



## **Systemec & Solutions: Beyond Industry Compliance, Exceeding Customer Expectations**

Systemec & Solutions offers best-in-class clean room compatible GMP-IT hardware, including Stainless Steel Encapsulated PCs, Clients & Servers, HMI Systems, Keyboards, Printer Housings, Scanner Housings and Printers & Scanners

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## **Introduction**

Specialized, rugged clean room computer equipment is now available in the United States through Grantek's exclusive North American distribution agreement with Systemc & Solutions, a leading manufacturer of IT hardware compatible with Good Manufacturing Practices (GMP) clean rooms and other pharmaceutical manufacturing facilities.

Equipment from Systemc & Solutions is much more than standard PCs in a protective enclosure. Systemc & Solutions designs the products from the ground up, ensuring all devices provide optimum functionality and reliability in addition to the cleanability demanded by pharmaceutical manufacturing and clean room applications.

Systemc & Solutions' products meet challenging and harsh environments in pharmaceutical and life sciences facilities that must comply with regulatory and design requirements such as Good Manufacturing Practices (GMP), clean room, ingress protection, and 21CFR Part 11. Their products are specifically developed for long-term operation in special production environments, and are ideally suited to applications such as workstations for manufacturing execution system (MES) software, process control systems and enterprise resource planning (ERP) software, room status displays and overall equipment effectiveness (OEE) monitoring.

## **Long lifecycle**

Systemc & Solutions designs equipment compatible with the long lifecycle typical of pharmaceutical manufacturing. They understand that the rigorous system validation requirements call for a PC with a long usable life—the time and expense associated with purchasing, installing, and validating pharmaceutical production lines necessitates a long lifecycle in order to be financially viable, while maintaining compliance with environmental requirements and GMP throughout the product life.

With a thorough understanding of the demands of the pharma manufacturing lifecycle gained over two decades in the industry, Systemc & Solutions produces equipment that is durable and will be available for a more extended time than typical commercially available computer hardware. In the unlikely event that equipment

needs to be replaced, the exact same configuration is supplied again to eliminate the need for any revalidation of the system. Systec & Solutions maintains inventory of products for several years to ensure customers can obtain spares, replacements, and additional devices for facility expansions to match their existing equipment. Changing hardware requirements due to upgrades in the DCS, MES or OEE Software can be easily integrated into the existing hardware, therefore making the systems futureproof.

Systec & Solutions produces equipment that can withstand rigorous cleaning and helps prevent cross-contamination. They anticipate the long lifecycle associated with pharmaceutical manufacturing systems and ensure they are providing a long-term supply of products and solutions to meet customer needs throughout the life time of their manufacturing facilities.

### **Thoughtful design**

Systec & Solutions designs and builds their own products. Their design expertise extends beyond electronic engineering and manufacturing into stainless steel fabrication, necessary to ensure the durability and cleanability demanded by clean room or suite environments. They custom-design and fabricate the enclosures for electronics where gaps and ingress points are reduced to a technical possible minimum to prevent contaminants or cleaning solutions to penetrate. Systec & Solutions products easily withstand many thousands of cleaning cycles with isopropanol, peroxide, and other commonly-used disinfectants and cleaning solutions. To support rigorous cleaning requirements, the products expose mainly three materials: stainless steel, glass and clean room silicone.

Systec & Solutions' equipment utilizes the stainless steel housing for heat dissipation, eliminating the need for external cooling fans. Their design uses low-power components to minimize heat, which not only results in gap-free sealed enclosures, but also improves power usage through greater efficiency—less energy is dissipated as heat than in typical industrial electronic devices.



A common challenge presented by the clean room or suite environment is the weight of stainless steel enclosures: though Systec & Solutions uses stainless steel, their products weigh significantly less than those of their competitors. This is achieved through their sleek, elegant design. Systec & Solutions' HMIs typically weigh as little as possible. The reduced weight provides facility designers with more mounting options and mobility for their equipment.

## **Applications**

Systec & Solutions products are predominantly utilized in pharmaceutical and biological production sites. Other applications are found in the dairy and cosmetics industries and any other manufacturing environment where cleanliness is paramount. Systec & Solutions' equipment is ideally designed for aseptic, sterile production environments, and high-classification clean rooms. Their systems offer robust security and RFID for user authentication is integrated in their keyboards and products meet IP65 for ingress protection.

Systec & Solutions also offers innovative mounting technologies, allowing their HMIs to be mounted flat against a wall or other surfaces. They also offer flush mounting that is integral to surfaces. Their unique support arms with torque couplings allow the mounting arm to rotate the mounted device in all directions, up to 350°. The components are designed to work together, resulting in a plug-and-play approach to system design. Systec & Solutions offers HMIs in sizes ranging from 17 inches to 55 inches. They supply the OS and their devices are compatible with all popular manufacturing execution system (MES) providers, Werum, Rockwell Automation, Siemens and Emerson. They offer products certified with specific MES systems and the products are PAS-X-ready.

## **Data entry options**

Systec & Solutions' unique capacitive glass keyboards, which are more durable than membrane keyboards and better to clean, are encapsulated in a stainless steel housing. The capacitive keyboard is sensitive enough to react, even when an operator is wearing up to three layers of clean room gloves.



The keyboard may be directly mounted on the HMI, eliminating the need for a table and an external cable. The keyboard connections pass through the hinge of the mounting hardware to the HMI, with no cabling externally visible. Keyboards can be tilted down for use and then tilted up and out of the way when not in use. Height and angle of the keyboard are fully adjustable.

The torque keyboard mounting allows typing without vibration or unintended keyboard movement, yet is easily moved when the operator is done with data entry and wishes to push the keyboard down and out of the way. This saves 15 to 20 inches of space in the clean room or suite.

The integration of barcode scanners is another important feature. Systec & Solutions' internal Bluetooth connection allows for the direct pairing between the Scanner and the operator terminal. This allows the user to move any charging stations outside the GMP environment. If desired, Systec & Solutions can also provide special stainless steel charging boxes which move the charging of the scanner batteries to an enclosed environment inside the clean room or suite.

A similar approach is offered for label printers, which are required in production areas. Systec & Solutions moves the label printer into an enclosed stainless steel and IP65 rated box, which is only required to be opened through a small door to extract the printed label and therefore moves the printer into an enclosed environment. These solutions can be integrated into a clean room wall or can be moved freely in the room.

### **Unique Solutions: TROLLEYS**

Systec & Solutions' state of the art, wireless clean room TROLLEY allows mobility of the HMI wherever it is needed, improving efficiency and helping reduce construction and installation costs. The battery-powered TROLLEY communicates wirelessly with the facility network and other equipment, eliminating the need for cabling and improving cleanability. The battery is sufficient to operate the TROLLEY for at least two shifts, without requiring recharge. The stainless steel TROLLEY is rugged, easy to move when necessary, and has an ingress protection rating of IP65.

One TROLLEY can replace several HMI screens by allowing the operator to move the HMI where it is needed. The MES software can direct the operator when and where to move the TROLLEY as the manufacturing process demands. As pharmaceutical manufacturing facilities adapt to producing smaller batches of different substances, the TROLLEY can add flexibility to the production line by going wherever required. Some of Systec & Solutions' customers choose to equip their facility with TROLLEYS, rather than permanently-installed HMI screens at fixed locations, as the TROLLEYS offer an adaptable solution to changing manufacturing needs.

TROLLEYS also offer an elegant solution for providing HMIs in glass-walled areas that are unsuitable for wall-mounted equipment. They are all stainless steel and easily cleanable, with easy-to-clean anti-static wheels suitable for typical clean rooms or suites.



## Conclusion

Through their North American distributor Grantek Systems Integration, Systec & Solutions offers sleek, elegant and lightweight clean room hardware, including monitors, HMIs, PCs, keyboards, barcode scanners, printers and accompanying mounting solutions. They also offer unique TROLLEYS that save space and improve efficiency by allowing one HMI to be used in multiple areas of the facility by simply moving the TROLLEY as needed. Systec & Solutions has a wider product offering than their competitors and as their products are designed from the ground up, specifically for clean room usage, they provide greater efficiency, lighter weight, and more mounting options than others on the market. Their capacitive glass keyboards are easy to clean and operate even when wearing up to three pairs of clean room gloves.

Grantek offers a complete solution for clean room hardware components. They offer installation of the equipment and perform hardware installation quality (IQ) testing. System integration of their components is available through their exclusive partnership with Grantek Systems Integration. Their wide customer base

includes most of the world's top ten pharmaceutical manufacturers.

The design consultation and support services provided by Systec & Solutions and Grantek Systems Integration is unmatched. Together, they help customers select equipment based on their risk assessment, to help ensure that the purchase will meet their needs now and in the future. They ensure the clean room hardware is fully and efficiently integrated with the control and monitoring software systems of the facility. Finally, their extensive experience with pharmaceutical and clean room manufacturing combined with their stainless steel fabrication expertise is evident in the thoughtful design, cutting-edge products and unparalleled service.

*Grantek has established an exclusive partnership with European leader, Systec & Solutions, to offer unique, state of the art clean room hardware solutions to North American pharmaceutical manufacturers.*

