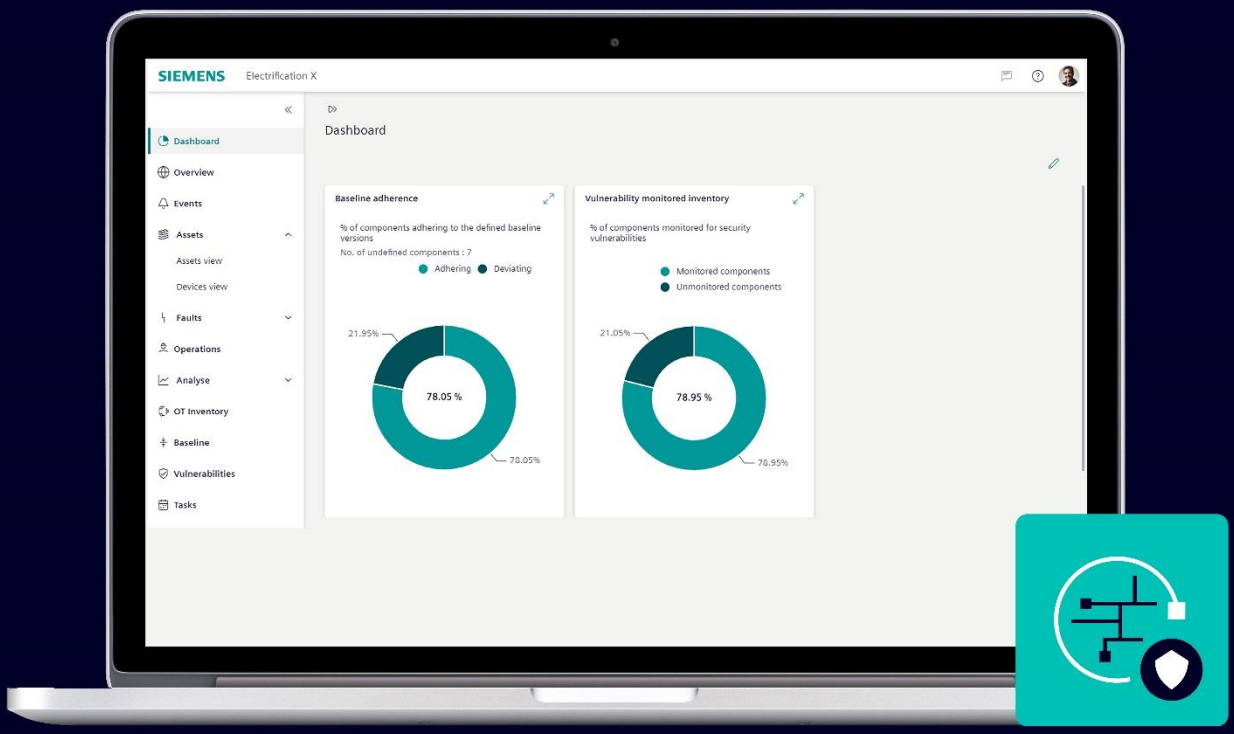


Electrification X

OT Companion

Master the OT inventory of your power systems, Mitigate cyber risks effortlessly

SIEMENS

Contents

Overview

Electrification X – OT Companion is a cloud-hosted, IoT-enabled application designed for operators of power systems in utilities, industries, and infrastructure. It provides comprehensive visibility and management capabilities across multi-vendor, multi-generation, and multi-technology Operational Technology (OT) environments, such as protection relays, substation automation systems, RTUs, networking devices and PCs.

The application combines inventory management, baseline version control, and vulnerability monitoring into a unified platform. Users can perform configuration comparisons, assess cyber risks and plan maintenance or mitigation actions directly within the system. OT Companion supports three operation modes: fully connected, air-gapped, and manual CSV-based operation, ensuring flexibility for all cybersecurity policies.

By using complementary data collectors from the SICAM 8 portfolio, customers can benefit from automatic device discovery and enumeration via OT protocols like IEC 61850, SNMP and a growing number of other protocols. If these gateways are connected to the cloud, real-time monitoring of device information is enabled.

Features

The Feature Set Electrification X OT Companion can be purchased as part of the SI EA IoT Suite Electrification X as an on-demand subscription. It consists of one base feature which is mandatory and two optional features which customers may choose from.

OT Asset Transparency

The base package provides the foundation for asset visibility and configuration management. It includes OT Inventory, Baseline Management, Product Catalog and Customization pages.

OT Inventory

The OT Inventory module is the foundation of asset transparency within Electrification X – OT Companion. It provides a unified, single-page view of all connected and discovered devices across substations, plants, and industrial networks. Each device entry is automatically normalized to display complete, vendor-independent information — including product identifiers, firmware and software versions, order and serial numbers, and installed subcomponents — together with contextual attributes such as process criticality, network exposure, operating zone, and location hierarchy.

Automated discovery via SICAM GridEdge IoT gateways enables fast, reliable asset enumeration using standard OT protocols like IEC 61850 and SNMP. The system continuously synchronizes or, in restricted environments, supports air-gapped ZIP imports or manual CSV uploads to accommodate brownfield or offline infrastructures.

Users can create and edit complete power-system topologies manually or automatically, search and filter device lists, and export data for integration with engineering, maintenance, or cybersecurity systems. Each asset-to-device relationship can be linked or unlinked flexibly, ensuring full traceability from physical equipment to its digital representation and establishing the operational baseline for all other OT Companion functions.

Baseline Management

Baseline Management establishes the foundation for structured configuration control and compliance within Electrification X – OT Companion.

Aligned with the principles outlined in **NIST SP 800-128**, it enables organizations to define, document, and monitor the approved state of their OT environments across software, firmware, and device configuration parameters.

Each baseline represents a formally reviewed and agreed configuration snapshot for a system or Configuration Item (CI), serving as a reference point for all subsequent changes, updates, or audits. OT Companion allows users to define and maintain baselines for firmware and software versions, as well as detailed protection setting parameters for supported relays.

Deviations between installed and approved versions are automatically detected, filtered by station, product, or device type, and exported for reporting or compliance verification.

Configuration files — including binary, CSV, JSON, and TXT formats — can be archived directly within the platform for backup and restore purposes. Users can also create protection setting templates derived from existing relay configurations to accelerate deployment consistency and ensure secure, validated operation across assets.

Together, these capabilities form a trusted configuration baseline that strengthens change control, facilitates audits, and supports long-term cybersecurity resilience.

Product Catalog

The Product Catalog in Electrification X – OT Companion provides a centralized, harmonized view of all products and manufacturers represented in the OT environment. It is automatically populated from the detected product identities of operated devices, ensuring data consistency across inventories and baselines.

Users can enrich and maintain comprehensive metadata, including product lifecycle status, firmware or configuration variants, functional descriptions, documentation links, and ordering details.
Ambiguities across vendor naming conventions are automatically normalized — ensuring that similar devices from multiple sources are grouped correctly under consistent manufacturer, family, and model designations.

By consolidating these details into a single repository, the Product Catalog supports accurate reporting, vulnerability monitoring, and lifecycle management. It enables utilities and industrial operators to make informed decisions on technology refresh, support planning, and cybersecurity readiness based on up-to-date, manufacturer-verified product information.

Service Maintenance Task

The Service & Maintenance Task module in Electrification X – OT Companion provides an integrated workflow framework for documenting and managing all operational service activities across OT assets. It helps utilities and industrial operators structure their maintenance routines, ensure accountability, and maintain a verifiable digital record of field interventions.

Users can plan, assign, and track maintenance or inspection activities directly within the application. Each task captures relevant metadata such as responsible teams, task type, criticality, due date, status, and related documents or references (e.g., service reports, calibration records, or commissioning notes).
The workflow supports recurring maintenance cycles and facilitates the documentation of corrective, preventive, or condition-based actions.

Historic tasks are preserved in a central audit trail, providing full transparency of maintenance history for each asset. This traceability enhances operational planning, supports compliance with maintenance policies and safety standards, and enables organizations to demonstrate continuous equipment reliability and security adherence during audits or regulatory reviews.

OT Insights Dashboard

The OT Insights Dashboard in Electrification X – OT Companion transforms complex asset data into meaningful, actionable intelligence. It offers an analytical overview of key performance indicators (KPIs) and metrics related to asset inventory, configuration status, lifecycle, and baseline adherence.

Users can filter and slice data dynamically by partition, location, or product technology to focus on specific substations, regions, or domains. Predefined widgets visualize asset distribution by manufacturer, product technology, and operating state, while additional charts highlight baseline adherence, obsolescence status, and process criticality.

The dashboard empowers users to identify deviations or risks at a glance — for example, outdated firmware, undefined baselines, or phased-out equipment — and to correlate technical insights with operational priorities.
By combining asset transparency with intuitive analytics, OT Insights enables IT/OT managers and engineers to evaluate fleet health, monitor cybersecurity readiness, and report on compliance progress in a single, unified interface.
It serves as a strategic cockpit for data-driven decisions, supporting both day-to-day operations and long-term asset lifecycle optimization.

Two optional features can be added to the subscription on demand for the following use cases:

Patch Management Level 1

The Patch Management Level 1 module extends Electrification X – OT Companion with proactive vulnerability monitoring and structured workflows for risk assessment and patch coordination. It enables operators to maintain an up-to-date cybersecurity posture by continuously tracking vendor advisories, evaluating potential impacts, and planning mitigation measures directly within the application.

Vulnerability Monitoring

The integrated vulnerability view consolidates real-time notifications of newly disclosed CVEs, vendor advisories, and product-specific alerts. Each entry includes complete contextual information such as CVSS scores, severity, affected components, recommended mitigations, references to CWE/CVE documents, and a cross-link to potentially impacted devices from the customer's own inventory. This allows security and maintenance teams to assess exposure instantly and prioritize actions based on actual operational relevance.

Watchlist Configuration and Product Requests

Through the built-in Watchlist, users subscribe to Siemens' Vulnerability Intelligence Service, which aggregates and validates data from global sources — including NVDs, vendor PSIRTs, and research repositories — across multiple OEMs and product lines.

Organizations can request monitoring for additional products to ensure full coverage of their asset portfolio and receive automated notifications when new advisories are issued, ensuring continuous awareness and timely response to emerging threats.

Tasks /Workflows

The extended Tasks and Workflows capability in Electrification X – OT Companion enables organizations to manage cybersecurity and maintenance processes in a consistent, auditable, and standards-aligned manner.

Built on BPMN-driven workflows, it ensures that all operational activities — from risk assessments to patch validation — follow structured steps fully aligned with IEC 62443-2-1 and IEC TR 62443-2-3:2015 principles for secure OT system management.

Users can perform **product-based risk assessments** that incorporate both technical and environmental risk factors such as network exposure, process criticality and allows direct definition of newly anticipated baseline versions or configurations. When vulnerabilities are identified, **device-specific mitigation tasks** can be created to capture tailored responses for each operational scenario, ensuring precise, context-aware decision-making rather than one-size-fits-all actions.

Every workflow instance is fully documented in an audit-proof manner, including timestamps, responsible users, actions taken, and approvals recorded within the system.

This traceability establishes accountability and provides verifiable evidence for internal audits, customer reporting, and regulatory compliance — turning routine vulnerability handling and maintenance into a transparent, controlled, and repeatable process.

OT Risk Dashboard

The OT Risk Dashboard in Electrification X – OT Companion provides a unified analytical view of cybersecurity-related metrics and trends across the entire OT environment. It translates large volumes of vulnerability data into clear, actionable insights, supporting proactive risk management and compliance reporting.

Users can filter and analyze data dynamically by partition, location, or technology domain to focus on specific substations, product families, or operational areas. The dashboard visualizes vulnerability coverage, base-score distributions (CVSS), affected products, and the number of devices potentially exposed within each site. Additional charts illustrate vulnerability trends by region and priority, helping teams identify where the highest cyber-risk concentrations exist and whether mitigation measures are improving over time.

By combining real-time vulnerability intelligence with contextual asset data, the OT Risk Dashboard enables operators to prioritize remediation efforts based on actual impact rather than generic severity scores. It also provides management with the KPIs needed to demonstrate compliance progress and to benchmark the organization’s cybersecurity posture. In essence, it transforms vulnerability monitoring into a transparent, measurable, and continuously improving part of daily OT operations.

SIEM as a Service Integration

This integration module extends Electrification X – OT Companion with seamless interoperability to Siemens’ Security Information and Event Management (SIEM) system, provided as a separate managed service by Siemens Electrification & Automation.

This integration bridges the gap between asset visibility and real-time cybersecurity monitoring, giving operators and SOC teams a unified perspective on operational threats.

SIEM Incidents

OT Companion visualizes security incidents that have been detected and correlated by Siemens' SIEM through log collectors deployed across the customer's infrastructure. Incidents are displayed in a dedicated overview, enabling immediate assessment of affected locations, assets, or device types.

By correlating event data with the OT inventory and known vulnerability information, the system helps users understand which assets are impacted and how critical each incident may be within the operational context.

This integration accelerates incident triage and root-cause analysis, supports compliance with cybersecurity frameworks such as IEC 62443 and NIS2, and enables a more coordinated response between IT security operations and OT engineering teams.

Ultimately, it transforms the OT Companion into a collaborative monitoring cockpit that unites asset intelligence, vulnerability context, and threat detection in one ecosystem.

Additional Functions

Dashboard Widgets

The **Dashboard Widgets** in Electrification X – OT Companion provide users with a customizable, at-a-glance view of key performance indicators (KPIs) that summarize the operational and cybersecurity health of their OT environments. These analytic widgets can be added to the central Electrification X dashboard, enabling managers and engineers to continuously monitor configuration compliance, vulnerability coverage, and overall fleet readiness across all locations.

The **Baseline Adherence Widget** displays how well the installed software and firmware versions of devices align with defined baseline versions. A central percentage indicates the share of components in compliance, while visual color indicators highlight deviations or undefined baselines. Thresholds for acceptable adherence can be tailored using the KPI Limits feature, and the widget automatically reflects any updates made in Baseline Management.

The **Vulnerability Monitored Inventory Widget** visualizes what portion of device components are actively monitored for security vulnerabilities. It derives data from the configured Watchlist, showing total monitored products and compliance ratios, with KPI-based color thresholds signaling areas that require attention. Together, these widgets turn complex data into intuitive insights for continuous improvement and governance reporting.

Notifications and Alarms

The **Notifications and Alarms** feature in *Electrification X – OT Companion* ensures that users remain informed about critical cybersecurity and maintenance events without the need for constant manual monitoring. It acts as an intelligent alerting layer that keeps IT/OT managers, engineers, and security officers continuously up to date on system changes and emerging risks.

Users can activate **daily email notifications** summarizing new or modified vulnerabilities, pending or assigned workflow tasks, and relevant end-of-life product alerts. These concise reports provide immediate situational awareness, allowing teams to prioritize actions and coordinate responses efficiently.

Within the application, a **central alarm list** consolidates all real-time alerts — including newly published vulnerabilities affecting monitored assets and upcoming product obsolescence within the next six months. Each event entry provides direct links to the affected devices or components for rapid investigation.

By combining automation with transparency, Notifications and Alarms transform OT Companion into a proactive monitoring assistant, ensuring that critical updates never go unnoticed and that operational and cybersecurity readiness remain continuously maintained.

Subscription

Standard Subscription Plan	Electrification X OT Companion
Subscription metric	Feature OT Asset Transparency: per asset linked with an OT device (counted regardless of connection mode: Cloud-Connected, Air-Gapped, or Manual CSV) Feature Patch Management Level 1: per typical subscribed in the Watchlist for vulnerability monitoring Feature SIEM as a Service Integration: one system connection per tenant
Subscription term	Annually, auto-renewal
Billing term	Annually, payment in advance
Upscale	Effective immediately, pro-rated billing
Downscale/Cancellation	Effective with end of subscription term
Connected Devices	To be purchased separately
Permitted User	Unlimited, Extended Use

The Electrification X OT Companion feature set subscription plan is the regular, scalable Offering for this Cloud Service. The subscription term is twelve (12) months with automatic renewal; the Cloud Service fee is paid in advance. The subscription plan can be upscaled at any time and Cloud Service fees for upscales are calculated on a pro-rated basis. The Customer can also scale down the Cloud Service effective with the end of the current subscription term. The subscription fee will be adjusted for the upcoming billing term. The Cloud Service can be cancelled any time, effective with the end of the current subscription term.

The subscription plan can be purchased in feature packages:

- **OT Asset Transparency** (Base Package) - per asset in the topology structure that is linked with an OT device for the package OT Asset Transparency.

The core package can be topped with additional packages

- **Patch Management Level 1** - per a specific typical that is subscribed for security vulnerabilities in the Watchlist
- **SIEM as a Service Integration** – valid for integrating one particular environment per tenant

Extended Use entitles the Customer to authorize its Affiliates and third parties to access and use the Cloud Services in accordance with the rights set out in the Terms and Conditions.

Prerequisites

Electrification X Tenant	The Electrification feature set is operated on an Electrification X tenant. Therefore, a tenant with an Electrification X Base Package is required. The Electrification X Base Package has a subscription term of 12 month and must be purchased together with the OT Companion feature set and at least the OT Asset Transparency package. To enable the functions Tasks and Vulnerabilities the additional, optional package Patch Management is required If not otherwise already available and in operation
Supported Connected Devices	The Cloud Service is currently compatible with commercially available Connected Devices from Siemens. A description of the available Connected Devices is provided below. A Connected Device must be purchased and installed on premises at a site specified by the Customer as agreed between the Customer and Siemens to use the Cloud Service. The customer is responsible for installing the Connected Device at the site and any associated costs to perform said Cloud Service in accordance with related Documentation for the Connected Device. Devices running either the SICAM A8000 or SICAM S8000 automation platform are supported, this includes SICAM CP-8031/CP-8050, SIMATIC IPC227E and other physical devices. Virtual machines are supported as well, see SICAM S8000 manuals for up-to-date information. For order information, Customer may contact its local sales representative.
Discoverable OT Devices	To allow the automatic discovery of OT Device information either: • One additional IEC 61850 client connection must be available in IEC 61850-server enabled protection, substation automation & control products such as protection

	relays, power quality and fault recorders or remote terminal units • SNMPv1, SNMPv2c or SNMPv3 must be available and activated for read access on networking-enabled OT equipment such as routers, switches, RTUs, PCs etc.
Web browser and viewing devices	Google Chrome and Microsoft Edge browsers have been tested and are recommended to be used to access the Cloud Service. Other modern standard web browsers will likely be compatible. A screen resolution of 1920 x 1080 pixels or higher is recommended for best user experience.
Internet Connection	The bandwidth of customer's internet connection determines the performance of the Cloud Service.

Ordering

Ordering Process for the Subscription	To order the Cloud Service for the first time, Customer must request a quote from its Siemens sales representative. Depending on the offering either with Services, then customer will receive a link to his tenant, or without services, then the Customer will receive a link to the shopping cart. In this case Customer needs to (i) choose the payment options and (ii) accept the Terms and Conditions to start using the Cloud Service. The "Terms and Conditions" consist of the "Supplemental Terms Electrification & Automation", the Base Terms and the General Software and Cloud Supplemental Terms, the Acceptable Use Policy, the Siemens Data Processing Terms, this Product and Service Data Sheet and any other Supplemental Terms which may be referenced in either of the mentioned documents. Customer may upgrade, downgrade, and cancel the Cloud Services directly in the Subscription Manager store https://subscribe.siemens.com
Ordering Connected Devices	To order Connected Devices the customers may request a quote from their Siemens sales representative
Connected Device	Devices running either the SICAM A8000 or SICAM S8000 automation platform are supported, this includes SICAM CP-8031/CP-8050, SIMATIC IPC227E and other physical devices. Virtual machines are supported as well, see SICAM S8000 manuals for up-to-date information.
Ordering	For order information, Customers may contact their local sales representative

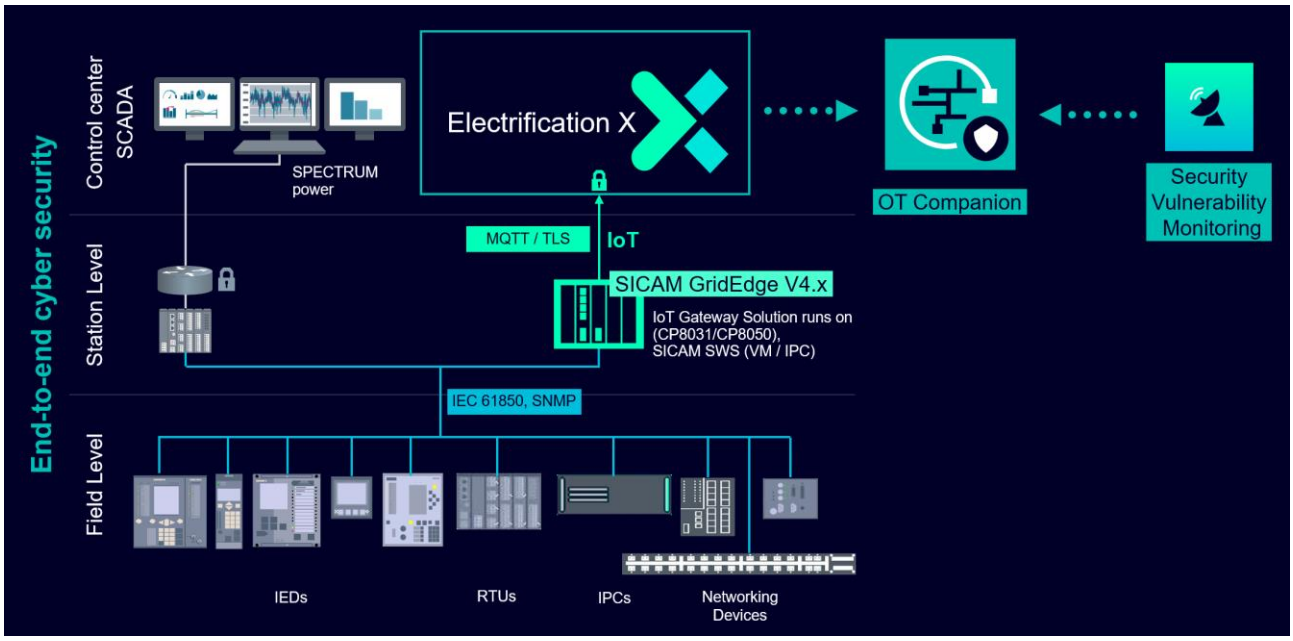
Product Documentation

Technical Documents	Document ID	Document ID German	Document ID English
Building X – Accounts User Guide	A6V12050070		
Building X – Devices User Guide	A6V12050067		
Electrification X – Base Package Operating Manual		E50417-H7500-C200-A2	E50417-H7540-C200-A2
Electrification X – Engineering Guide		E50417-H7500-C203-A2	E50417-H7540-C203-A2
Electrification X – Security Manual		E50417-H7500-C204-A2	E50417-H7540-C204-A2
Electrification X – OT Companion User Manual		E50417-H7500-C211-A5	E50417-H7540-C211-A5
SICAM 8 GridEdge – IoT Monitoring			50417-H7640-C642-A8
SICAM 8 Applications – Communication			DC8-134-2
SICAM 8 GridEdge – SIPROTEC 4 Client			E50417-H7640-C646-A2
SICAM 8 GridEdge – 3rd Party Connector-01			E50417-H7640-C647-A3
SICAM 8 GridEdge – 3rd Party Connector-02			50417-H7640-C648-A1

Customer Support: support.ea.si@siemens.com | +49 9131 1743072
Training: Siemens Power Academy (poweracademy@siemens.com)

Technical Documents can be downloaded here: https://support.industry.siemens.com/

Topology



Data communication between the Connected Devices and the Cloud Service

Customer Support

Siemens may offer helpdesk support. Customer may contact its local Siemens representative for support requests.

Published by
Siemens AG

Smart Infrastructure
Electrification & Automation
Mozartstraße 31C
91052 Erlangen, Germany

For more information, please contact Customer Support:
siemens.com/energy-automation-support-contact

For the U.S. published by
Siemens Industry Inc.

3617 Parkway Lane
Peachtree Corners, GA 30092
United States