# Safety. Nonstop. Safety solutions for logistics and machine safety

## Heading into the future with safety

Logistics and intralogistics weave together all stages of production into an interdependent network. A single failure in a logistics system can have severe consequences for the entire material and goods flow. This places high demands on safety solutions, which must automatically shut down an **Fraport** installation to prevent hazards to people, the environment and goods - while also avoiding unnecessary stops.

HIMA solutions are designed for maximum safety and reliable, uninterrupted plant operations. Applying the 'Safety. Nonstop.' principle, HIMA has developed its own technical innovations for logistics and machine safety while also collaborating with scientific institutes and other manufacturers to create advanced solutions. HIMA Safe Motion Control solutions provide a good example of what this future could look like.

## **References/Partner**

- Audi
- Bauer Logistik
- Eisenmann
- Intralogistik-Netzwerk Baden-Württemberg (IN BW)
- Karlsruhe Institute of Technology (KIT)
- NKM Noell
- P+F
- SEAP
- SEW Eurodrive
- teamtechnik

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### HIMA. Safety. Nonstop.

It's a philosophy more than 100 years in the making. It's built on HIMA's singular focus on safety and is proven by decades of technology breakthroughs. It represents our commitment to safety. Around the clock. Around the world. Without compromise. Without interruption. We call it HIMA. Safety. Nonstop. It is not enough to merely build the best safety systems in the world. Our goal is continuous safety - with a long-term perspective. We develop solutions which are among the most profitable. Rational operating management. Reduction of CAPEX. Maximum availability. Maximum profitability. We also call it Safety. Nonstop.

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Safety Safety Nonstop

Infinity



## Simpler, more flexible and more economical

# Safe Motion Control

Working with customers, HIMA application engineers create extensive Safe Motion Control solutions, such as those for electric monorail systems in automobile factories. Modularity and flexible networking and integration options allow for optimum CAPEX. HIMA's proven safety technology ensures reliability and low operating costs, which is why HIMA Safe Motion Control solutions are being used successfully in an increasing number of applications for logistics/intralogistics and machine safety.

- Lifts
- Electric monorail systems
- Automatically guided vehicles
- Baggage handling systems
- Lifters and elevating platforms
- High-bay warehouses
- Cranes, crane networks and lifting equipment
- Painting plants
- Assembly plants
- Reclaimers
- Automated storage and retrieval systems
- Robot cells
- Sluices and polders
- Cableways
- Stackers
- Punching and presses

## Safety functions in Safe Motion Control

- Safe monitoring of positions, speed, acceleration, breakdown torque
- Safe load monitoring
- Safe distance monitoring
- Complex range and/or location-dependent monitoring and emergency stops

# HIMA Safe Motion Control solutions for centralized and decentralized applications meet the requirements for PL e (EN ISO 13849) and SIL 3 (EN/IEC 62061).

### HIMA offers the first SIL 3/PL e solution worldwide for safe distance measurement using non-safetyrelated standard position sensors

The HIMA controller evaluates and compares the signals from two diversified sensors. System solutions that use the relevant HIMA function blocks and adhere to the planning and design guidelines are certified for SIL 3, PL e. HIMA also offers solutions in which safety-related position sensors are used.

Feature: Use of non-safety sensors

**Benefit:** Reduced investment costs

### Worldwide the first linear positioning system up to SIL 3: Data Matrix position sensor PCV80A

The PCV80A read head, the Data Matrix code band and the TÜV-certified function block PCV80t, along with a HIMA safety controller such as the HIMatrix, combine to enable the scanning of linear detection areas of O-1,000m/0-10,000m and object positions with precision of up to 0.1 mm/1 mm.

Feature: Immediate position detection upon voltage return after maintenance shutdown or after sudden voltage drops (e.g., short circuit, lightning)

Benefit: Greater plant productivity though fewer shutdowns

### Certified motion function blocks

These TÜV-certified function blocks were developed for use in applications for safe movement monitoring in which the safe position, speed, acceleration and deceleration monitoring are crucial.

Feature: TÜV-tested support for products from numerous manufacturers

**Benefit:** Less programming and simplified certification of an overall solution

# Safety solutions up to SIL 3/PL e







HIMA safety controllers are based on safety technology that has been proven and refined over the years



### **Matrix**: Uniquely fast, uniquely flexible

HIMatrix: The performance, compactness and easy installation of the various controller modules and remote I/O modules have proven uniquely valuable in networked and time-critical applications:

- Compact controllers and remote I/O modules
- Safety-related networking via safe**ethernet** at 100 Mbit/s
- Use in Ex zone 2
- Implementable as sequence of events, multitasking and reload option
- Integrated switch for a variety of network structures (line, tree, star)

### New HIMatrix M45:

### Simplify Safe Motion Control. Multiply efficiency.

Thanks to its computing power, a large variety of sensor interfaces and granular architecture, the new HIMatrix M45 is suitable for complex safety-critical applications in the area of logistics and machine safety. It makes Safe Motion Control solutions simpler, more flexible and more economical.

The new HIMatrix M45 will be available in October 2013. For detailed product information, please call +49 6202 709-0

**SIL worX** - the fully integrated configuration, programming and diagnostic tool from HIMA

### **Communication options**

Numerous protocols and interfaces allow the connection to a wide variety of sensors:

- safeethernet
- OPC (DA and A&E)
- Modbus TCP (Master & Slave)
- Modbus RS485 (Master & Slave)
- PROFINET IO (Controller & Device)
- PROFIsafe (F-Host and F-Device for PROFINET IO)
- Send & Receive TCP
- PROFIBUS DP (Master & Slave)
- Modbus RTU (Master & Slave)
- SNTP
- SSI, CAN, CANopen, RS485, RS422, RS232
- Proprietary protocols via all interfaces with ComUserTask