OUR SERVICES

Design of automated systems

Systemex Automation provides integrated design of automated systems. Our expertise covers the full spectrum of disciplines required to develop the necessary equipment for clients' applications, including mechanical, electrical and instrumentation designs, PLC, DCS, HMI and movement control systems programming, as well as SCADA and MES applications.

More specifically, Systemex Automation provides engineering, design, and troubleshooting services for systems to ensure quality and proper integration of system components, motor control circuits, power supplies, PLCs and mechanized systems. We are on the lookout for new technologies to ensure that we apply contemporary solutions that will provide greater longevity.

Our mechatronics experts can design complete production equipment tailored to clients' needs by combining several disciplines, such as mechanical and electrical design, as well as any other discipline required for its implementation.

Control System Design, Programming and Implementation - SCADA

Automation and controls are at the heart of Systemex Automation's activities. We have the experience with all of the major PLC and DCS system providers on the market, as well as axis control systems. We are committed to broadening our knowledge and keeping it up to date through investment in training for our experts and continuously adding qualified resources to our team.

Our expertise:

- Highest standards in terms of design and programming.
- Diverse and versatile knowledge leading to integrated solutions that eliminate the need to use multiple resources or companies to successfully complete projects.
- Implementation of controls and SCADA systems.
- Revenue management and operations planning.

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Business Process Streamlining and Optimization – CAPM (MES)

Systemex Automation can analyze processes and suggest ways to streamline them to manage the information required and generated through the entire product workflow in the plant. Whether to validate operations, guide or inform the operators, monitor parts on the plant floor or record manufacturing or quality data at the various stages of manufacturing, the success of the systems we build depends on the combination of people, processes and technology.

Preliminary and Detailed Engineering

For some projects, it is advantageous to start with a preliminary engineering phase to fully determine the project scope and feasibility. Specifically, Systemex Automation can help clients determine what will be included in the project goals, what will be excluded, and whether the project should be launched or not. Thus, for a fraction of the project's overall cost, we provide a comprehensive document outlining the project parameters that can be used, for instance, to obtain the budget required for implementation and to accurately assess the risk related with carrying out a specific project. The project can therefore be redefined, postponed or cancelled if the findings of the preliminary engineering phase are not acceptable, thus avoiding unnecessary expenses.

Detailed engineering includes the production of all required documents for installation, calibration and start-up of control equipment, as well as staff training.

Systemex Automation's engineers and technicians take responsibility for generating deliverables while allowing clients to remain in control of the scope and budget of the project.

Systemex Automation engineers can produce the following documents as part of the preliminary engineering phase:

- Accurate definition of scope of work
- Choice of appropriate technologies to be used on the project
- Definition of design standards to be met
- Development of basic engineering documents required for cost assessment
- Estimation of project costs
- Calculation of the return on investment
- Production of the detailed project schedule

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Systems and Equipment Programming and Configuration

The programming and configuration of equipment gives life to the detailed engineering developed in a project's early stages. Whether clients need a new control system, a replacement or an upgrade of an existing system, Systemex Automation's engineers and technicians have extensive experience in most common PLC and DCS equipment. They apply their knowledge using the latest engineering and programming tools to convert logic diagrams and generate standard codes to write custom applications.

Project Management

Project management is one of the most important factors for a successful project, and Systemex Automation adheres to the recognized principles in this field.

We promote the use of project management milestones: Definition, Design, Development, Deployment, Direction and Documentation. Our approach, based on the WBS (Work Breakdown Structure), ensures monitoring that focuses on all of the levels while the project is being carried out, eliminating many problems that might interfere with the schedule.

Consulting

With so many years of experience in industrial automation, Systemex Automation provides consulting services to solve expansion problems and the associated headaches.

Our consulting teams can help clients identify and eliminate the operational restrictions that impact profitability, such as inefficiencies; obsolete, under-utilized, or unsuitable technologies; capacity bottlenecks; and manufacturing, planning and resource levelling problems, as well as a lack of strategic vision.

With the help of Systemex Automation, clients can turn problems into benefits for the company.

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Risk Analysis – Machine Safety

Systemex Automation has machine safety integrated into its genetic code. All the machines it designs meet the appropriate safety standards. Thus, it is with the safety of workers in mind that we intervene in any application, whether designed by us or by third parties. Our advanced knowledge and our proven work methods ensure adequate protection and clear procedures. With clients' cooperation, we are able to identify, measure, assess and monitor risks, and make the necessary adjustments in order to comply with precepts of IRSST and internationally recognized machine safety standards in Europe (EN, ISO), the US (ANSI) and Canada (CSA).

All robotic projects at Systemex Automation meet safety requirements under current laws and regulations. Thus, each application is reviewed by our machine-safety experts and a risk analysis is performed and validated. Safety is designed to maximize productivity while minimizing risks to employees and equipment.

Design of Mechanical Systems

For several years, Systemex Automation has been designing and manufacturing complex mechanical systems to meet its customers' needs. Our mechanical engineers and technicians use their expertise to design a full line of products from simple parts that add to or improve equipment, right up to customized robotic production cells. Using our cutting-edge tools, we model each component individually, but also as part of a whole. Parts are designed and made ready for production based on shop drawings.

Our expertise in system mechanics complements our expertise in electrical and pneumatic control to provide clients with an optimal solution.

Robotics cells Design

Robotic cells developed at Systemex Automation are the result of the creativity and skills of our multidisciplinary team. Our designers first perform a detailed analysis of the application from various angles (mechanical, physical, control, electronics, security, usability). Everything is then discussed in brainstorming and validation sessions with our clients. These essential sessions help push the boundaries to end up with the best concepts. In other words, the energy and experience of our teams, combined with a rigorous methodology, allow us to develop solutions that meet complex production needs.

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