



## **SOLUTIONS FOR MATERIAL HANDLING EQUIPMENT**



**ELECTRIFICATION,  
POSITIONING &  
DATA COMMUNICATION**



## INTRALOGISTICS

The increase in online sales and the resulting increase in shipping volume constantly pose new challenges for modern intralogistics.

Material and goods flows are subject to a growing degree of automation. Rising throughput volume and an increasing variety of items require the automation of high-bay warehouses and goods distribution systems in a minimum of space.

VAHLE systems, with their compact design and suitability for high traversing speeds, live up to these requirements.



## AUTOMOTIVE

Modern production plants are characterized by their versatility, resource efficiency, ergonomic design, and the integration of customers and business partners in the value chain. The production process is designed for maximum flexibility.

The VAHLE Group meets the challenges of increasing digitalization with a concept consisting of power transmission, data transmission, positioning and control systems. This combination enables you to optimize your production processes and costs for batch size 1 on the basis of the production costs of a comparable mass production product.

VAHLE thus combines the traditional energy transmission of today with the innovative technologies of tomorrow.



# VAHLE SOLUTIONS



INSULATED  
CONDUCTOR BARS



DATA TRANSMISSION



CHARGING CONTACTS



CONTACTLESS  
POWER SUPPLY



COMPACT MULTI-  
CONDUCTOR LINES



POSITIONING



CONTROL SYSTEMS

YOUR VISION – OUR SOLUTION

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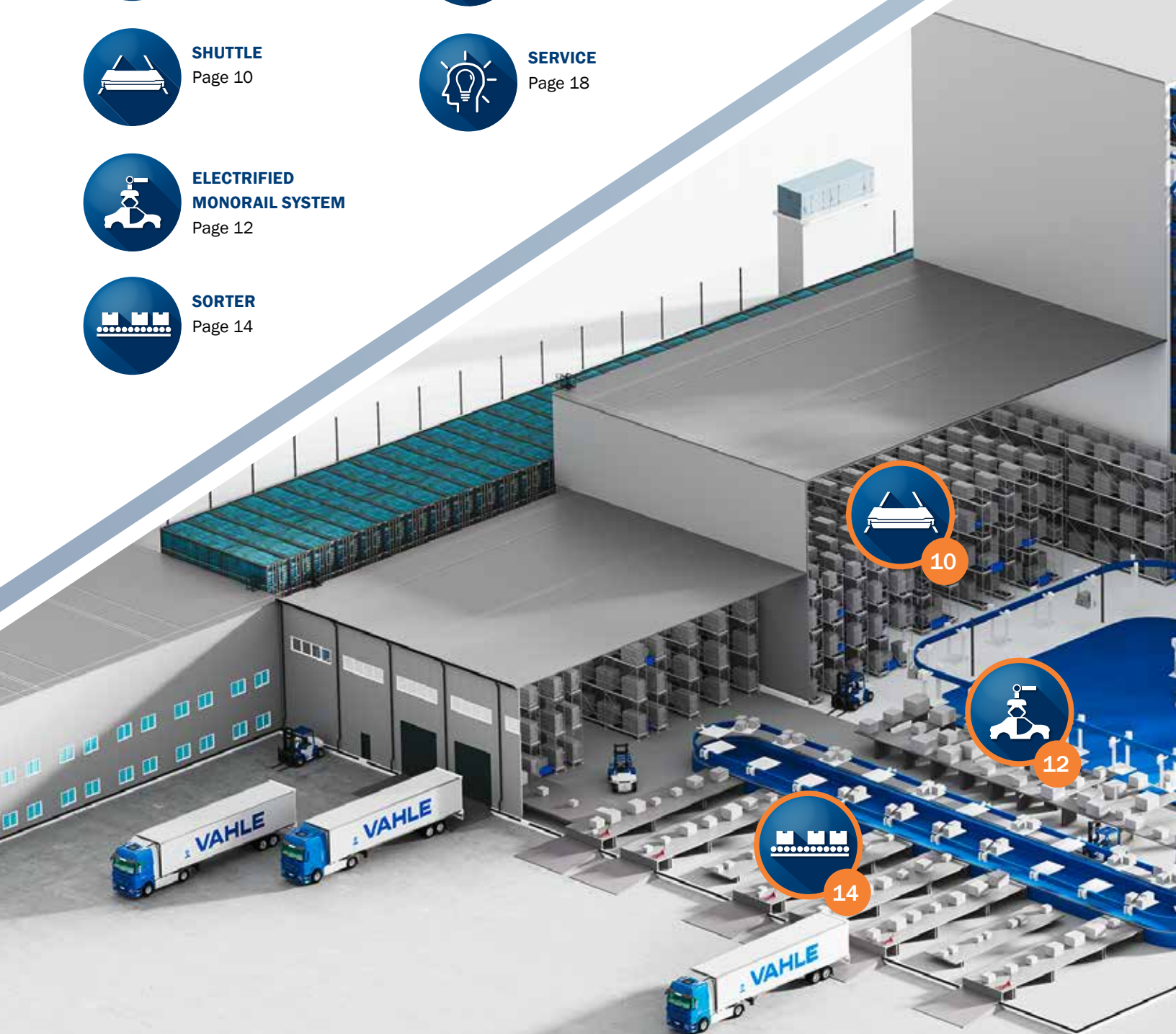
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# VAHLE SOLUTIONS FOR YOUR WAREHOUSE, DISTRIBUTION CENTER OR MANUFACTURING FACILITY







## SPACE-SAVING AND POWERFUL SOLUTIONS FOR AUTOMATED STORAGE AND RETRIEVAL SYSTEMS

Automated stacker cranes (AS/RS) require fast, reliable and compact conductor bar systems for optimum performance. VAHLE's product range includes many solutions that are specially tailored to the requirements of AS/RS equipment. Compact multi-conductor bar systems provide reliable power with additional conductors for control signals. VAHLE also provides future oriented technology including our magnetic positioning systems – vPOS and secure hi-volume data transmission with our vCOM systems.

### CHALLENGES FACED BY AS/RS OPERATORS

- Increasing throughput volumes require maximum performance.
- The traversing speeds of AS/RS are constantly increasing.
- Due to the increasing variety of articles, less and less space is available for the AS/RS.
- 24/7 operations mean downtime avoidance is critical.
- Extreme environmental conditions, e. g. in deep-freeze warehouses (down to -30 °C).



# SOLUTIONS

## CONDUCTOR BAR SYSTEMS



### COMPACT DESIGN

for minimum space required

### SIMPLE INSTALLATION

Hanger distances of up to 4.5 meters (15ft)

### MULTI-FUNCTIONAL

up to 10 poles for transmission of control currents



VKS10 Compact multi-conductor bar

## POSITIONING SYSTEMS



### SIMPLE INSTALLATION

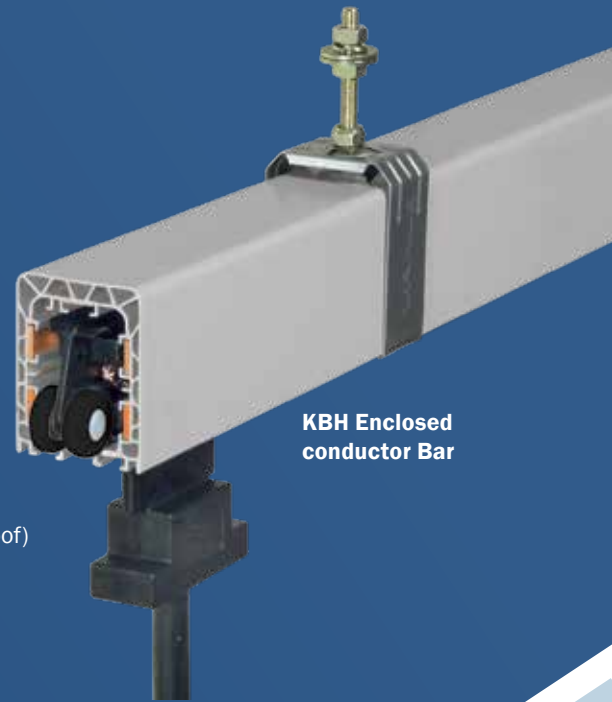
integrates fully with VAHLE conductor bar

### PRECISE

millimeter-precise positioning, accurate to +/- 1 mm

### PROCESS RELIABILITY

instant recovery after voltage drop or interruption



KBH Enclosed conductor Bar

## COMMUNICATION SYSTEMS



### SECURE

no interference to and from other wireless/WLAN systems (HF-proof)

### HIGH TRANSMISSION RATE

up to 100 Mbit/s | fast & consistent cycle time | PROFIsafe

### FAST COMMISSIONING

Plug & Play (no parameterization)



VMT Support profile with unipole conductor bar





## EFFICIENT ENERGY TRANSMISSION FOR AUTOMATED GUIDED VEHICLES & BATTERY CHARGING

Peak performance and minimal downtime are mandatory requirements for automated guided vehicles (AGVs) in the age of Industry 4.0 while combating cost and complexity of charging systems. VAHLE's large portfolio of charging contacts offer standard and fully customizable models that can be integrated anywhere along the production path. Additionally, VAHLE's advanced contactless solution vPOWER offers game changing continuous electrification with no maintenance, no environmental restrictions and zero physical obstructions to optimize work areas.

### AGV CHALLENGES

- Minimal footprints required.
- Rising battery costs and storage requirements.
- 24/7 operational requirements.
- Navigation and guidance requirements for true automation.







## SOLUTIONS

### CHARGING CONTACTS



#### **MULTI-FUNCTIONAL**

can be used for charging current and control signal

#### **ROBUST**

due to specially developed, highly wear-resistant system components

#### **CUSTOMIZABLE**

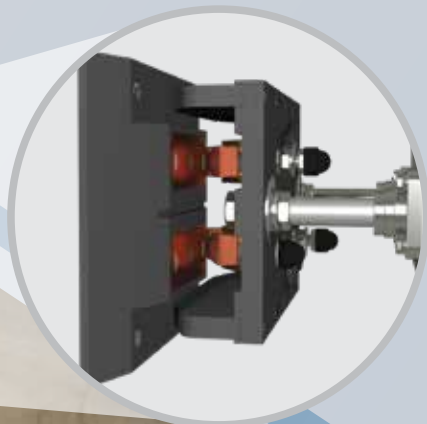
providing application-specific solutions

#### **HIGH-EFFICIENCY**

thanks to continual development

#### **EXTENSIVE STANDARD PORTFOLIO**

tailored to your needs



### CONTACTLESS POWER SUPPLY



#### **COMPACT DESIGN**

for minimal installation area

#### **MAINTENANCE-FREE**

no wearing parts

#### **NO LIMITS**

for speed or acceleration

#### **HIGH-EFFICIENCY**

thanks to continual development

#### **LARGE SELECTION**

of pick-ups, customized for your needs



## ULTRA COMPACT ENERGY SUPPLY FOR SHUTTLE SYSTEMS

Shuttle systems enable extremely fast transport of materials and goods with fast access times. Leading manufacturers of shuttle systems need specific solutions to meet these requirements. VAHLE offers various vCONDUCTOR and vPOWER solutions designed for the high speeds and intensive usage cycles of shuttle systems.

### SHUTTLE SYSTEM CHALLENGES

- Increasing throughput volumes require maximum performance.
- Traversing speeds are constantly increasing.
- Systems must integrate into the existing profile.
- Minimal space requirements for power solutions.





# SOLUTIONS



VKL2 Ultra compact conductor bar for shuttle systems

## CONDUCTOR BAR SYSTEMS



### ULTRA-COMPACT DESIGN

for implementation in your shuttle profile

### EASY INSTALLATION

safe and quick installation with few components

### OPTIMIZED FOR SHUTTLES

suitable for highly dynamic high-speed applications

## CHARGING CONTACTS



### SHUTTLE SPECIFIC DESIGNS

compact and low profile

### EASY INSTALLATION

safe and quick installation with few components

### CUSTOMIZABLE

suitable for highly dynamic high-speed applications

### MODERN

optimized for fast charging of Ultra-/Supercaps

## CONTACTLESS POWER SUPPLY



### COMPACT DESIGN

for minimal installation area

### MAINTENANCE-FREE

no wearing parts

### NO LIMITS

for speed or acceleration



SLS Compact charging contacts for shuttle systems



## AUTOMATION SOLUTIONS FOR ELECTRIFIED MONORAIL SYSTEMS

VAHLE is the complete solutions provider for automation technology. In addition to our proven power solutions, VAHLE offers positioning, data communication and control systems. Each of these products can be fully integrated for a complete compact automation solution from one provider.



### REQUIREMENTS OF EMS SYSTEMS

- Quick and easy assembly of the components.
- Continuous 24/7 operation.
- Intelligent communication between carriers.
- High speeds and complex layouts.
- Reliable system with minimal maintenance.





# SOLUTIONS

## CONDUCTOR BAR SYSTEMS



### COMPACT DESIGN

fits within any EMS profile

### CUSTOMIZABLE

diverse combinations and mounting solutions

### POWERFUL

multiple amperages available

### SAFE

unique ground design prevents accidental energization of equipment

## POSITIONING SYSTEMS



### SIMPLE

simple integration of positioning systems

### PRECISE

millimeter-precise positioning

### PROCESS RELIABILITY

instant recovery after voltage drop or restart of the system

## COMMUNICATION SYSTEMS



### COMPACT DESIGN

for integration with conductor bar and positioning

### SECURE

self contained wireless signal free from interference (HF-proof)

### HIGH TRANSMISSION RATE

up to 100 Mbit/s | fast & consistent cycle time | PROFIsafe

### FAST COMMISSIONING

Plug & Play (no parametrisation)

## CONTROL SYSTEMS



### VARIABLE

wide range of power output stages for every electrified conveying application

### HANDLING

open and transparent operation/ability to set parameters

## CONTACTLESS POWER SUPPLY



### COMPACT DESIGN

for minimal installation area

### MAINTENANCE-FREE

no wearing parts

### NO LIMITS

for speed or acceleration



U10, SMG-M and APOS optic fully integrated



## HIGH-SPEED ELECTRIFICATION FOR SORTATION SYSTEMS

To cope with high volumes and around the clock demand, advanced sortation systems are being implemented in distribution hubs. These system operate with high levels of speed and complexity, increasing the need for reliable electrification solutions. System integrators turn to VAHLE to provide dependable and cost effective solutions – traditional conductor bar and advanced contactless power supply.

### CHALLENGES

- High travel speed to handle demand
- Minimal maintenance time
- Large volumes of multiple sized packages
- 24/7 operation requirements







## SOLUTIONS

### CONDUCTOR BAR SYSTEMS



**DURABLE**

due to solid-copper rails

**COMPACT DESIGN**

for implementation in the sorter

**VARIABLE**

diverse combinations and  
fastening solutions

**INDIVIDUALLY**

adaptable for your application

### CONTACTLESS POWER SUPPLY



**COMPACT DESIGN**

for minimal installation area

**MAINTENANCE-FREE**

no wearing parts

**NO LIMITS**

for speed or acceleration



# LOW-MAINTENANCE SOLUTIONS FOR YOUR SKILNET CONVEYOR

Skilnet conveyors are moving platforms pushed end to end along a track. As each platform is supported and powered from underneath, the top remains clear and free of potential interference. These systems are ideal for assembly operations and moving bulk/large items. The VAHLE solutions from our family of vCONDUCTOR and vPOWER offer optimal solutions as reliable, robust and low profile electrification options. Additionally as skilnet conveyors become more advanced, VAHLE offers flexible solutions for positioning, data transmission and control.

## SOLUTIONS

### CHALLENGES

- Wide range of power requirements due to load sizes
- Minimal space clearance
- Multiple platform types require specialized solutions

### CONDUCTOR BAR SYSTEMS



#### COMPACT DESIGN

for minimal installation area

#### VARIABLE

suitable for large path tolerances

#### SAFE

due to special protective conductor

### CONTROL SYSTEMS



#### VARIABLE

wide range of power output ages for every electrified conveying application

#### HANDLING

open and transparent operation/parameters

### CONTACTLESS POWER SUPPLY



#### COMPACT DESIGN

for minimal installation area

#### MAINTENANCE-FREE

no wearing parts

#### NO LIMITS

for speed or acceleration

### POSITIONING SYSTEMS



#### SIMPLE

simple implementation of positioning systems

#### PRECISE

millimeter-precise positioning

#### PROCESS RELIABILITY

absolute positions even after voltage drop or restart of the system

### COMMUNICATION SYSTEMS



#### COMPACT DESIGN

for implementation in your shuttle profile

#### SAFE

no faults to and from other wireless/WLAN systems (HF-proof)

#### HIGH TRANSMISSION RATE

up to 100 Mbit/s | fast & consistent cycle time | PROFIsafe

#### FAST COMMISSIONING

Plug & Play (no parametrisation)





## FLEXIBLE SOLUTIONS FOR YOUR ELECTRIC PALLET CONVEYOR AND TRANSFER CARS

Electric pallet conveyors and transfer cars are adapted to serve multiple tasks. They can be found performing anything from simple transport of pallet goods to complex automated installation procedures. Depending on application parameters, these transfer systems need not only power, but also a positioning, communication and control solution that can be perfectly integrated together.

### SOLUTIONS

#### CONDUCTOR BAR SYSTEMS

**COMPACT DESIGN**

for minimal installation area

**VARIABLE**

suitable for large path tolerances

**SAFE**

due to special protective conductor

#### CONTROL SYSTEMS

**VARIABLE**

wide range of power output ages for every electrified conveying application

**HANDLING**

open and transparent operation/parameters

#### CONTACTLESS POWER SUPPLY

**COMPACT DESIGN**

for minimal installation area

**MAINTENANCE-FREE**

no wearing parts

**NO LIMITS**

for speed or acceleration

#### POSITIONING SYSTEMS

**SIMPLE**

simple implementation of positioning systems

**PRECISE**

millimeter-precise positioning

**PROCESS RELIABILITY**

absolute positions even after voltage drop or restart of the system

#### COMMUNICATION SYSTEMS

**COMPACT DESIGN**

for implementation in your shuttle profile

**SAFE**

no faults to and from other wireless/WLAN systems (HF-proof)

**HIGH TRANSMISSION RATE**

up to 100 Mbit/s | fast & consistent cycle time | PROFIsafe

**FAST COMMISSIONING**

Plug & Play (no parametrisation)



**VAHLE STANDS FOR TRADITION COMBINED  
WITH INNOVATION AND CUTTING EDGE TECH-  
NOLOGY**

- Safe and reliable products for over 100 years
- Leading technology and expertise worldwide
- Excellent customer service
- Power transmission, data transmission, positioning and controls from one provider





## SERVICE & SUPPORT

### CUSTOMIZED SOLUTIONS FOR YOUR APPLICATIONS

Our extensive product portfolio is expanded by a comprehensive range of services which are specially tailored to your requirements:

- Project management
- Commissioning
- Engineering + Customizing
- Installation & Installation monitoring
- After Sales Service
- Product training courses
- Maintenance packages

We enjoy using our know-how to develop specific solutions for your business. Call us and make an appointment to learn more about VAHLE systems and services.



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