# WE DELIVER (D) THE FUTURE

QUALITY | COMPETENCE | SERVIC

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**PROFI LINER** 

(I) KRONE



# WELCOME TO KRONE

Our success, which now spans over four generations, is based on trust. The trust that you have placed in us. We greatly appreciate it. Your satisfaction is and continues to be what drives us – in all areas that our business group serves. This is why we traditionally rely on a traditionally collaborative exchange with you.

KRONE has always stood for stability and quality as well as for innovation. Working with you, we seek to break new ground for our future activities. In order to align our products and services with the forward-looking megatrends of "digitalization, automation, sustainability and electrification," we are therefore opening a new chapter with our sustainability strategy. Particularly in these challenging times, I would like to emphasise our value as a family business: Being permanently established in the commercial vehicle industry, KRONE remains flexible in every respect, so that you can too.

Yours truly,

Bernard arone



COIL LINER



Bernard Krone (Dipl.-Kfm.) Chairman of the Supervisory Board of Bernard Krone Holding SE & Co. KG

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### **PRODUCT OVERVIEW**

44 🛞 Refrigerated semitrailers

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56 Swap systems







### **OUR CORPORATE HISTORY.**



**1906** A smithy was founded by Bernhard Krone, shown here with his wife Anna and children Bernard, Heinrich and Katharina.

1948

developed.

Continuous growth of the

company in the agricultural technology sector, for which

agricultural trailers are also



**1973** The premier of the Coil Liner. The first trailer with a special trough for the safe transport of steel rolls.



**1981** Development of the short coupling, which significantly increases transport capacity.



**1990** As the first manufacturer, KRONE presents a Mega Trailer with a clear internal height of 3,000 mm.



**1997** The world's first trailer manufacturer to introduce cathodic dip coating plus powder processing for long-term

rust protection.



**19999** Safer, more economical, quieter: With the innovative Safe Liner, new standards were set for the transport industry.





2004 The Euro Combi sets new standards in the discussion about fuel-efficient long-distance transport of goods.

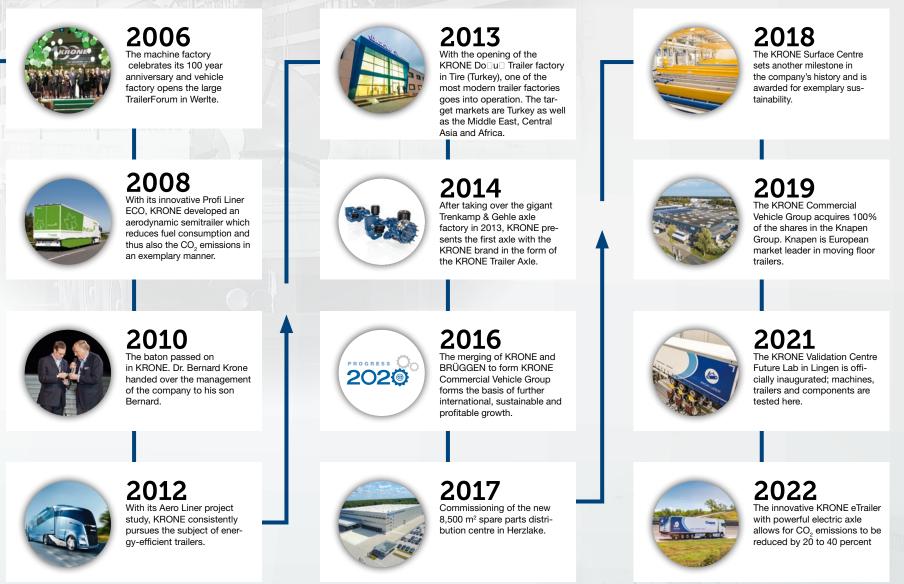




**1971** Start of production of commercial vehicles at the Werlte site.

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## AT KRONE, THE FUTURE IS ALSO TRADITIONAL.

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Exemplary product quality at a fair price, extraordinary innovative prowess, a service provider mentality and proximity to our customers – these points show the success story of the KRONE family-run company.

How it all began: In 1906, the master smith Bernhard Krone and his wife Anna inherited a small farm and a guest house in Spelle, located in Emsland, Germany. They left their home in Ochtrup, where Bernhard Krone had been a self-employed smith since 1897, and moved to Spelle. While Anna Krone looked after the small farm and guest house, Bernhard Krone built a village smithy in Spelle. Word of his craftsmanship spread quickly, and soon he had not only the farmers from Spelle as his customers, but also customers from the neighbouring towns and villages.

The second generation also showed great skill and implemented a large portion of innovation, quickly presenting their own designs. Meanwhile, the order book had become so full that the capacities of the plant in Spelle were exceeded. Therefore, the company bought a plot of land in Werlte in 1963, where a branch factory was built. KRONE initially started producing agricultural trailers, platform trucks and tipper trailers at this location. Due to the decline in sales of agricultural trailers, it was decided to switch production in the Werlte plant to trailers and semitrailers for road transport in 1970. The required production competencies and purchasing know-how for trailers was already there, and at the same time the market for vehicles and transport containers for road transport boomed. This formed the second pillar of the company at the KRONE Group – commercial vehicle manufacture.

Meanwhile, the fourth generation has taken over running the company but the KRONE values are still firmly in place: the customer, the employees, the company.

### THE RIGHT TRAILER FOR EVERY NEED.



KRONE offers optimal solutions for all transport requirements with trailers that set standards in terms of innovation and quality. Simple and safe handling, tested components, first-class manufacture as well as the long-term protection provided by the cathodic dip plus powder coating, make KRONE vehicles an investment that always pays off.

KRONE covers the most important segments in road freight transport with its "Liner" family: the all-round talent Profi Liner flatbed semitrailer, the specialist Mega Liner, Paper Liner and Coil Liner, the Cool Liner refrigerated semitrailer, the Dry Liner dry cargo semitrailer and the Box Liner container chassis. A common feature of all series is that they can be configured in numerous practical variations thanks to the sophisticated modular design.

This diversity also applies to KRONE long HGV and Load Carrier trailers and bodies. As the market leader in interchangeable systems, KRONE also offers an extensive range of interchangeable trailers, swap bodies and swap platforms with the Carrier System.

KRONE is continuously developing its offering with regard to the megatrends of sustainability, digitalization, automation and electrification. The innovative trailer technologies range from electrified eTrailers, which significantly reduce CO<sub>2</sub> emissions, to artificial intelligence in the increasingly diverse KRONE telematics solutions, to the automation of loading processes in container traffic with the KRONE Box Liner Automatic.



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### ROOTS IN EMSLAND – AT HOME IN THE WORLD.

PRO-DUCTION SITES: Ubtheen Dinklage Netherlands Deurne Turkey

Tire

DISTRIBU- Germany TION LO-CATIONS: Netherlands Belgium Luxembourg United Kingdom

Ireland

Iceland

Denmark

Norway Sweden Finland France Spain Portugal Switzerland Austria

Italy Czech Republic Poland Slovakia Slovenia Croatia Romania Serbia

Currently we employ around 3,000 staff in the KRONE commercial vehicle team – from order processing to 360° Trailer Service. All pursue the common goal of the KRONE Commercial Vehicle Group: "High-quality vehicles for our customers – so that you are satisfied with us."

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Bosnia and Herzegovina Montenegro Albania Macedonia Bulgaria Greece Hungary Morocco Algeria Chile South Korea

Turkey

Ukraine

Belarus

Russia

Israel Saudi Arabia

Kazakhstan

Uzbekistan

Today, KRONE produces commercial vehicles as well as components for KRONE vehicles in five plants. Since the merger with the BRÜGGEN Group, KRONE has been manufacturing in four locations in Germany and in Tire (near Izmir) in Turkey.

Emsland is the home of the KRONE company. Two of our vehicle plants are located in Werlte and Herzlake; at our headquarters in Werlte all flatbed semitrailers, trailers, superstructures and chassis are produced. In Herzlake, which is about 30 km away, KRONE produces swap-bodies, the Dry Liner freight semi-trailer, as well as special vehicles for courier, express, parcel services (CEP). Dinklage is also in Lower Saxony. KRONE Trailer Axles are made here. KRONE Cool Liners for temperature-controlled transport are built at the Lüb-theen site (Mecklenburg-Western Pomerania). In addition, production has been running at the factory located in Tire, Turkey since 2013. Here we produce vehicles from the Profi Liner and Mega Liner and Box Liner ranges for the Turk-ish market and surrounding countries. Since 2019, the Dutch manufacturer Knapen Trailers, the European market leader in moving floor trailers, has also been part of the KRONE Commercial Vehicle Group.

Alongside our state-of-the-art production organisation, KRONE relies on strong sales teams who ensure close contact to our customers. KRONE has subsidiary companies operating in some countries. These range from Scandinavia and BeNeLux through Hungary and Turkey to Kazakhstan, where the company has strategically positioned itself over the past few years. KRONE relies on the competencies of our professional partners in other countries who, just like KRONE, embody the values of customer proximity and reliability.

### THE KRONE COMMERCIAL VEHICLE GROUP.

An eye on the big picture – KRONE has consistently applied this strategy for years and has established itself in the commercial vehicle sector accordingly. With the founding of the KRONE Commercial Vehicle Group, KRONE is ideally positioned for the challenges of the future.

At the beginning of 2016, Fahrzeugwerk Bernard Krone GmbH and BRÜGGEN Fahrzeugwerke and service companies were merged to form the new KRONE Commercial Vehicle Group. As there was no successor in the family to take over running the long-term competence partner BRÜGGEN, the Brüggen and Krone families decided together that they would merge the companies. The previous KRONE subsidiaries such as GIGANT Achsen, KRONE Used and the trailer factory in Turkey along with the various foreign distribution companies were also integrated into the new KRONE Commercial Vehicle Group. The KRONE, BRÜGGEN and GIGANT brands will remain unchanged. Synergies will be used in the development, production and purchasing departments to become even more efficient.

In the course of the new alliance, the companies were brought together based on a consistent strategic approach, so that today the same product architecture, the same organizational structure, the same processes and a uniform IT system are used everywhere. This will give the KRONE Commercial Vehicle Group a base on which to achieve further international, sustainable and profitable growth in a increasingly competitive environment. At the end of 2021, the one millionth chassis rolled off the production line at KRONE. The new KRONE Commercial Vehicle Group operates as part of KRONE Commercial Vehicle SE. The headquarters is located in Werlte, Emsland.

TRAILERS

### **WKRONE**

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## TRADITION PLUS INNOVATION.

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For more than 110 years, quality and innovation have been at the focus of KRONE's corporate philosophy. This approach continues to be systematically applied to this day. KRONE always relies on robust, practical and efficient equipment for all product lines and offers a comprehensive service for trailers.

### Sturdy and profitable

KRONE trailers are based on a solid welding process and robust equipment. In everyday transport, they are put to the test with their practical handling and loading efficiency. The overall result: Maximum efficiency at minimum cost.

### "All in KRONE" - everything from a single source

The "All-in-KRONE" trailer uses numerous private label components that combine high quality with a favourable price-performance ratio. The range extends from the KRONE trailer axles from the GIGANT plant in Dinklage to the KRONE Easy Rider trailer tyres and the KRONE LED rear lights. Since all parts are provided with a KRONE reference number, KRONE can assist with all questions relating to service, maintenance and spare parts even quicker.

### First-class features, Europe-wide safety

You can opt for equipping with KRONE parts or the integration of components made by other manufacturers. In every case, you will get a trailer with first-class features and the security that comes from the ability to rely on a Europe-wide service network. The quality requirements at KRONE do not stop with our trailers: KRONE considers itself as a reliable service provider for trailers along every step of the way. This means the accompanying services on offer are tailor-made to meet your needs.

Simple and safe handling, tested components, first-class manufacture as well as the long-term protection provided by the cathodic dip coating plus powder processing make KRONE vehicles an investment which pays off in every case.



There are many good reasons to choose KRONE. KRONE relies on the highest product and service quality in order to significantly increase the performance of transport and logistics companies.

#### Guaranteed value retention

KRONE trailers are delivered with the best possible coating currently available. The KRONE chassis are characterised by the highest stone-chipping resistance and the best corrosion protection, have lasting value and are durable.

#### Stable chassis

The welded chassis on a KRONE trailer meets all the requirements of the harsh demands placed on it in everyday transportation use. They are extremely sturdy and exceptionally resilient, both on bumpy roads as well as during loading and unloading.

### Load securing made easy

With the KRONE Multi Safe System, a certified, award-winning securing system is available for loads of all kinds. All the requirements for transport safety can be solved in this way - flexibly, practically and reliably.

### **KRONE** Trailer Axle

At a reasonable price: The high-quality, low-maintenance and highly reliable KRONE Trailer Axle is often the first choice. Naturally, there are other proven series-produced components available from other quality manufacturers.

### KRONE 360° Trailer Service

A KRONE trailer with its excellent equipment is always a good choice. And you can rest assured that if service is needed, you can always get the correct replacement part at any time and from virtually anywhere.



## KRONE TRAILER. STRONG ARGUMENTS.



### QUALITY I COMPETENCE I SERVICE

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### A BENCHMARK FOR ENVIRONMENTAL PROTECTION.

The KRONE quality is based on dip-coated and powder-coated chassis in standard passenger car quality – lasting value, durable and with the best corrosion protection. At the same time, the production in Werlte stands for sustainability through responsible use of energy and resources.

The new surface centre is the heart of the KRONE quality offensive and at the same time the largest single investment of the group of companies. At the Werlte site, more than 40 million Euro were invested in a new hall with a surface area of 16,500 square meters, using virtually fully automated systems technology. Chassis are cathodic dip-coated and pow-der-coated.

Sustainability is a top priority: The KRONE Surface Centre in Werlte has been named a lighthouse project by the German Energy Agency (dena).





Thanks to the state-of-the-art process, the trailers have maximum protection against the elements and offer the best corrosion protection. KRONE trailers are weather-resistant, durable and state of the art. The new surface sealing ensures outstanding value retention and offers a high level of investment protection for our customers. The technologies used also meet the highest standards of energy efficiency and environmental protection. For every chassis produced, CO<sub>2</sub> emissions are reduced by more than 30 percent. At the same time, 12.6 million kWh of electricity are saved each year. The environmental management system, which is certified according to DIN ISO 50001, ensures compliance with the strict requirements. In 2018, the German Energy Agency (dena) named the Surface Centre as a lighthouse project with exemplary character for the energy-efficient use of waste heat.





The component production in Herzlake is equipped with more than 30 robots. Various welding and bonding processes are combined in the automated system.

### Repitition ensures high quality

The high degree of automation goes hand in hand with more efficient production. The robots work precisely, safely and with repeat accuracy. KRONE uses state-of-the-art processes and intelligent robot technology to manufacture robust yet lightweight components.

#### Lighter components, more payload

Be it front walls and rear doors for refrigerated and flatbed semitrailers, board walls, central and corner posts or load securing elements: KRONE manufactures all components to the highest quality, while ensuring they are as light as possible. This reduces the dead weight of the vehicles to allow for more payload.

### Everything from a single source

True to the motto "everything from a single source", KRONE has positioned itself as its own supplier and has continuously invested in the Herzlake site since the merger with the BRÜGGEN Group in 2016. The portfolio includes swap bodies, swap flatbeds, dry cargo semitrailers and fixed bodies as well as CEP vehicles for courier, express and parcel services. The equipment of the swap bodies ranges from ribbed, smooth, plywood or Carbofont walls to one-sided open box-bodies. Telescopic brace, double-deck superstructure, and roller shutter are available. Curtain boxes with various lengths, parking levels, roof and wall systems complete the range.



The high level of investment in new production methods is an important foundation for KRONE to ensure the highest product quality.

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KRONE took first place in the "Education and Training" category of the 2022 VR Awards. The trade magazine "Verkehrs Rundschau" honoured KRONE's digital working student project, which was launched in August 2021.

### THE KRONE TEAM.





Here, all KRONE employees have the same goal: They seek to provide KRONE customers with the best solution for their needs. So that our employees meet both our and your quality requirements, training and education are the pillars of our corporate philosophy.

### Young people as a foundation

Many young people complete their apprenticeships at KRONE in a wide range of trades and occupations. This means the company can cover a large part of our requirements for qualified staff from our own resources.

### Sound training is the basis of quality

The classic entry path for a career at KRONE is an apprenticeship in an industrial/technical or commercial trade. In parallel KRONE also offers dual degree courses.

### The first rung on the ladder

For students, KRONE offers a demanding twoyear trainee program as a possible entry route with the aim of recruiting junior executives into the company.

### More knowledge, more service

In order to keep the continuing improvement process on course, KRONE supports its workforce with various training offers that many employees take advantage of.





As a company that transports the future, KRONE cares today for the world of tomorrow. A viewpoint based on sustainability is an essential starting point for the entire transport industry. As a responsible manufacturer of commercial vehicles and as a professional service provider to its customers, KRONE has focused on sustainability for many years. This is why we only develop future projects that set new standards in terms of the ecology and economy. At the same time, sustainability is also a focal point in our production facilities.

#### Environmental protection in all areas

For the development, manufacture and sale of commercial vehicles, KRONE works with a certified environmental management system and consistently ensures that emissions, noise and odours are reduced and the amount of waste produced and water used is minimised. In company buildings, energy and water consumption is kept as low as possible and energy and heat recovery systems are used consistently. All environmental values are tracked in detail, to provide us with comparison values and to help identify weak points.

### Products which protect the future

The environmental aspect is clearly in focus when designing our products. An example of efficient transport: the more a trailer can be loaded, the fewer trailers that need to move. For the chassis and body, KRONE takes advantage of potential savings in both air and rolling resistance. Furthermore, continuous work is being done to reduce tyre noise and noise when loading. For box-bodies, the temperature-controlled technology makes a particular contribution towards better insulation and thereby lower energy consumption. With the new eTrailer technology, KRONE goes one step further in line with its sustainability strategy: The eTrailer supports the transmission of the tractor unit and can thus reduce CO<sub>2</sub> emissions of the semitrailer by 20 to 40 percent.



The KRONE Group participates in a climate protection programme. KRONE also expects all suppliers to comply with social and ethical standards and documents this in corresponding agreements.

## PHILOSOPHY AND SUSTAINABILITY.

KRONE has also set itself high environmental goals for the coming years. For this reason, it is not just our environmental officer who keeps a detailed record of all the relevant data, rather our management takes a personal interest in environmental matters at KRONE.



## MISSION FUTURE.

With regard to the megatrends "digitalization, automation, sustainability, electrification," KRONE presented the new sustainability strategy at the IAA 2022. The goal is to reduce emissions with technologically sustainable trailers.

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### Forward-looking concept.

The KRONE sustainability strategy goes beyond the postulate "zero emissions": The sustainable technology in the electrified KRONE eTrailer is able to reduce the CO<sub>2</sub> emissions of the semitrailer tractor by 20 to 40 percent. KRONE breaks new ground in the automation of trailers with the KRONE Box Liner Automatic: The driver can adjust the container chassis from the truck cab to the respective container at the push of a button. The megatrend "digitalization" focuses on "KRONE Intelligent Transport Solutions" (KITS) with new technologies. An example is the KRONE Smart Capacity Management, which works with artificial intelligence and tracks the occupancy of the storage spaces in the trailer in real time.

The sustainability strategy is a comprehensive concept with a focus on sustainability/electrification, digitalization and automation.

DIGITALIZATION AUTOMATION SUSTAINABILITY ELECTRIFICATION





### KRONE Box Liner Automatic.

The key feature of the innovative KRONE Box Liner Automatic is the automated pre-settings option - at the push of a button via the remote control from the cab of the truck. All of the previously required manual activities to adjust the container chassis are now a thing of the past. For the driver, this not only represents reduced physical strain, but also significant safety improvements. At the same time, incorrect adjustment of the chassis is avoided; both driver error and incorrect container positioning can be avoided. The KRONE Automatic technology thus opens up a new dimension of user-friendliness. At the same time, the costs for the operator are significantly reduced because the process times in the terminal and depot as well as in the container hub are lower.



KRONE eLINER REDUCES CO<sub>2</sub> EMISSIONS.



### KRONE eMega Liner.

The innovative KRONE eMega Liner stands above all for the two megatrends of sustainability and electrification. In cooperation with the start-up company Trailer Dynamics, KRONE has developed electrified trailers that can reduce the diesel consumption and CO<sub>o</sub> emissions of a semitrailer by 20 to 40 percent. A powerful e-axle is at the heart of the innovative technology, which supports the drive of the semitrailer tractor and also recovers braking energy through recuperation. Another highlight is the intelligent control software, which optimally uses and distributes the battery-electric energy over the entire route. The battery energy stored in the eTrailer is also enough for long hauls of more than 500 km.

### KRONE eCool Liner.

The KRONE eCool Liner with all-electric CELSINEO unit demonstrates how sustainable refrigerated transport can be done. The innovative technology is based on the intelligent interplay of crucial units: the eAxis, which enables electric drive support both through a powerful battery and recuperation, as well as the fully electric Celsineo cooling system.

The innovative technology produced works with closely coordinated components. The core of this is a powerful electric drive train, which supports the drive of the semitrailer tractor and also recovers braking energy through recuperation. The eAxis delivers 360 kW continuously and up to 580 kW at peak. The battery carried in the eCool Liner can cover capacities from 300 kW to 600 kW, depending on customer requirements and the area of application. The 800 V high voltage system not only supplies the fully electric Celsineo cooling system, which has an average power requirement of 15 kW in the cooling area, but it also supplies the electric drive train of the eTrailer.

The large traction battery version of the eCool Liner can guarantee a fully charged uptime of the cooling system, while in the deep freeze mode, of up to 36 hours. This time can also be extended by recuperation. In most cases, however, this long uptime is not required. The excess electrical energy is then used for traction support and thus contributes significantly to reducing diesel consumption and  $CO_2$  emissions.





# HERUIFI FACETED

KRONE has the right flatbed semitrailer for every use: from the all-round talent Profi Liner to the volume giant Mega Liner to specialists such as the Paper Liner for paper transport or the Coil Liner with a coil well, each with sophisticated load securing equipment.





Down to the last detail, equipped with particularly high-quality series components and continually developed further: The Profi Liner is the basis for all KRONE semitrailers.

Since its introduction in 1998, the Profi Liner has set standards in trailer construction – from the welded chassis to dip coating plus powder coating in the KRONE Surface Centre. Its stability, resilience and durability are the brand characteristics that make the Profi Liner so popular in everyday transport to ensure a high resale value in its second trailer life.

KRONE has developed the Multi Safe System for the Profi Liner and other flatbed trailers for all conceivable load securing tasks. In the basic version Multi Lock/Multi Block alone, more than 3,000 lashing options are available. The modular system based on this enables load securing solutions for virtually all situations in everyday transport.



### • Dead weight as basic model:

- under 6 t. • Modular design for individual
- requirements.
- Pre-galvanized components for a long service life.
- Easy handling due to low operating forces.
- Easy to repair in case of damage.





THE TRAILER FOR PROFESSIONALS.



#### KRONE MEGA LINER. THE GARGANTUAN.





When it comes to volume issues, the Mega Liner is the right answer. No matter whether it is the automotive sector or other large-volume transport.

KRONE was the first series manufacturer to launch volume trailers on the market. This long experience is reflected in many practical details. The low chassis ensures that the Mega Liner leaves no wish unfilled with its mega capacity of 100 m<sup>3</sup>. With a dead weight of less than 6.5 t – even less than 6 t in the Ultra version – the Mega Liner can also handle higher load weights.

Thanks to the new roof construction, the hydraulic lifting roof can be opened and closed up to an extra 500 mm height without any major effort, and with the Comfort side curtain, the driver can open one side in less than 30 seconds. Its enormous versatility makes the Mega Liner fit for further requirements: from piggyback capability to hydraulic rear widening for transporting particularly large consignments.

- Low chassis more cargo volume.
- Variable: Coupling height from 880 mm.
- Efficient loading: with proven lifting roof hydraulics.
- Flexible: Travel height adjustment of the door latches.
- Comfort side curtains: centre posts, no plug-in planks.







As early as 1973, KRONE significantly changed the transport of coils – with the coil liner and its special trough, which has been used ever since for safely transporting rolls of steel.

This innovation was the driving force for KRONE engineers to try again and again to find the right answers when it concerned the safe transport of coils. For example, the chassis has been specially reinforced so that the coil liner can withstand even extreme point loads. The Coil Liner Compact with a length of 10 m, a coil recess of 6.3 m and a dead weight of less than 5 t was developed for particularly heavy loads.

Using heavy-load lashing rings and additional posts, the steel coils can be secured in an ideal manner. Although it is designed as a specialist, the coil liner is still highly versatile: Thanks to the Multi Lock outer frame with numerous lashing points and the coil covers accessible for forklifts, it is certified load-independent and can haul any load.



- Troughs also for large coils with a diameter of 2,100 mm
- Coil recess of 7.23 m or 8.50 m in length.
- Ten pairs of heavy-duty lashing rings
- Robust trough cover
- Stable plug-in posts.



#### KRONE COIL LINER. SPECIALIST FOR STEEL ROLLS.

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### **KRONE PAPER LINER.** SECURE TRANSPORT OF PAPER ROLLS.

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#### The Paper Liner is perfectly designed for the transport of paper rolls. It remains flexible and offers load-independent certification.

Paper is a heavy yet fragile cargo. Especially for this reason, the Paper Liner chassis was developed in cooperation with customers, supplemented by short transverse beam spacing and additional cross-members at the rear. The durable roller running rails, made of steel make any point loads during the loading process hardly noticeable. With just under 6 t, the Paper Liner Ultra is available as a lightweight.

The KRONE Multi Lock outer frame also demonstrates its capabilities in the Paper Liner: The numerous lashing points open up almost unlimited possibilities to secure the load, regardless of whether it is upright or lying paper rolls. Four running rails set into the floor for pallet rollers as well as eight plates with holes in the longitudinal direction guarantee additional protection and optimal loading options.



- Eight longitudinal perforated rails.
- Excellent paper roll security.
- Pallet rollers with 2.5 t or 3.5 t load capacity.
- Optional safety equipment.

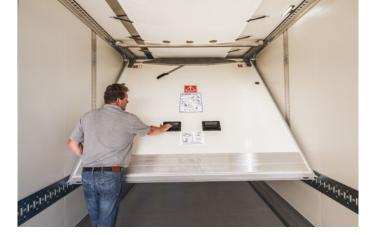




### HIGH-TECHFOR TEMPERATURE-CONTROLLED TRANSPORT.

The KRONE Cool Liner Duoplex Steel is the simplest and best way to transport pharmaceutical products, delicate flowers or frozen goods that must be delivered quickly. In addition to the practical equipment and the outstanding insulation, its enormous flexibility also speaks for itself.





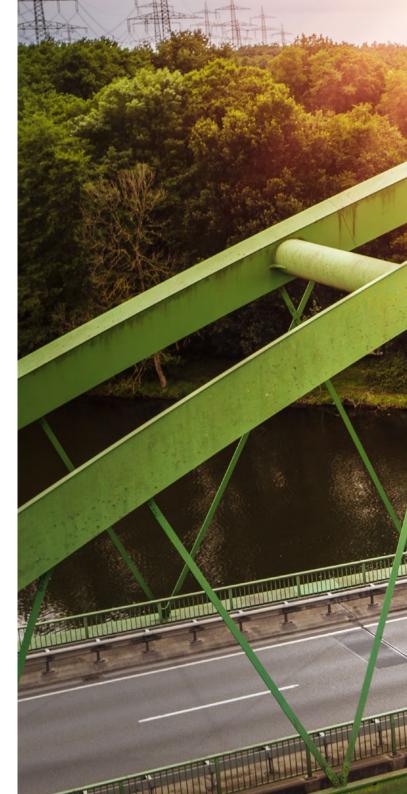
With the Cool Liner, transport companies are ideally equipped for all refrigerated and fresh transport, because they can choose from numerous practical versions from the meat rack to the double-deck equipment to the multi-temp iso partition wall.

Temperature-controlled movement of goods is subject to harsh conditions. The KRONE Cool Liner is particularly well equipped to meet them. The chassis, body and general equipment are strong and purpose-built. From the flexible air duct, through the leak-proof floor tray to the stainless steel rear closures – the Cool Liner can cope with the highest demands thanks to the many solutions developed in conjunction with our customers.

The Cool Liner offers numerous innovative features such as the standard equipment with KRONE Telematics, the tyre pressure monitoring KRONE Smart Tyre Monitoring, the innovative lighting concept, the optimised door seal, the redesigned baffle wall, the versatile bump protection kit and comprehensive additional equipment.



CELSINEO: The innovative cooling system from KRONE and Liebherr combines three independent cooling modules. Even two modules reliably maintain the set temperature. In order to minimise temperature peaks in the defrosting cycle, both cooling and defrosting are possible in parallel.



### KRONE COOL LINER. EVERYTHING UNDER CONTROL.

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COOL LINER

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## ARRIVING SAFE AND DRY.

Only KRONE offers industrial line production for four basic models of dry freight box body trailers. Combined with the flexible KRONE modular system, a wide variety of industry solutions can be created in the highest series-production quality.



### KRONE DRY LINER. THE ALL-ROUNDER - IN FOUR VERSIONS.

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WWW.krone-trailer.com

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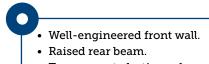




With the KRONE Dry Liner, each load reaches its destination safely and dry. Thanks to its countless equipment variations, it can be tailored precisely to the most diverse requirements in everyday transport.

Whether for the transport of textiles, valuable electronics, paints, packages or furniture – the requirements for dry freight box bodies are as versatile as the goods they transport. This is why KRONE manufactures the Dry Liner in four basic models with different side wall types: the robust steel smooth wall superstructure (STG) with clinched side walls, the plywood sidewall superstructure (STP), the particularly light plastic lightweight sidewall STK and Dry Liner SDK LI with light insulation.

The 300 mm high socket kick strip and the 30 mm-thick perforated floor ensure stability and high load capacity. The recessed double-deck post and rails and strapping rails ensure efficient transport and of-fer reliable load securing. In addition, there are the flexible equipment options with which each Dry Liner can be tailored to the needs of the customer.



- Transparent plastic roof.
- Variable internal fittings.
- Robust and easy to clean.



## MADE FOR ALL SIZES.

Container trucking is a rough and tumble business. The KRONE Box Liner never backs down, even under heavy loads. Another advantage is its many intelligent functions.







#### Made for all sizes: The KRONE Box Liner is available in a number of practical versions.

Gooseneck or short-chassis with two or three axles for 20 foot containers: The Box Liner is available in a number of versions, also as a universal chassis for all sizes of containers from 20 to 45 feet, with a short tunnel, long tunnel, or without a tunnel. The Box Liners are flexible yet stable at the same time thanks to the central tubing design with high-strength fine-grained steels.

For the demanding container business, the container chassis are consistently well designed, with many typical KRONE solutions such as rear traction, folding lock or Traction+ system. Rear extensions can either be equipped with a durable, evenly operating air motor or operated by hand crank.



Operable from the cab with no need to alight: The KRONE Box Liner eLTU 50 Traction Automatic prototype can be automatically pre-set to different container sizes.



#### **KRONE BOX LINER.** REAR TRACTION MAKES THE DIFFERENCE.

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# SWAPPING WITH SYSTEM.

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With the Carrier System, KRONE is the leading supplier of robust and efficient swap systems – from swap bodies to swap flatbeds and swap boxes.







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Whether it is simplified platform procedures, safe manoeuvring or fitting with standard components, the KRONE modular system offers solutions that are tailored to the needs of swap body logistics.

The KRONE Dry Box and Cool Box swap boxes are characterised by their smooth front and side walls with optimised air resistance. The robust steel boxes can be configured with numerous equipment options, from translucent plastic roofs to double-deck superstructure. As with the KRONE Dry Liner, there are four basic types: Steel smooth wall (STG), plywood (STP), the particularly light version Carbofont (STK) and the lightly insulated box (LI).

The KRONE swap flatbeds also offer impressive flexibility, whether with solid or curtain roof, with board walls, with curtainsider or board wall curtainsider, either 7.45 m or 7.82 m in length. Furthermore, the Box Carrier is, of course, also available as a central axle trailer and for capacity swap bodies.

KRONE has developed the KRONE Smart Collect Solar telematics unit for swap bodies that do not have their own power supply. The telematics runs autonomously and maintenance-free, thanks to the integrated solar panel.





## OPTIMUM LOAD UTILIZATION.

The KRONE long HGV stands for efficient and ecological road transport, based on a design that KRONE has consistently developed over the past decades. This commercial vehicle combination gives you the best possible utilisation with lower fuel consumption per tonne/km, thereby reducing the volume of traffic.





With a length of 25.25 meters and a load volume of 150 cubic meters, the KRONE long HGV can handle up to 50 percent more cargo. A design that has been writing a success story in Scandinavia for decades.

The KRONE long HGV offers the maximum amount of safety equipment. The trailers are fitted with an electronic brake system (EBS), a stability program (RSS), individual axle-load display and a reversing camera, and a lane-keeping and braking assist system are integrated into the tractor. In addition, the KRONE Long HGV impresses with its modular design. The most frequently used system is a combination of tractor with a fixed or swap body and a dolly designed by KRONE featuring a semi-trailer. In order to meet the legally required turning performance requirements (German regulation "BO Kraftkreis"), this dolly has an actively controlled front axle.



Combination semitrailer with central axle trailer: Due to the additional trailer coupling and the folding rear underrun protection, a corresponding central axle trailer can be coupled.



### KRONE LONG HGV. More Load, fewer runs, LESS CO

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We Deliver the Future

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In addition to its core competence of trailers, KRONE develops and produces other intelligent transport solutions: the KRONE Load Carrier trailer and body range, the KRONE CEP Shuttle and the RYTLE transport system for the last mile.

#### **KRONE Load Carrier**

A true classic: Since 1971, the KRONE Load Carrier semitrailers and curtainsiders have been an investment in the future which has paid off with their functional handling, certified components and first-class construction. The two-axle trailer KRONE Load Carrier Baustoff has made a name for itself in the transport of building materials – no matter what materials have to be moved from A to B.

Due to its compatibility with the Euro pallet, the manoeuvrable RYTLE MovR cargo bike is also suitable for internal logistics – especially for companies that have to move small-scale goods in large areas.





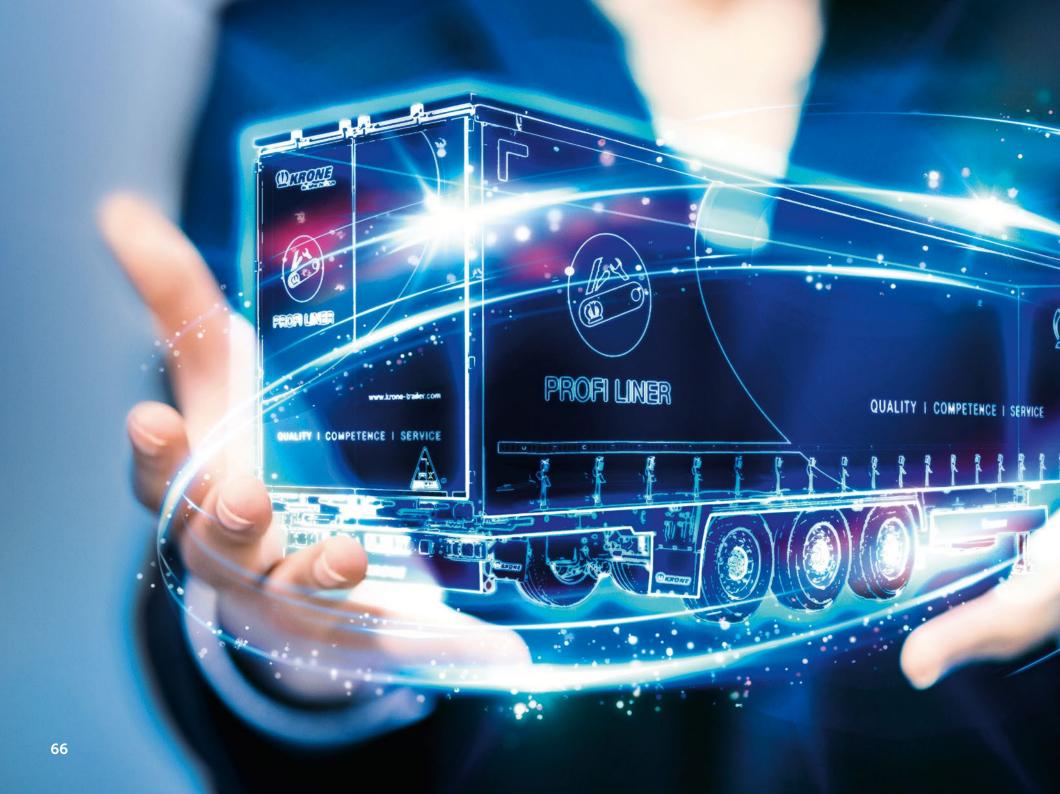
#### **KRONE CEP Shuttle**

In order to make the tough CEP business easier, the KRONE CEP Shuttle offers many sophisticated features in addition to the aerodynamic roof shape and the sophisticated door system: fixed rows of shelves with anti-slip coating, which provide additional storage space, LED lights that are activated via motion detectors, and a reversing camera for safe manoeuvring.

#### RYTLE

RYTLE is revolutionising the last mile: For environmentally friendly and efficient last-mile delivery, the latest technology and flexibility are combined – in a holistic and networked concept. Thanks to clever and mobile city HUBs as well as the innovative electrically driven cargo bike "MovR", which is operated with standardized interchangeable boxes with the basic Euro pallet size, it is possible to operate almost emission-free and cost-efficiently in urban areas.





KRONE In Datase de Faire

## KRONE 360° TRAILER SERVICE.

KRONE follows its trailers everywhere they go. From KRONE Fair Care Service, which ensures that KRONE trailers and semitrailers can be serviced around the clock all over Europe, to smart services from KRONE Telematics and spare parts service and 24-hour breakdown service. The KRONE 360° Trailer Service is always there for you.





To ensure that KRONE vehicles are always on the move, the required spare parts are available for fast dispatch from the KRONE Spare Parts Logistics Centre, which opened in 2018.

Up to 1,300 spare part shipments are sent here every day. Over a total area of 38,000 square metres, the warehouse in Herzlake stores all spare parts for the brands KRONE, BRÜGGEN and GIGANT. The KRONE spare parts experts accept your orders online, by phone, or in person. The KRONE Spare Parts Shop offers reliable identification of the required spare parts, for example via the QR code on the type plate: Simply scan and forward directly to the correct vehicle parts list. This will ensure customers automatically order the right spare part for their KRONE vehicle. Of course, spare parts can also be ordered via tablet, PC or notebook: Simply sign in with your login data and select whether you want to find the required spare part by entering the item designation, item number, or the vehicle identification number. Photos or drawings of the accessory parts make ordering easier.



KRONE TRUSTED: KRONE's low-cost spare parts brand offers common brand spare parts for trailers at prices that are up to 50 percent less expensive than the original spare part.



### SPARE PARTS SERVICE EASY AND EFFICIENT.

**MKRONE** 

#### KRONE FAIR CARE. THE ALL-ROUND, CARE-FREE SERVICE.





Service that provides top quality. The KRONE Fair Care service ensures that KRONE trailers and semitrailers are cared for around the clock all over Europe. KRONE offers the flexible modular system "Fair Care", which takes care of maintenance and worn parts repairs on trailers for a period of 24 to 72 months.

Fair Care is available in three practical packages that build on each other: "Light", "Basic" or "Complete". This enables the "Tyre" add-on packages for the tyres, "Cool" for cooling systems and "Lifter" for tail lifts, to be combined as required. Furthermore, there is the additional option "Breakdown" for Europe-wide breakdown handling.

In addition to "Fair Care", KRONE has other practical services in its range, including a warranty extension for new vehicles, which can also be adapted as required. All services are described in detail on the website www.krone-trailer.com.

Technically trained experts and the network of workshops across Europe are ready in the event of a breakdown. The international KRONE breakdown service is available via the provider "EBTS" 24 hours a day, seven days a week, and in 26 languages.



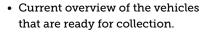




The KRONE customer portal is used to digitally provide important information regarding the collection of KRONE trailers. Through networking between the customer and KRONE, the processing effort is reduced on both sides.

Through the online delivery portal, KRONE customers have the possibility to obtain information at any time about their vehicles to be collected and to register the collection of the vehicles online. Transportation and customs plates can also be ordered through the portal. This reduces waiting times for the pick-up. The KRONE customer portal can be accessed at www.krone.de/portal.





- Current overview of the order balance.
- Simple notification of the pickup and number plate ordering.
- Reduced waiting times for collection.



# MY KRONE CUSTOMER PORTAL. THE DIGITAL COMPANION.

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KILCINE TRAILER FROM

TRAILER POINT

# KRONE INTELLIGENT TRANSPORT SOLUTIONS

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Today, the digitalization of goods transport involves far more than just telematics products, such as determining the location of the trailer. This is why KRONE focuses on integrating telematics data into the entire data management. Under the name KRONE Intelligent Transport Solutions (KITS), KRONE bundles all digital software and hardware solutions, from telematics products to data management.

With its versatile telematics functions, KRONE Telematics ensures that fleet managers have control of the position, condition or temperature of the load. Thanks to the modular design, you can put together a customised package, and there are additional modules for temperature-controlled shipments.

The increasing trend towards data management ensures that the numerous telematics data are available wherever the customer needs it. KRONE consistently relies on a standard push interface that is open and backwards compatible for all partners. With the "self-service" function, simple and transparent data transmission to all connected systems is now even more convenient. Users can both exchange data with each other as well as with third-party service providers or customer-specific applications with just a few clicks. The user has full transparency over which vehicles they want to transfer for how long and, above all, which data should be provided.

The user has full control with just a few clicks, by simply selecting and deselecting vehicles and the desired data packages, ranging from GPS through to EBS and temperature data. The transparency report, which is automatically generated, prevents accidental data leaks and misuse of the user's telematics data.



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## KRONE Telematics has numerous functions based on the right package to suit every trailer.

The classic standard is the telematics function "Position", which constantly provides information on the location of the transport units via GPS, so that the fleet manager can efficiently and proactively plan the route. The "coupling status" function provides information about the current coupling status – not only which vehicles are currently being towed by a tractor unit, but also whether the connections between the tractor and trailer are connected correctly. With the "Door Protect" function, special door sensors check doors and gates and ensure that the doors remain closed and are not opened by unauthorised persons.

In addition, KRONE Telematics offers a technology package with information about the trailer status – from EBS data readout for the brakes and load, to tyre pressure, to coupling sensor. In this way, the fleet manager is informed in good time about upcoming maintenance and can plan ahead.

The KRONE Cool Liner refrigerated semitrailers are equipped as standard with telematics in combination with the integrated KRONE temperature recorder: Temperature reports, default alarms and refrigeration data are continuously monitored, transmitted and documented for 18 months. As an additional option, the current tank levels of the refrigeration unit can be transferred to the KRONE Telematics Portal.



The tyres are also integrated into the telematics: The KRONE Smart Tyre Monitoring (TPMS) continuously measures tyre pressures and tyre temperatures and transmits this data to the KRONE Telematics Portal. The driver and dispatcher are therefore alerted in real time in case of low tyre pressures or high temperatures, and provided with recommended actions for the required steps to be taken.

Thanks to the collaboration with Shippeo, Telematics is able to provide customers with ETA predictions and tour management in real time. Another high-tech component is the Smart Capacity Management intelligent load space detection, with which loading capacities can be detected and utilized more efficiently.

KRONE Telematics can of course also be retrofitted, independent of the manufacturer. The KRONE contact persons are available around the clock.

# KRONE TELEMATICS FUNCTIONS.

# KRONE SMART COLLECT.

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The KRONE Smart Collect KSC telematics and diagnostics unit establishes the connection between the vehicle (trailer, swap bodies) and the internet portal.

the vehicle (trailer, swap bodies) and the internet portal.

addition, long-term logging is available for permanent monitoring. An internal acceleration sensor records movement and can be used as theft protection for the machine or trailer. KRONE Smart Collect is designed for an unusually large temperature range; from -30 °C to +70°C.

An internal battery also ensures operation when the supply voltage is switched off during a period of at least one to four weeks (depending on the time interval), whereby the position of the trailer as well as the status are transmitted to the portal. The battery is maintenance-free; its service life is ten years.

smartcollect



The maintenance-free KRONE Smart Collect Solar, which works autonomously thanks to the integrated solar panel, can be used for vehicles without their own power supply. The integrated battery lasts for up to 445 hours and can therefore last for more than 18 days without sunlight.





### The KRONE Telematics Portal is the central system for the further use of telematics data.

From the permanently collected information on the vehicle and freight, the driver and dispatcher always receive the current status of the load weight of the vehicle and, in conjunction with the innovative "Smart Scan" camera system, even an overview of free storage spaces in the cargo area. Extensive reporting functions such as the cooling temperature verifications and the history graphics of the routes driven make the KRONE Telematics Portal a comprehensive transport management system.

As in the KRONE Telematics Portal, the user can use the advantages of 2-way communication in the app; door status and cooling temperature can also be set remotely.

The portal and app do not have to be the final destination for the data stream from the KSC boxes: The data can be imported via coordinated data interfaces, for example into a transport management system or an invoicing tool.

### The KRONE Telematics app is available for mobile use.

With the new KRONE Telematics app, telematics data can be displayed, analysed and operated using a mobile device. These mobile solutions provide new options both for dispatchers and drivers.

The app sends direct push notifications if there are alarms or special events. The driver's documents can also be viewed in the app. In addition, the app can be used to send two-way commands, display temperature curves, export them as PDFs and print them on the go.



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The KRONE Telematics App is available in Android and iOS versions. Link to the free app: www.krone-trailer.com/erlebniswelt/apps/

# KRONE **TELEMATICS** PORTAL & APP.

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Find out more at: www.krone-trailer.com

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