

# Siemens ENEAS solutions for life cycle management

System solutions throughout the entire life cycle



Answers for energy.

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## An integrated approach for the entire spectrum of energy automation

### **Always one step ahead with ENEAS solutions from Siemens**

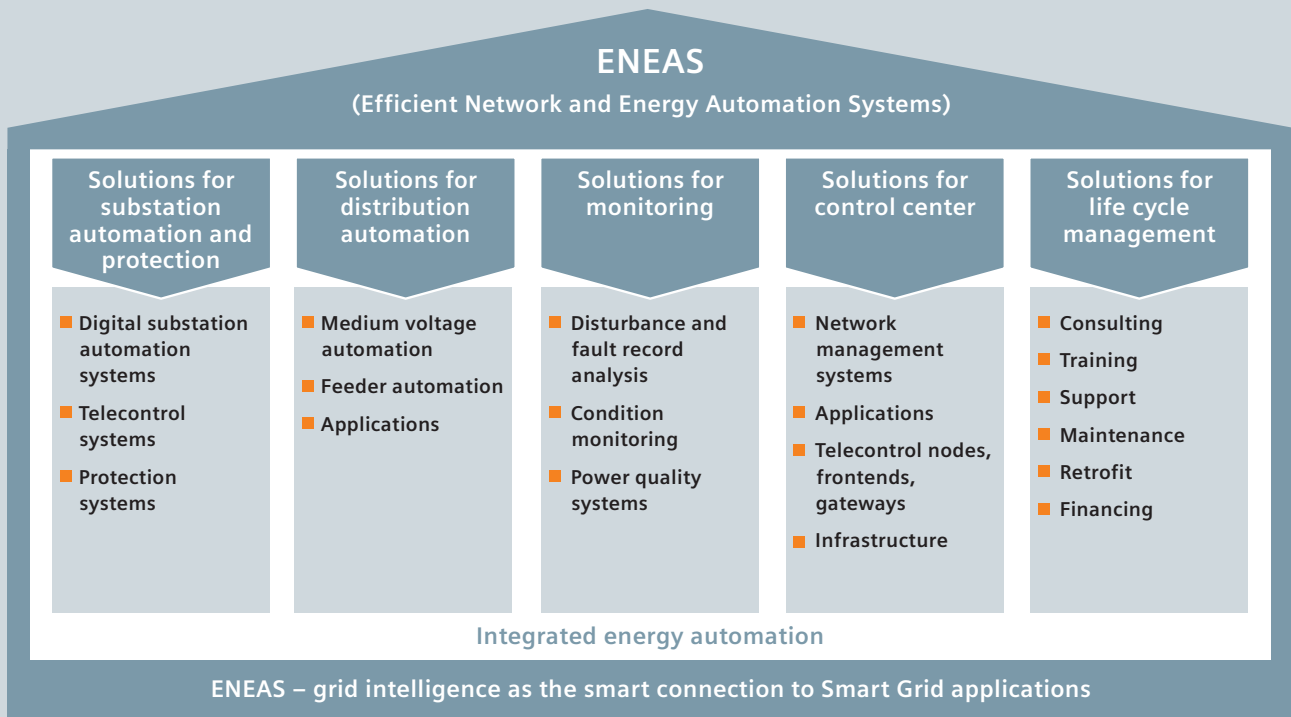
Comprehensive and efficient overall solutions for all areas of network automation based on time-tested Siemens products – this is the idea behind Siemens ENEAS (Efficient Network and Energy Automation Systems). This integrated concept offers compelling benefits in all areas:

- efficiency thanks to low costs throughout the entire life cycle
- sustainability through extensive performance reserves and open interfaces
- an ideal technical basis for the intelligent grids of the future
- the high level of safety only a demonstrably dependable business partner can guarantee

### **Concepts that protect investments and add value**

A special part of the Siemens ENEAS solutions are specially designed concepts for maintaining the value of energy automation systems and optimizing them. These concepts integrate all aspects of energy automation, and accompany them throughout the entire life cycle:

- consulting
- training
- support
- maintenance
- retrofit
- financing



Siemens ENEAS life cycle management complements the comprehensive range of systemic solutions along the chain of energy automation.

**Life cycle management from the market leader in energy automation technology**

Siemens is the worldwide trendsetter and driver of new developments in the field of energy automation. The company's activities are focused on one goal: keeping increasingly complex technologies such as the monitoring and control of intelligent networks consistent and making them easily and safely manageable.

Siemens can draw on a unique fund of knowledge in this field. For decades, the company has been a leading provider of automation products, systems, and solutions. Siemens' installed system base is

the world's largest, and covers the entire spectrum of energy automation. This invaluable practical experience and comprehensive specialist knowledge is the basis for Siemens' leading position in this field. In the context of ENEAS solutions, this unique system solutions expertise becomes available around the world of tailored solutions.

Along the entire energy automation chain, modular solutions from Siemens safeguard the long-term value of investments. Flexible modules allow precise adaptation to individual customer needs, and ensure optimum system availability.

# How do you keep systems on the cutting edge at all times?



## The evergreen concept

### Viewing the entire life cycle

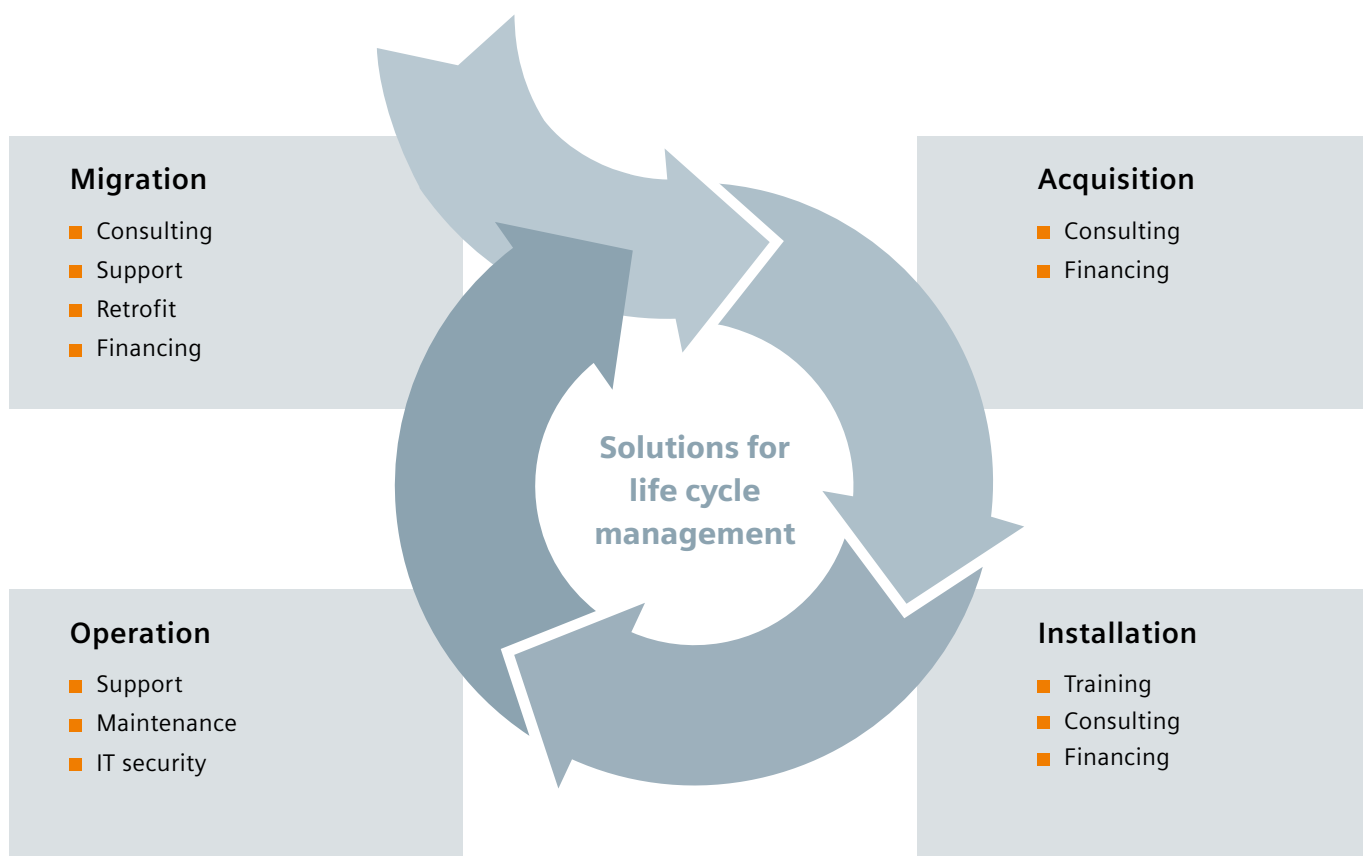
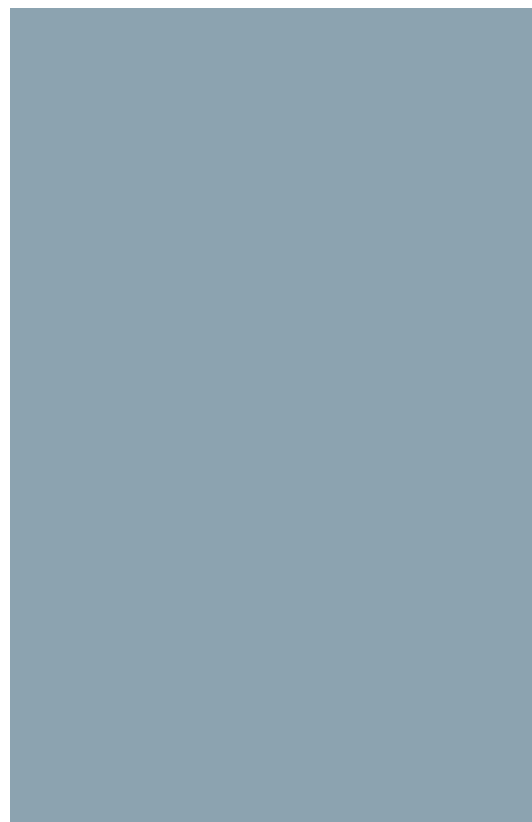
Fast, safe, flexible, profitable operation that fully embraces technological advances and responds to the needs of an ever-changing market – this can only be accomplished with state-of-the-art systems. As the technology leader and driver of new developments in energy automation, Siemens can offer valuable support, precisely tailored to customer requirements.

Siemens' evergreen concept makes it possible to keep an existing infrastructure up to date at all times. The ENEAS philosophy holds true here as well. Modular, open system architecture, standardized interfaces, a component-based product strategy, and a comprehensive range of attendant solutions are the cornerstones of the evergreen concept. Optimized migration processes and the support of evolutionary system development facilitate optimum retention

and continued use of existing assets such as databases.

A customer-specific combination of all available life cycle solutions ensures a tailored evergreen concept to provide significant advantages for energy automation:

- consulting for all aspects of energy automation
- step-by-step hardware and software updates and upgrades
- preventive maintenance
- fast fault elimination and spare parts supply
- consistent migration concepts for smooth transitions to new system technologies
- financing solutions throughout the entire life cycle





## Consulting

As early as the planning stage for new construction or expansion of plants, systems, and equipment, ENEAS consulting solutions create a solid basis for optimum value added. Qualified personal contacts provide support through the entire process and develop individual concepts for the construction and expansion of new features, as well as for their integration. They clarify the technological conditions and, if necessary, implement new functions or function extensions resulting from the requirements of operational management.

IT security is becoming an increasingly important topic in the operation of transmission and distribution networks, because the harmonization of protocols and interfaces creates new risks. This is why specialized consulting instances focus on the elimination of security risks and on securing the system against attacks and malfunctions.

Energy efficiency is extremely important. In-depth analysis and goal-oriented advice ensure the realization of all possible savings potentials – from investment planning to conception and operation of systems. It pays off in long-term profitability, future-orientation, and environmentally sound operation, as well as ensuring a high degree of efficiency and competitiveness.

### **Convincing benefits of consulting in energy automation at a glance:**

- qualified contacts with system know-how
- reduced system complexity
- use of innovative products and technologies
- increased IT security
- compliance with all relevant IT security regulations and clear allocation of IT security tasks
- optimized use of energy and cost reduction



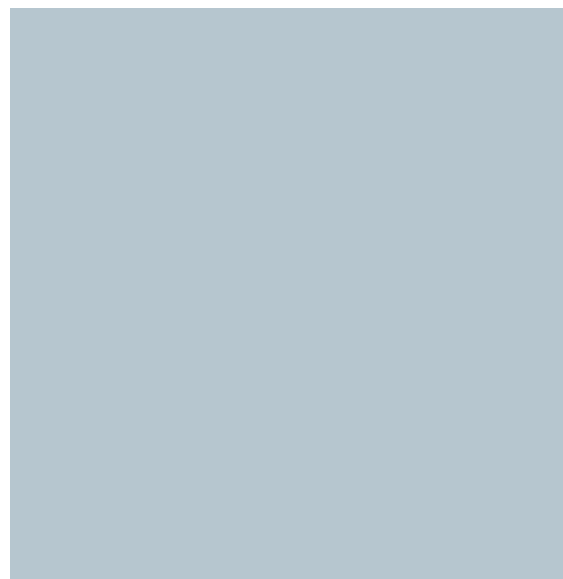
## Retrofit

The individual components of complex systems have different life cycles. Usually, the primary equipment is still in good shape, while controls and electronic secondary equipment have become obsolete and outdated, leading to breakdowns and difficulties in obtaining replacement parts. This is where selective upgrades play an important role. ENEAS offers solutions for hardware and software migrations, engineering, installation, and, where required, system-level training. This means the return to state-of-the-art-standards and reliably and cost-effectively ensures continued operation.

Modular solutions for energy automation allow the straightforward expansion of hardware and software. Future system expansions can then enable fast, flexible, and profitable reactions to the highly dynamic technical developments in energy automation. Technological responses to changes in network structures are easy to implement. As Smart Grids spread, this has become a key competitive advantage.

### **The benefits of energy automation retrofit at a glance:**

- long-term, cost-optimized protection of the investment
- lower cost of modernization
- higher degree of investment protection through compliance with standards at the field, substation, and network control level, as well as in telecontrol
- cost-effective optimization of an existing infrastructure
- fast commissioning of the modernized system
- the ideal alternative to costly new investments



## Support

Fast, professional support over the entire life cycle of the system is an additional benefit that really pays off. It is the only way to make sure that all equipment is prepared for any situation and as failsafe as can be – and to ensure they are up again in the shortest time possible in case of an incident. This is precisely what ENEAS customer support solutions offer.

A comprehensive range of modular support solutions that can be customized to meet requirements ensures the successful operation.

In addition to fast and effective intervention in case of an incident, remote maintenance is available in many instances. The support includes service for spare and replacement parts, engineering, parameterization and commissioning of systems, as well as services for all aspects of IT security.

### **The benefits of energy automation support at a glance:**

- best possible use of resources
- maximum availability and minimized downtime
- fast, professional, and reliable support thanks to remote access
- higher degree of IT security
- compliance with all relevant IT security regulations, and clear delineation of IT security functions
- cost savings and focus on core competencies





## Maintenance

Highest system availability and reliable power supply are indispensable for all players in the energy market. Siemens ENEAS solutions come up with the right answers for those challenges: holistic and efficient solutions for all sectors of energy automation based on proven products, systems, and services of the Siemens range.

Life cycle management is an important part of Siemens' ENEAS range of solutions. Ensuring the best possible technical condition of all equipment at all times, they provide a higher degree of security even during the warranty phase. This makes life cycle management an important contribution to minimizing downtime and system outages. These services can make any distribution infrastructure more efficient and profitable.

### **The benefits of energy automation maintenance at a glance:**

- maximum system availability
- tested, state-of-the-art system conditions for the long term
- professional and qualified contacts
- focus on core competences
- lower costs over the entire life cycle



## Training

Energy automation is a complex subject. As a technology leader, Siemens has an inside view of the details and their interaction within the system. As an important contribution to the safe operation of all energy automation systems, Siemens makes this knowledge available to others. The Siemens ENEAS solutions comprise an extensive range of courses tailored to the specific system environment. Siemens experts share their knowledge at the Siemens Power Academy or at the customer's premises. They are always on the latest technological and didactical level, and trainees can immediately apply the acquired knowledge in daily practice. Specific seminars with customized focus areas, such as operational management based on an installed system, are available on request. In addition, many courses are available as online seminars.

Siemens offers an extensive program of qualified trainings in power generation, transmission, and distribution at 31 training centers around the world.

Individual training is available to extend existing

knowledge. Special attention is given to configuration and maintenance of the system, and conduct in case of incidents.

### **The benefits of energy automation training at a glance:**

- efficient knowledge transfer
- individually configured training content
- modular structure with individual combination of modules
- training under realistic operating conditions with the latest products and systems
- training around the world in well-equipped training centers, on-site or online
- customer-specific training for the best possible learning results, and immediately applicable knowledge



## Financing

The ENEAS philosophy of providing comprehensive solutions for energy automation is eminently apparent in the combination of technical and financing solutions. Siemens offers concepts for energy automation and financing solutions as a one-stop shop. Individual financing models are customized to ideally suit the customer's situation, and provide solutions for companies of all sizes and investment volumes.

In addition to hardware and software, services such as engineering and commissioning can be leased. Individual leasing options can be bundled to meet requirements, and structured according to the financing framework.

Flexible payment plans are based on the earnings or savings expected from the investment.

### **The benefits of financing for energy automation solutions at a glance:**

- one-stop solutions comprising integrated energy automation solutions plus financing
- long experience and reliability of Siemens as a financing partner
- reduction in the amount of fixed capital through avoidance of high initial investment
- powerful technology made affordable through highly flexible pay-as-you-benefit plans based on returns
- financing solutions in line with market requirements at competitive terms

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