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SMART INFRASTRUCTURE ELECTRIFICATION & AUTOMATION

# SICAM SCC – **Human-Machine Interface (HMI)** for power automation systems

Easily configurable HMI system

**SIEMENS**

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Small components – big prospects:

# Your SICAM SCC station control

Power grid operation is becoming more and more dynamic. To prepare for future requirements, power utilities are seeking longer-lasting system components and applying exacting standards for control, protection, and telecontrol.

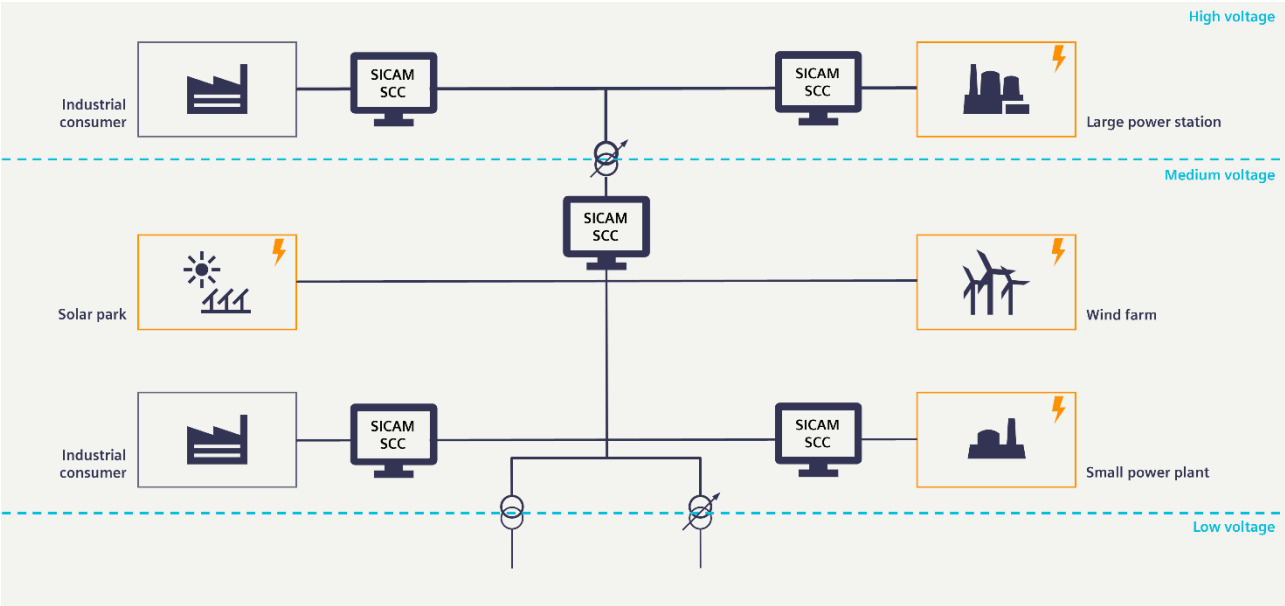


Figure 1  
SICAM SCC in your power grid – possible positions

Siemens is a pioneer when it comes to flexible, customized process visualization in power automation. Our extensive product portfolio and many years of experience allow us to offer you innovative solutions for all voltage levels and every substation. You benefit from affordable investments and efficient operation while still enjoying security and reliability. Take advantage of our forward-looking concepts.

## SICAM SCC: crystal clear

The architecture of SICAM SCC is absolutely consistent, from on-site stand-alone controllers to the redundant multiserver, multiuser system. The SICAM SCC Station Control Center gives you a crystal-clear visualization of your electrical energy distribution and transmission systems. Enjoy security, convenience, and flexibility in your operations – both today and in the future.

# One portfolio – many solutions: Your flexible station automation

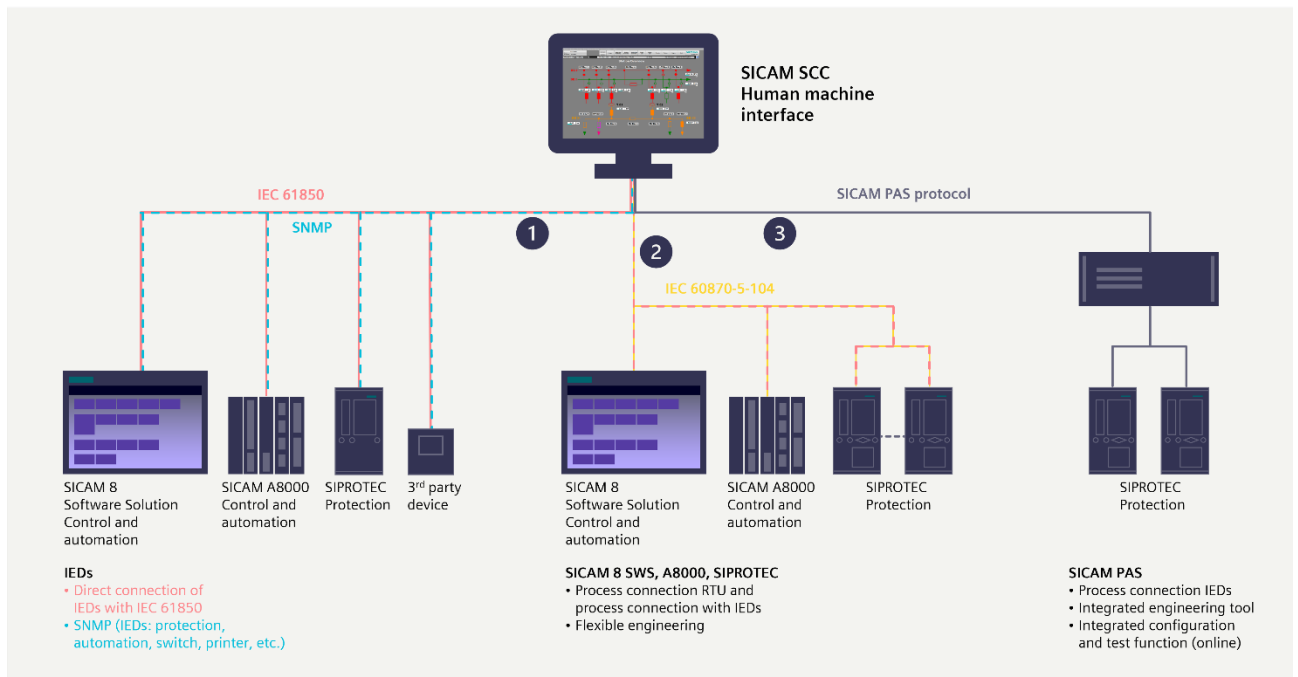


Figure 2  
SICAM SCC in your power grid – configuration / protocols

## Flexible configuration: the right solution for every process

- 1 Equipment-neutral HMI without extra station control device: The field and protection devices – including those from other manufacturers – are connected directly to SICAM SCC according to the IEC 61850 communication standard.
- 2 Direct connection of telecontrol and substation controllers according to IEC 60870-5-104.
- 3 Human machine interface (HMI) system for SICAM PAS as a station control system, communication gateway, and automation component.

## Your benefit:

All configurations can be implemented in parallel / simultaneously

# Customer solutions: Security on every level

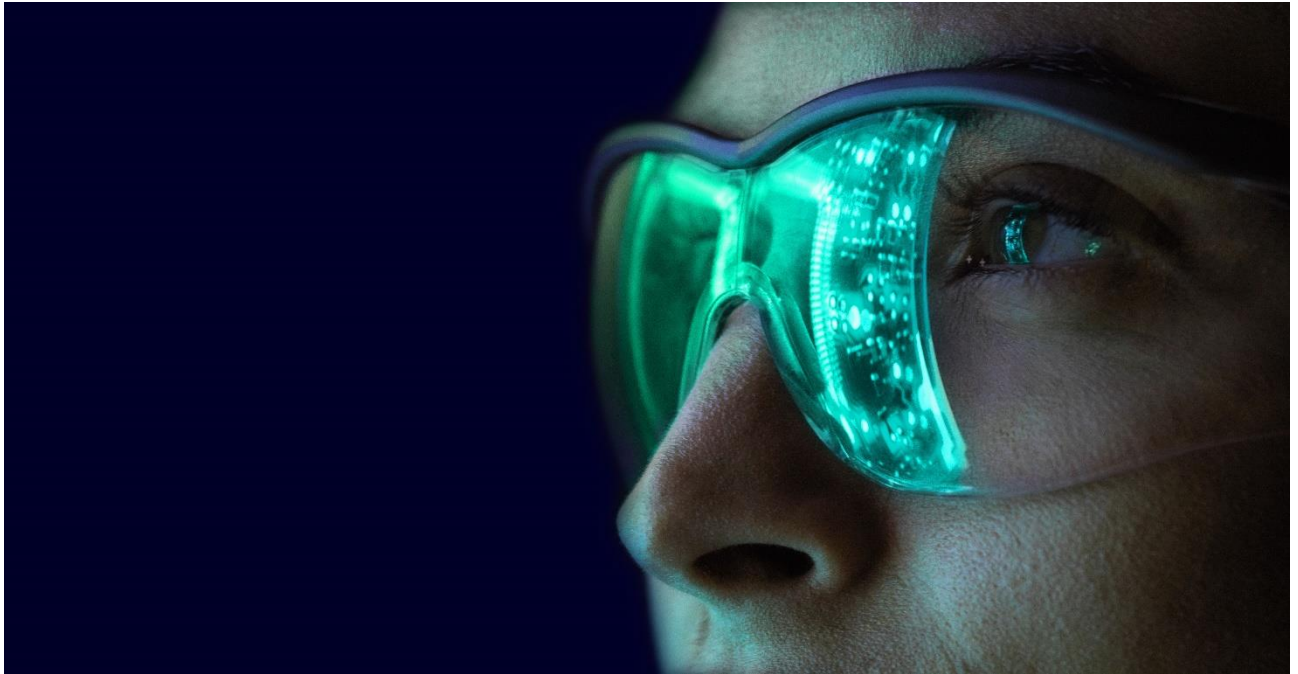


Figure 3  
Cybersecurity in focus

## Right from the start: cybersecurity

Make security an integral part right from the earliest planning stages. SICAM SCC is the best way to arrive at a complete, cost-effective system solution that integrates security in all phases of the development process. In the end, it includes precisely those security features that are absolutely necessary. No more, no less. Saving you from expensive, time-consuming upgrades. Right from the start, SICAM SCC meets the highest security requirements, including:

- BDEW white paper (German Association of Energy and Water Industries)
- NERC CIP (North American Electric Reliability Corporation, Critical Infrastructure Protection)
- Signed installation program

## Role-based access control (RBAC)

If you already have centralized user management with Microsoft Active Directory, you can simply integrate our SICAM SCC HMI system. You can then quickly grant authorizations and modify or revoke them at any time, thus ensuring that only authorized persons can access your plant.

## Encrypted connection with IEC 61850

- Asymmetric encryption method
- TLS encryption of communication (TLS security, T-profile)
- TLS + authentication of users (ACSE Authentication, A-Profile)
- manual certificates or EST certificates (Enrolment via Secure Transport)

# One system – many advantages: Your successful process control

## Sophisticated to the core: rely on SIMATIC WinCC V8

At its core, SICAM SCC uses one of the world's leading process visualization systems: SIMATIC WinCC V8. We developed SICAM SCC as an add-on so that the electrical processes in switchgear could also be operated from one station. This integrated solution gives you a parallel overview and control of both the electrical energy process and the industrial manufacturing process.

## Smart combination: more features with SICAM station automation

Using SICAM SCC and SICAM PAS together gives you additional station control features:

- Switching authorities: Assign switching authorities – for example, for different voltage levels
- Telecontrol blocking: Block status changes from being transmitted to higher-level control centers when station maintenance is in progress
- Bay blocking: Block the exchange of information with field equipment so that status changes even at the station control level is neither automated nor visualized and also, not transmitted to the control center
- Tracking via SICAM PAS: The tracked values are also activated for higher-level control centers and automatic functions

## Comprehensive basic features

- Alarm and event list
- Archiving
- Advanced trend charts
- World view
- Command element
- Picture alarm element
- VBS / C script language
- Communication via IEC 60870-5-104 and IEC 61850
- Multi-touch controls
- Link to SICAM PAS, A8000, SIPROTEC 5

## HMI / SCADA options

- Topological coloring
- Remote alarming (SMS, e-mail)
- Network technology (client-server redundancy, multiserver multiuser system, Web clients)
- Full support for SIMATIC
- Dynamic alarm filter
- Secure communication
- Network monitoring (SNMP)

## Highlights

- **Direct tracking (without SICAM PAS): tracking in IEDs (SIP5) that are connected directly according to IEC 61850**
- **Dynamic setting of protection parameters with SIP5 with direct IEC 61850 interfacing**

# Big picture – small effort: Your convenient visualization

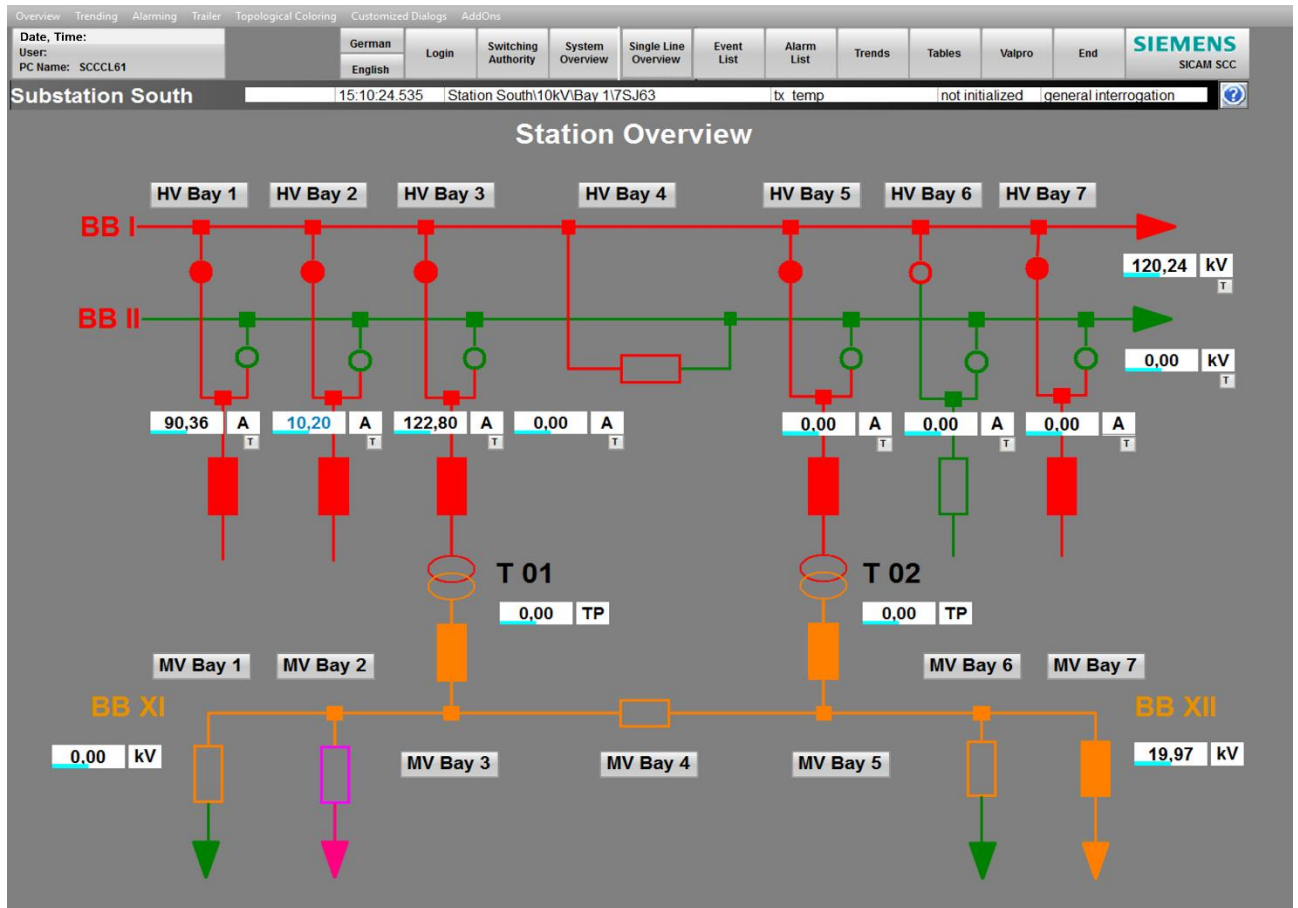


Figure 4  
SICAM SCC – Screenshot

## Topology modeling makes it clear

SICAM SCC lets you display “world views,” which model the entire network topology down to the last detail. The full world view is larger than the monitor, of course, so SICAM SCC offers different zoom levels for varying degrees of detail. This lets you maintain an overview at all levels.

## Management made easy: everything under control

The clear display of equipment operating states is helpful to new users. Event lists and the graphical process model show specific attributes of the high and medium-voltage switchgear in control and monitoring mode (double commands and indications). This enables precise control and lets you quickly identify disturbances for maximum operational safety.

## Clear display: always in the know

In full-graphic process images, you can control switchgear directly with “select before operate.” Topological coloring indicates the status of electrical equipment while setpoint and spontaneous flashing and other graphical features immediately draw your attention to important process, equipment, and communication statuses (such as switching actions, switchgear status changes, up to date / not up to date).

## Fast introduction

Knowledge of SIMATIC WinCC V8 as the basic software allows you to quickly learn project planning with SICAM SCC. Various tools help with parameterization, from the import and export of data model to copy and configuration features as well as a zoom feature and online help. It all adds up to maximum convenience.

That convenience also includes the effortless storage of fault records: SICAM SCC in combination with SICAM DISTO enables you to retrieve fault records from connected protection devices and store them in the standardized COMTRADE format.

## Fast engineering: made possible by wizards

Data exchange with a linked substation often involves several thousand indications, measurement readings, and commands. SICAM SCC makes project planning with this information extremely simple. Wizards exchange the necessary description of process data provided by the project planning tools of the station control technology (such as SICAM PAS UI Configuration and SICAM DEVICE MANAGER).

The process is the same with SCL files for directly linked IEC 61850 devices. You don't need to enter data twice, thus saving time on engineering.

## Scalability

- **Web Navigator: displays plant images in the Web client without additional configuration outlay**
- **From small switchgear to as many as 2000 image objects and 2000 measurement objects in one full world view**



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