



ASYS
LIFE SCIENCE

Automation Solutions for the Life Science Industry

High-end engineering for
your automation task

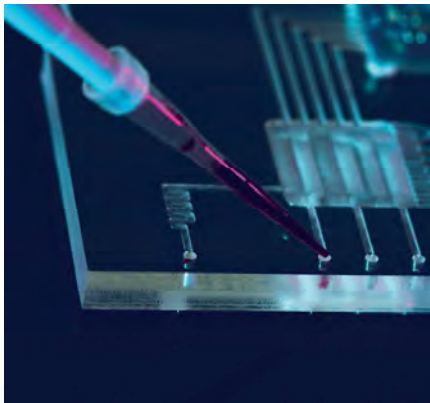
Automation Solutions for the Life Science Industry

Increasing life expectancy combined with new possibilities of diagnostics and therapeutics offers new opportunities to help patients worldwide. Automation in the Life Science industry is the key lever to reduce costs while increasing quality. We offer comprehensive and GMP-compliant machine and process solutions from one source.



MEDICAL ELECTRONICS

We have already developed and built systems for the continuous monitoring of blood glucose levels, sensor technology for blood gas analysis at the point of care or the production of sensors for blood pressure monitoring. We have also realized test systems for medical devices or the production of control units for hospital equipment.



DIAGNOSTICS

Fast and reliable test cartridges are required for the comprehensive diagnosis of viruses, bacteria and germs, not only since COVID 19. We supply efficient and reliable production systems for manufacturers of rapid in-vitro diagnostic tests at the point of care (POC), who are required to manufacture these in accordance with ISO 13485 or FDA 21 CFR Part 820. On our ASYS systems, we produce sophisticated consumables in a matter of seconds.



WOUND CARE

In wound care, there are challenging tasks. The printing of silicone strips on variable wound pads is one of them. Due to our handling and thick-film printing competencies, companies in this market segment trust us. We automate your processes around the production of high-end wound pads.



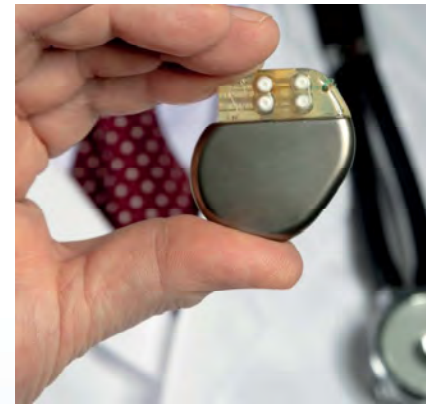
PHARMACEUTICALS

The automation of the production of pharmaceuticals – we also realize this with our ASYS systems. This starts with handling tasks in the loading and unloading of containers and trays, continues with stacking for pasteurizing injection solutions in glass vials and continues with the production, labelling and palletizing of combination packs.



IMAGING DIAGNOSTICS

The production of imaging diagnostic devices is not characterized by high volumes. Nevertheless we are a supplier of components for this challenging niche. With our printing systems for the finest 3D structures, we contribute to a significant improvement in imaging resolution. Here the flexibility and precision of additive manufacturing pays off.



IMPLANTS

Implants, mostly class III medical devices, require special care in their manufacture. Components for pacemakers or hearing implants, for example, are produced and tested on our ASYS systems. Our systems are also used to package class IIb medical products, such as knee joints or ceramic hip joints, or to mark them with a Unique Device Identification (UDI).

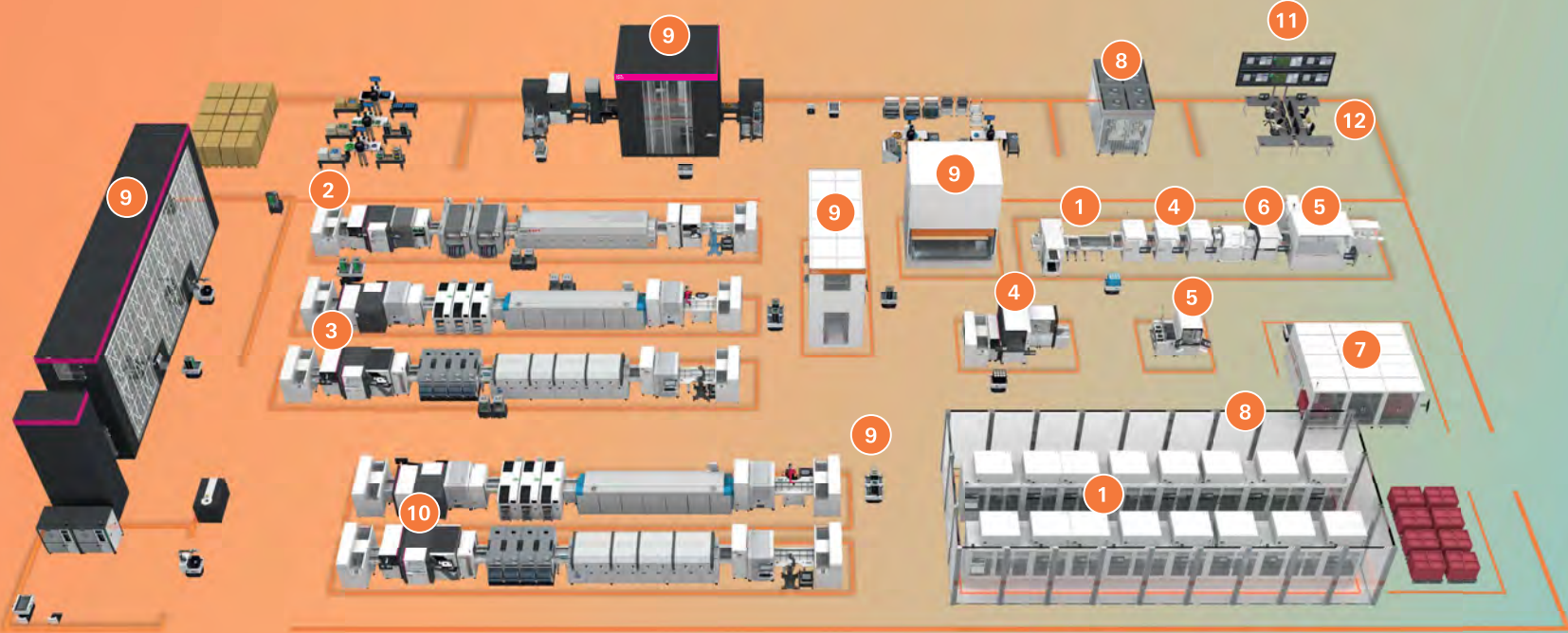


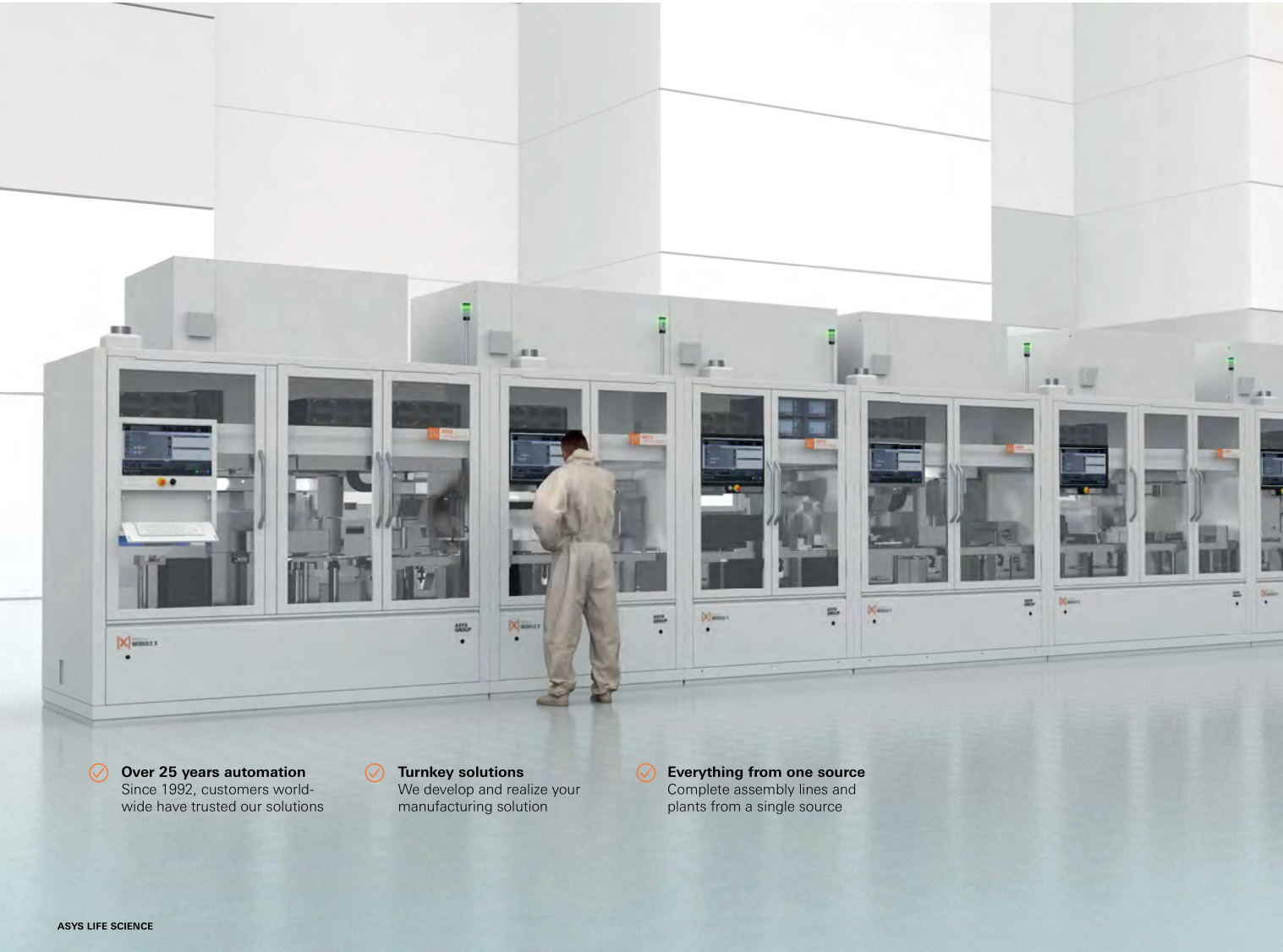
CELL THERAPY

In cell and gene therapy for the research and treatment of cancer, components for cell sorting and separation are required. Manufacturers in this rapidly growing and demanding industry rely on our many years of automation expertise.

Automation Solutions for the Life Science Industry

On our way to the Smart Factory, we offer solutions for all branches. This also includes the automation of products for the Life Science industry. Whether individual standard machines, customized solutions or turnkey lines for assembly, handling and packaging processes – we are your competent partner: from the initial idea up to the finished production line for the manufacture of medical technology products.





1

First Class Engineering for Assembly of Medical Devices

For many years, ASYS has been solving assembly tasks for customers in a wide range of industries such as automotive, consumer goods or industrial products. In the INVENTUS business unit, we have combined more than 2000 automation processes and technologies to create customer-specific solutions. We have developed a new assembly platform, named Module X, especially for the Life Science industries and tailored it specifically to the requirements of the regulated industry. In doing so, we use modules from all business areas. This helps us to provide a process-safe and GxP-compliant solution in a short time. We realize complete assembly lines and plants from one source.

- ✓ **Over 25 years automation**
Since 1992, customers worldwide have trusted our solutions
- ✓ **Turnkey solutions**
We develop and realize your manufacturing solution
- ✓ **Everything from one source**
Complete assembly lines and plants from a single source

ASSEMBLY PLATFORM


[X] MODULE X


The assembly platform, was developed in close cooperation with customers from the medical technology sector and meets the GxP regulations for production in the environment of both 21 CFR Part 820 and ISO 13485. Through the deliberate modular design, the highly flexible platform, allows customized automation solutions, in short project durations. The frames are


pre-configured in lengths of 1.5/2.0 and 2.5 meters and can be function as individual cells or as part of complete assembly lines. The process components (robotics, testers, laser applications, handling, etc.) are mounted on the base plates and aligned with the highest precision: accuracies of $< 10\mu\text{m}$ @ 6 sigma and greater can be achieved.





ASSEMBLY PROCESSES


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Laser Marking
- 


Labeling
- 


Testing
- 


Depaneling
- 


Tray Load/Unload
- 

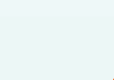
Press-Fit
- 


Feeder Solutions
- 


Screwing
- 


Tray Handling
- 


Riveting
- 


Plasma Cleaning
- 


Dispensing/Potting
- 


Resistance Welding
- 

Transport
- 

Laser Welding
- 

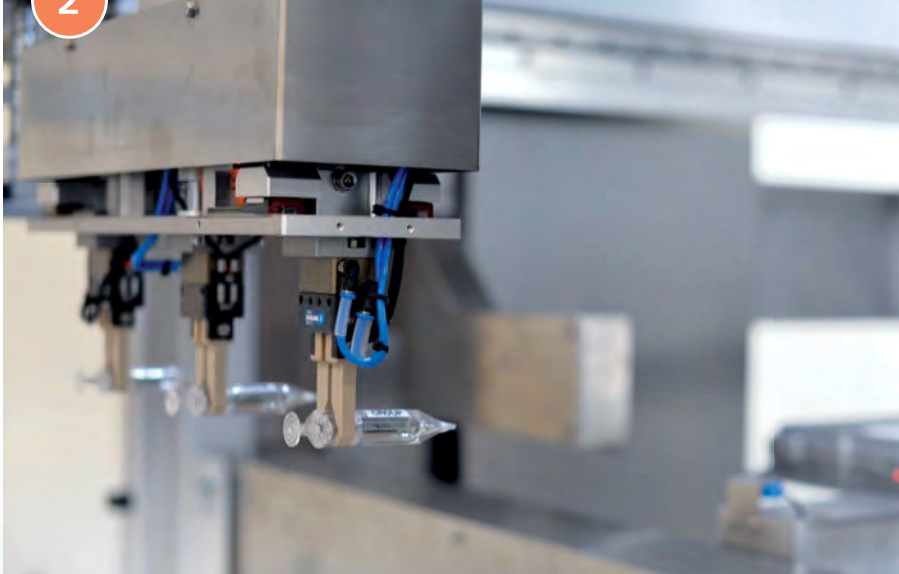
Laser Cleaning
- 

Laser Depaneling
- 

Laser Cutting
- 

Laser Reflow Soldering

2



HANDLING

We handle components as well as assembled parts or packaged products. We transport or stack them in controlled or clean rooms. In this way we reduce distances, personnel costs and increase quality and production volume.

3



MARKING & VERIFICATION

To this day, we have already supplied thousands of standard and special solutions to various industries. On this basis we are constantly expanding our customer segments and therefore we also offer you our competence in marking and verification for your challenges in the Life Science industry.

4

High-end Depaneling from the Market Leader

In the Life Science sector, laser depaneling has proven itself in many projects. The avoidance of mechanical stress, the accuracy, the cleanliness but also the high output capacity makes it the ideal solution for the demanding field of medical technology and diagnostics.



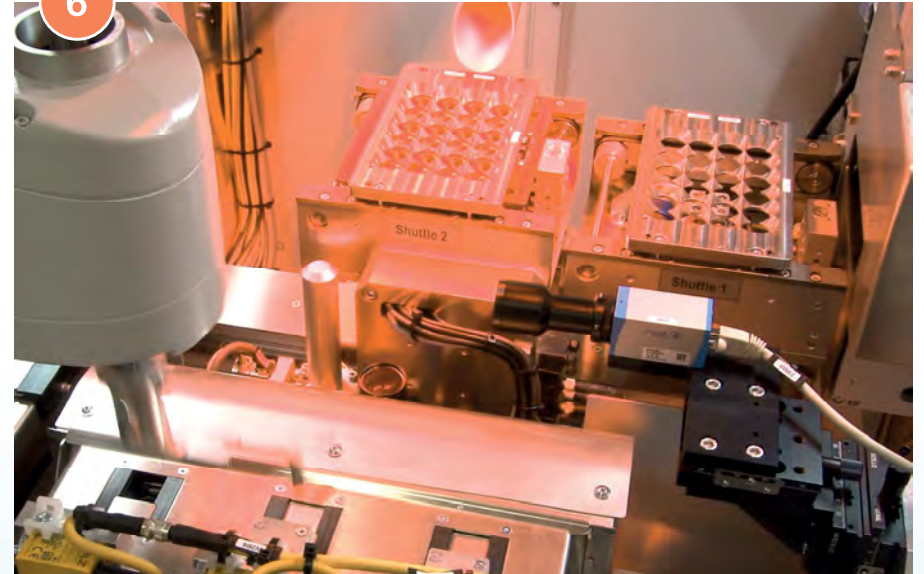
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TESTING

Originally started with the integration and automation of test adapters for printed circuit boards, today we develop and integrate a wide variety of tests for the manufacturing processes, optical checks, leakage tests or functional tests. If required, the whole thing can also be 21 CFR Part 11 (ER/VES) compliant.

6



LASER SOLUTIONS

Laser processes enable the highest precision and reduce mechanical stress to a minimum. Thanks to our technological know-how from the POLYPHOS product area, we can process almost all conceivable materials using a wide range of laser processes.



7

Fully Automated Palletizing & Trayloading Solutions

The automation of production processes is often divided into different value-added steps. Sometimes at different locations, sometimes only a few meters away, and sometimes globally networked. The intermediate storage or outsourcing of components for further processing characterizes this process. We use our expertise in handling components, trays and pallets on a daily basis to perfect the automation process. For this purpose, we rely on our standard product PARIO, although we can adapt it to your process. The solution for your task is our focus. That is our mission.

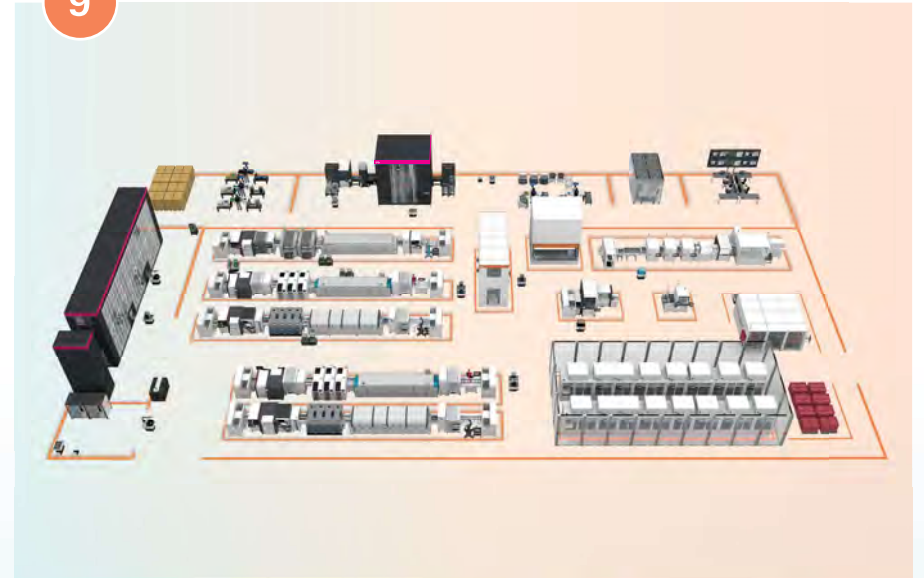
8



CLEANROOM SOLUTIONS

From the first idea to the turnkey clean room – ASYS Prozess- und Reinraumtechnik develops individual solutions from clean workplaces, laminar flow units to drying storage cabinets and dynamic storage systems. With our solutions you protect your products in production according to GMP, ISO and VDI.

9



MATERIAL LOGISTICS

We offer the largest product portfolio and the most experience on the market when it comes to the automation of material logistics in SMT production. Thanks to a modular approach, we are able to implement material logistics solutions in various degrees of automation. In this way, existing factories with their prevailing conditions are adapted step by step to the specific requirements of our customers.

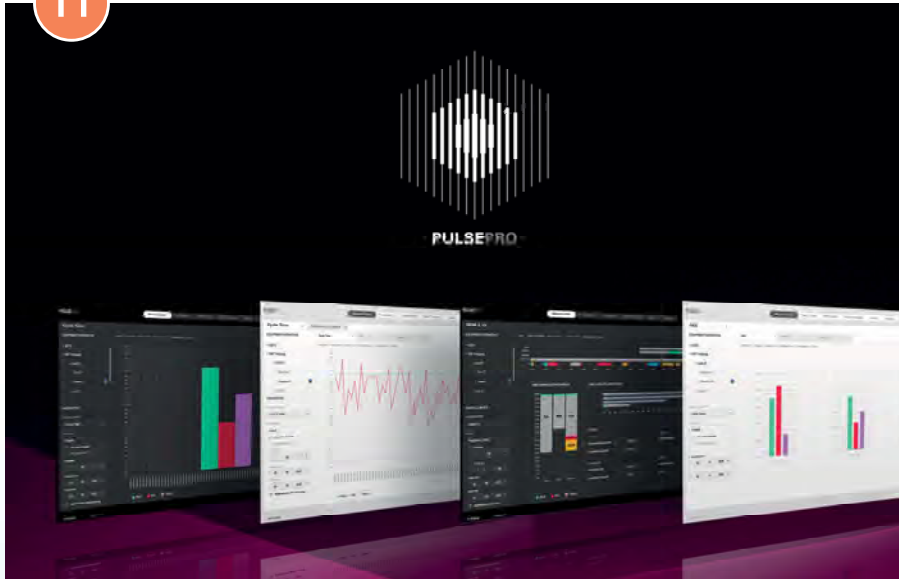
10

Printing Solutions – From the Idea to the Production Solution

Our subsidiary EKRA offers standard printing systems and customized solutions for thick film applications. Further fields of application are the printing of fine structures, three-dimensional bodies (3D printing) or functional layers on different materials like glass, ceramics, LTCC/HTCC, foils, metallic tubes or wafers.



11



PULSE PRO SOFTWARE SUITE

The ASYS PULSE PRO Software Suite offers seven software modules that will help you to control automated material flows in the shop floor, to achieve a dynamic just-in-time supply for each production step and to track all data flows.

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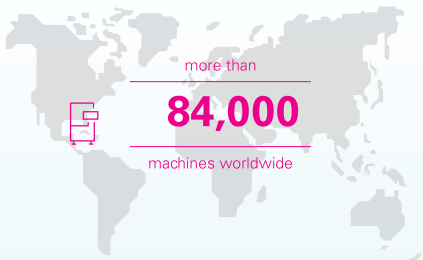


SERVICES & QUALIFICATIONS

We are available around the clock worldwide to provide you with prompt support. Our teams are made up of experienced specialists who provide you with optimum support in their respective product areas. Please contact us, we will be happy to help you.

ASYS Group – Facts & Figures

The ASYS Group is a global technology company and leading supplier of machines for the electronic, life science and energy industry. The ASYS brand guarantees the same high standards of quality and processing standards all over the world. The corporate headquarters in Dornstadt (near Ulm) coordinates activities across five continents and guarantees highest standards in quality and service.



The success of the ASYS Group is based on the qualification and personal commitment of more than 1,200 employees. Inspired and dedicated people are the key to developing and providing first-class products.

Business Areas

Business Unit Electronics



Business Unit Life Science



Business Unit Energy



Strong and Fast Growing for Over 25 Years

The launch of market leading innovations has significantly contributed to the success and growth of the company. Over the past two decades ASYS has expanded steadily and has attained a leading position with new products and processes.

Our Success Factor: Dedicated People

ASYS Group has installed more than 84,000 systems worldwide. ASYS invests continuously in state-of-the-art production processes at its worldwide sites. The production space at the headquarters in Dornstadt is constantly increasing and currently amounts to more than 27,000sqm.

“German Engineering” and Manufacturing

ASYS products exemplify the prestigious “Made in Germany” trademark: precise, high quality systems and machines that are intuitive to use and offer best functionality.



German Quality Across Five Continents Worldwide Sales and Service Centers

The Group's business activities in more than 40 countries are controlled from the company's headquarters in Dornstadt near Ulm, Germany. A broad global network with local service centers in Asia and the Americas ensures a customer-focused service support. Worldwide service teams guarantee best response and spare parts availability.



24 Hour Availability for Service and Support

Service has a high priority at ASYS Group. More than 80 service engineers worldwide are at the service around the clock. Customer satisfaction is the ultimate goal. To achieve this, ASYS installed a systematic feature to track service calls.

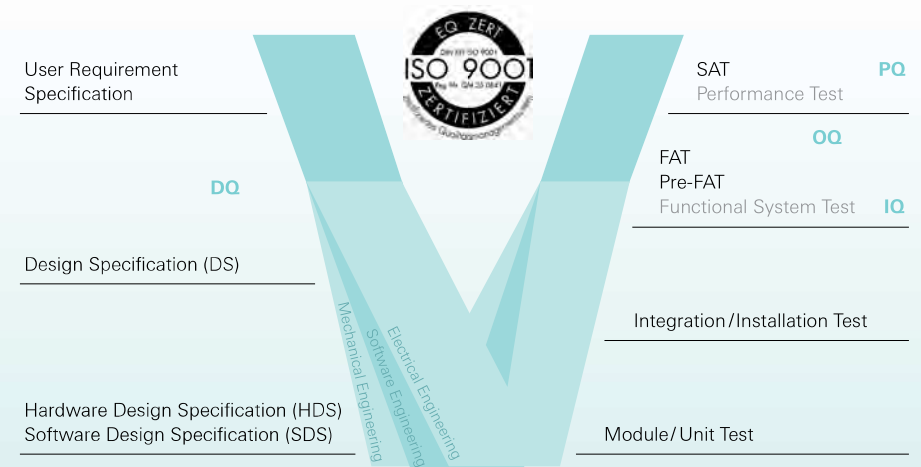
- ✓ 24 / 7 / 365 support, worldwide
- ✓ Teams consist of experienced specialists
- ✓ Experts for each product segment
- ✓ Preventive Maintenance
- ✓ Service Agreements
- ✓ Installation of new systems
- ✓ Maintenance Seminars
- ✓ On-site training upon installation



Qualification Services

- ✓ Design Documents (DS, HDS, SDS)
- ✓ IQ, OQ-Documents
- ✓ Traceability Matrix, Qualification Plan
- ✓ GMP Risk Analysis workshops and documents
- ✓ Qualification Support onsite

GxP-compliant Project Management at ASYS Life Science



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Subject to change without notice. All the information listed is a general description and performance characteristics which do not always apply in the form shown in the specific application or which may change as a result of further development of the products. Only the service descriptions agreed in the contract are binding.

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