

YOUR ROAD TO YOUR ROLLOMATIC SMART FACTORY





DEVELOP. DELIVER. INTEGRATE.

Advanced robotic systems with a focus on mobile manipulation and user-friendly operating software.

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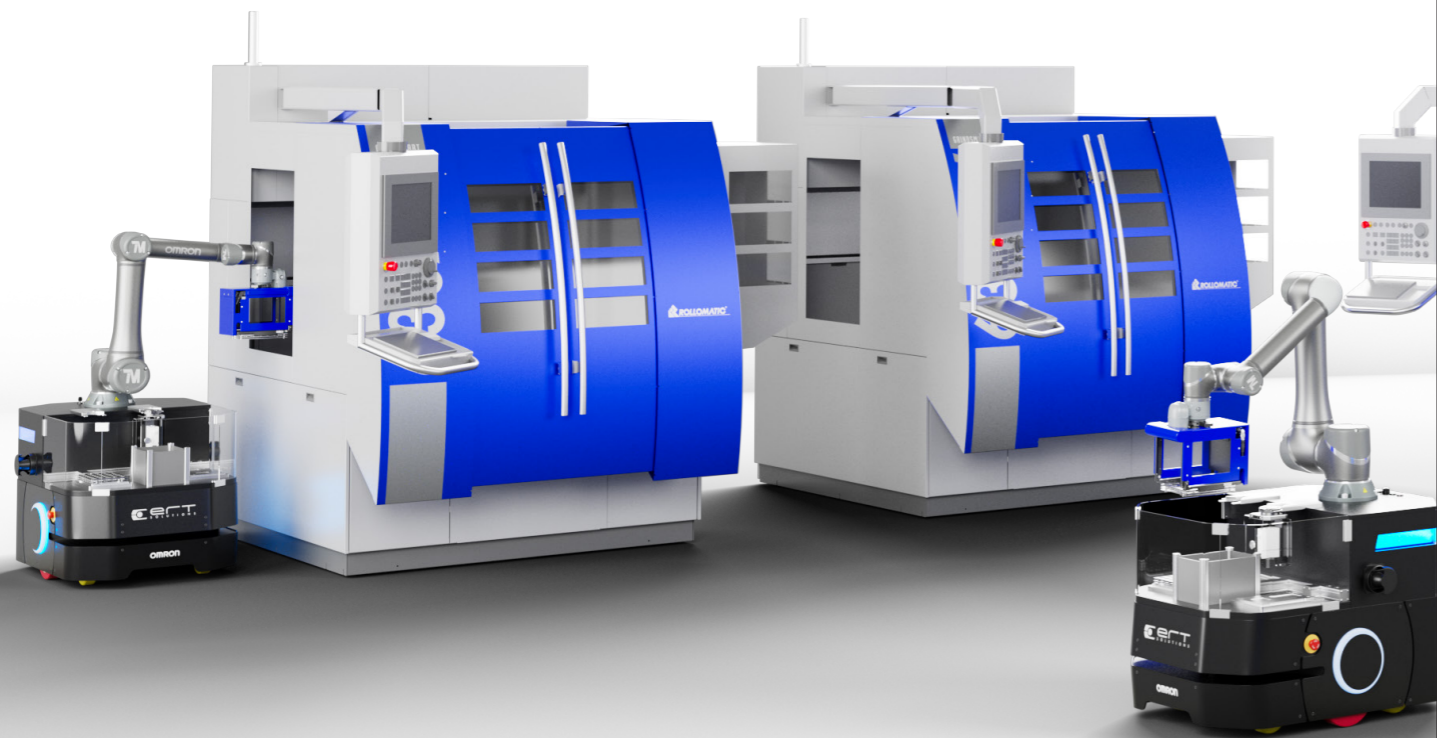




ROLLOMATIC SMART FACTORY

After years of research and development with a strong focus on the Smart Factory infrastructure, advanced high-precision tool grinding and robotics technologies, our teams at Rollomatic SA and ERT Solutions can offer full automation of tool grinding manufacturing to our customers.

Utilizing a collaborative mobile robot with sophisticated software modules to transport material between the precision machines, the Rollomatic Smart Factory offers higher outputs through extended production times without additional personnel.



The steps to each Smart Factory include the optimization of grinding processes to achieve increased autonomy, implementation of the Smart Setup Assistant and the integration of in-process measurements.

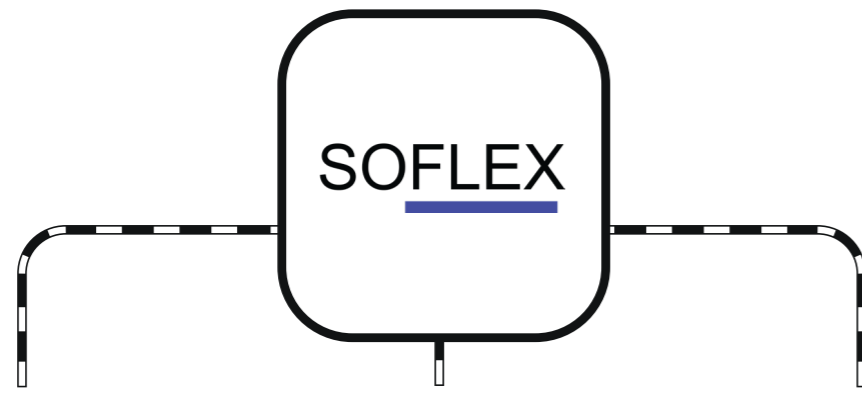
Our team is diligently working on extending the range of machines and modules to increase options and flexibility for our valued customers. Interested production companies can now send their requirements, such as tool dimensions, desired production schedules and outputs, including batch sizes to ERT Solutions. Through our experience in virtual engineering, including material flow simulation and 3D layout planning and simulation, we will be able to propose the optimal balance between the number of machines, robots, available floor space and investment to consider.

The Smart Factory can be achieved in multiple steps based on customer needs and requirements. "Think big, but start small" is a valuable approach that we are uniquely positioned to offer, enabling our customers to flexibly expand the Rollomatic Smart Factory in line with their vision so they can prepare for the future.

Full automation of the grinding process

Thanks to RCONNECT, the machines can communicate with their environment, thus, with a mobile manipulation robot and measuring machines. The Rollomatic Group can offer a variety of layouts with different machines and devices to fit the customers' production needs the best. Rollomatic's unique advanced technologies, such as the GrindSmart® 630XW, 660XW or 830XW combined with ERT Solutions' expertise in mobile manipulation through the mobERT® systems, lead customers toward the ultimate goal of full production automation.





MES
MANUFACTURING EXECUTION
SYSTEM

SYSTEM ARCHITECTURE



PARTNER COMPANY

COMPANY

MES DRIVER

MES DRIVER

MES DRIVER

COMMUNICATION SYSTEM

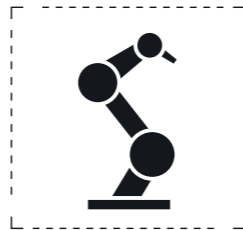
Smart Connectivity
RCONNECT



ERTmiral®
Fleet & Order Management



MACHINE CONTROL

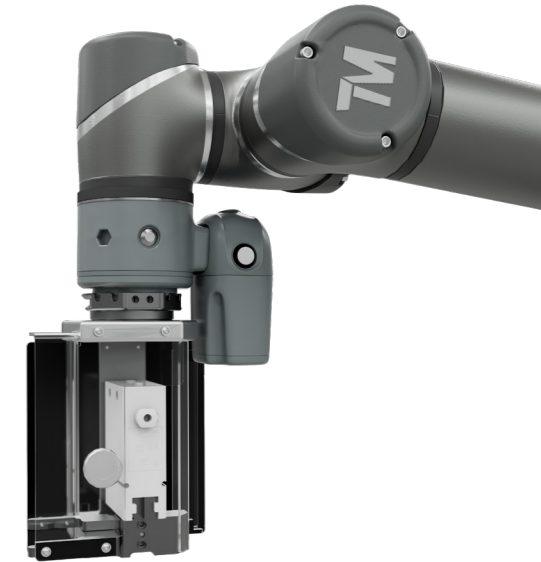


SOFTWARE INFORMATION



EXAMPLE HARDWARE

The system and the interacting components



AUTONOMOUS MACHINE TENDING

Add lights-out-production times to your schedule and leave the monotonous work at your machines to ERT Solutions' mobile manipulator mobERT®.

mobERT® has been developed to free people from ergonomically stressful activities that are ubiquitous in intralogistics and production processes. mobERT® can be used regardless of location to ensure high production equipment utilization 24/7.

Our mobERT® M series models, which consist of which consist of a mobile robot with a payload capacity of 108 kg combined with a collaborative robot arm with a 20 kg payload, transport pallets, single tools or totes for a seamless production. For these tasks we have developed various gripper systems, tool changers and image processing systems for high precision and reliability.

Tool changers can be placed on mobERT® or at a location on the floor for the most efficient material transport. Positioning accuracy is key, which is solved through CAPS (Cell Alignment Positioning System) and onboard cameras. mobERT® is programmed through its software ERTmiral®, which handles the communication between the robot, all machines and the manufacturing execution system. Material can be tracked through RFID readers or the onboard camera, which includes a barcode reading system.

mobERT®-M20M with SMART FACTORY Implementation



mobERT[®]-M25L



TOTE HANDLING

Mobile robotics for the ergonomic automation of the last mile of your production logistics.

The mobERT[®]-M25L is a cutting-edge mobile robot designed to automate ergonomically challenging manual handling tasks in intralogistics and production lines. Its flexible and location-independent operation enables 24/7 continuous performance, maximizing system efficiency and reducing downtime. M25L is an extension of our mobile manipulator fleet, which is optimized for higher payloads, more reach and the transport of more material at longer distances.

Key Features

- Safe handling of loads up to 25 kg
- Vertical reach of over 2 meters
- Ideal for pick-and-place, order fulfillment, and material transport
- Seamless integration into dynamic environments

SMARTSHELF

The easy entry point to the Rollomatic Smart Factory

The SmartShelf is a modular, flexibly configurable storage and transferring system that serves as the central link between manual processes and automated production. It offers companies a cost-effective and scalable gateway to the smart factory - as the first step toward partial automation, from pilot projects to fully interconnected production areas.

This is how the SmartShelf becomes your entry point into automation - step by step, without disrupting your existing system.

At the heart of the system is the Smart Factory Cockpit with an integrated PLC and IPC, which allows all SmartShelf modules to be centrally controlled, monitored, and flexibly combined - regardless of their configuration or placement. The system can operate autonomously as a standalone solution, completely decoupled from the customer's IT infrastructure. The modular SmartShelf family ranges from door and airlock solutions to transfer points for mobile robots (mobERT®) and space-optimized concepts where workers and robots operate from the same side. ERTmiral® and mobile planning functions are integrated as standard and can be optionally expanded to include ME, ERP, and other customer systems.



SmartShelf - Highlights:

- Flexible, modular SmartShelf system
- Central Smart Factory cockpit for system control
- Can be operated independently as a standalone solution
- Scalable and expandable thanks to its modular design
- Seamless integration of mobERT®, robots, and operators
- Production status and quality data transparently available via MES



BLANK FEEDER

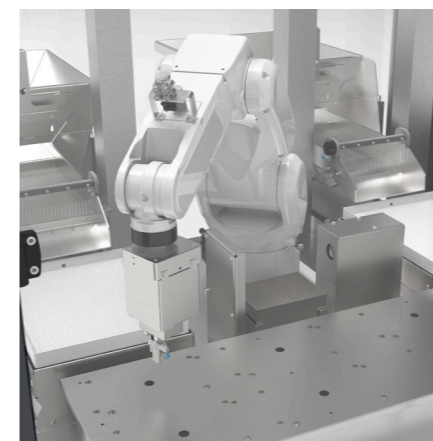
Increase efficiency. Increase production.

Manually palletizing blanks can become the bottleneck when expanding your production. The autonomous Blank Feeder is your solution.

Two feeding units transport carbide blanks onto vibrating plates, where a camera system detects their exact position. A FANUC robot picks up each part, inspects the chamfers using a vision system, and precisely places only good parts into defined cassette slots.



The Blank Feeder combines two feeding units, a high-performance vision system, a FANUC industrial robot, and an intelligent cassette loading unit all in one compact system. Non-conforming (NOK) parts are detected inline and automatically rejected - before they reach your process.



Advantages:

- 100 % automated material flow
- Chamfer inline inspection via vision system
- FANUC robot for precise, repeatable handling in continuous operation
- Quick-change grippers for flexible adaptation to various diameter ranges
- Operation via WiFi touch panel - simple, intuitive, no special knowledge required
- OPC UA interface for seamless integration into existing production environments



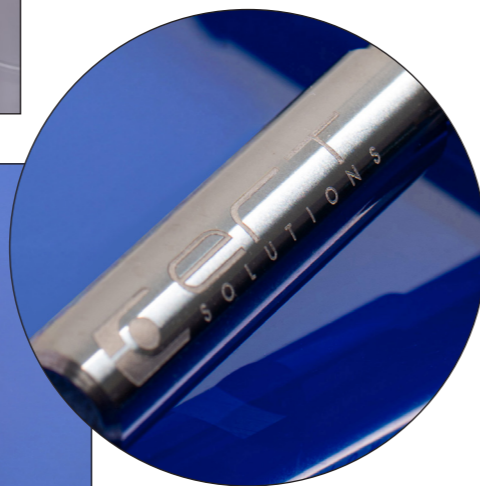
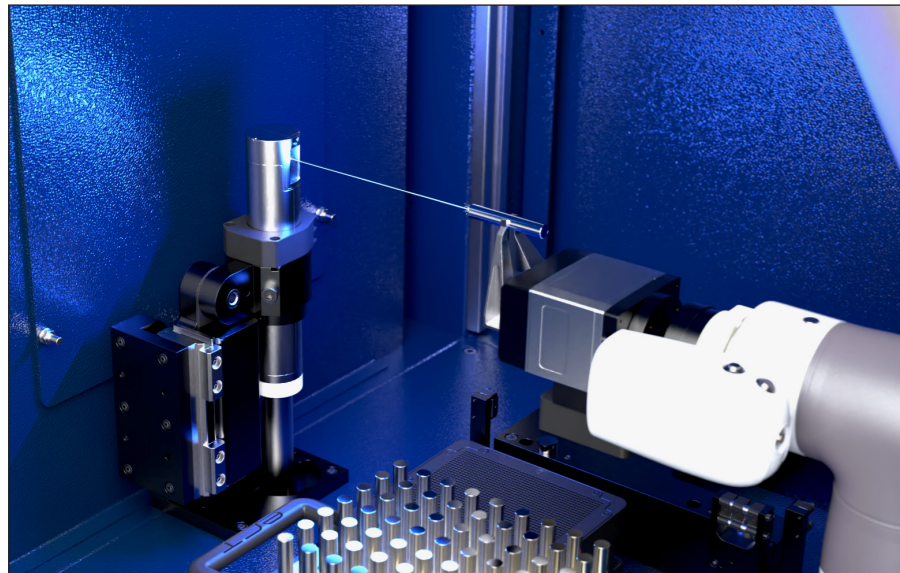
SINA Autonomous Laser Marking Cell

Compact and Customizable Solution for Optimal Marking.

The new SINA automatic laser marking cell is specially designed to meet the productivity, traceability and quality control requirements of cutting tool manufacturers.

With advanced autonomy, it combines performance and innovation and ensures accurate identification of your tools.

Available with options of an automatic door and a large 43-inch screen, the SINA cell offers an intuitive interface and optimal ease of use. In addition to being fully customizable, its design allows for the marking of a wide range of tool dimensions, while maintaining a small footprint, ideal for optimizing your production space.



Available options

- Automatic door
- Autonomy: 20 cassette holders (10 empty, 10 full)
- Smart Factory ready
- Handheld scanner for barcodes, Data Matrix Codes, QR Codes, etc.
- Large 43" screen with internal camera display
- Marking on the rear end of the tool
- Marking on the second side
- Marking indexing according to notch on the tool
- Other lengths, diameters, cassette types, and capacities available (on request)

Advantages:

- Ease of use
- Optimized autonomy
- Compact design
- Customizable
- Smart Factory compatible

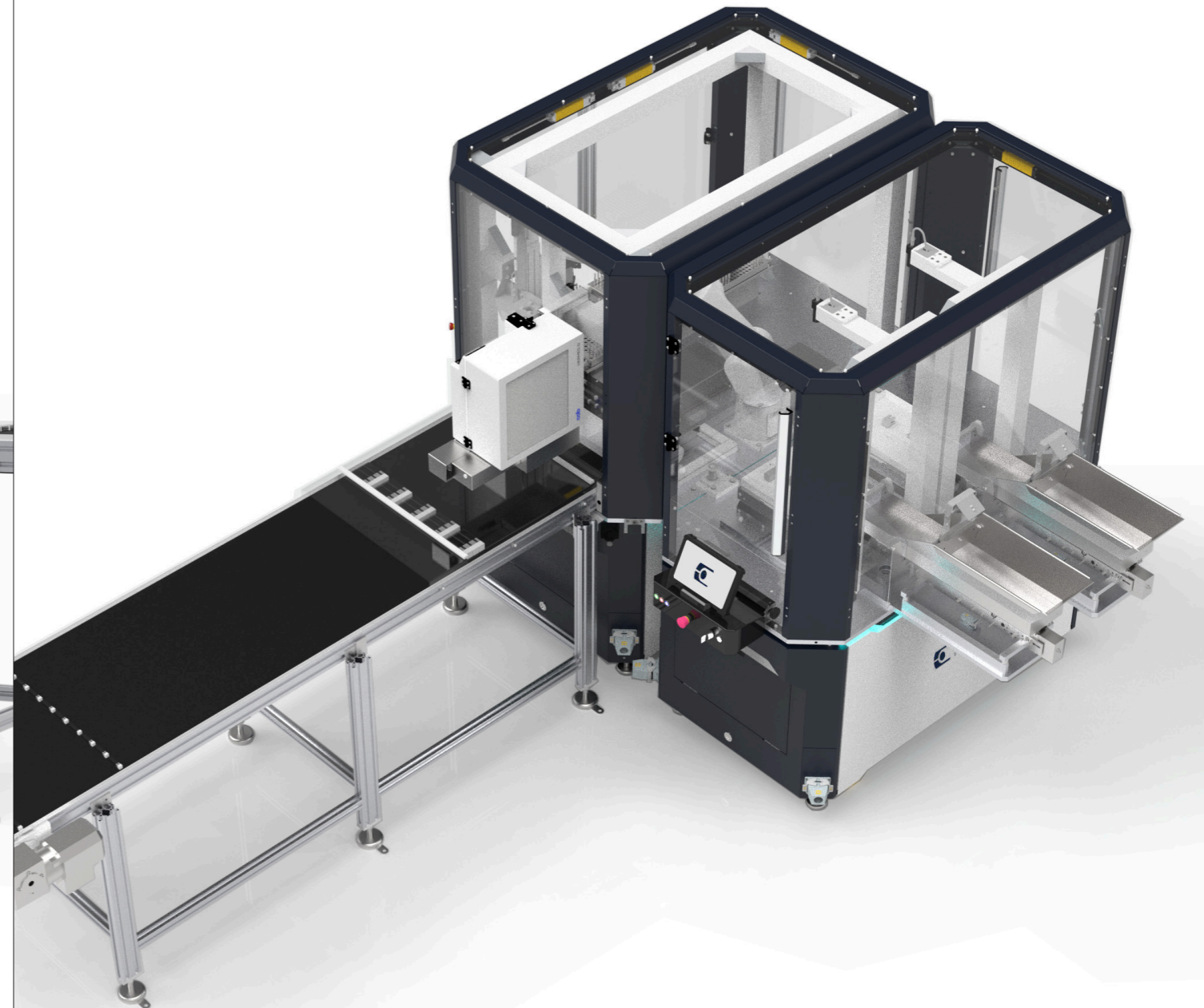


Automated Packaging System for Drills & Milling Cutters

From feeding to the finished and labeled package.

Packaging components are fed from the hopper, separated by vibrating plates, and precisely picked up by a camera-guided robot. The robot then removes each tool from the workpiece carrier and packages it.

Labeling is performed automatically - tailored to your brand identity or traceability requirements. Finished products run directly onto the output conveyor, ready for pickup.

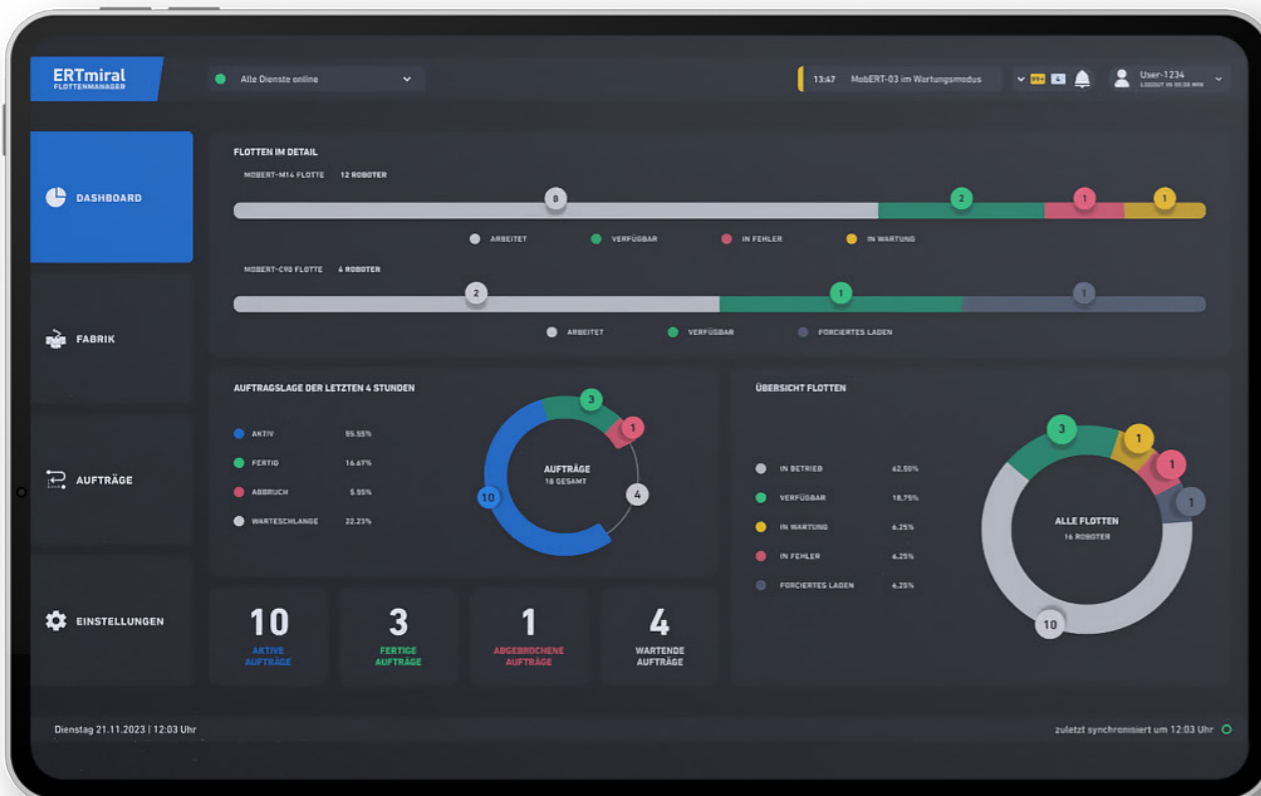


Advantages:

- Flexible feeding of various packaging types
- Modular design - expandable and adaptable to new requirements (e.g., laser marking)
- Consistent precision for reproducible packaging quality
- Quick setup for new products
- High autonomy - long runtimes without manual intervention



ERTmiral[®] Fleet & Order Management



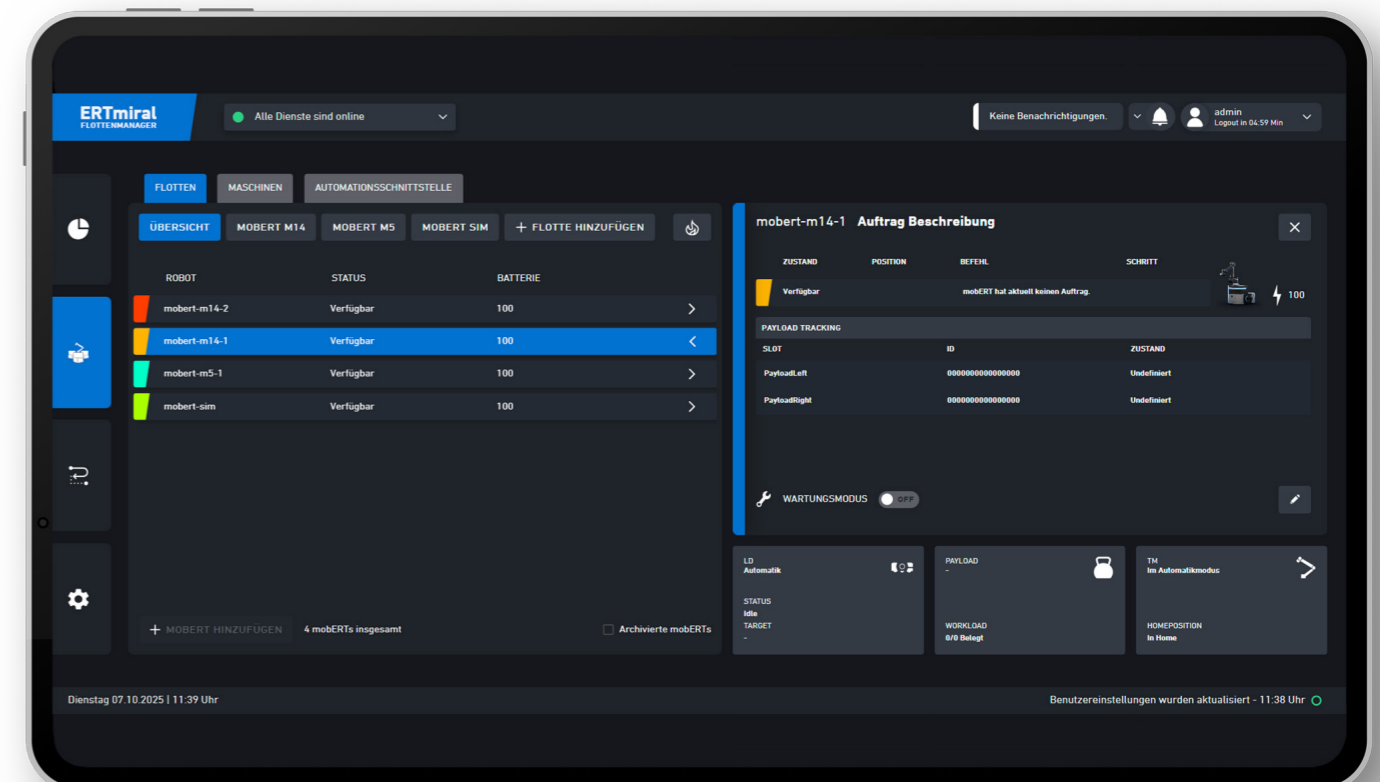
The heart of our automation solution: With ERTmiral[®], you can maintain a clear overview and centrally manage and coordinate transport orders - flexibly, intuitively, and in real-time. As a locally hosted web application, ERTmiral[®] ensures maximum data sovereignty, security, and full control over all operational data.

Whether it's a single mobERT[®] or an entire fleet: ERTmiral[®] connects machines, robots, and controllers with each other.

Orders - such as "Transport from the warehouse to the machine" - can be created directly in the system or imported from the ME or ERP system. Each order includes not only the routes but also all necessary actions performed by the mobERT[®], such as picking up, placing, or signaling.

With simultaneous access via a web browser, multiple users can plan, monitor, and intervene as needed at the same time. The visual interface ensures maximum transparency regarding ongoing processes and order histories, offers intuitive error handling, and reliably reflects the status of mobERT[®] and the fleet.

The result: organized processes, efficient use of resources, and flexible automation that continuously adapts to your needs.





ROLLOMATIC SMART FACTORY Applications Grinding Machines



GrindSmart® 660XW

The GrindSmart®660XW has been designed for rotary cutting tool applications ranging from diameter 0.1 to 12.7 mm in an amazingly compact layout which includes a large capacity tool loader and a high-speed wheel changer with 6 wheel-pack positions.

The machine features the latest linear and torque motor technology on each axis, as well as a 14kW synchronous spindle motor.

All these components are cooled with the same coolant oil providing perfect thermal stability, unbeatable accuracy in production as well as extremely good surface finish on the tools.



GrindSmart® 630XS

The 6-axis precision tool grinder GrindSmart®630XS has been designed for high performance and specialty tool manufacturing for both long and short batches. It is equipped with linear motors, combined with the torque motor on the rotary axis, provides more benefits such as enhanced surface finish and reduced maintenance costs. The oil used for cooling and lubricating the linear motors is the same as the coolant oil. This ensures consistent thermal stability during setup and production without incurring additional energy consumption. This machine covers a wide range of diameters from Ø 0.1 to 16.0 mm.



GrindSmart® 630XW

The 6-axis precision tool grinder GrindSmart® 630XW has been designed for high performance and specialty tool manufacturing for both long and short batches. This machine covers a wide range of diameters from Ø 0.1 to 20.0 mm.

It is equipped with linear motors, combined with the torque motor on the rotary axis, provides more benefits such as enhanced surface finish and reduced maintenance costs.

The oil used for cooling and lubricating the linear motors is the same as the coolant oil. This ensures consistent thermal stability during setup and production without incurring additional energy consumption.



GrindSmart® 830XW

The GrindSmart® 830XW integrates the innovative combination of hydrostatic technology and linear motors to produce large and small series with 6 axes interpolated simultaneously. This concept provides an exceptionally high degree of rigidity and dampens vibrations that naturally occur during grinding, thereby increasing the life of the grinding wheels and guaranteeing surface finishes and sharp cutting edges that give users a real competitive advantage. Unattended production is an additional process that has been integrated into this machine to allow long-term manufacturing without human intervention.



ShapeSmart® NP50

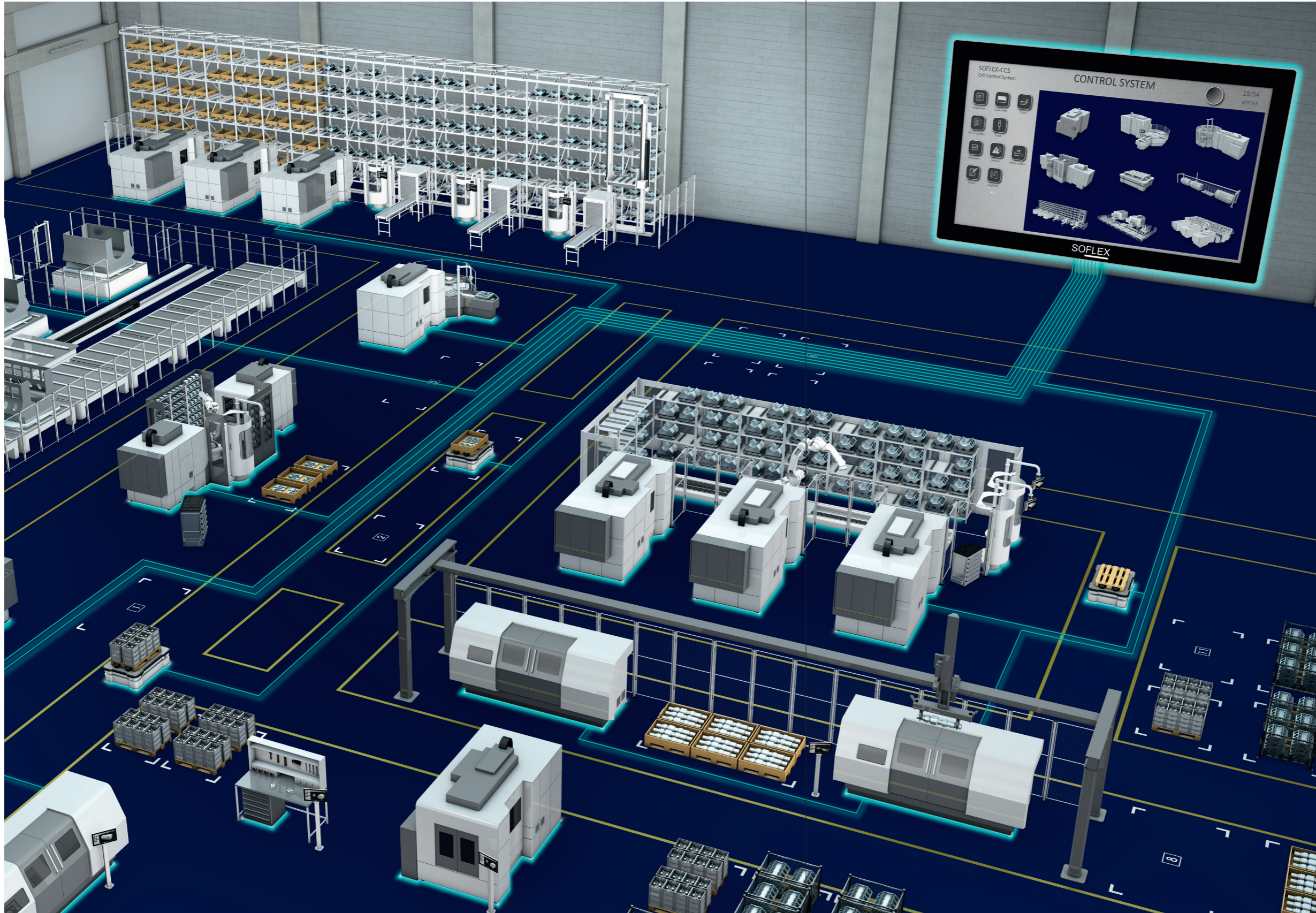
The ShapeSmart® NP50 is a 5-axis Precision Cylindrical Pinch/Peel grinding machine with integrated 3-axis robot loader and grinding diameter range from 0.025 – 25 mm.

The ShapeSmart® NP50 is ideal for cutting tool blank preparation as well as punch and mold applications requiring complex geometry and high length-to-diameter ratios.



SOFLEX Control System

One software solution. All machines.



Since 1984, SOFLEX has been developing production control systems for digital manufacturing - with over 2,000 installations worldwide.

The software plans job sequences, automatically generates NC programs as well as tool and fixture data, and monitors the entire work-piece flow, even during unmanned operation.

As a manufacturer-independent provider, SOFLEX integrates machines and automation systems from a wide range of manufacturers into a unified solution - with standardized interfaces to ERP, ME, and CAD/CAM systems. The app-based shop floor operation enables the operation of complex systems without specialized knowledge.

The software's modular design enables use ranging from a single machining center to a fully automated production line—scalable according to system complexity and requirements.

www.soflex.de



MORE EFFICIENCY.

ERT Solutions GmbH

Zum Wolfsgraben 5 | 36088 Hünfeld | Germany

Direct: +49 6652 99596-100

E-Mail: info@ert-solutions.com

ERT Solutions SA

Rue des Prés Bugnons 3 | 2525 Le Landeron | Switzerland

Direct: +41 32 752 18 01

E-Mail: info@ert-solutions.ch

ERT Solutions Inc.

1295 Armour Blvd. | 60060 Mundelein | IL | USA

Direct: +1 847 393-3000

E-Mail: info@ert-solutions.com

www.ert-solutions.com