

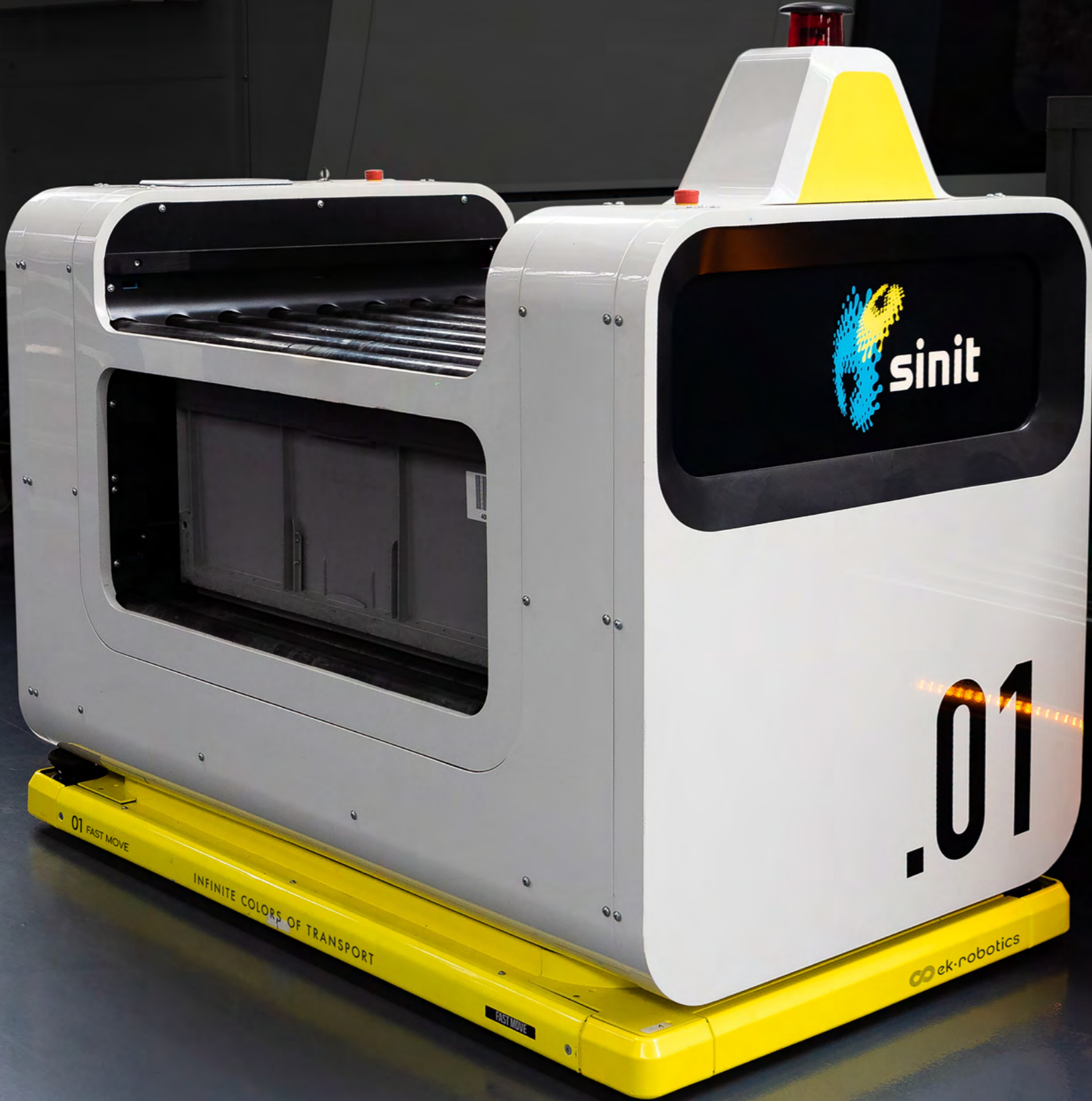


ek·robotics

INFINITE COLORS OF TRANSPORT



FAST MOVE:
Ultra-smart.
Ultra-flexible.
Ultra-flat.



FLEXIBLE, AUTONOMOUS & SCALABLE

Ultra-flat and powerful. Omnidirectional and versatile. Networked and autonomous. The FAST MOVE impresses with its flexibility and maneuverability and opens brand new possibilities for you in the optimization of your material flow systems. As an ultra-compact transport robot, it reaches pick-up and drop-off points directly and quickly with minimal space requirements. Thanks to its modular concept, it can be configured for a wide range of tasks and offers scalable solutions for a wide variety of industries. A powerful statement for consistent progress in uncompromising **ek robotics** quality standards.

FAST MOVE:

Powerful

and individually scalable.



1

FAST MOVE HUB 30 F

This FAST MOVE is only 140 mm high, but has all the essential features of a 'full-grown' transport robot. With the hybrid navigation system from **ek robotics**, the transport platform navigates over the contours of its environment. Where this is not possible, the FAST MOVE uses personal protection scanners and reflectors to reach its targets with maximum precision. The 360° protective field in PLd, WLAN and a LI-ION high-performance energy system are other highlights of this ultra-flat, omnidirectional mobile transport platform. Powerful for use in a chemical plant, among other applications. Here at **ek robotics**, we stand by our promise and offer an infinite number of solutions for your individual task.

2

FAST MOVE HUB 140

The transport of LLC (Large Load Carrier) by means of trolleys often takes place in the area of supply and disposal of assembly lines. Our FAST MOVE Hub 140 with its integrated lifting table lifts the transport racks so high that the safety scanners can create a 360° safety field around the transport robot. Intervention protection around the lift table and a PLd 360° protection complete the FAST MOVE with WLAN and LI-ION fast charging technology. Quite agile: With the 100 % omnidirectional chassis, the AGV vehicle reaches a travel speed of up to 2m/s!

3

FAST MOVE ROLLER CONVEYOR 50

Did you know that FAST MOVE stands for **F**lexible **A**utonomous **S**calable **T**ransport-Platform? This is where the transport robot comes in for a customized setup of load handling devices. In this application, two to eight conveyors are individually controlled and can bring individual SLCs (Small Load Carrier) to their destination precisely and in the right order – 100 % more efficient than any swarm intelligence. In addition, the FAST MOVE has special features such as an omnidirectional chassis and a LI-ION energy system, as well as maximum performance in 24/7 continuous operations. The FAST MOVE is individually scalable in its dimensions: the omnidirectional transport platform can be configured up to a length of two meters.

4

FAST MOVE ROLLER CONVEYOR 90

The FAST MOVE RB 90 is extra compact: With a roller conveyor for Euro pallets or LLCs (Large Load Carrier), it is only slightly larger than the loading equipment or transport goods themselves and that with maximum flexibility and omnidirectional maneuverability. For the use of pallets or LLCs with a load weight of up to 1.000 kg, the FAST MOVE RB 90 transport robot always offers a suitable solution. 360° protective field in PLd, WLAN and a LI-ION high-performance energy system are further highlights of this very compact, omnidirectionally movable transport platform.

The flexible FAST MOVE transport platform can be configured with customer-specific load handling devices.

FAST MOVE: Compact design, omnidirectional movement.



SUPER FLAT DESIGN

Configurable in ultra-flat heights from 140 mm.



DRIVING SPEED

The chassis allows speed of up to 2 m/s.



LI-ION BATTERY SYSTEM

Innovative energy system with maintenance-free, fully automatic charging. Designed for 24-hour use, 365 days a year, it guarantees many years of availability for your transport system.



FAST AMORTIZATION

through low process costs and high savings right from the start.



HYBRID NAVIGATION

Our multisensory-capable vehicle control system enables the combination of different navigation technologies. In this way, we offer our customers the right solution for every task.



HIGH LOAD CAPACITY

Thanks to its optimized chassis, it has a high load capacity of up to 1.200 kg.



LOW OPERATING COSTS

Long service intervals significantly reduce operating costs.



SUSTAINABILITY

Robust vehicle design guarantees very long lifecycles.



HIGH FLEXIBILITY

due to modular design, omnidirectional chassis and individual load handling devices.



MAXIMUM AVAILABILITY

through uncompromising quality standards.



EK SERVICE: Competent, individual, safe and sustainable.

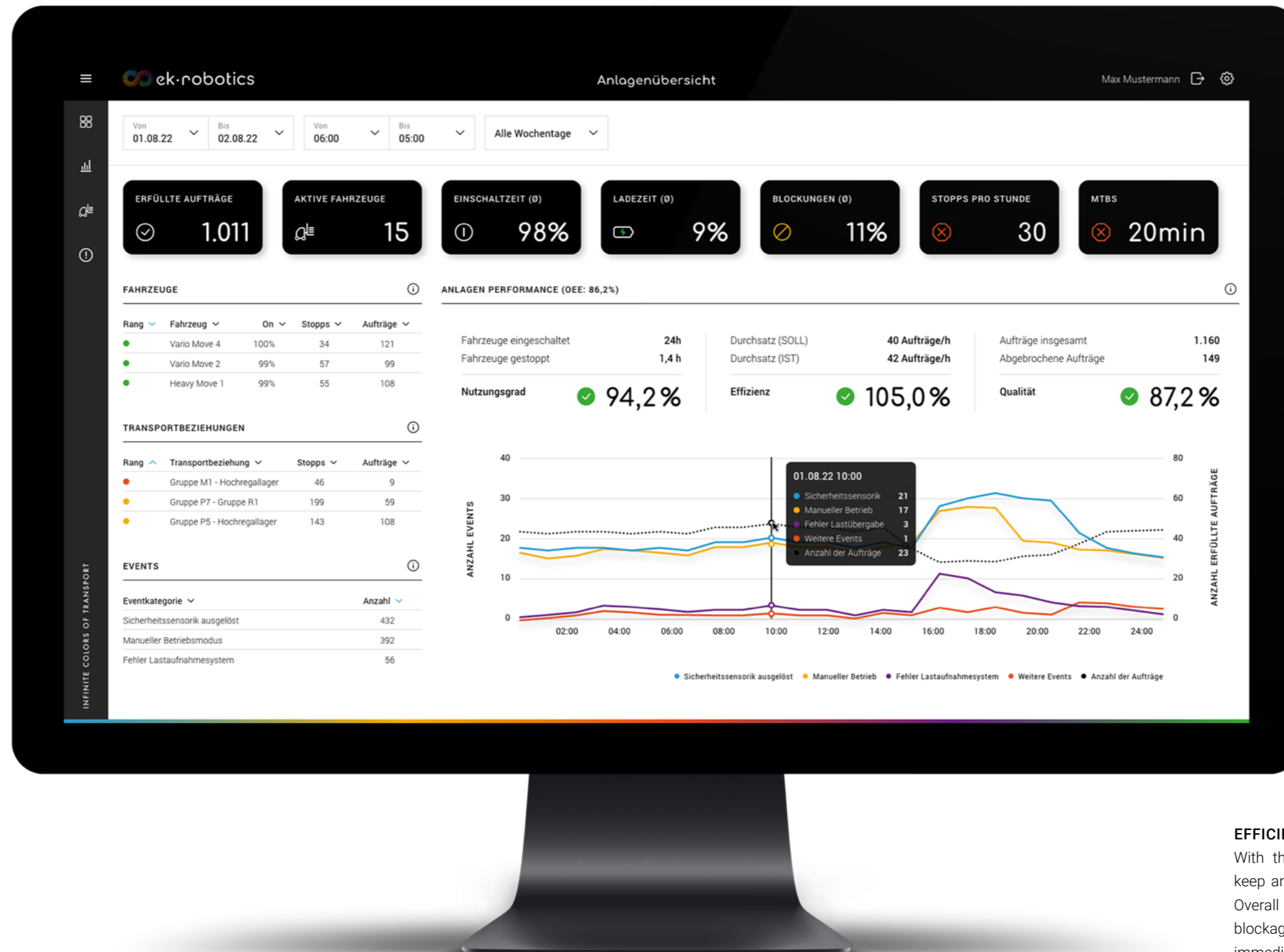


SERVICES WORLDWIDE

With our service solutions, we offer maximum plant availability and investment security. We accompany. We support you throughout **the entire life cycle of your plant**: from commissioning and maintenance to retrofit. Even in 10, 20, 30 years – and beyond. **Your individual needs are always our top priority.**

SARA: Smart Analytics Reporting App.

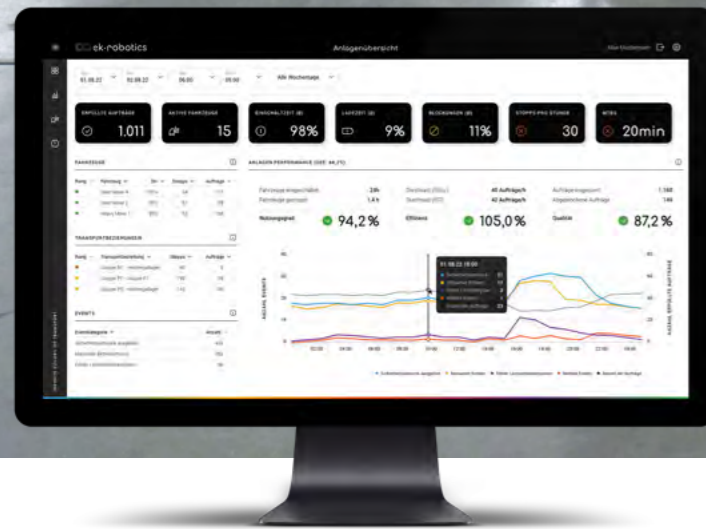
SARA collects all relevant data of your plant and vehicles, evaluates them in corresponding statistics and graphics in real time and provides a reliable overview of your system.



EFFICIENT CONTROL AND MONITORING

With the Smart Analytics Reporting App SARA, you keep an optimal overview of all processes in practice. Overall performance, availabilities, transports, stops or blockages, fleet and vehicle loadings – everything is immediately transparent for you.

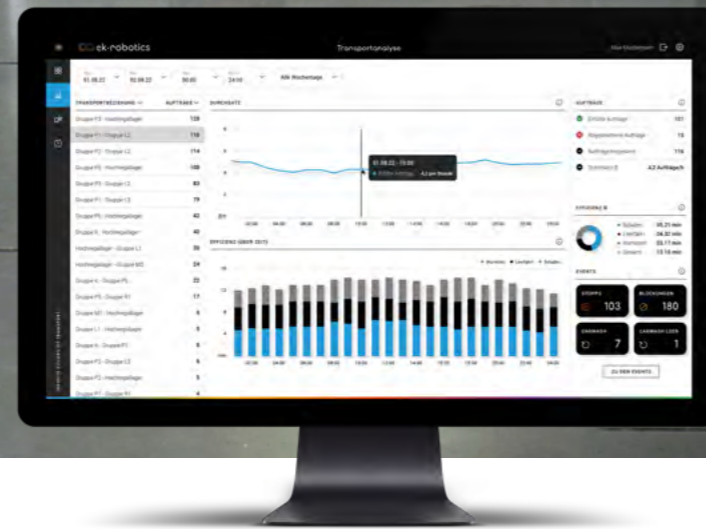
SARA: The smart check-up for your AGV.



DASHBOARD

The dashboard provides you with a comprehensive **overview of the overall performance** of your plant.

Performance KPIs, quality of transports as well as the availability of the system and the AGV fleet – the representation over time provides an accurate overview of the performance of your plant.

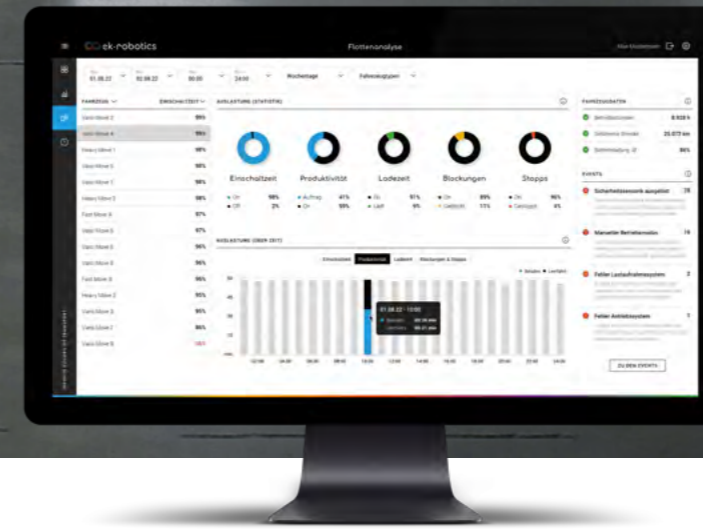


TRANSPORTS

The transports overview lists the current analysis of the plant's performance.

- Number of transports performed each hour
- Distances from source to sink
- Frequency of transport times?
- Throughput?
- Interruptions

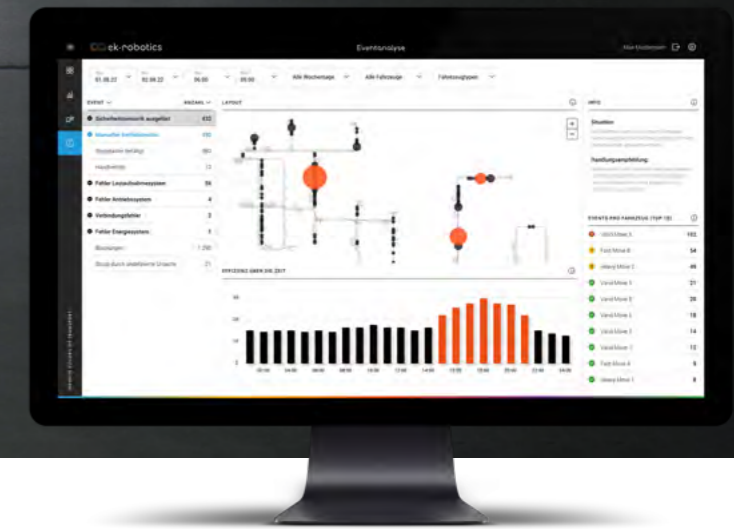
All information clearly presented and retrievable.



VEHICLE FLEET

The fleet overview **analyzes the AGVs and their individual performance**. Get a quick overview of the distribution of the operating states of the fleet (and/ or also individual transport vehicles) in relation to the switch-on time.

Get a reliable **assessment of the productivity**, loading times as well as the times for stops and blockades. Use the analysis data to identify possible causes for the results of the evaluations directly.



STOPS, BLOCKS, EVENTS

Determine **the number and content of events in the layout**. Use detailed analyses of stops and blockings.

Evaluate **location and time for individual AGV in detail**: The analysis shows the event-related main points in the layout, depending on location, time and transport robot. Zoom in or pan the layout to see more details.



ACADEMY: Develop your team!

MORE KNOW-HOW THROUGH INDIVIDUAL TRAINING

Our training offer ranges from basic tutorials to training courses that enable you to modify and expand your AGV system. We get you fit in the optimal design of your plant and support you as a strong partner throughout the entire life cycle of your AGV system.

ca. 30-60 min.

Level 1: Basics

For operators and maintenance personnel of plant and/or vehicles

Basic knowledge about your plant and vehicles, to be able to handle the AGV in its basic functions.

Trainer qualification: Commissioning or service technician

1-4 h

Level 2: In-depth & Diagnosis

For operators and maintenance of the plant and/or vehicles

Instruction in the interaction of the plant components as well as in-depth training in the operation of the AGV (system and vehicles).

Trainer qualification: Commissioning or service technician

System Design Training

1-4 h

Level 3: Modify

For maintenance and development/specialist departments of the plant and/or vehicles

Legal relevance of the modifications. Knowledge transfer of the plant structure (layout, vehicle and control system) as well as training for independent adaptation of existing layout areas.

Trainer qualification: Layout specialist

ca. 10 d

Level 3: Expert

For maintenance and development/specialist departments of the plant and/or vehicles

Contents of the training Modify plus extension of the layout by further stations and functions of the plant.

Trainer qualification: Expert Layout, Guidance system & AGV

ca. 1,5 d

Level 3: SIM

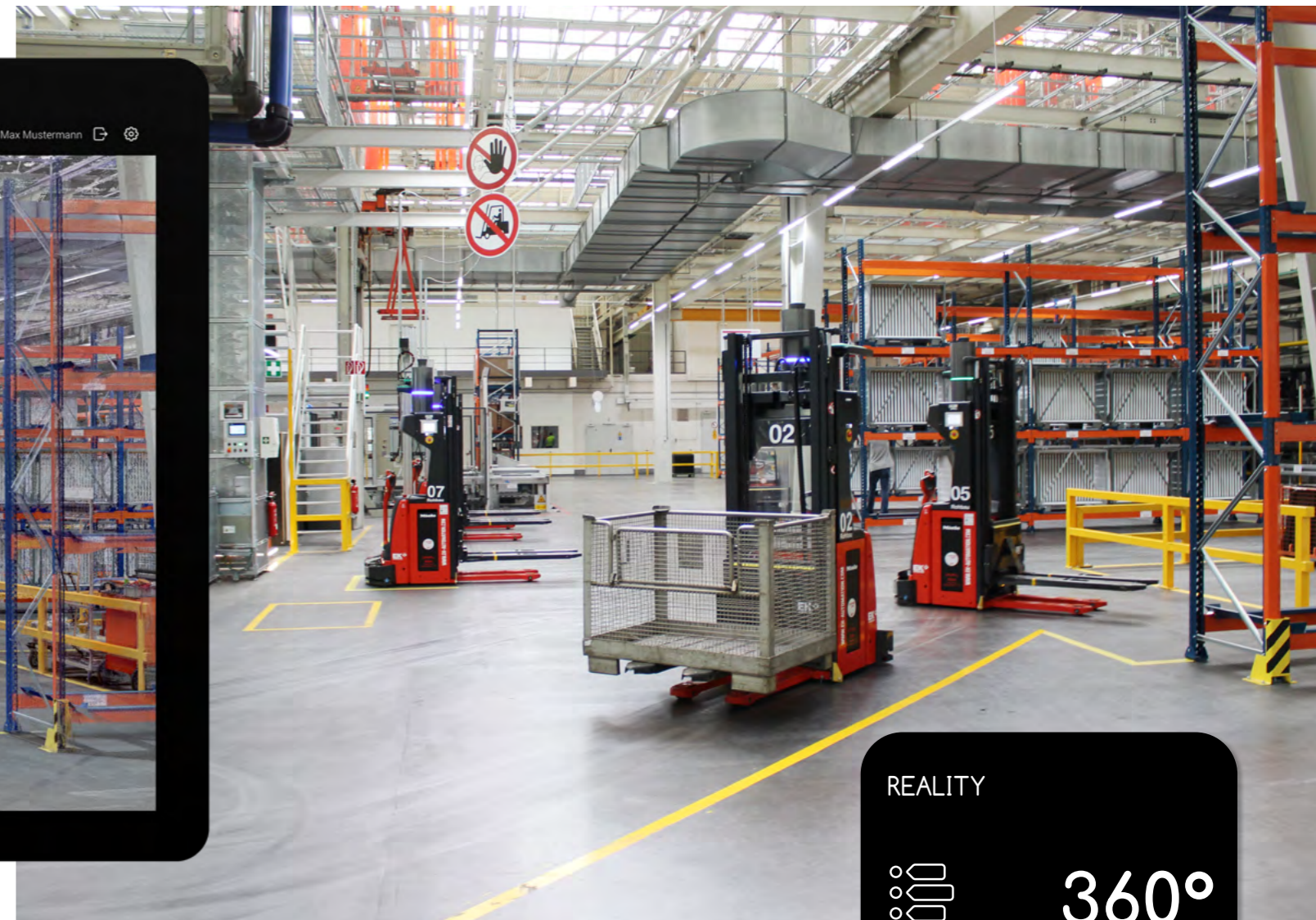
For maintenance and development/specialist departments of the plant and/or vehicles

Presentation of the analysis and simulation programs, versioning, System Manager operation, operation and setup of CWay for simulation, set up and start simulation, simulation statistics, error handling, ek order generator.

Trainer qualification: Specialist Layout



SIMULATION: Optimal planning & dimensioning of complex intralogistics systems.



OPTIMIZE PROCESSES

With our material flow simulation, we make the potentials for process optimization at the customer's site, find customized solutions and implement them.

REALITY



360°

PERFORMANCE CHECK

SIMULATION:

For practical solutions made to measure.

INTRALOGISTICS CONSULTING FOR OPTIMIZED PROCESSES

It is crucial for your company to optimally plan and to add dimension to complex intralogistics systems and upstream and downstream processes right from the start.

Simulation offers the best possible conditions:

Interrelationships, system limits, bottlenecks, plant modifications and alternative solutions that can be mapped exactly according to your requirements. We provide you with simulation-supported advice not only for the use of automated guided vehicles (AGVs), but also for completely AGV-independent systems and material flows.

OPTIMAL DIMENSIONING
of buffers and resources.

TIME-LAPSE FUNCTION
to illustrate long-term effects.

CLEAR HOLISTIC VIEW
of the entire process instead
of just a few sub-processes.



PRESENTATION OF ALTERNATIVES
and selection of the best solution in the shortest
possible time to reduce planning time and costs.

**BOTTLENECK
ANALYSIS**
of all your
processes.

DYNAMIC CONSIDERATION
of all simulation solutions with
the help of free viewer files. Static
videos with snapshots are no
longer necessary.

REUSABILITY
of created simulation
models for later
questions.

PLANT CHANGES
especially in short time
windows can be optimally
planned and prepared in
advance.

**FAST MODEL
CREATION**
through standardized
AGV construction kit.

**REPRESENTATION OF
DYNAMIC PROCESSES**
also regarding
fluctuations in
production.

PLANT SIMULATION
is a proven tool e.g.
in the automotive
industry, and can also
be used without additional effort.



**SIMULATION MADE
TO MEASURE**
is always 100 %
customized to your
requirements.

**IDENTIFICATION OF
SYSTEM LIMITS**
to assess the limit
performance.

**VISUAL
REPRESENTATION**
from a bird's eye
view conveys even
complex processes
in a simple and
understandable way.

**HIGHER ACCURACY AND
QUALITY OF RESULTS**
compared to conventional
analyses for complex
systems.



EK ROBOTICS: Welcome to the High-tech Company for transport robotics.

We are the **leading manufacturer and system integrator of innovative high-performance transport robotics** for production and warehouse logistics around the world. We create intelligent, networked, and **flexible transport solutions** for the fully automatic, in-house material flow of our worldwide customers.

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VARIO MOVE



With more than **50 years of experience** in design, development, manufacturing, integration, **turnkey delivery** and support across the entire life cycle of Automated Guided Vehicles (AGVs), we are the **technical elite** in the very fast-growing transport robotics industry.



Customised transport robotics solutions for every company.

The innovative **high-performance transport robots from ek robotics** solve internal inefficiencies in production and warehouse logistics. With highest reliability we optimize intralogistics processes and make them more flexible, fail-safe and efficient.

Trust, safety and quality - our core values today and in the future.

INFINITE COLORS OF TRANSPORT

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