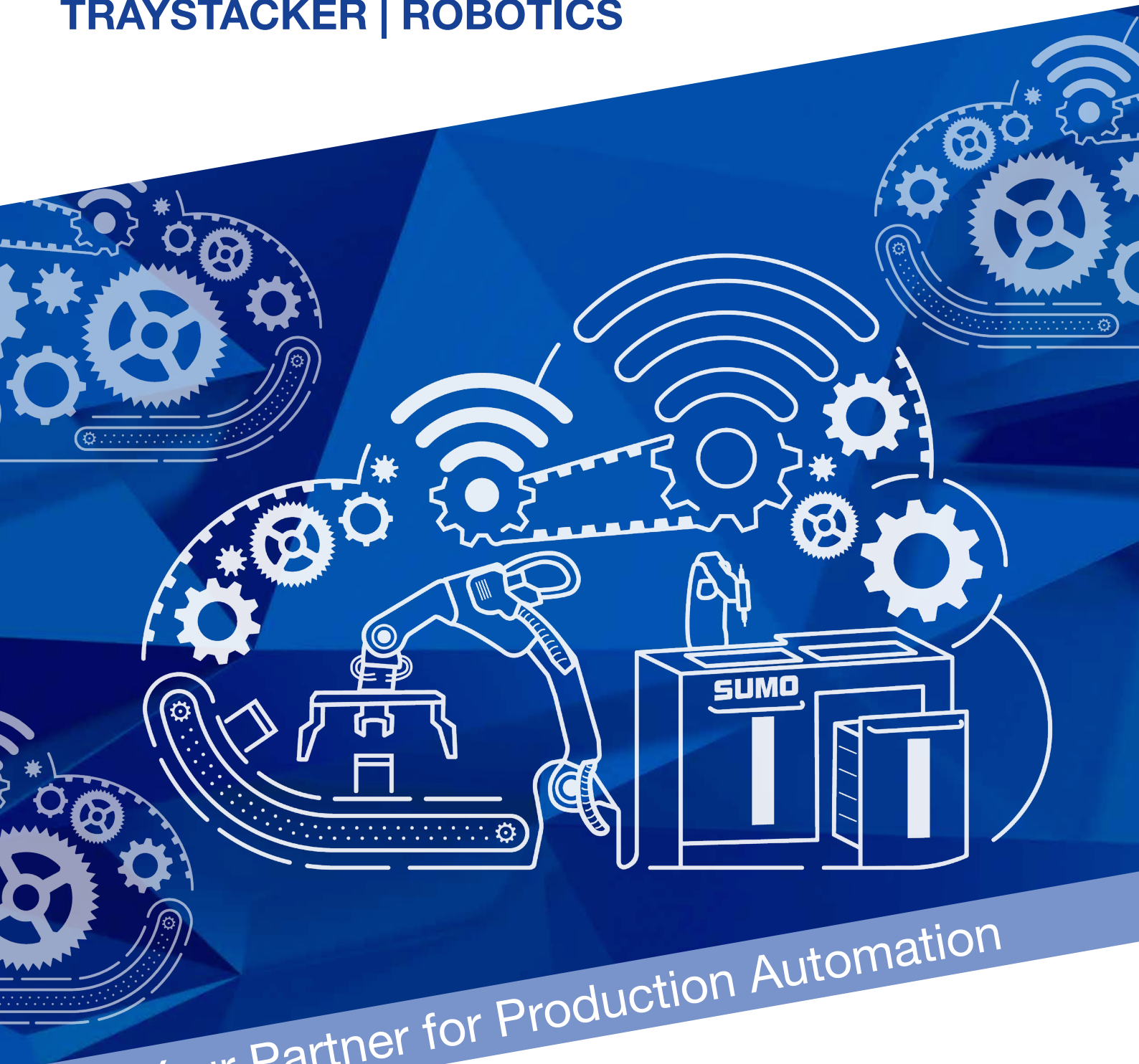




WORKPIECE HANDLING | PALLETIZING SYSTEMS | TRAYSTACKER | ROBOTICS



Your Partner for Production Automation



SUMO Automation Systems - Well thought-out, field-tested and sophisticated - a range of economical standard solutions that can be used in many applications and industrial sectors.

Your benefits: Short delivery times and smooth start-up.

SUMO automation systems are reliable, robust, durable, efficient and economical.



Versatile and Flexible

SUMO systems are used to automate processes in a wide range of applications:

- » Plastic injection molding machines
- » CNC machining centers and lathes
- » Laser marking systems
- » Measuring systems
- » Packaging machines
- » Pressing and punching
- » Woodworking machines
- » On dosing systems
- » In surface processing
- » ...



Additional Value Creation

Beyond the automation of the actual process, there is often unused potential hidden in an automation system:

- » Integration of additional tasks into the automation process
- » Increasing efficiency by examining the entire process chain



Maximum Compactness

- » Space-saving subsequent implementation in production areas
- » Compact design of SUMO systems, optionally with even more compact XYZ gantry instead of industrial robots
- » Accessibility to operating elements of the machine or process ensured



Industrial Robot - The Central Component

- » Sophisticated, durable and low-maintenance
- » Ensure reliable manufacturing processes



Sophisticated Robotic Gripping Systems

- » Single, double or multiple gripping tool
- » Decades of experience in development and realization



Workpiece Storage and Autonomy

Intelligent workpiece storage and handling through the use of different workpiece carrier concepts:

- » Feeding via dust belts or transport trolleys
- » Manual placement
- » Disordered feeding of the workpieces and subsequent sorting
- » For small series: Manual preparation and removal



Electrical Interfaces

Connectivity:

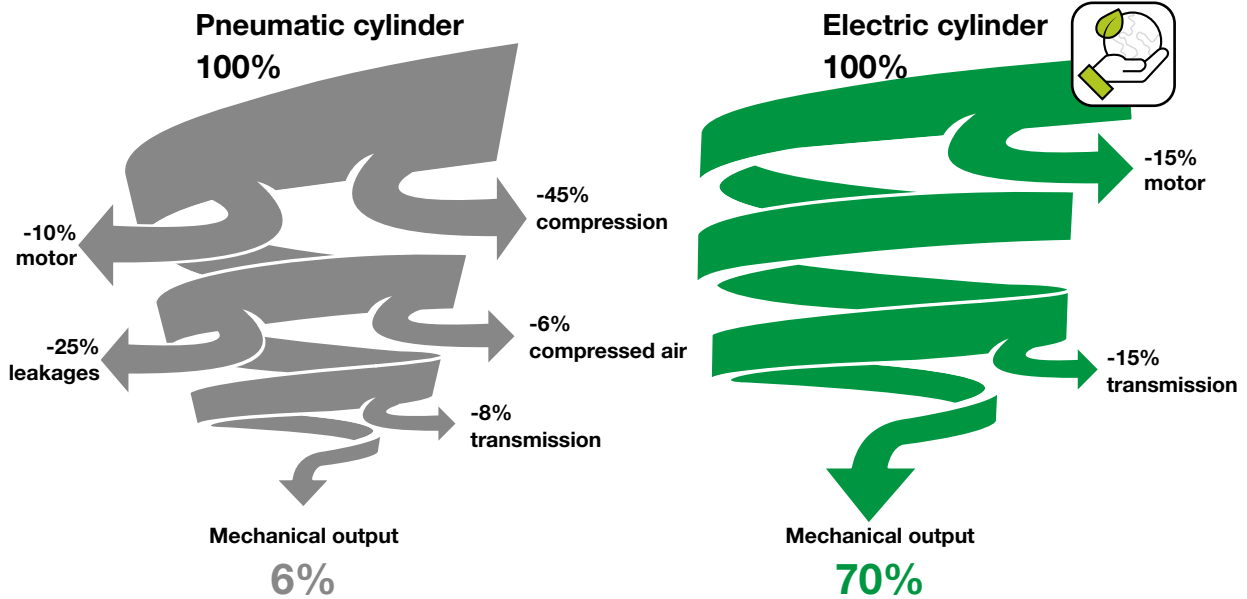
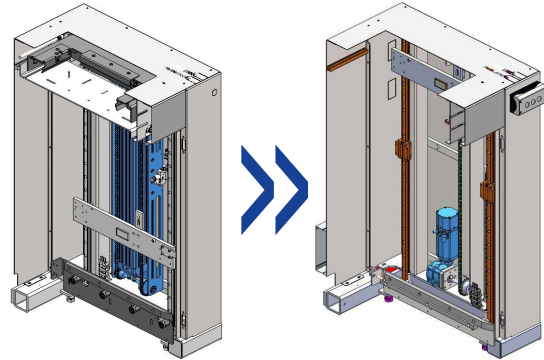
- » Adaptation to existing interfaces on the automation side
- » Digital SPS inputs and outputs
- » Common bus systems available

Fully Electric SUMO Variants

For many of our SUMO standard solutions, pneumatic axes have been replaced entirely by electric axes or are available on request.

Benefits:

- » High energy saving potential compared to pneumatics
- » Better motion control - smooth, controllable movements and thus an extended range of use
- » Lower operating costs due to reduced energy consumption
- » Lower installation costs
- » Fewer components and lower maintenance requirements



PROGRAM OVERVIEW

SUMO DUPLEX

The space-saving gateway into automation

- » Compact, user-friendly, profitable
- » Individual adaptation of the pallets to workpieces
- » Minimum space requirement

<i>Technical data SUMO Duplex</i>	
<i>Robot payload</i>	up to 10 kg
<i>Robot range</i>	up to 1,101 mm
<i>Number of pallets</i>	2 pieces
<i>Possible Pallet/ workpiece carrier type</i>	600 mm x 400 mm (1/4 Euro pallets)
<i>Max. part weight</i>	7.5 kg
<i>Max. pallet load</i>	20 kg
<i>Pallet change time</i>	<10 s
<i>Space requirements</i>	Area approx. 1.40 m x 1.18 m, height 2.00 m
<i>Weight</i>	approx. 550 kg

SUMO QUATROPLEX

The simple and variable drawer system

- » Compact, user-friendly, profitable
- » Workpiece storage in pallets, integrated workpiece fixtures or camera recognition
- » Compact design with high workpiece autonomy

<i>Technical data SUMO Quatroplex</i>	
<i>Robot payload</i>	up to 12 kg
<i>Robot range</i>	up to 1,440 mm
<i>Number of pallets</i>	4 pieces
<i>Possible Pallet/ workpiece carrier type</i>	600 mm x 400 mm (1/4 Euro pallets)
<i>Max. part weight</i>	7.5 kg
<i>Max. pallet load</i>	30 kg (per storage level)
<i>Pallet change time</i>	<10 s
<i>Space requirements</i>	Area approx. 1.80 m x 1.50 m, height 2.00 m
<i>Weight</i>	approx. 750 kg

SUMO MULTIPLEX

The space-saving universal system with large degree of autonomy

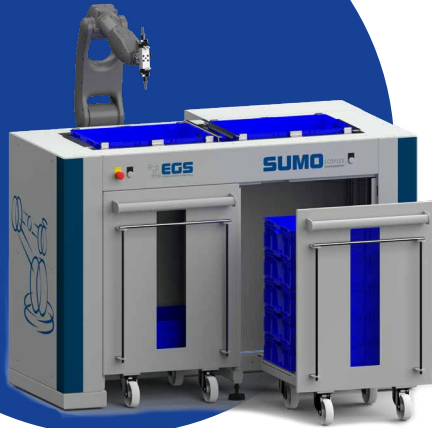
- » Compact, robust, efficient
- » Pallets can be individually adapted to the workpieces
- » Minimum space requirement with large degree of autonomy

<i>Technical data SUMO Multiplex</i>	
<i>Robot payload</i>	up to 25 kg
<i>Robot range</i>	up to 1,730 mm
<i>Number of pallets</i>	12 pieces
<i>Possible Pallet/ workpiece carrier type</i>	600 mm x 400 mm (1/4 Euro pallets)
<i>Max. part weight</i>	7.5 kg
<i>Max. pallet load</i>	max. 20 kg
<i>Pallet change time</i>	<10 s
<i>Space requirements</i>	Area approx. 1.40 m x 1.09 m, height 2.00 m
<i>Weight</i>	approx. 600 kg

SUMO ECOPLEX2

The highly flexible, space-saving universal system with a clever workpiece feed system

- » Flexible, ergonomic, efficient
- » Variable workpiece feed via slide-in carriages or belts
- » Fast and easy placement with large autonomy



<i>Technical data SUMO Ecoplex2</i>	
<i>Robot payload</i>	up to 25 kg
<i>Robot range</i>	up to 1,730 mm
<i>Autonomy/Capacity</i>	1 stack with 800 mm net stack height
<i>Possible Pallet/ workpiece carrier type</i>	Stackable workpiece carriers in various formats up to max. 600 mm x 400 mm
<i>Max. part weight</i>	7.5 kg (optionally more)
<i>Max. pallet load</i>	20 kg (optionally more)
<i>Pallet change time</i>	<10 s
<i>Space requirement palletizing system</i>	Area approx. 1.35 m x 2.14 m, height 2.31 m
<i>Weight</i>	approx. 900 kg

SUMO MEGAPLEX

The flexible universal system with huge workpiece autonomy

- » Flexible, powerful, efficient
- » Workpiece feed in stacked workpiece carriers on trolleys
- » Fast and easy handling with huge autonomy



<i>Technical data SUMO Megaplex</i>	
<i>Robot payload</i>	16 kg to 88 kg
<i>Robot range</i>	up to 2,538 mm
<i>Autonomy/Capacity</i>	2 stacks with 1,100 mm net stack height
<i>Possible Pallet/ workpiece carrier type</i>	Stackable workpiece carriers in various formats up to max. 800 mm x 600 mm
<i>Max. part weight</i>	up to 15 kg
<i>Max. pallet load</i>	up to 50 kg
<i>Pallet change time</i>	<10 s
<i>Space requirement palletizing system</i>	Area approx. 3.20 m x 1.70 m, height 2.20 m
<i>Weight palletizing system</i>	approx. 1,800 kg

SUMO EUROPLEX

The versatile, robust universal system for the Euro pallet format

- » Flexible, versatile, profitable
- » Fast and easy handling of heavy or bulky parts
- » Designed for workpiece feeding with industrial truck



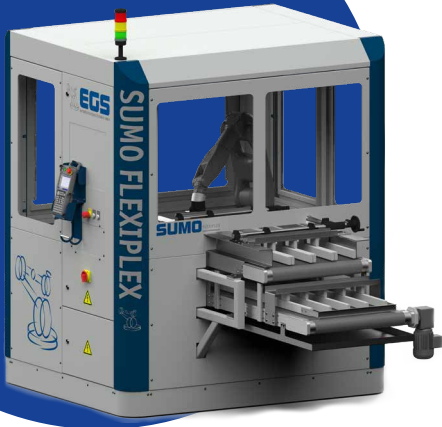
<i>Technical data SUMO Europlex</i>	
<i>Robot payload</i>	16 kg to 180 kg
<i>Robot range</i>	up to 2,702 mm
<i>Number of pallets</i>	2 places (expandable with additional systems)
<i>Possible Pallet/ workpiece carrier type</i>	up to 1,200 mm x 1,000 mm possible
<i>Max. part weight</i>	up to 120 kg
<i>Max. pallet load</i>	up to 500 kg
<i>Pallet change time</i>	<20 s
<i>Space requirement palletizing system</i>	Area approx. 2.80 m x 1.35 m, height 1.50 m
<i>Weight palletizing system</i>	approx. 1,300 kg

PROGRAM OVERVIEW

SUMO FLEXIplex

The clever and variable automation for large part variance

- » Variable, user-friendly, profitable
- » Quick changeover in just a few steps and without interchangeable parts and tools
- » Small series, different part geometries



Technical data SUMO Flexiplex	
Robot payload	up to 25 kg
Robot range	up to 1,730 mm
Number of tracks infeed and outfeed belt	4-5, depending on adjustment range
Max. part weight	15 kg
Total active belt width	approx. 600 mm
Active belt length	approx. 1,950 mm
Space requirements	Area approx. 3.95m x 1.50m, height 2.20m
Weight	approx. 800 kg

SUMO OPTIplex

The economical and flexible automation for your deburring process

- » Variable, reliable, compact
- » Tape feed can be loaded automatically or manually
- » Deburring results in consistently high quality



Technical data SUMO Optiplex	
Robot payload	up to 12 kg
Robot range	up to 1,440 mm
Max. part weight	7 kg
Tool places	3
Deburring operations	Milling, countersinking, drilling, brushing, grinding, cutting
Workpiece feed	Belt automatically or manually loaded
Workpiece alignment	Camera, sensor or by device
Space requirements	Area approx. 2.16 m x 1.24 m, height 2.00 m
Weight	approx. 800 kg

SUMO MINIplex

The compact and highly dynamic sorting, palletizing and stacking system

- » Compact, fast, profitable
- » Small parts loading onto customer-specific workpiece carriers
- » Fast palletizing and stacking



Technical data SUMO Miniplex	
Robot payload	up to 7 kg
Robot range	up to 927 mm
Robot designs	Scara (4 axes) Articulated arm (6 axes)
Max. part weight	1 kg
Space requirements	Area approx. 1.75 m x 1.70 m, height 2.20 m
Weight	approx. 350 kg

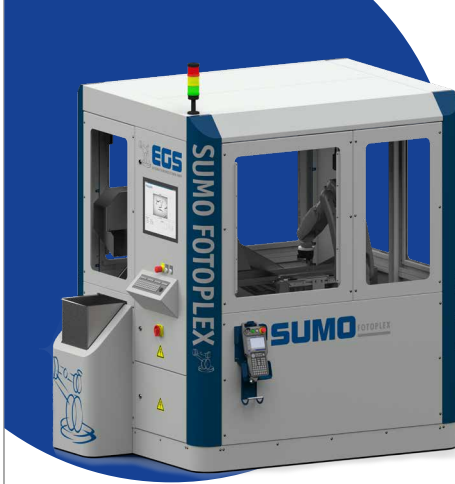
SUMO FOTOPLEX

The flexible universal feeding system for unsorted workpieces

- » Flexible, versatile, profitable
- » Clever feeding solutions for pre-separation of the workpieces
- » Greatest flexibility and positioning from disordered position

Technical data SUMO Fotoplex

Robot payload	up to 10 kg
Robot range	up to 1,101 mm
Robot kinematics	Scara: 4 axes, articulated arm: 6 axes
Camera system	2D/ 3D position recognition incl. orientation
Lighting	Transmitted light or incident light
Feeding system	Circulating belt or feeder
Special model	2 or 3 robots
Space requirements	Area approx. 2.16 m x 1.24 m, height 2.00 m
Weight	approx. 800 kg



Turnkey Solutions - Our Complete Solutions and Additional Equipment

We are your competent partner when it comes to customized turnkey solutions. You benefit from our many years of know-how in automation for the production and processing of metal and plastic parts.

Depending on quality and customer requirements, investment volume and the desired degree of automation, the entire process or parts can be automated. Our engineering department supports you in terms of selection, design, integration and optimization.

Automation of your Processing Machines and Processes

Plastics Processing:

- » Injection molding processes on vertical and horizontal machines
- » Single and multi-component applications
- » Upstream processes for the provision and preparation of inserts
- » Downstream processes for testing, reworking and assembling hybrid components
- » Packaging processes

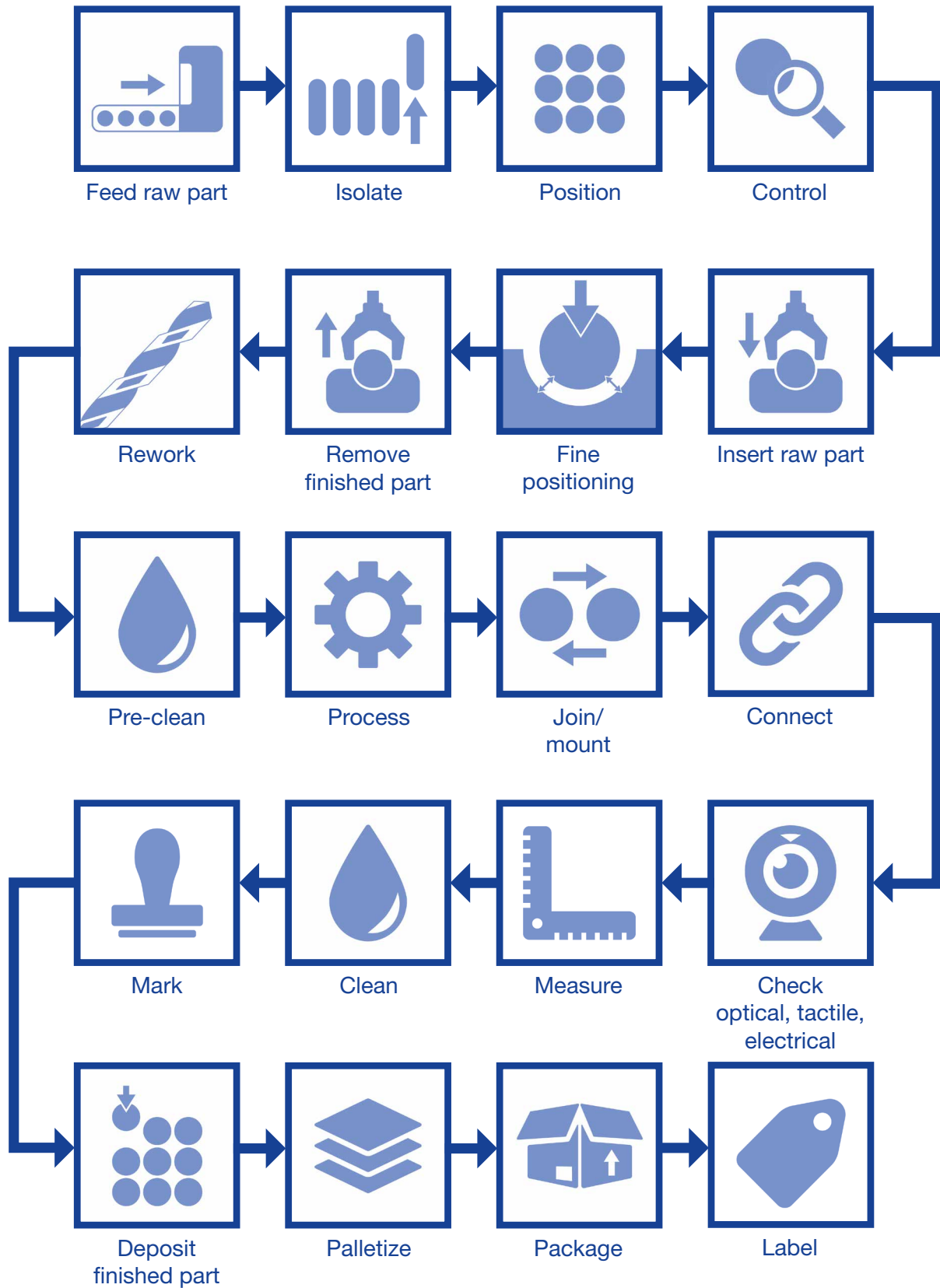
Metalworking:

- » Forming manufacturing processes (e. g. bending, rolling, forging)
- » Cutting processes (e. g. sawing, laser cutting)
- » Machining processes (e. g. turning, milling, drilling)
- » Finish processing (e. g. honing, lapping, polishing)
- » Joining processes (e. g. screwing, welding, gluing)
- » Processes that change properties (e. g. hardening)

Holistic Solutions - Integration of Additional Processes

- » Image processing solutions 2D and 3D position detection and quality control
- » Assembly tasks of various kinds (e. g. screwing, press-fitting, clipping)
- » Feeding parts or material in solid (e. g. feeder) or liquid form (e. g. dispenser)
- » Packaging tasks
- » Testing tasks optical, tactile or electrical

Automation of the entire process chain



Field IIoT Communication Device Cloud and Applications

Permanent condition monitoring of automation systems or individual units and components of a plant as well as predictive maintenance are essential for maximum productivity. This prevents downtimes and failures and helps to avoid supply bottlenecks. We therefore offer our customers, together with Dunkermotoren under the brand nexofox, the implementation of holistic solutions for monitoring and predictive maintenance of robot systems or industrial robots and motors.

Remote Monitoring

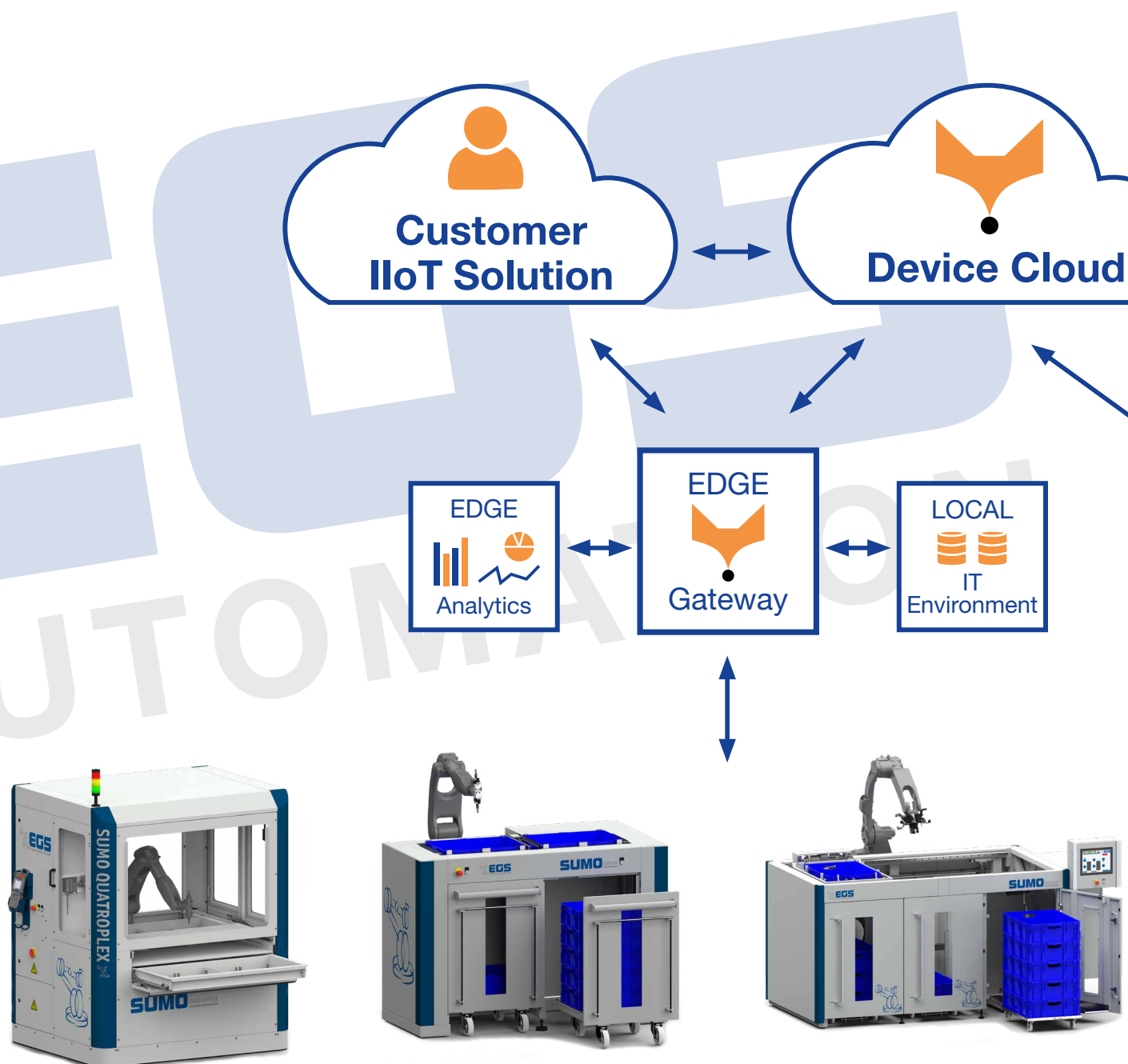
Keep an eye on your worldwide EGS automation systems (alarms/ status/ real-time diagnostics)

Predictive Maintenance

Respond to failures before they happen. We offer the framework and the know-how to implement predictive maintenance.

Remote Setup

React immediately to changing conditions via remote access (software, settings)

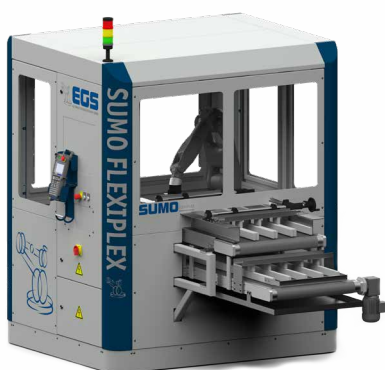
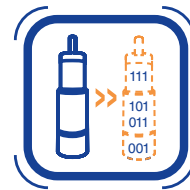


Your Benefits

- » Save money and time with our solution. Remote diagnostics of our EGS automation systems enables rapid and cost-saving remote maintenance.
- » Who knows our products better than we do? Focus on your application and leave the connection setup and diagnostics to us.
- » We rely on open standards and architectures for the best possible flexibility when it comes to extensions of IIoT solutions.
- » We handle your data responsibly. Even at the design stage, we are guided by the highest safety standards.



Through our participation in the Open Industry 4.0 Alliance and MindSphere World, nexofx is actively shaping the future.



AVAILABILITY
 STABILITY
 REPRODUCIBILITY
 ECONOMIC EFFICIENCY
 CYCLE TIME
 EFFICIENCY
 STABILITY
 RELIABILITY
 CYCLE TIME
 QUALITY
 PRECISION
 FLEXIBILITY
 AUTONOMY
 ECONOMIC EFFICIENCY
 RELIABILITY
 FLEXIBILITY
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 AUTONOMY



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