

AUTOMOTIVE

SECURE SOLUTIONS, OPTIMIZED PROCESSES







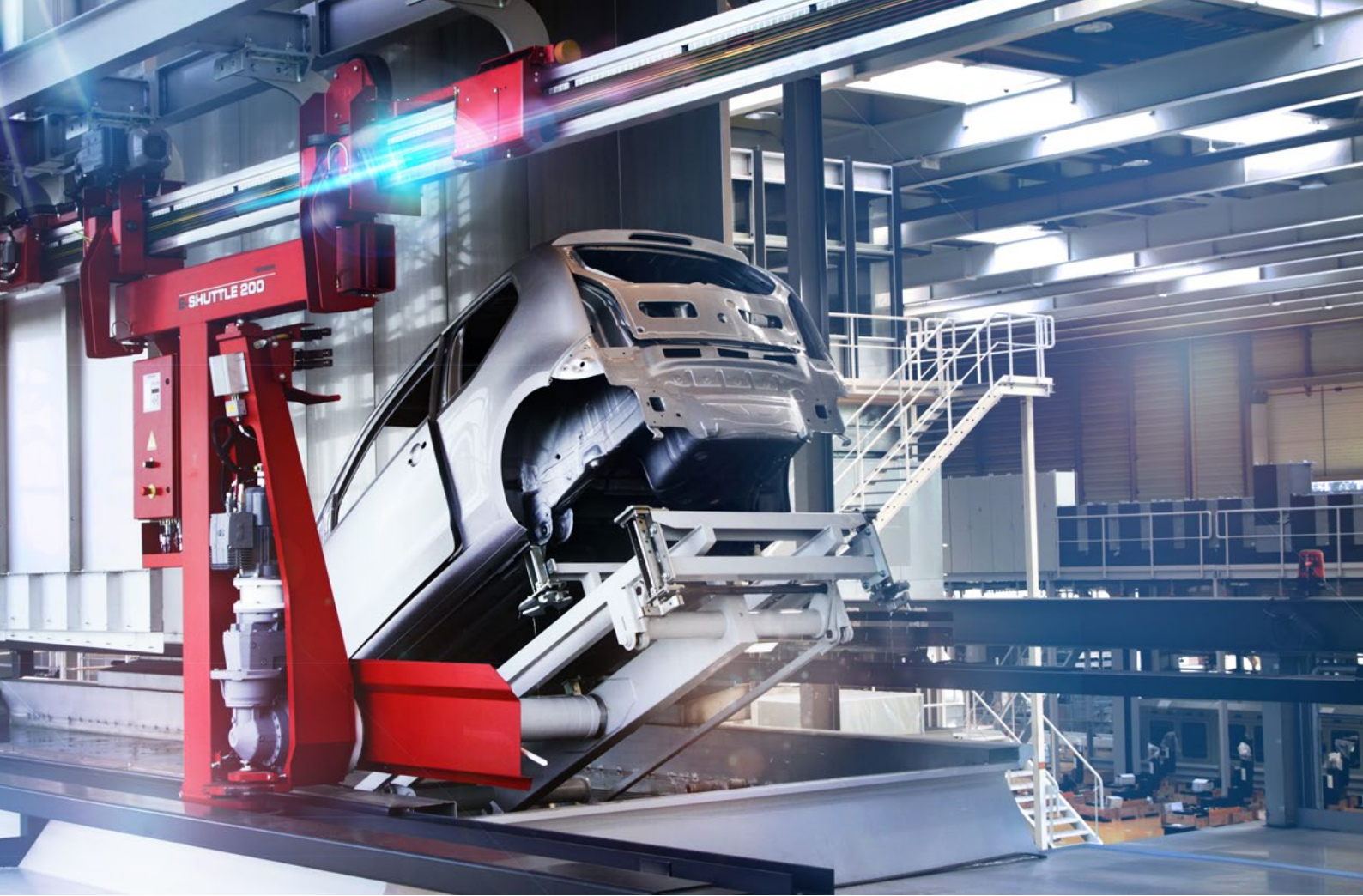
FLEXIBILITY FOR AUTOMOTIVE PROCESSES

Modern manufacturing facilities are characterized by flexibility, resource efficiency, ergonomic design, and the integration of customers and partners in the value chain. The manufacturing process is designed for maximum adaptability. The VAHLE Group meets the challenges of progressive digitalization with a concept that combines energy transmission, data communication, positioning and control systems.

This synergy allows you to optimize your production processes and costs for both mass production and small batches, alike. VAHLE combines the proven energy transmission of today with the innovative technologies of tomorrow. Your vision. Our solution.

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STRONG AND RELIABLE

ELECTRIC MONORAIL SYSTEMS ALWAYS IN MOTION

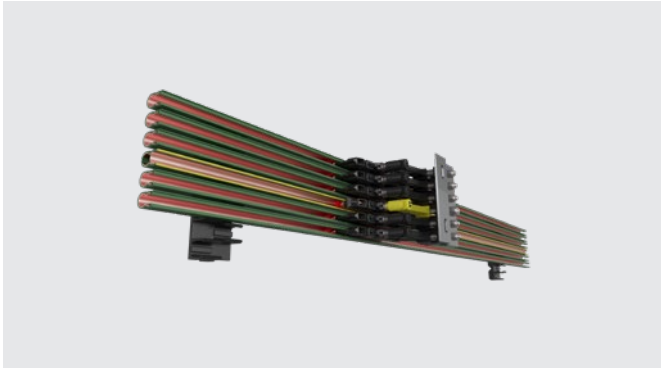
Reliable solutions for production lines

Electric monorail systems (EMS) play a key role in many production lines. They are used to transport materials quickly and efficiently from one staging area to the next without affecting the working and movement areas on the floor.

The highly flexible and reliable hangers for electric monorail systems offer a proven conveyor system ideal for covering large distances. These versatile systems can be used across a variety of different industries. VAHLE solutions form the optimum system for energy transmission, secure data communication, positioning and control.

Challenges

- Difficult maintenance and commissioning due to limited installation and maintenance slot
- Security standards increasingly relevant
- Increased efficiency and performance due to increasing throughput volumes
- Need for adaptability and flexibility of systems due to a wide range of diverse application requirements



ENERGY TRANSMISSION

U10: Durable and system-compatible

The insulated conductor rail U10 can be combined with our solutions for data transmission, positioning and control to create an intelligent overall system. Its reliability and adaptability make it a popular choice in the intralogistics industry. U10 systems can be adapted to almost any track layout, which significantly expands their range of applications.

Highlights

- Compact design for integration into an EMS profile
- Various combinations and mounting solutions
- Individually adaptable to your application
- Safe due to reverse polarity protected earth conductor



CONTROL SYSTEM

VCS1: Efficient and versatile

The VCS1 offers maximum functionality in a lean architecture. Configuration via PLC function blocks allows transparent operation without additional controllers. Backward compatibility and flexible adaptability facilitate integration into existing systems. Reduced material consumption and increased output power promote efficiency and sustainability.

Highlights

- Optimized commissioning and adjustment via Siemens PLC function blocks
- Full functional transparency due to slim topology
- Future-proof thanks to USB-C parameter interface and integrated safety functions



ENERGY TRANSMISSION

CPS140: Wear free

CPS140 is compact and powerful at the same time. The "140" stands for the frequency in kilohertz and guarantees state-of-the-art development. This inductive technology impresses with its high power density and simple installation.

Highlights

- Low-maintenance and wear-free contactless system
- High power density with minimal design
- Tailor-made energy supply for EMS systems due to a selection of different pickups
- No limits on speed or acceleration
- High efficiency thanks to continuous development



DATA TRANSMISSION

SMGM: Safe and reliable

The SMGM enables interference-free data transmission through communication in a protected aluminum profile, called the slotted waveguide. Any external interference or interference from other communication systems is excluded.

Highlights

- No interference to and from other radio/WLAN systems
- High transmission rate up to 100 Mbit/s
- Compatible with PROFINET and PROFI-safe
- Fast commissioning (no parameterization)



EFFICIENT AND FLEXIBLE

HIGHEST PRECISION FOR OVERHEAD HOIST TRANSPORT SYSTEMS

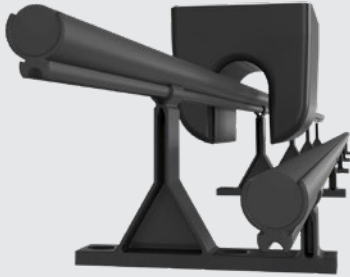
Future-proof solutions for dynamic production processes

In the automotive and semiconductor industries, flexible, high-precision conveyor systems are critical to the smooth operation of complex assembly processes. Overhead Hoist Transport (OHT) systems provide innovative solutions for moving materials efficiently along production lines and making the most of available space.

Designed for heavy loads and challenging environments, they can be precisely integrated into dynamic production processes – perfect for the needs of the automotive industry. VAHLE offers customized solutions that guarantee efficiency and safety in any production environment and ensure maximum availability.

Challenges

- High process reliability and quality requirements
- High power requirements in a compact space
- Need for modular voltage levels
- Minimize wear and maintenance



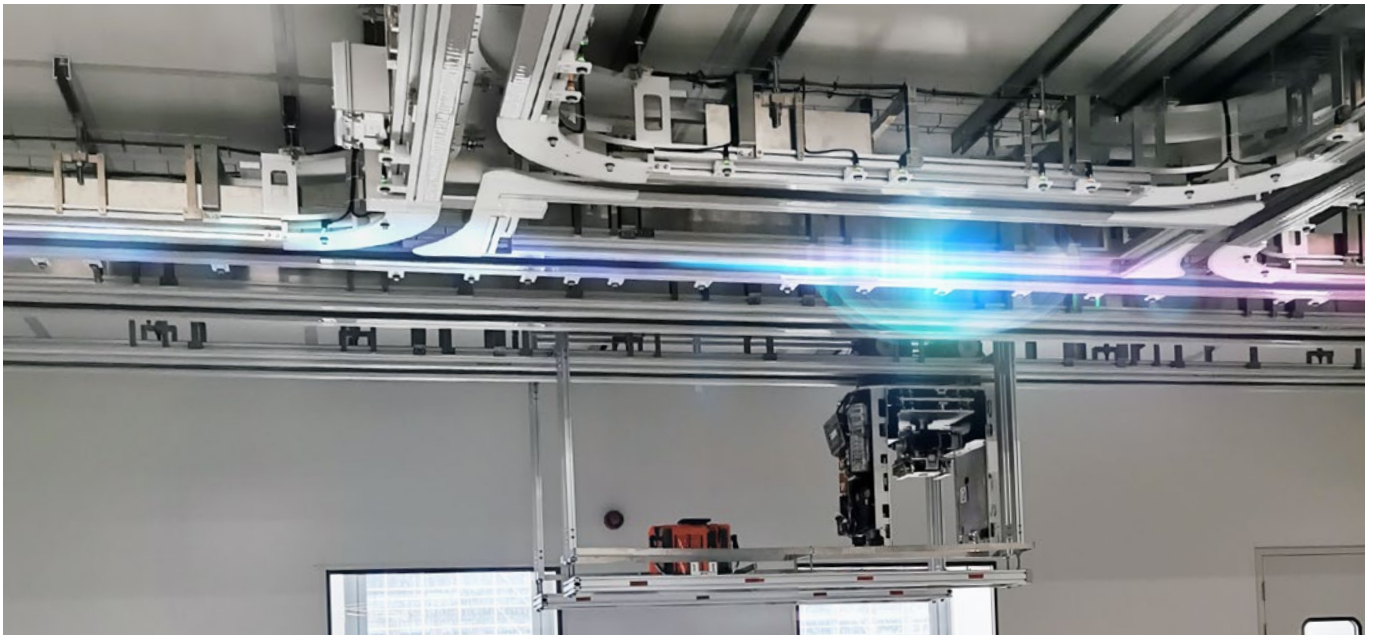
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- High power density with minimal design
- Tailor-made energy supply for OHT systems due to solutions and combinations developed specifically for this application
- No limits on speed or acceleration
- High efficiency thanks to continuous development
- UL certified components available



CERTIFIED EXCELLENCE FOR MAXIMUM SAFETY

VAHLE's CPS140 technology meets the stringent requirements of **Semiconductor Equipment and Material International (SEMI)** and has been certified according to both **SEMI S2** and **SEMI S22**. These certifications guarantee the highest level of safety, efficiency and reliability in operation, especially in sensitive production environments. With this technology, VAHLE offers future-proof solutions that meet the highest demands.



FAST AND ACCURATE POSITIONING

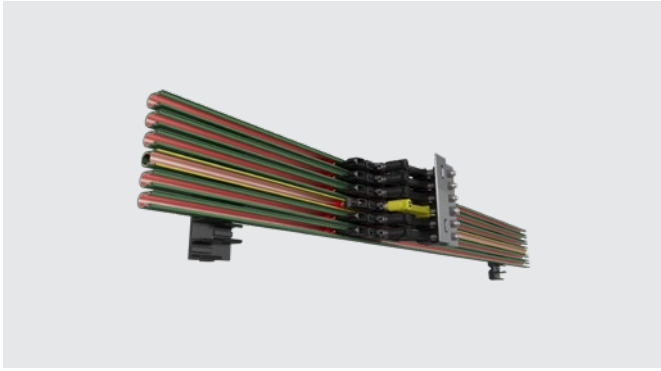
INNOVATIVE TECHNOLOGY FOR ELECTRIC PALLET SYSTEMS

Reliable freight transportation

Whether for the simple transport of palletized goods or the implementation of sophisticated, automated assembly processes – at VAHLE you will find a comprehensive selection of tailor-made technologies for electric pallet systems. Our products are characterized by easy installation, optimal space utilization and high performance to make your process efficient and smooth. Discover the variety of our application solutions for electric pallet conveyors.

Challenges

- Material flow requires efficient route planning
- High level of personal and plant safety required
- High demands on efficiency and goods throughput
- Criterion No. 1: Reliability and availability



ENERGY TRANSMISSION

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CONTROL SYSTEM

VCSX: FLEXIBLE AND MODULAR

Thanks to the modular system, the VCSX offers flexible application options and impressive convenience functions. Data can be transferred via the slotted microwave guide (SMGM) or via rail bus (PCB). The scalability of drive axis, sensors and safety functions can be individually adapted.

Highlights

- Simple configuration and easy handling due to PLC function block and integrated rail bus module
- Scalability for drive axis, sensors and safety functionalities
- Individual housing dimensions precisely tailored to your application



EFFICIENT AND FLEXIBLE

ENERGY FOR AUTOMATED GUIDED VEHICLES

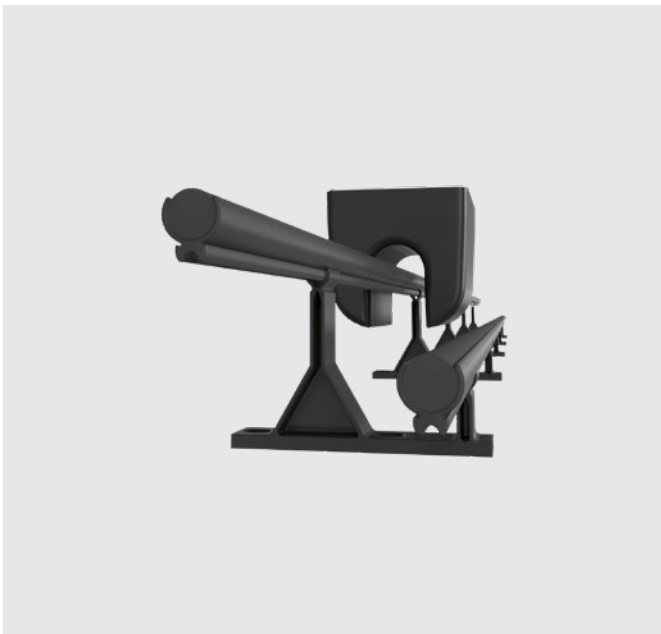
Flexibility has a name

Automated guided vehicles and robots have become an essential part of manufacturing and supply chain processes. Flexibility in handling and process individualization are requirements for a sustainable industry. This newly gained flexibility must be guaranteed by a safe and efficient energy supply in order to enable autonomous transportation.

With our wide range of energy transmission systems, we guarantee the optimum solution for your application, always tailored to your individual requirements. Whether via robust charging contacts or our contactless CPS® solutions, which enable a continuous energy supply.

Challenges

- Highly dynamic development cycles for energy storage technologies
- Fast-charging storage technologies require more efficient charging processes
- Demand for flexibility
- Limited design and space resources
- 24/7 shift operation
- High autonomy



ENERGY TRANSMISSION

CPS140: Permanent energy in a minimum of space

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ENERGY TRANSMISSION

Charging contacts: Extremely robust solution

VAHLE is a pioneer in charging contacts and offers the world's largest standard range. The solutions are extremely wear-resistant, durable and of course also available fully customized.

Highlights

- Can be used for power, data and signal transmission
- Robust thanks to specially developed, highly wear-resistant system components
- Application-specific solutions tailored to your needs
- For point-to-point charging capacities up to 1000 A



EFFICIENT AND INDIVIDUAL

E-FORKLIFT FLEET, PERFECTLY LOADED

The optimum energy supply for every application

Autonomous, continuous-use electric forklifts offer maximum efficiency. They are particularly essential in enclosed spaces, where exhaust emissions and noise are a challenge.

Short charging cycles and 24/7 availability are crucial. However, the use of the highest quality energy transfer solutions is essential for these requirements. Whether inductive energy transmission or the proven classic, the charging contact – VAHLE offers you the optimum solution, individually tailored to your needs.

Challenges

- Maximize availability
- Fast-charging storage technologies require more efficient charging processes
- Space constraints require compact designs



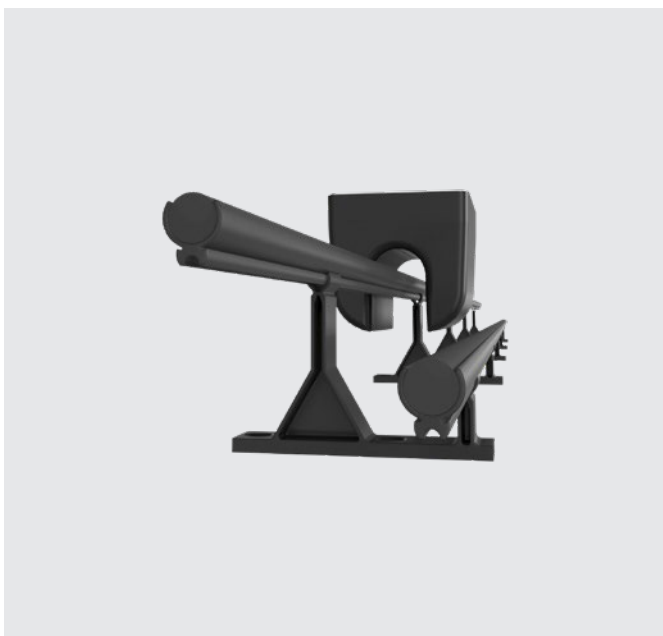
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PRECISE AND LOW-MAINTENANCE

SYSTEMS FOR SKILLET LINES

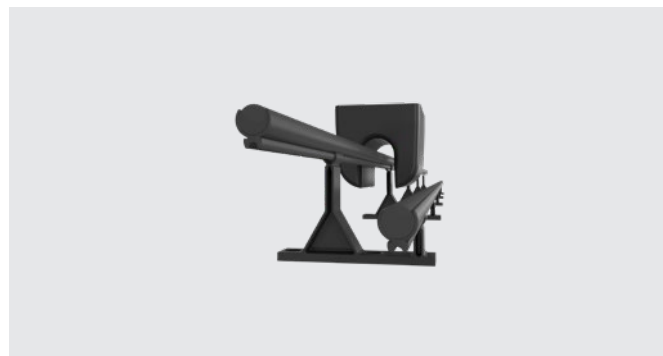
Transport heavy loads easily and precisely

Skillet lines consist of several platforms arranged in a row, each of which is equipped with a lifting table. They are mainly used in the automotive industry. An efficient production process, especially in production lines, therefore requires a reliable power supply for the lifting tables as well as safe control options.

Our systems guarantee optimum performance, even in limited space. In addition to energy transmission, our flexible and low-maintenance solutions for positioning, data transmission and control offer a significant advantage.

Challenges

- High level of personal and system safety required
- Small installation spaces within the systems
- 24/7 availability
- Different performance requirements due to the variety of vehicles produced



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ENERGY TRANSMISSION

VKS: Compact and durable

The VKS was specially developed for limited installation spaces and offers space for up to six poles. This allows the system to transmit control currents and other signals in addition to the drive power. The compact conductor system proves to be extremely reliable even under very dirty conditions or extreme temperatures.

Highlights

- Ultra-flat multipole design for minimal installation space
- Extremely low maintenance
- Safe due to special protective conductor
- Simple installation in combination with the VMT support profile



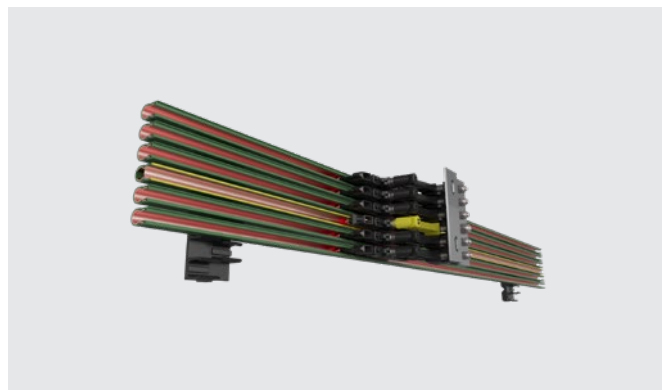
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SMART COLLECTOR

PREDICTIVE MAINTENANCE FOR CONDUCTOR SYSTEMS

UNPLANNED SYSTEM FAIL- URES HAVE UNWELCOME CONSEQUENCES

In production lines, unforeseen errors can bring production to a stop. The results are often high costs that can reach unimagined heights if the troubleshooting process is complex and time-consuming.

The Smart Collector is designed to solve such scenarios, as well as maintenance and service operation challenges. As the world's first intelligent current collector, it records movement data and thermal information via special sensors and forwards it to the main unit. The

data is evaluated there in order to monitor the system during operation and report any anomalies.

Take advantage of our Smart Collector – the unique predictive maintenance tool for conductor systems. We make your application predictive.

Available for the following applications:

- Electric monorail systems
- Electric pallet systems
- Skillet lines
- Sorters



Highlights

- Early detection of even the smallest changes
- Continuous temperature measurement to protect against hotspots
- Processing and evaluation of the measurement data using the IDAA method (Intelligent Dynamic Anomaly Analysis)
- Simple implementation thanks to plug-and-play
- Uncomplicated installation without structural changes, even in existing systems

Benefits

- Data analysis for predictive maintenance
- Minimizing unplanned downtimes and increasing process reliability
- Increasing the productivity of the entire system
- Optimally schedule maintenance cycles
- Reduce storage and maintenance costs



Find out more at:
smartcollector.vahle.com



GUARANTEED TO BE IN SAFE HANDS

Our team of experts immediately recognizes potential weak points

Regardless of the industry, one thing is always the same for VAHLE: Plant availability is crucial. Unplanned downtimes lead to high costs and risks. Our service solutions therefore focus on prevention and efficiency. With customized maintenance concepts, regular inspections and predictive maintenance measures, we guarantee process reliability.

We focus on predictive maintenance activities that increase operational reliability and maximize the

life of your systems. This includes regular inspections and proactive cleaning to ensure that your equipment is always in optimal condition.

We also support you with digital solutions such as condition monitoring and predictive maintenance. These technologies complement our service and maintenance offerings, ensuring that your equipment is always ready for use and prepared for future challenges.



OUR MISSION: YOUR SMOOTH OPERATION

In addition to our service and maintenance offerings, we offer our "Protect" program, which is available in three versions: Basic, Extra and Total. This program allows you to focus on the important things while we take care of the rest. Your business will remain stable and reliable. Our Protect program offers customized service and maintenance solutions that minimize unplanned downtimes and ensure efficient operation – a true investment in the future of your production!

Highlights

- Comprehensive inspections: Regular inspections to maximize plant availability
- Equipment cleaning: Optimal functionality through professional cleaning
- Digital support: Condition monitoring and predictive maintenance ensure uptime

Basic Protect

- Control of your busbars

Extra Protect

- Control of your busbars
- Professional cleaning of your plant

Total Protect

- Control of your busbars
- Professional cleaning of your plant
- Exchange of wear parts

YOUR PARTNER FOR SMOOTH PROCESSES

VAHLE SERVICE & AFTERSALES: YOUR PARTNER FOR SMOOTH PROCESSES

Whether electric monorail systems, overhead hoist transport systems, e-forklifts or skillet lines – regular maintenance, professional cleaning, and precise inspection ensure reliable and future-proof intralogistics. With preventative and predictive service, seamless spare parts supply, and our protect programs, we keep your systems efficient, safe, and consistently powerful.



Schedule a System Check now!

Simply scan the QR code or visit vahle.com/globalservice



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