SIEMENS

Trends that are driving digitalization

Benefit from intelligent electrification at the low-voltage level
siemens.com/lowvoltage/digitalization

Requirements for greater energy efficiency, cybersecurity, and smart maintenance strategies are increasingly determining the design of our energy systems. Digitalization is paving the way toward meeting these requirements. We've developed a concept that responds precisely to these main trends.

Seize opportunities, optimize value creation

Consistent data, consistent communication, and smart software ensure that all system components work together seamlessly throughout the entire lifecycle, from planning and commissioning to ongoing operation. With our integrated digitalization concept for your entire electrical infrastructure on the low-voltage level, you can take full advantage of the benefits of digitalization, including greater energy efficiency, cost-effective maintenance, and cybersecure systems. This enables you to meet demands for reliability, transparency and, above all, sustainability, thanks to digitally supported power distribution.

Energy efficiency through energy transparency

To reduce energy costs, you need to know exactly where power is being consumed. Our power monitoring solutions make energy flows transparent and serve as an important lever for optimizing energy requirements. Power monitoring based on real-time data supplied by the power distribution system can cut energy use by as much as 30%.

Preventive maintenance saves time and money

Monitoring the condition of the components of electrical power distribution is another opportunity to use data intelligently. The data makes it possible to precisely identify actual maintenance requirements and carry out preventive maintenance, thus maximizing availability and paving the way for cost-efficient maintenance concepts.

Cybersecurity through comprehensive protection

Cybersecurity for the electrical infrastructure includes many aspects, such as plant security, network security, and system integrity. With our defense-in-depth concept, we take a comprehensive protection approach that also covers power distribution on the low-voltage level. It provides multilayer, digital functions that protect against cyberattacks – for a secure power supply that is optimally protected against attacks.

Learn more online

30%

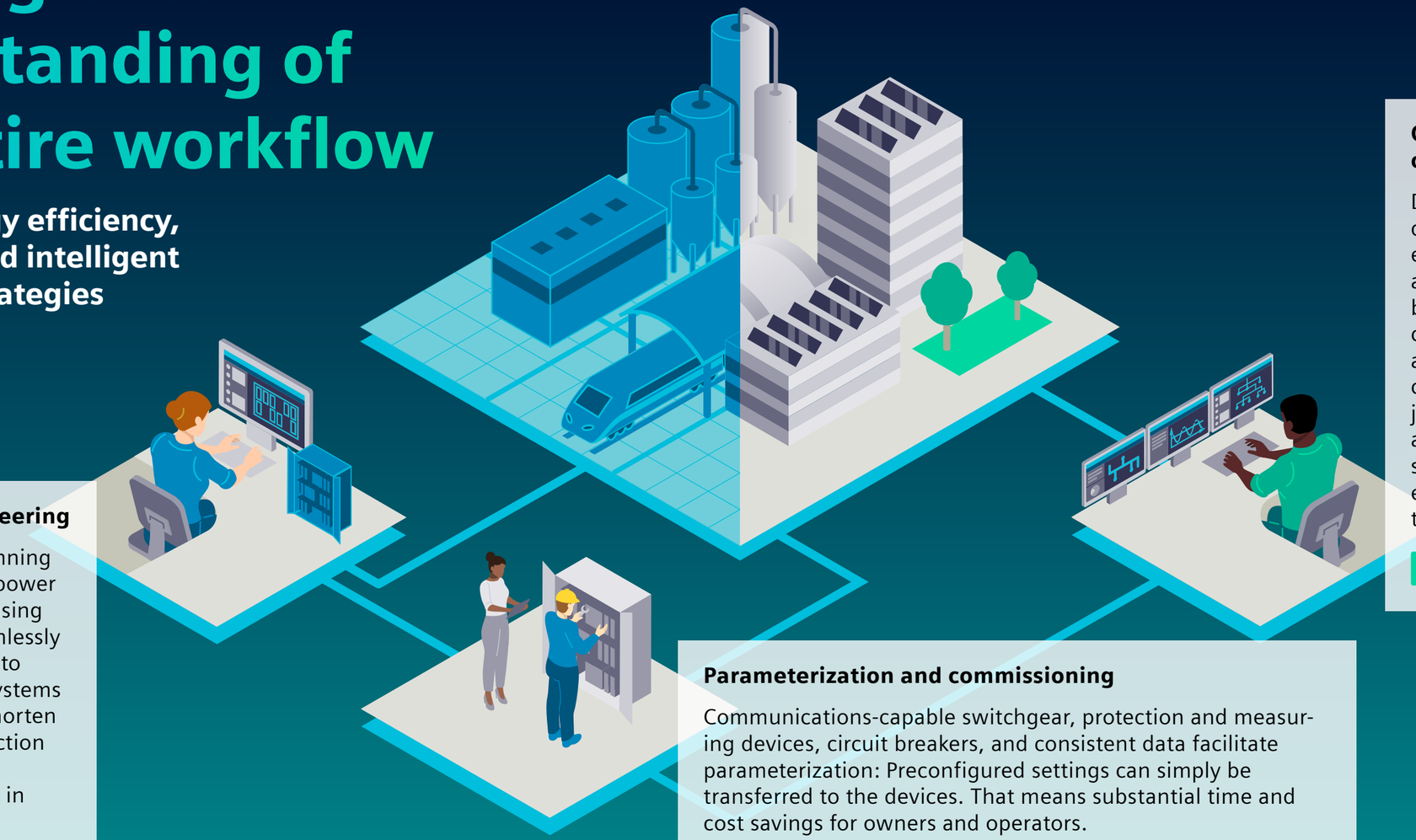
possible increase in operational energy efficiency through systematic energy monitoring.

5–15%

possible increase in availability through permanent condition monitoring and condition-based maintenance of the power distribution system.

An integrated understanding of the entire workflow

For higher energy efficiency, cybersecurity and intelligent maintenance strategies



Planning and engineering

Software-assisted planning and configuration of power distribution systems using digital twins and seamlessly incorporating them into automation and IoT systems right from the start shorten planning and construction times, which benefits owners and operators in particular.

Learn more

Parameterization and commissioning

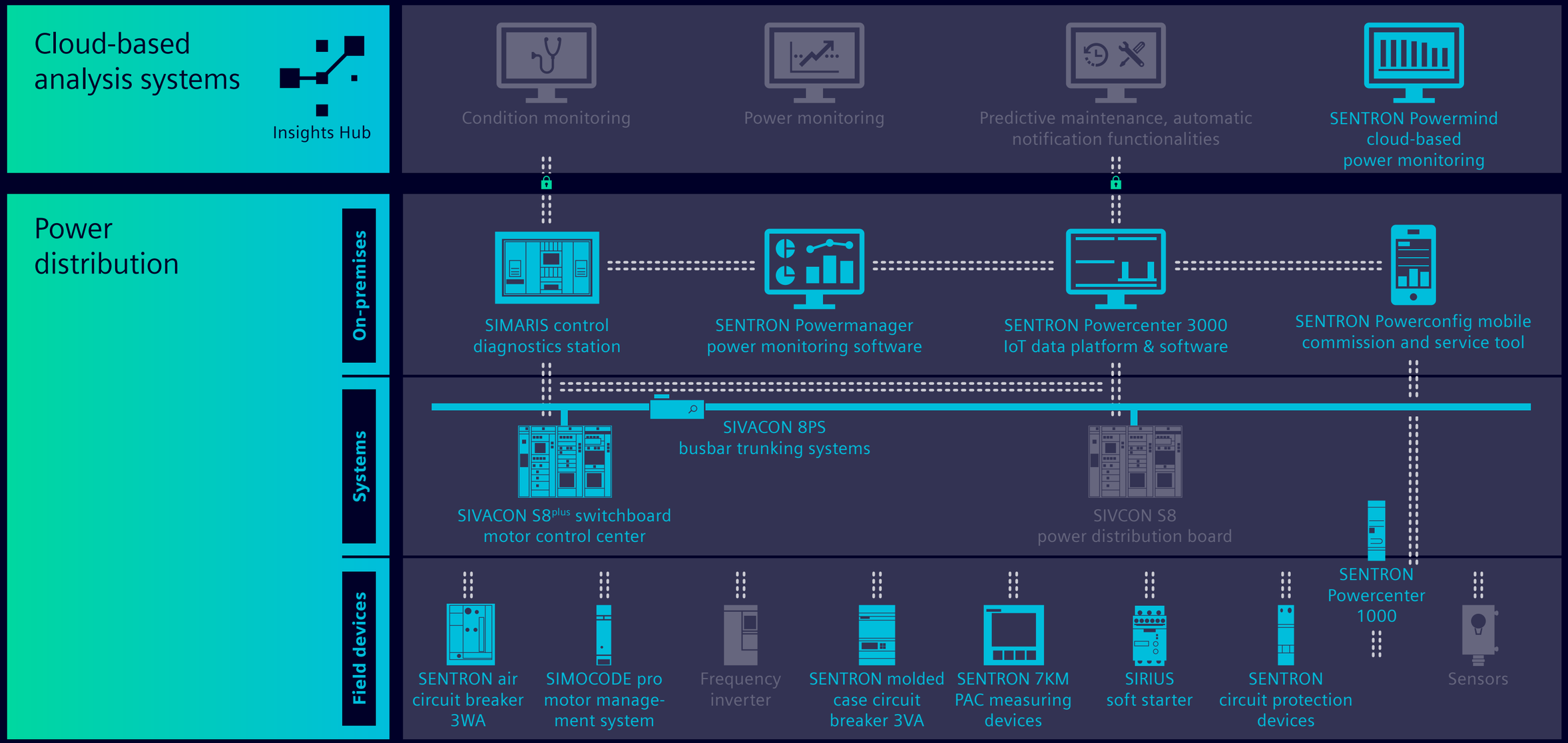
Communications-capable switchgear, protection and measuring devices, circuit breakers, and consistent data facilitate parameterization: Preconfigured settings can simply be transferred to the devices. That means substantial time and cost savings for owners and operators.

Learn more

Operation and optimization

Digitally supported power distribution creates transparency for all energy flows at all points in a power distribution system. Electricity can be flexibly controlled and used much more efficiently. It also provides major improvements in availability, maintenance, and servicing, in addition to entirely new opportunities to add value.

Learn more


Cloud-based analysis systems
Insights Hub
Condition monitoring
Power monitoring
Predictive maintenance, automatic notification functionalities
SENTRON Powermind cloud-based power monitoring
Power distribution
On-premises
Systems
Field devices
SIMARIS control diagnostics station
SENTRON Powermanager power monitoring software
SENTRON Powercenter 3000 IoT data platform & software
SENTRON Powerconfig mobile commission and service tool
SIVACON 8PS busbar trunking systems
SIVACON S8plus switchboard motor control center
SIVCON S8 power distribution board
SENTRON Powercenter 1000
SENTRON air circuit breaker 3WA
SIMOCODE pro motor manage-ment system
Frequency inverter
SENTRON molded case circuit breaker 3VA
SENTRON 7KM PAC measuring devices
SIRIUS soft starter
SENTRON circuit protection devices
Sensors

Efficient planning

SIMARIS suite

The software-based planning tools and engineering systems of the SIMARIS suite support you in the efficient planning of electrical power distribution and its integration in digitalization long before the actual construction of switchgears, distribution systems, or control cabinets.

- **SIMARIS design** – design electrical networks and automatically select components
- **SIMARIS project** – determine space requirements for power distribution systems and prepare their specifications and BIM contents
- **SIMARIS curves** – easily and quickly visualize and evaluate characteristic curves
- **SIMARIS busbarplan** – easily plan BIM-compliant busbar trunking systems

Learn more online

CAx data

Product data for automation technology and low-voltage switching technology, macros for e-engineering systems, 3D models, and device circuit diagrams enable the development of control gear and industrial control panels based on digital twins. This reduces the time and effort required for planning, configuration, design, documentation, ordering, and commissioning by up to 80%.

Learn more online

TIA Portal

Thanks to the integration of communication-capable protection and measuring devices as well as motor management systems into the Totally Integrated Automation (TIA) Portal, electrification becomes an integral part of industrial automation. The uniform engineering framework can parameterize all important components, simulate them virtually, test them, and put them into operation in order to optimize the interaction of electrification and automation components. This shortens the time-to-market and improves plant productivity, with equal benefits for system integrators, switchboard manufacturers, and plant operators.

Learn more online

Efficient planning

Building Information Modeling (BIM)

With BIM data, a digital twin of the building with all its technical installations is created. This simplifies planning, and errors can be discovered virtually and corrected before they occur in the real world. Studies have shown that change requests are reduced by up to 40% in this way – and that there are also considerable cost savings in operation.

Learn more online

Concepts for electrical planners and project managers

Communication-capable protection, switching, measurement, and monitoring devices form the basis for managing increasingly more complex projects and for implementing energy and condition monitoring.

Our range of support services provides electrical planners and project managers with concepts and tools for power distribution. It also helps meet the relevant customer requirements right from the start and implement them with future-oriented technology at no additional effort. The portfolio includes cumulative knowledge in a wide range of areas, such as energy efficiency, availability, security, and ergonomics.

Electrical planners: Learn more online

Project managers: Learn more online

Faster installation

BusbarCheck app – better installation

The app makes it easier to install and document SIVACON 8PS busbar trunking systems by supplying installation instructions, identifying connecting points, and providing visual documentation. An electronic bolt report is generated at the press of a button, which documents the high quality of the installation for the customer.

Get BusbarCheck in the App Store

Download BusbarCheck at Google Play

SENTRON Powerconfig: parameterization, documentation and operation

The free, user-friendly SENTRON Powerconfig software is the commissioning tool for all communication-capable devices in the SENTRON family. The PC-based tool makes it easier to set up the devices and saves a lot of time, particularly when several devices need to be configured. All settings and measured values are conveniently documented.

The freely available SENTRON Powerconfig mobile app, which comes at no charge, makes SENTRON devices easier and faster to parameterize. The app lets users transmit preconfigured data to the devices on-site.

Download free app from Apple Store

Download free app from Playstore

Cost-efficient operation and maintenance

SIVACON 8PS busbar trunking systems – supply of power and data

Wherever more protection, switching, and measuring devices are used for more energy transparency at field level, the measured values, status, and diagnostics data must also be transmitted. SIVACON 8PS busbar trunking systems with powerline technology (BD2, LD, and LI systems) transmit power and data – plug and play – via flexibly pluggable tap-off units, without additional data cables or wiring, and even as retrofit for existing installations.

Learn more online

Diagnostics station SIMARIS control – the digital twin of the switchboard

Integrated into the SIVACON S8^{plus} low-voltage switchgear, the SIMARIS control diagnostics station supports the continuous evaluation of energy data, which is important for high process quality. In addition, the Health Index function enables the predictive maintenance of the distribution system, which helps to boost plant availability. The energy and condition data are made available for the local control level as well as for overarching systems and cloud-based IoT analysis systems such as Insights Hub.

Learn more online

SENTRON Powercenter 3000 – transparency on all levels

The unique SENTRON Powercenter 3000 IoT data platform and software fits into any control cabinet and, as a central interface, provides the optimal basis for digitally supported electrical power distribution as well as operational energy management. All data supplied by communication-capable field devices are visualized in configurable views right in the integrated Web interface, and require no further IT effort. The data can be optionally transferred to the cloud for permanent and location-independent status, condition, and power monitoring.

Learn more online

Cost-efficient operation and maintenance

SENTRON Powermind – power monitoring from anywhere

The intuitive SENTRON Powermind cloud app makes it possible to evaluate energy and plant data in real time from any location. No specific IT knowledge is necessary. Data are provided via the SENTRON Powercenter 3000 IoT data platform and transmitted to Insights Hub in a preprocessed state.

Users gain an overview of the latest current consumption figures as well as their development over time – for complete plants as well as for individual electrical consumers. Energy hogs can be quickly identified and eliminated. SENTRON Powermind also supports the establishment of an operational energy management system in compliance with ISO 50001.

Learn more online

SENTRON Powermanager – power and condition monitoring with integrated reporting

The SENTRON Powermanager power and condition monitoring software displays important electrical parameters for individual consumers or entire plants in a clearly organized dashboard and analyzes the energy consumption. This allows errors to be quickly localized, while the evaluation of load peaks and power curves deliver immediate savings.

The power and condition monitoring software, which can be run either autonomously or as an integrated part of the Desigo CC building management system, also handles the preparation and export of data for standards-compliant energy reports.

Learn more online

Your customized digital entry

SENTRON air circuit breakers 3WA

The SENTRON air circuit breaker 3WA reliably protects against short circuits, ground faults, and overload errors, and is suitable for any application. Comprehensive and modular accessories make it easy to add functions. Its long service life, low maintenance requirements, and automatic self-monitoring provide long-term safety, while cybersecurity functions ensure secure communication.

Learn more online

SENTRON molded case circuit breakers 3VA

Thanks to integrated measuring functions, the SENTRON molded case circuit breaker 3VA acquires current, voltage, energy, and consumption data for seamless transfer to higher-level automation and energy management systems.

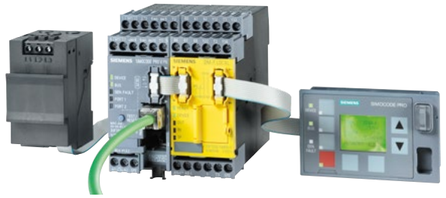
Learn more online

SENTRON 7KM PAC measuring devices

SENTRON 7KM PAC measuring devices allow the acquisition of up to 200 measured values via standard bus systems – with a clear assignment of the energy consumption to individual cost centers.

Learn more online

Your customized digital entry



SIMOCODE pro motor management system

Benefit from extensive protection, monitoring, and control functions, as well as from detailed operational, service, and diagnostics data with SIMOCODE pro – also for the fail-safe disconnection of motors. Using OPC UA communication, these data are available for cloud-based solutions such as MindSphere.

Learn more online

The measurement and communication-capable SENTRON circuit protection devices

The new generation of SENTRON circuit protection devices was developed to meet the latest requirements. Thanks to their communication capability, they reliably protect against short circuits and overloads, voltage swells, malfunctions, and electrical shocks and, at the same time, bring transparency to the branch circuit. This prevents downtimes at an early point, enables preventive maintenance concepts, makes it easier to identify the causes of faults, and helps optimize energy costs.

Learn more online

SIRIUS 3RW soft starters

SIRIUS 3RW soft starters are the ideal solution for all tasks for which direct or star-delta starting for three-phase motors is not suitable. This is the case when mechanical impacts in the machine or voltage dips in the power supply can cause problems. Therefore, the full and comprehensive range of soft starters with intelligent functions offers a softer alternative for almost every application.

Learn more online

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