# PECOS

PONTIS
EMC PRODUCTS


The windows can be resized by dragging the corner of the window.

- Control cameras locally or via network
- Live view of multiple cameras
- Recording and replay of videos
- Interface to EMC test software
- Event detection to support automated testing

# CONTROL AND AUTOMATION PLATFORM FOR EMC TEST SYSTEMS

## System Overview

PECOS (PONTIS Embedded Control and Observation System) is a dedicated software platform for monitoring, recording, analysis and automation of EMC test procedures.

It enables synchronized acquisition of video, audio and EMC test-related metadata on a common time base. This deterministic synchronization ensures precise correlation between DUT behavior and test parameters such as frequency, level or test step.

PECOS operates within an embedded controller architecture. All acquisition, detection, recording and interface services run locally on the controller, ensuring stable performance without dependency on external PCs.

The modular and license-based structure allows scalable configuration depending on laboratory requirements.

## Live Monitoring and Camera Integration

**PECOS supports flexible integration of:**

- HD-SDI cameras
- IP cameras (RTSP / ONVIF)
- Thermal cameras for temperature monitoring and thermal anomaly detection

Multiple cameras can be displayed simultaneously using configurable layouts. Windows can be resized and arranged freely across single or multiple monitors.

**Camera control functions (camera-dependent):**

- Pan / Tilt / Zoom
- Focus and iris
- Local SDI control via front panel
- Remote control via Windows Remote Client

Live view and playback can operate simultaneously, allowing ongoing monitoring during analysis.

## Recording and Data Synchronization

**PECOS supports:**

- Manual recording
- Continuous recording
- Event-triggered recording
- Buffered pre-event recording

Pre-event buffering ensures that video and audio data prior to a detected malfunction are preserved for detailed failure analysis.

**All recordings contain synchronized:**

- Video streams
- Audio streams
- Detection data
- EMC metadata (if interface enabled)

Data is stored on dedicated archive storage with structured management.

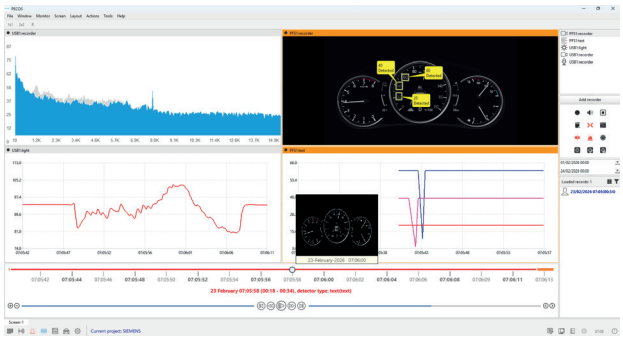
## Playback, Analysis and Export

**Playback includes professional review tools:**

- Timeline-based navigation
- Fast positioning within long recordings
- Synchronous multi-camera playback
- Combination of live view and replay

Detected regions of interest (ROIs) are highlighted during playback to improve traceability.

Detection values can be visualized using real-time graphical trend displays for detailed analysis.



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### EXPORT FORMATS

**PECOS supports export of:**

- PNG (image export)
- AVI (video export)
- CSV (alert lists and structured event data)
- ASS (subtitle format containing time-synchronized metadata overlays)

The ASS export allows external playback of video files with synchronized metadata displayed as subtitles.

### EXPORT DESTINATIONS

**On the controller:**

- Export via USB storage devices only

**Via Windows Remote Client:**

- Export to local and network PC storages
- Export to USB storage connected to the Windows PC

This separation ensures secure EMC operation while allowing flexible external documentation workflows.

## Detection, Visualization and Automation (optional)

PECOS provides configurable multi-zone detection based on defined Regions of Interest (ROI).

**Supported detection types include:**

- Motion detection
- Audio level monitoring
- Color detection
- Blink detection
- Character recognition (OCR)
- Numeric value recognition
- Thermal anomaly detection

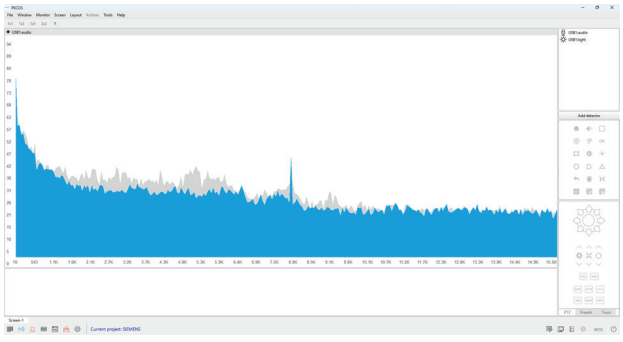
Each ROI can be individually configured with defined thresholds and logic.

**Detection results are visualized through:**

- Real-time graphical trend displays
- Highlighting of monitored zones in live view
- Highlighting of monitored zones during playback

**Configurable actions on detection include:**

- Automatic recording start
- Audible alarms
- Visual alerts
- Relay activation
- TCP/IP notification
- Automated reaction via EMC software interface



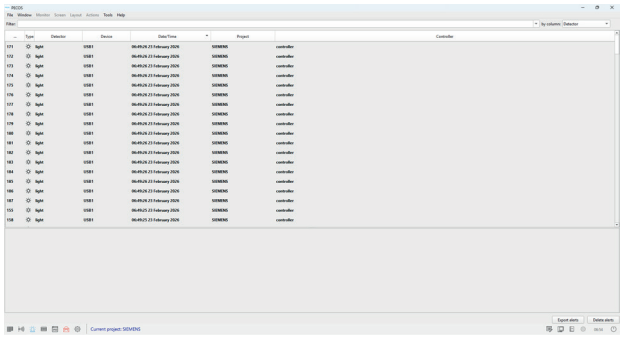
## Alerts View – Detector Alerts

The Alerts View provides structured management of detector-triggered alerts.

**Features include:**

- Real-time display of detected alarms
- Filtering by camera, detector type, time or severity
- Export of alert lists in CSV format
- Manual deletion of alerts
- Automatic cleanup options

Alerts View focuses specifically on detection-based alarm events.



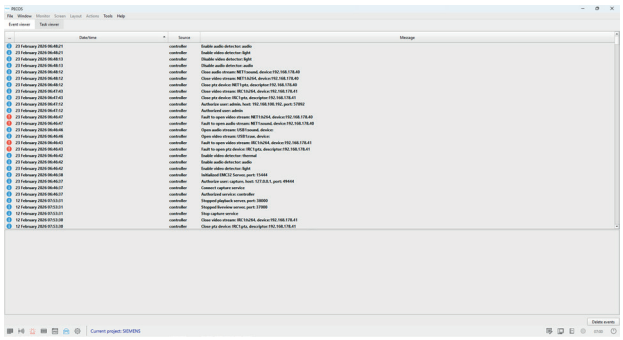
## Events and Tasks View – System Monitoring

The Events/Tasks View provides system-level monitoring and logging.

**It includes:**

- System event logging (errors, warnings, information)
- Task monitoring (e.g., recording, export operations)
- Export status tracking
- Filtering and manual cleanup options

This view ensures structured supervision of system activities and export processes.



## Master/Slave Architecture

PECOS supports scalable Master/Slave system architecture for centralized monitoring of multiple controllers.

In this configuration:

- Each controller operates independently for acquisition and recording.
- A Master system manages configuration for connected Slave controllers.
- Slaves retrieve configuration from the Master to maintain consistency.
- Media streams, alarms, events and metadata from Slaves can be forwarded to the PECOS Client for centralized monitoring, playback and export.

This architecture supports distributed EMC test chambers while maintaining centralized supervision.

## EMC Test Software Integration (optional)

**PECOS provides a documented TCP/IP interface supporting:**

- SCPI protocol
- PECOS XML protocol

**Capabilities include:**

- Metadata exchange
- On-screen overlay of test parameters
- Remote trigger of recording or snapshot
- Automated test control reactions
- Alarm/event notification to test systems

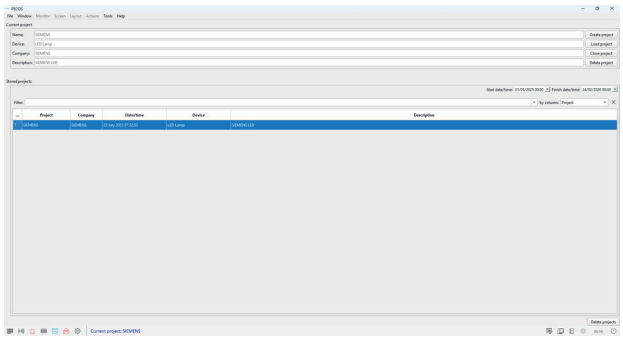
Custom integrations are available for selected EMC platforms.

## Project and User Management

PECOS supports structured project-based configuration.

**Projects can store:**

- Camera assignments
- Detection parameters
- Recording rules
- Layout configurations
- Interface settings



**Role-based user management enables defined access levels:**

- Replay-only
- Operator
- Administrator

User rights and permissions allow restriction of configuration access, recording control and export functions.

## Remote Operation and Multi-Screen Support

- Windows-based Remote Client (PMC)
- Dual-monitor and multi-monitor operation
- Flexible layout management
- Access via LAN
- Centralized monitoring within Master/Slave environments

# PECOS

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## FEATURES:

- Embedded industrial controller platform
- 4-channel HD-SDI frame grabber
- Support for IP (RTSP / ONVIF) and thermal cameras
- Integrated SSD (system) and HDD (archive storage)
- Manual, continuous and event-triggered recording
- Buffered pre-event recording
- Timeline-based playback navigation
- ROI highlighting in live and playback view
- Real-time graphical visualization of detection data
- Alerts View with filtering and CSV export
- Events/Tasks View with system log and export status monitoring
- Export formats: PNG, AVI, CSV and ASS
- Configurable audible and visual alarms
- Relay inputs and outputs for external device control
- SCPI / PECOS XML interface (optional)
- Gigabit LAN connectivity
- Compact EMC-protected housing

PONTIS EMC PRODUCTS
A BRAND OF AUDIVO

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