



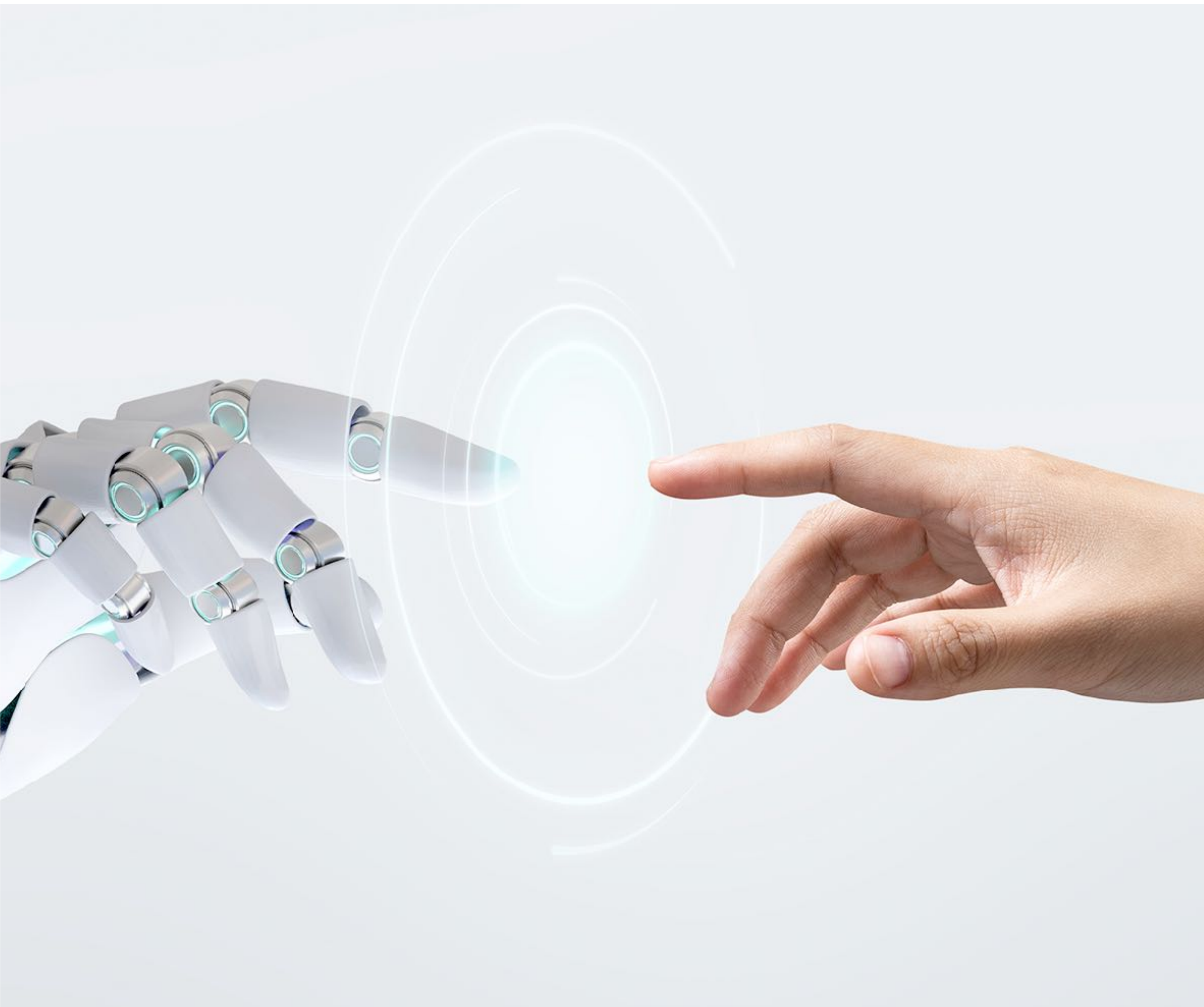
Lion Smart Equipment Solution

ENGINEERING THE HUMAN FUTURE



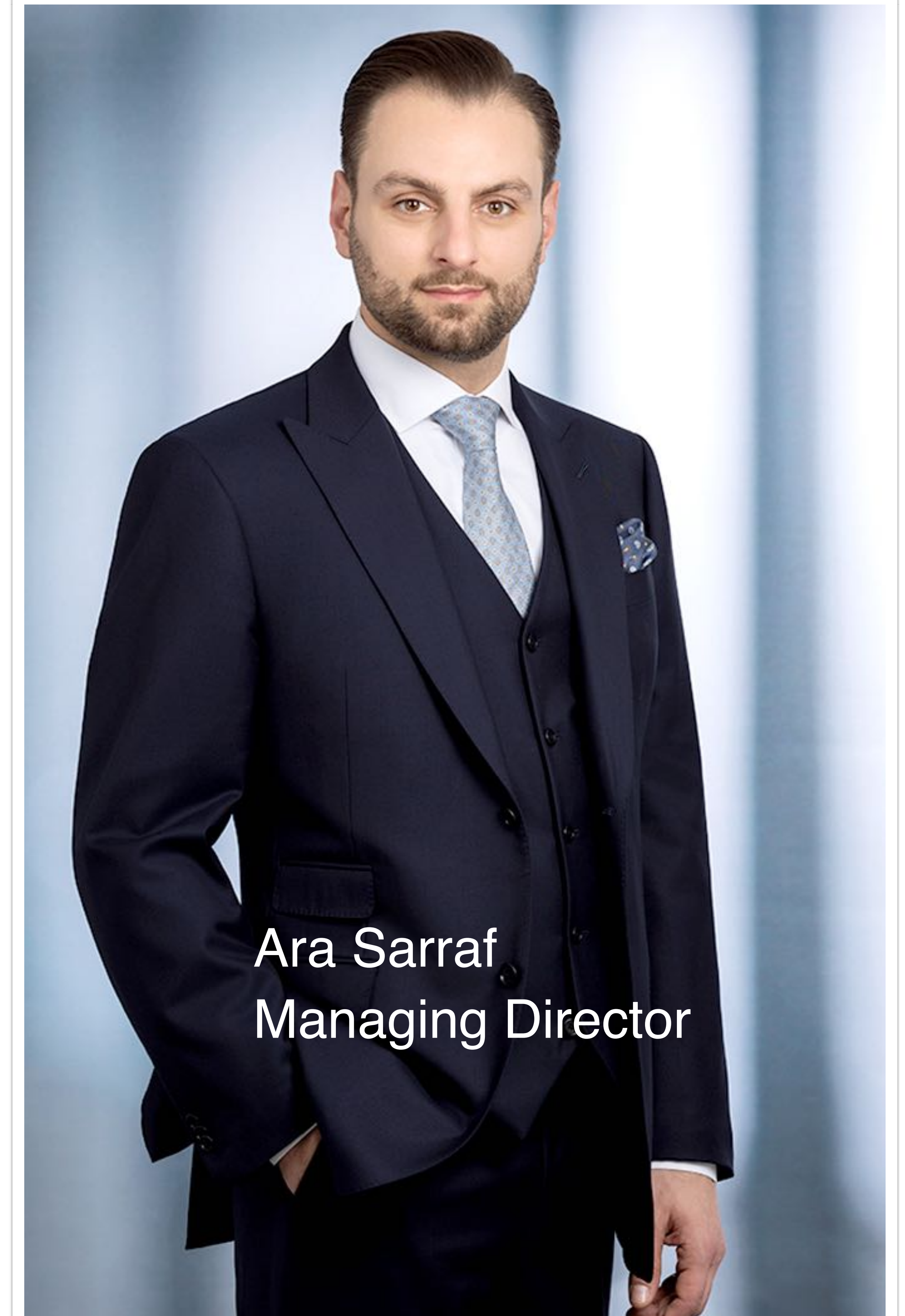
LION SMART EQUIPMENT SOLUTION
ENGINEERING THE HUMAN FUTURE

KUKA



- ✓ Mobile Robotics & Intralogistics
- ✓ Handling & Palletizing
- ✓ Welding & Assembly Robotics
- ✓ Vision Inspection & Quality
- ✓ Assembly & Testing Systems
- ✓ Industrial Software & MOM
- ✓ Engineering & Industrial Services

Lion Smart Equipment Solution is your KUKA System Partner for plant and line integration, from the mobile platform to the integrated line.



Ara Sarraf
Managing Director





LION SMART EQUIPMENT SOLUTION

<https://lion-se-solution.de>

Who We Are: Your KUKA System Partner for Integrated Automation

Special machine building and system integration:

- Lion Smart Equipment Solution GmbH was founded in May 2025 in Frankfurt am Main and is part of The Lion Group GmbH.
- We are a KUKA System Partner for plant and line integration.
- Our processes are certified according to ISO 9001:2015.

What we build:

- Intelligent assembly and testing systems, retrofits of existing lines and greenfield plants.
- Vision systems and robotics, from single robot cells to mobile platforms.
- Industrial software for traceability, MES/ERP interfaces, HMI/SCADA and MOM implementation.

Where we deliver:

- Engineering and the customer interface to European headquarters are based in Eschborn near Frankfurt.
- We are building a North Africa presence via Tunisia.

KUKA

Official System
Partner





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QUALITY MANAGEMENT: ISO 9001:2015 IN PRACTICE



Certified Management System

Our quality management is certified according to ISO 9001:2015, with defined processes from order clarification and engineering through commissioning to service.



Quality Gates in Every Project

Design review, factory acceptance test (FAT) before delivery and site acceptance test (SAT) on site, including CE and safety documentation for every cell and line.



Certified Components and Suppliers

Original components from audited suppliers, with traceability of components, parameters and test data in the MES.



Availability and Continuous Improvement

A global supply network and the partner companies of The Lion Group secure delivery; audits, corrective actions and lessons learned feed back into the next project.

"We combine your requirements with the best components on the market – quickly, reliably and future-oriented."



WHAT SETS US APART



Integration Around KUKA:

KUKA supplies the platform. We build the integration around it, including layout, grippers, safety concept, software connection and commissioning.



Software as a Differentiator:

Traceability, MES/ERP and WMS connection come from one source, so test and process data flow directly into your systems.



Standardized Entry Solutions:

We start with cells instead of complete lines. This keeps the scope predictable, speeds up integration and allows expansion into a linked line.



Milestone-Based Project Execution:

Clear phases lead from order to factory acceptance, site acceptance and warranty, with documented results at every step.



Quality You Can Rely On:

Our processes are certified according to ISO 9001:2015. CE and safety documentation are part of our scope.



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Image: © KUKA

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KUKA SYSTEM PARTNER: WHAT LSES BUILDS AROUND KUKA



Mobile Platforms: KUKA KMP 1500

KUKA supplies the omnidirectional platform with 1,500 kg payload, KUKA.AMR Fleet, navigation and safety scanners. LSES adds transfer and docking stations, the fleet connection to WMS and MES, the material flow layout, the safety concept according to EN ISO 3691-4, commissioning and training.



Handling and Conveyor Cells

KUKA supplies robots, controllers and the gripper ecosystem. LSES designs the cell layout and grippers and adds vision inspection, traceability in the MES, line linking, CE documentation and FAT/SAT.



Heavy Load: KUKA omniMove

KUKA supplies omniMove platforms for payloads of up to 90 t. LSES integrates heavy-load transport into processes in aerospace, rail depots and metal processing, including hall logistics, docking and lift stations.



Standardized Entry Cells

KUKA supplies pre-configured ready2_use application packages. LSES turns them into cells with fast integration and a predictable price that can be expanded into a linked line.





Image: © KUKA

MOBILE ROBOTICS & INTRALOGISTICS

We integrate autonomous mobile platforms and heavy-load transporters into your existing plant, from transfer stations to the fleet connection with WMS and MES...



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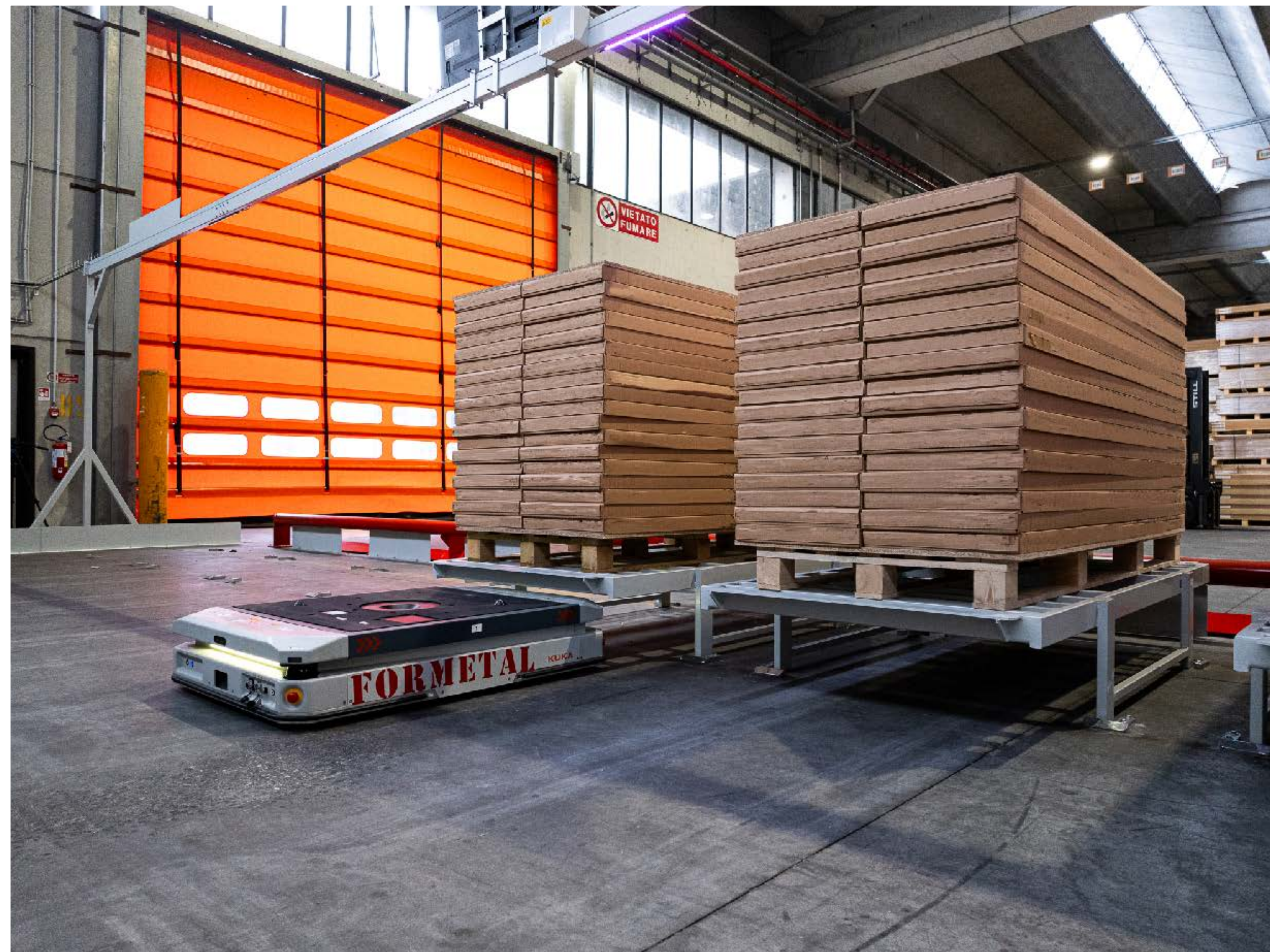


Image: © KUKA

MOBILE ROBOTICS & INTRALOGISTICS



AMR Integration in Existing Plants

We integrate mobile platforms such as the KUKA KMP 1500 into running plants, including transfer stations with roller or chain conveyors, docking stations to existing equipment and the material flow layout.

Example: an AMR fleet supplies a robotic palletizer and cuts the cycle time per pallet from 10 to 7 minutes (KUKA application, Formetal).



Fleet and Software Connection

We connect KUKA.AMR Fleet to your WMS and MES.



Safety Concept and Commissioning

We develop the safety concept according to EN ISO 3691-4 and take care of commissioning and operator training.



Heavy-Load Logistics with KUKA omniMove

We integrate heavy-load transport into processes in aerospace, rail depots and metal processing, including hall logistics, docking and lift stations.

Example: two omniMove platforms move aluminum plates of up to 8.5 t autonomously in three-shift operation (KUKA application, AMAG).



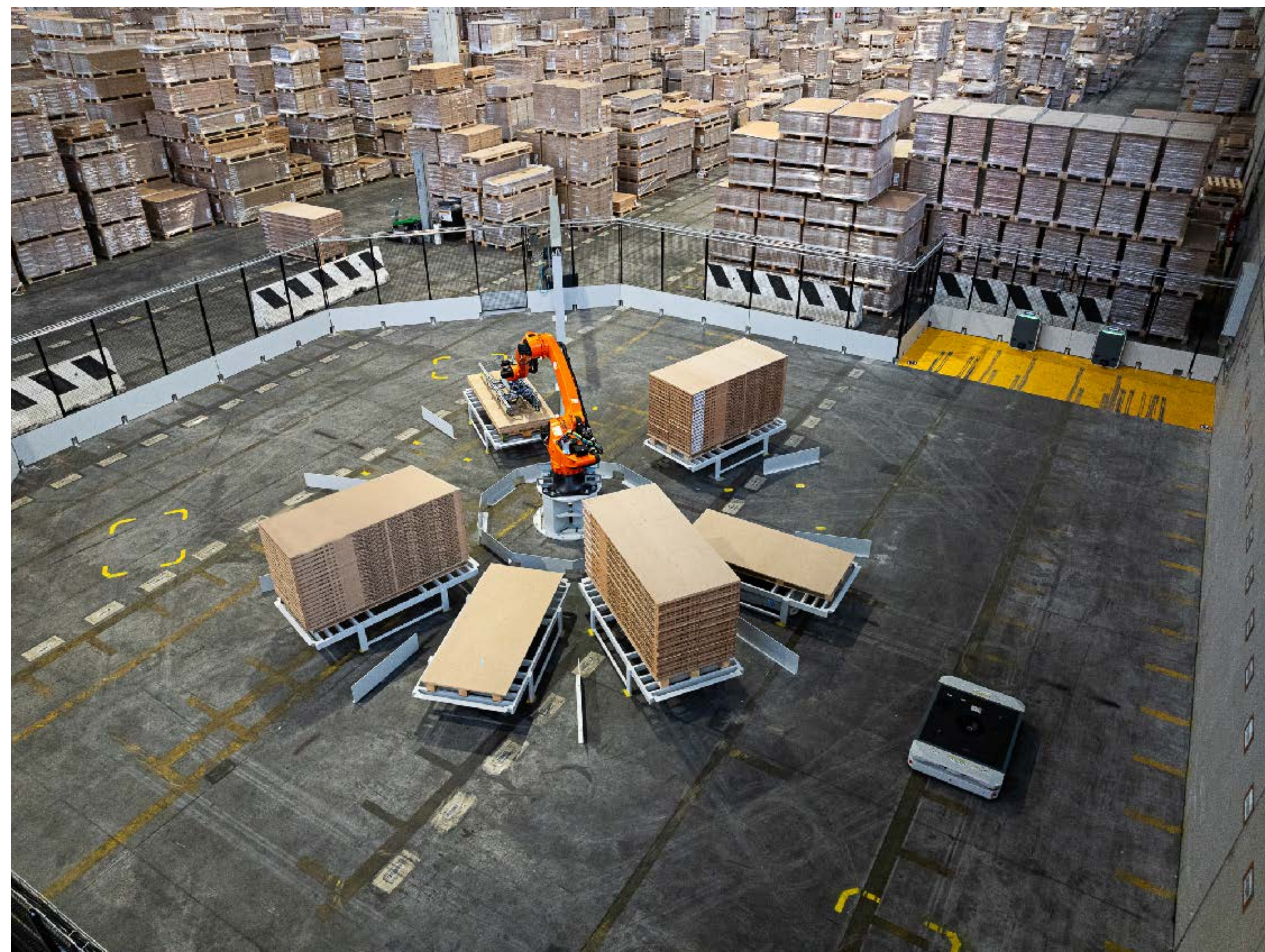


Image: © KUKA

KUKA APPLICATION EXAMPLE AMR FLEET AND PALLETIZER

Formetal, Italy: Furniture Manufacturing

Challenge: pallets were assembled by hand in a large work area, with long preparation times and manual handling of loads over 25 kg.

Solution

Autonomous mobile robots bring the product stacks from the loading bays to a robotic palletizer and return the finished pallets. KUKA.AMR Fleet coordinates the fleet. Formetal chose AMRs over conveyors and AGVs because they need no rigid infrastructure and are easy to scale.

Result

The cycle time per pallet fell from 10 to 7 minutes. Operators handle less weight, and less forklift traffic lowers the accident risk.

What LSES Adds

We integrate this combination into existing plants with transfer stations, the fleet connection to WMS and MES, a safety concept and commissioning.

Realized by KUKA and its partners. Source: KUKA Solutions Database, kuka.com, May 2025





Images: © KUKA

KUKA APPLICATION EXAMPLE HEAVY-LOAD INTRALOGISTICS

AMAG, Austria: Aluminum Rolling Mill

Challenge: the new rolling mill in Ranshofen needed flexible and efficient intralogistics that meet Industrie 4.0 requirements.

Solution

Two KUKA omniMove platforms with KUKA.NavigationSolution transport aluminum plates of up to 12 m and 8.5 t. A camera reads the QR code on the carrier, the platform drives under the stack with millimeter accuracy and lifts it with its spindles.

Result

The platforms work with a precision of ± 5 mm at full load and supply the finishing lines around the clock in three shifts. Compared with crane and forklift, handling is more flexible, faster and safer.

Capability Reference

At Airbus in Hamburg, KUKA omniMove moves A380 fuselage sections of up to 90 t in a confined hangar, with a battery runtime of 48 hours.

Realized by KUKA and its partners. Images: AMAG (top), Airbus (bottom). Source: KUKA Solutions Database, kuka.com (2019, 2016)



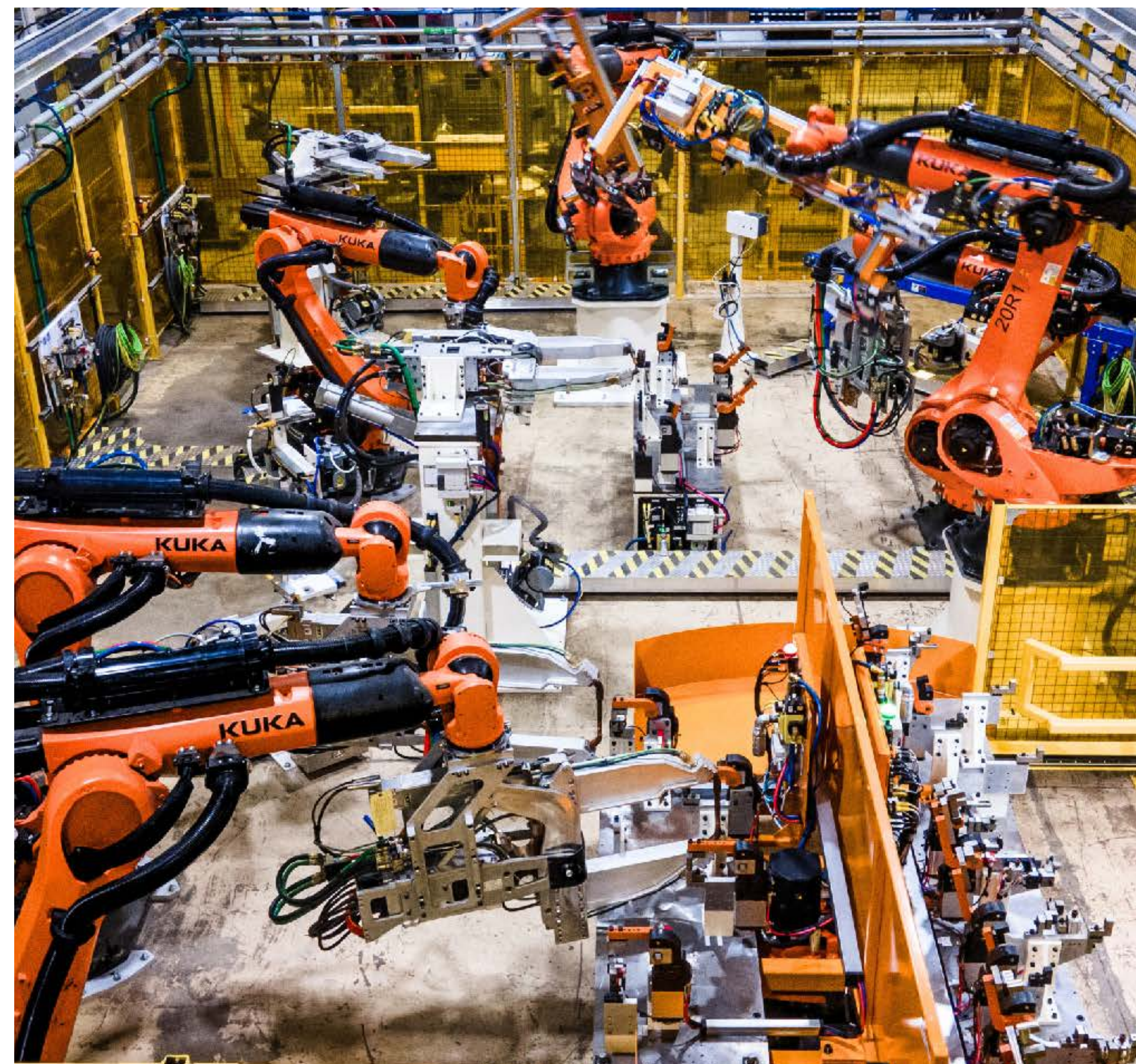


Image: © KUKA

ROBOTIC HANDLING & WELDING CELLS

From end-of-line palletizing to welding and assembly, we engineer, build and commission robot cells around KUKA robots. Our cells are standardized, scalable and ready for line linking...



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Image: © KUKA

ROBOTIC CELLS

HANDLING, PALLETIZING & WELDING



End-of-Line and Palletizing Cells

We build palletizing cells for mixed pallets and line linking, with optional connection to AMR fleets.

Example: a robotic palletizer supplied by an AMR fleet (KUKA application, Formetal).



Welding and Assembly Robotics

We build robot cells for welding and assembly and retrofit existing lines and manual workstations.

Example: an aluminum spot welding cell with 24 KR QUANTEC robots, built and tested at the integrator before shipping (KUKA application, E&E Manufacturing).



Cell Engineering

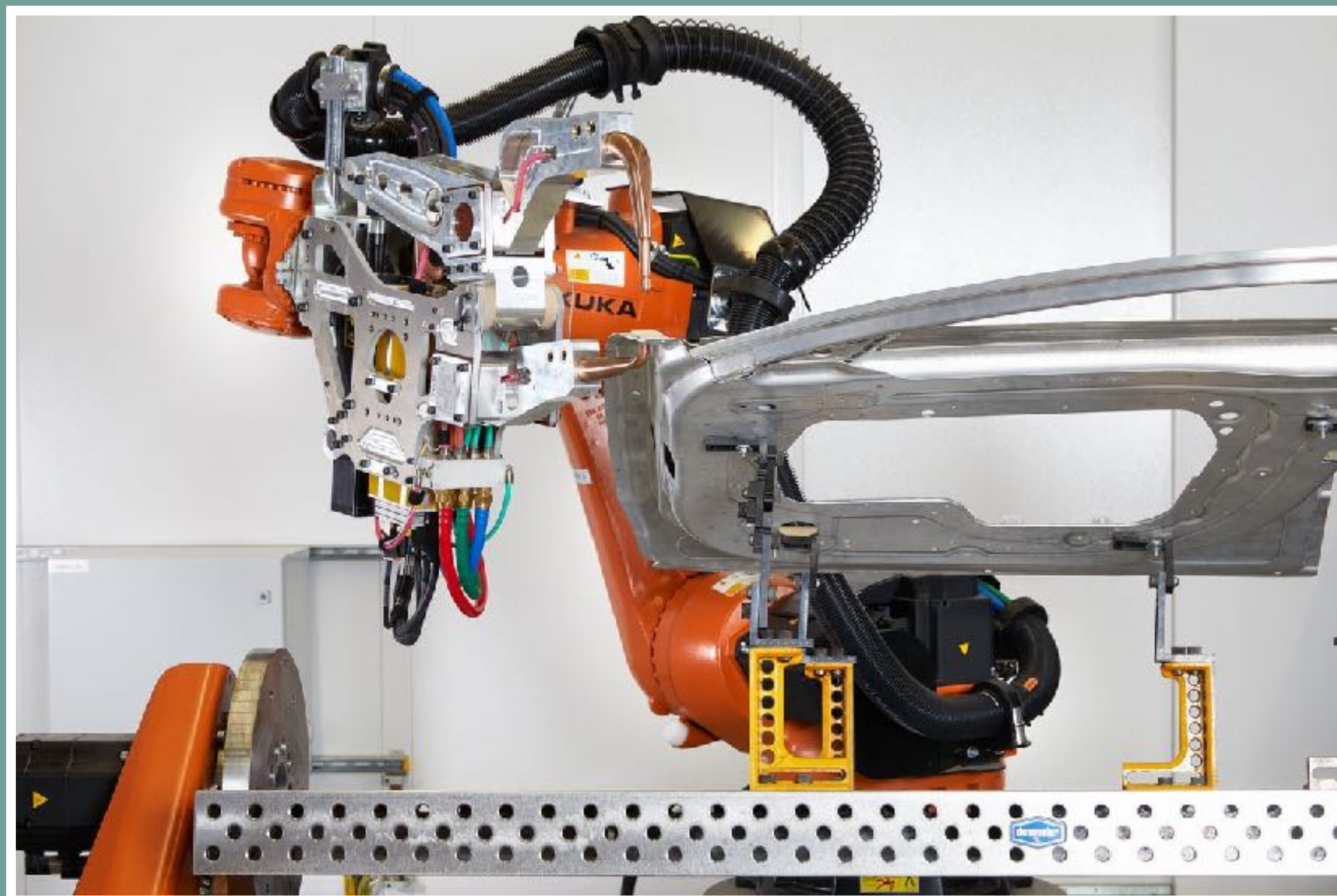
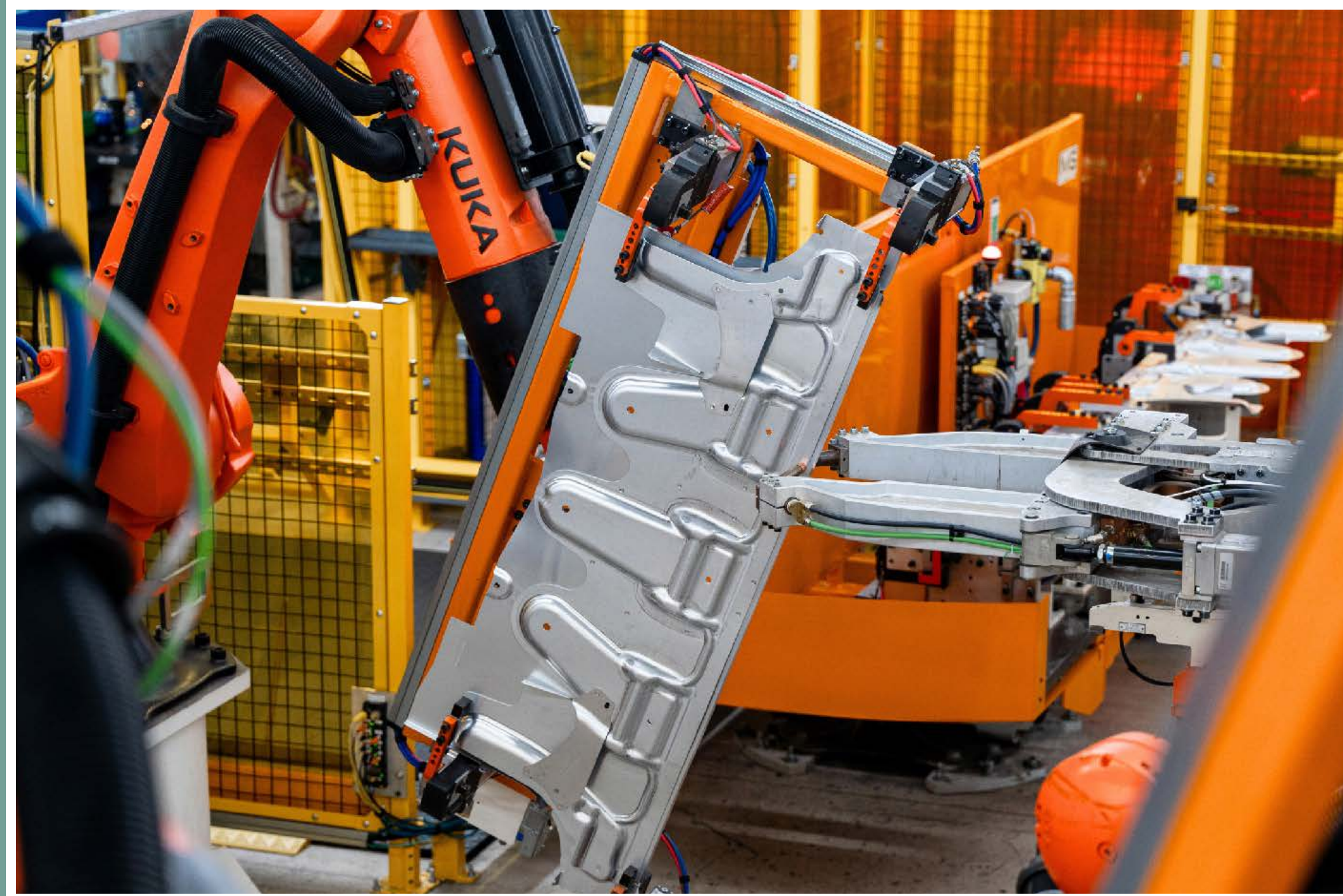
Cell layout, gripper engineering, vision inspection and traceability of test data in the MES come from one team.



Safety and Acceptance

Our scope includes CE and safety documentation, a factory acceptance test before delivery and a site acceptance test on site.





KUKA APPLICATION EXAMPLES: STANDARDIZED ROBOT CELLS

Reference applications of KUKA solutions that LSES integrates, realized by KUKA and its partners.

Source: KUKA Solutions Database, [kuka.com](https://www.kuka.com)

E&E Manufacturing, USA: Tier 1 Automotive Supplier

An aluminum spot welding cell with 24 KR QUANTEC robots, KUKA.ServoGun and KUKA.RoboSpin. The integrator IMG built the cell in its own workshop and trained the customer there before shipping.

Result: rotation around the TCP prevents electrode sticking, extends cap life, reduces tip dressing and improves aluminum weld quality.

Paul von der Bank: Welding To Go WTG 1200

A compact welding cell on a Euro-pallet footprint of 1,200 × 800 mm with a KR AGILUS KR 6 R700 sixx and an integrated PLC. The operator loads the part and closes the door, then the robot welds.

Integrator statement: “flexible, powerful and affordable”.

KUKA ready2_spot

A pre-configured, tested and documented application package for spot welding that significantly reduces integration effort.

Why it matters: the cell is built and accepted before delivery, with no large upfront investment on site.





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HOW WE START: SCALABLE ENTRY PATHS



Service and Retrofit

Controller upgrades, vision retrofits and safety packages for your installed base offer the lowest entry threshold.



Standardized Robot Cell

Based on proven KUKA application packages, engineered in Eschborn, accepted at the factory before delivery and again on site.



Test and Handling Cell with Software

For wire harness and end-of-line testing, combined with our traceability and MES software.



Repeatable End-of-Line Cells

Palletizing and handling cells as repeat solutions, with optional AMR connection.

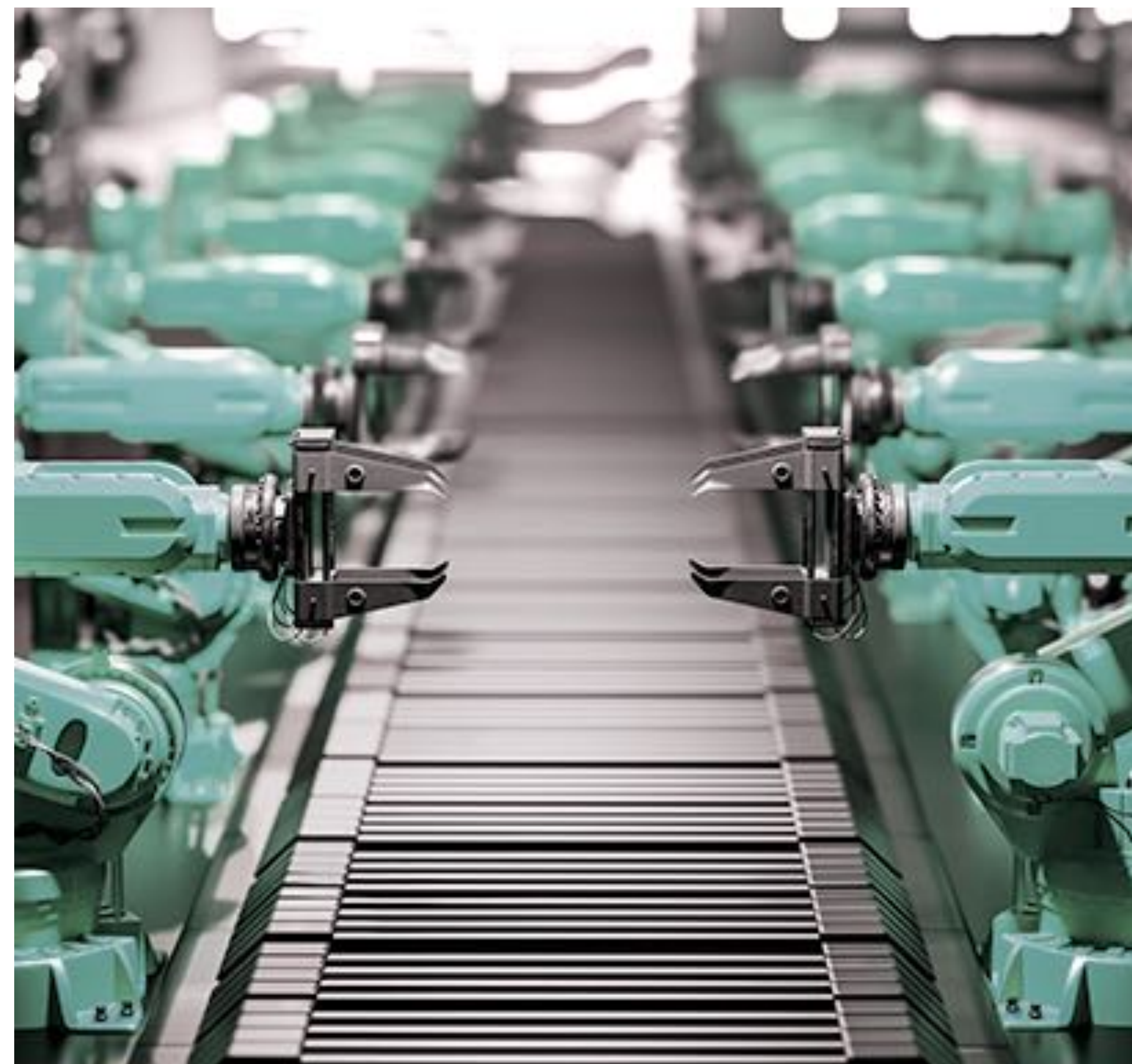


AMR Integration in Existing Plants

Transfer stations, fleet connection and safety concept. Heavy-load transport is handled as a project.

Start with one cell and expand to a linked line.





TAILORED ASSEMBLY LINE CONFIGURATIONS

Whether you are launching a new product or optimizing an existing line, we deliver assembly systems adapted to your production needs...





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Manual Assembly Line

Supervised workstations with ergonomic setups and operator guidance.
Ideal for small to mid-volume production.

Example: Manual wiring assembly with visual inspection stations.



Semi-Automated Lines

Combine human expertise with automation tools like screwdrivers, press stations, or smart fixtures.

Example: Automated station performs torque-controlled screwing.



Fully-Automated Lines

High-speed lines with complete automation for demanding productivity and quality standards.

Example: Automated assembly of electronic modules including pick & place, soldering, and final test.



Custom Handling & Conveyors

Tailor-made conveyors, pallet systems, or rotary tables to ensure smooth part transfer and line synchronization.

Example: Modular conveyor system with buffer zones and accumulation logic.



Robotic Integration

We integrate 6-axis and SCARA robots for precise assembly, handling, and inspection.

Example: Robotic arm performing pick-and-place of components with integrated vision system for part orientation.





INTELLIGENT TESTING SYSTEMS & EQUIPMENT

We develop customized testing systems and equipment that ensure the quality, functionality, and reliability of your products throughout the entire manufacturing process.





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Turntable Tester

Rotary platform integrating multiple test stations for sequential testing with high throughput.

Example: Functional and vision tests performed at different rotary stations for a sensor module.

Embedded Fixture Tester

Compact and ergonomic fixtures embedded into workbenches or automated lines, adapted to your product's shape and interfaces.

Example: Pneumatic fixture with integrated electrical contacts for end-of-line testing of a PCB.

Custom Test Benches

Standalone or inline benches for dedicated tests based on product requirements.

Includes:

 **RF Tests** (e.g., antenna performance, signal strength)

 **Functional Tests** (e.g., verifying logic functions, I/O, displays)

 **Measurement Tests** (e.g., voltage, current, resistance, pressure, flow)

Example: Functional test bench for IoT device with RF signal validation and current consumption profiling.





VISION INSPECTION SOLUTIONS

We develop and integrate advanced vision systems that ensure product quality and compliance, with inspection data fully traceable in your MES...





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Dimensional Control

High-precision measurement of parts and assemblies to verify critical tolerances.

Example: Measuring the outer diameter and hole alignment of a machined component.



Compliance Check

Verification of conformity against predefined specifications or standards (geometry, marking, labels, etc.).

Example: Checking label position and text accuracy on a packaged product.



Brightness & Luminance Control

Evaluation of light intensity and uniformity, especially for LEDs, displays, and backlit components.

Example: Validating LED backlight brightness on a dashboard interface.



Color Inspection

Real-time detection of color accuracy, uniformity, or deviations in painted, printed, or illuminated parts.

Example: Identifying color shift on plastic housings due to injection mold variations.



Presence & Position Control

Confirmation that components are present, correctly oriented, and properly assembled.

Example: Detecting missing screws or misaligned connectors on an electronic board.



Pixel-Level Control

Inspection of displays or camera sensors down to the pixel level to detect dead pixels, color uniformity, or display artifacts.

Example: End-of-line control of an LCD screen for automotive use.





WIRE HARNESS TEST & HANDLING CELLS

We develop test, handling and vision cells for wire harness and cable production, combined with traceability software that documents every test result...





SMART HARNESS TESTING, HANDLING AND TRACEABILITY



Custom Test Benches for Wiring Systems

We design and integrate custom end-of-line and functional test benches with embedded traceability, diagnostics and reporting.

Example: EOL test bench for automotive harnesses with continuity, isolation and short-circuit tests.



Handling and Robot Cells for Harness Production

Cobots and small robots take over handling at end-of-line and form-board operations, as repeatable, standardized cells.



Vision-Based Inspection for Wiring Quality

Industrial vision systems check quality in real time and detect miswiring, missing terminals and insulation issues.

Example: vision system for verifying pin presence and correct wire color mapping.



Commissioning and Training

We support commissioning, operator training and process engineering and create technical documentation and work instructions for the series launch.





INDUSTRIAL SOFTWARE SOLUTION

We develop tailored software for traceability, MES/ERP connection, HMI/SCADA and MOM implementation, ensuring seamless integration and operational efficiency...





Traceability Master

Centralized software for managing production traceability across workstations and equipment.

Example: real-time tracking of serial numbers, operator actions, test results and assembly steps, with data export for quality analysis or ERP integration.

EMS (Equipment Management System) Development

Custom software to monitor and control machine status, production flow, alarms, maintenance logs and performance KPIs.

Example: dashboard showing OEE, downtime reasons and production targets for an automated assembly line.

HMI/SCADA Development

Intuitive interfaces for operators and technicians, designed for efficiency and error reduction.

Example: touchscreen panel with guided steps, live test feedback and part status indicators.

MES/ERP Interfaces and MOM Implementation

Connection of machines, test stations and AMR fleets to MES, ERP and WMS, plus implementation of manufacturing operations management with interfaces to predictive maintenance and digital twin applications.





ENGINEERING & INDUSTRIAL SERVICES

We accompany your project from engineering to commissioning, operator training and service, including the retrofit of existing plants...





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Retrofit and Modernization

Controller upgrades, vision retrofits and safety packages for existing lines and robot cells.



Commissioning and Training

Factory acceptance test (FAT), site acceptance test (SAT), commissioning on site and operator training.



Safety and CE Documentation

Safety concepts, for example according to EN ISO 3691-4 for mobile robots, and complete CE documentation.



Milestone-Based Project Management

Clear phases from order through FAT and SAT to warranty, with documented results at each milestone.





OUR STRUCTURE, PARTNERS & NETWORKS

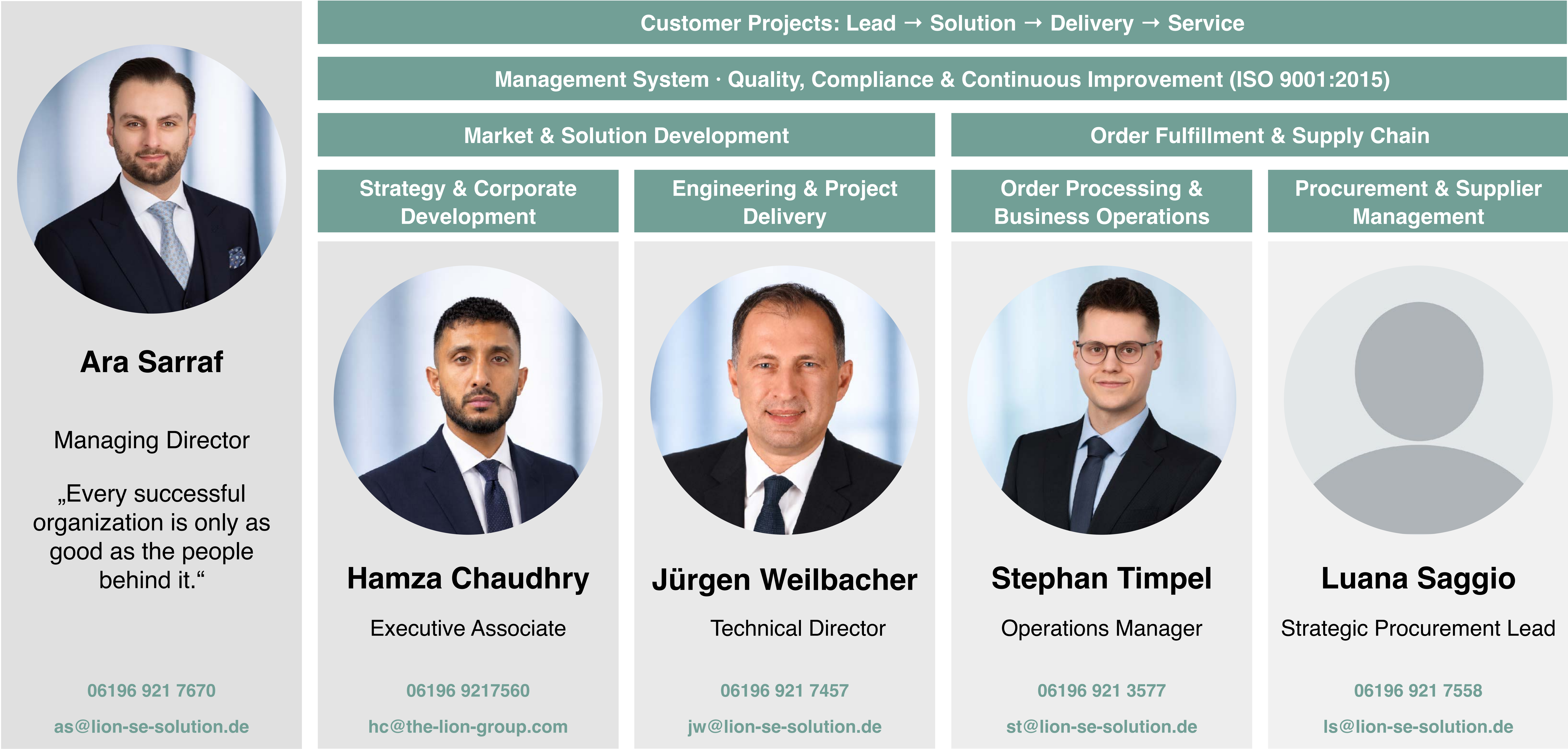
Lion Smart Equipment Solution is part of The Lion Group GmbH. As a KUKA System Partner, we combine engineering and project execution from Eschborn near Frankfurt with a North Africa presence we are building via Tunisia.

KUKA

Official System
Partner



Organizational Chart





NORTH AFRICA: MARKET & APPROACH



Why North Africa

Morocco has a production capacity of more than 1 million vehicles per year, and automotive exports reached MAD 157 bn in 2024 (+6.3 %).¹ A EUR 1.2 bn investment raises Stellantis Kénitra to 535,000 units, and local integration is set to rise from 69 % to 75 % by 2030.² Renault Group produced 394,474 vehicles in Morocco in 2025.³ Yazaki, Sumitomo/SEWS, Leoni, Aptiv and TE form a strong wire harness cluster.⁴



Automation Gap

Body shop, assembly and wire harness form boards are still largely manual.⁵ Ports are highly automated, while plant and warehouse intralogistics are barely automated.⁶



How We Deliver

Engineering and the customer interface to European headquarters are based in Eschborn near Frankfurt. We are building a North Africa presence via Tunisia for assembly, commissioning and service.

Sources: ¹ Reuters via Global Banking & Finance Review, 17.07.2025 · ² North Africa Post; Morocco World News, 17.07.2025 · ³ The Morocco Post, 28.01.2026 · ⁴ papaverAI Wire Harness Guide, 06/2026; Bladi, 24.06.2026 · ⁵ papaverAI Wire Harness Guide, 06/2026; Automotive World, Plant Profile Renault Tangier, 2017 · ⁶ APM Terminals, MedPort Tangier; The Morocco Post, 06.02.2025



THE LiON GROUP



LiON WORK SOLUTION
PERSONALDIENSTLEISTUNGEN

is a specialist in temporary staffing, direct placement and strategic workforce solutions. We supply companies with qualified professionals and provide flexible, tailor-made solutions for individual workforce requirements.



LiON ELECTRONIC SOLUTION
SUPPLY CHAIN PARTNER

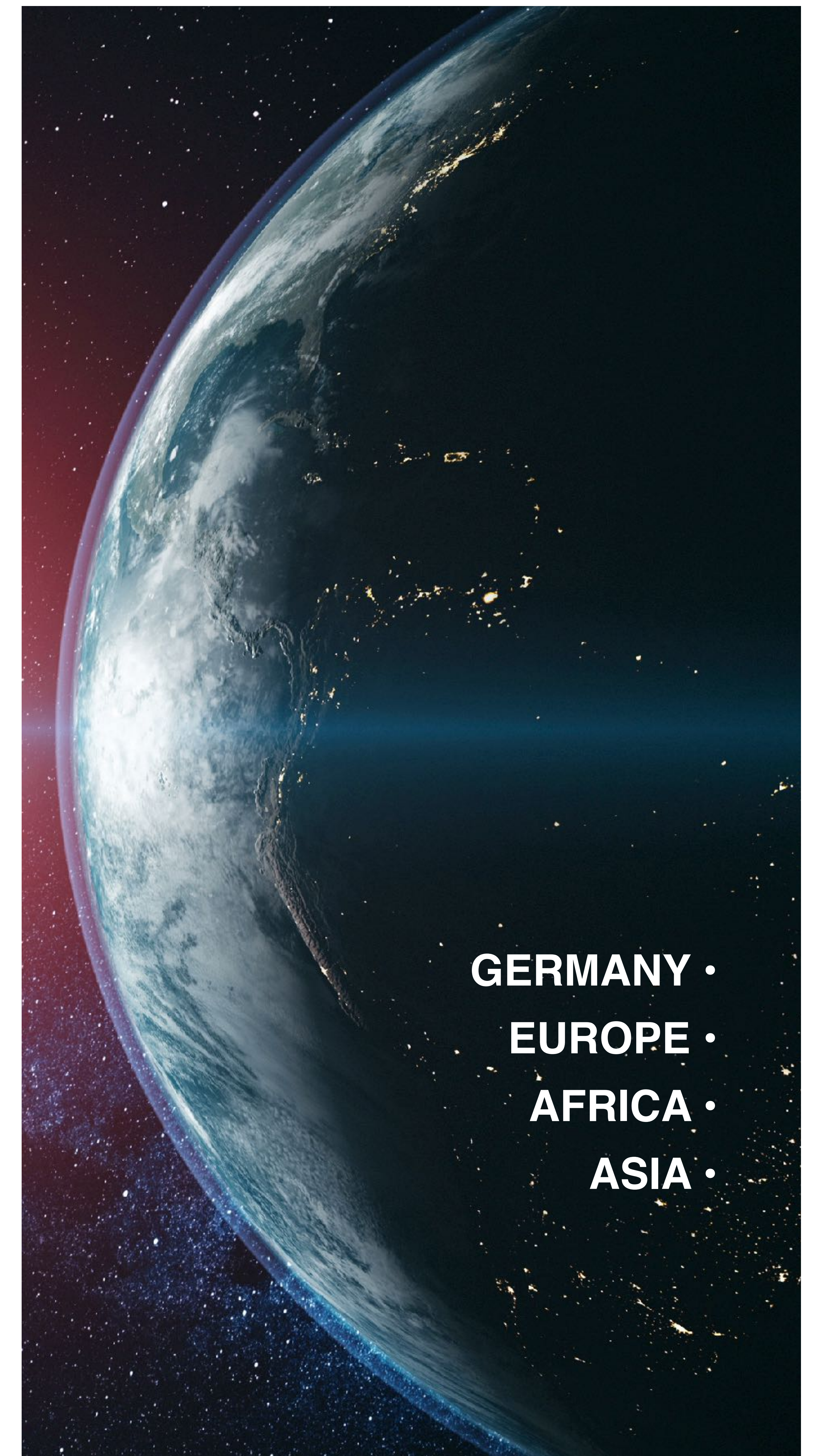
is a specialist in the global sourcing of electronic and industrial components, providing active, passive, and electromechanical parts as well as automation components such as cameras, controllers and spare parts for advanced industrial applications.



LiON SMART EQUIPMENT SOLUTION
ENGINEERING THE HUMAN FUTURE

KUKA

develops and integrates automated production systems and Industry 5.0 solutions that make manufacturing faster and more efficient. As an official KUKA System Partner, LSES delivers robot solutions together with KUKA.



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THE LION GROUP

GERMANY • EUROPE • NORTH AFRICA



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