Industry Automation and Drive Technologies

How do you turn potential into competitive edge?

Answers for industry.
Our response: a unique integrated range of products and services for industry.

Only those familiar with the challenges of industry in global competition can ask the questions that are important for industry.

And only those with the appropriate experience can help to meet these challenges.
At Siemens Industry Automation and Drive Technologies, more than 82,000 people are systematically pursuing the one goal of helping our customers meet the enormous challenges of the present and the future, so that they can continuously boost their productivity and thus improve competitiveness on a lasting basis.

In product lifecycle management (PLM) and in automation and drives engineering, we are the only vendor to offer a comprehensive portfolio for production automation, process automation and building automation: first-class, perfectly coordinated products, systems and solutions – rounded off by a complete range of training and service offerings.

With Totally Integrated Automation and Totally Integrated Power, we offer unique, open and integrated architectures with which we can perfectly cover all the requirements of our customers – in every sector.

The central issue for us is to consistently push the connection of production systems with product development systems and merchandise management systems by using intelligent software – with the aim of efficiently combining product development and real production.
How do you turn ever shorter product lifecycles into genuine market opportunities?
Consumers want products that are more and more unique with regard to design, special features and technology – at the lowest possible prices. At the same time, fashion and tastes change with increasing frequency, and technologies keep developing at breakneck speed. For industry, this means plant and machinery must be adapted to current requirements ever faster and more flexibly, and with maximum cost-effectiveness.

Our response: efficient product lifecycle management.
Huge pressures of time and costs apply today not only to product development and design but also to the dimensioning, erection, commissioning and conversion of plant and machinery. Our response to this is efficient product lifecycle management (PLM). We are the only vendor to offer an integrated PLM platform that incorporates all departments, suppliers and development partners, and covers all the phases in the lifecycle of a product.

In this way, we create the prerequisites for digital engineering within the scope of the digital factory: from accepting data from the planning phase, through configuring of the automation solution, right up to the implementation during ongoing operation. Seamless conversion of the digital factory into the actual production plant through the use of a holistic engineering approach sets new standards in automation – and enables fast and cost-effective market entry of requirement-oriented and high-quality products.
How can you optimize productivity in the manufacturing and process industries?
With Totally Integrated Automation, Siemens is the only vendor to offer an integrated basis for implementing customized automation solutions – for all application areas and sectors. The unique level of integration here guarantees unequaled interaction of all components. Machine manufacturers, plant builders, system integrators and end customers all equally benefit from this: optimized processes enable reductions in total cost of ownership and time-to-market, as well as improvements in quality.

Increasing globalization and the resulting pressure of competition bring one question into ever sharper focus:

How can you systematically utilize all the optimization potential over the entire lifecycle of a machine or plant?

The answer to this is supplied by Siemens Industry Automation and Drive Technologies.

Our response: Totally Integrated Automation – the perfect interaction of all automation components.

Unique integration is a defined characteristic back at the development stage of our products and systems. This guarantees perfect interaction even across generation changes – as well as ensuring existing investments. In other words, Totally Integrated Automation makes a crucial contribution to sustained increase in competitiveness in industry.
How do you guarantee requirement-oriented, cost-effective and reliable power distribution?
With Totally Integrated Power (TIP), Siemens offers a complete, integrated range of products and systems for electrical power distribution, and thus also the ideal basis for implementing integrated solutions in industrial and utility buildings – from medium voltage to the consumer. TIP covers all phases of a power distribution project and enables significant savings potential in planning, configuring, erection and operation. Investors boost their return on investment and increase attractiveness for their customers. Electrical planners reduce their planning and configuring costs, and installation engineers reduce costs for procurement, installation and commissioning. And not only do users and operators both optimize their operating costs, they also benefit from maximum flexibility in the event of changes in use.

Totally Integrated Power is based on integration
– in planning and dimensioning
– using well matched products and systems
– and communication and software modules for linking power distribution systems to industrial automation and building automation.
How do you reduce operating costs despite rising energy prices?
Our response: energy savings of up to 70% thanks to efficient solutions.

Climate change, shortfalls in resources, rising energy costs: three catchwords that bring home the absolute necessity for efficient use of energy. Industry has a special responsibility in this context. With a share of approximately 40% in global energy consumption, it can make a decisive contribution to preserving the environment while at the same time saving cash.
How can industry manage to protect the environment and remain efficient? With our solutions for significantly higher energy efficiency. The prime example are our energy-efficient drives that require up to 70% less power – and can be integrated into just about any automation concept. That is being realized by using our frequency converters that allow the operation of electrical motors to be flexibly adapted to actual demand. The resulting savings are so high that investments in this area often pay back within just a few months.

Savings potential and payback period can be precisely calculated using a software tool we have developed ourselves. For us, energy efficiency also means efficient power distribution in industrial and utility buildings. Our Power Management System, for example, optimizes the use of energy here and thus enables savings of up to 20%. The system makes energy consumption transparent and accountable, meeting the requirements for reducing consumption as well as the resulting costs.
How can you combine safety for people, machinery and environment with economic responsibility?
Guaranteeing safety in automated processes is not just a question of human responsibility but also of economic sense.” This quote from Werner von Siemens in the year 1880 is more relevant than ever today: increasingly strict legal requirements demand total protection of people, machinery, and environment. In addition, safety is an efficient lever for minimizing unplanned machine downtime.

Safety Integrated is the consistent implementation of safety engineering in terms of Totally Integrated Automation: through the integration of safety-related functions direct into standard products, and the user-friendly integration of safety engineering into standard automation. Safety Integrated simplifies compliance with legal standards and regulations, and accelerates the implementation of safe plant and machinery that also meet all performance expectations. This is because our coherent overall system comprising safety engineering and standard automation reduces machine downtime and increases availability – not least because any faults and disturbances can be detected and corrected more efficiently. An integrated overall system also means one engineering system, one CPU, one I/O, one bus. This enables significant savings in space, cost and time, simplifies inventory, and minimizes interface expenses, since all system components come from a single source. In addition, fail-safe communications enable completely new perspectives via international standards: for example, wireless, fail-safe communications via IWLAN and PROFINET or requirement-oriented implementation of multiple fault-tolerance levels.
How do you turn first-class technology into first-class solutions?
Our response: selected partners with proven solution competence.

A basic requirement for increased productivity, and thus more success in competition, is the provision of products and systems that set standards in their field. Another requirement is technological know-how and the experience of competent system integrators who can turn that know-how into first-class solutions.

With Siemens Industry Solutions, our customers have a system and solution integrator they can rely on to provide support throughout the entire lifecycle of their plant – from planning and erection, through operation and maintenance, right up to modernization and retrofitting. The experts from Siemens Industry Solutions use their sound process and sector know-how to implement solutions that leave nothing to be desired when it comes to performance and cost-effectiveness.

In addition, we enjoy excellent cooperation with Siemens Solution Partners: system integrators and system houses with comprehensive technology and process knowledge. They develop tailor-made, future-proof solutions based on our globally successful range of products – in the areas of automation, drives and product lifecycle management. Thanks to close cooperation with us, qualification and certification, and intensive transfer of know-how, they make a decisive contribution to optimizing the entire value-added chain of our customers – from the standard product to the finished plant.
How does the overall lifecycle of a machine or plant become a success story?
Our response: Services from A to Z.

The total cost of ownership of plant and machinery is increasing significantly, because the operating costs accruing over the entire lifecycle frequently exceed investment costs many times over. This is especially the case with regard to service and maintenance.

Siemens Industry Automation and Drive Technologies has for many years backed consistent reductions in TCO values in its range of products and systems. In addition, we provide appropriate services to make a decisive contribution to planning, controlling and reducing the lifecycle costs of plant and machinery. Our comprehensive range of services stretches from planning, through commissioning and training, right up to maintenance and modernization. Naturally, our team of experienced service & support specialists is available at any time with advice and help – in more than 100 countries around the world. Our specialists support our customers in optimizing the productivity and cost-effectiveness of their plant and machinery throughout the entire lifecycle.

Siemens is also the ideal partner in questions of financing – strong and reliable – because, as a competent vendor of tailor-made solutions in the business-to-business financial services market, we have a comprehensive portfolio of solutions – from equipment financing to leasing. This enables good plans to be turned into outstanding projects even if financial horizons are limited.
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