



iMAgine

& we **MA**ke it happen





50 YEARS

OF AUTOMATION
HERITAGE

MA micro automation

MRCmed®

Filter setzen / insert filter
05.364

CENTAURI VO

CENTAURI VO

CENTAURI VO

CENTAURI VO

CENTAURI VO

CENTAURI VO

CENTAURI VO

CENTAURI VO

CENTAURI VO

CENTAURI VO

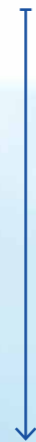
CENTAURI VO

CENTAURI VO

”

IMAGINE A PARTNER WHO SHAPES THE FUTURE OF YOUR BUSINESS WITH YOU

We **MA**ke it happen



With over 50 years of history, MA is a trusted provider of advanced automation systems for high-throughput production of high-quality medical devices. From standard machines to customized automation systems, we go the extra mile to ensure our customers' success.





WE ARE **MAKERS**, YOUR TRUSTED PARTNER FOR **AUTOMATION EXCELLENCE!**

Partnering to unleash the **MA**gic of possibilities, to turn your vision into reality on the production floor.

MA is a global company with a diverse and talented team of over 220 exceptional individuals who eat, sleep, and breathe automation. With cutting-edge specialization in high-precision, high-throughput production systems, we partner with our customers to redefine success. Our customers are not just experts but trailblazers in their fields, working together to push the boundaries of what is possible.

Our customers use our automated manufacturing solutions to produce billions of products which support cutting-edge healthcare worldwide. MA delivers production capability to a variety of markets, including the manufacture of ophthalmic medical devices, in-vitro diagnostic consumables, drug delivery devices, diabetes care and medical plastic consumables. Our success in these areas propel our partners to unprecedented success in the marketplace.

WHY MA? We make it happen FOR you

We apply a customer-centric approach to the design, construction, and deployment of state-of-the-art production systems. We offer the best system for your needs, ranging from proven, standard machines to special automation systems customized to your requirements.

WHY MA? Our Project Management Excellence

Projects are meticulously tracked and managed with careful attention to the costs, schedule, performance and quality requirements defined by the customer. With our dedication to Project Management Excellence, MA has been repeatedly tasked as the 'lead integrator' on many projects ranging from complex multi-vendor assembly systems to turnkey injection molding lines. At MA Group, we believe that successful project management is not solely about delivering on time and within budget. It is about ensuring that projects align with clients' broader business objectives, enhancing their competitive advantage and contributing to long-term growth.



WHY MA?

Our expertise in automated optical inspection (AOI) systems

Our customer-centric approach consists in designing state-of-the-art production systems that are meticulously tailored to your unique needs and requirements. We assist with defining requirements, risk assessments, individualized process consulting, GMP-compliant design and the latest technology through our handpicked system partners.

We follow the V-model for our qualification activities with the ability to perform qualification tests during the commissioning phase. We also offer machine qualification tests and provide necessary documents for qualification and validation.

WHY MA?

Our experience in Medical Device Production

By taking care of qualification and validation, we allow our customers to focus on their core business operations while having confidence in the compliance and reliability of our automation solutions.

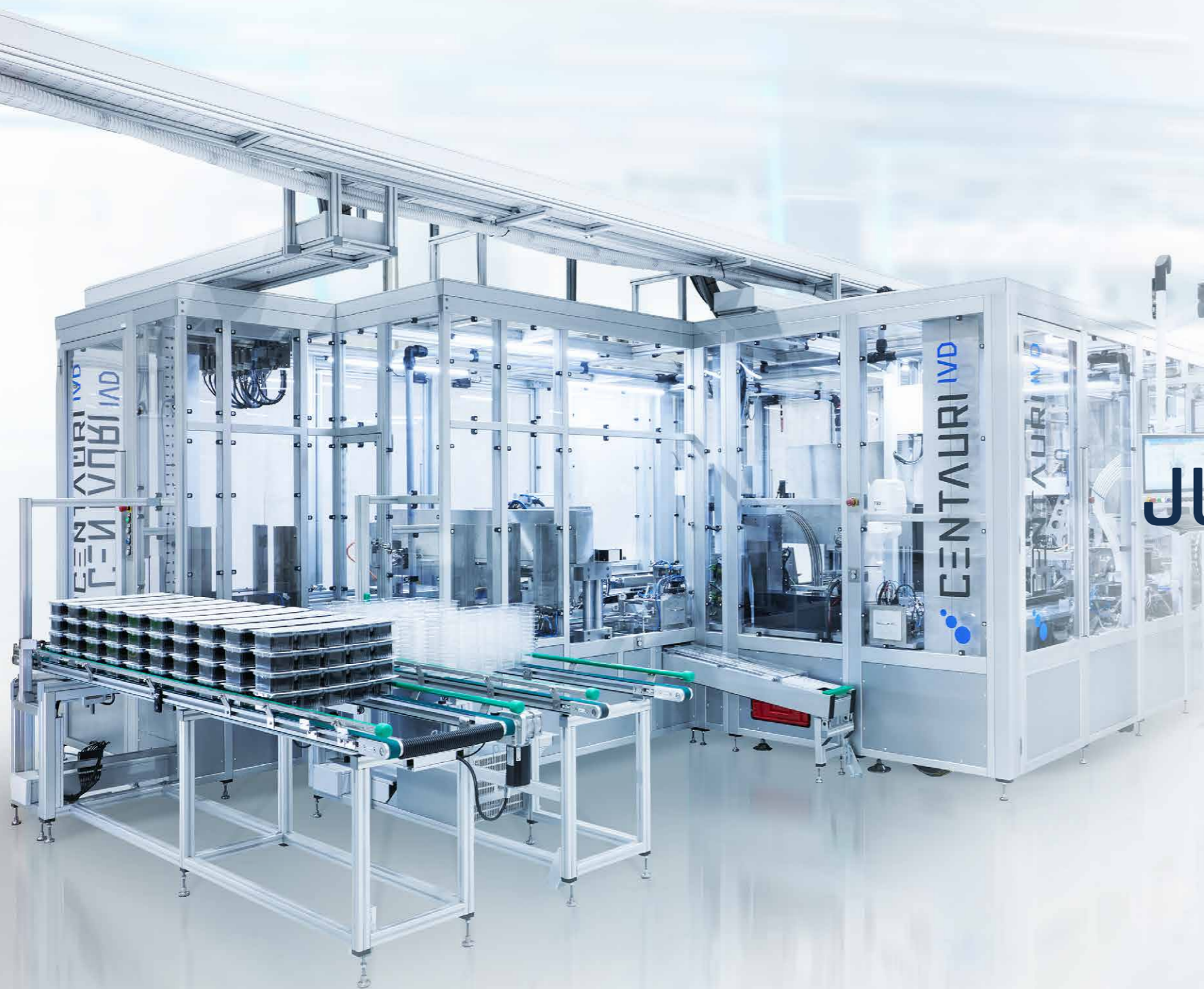
From the very beginning, we focus on developing machine documentation that complies with good manufacturing practices (GMP) and is ready to be seamlessly integrated into our clients' validation documents.

Furthermore, our dedicated team of experts offer their support throughout the entire qualification lifecycle, encompassing installation qualification (IQ), operational qualification (OQ), and performance qualification (PQ).

YOUR SUCCESS IS OUR ULTIMATE REWARD

MA is more than just an automation technology provider; we are committed to ensuring your success at every step on the path to enhanced production capability. Our passion for excellence drives us to go above and beyond in meeting your needs and exceeding expectations. With a customer-centric approach, we prioritize your goals and work closely with you to achieve them. Early involvement in the product and manufacturing development process allows us to deliver automation excellence by leveraging previous success in developing high-performance production systems.

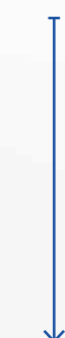
Our dedication to your success extends far beyond initial deployment. We are committed to providing after sales support, with global located technical staff located in proximity to your manufacturing facilities. Our global network of service professionals is always ready to assist you with troubleshooting, routine maintenance, or any other assistance you may require. With MA as your trusted partner in automation, you can have the peace of mind knowing that we are by your side, working tirelessly to make your operations successful.



IMAGINE PLATFORMS THAT PRODUCE NOT JUST TODAY'S PRODUCTS BUT ALSO THOSE OF TOMORROW



We **MA**ke it happen



MA provides provide scalable, modular automation solutions, including AOI, that can be adapted to your product's lifecycle.

Drug Delivery Devices

MA's POLARIS platform offers a flexible production solution that guarantees maximum reliability. Drug Delivery Devices are manufactured on MA's POLARIS platform at over 100 ppm, utilizing XTS transport systems that deliver maximum flexibility through a combination of synchronous and asynchronous assembly. Configurations of these platforms also offer a phased approach to allow scaling up from semi-automated production to fully automated capability.

- Insulin pumps
- Auto-injectors
- Inhalers

Our Platform:
POLARIS

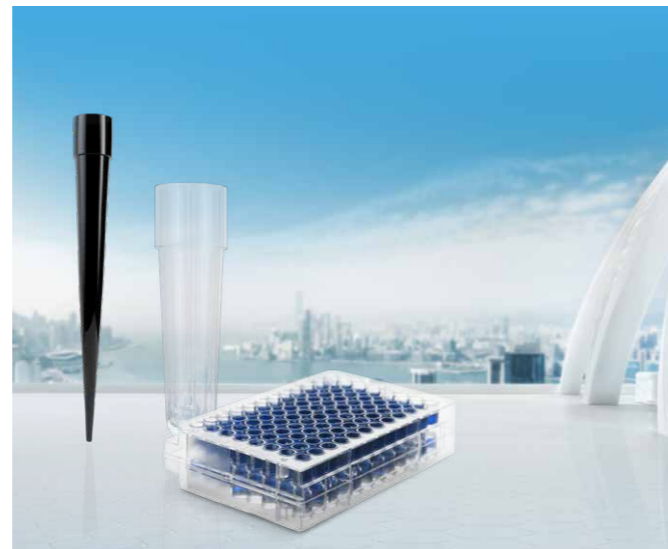


In-Vitro Diagnostic

MA's CENTAURI platform is the state-of-the-art solution for the production of IVD consumables. Comprised of modular elements, CENTAURI can integrate with injection molding machines to perform side takeout robotic parts handling, post molding vision inspection, re-pitching, filter insertion, rejection / refilling and primary packaging operations. The integrated AOI systems provide control and optimization of molding processes as well as 100% multi-defect inspection with the best Measurement System Analysis (MSA) results in the industry.

- Pipette tips
- Cuvettes
- Reaction cups
- Well plates

Our Platform:
CENTAURI



Point of Care (POC)

MA's CERES platforms provide dedicated and flexible manufacturing platforms for Point of Care test kits. Systems prioritize cycle time and product quality. Whether you require dedicated single-strip POC test kit production or need a more versatile platform to manufacture a range of 1 to 3 strip kits on a single line, our CERES platform offers the perfect solution.

- Lateral flow test kits (from 1 strip to 3 strips)
- Reaction strips
- Lab-on-a-chip diagnostic kits

Our Platform:
CERES



Vision Care

MA's PEGASUS platform offers proven, time tested solutions for high-throughput, high-quality production of cast molded contact lenses and intraocular lenses (IOLs). MA's PEGASUS platforms can integrate with injection molding machines to perform side takeout of front curve & base curve, dose monomers for spherical and toric lenses followed by thermal or UV curing and perform de-molding and de-lensing, all with 100% AOI for guaranteed quality. MA's PEGASUS platform produces:

- Contact lenses
- Intraocular lenses (IOLs)
- Ophthalmic surgical instruments
- Injection molded parts (e.g. blisters, nozzles...)

Our Platform:
PEGASUS



Catheters (Class II - Class III)

MA's MAGELLAN platforms utilize our years of expertise delivering active alignment and ultra-high precision assembly machines to handle the intricate processes involved in catheter manufacturing. The MAGELLAN platform is specifically designed to address critical processes such as blade placement, bonding, dosing, curing, cutting, and more.

- Cutting balloon catheters
- Scoring balloon catheters
- Specialty balloon catheters
- Cutting or excimer laser of catheters

Our Platform:
MAGELLAN



Medical Molding

MA's CORVI platform offers cutting-edge high-performance robotic takeout systems with the smallest footprints & lowest lifecycle costs in the industry for molding operations with high cycle rates. Powered by a state-of-the-art linear motor system, it offers minimal vibration for seamless integration with AOI. These takeout systems offer the lowest life cycle costs with highest MTBF and minimal maintenance requirements.

- Quick change tooling to adapt from 16 to 128 cavities
- Integrated with molds from 16 to 128 cavities
- Molding cycle times as low as 3s

Our Platform:
CORVI





**IMAGINE A TEAM
OF PROFESSIONALS
WORKING
TIRELESSLY FOR
YOUR SUCCESS**



At MA, we put customers first by actively listening to their needs, providing exceptional service, and continuously striving to exceed their expectations.





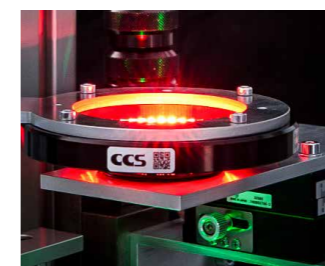
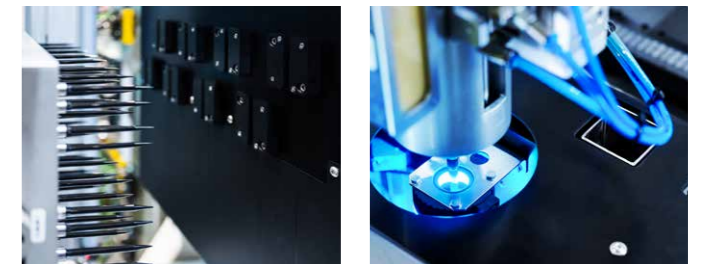
VISION: CORE COMPETENCY

We leverage a diverse selection of vision systems, from standard modules to tailor-made sensors, optics, and illumination, to ensure we find the perfect solution for your requirements.

We know that standard off-the-shelf systems often fall short in meeting specific inspection criteria. That's why we explore all options, meticulously testing different camera sensors, objectives, and illumination setups to offer the best field of view (FOV) with correct resolution, ensuring target defects are clearly captured.

YOUR BENEFIT? Guaranteed Quality

To achieve exceptional defect detection, we create state-of-the-art algorithms and even deploy machine learning (ML) algorithms. Our goal is to reliably capture and analyze defects with the highest measurement system analysis (MSA) scores in the industry. We do these things to bring unparalleled accuracy and reliability to our customer's production capabilities. Customers trust MA to deliver AOI solutions that not only ensure superior quality control but also enhance your brand's presence and success in the competitive marketplace.





CUSTOM AUTOMATION: CORE COMPETENCY

At MA, we pride ourselves on our exceptional capability to develop customized automation systems that cater to the unique needs of our clients.

WHY PARTNER WITH MA? For your success

- Smallest footprint for low cleanroom costs
- High throughput per sqm for highest output for your site
- High-quality components for lowest life cycle costs
- Integrated AOI with industry leading MSA for guaranteed quality

With a deep understanding of diverse industries and extensive expertise in automation technology, we offer solutions fine-tuned to your needs.

YOUR BENEFIT? Smallest Footprint for Low Cleanroom Costs

We recognize the importance of optimally utilizing space and minimizing cleanroom costs. Our team of experts excels in designing automation systems with the smallest footprint possible, ensuring efficient use of space without compromising on performance. By reducing the required cleanroom area, we help our clients save on operational expenses while maintaining high productivity levels.

YOUR BENEFIT? Highest Output per sqft/m²

We understand that maximizing output is crucial for busines-

ses aiming to stay competitive. Our customized automation systems are designed to achieve high throughput per square meter, maximizing the productivity of your site. With our innovative engineering solutions, we enable you to meet demanding production targets efficiently with minimal manpower.

YOUR BENEFIT? Lowest Life Cycle Costs

We believe in delivering automation systems that not only excel in performance but also offer long-term value. Our commitment to using high-quality components ensures the durability, reliability, and longevity of our systems, as well as minimal vibration and wear. For example, our takeout systems based on linear motors require minimal to no maintenance apart from simple greasing and run 24/7 with minimal vibration or wear.

By always opting for the best components available, we help minimize maintenance requirements, reduce downtime, and ultimately lower life cycle costs for our clients.

At MA, our capability to develop customized automation systems is driven by our commitment to delivering outstanding results. From optimizing space utilization and maximizing output to ensuring the highest quality standards, we go above and beyond to meet and exceed our clients' expectations. Trust MA to be your partner in developing tailored automation solutions that address your unique requirements, streamline operations, and elevate your business to new heights of success.

PROJECT MANAGEMENT: CORE COMPETENCY

At MA, our project management competence is not just a skillset, but a core value ingrained in our company culture.

With a team of 15 highly experienced project managers, we possess the knowledge and expertise to handle a wide range of projects, from complex multi-vendor endeavors to filling multiple production halls of molding lines.

From the moment we engage with a client, our project managers get to work studying the unique requirements, goals, and challenges of each project. With meticulous attention to the details we gathered in our reviews, we devise comprehensive project plans that encompass all necessary elements, drawing from our

risk assessment and including timeline management, resource allocation, and budget control.

Throughout the project life cycle, our project manager serves as the central point of contact, ensuring effective communication and collaboration among all stakeholders. The PM proactively identifies and addresses potential bottlenecks or obstacles, leveraging their experience to find creative solutions that keep projects on track and within budget. Our commitment to transparency means that clients are regularly updated on project progress,

milestones, and any adjustments made along the way.

At MA, we believe that successful project management is not only about delivering equipment on time and within budget; it is about ensuring that projects align with clients' broader business objectives, enhancing their competitive advantage and contributing to long-term growth. With our project management competence, clients can trust their projects are guided by experienced professionals who are committed to their success.



GMP VALIDATION: CORE COMPETENCY

MA takes great pride in our comprehensive qualification and validation support services, which are designed to streamline the process and ensure compliance with regulatory standards.

We understand the importance of providing robust documentation that aligns with good manufacturing practices (GMP) requirements and fits like a glove into the customer's validation plan, saving our clients valuable time and effort.

From the very beginning, we focus on developing machine documentation that is GMP compliant and ready to be seamlessly integrated into our clients' validation documents. By providing detailed and accurate documentation, we eliminate the need for redundant documentation efforts, allowing our clients to efficiently

navigate the qualification and validation process.

Furthermore, our commitment to qualification does not stop at documentation. Our dedicated team of experts extends their support throughout the entire qualification lifecycle, encompassing installation qualification (IQ), operational qualification (OQ), and performance qualification (PQ). We work closely with our clients to ensure that all qualification activities are conducted in accordance with industry standards and regulatory requirements. As part of our ongoing commitment to our clients'

success, we continue to support recurring calibration and re-verification activities even years after the initial installation. This includes providing the necessary resources and expertise to ensure that our automation systems consistently perform at optimal levels.

Our goal is to alleviate the burden of qualification and validation activities, allowing our clients to focus on their core business operations while having confidence in the compliance and reliability of our automation solutions.

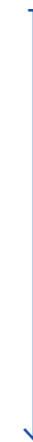




**IMAGINE A WORLD
WHERE COMMITMENT
TO EXCEPTIONAL SERVICE
CONTINUES, WHEREVER
YOUR OPERATIONS
TAKE YOU**



We **MA**ke it happen



Our dedication to your success extends far beyond the initial implementation. We are committed to providing continued after-sales support, no matter where you are located.

ALWAYS THERE FOR YOU WHEN IT MATTERS

At MA, our commitment to providing exceptional after-sales service extends far beyond the completion of a project.



CUSTOMERS CHOOSE THE MA GROUP FOR MORE THAN JUST A PROJECT

We understand the importance of continued support to ensure our customers' long-term success. With three main sites strategically located in different parts of the globe, we are able to provide localized and responsive assistance to our clients wherever they may be.

We believe in going the extra mile to support our customers in the most effective way possible. As an example, we have demonstrated our commitment by moving our office across the street from a customer's facility, integrating ourselves into their ecosystem. This allowed us to build a deep understanding of their operations, forge strong relationships, and provide immediate support as an integral part of their team. We have remained in close proximity for years, working hand in hand with the customer until the project was successfully implemented

and achieved the desired results.

This level of dedication and commitment is characteristic of our after-sales service. We are not simply service providers; we strive to become trusted partners, invested in our customers' long-term success.

Customers choose MA for more than just a project; they choose us for the long-term partnership. With our global presence, localized support, and commitment to going above and beyond, we stand by your side to ensure your ongoing success.

A TRUSTED COMPANY





MA micro automation GmbH

A JR Automation Company

MA micro automation GmbH

EUROPE

HQ and Main Production Site

Opelstrasse 1
68789 Sankt Leon-Rot, Germany

T: +49 6227 3412 0

F: +49 6227 3412 990

sales@micro-automation.com

www.micro-automation.com

Micro Automation LLP

ASIA

Sales, Production (Build-to-Print)
and Service

21 Tech Park Cres
Singapore 638111

T: +65 6950 3480

F: +65 6238 6630

sales.SG@micro-automation.com

Micro Automation LLC

USA

Sales and Service

190 Bluegrass Valley Pkwy
Alpharetta, GA 30005, USA

T: +1 844 494 7991

sales.US@micro-automation.com