

# EISENMANN

Order-picking with electric monorail systems





# This is EISENMANN

EISENMANN builds facilities for surface finishing, material flow automation, environmental technology, firing lines for ceramics and specialized facilities for coating, recycling, thermal treatment and energy recovery.

Approximately 2,800 employees, half of whom are engineers or technicians, develop new ideas worldwide for your manufacturing, paintshop, assembly or distribution departments. They include experts and specialists with well-founded know-how in various fields and trades. This is highlighted in made-to-measure concepts, the most modern technology and a high degree of economy.

## EISENMANN serves you as logistics specialist or general contractor

EISENMANN is one of the world's leading suppliers of individual components and systems for material flow automation.

As general contractor, we plan and build complete logistics systems including the building technology. The experience of numerous projects realized in very different sectors and companies throughout the world is incorporated into our products. Our customers include all branches of the automotive industry and its suppliers, food processors and retail companies, mechanical engineering companies, service-providers and printers, as well as others.

## Our services

- Consultation and planning
- Simulation
- Development of customized products and systems
- Engineering and production
- Component assembly and test setups
- Installation and commissioning of all mechanical and control system components
- Maintenance and global service

EISENMANN can offer the right solution for every single material flow task. Our range encompasses every aspect of modern material handling, as well as complete systems for production, assembly, storage and shipment.



Top: EISENMANN Technology Centre in Holzgerlingen  
Bottom: Electric monorail test circuit for practical trials and commissioning

# Electric monorail systems for efficient order-picking



## Electric monorail system (EMS) – efficient and intelligent

EISENMANN systems characteristically use simple technology which has proved its value through high plant availability in numerous applications worldwide. Investment costs are rapidly amortized by automating goods movements which were previously undertaken manually by the customer.

The fields in which electric monorail systems (EMS) are used have increased steadily in recent years. One sector which has increasingly employed this advanced material handling technology is the retail trade where attention focuses above all on rapid and efficient handling of logistics processes, as well as high order-picking capacities. Use of rapid and reliable systems, such as the EMS from EISENMANN, is therefore particularly appropriate here.

## Robust, flexible, efficient and energy-saving

Electric monorail systems from EISENMANN operate quietly, save space by transporting goods above floor level and can easily master tricky logistics tasks. They are considered an exceedingly reliable, quick and flexible means of transport with high capacity.

Even differences in height do not pose any problems. The logistics system can connect several floors with the aid of an ascending EISENMANN EMS or by using high-speed lifting stations. An electric monorail from EISENMANN can be installed even in confined areas, thanks to small curve radii and flexible routing. Moreover, the system is unbeatable whenever long distances within your production facilities have to be covered at low cost.



# High transport capacity ensures short response times

EISENMANN delivers the goods to the operator, so that orders can be picked directly from the load carrier onto the electric monorail system. This saves time and money, for this highly efficient order-picking system not only cuts order costs, but also significantly reduces the time taken for transport from the logistics or distribution centre to the destination.

## Flexible and individual

EISENMANN electric monorail systems are designed to permit adjustment to individual requirements, such as special load carriers. Among other things, this means that a single hanger can transport different load carriers.

## Further advantages of order-picking with electric monorail systems from EISENMANN:

- Continuous monitoring of order status ensures transparency
- Quick, precise, paperless order-picking ensures efficiency
- Reliability based on 100% availability of the system
- Low transport and maintenance costs ensure cost-efficiency
- Individually adaptable parameters permit simple expansion to meet future requirements
- Greater security than when order-picking with stacker trucks



# Made-to-measure virtual planning and control concepts

We use the most modern virtual planning programs to simulate optimization of each individual material flow and develop the best order-picking concept for your needs.

## Tailored to the customer's specific requirements

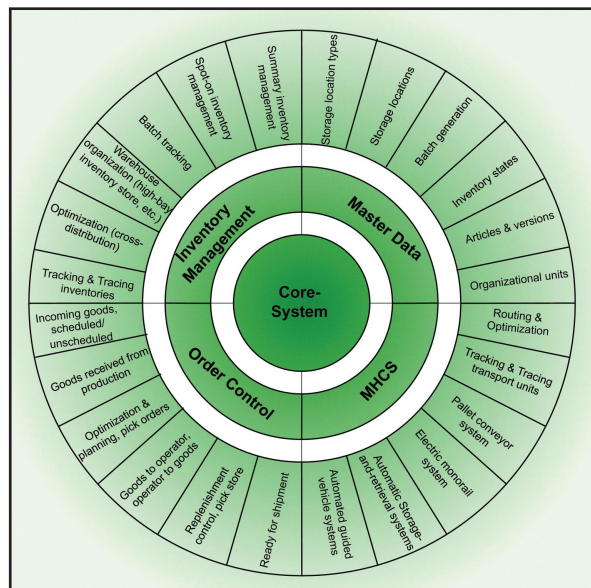
Individual order-picking tasks require individual control concepts. Thanks to their modular design, these concepts can easily be adapted to your specific requirements.

When implementing these concepts, EISENMANN's engineers also take care of the necessary hardware and software. They too are configured by our IT specialists to meet the specific requirements of your individual projects.



## Range of services offered by EISENMANN:

- Modular system architecture: Customized solution based on a catalogue of modules, including realization of modules specially developed for the individual customer if necessary (e.g. special strategies).
- Material flow control optimized for automatic warehouses, with integrated warehouse management taking into account full utilization of the conveyor system capacity.
- Integrated user interface: Single Point of Control for warehouse management and material flow control.
- Basic components meeting industrial standards: Oracle database, Java Enterprise Application Server, Eclipse Rich Client Platform.
- New plugins; customized extension and replacement of plugins.



## Modular EISENMANN system architecture

- Core system as a central component
- Multi-layer plugin architecture
- Plugins include background processes & GUI
- Can be extended individually



## Practical examples

### EISENMANN equips IKEA's largest logistics centre

From its logistics centre in Dortmund, the Swedish furniture store IKEA supplies its branches throughout Europe with products characterized by a high order-picking share. The largest such centre in Europe, it has been equipped with electric monorail systems by EISENMANN with a total length of 3,500 m. The electric monorail systems operate according to the principle of "pick by light".

### "Goods to operator" ensures efficient order-picking

In addition to providing transport, the system also supplies the "goods to operator" order-picking system. The electric monorail system supplies 384 order-picking stations in 48 bays where orders are picked directly onto shipping pallets which are made available automatically. These pallets are then transported in turn by fully automated transfer shuttles and lifting stations. The order-picking staff receive their orders at the EMS trolley according to the "pick by light" principle and also confirm execution of the order here.



More than 500,000 pallet locations in five silos are supplied by 68 automatic storage-and-retrieval systems equipped with control and software by EISENMANN. In addition, EISENMANN delivered around 2,000 m of flat conveyors and 272 EMS trolleys for transporting weights of up to 800 kg. With a throughput of over 300 pallets per hour, the electric monorail system cuts the response time until delivery, thus helping to ensure the desired short delivery times from logistics centre to outlet.





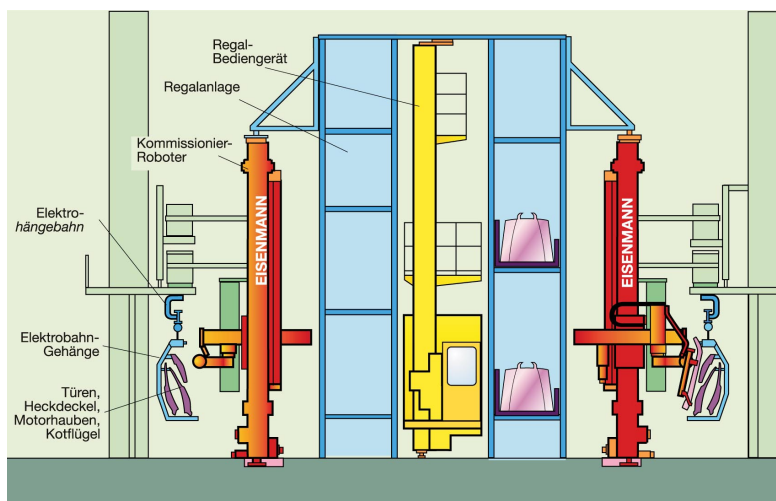
### Electric pallet system – professional floor-level solution

EISENMANN frequently installs a floor-level electric pallet system when high transport capacities are required and overhead transport is inappropriate. Compared with conventional pallet conveyor systems, the electric pallet system characteristically achieves much higher transport capacities. Since the pallets are transported gently, such systems can also be used to transport fragile goods.

With its modular control concept including continuous position sensing as well as freely programmable, entrained trolley control with parameterizable distance sensor, the electric pallet system offers the same advantages as the electric monorail system from EISENMANN.

### All-automatic order-picking in a car factory

Linear gantry robots from EISENMANN order-pick engine hoods, doors and tailgates directly onto the EMS hangers for transport to the bodyshop. This all-automatic order-picking solution ensures rapid and reliable retrieval of workpieces in the warehouse, where they are positioned directly on the moving EMS hangers with maximum accuracy.



Robots order-pick engine hoods, doors and tailgates directly onto the EMS hangers for transport to the bodyshop in a fully automated order-picking process.

# EISENMANN

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