

Siemens. Partner for the petrochemical industry.

chemicals



SIEMENS



The **challenges** petrochemical plants are facing today

The **quality** must be right.

No matter what your plant produces, whether ethylene oxide, propylene oxide, phenol, styrene, MDI/TDI or any other product: Productivity, safety and resource efficiency are the key to economic success in the continuous production processes of petrochemical plants. Only companies that can continuously master these challenges will be able to meet the market demands for delivery reliability, ensured quality and prices that are always in line with the market.

You know the factors required to achieve higher productivity in petrochemical plants: a maximum degree of automation, ensuring the fulfillment of the required quality – and the highest possible availability. How can your competitiveness be permanently ensured – even if environmental protection and safety regulations become stricter? Which solutions make your production process stable and efficient enough for you to be one of the global market leaders?

Safety is the top priority.

We have the answers:

Our SIMATIC PCS 7 process control system. Innovations such as integrated Plant Asset Management and the Integrated Safety Matrix, tailored to your specific process.

Nothing sells unless the **price** is market-competitive.

The Siemens range of products and solutions is specifically tailored to these requirements. Top priority is placed on integration and openness – in all key areas from automation to drives, right down to field instruments. These solutions are based on tried-and-tested industrial standards and are optimized to achieve the highest possible degree of economic efficiency throughout the entire life cycle of a plant.

Our Chemicals Competence Center concentrates on the demands of the various market segments such as the petrochemical or polymers industry. Here we coordinate our Siemens expertise – from individual products right up to comprehensive solutions. This enables us to integrate our years of market experience into new projects and consolidate the experience gained in the development of new products.

Productivity is determined by the **life-cycle management** of a plant.



A plant must produce **around the clock.**



Every minute counts for **maintenance and service.**

With our unique combination of sophisticated products, software competency and application know-how, Siemens is the leading partner for petrochemical plants – worldwide.

Your requirements

Our solutions

To produce a consistent level of product quality in a safe manner specific to the customer's needs.

The right level of quality thanks to automation

With SIMATIC PCS 7, Siemens offers one of the most flexible and powerful process control systems in the market. And our innovative online analytics ensures that the desired, nonvarying product quality can be achieved for each ton produced.

Whether an integrated petrochemical complex or stand-alone plants – adequately meeting the high safety standards throughout the entire process chain requires a coherent and integrated safety concept.

Explosion protection and plant safety

Siemens offers a wide range of solutions that are seamlessly integrated – including components for applications in hazardous areas, integrated safety-oriented controllers right up to high-resolution process analytics.

Ongoing price erosion in the petrochemicals market means that companies need more than just efficient production processes to succeed. They need to boost overall efficiency in the entire complex, including in the refinery that might supply the raw materials.

Fully integrated production

Siemens bring together process information and decision support – horizontally throughout the entire production process and vertically from the ERP level right down to the field device level. State-of-the-art automation technology solutions support the productivity of your processes. For example, SIMATIC IT helps you operate the plant at the optimum operating level whenever required.

At some point in time the performance limits of a plant will be reached. Tailored upgrades, expansions and modernizations are often decisive to achieving better performance and protecting your investments.

Investment protection from the start

Siemens offers solutions that are future-oriented – with comprehensible and thus predictable innovation cycles; solutions including products and systems whose main components are all developed and manufactured by Siemens. And: Siemens also offers a migration path for older systems.

The calculation is simple: The longer a plant is operating under optimum conditions, the more productive it is. For the continuous production processes of petrochemical plants this means: Every unscheduled plant downtime is a total loss.

Process control system for the highest degree of availability

With SIMATIC PCS 7, Siemens offers one of the most mature and reliable process control systems on the market. SIMATIC PCS 7 can be configured with the required redundancy on all levels based on open industry standards such as PROFIBUS or Industrial Ethernet.

When producing worldwide, you also need to be absolutely certain that everything is running smoothly at your locations all over the world. Global service and support play a key role.

Service and support around the clock

Siemens solutions are designed to achieve both the highest possible degree of availability and minimum maintenance effort and overhead. When required we can support you around the clock anywhere in the world: with the Siemens Customer Support and the Siemens Spare Parts Service – 24 hours a day, 365 days a year.

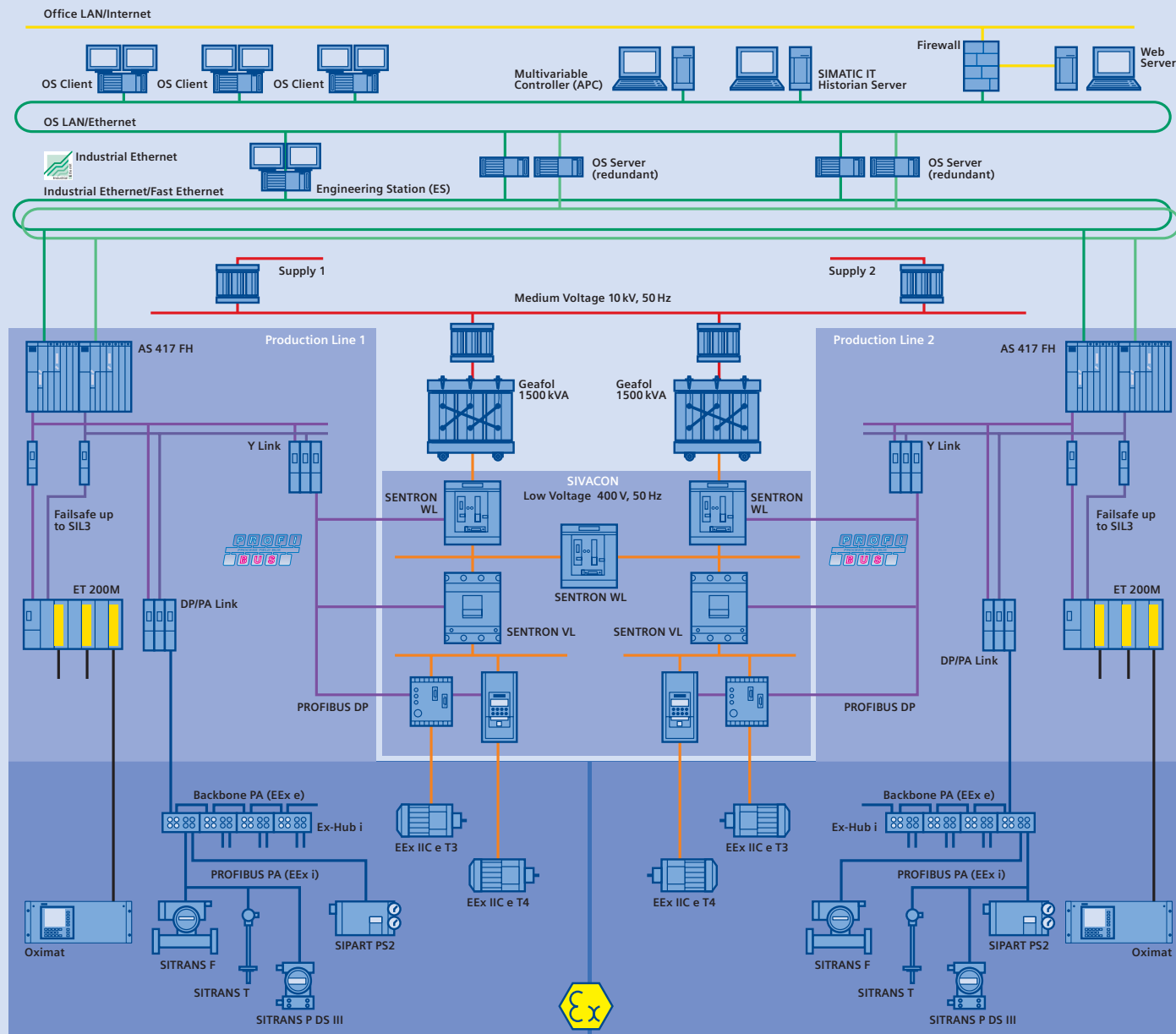


Siemens offers you everything you need for first-class production: from sensors to power distribution to process control systems, from the planning phase to after sales service. Everything from Siemens – with the highest possible degree of openness. Cutting-edge innovation and international standards are the basis for our solutions. Let us show you some examples.

Our offer for the petrochemical industry

Integrated, efficient and safe

From the individual transformer, to switchgear, to process instrumentation, from software to networks, and to the control system – we can meet every need of the petrochemical industry. As all components are fully compatible, they can be seamlessly integrated and therefore provide maximum efficiency throughout the entire process.



Optimized processes are critical for the productivity and for the economic efficiency of a manufacturing facility. We support you with our field-proven products and solutions.

Integration – latest issues: TIA and TIP

Totally Integrated Automation (TIA) and Totally Integrated Power (TIP) combine production and company processes as well as the entire power supply into one system – with uniform configuring, data management and communications. How does this work? Using standardized components. This not only ensures for reduced interface losses, but also for reduced maintenance and spare-parts expenses.

Controlling processes, optimizing processes: SIMATIC PCS 7

With SIMATIC PCS 7 your plant is controlled by a state-of-the-art system. Not only in the production process itself, but also in all upstream and downstream utility processes of petrochemical plants as well. It is extremely flexible and modular and thus can help you solve any task from laboratory to production optimization – both centralized and distributed.

Focus on life cycle – Plant Asset Management

The impending failure of a component can usually be detected early, for example, by increased energy consumption or a considerable decrease in performance. The asset management solution integrated into SIMATIC PCS 7 provides the respective diagnostics data and decision support: innovative maintenance concepts – for enhanced plant availability and a longer service life of your components.

Optimum connections, even in hazardous areas – with PROFIBUS

PROFIBUS ensures that you are provided with direct access from the operator station right down to the field level. The international PROFIBUS DP/PA fieldbus standard is used worldwide and forms the basis for distributed automation solutions – even in hazardous areas.

Safety without weak points – Safety Integrated

SIMATIC Safety Integrated is our comprehensive range of products and services for safe, fault-tolerant and high-availability applications in the process industry. All components are designed to detect critical signals quickly and to respond to and process them according to a predefined logic. SIMATIC Safety Integrated is completely integrated into standard automation and thus ensures the maximum degree of safety throughout the entire process chain.

Transparency means efficiency: MES with SIMATIC IT

The plant-wide integration of data is the basis for optimized production. Our solution: bridging the business level with the production level utilizing our SIMATIC IT MES system. Based on standardized products, both industry-specific modules as well as individual solutions can be implemented quickly – this ensures a smooth way to achieve enhanced transparency and ideal process control.

Reliable measurements: Process instrumentation and analytics

Our broad range of field devices for measuring pressure, temperature, flow and level can provide reliable measurements even for demanding situations. Our innovative concepts in analytics and chromatography ensure system operators fast access to process information.

Throughout the entire life cycle of your plant, you benefit from minimized, predictable costs and from a partner you can completely rely on in every project phase – from the planning phase to operating and up to plant modernization. Insist on this life-cycle partnership. We are ready to help.



For quick and direct additional information, go to:

www.siemens.com/chemicals

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