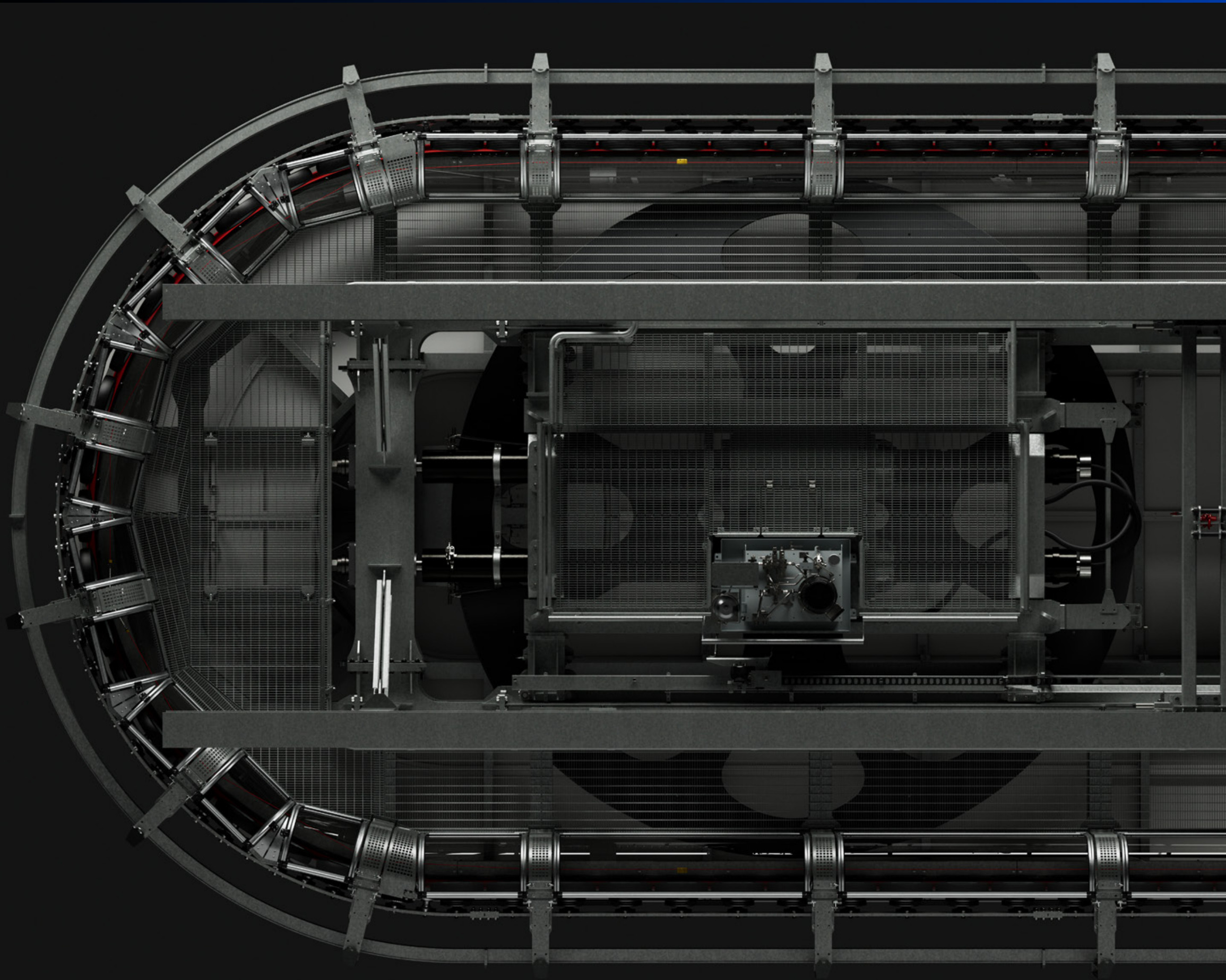
What makes **ROPERA®** the most powerful and quietest standard in the ropeway industry? The fact that it optimises all sources of noise throughout the entire system.

The stations are designed to cause minimal noise and create a quiet environment for both passengers and adjacent areas. Modern technology and advanced sound insulation keep operating noise to a minimum – ideal for urban zones, natural areas, and noise-sensitive environments.

The grip has been repeatedly tested and continuously optimised over many years, so that it combines maximum performance with quiet operation. Its tried-and-tested construction ensures outstanding durability.

At the heart of **ROPERA®** is the proven LEITNER DirectDrive – a benchmark for environmentally friendly, energy-efficient, and quiet motor technology. This advanced technology, which has been tested in the field and is constantly being improved, sets the standard for excellence in the ropeway industry.

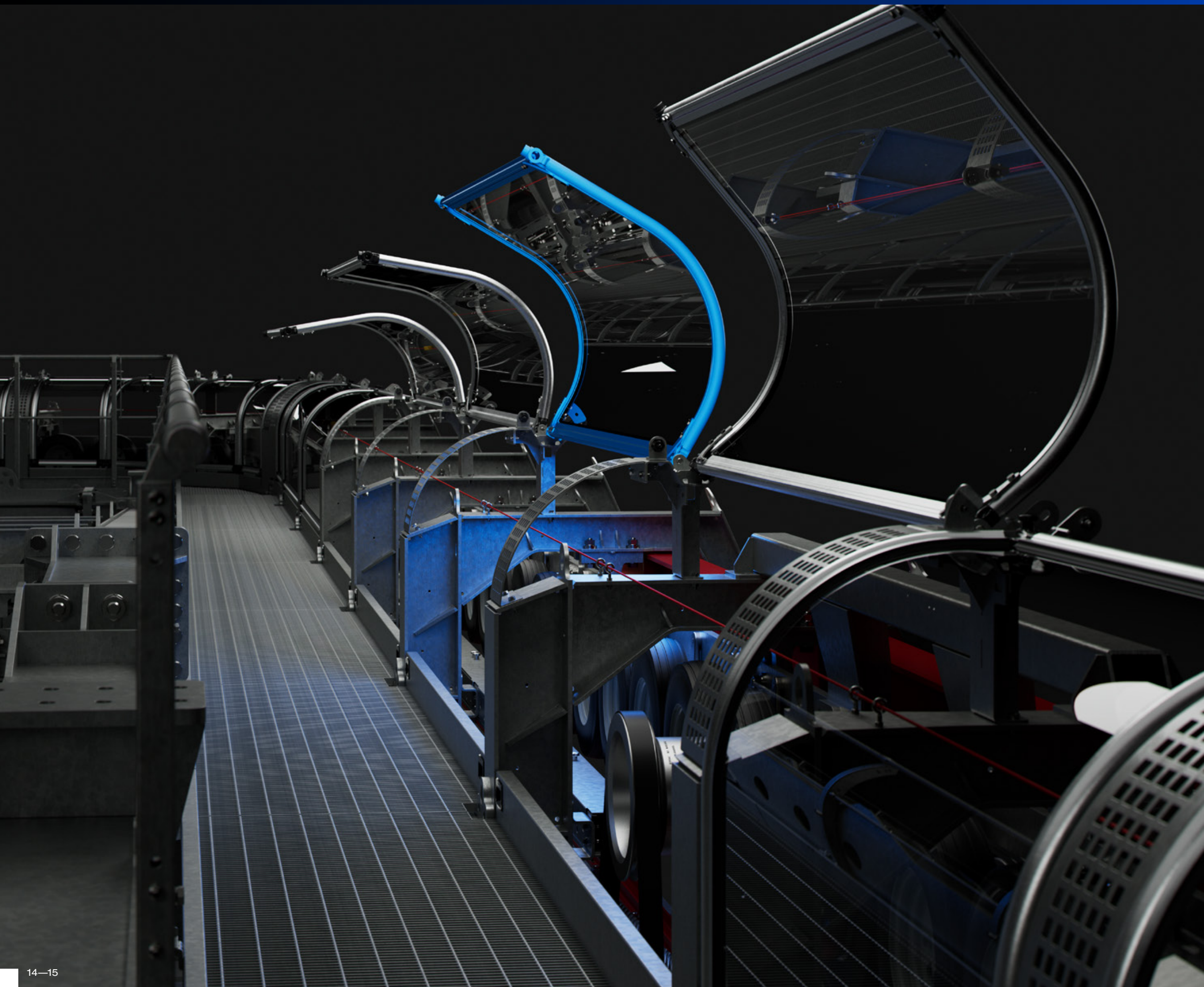
Efficient & sustainable design



ROPERA® enables precise and cost-effective solutions tailored to the needs of operators. The ropeway systems are environmentally friendly, have a lifespan of over 40 years, and are up to 95% recyclable.

LEITNER ropeways can run on renewable energy and are designed for long-term sustainability. The modular design guarantees fast project execution, ensuring that the systems can be manufactured and installed within a few weeks. LEITNER thus guarantees maximum speed and flexibility for customers and operators.

Workers safety & easy maintenance



ROPERA® stands for operational efficiency and worker safety. The modular structure and easily accessible components streamline maintenance work, minimise downtime, and increase productivity.

Advanced safety features create a safe and ergonomic working environment for maintenance technicians, setting new standards in the industry. The know-how gained from installing over 5,000 systems worldwide has fed into the development of **ROPERA®**. Its key advantages include the positioning of the synchronisation elements behind plexiglass for good visibility and fewer manual steps required during servicing. The walkways, which can be opened up to enable direct access to components underneath, make the system even easier to maintain. All the safety systems are fully accessible from the walkways, ensuring smooth and safe workflows. This concept combines safety and practicality.

Reduced life-cycle costs

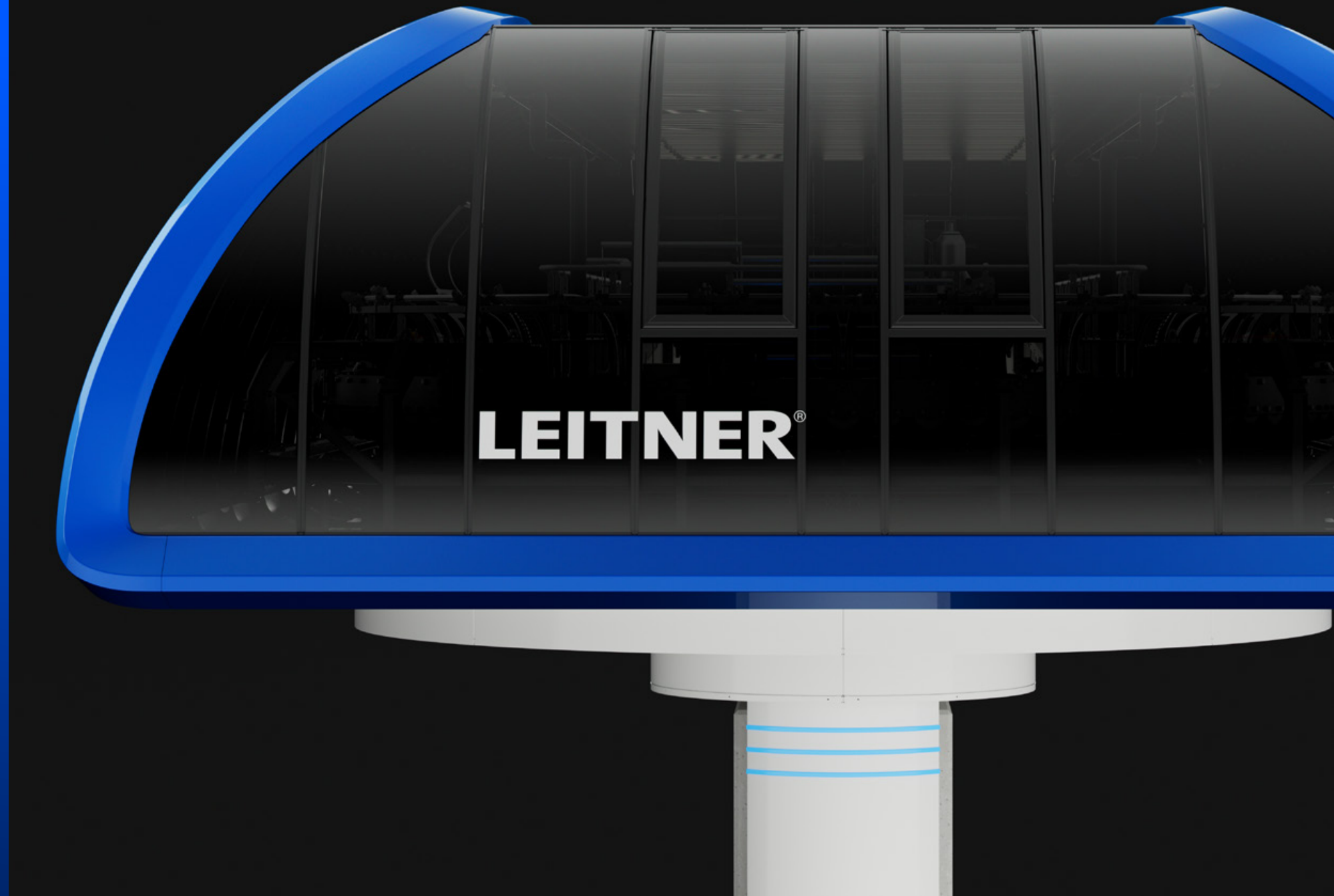


With **ROPERA®**, LEITNER guarantees long-term cost efficiency. The operating and maintenance costs are significantly optimised over the entire life time thanks to durable components, optimised maintenance intervals, and energy-efficient systems.

State-of-the-art design features and predictive maintenance technologies ensure even greater reliability and minimise costly downtime.

The station

Premium design by PININFARINA



The successful collaboration sets new standards once again

LEITNER worked with the renowned Italian design company Pininfarina to further develop the tried-and-tested station design. The new, elegant, and aerodynamic station covering offers optimum weather protection and reduces snow and wind loads. The revised concept combines outstanding design expertise with enhanced functionality and prioritises sustainability, safety, and ease of maintenance.



The station

Sizing & modularity

ROPERA® stations are breaking new ground in terms of efficiency and adaptability. The focus on two main sizes (standard & heavy) allows for maximum customisation for customers: the customer receives exactly the product they need - no more and no less.

This concept prevents oversizing and thus makes an important contribution to sustainability, whether in alpine or urban environments

Spacious & accessible walkways

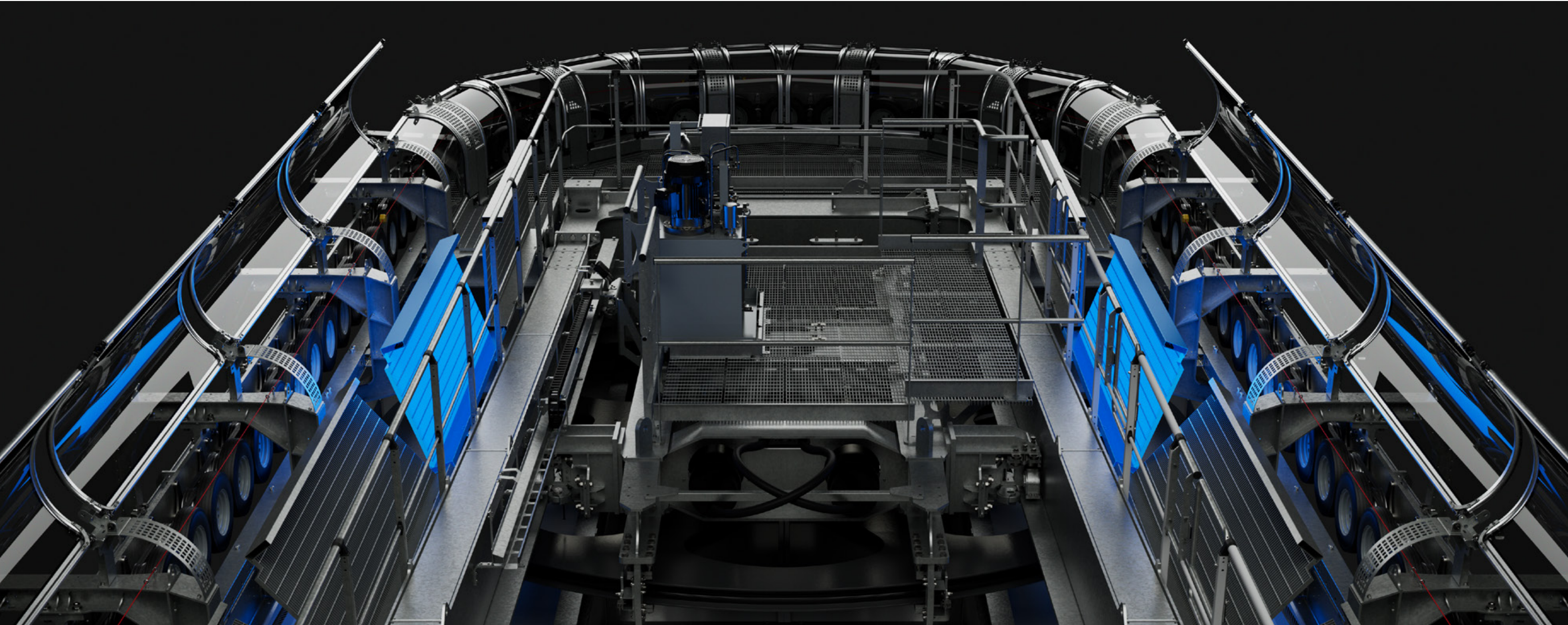
ROPERA® offers the widest walkways on the market: at 750 mm wide, they provide an unrivalled level of comfort and safety for employees. The station has two levels: the walkways and the work platform at the front. This eliminates unnecessary steps and means that all areas are accessible barrier-free.

Comprehensive accessibility

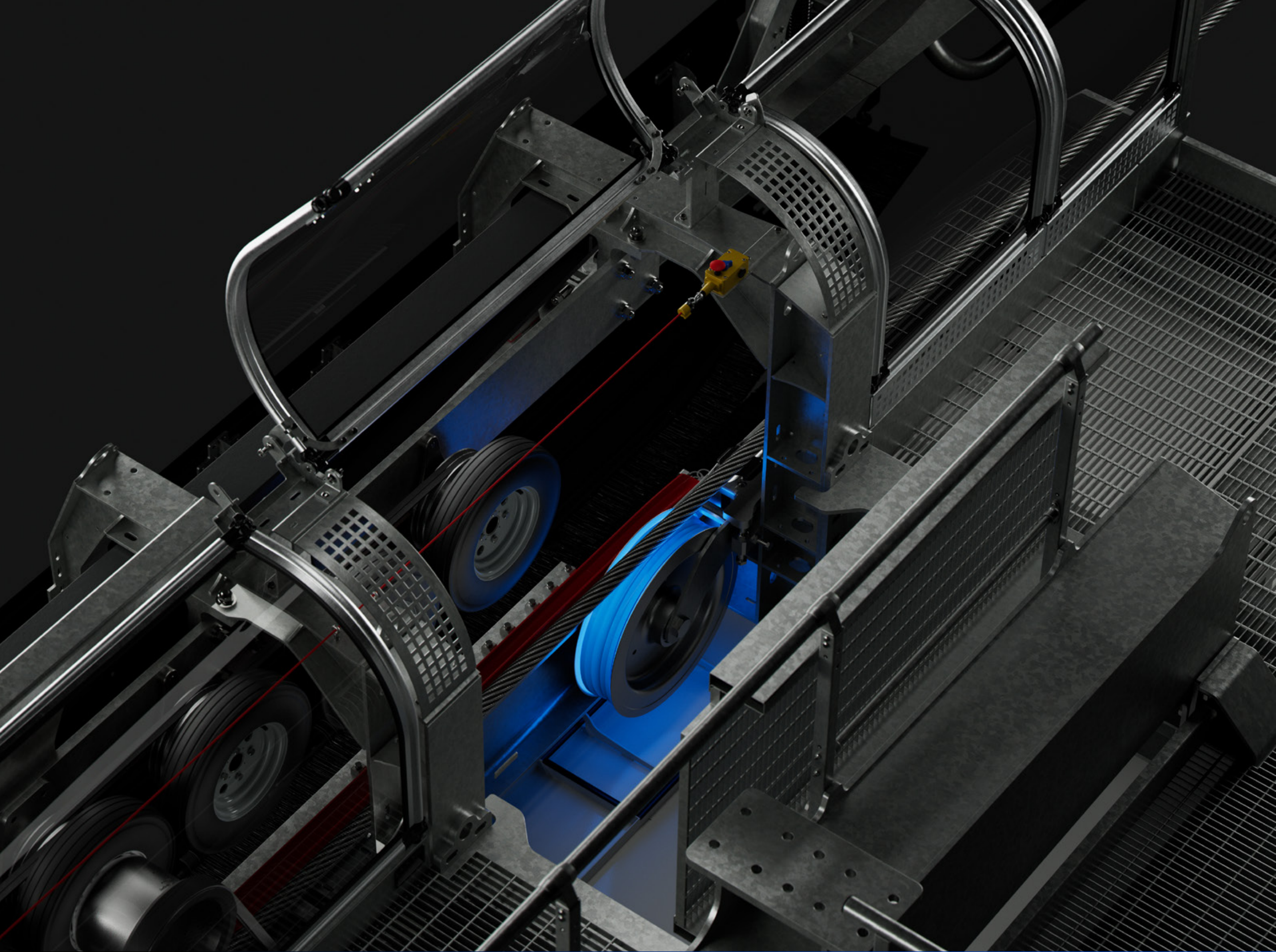
Visibility and safety: the synchroniser tyres are fully accessible from the walkways and covered with plexiglass to enable a clear view of all moving parts. This means that safe and effective inspections can be conducted at all times.

Access to the tensioning carriage: multiple gates on the walkways allow direct access to the tensioning carriage and thus facilitate maintenance work.

Roof access: the roof of the station can be safely accessed from the inside, regardless of snow or weather conditions



The station
Easy-to-maintain solution &
occupational safety at the forefront

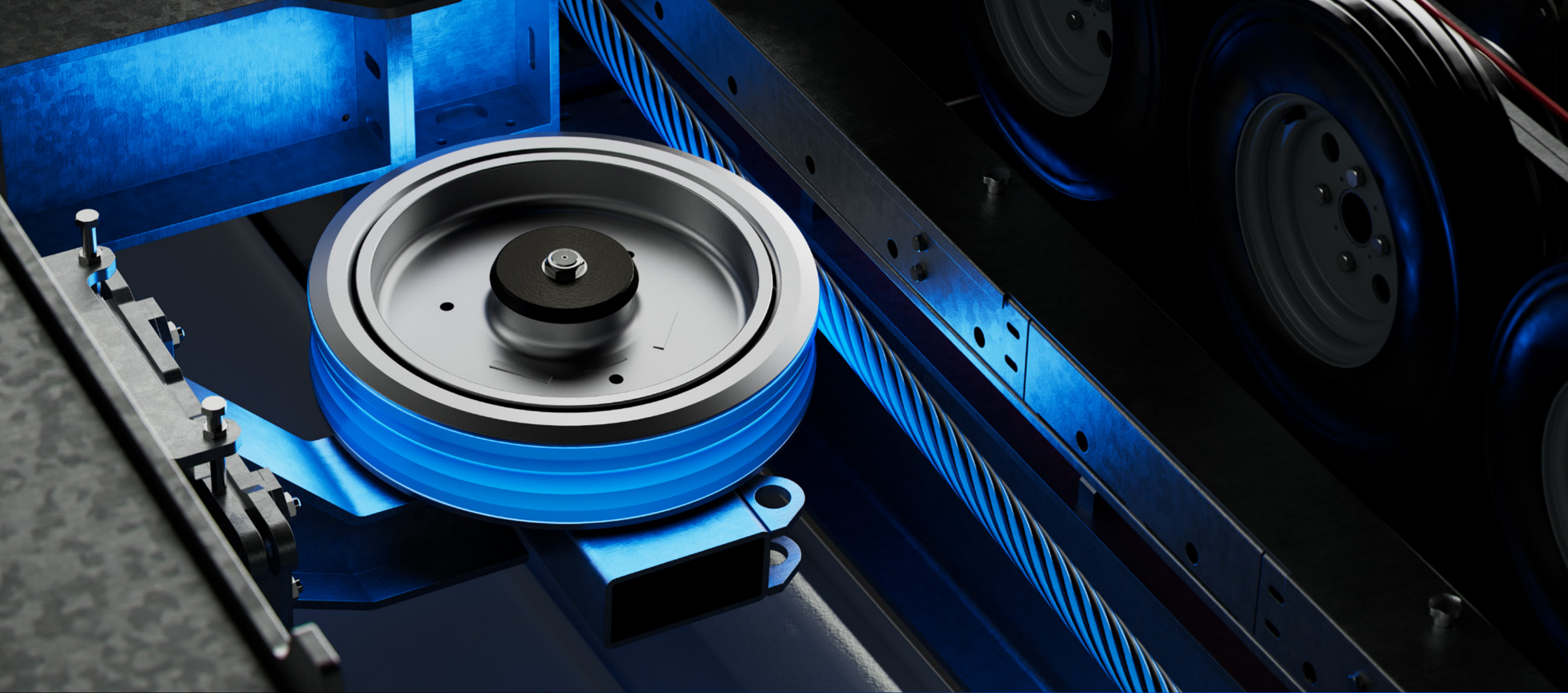


**Optimized accessibility
and more space for rope
inspection**

The new **ROPERA®** design improves accessibility to all station components and also provides a larger visible area for visual rope inspection.

The station

Easy-to-maintain solution &
occupational safety at the forefront



The station

Noise optimisation for
a unique ride experience

Design improvements for quieter operation

Central components such as the vertical and horizontal rope deflection are sound-insulated through intelligent design adjustments to reduce vibrations and operating noise. The meticulous attention to detail ensures quieter operation of all station components.

Optimised sheave design

Larger sheave diameter: by increasing the diameter of the sheave in the return station, LEITNER achieves almost line gauge spacing. To ensure maximum flexibility and optimally meet customer requirements, a sheave with a smaller diameter can be used in the drive station.

Fewer rollers: **ROPERA®** minimises the number of rollers for horizontal rope deflection per side, thereby further reducing noise emissions. One horizontal deflection roller per side is retained to ensure perfect positioning of the rope during the coupling process.

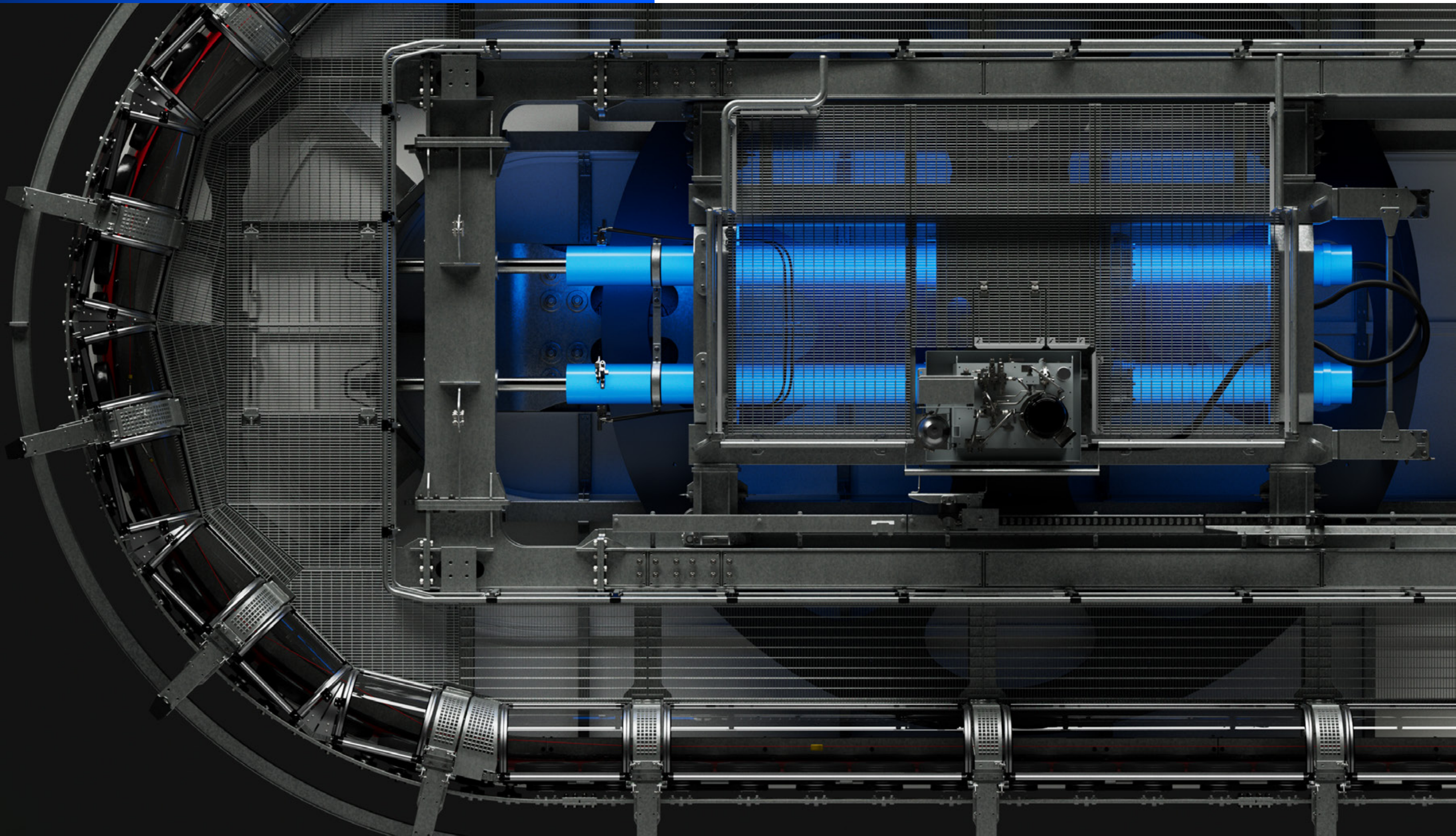
The station

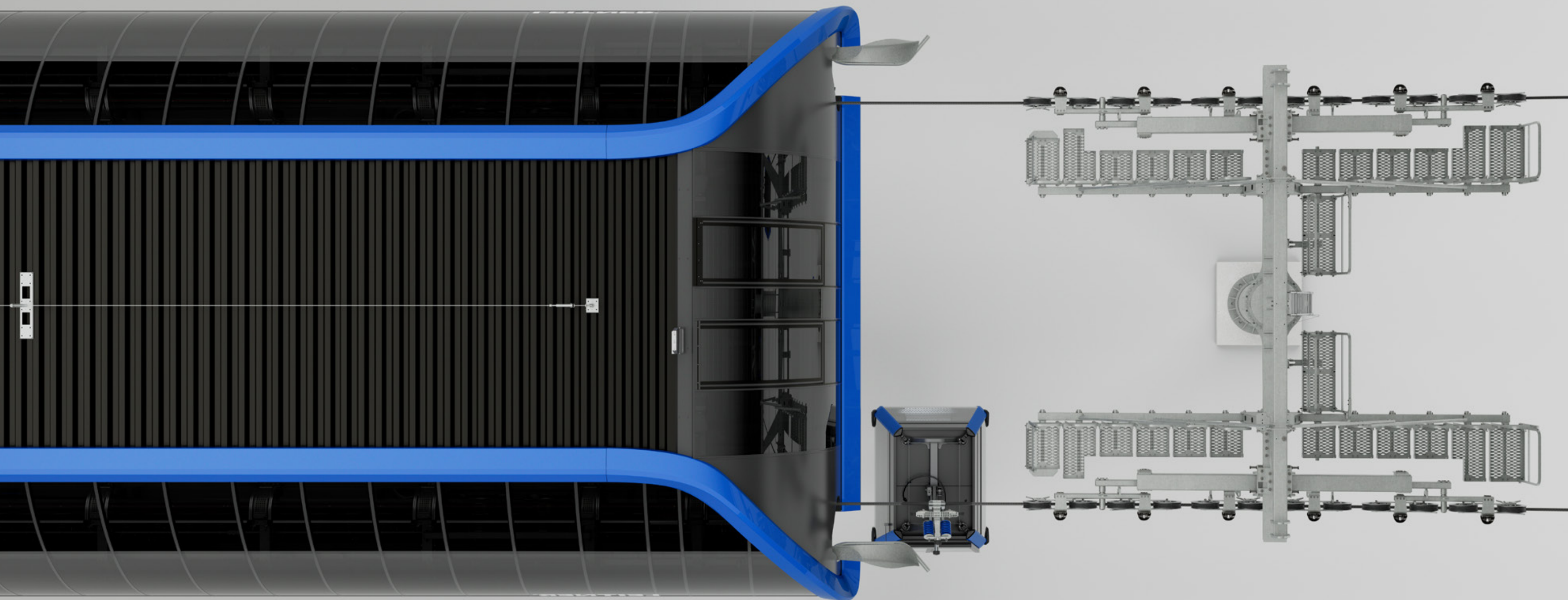
Innovative tensioning system
for maximum efficiency

Maximum efficiency & reduced maintenance

Two pull cylinders instead of one push cylinder will be standard for LEITNER systems in the future, improving operational performance and making maintenance processes simpler.

Direct tension transmission: the tension is transmitted to the concrete column via the rear stretcher, which creates the conditions for a lighter station construction, requires fewer structural components, and reduces the total weight of the station.





The station

Line gauge optimisation for improved flexibility & efficiency

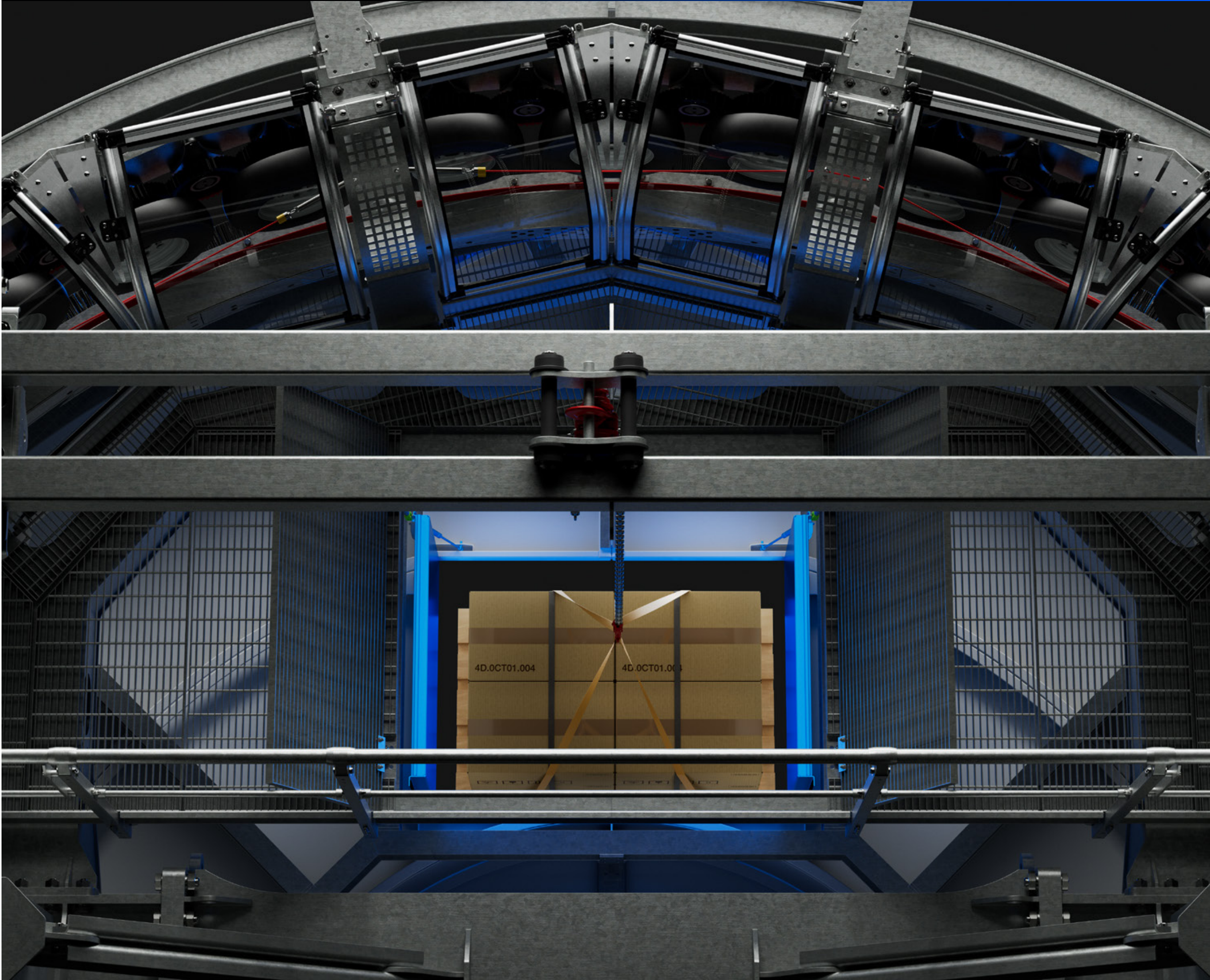
LEITNER has carefully optimised the line gauge to achieve the ideal balance between the need for clearance and the efficiency of the system. This ensures that the systems can withstand increased wind loads.

By comprehensively analysing hundreds of line calculations, LEITNER has fine-tuned the rope gradient, the length of the vehicle suspension, and the corresponding line gauge. This results in a standard that meets the requirements of 90% of all systems.

Innovative hatch system

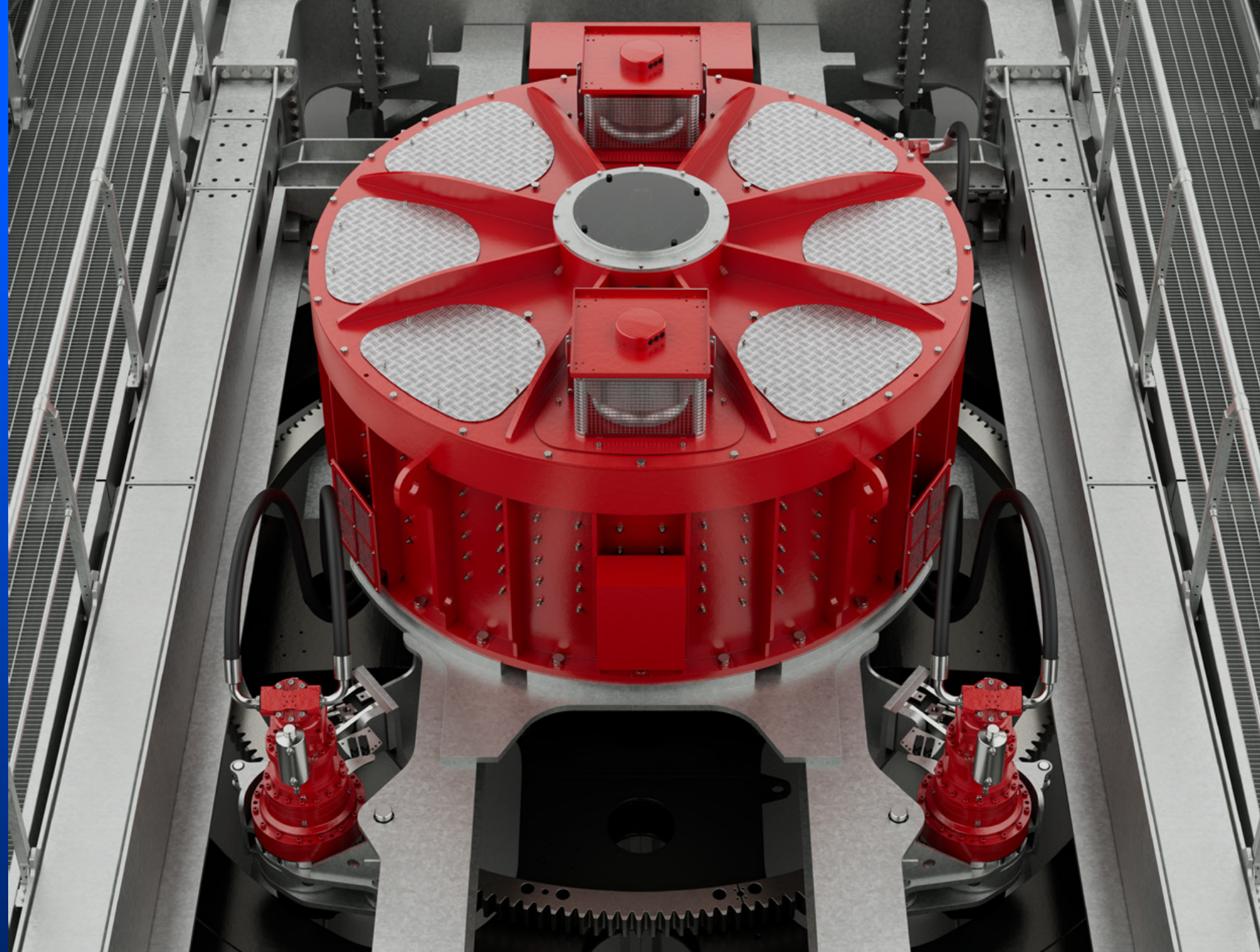
Two hatches, one at the front and one at the rear of the station area, each sized for a Euro pallet, make it easier to bring in spare parts using the overhead crane integrated into the station.

The station
Innovative solutions for a new era



The drive system

LEITNER DirectDrive



The LEITNER DirectDrive is unrivalled and the only system of its kind in the world. This drive system works without any gearbox and ensures impressively smooth running and incomparably low maintenance requirements.

Gearless permanent magnet motor

The DirectDrive uses a slow-running synchronous motor. Its output shaft is directly connected to the sheave, so no gearbox is required.

High availability due to segmental construction

The motor is designed to have up to eight segments. If a segment is not working properly, the motor can continue to run and transport passengers safely, even with reduced power. The windings, magnets, and bearings can all be replaced very quickly without having to open the roof of the station. All this results in optimum system availability.

Maximum flexibility thanks to modular design

LeitDrive is a frequency converter designed and developed by LEITNER in-house. The perfect interaction between the motor and the frequency converter ensures high overall efficiency and a high degree of reliability in all load ranges of a drive motor that runs smoothly and efficiently.

Easily accessible components ensure simple maintenance and ease of servicing. Thanks to a maximum module width of 400 mm, the system can be implemented in a very compact and space-saving way.

The modular design allows a nominal power from 250 kW up to several megawatts to be achieved.



The drive system
LeitDrive frequency converter

The control system

LeitControl 2.0



Innovative, intuitive, & efficient

LeitControl 2.0 was developed with the aim of converting the control of ropeway systems from a hardware-based operating philosophy to an application and function oriented one.

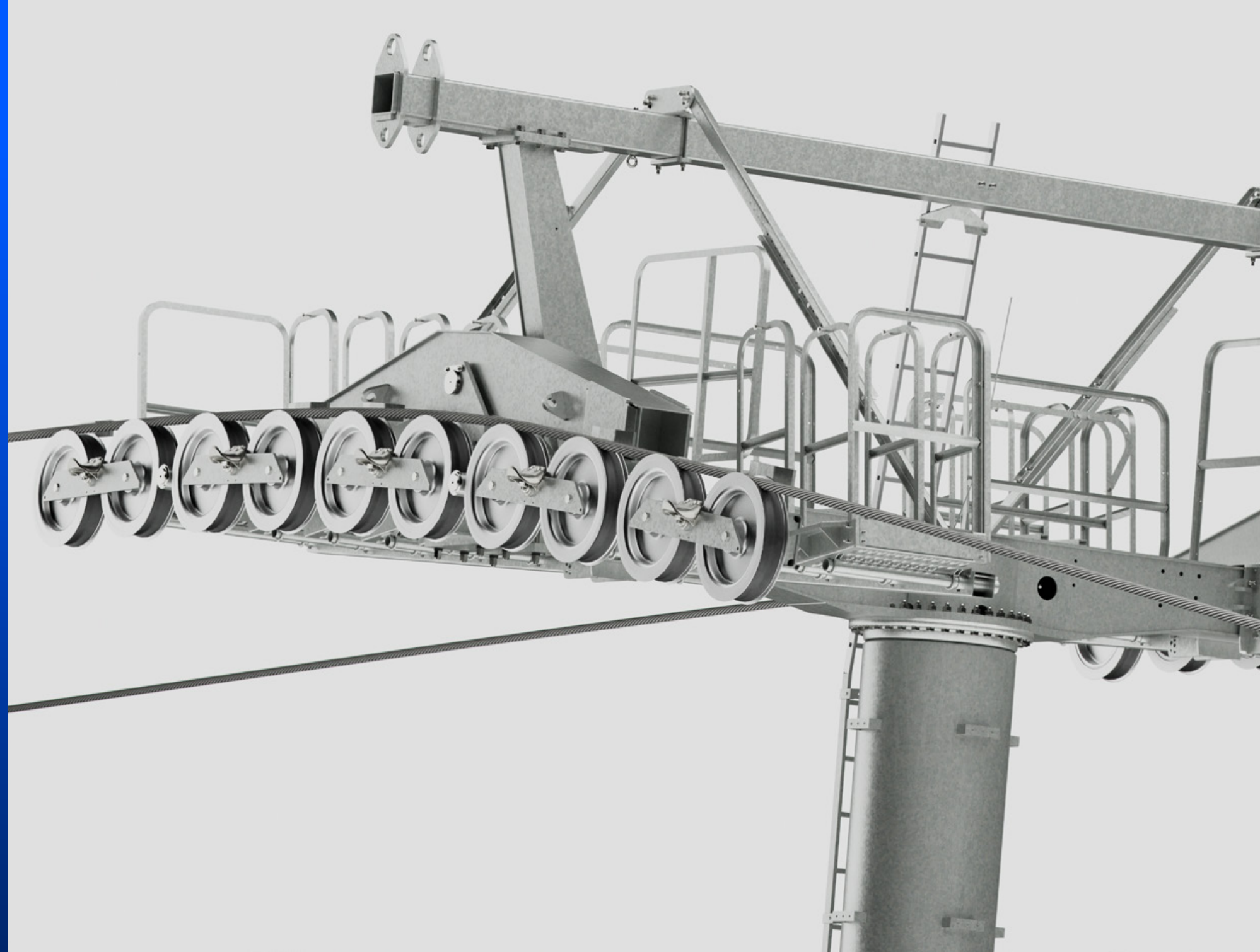
The redesigned control panel and the further developed user interface of the software enable even more intuitive control of the systems.

The innovative control system combines all the advantages of web-based IT technology. Features such as remote diagnostics and maintenance over the internet, as well as a range of LEITNER online services, help staff keep the ropeway system in an optimum state of maintenance at all times.

With LeitControl 2.0, the operator can access the systems with any internet-enabled device.

The line

LEITNER roller batteries



No component of a ropeway is as heavily influenced by the topography as the rope line. Passengers demand comfort and safety, while operators require reliability, availability, and hassle-free maintenance. LEITNER ensures an optimal rope line profile by developing adaptable systems that prioritise passenger comfort, operational safety, and hassle-free maintenance through innovative designs and modern safety features.

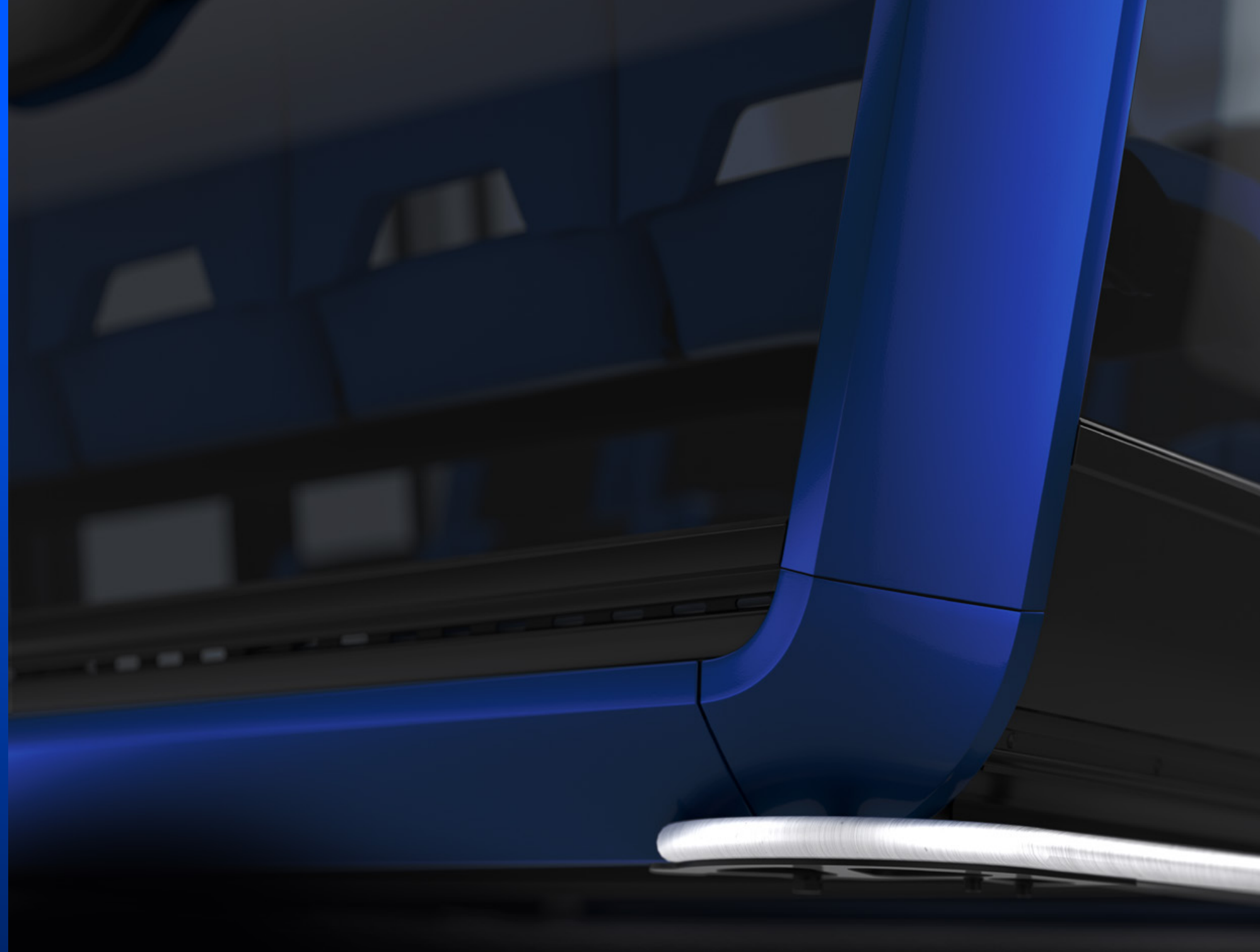
Rope gradient & roller batteries

The larger track width of **ROPERA®** allows for a longer vehicle suspension, which in turn enables a higher maximum permissible rope inclination.

High roller flange projection and maximum possible groove depth provide the utmost protection against derailment. LEITNER roller batteries operate with high roller pressures, which allows a reduction in the number of rollers and therefore less maintenance and less outlay for spare parts.

The vehicles

LEITNER vehicles



Ride comfort, safety, and system availability

System availability is crucial for operators, which is why every vehicle is designed for high wind resistance, with particular attention to the cabin design. LEITNER offers a complete range of vehicles, with 4-seater, 6-seater, and 8-seater chairs and various cabin types, including the Premium Diamond EVO cabin and the Luxury Symphony 10 cabin designed by Pininfarina. LEITNER cabins are known for their design, spaciousness, and panoramic windows that offer breathtaking, unobstructed views.

The vehicles

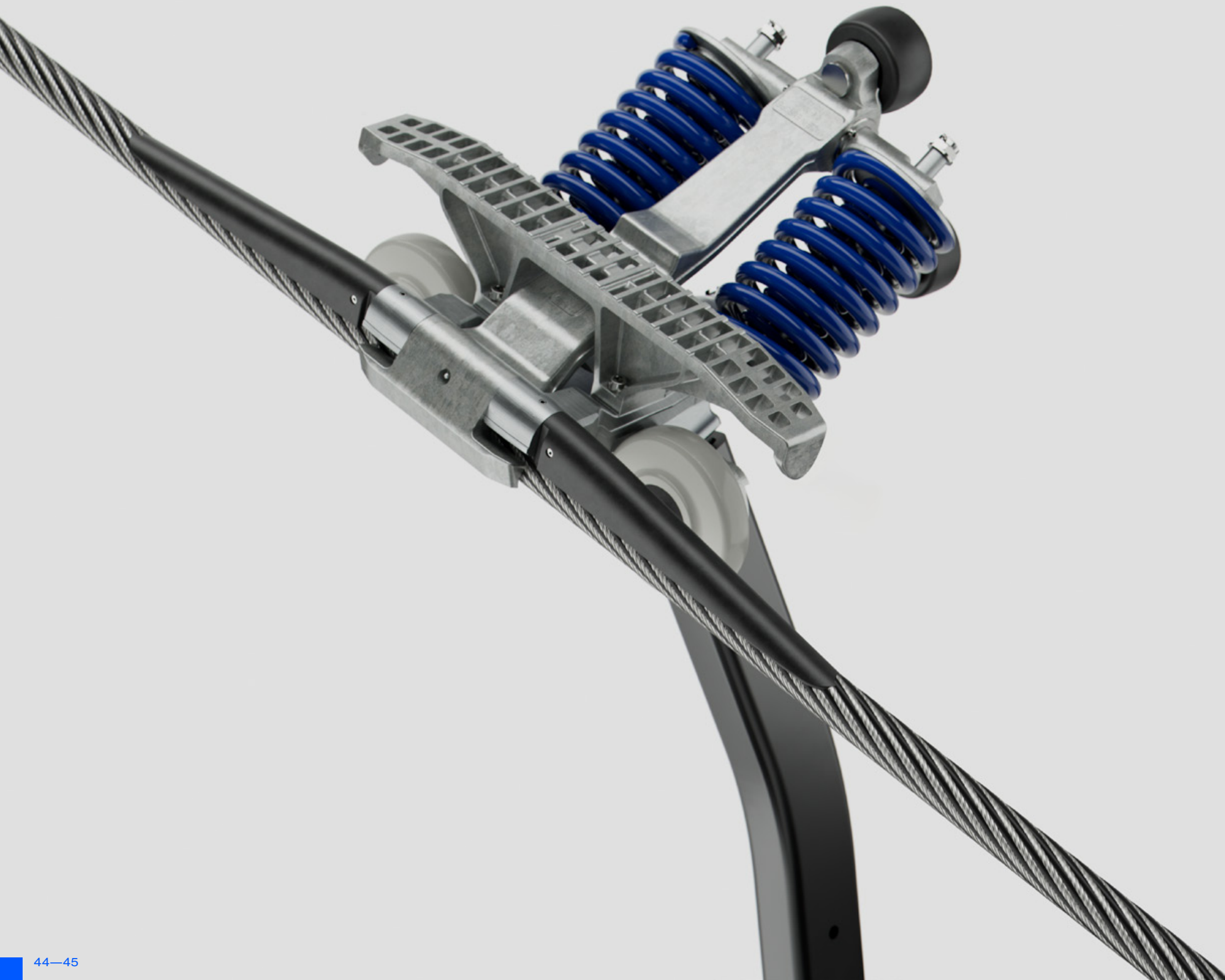
LEITNER grip

Evolution of the grip design: safety, durability, & comfort

Thanks to the modular design, the grips can be optimally adapted to different system-specific requirements while maintaining the same geometry.

The LEITNER grip has been significantly improved to offer even better performance and comfort. The enlarged axle diameter reduces the wear of the sliding bushings. In addition, the shape of the coupling roller has been optimised to reduce the contact pressure between the roller and the coupling rail. This leads to a longer life time and reduces maintenance needs.

The optimised transport plate ensures a perfect balance: it prevents excessive deceleration in dry conditions while improving deceleration in wet and icy conditions.





The vehicles

Premium EVO chair

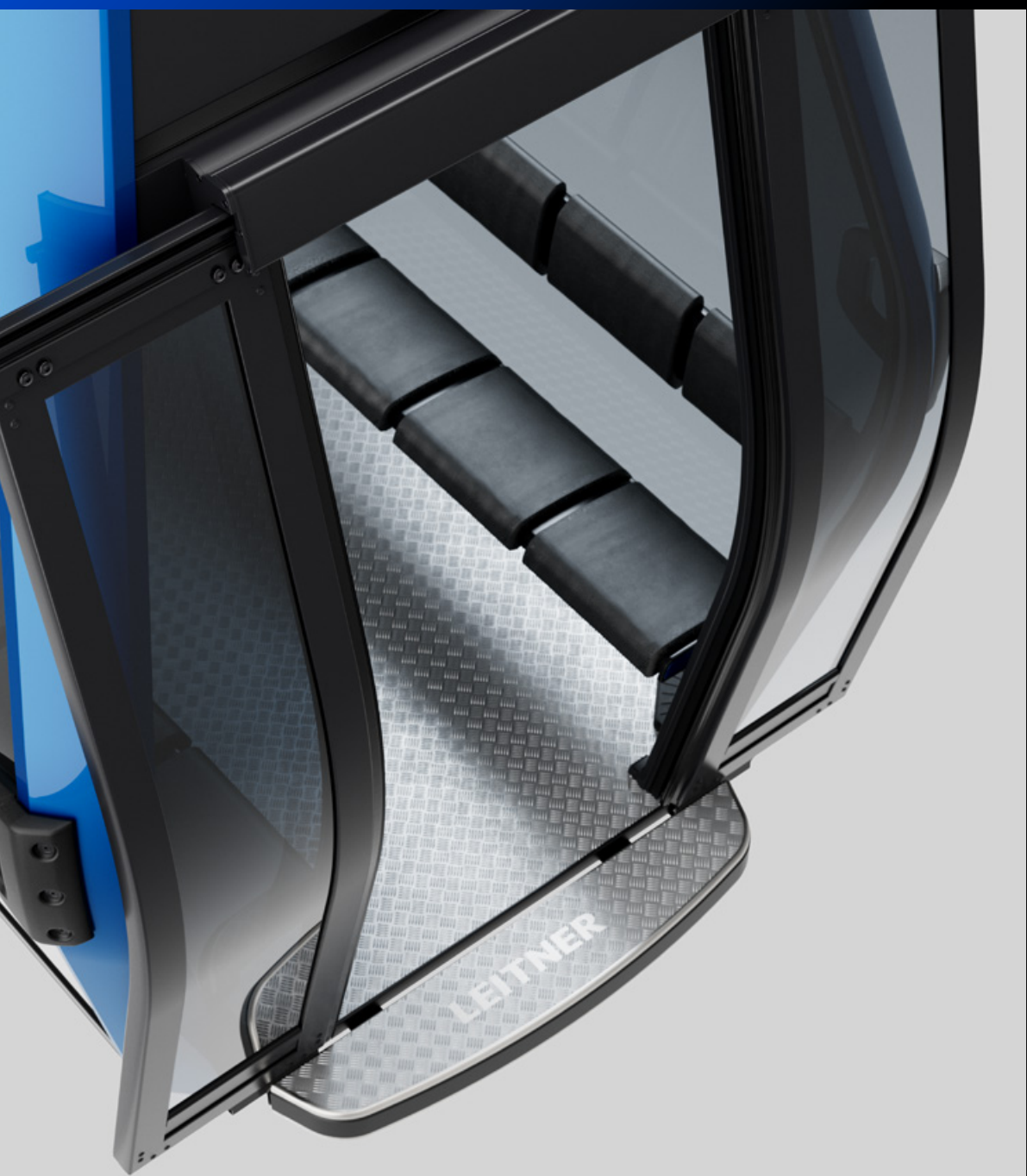
Technology & Innovation

Passengers appreciate the premium EVO chairs not only for their tried-and-tested comfort, but also for their simple elegance. Its premium materials, like leather, are just as impressive as the discerning design. It turns a standard chairlift ride into a premium class experience. The exclusive seats are beautifully shaped and elegant, combining design elements and know-how from the automotive industry with high-quality materials and the latest ropeway technology. A wide seat, a high backrest, and a perfectly shaped footrest make the ride a special experience.



The vehicles

Premium Cabin Diamond EVO



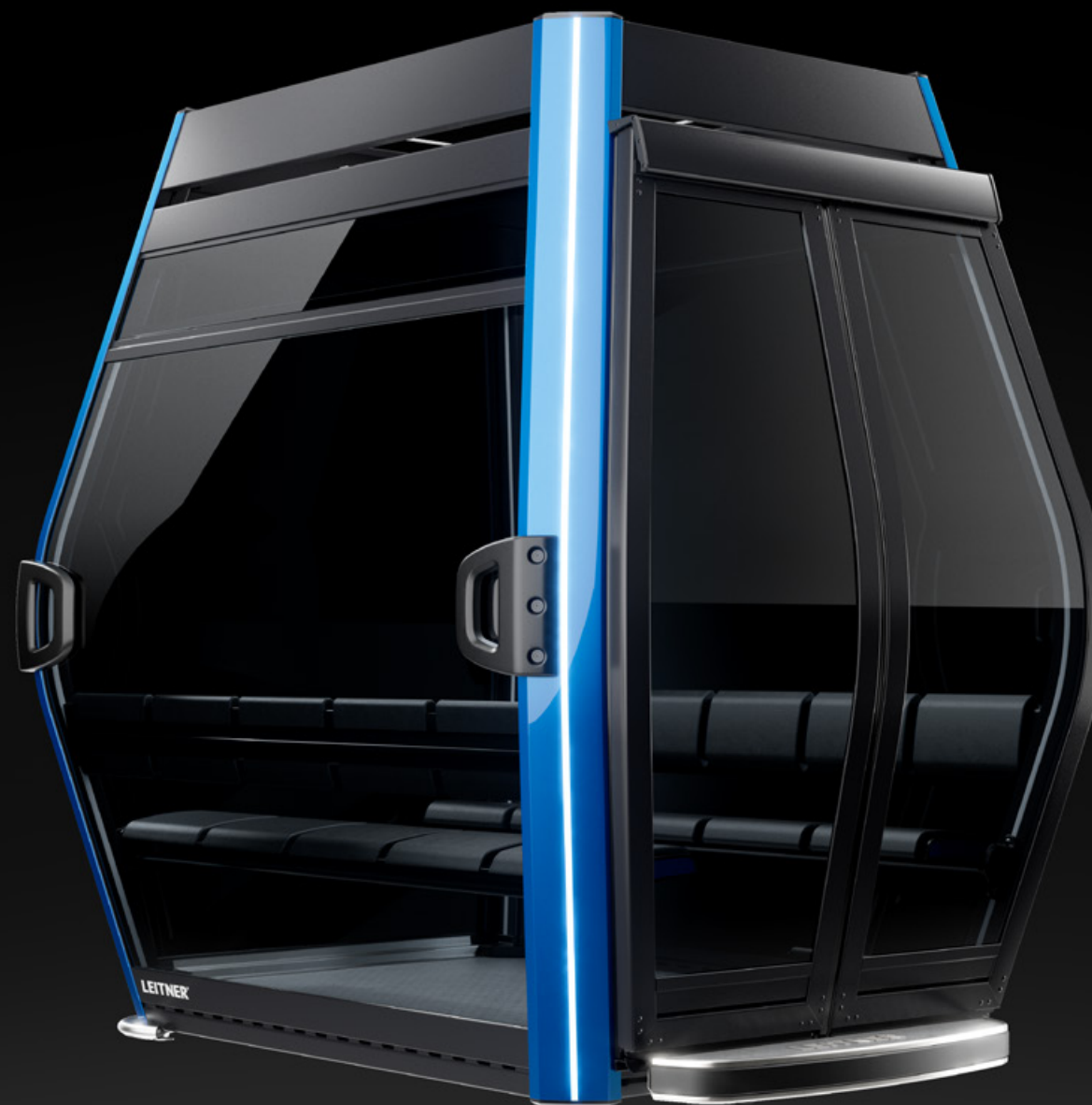
Design & Quality

The Diamond EVO cabin is a symbiosis of the successful Symphony and Diamond models, which have ushered in a new era in the manufacture of ropeway cabins in terms of construction, design, and shape.

The main frame and the exterior profile, both based on the successful Pininfarina design of the Symphony cabins, represent a leap in quality for the visual standards on the ropeway market.

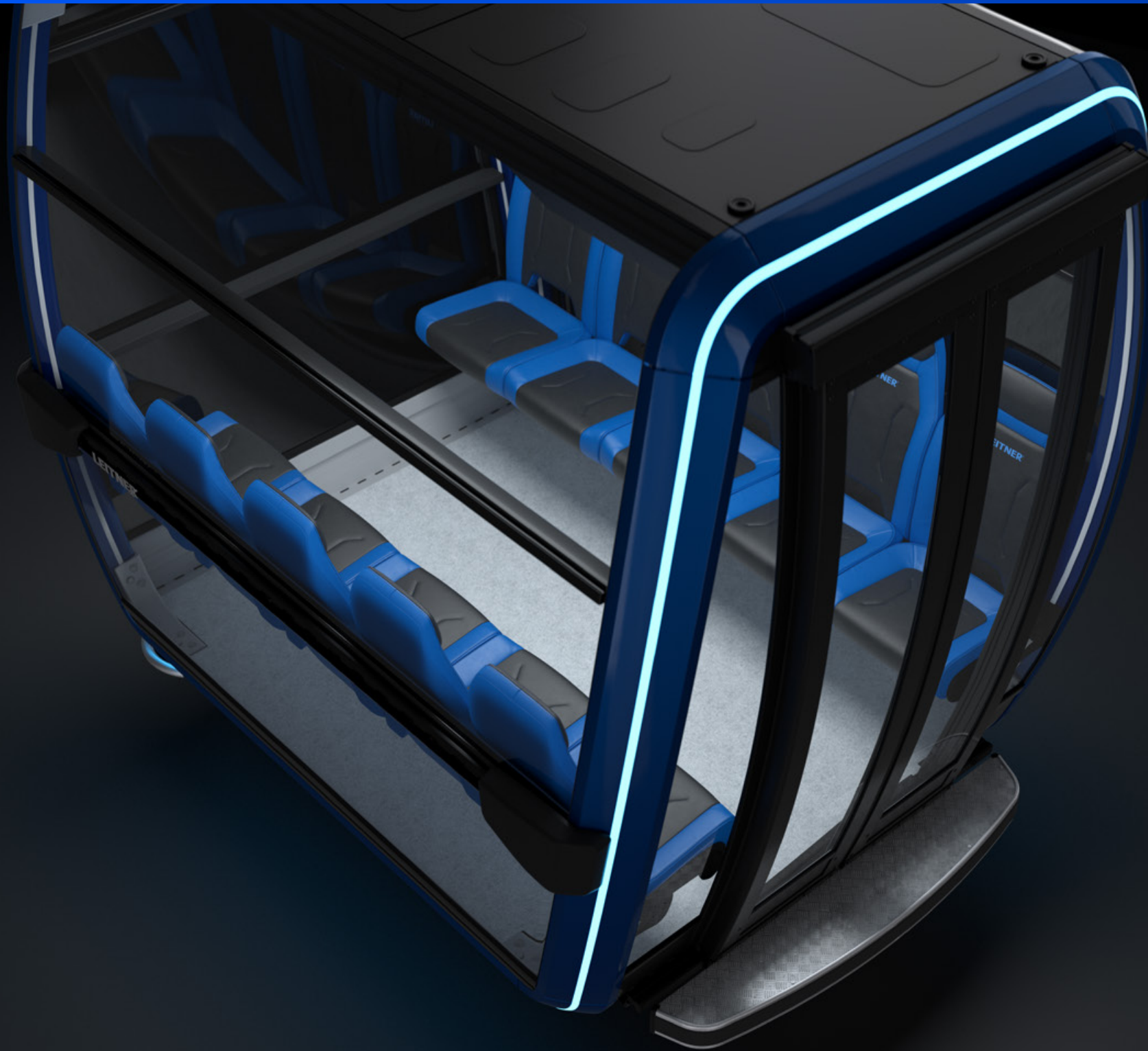
The visible innovations of the Diamond EVO include both flatter support structures and the option of equipping the exterior lighting (contour lighting) with LED strips that can be integrated into the support profiles.

In line with the trend for visual restraint, the bumpers are also discreetly designed and equipped with practical handles so they can be easily moved by hand.



The vehicles

Luxury Cabin Symphony 10



Incomparable & unmatched

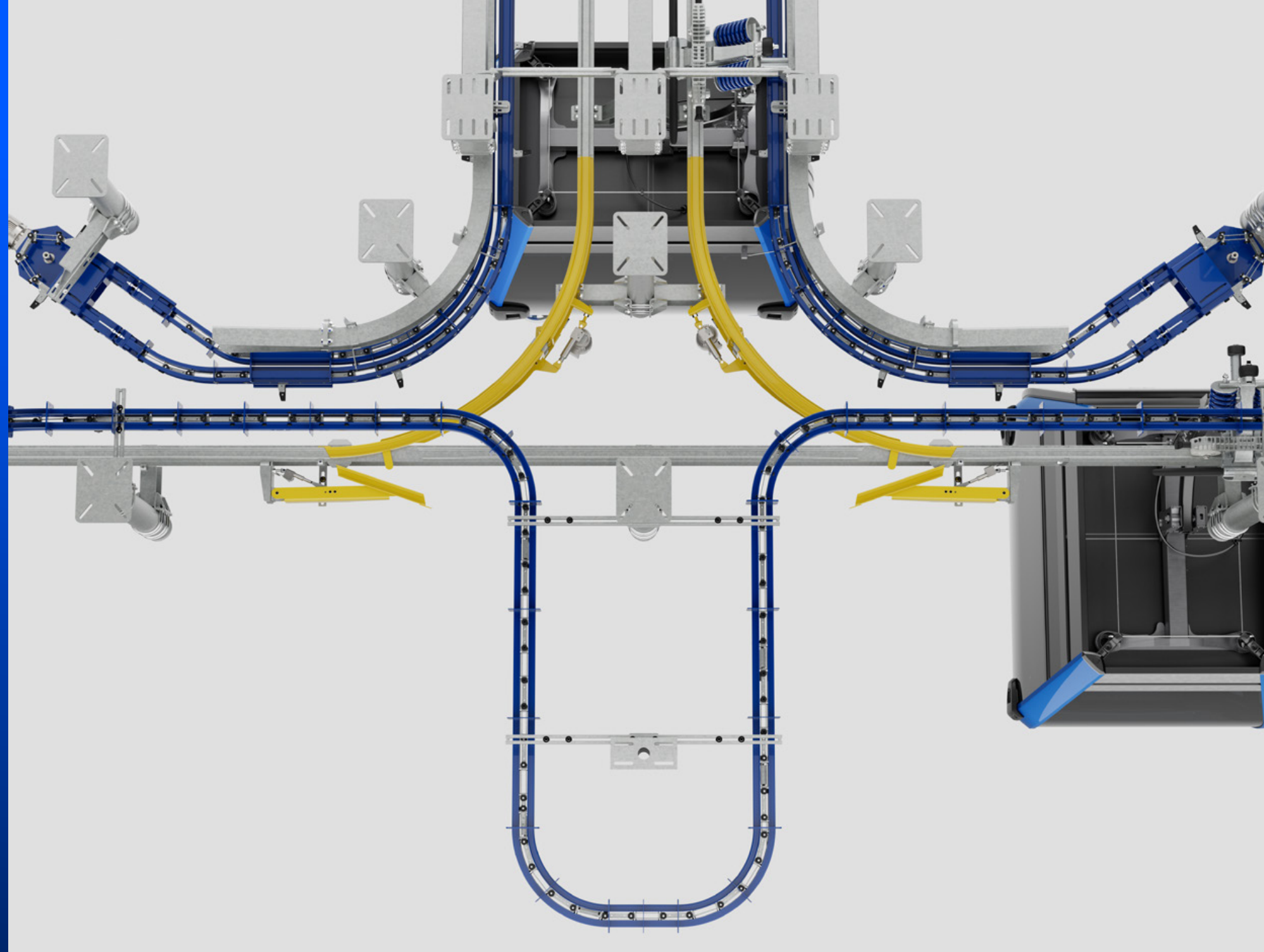
Symphony 10 is unique in every way. From its unmistakable look thanks to the design by Pininfarina, to the panoramic windows with 360° views, the generous space, and the superbly elegant interior.

Quality does not happen by chance, but is the result of hard thinking, strategic action, and the belief that we can develop the best product.

With the Symphony 10, LEITNER has set new benchmarks in terms of space, comfort, and experience.

The garaging system

LEITNER garaging



Variability, flexibility, and adaptability

LEITNER offers a wide range of garaging systems to ideally support customers with a huge variety of spatial and financial requirements. The garaging systems are not tied to a specific ropeway system.

The fully automatic loop line garage is the premium solution for maximum convenience, the utmost ease of operation, and optimum execution of maintenance work.

The other options are the rail-storage garaging system and the station garaging system, which complete the range.

LeitPilot

Autonomous operation



As a pioneer in its field, LEITNER strives to push the boundaries of what is possible and offers its customers unprecedented opportunities for improved operation and greater safety. This undoubtedly includes LeitPilot, for the autonomous operation of ropeways and chairlifts.

Seamless Integration

Existing ropeways and chairlifts can be retrofitted with the autonomous LeitPilot operating system, while new systems can be equipped with it directly. This pioneering technology is designed for seamless integration into any LEITNER station configuration, including drive, return, top, bottom, or intermediate stations.

Uncompromising Safety & Precision Monitoring

Safety is LEITNER's top priority, so no compromises were made in the development of LeitPilot technology. LeitPilot includes state-of-the-art safety features such as video surveillance, LiDAR sensors, physical safety doors, and emergency stop switches. The system reacts immediately to abnormalities, ensuring maximum protection from potential hazards for passengers and employees at the installation..

Digital ski area management

Ski area management redefined



The smart way to manage ski areas: Skadii

Skadii is the smart way to manage ski areas. A digital ecosystem that increases efficiency, clarity, and control by centralising all of a ski area's hardware, software, and data in a single, intuitive digital workspace. As an open system, Skadii supports third-party providers, enabling seamless data exchange and improved collaboration.

A single login grants resort managers access to a powerful platform of digital tools that enable real-time management of ropeways, snow groomers, and snowmaking systems. This seamless integration offers a unique opportunity for in-depth analysis, laying the foundations for intelligent use of resources, optimised deployment of personnel, and increased operational performance.

Skadii was developed in collaboration with industry leaders and is continuously being developed further. More than 500 customers worldwide already rely on Skadii.

