Vital®

Vital® Supervision

Centralized, Simplified Supervisory Software for Radiological Instrumentation

MIRION TECHNOLOGIES

Vital Supervision is a comprehensive supervisory solution designed to enhance the monitoring and management of radiological instrumentation. It simplifies the collection and analysis of data from a wide variety of instruments, ensuring safety and efficiency.

MANAGING RADIOLOGICAL INSTRUMENTS ACROSS A LARGE SITE PRESENTS SIGNIFICANT CHALLENGES:

A need for real-time data
Process management and worker safety rely on a variety of instruments deployed throughout a site. Data from these essential instruments needs to be collected in real-time to drive decisions and actions for radiological conditions.

Instrument maintenance
Maintaining the health of instruments that protect workers or manage plant processes is crucial. These instruments are often located in hard-to-access areas.

Regulatory reporting
Regulatory controls require accurate reporting of conditions inside and outside a plant. Generating these reports can be difficult and time consuming without easy access to historical data from radiological measurement systems.

Vital Supervision addresses these challenges — and transforms supervisory workflows.

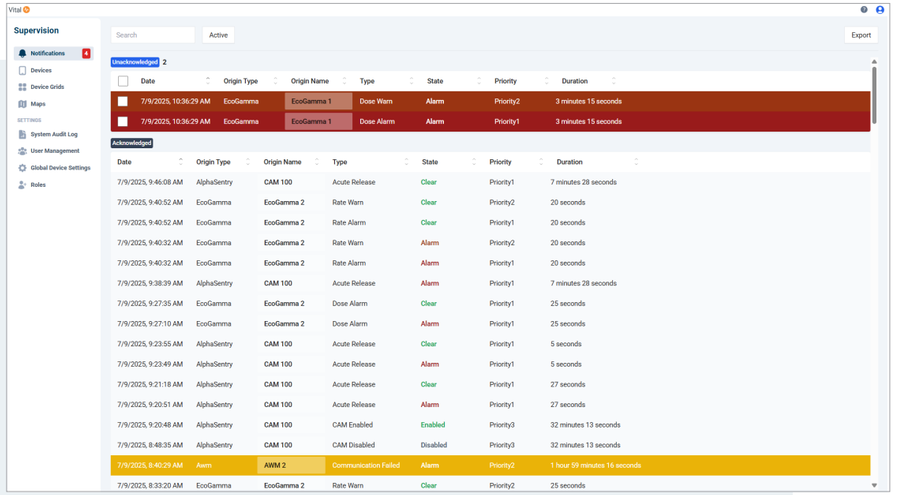
Focused Functionality

Streamline access to essential data through one interface. Breakdown information silos. Empower teams to work more effectively and efficiently.

Notifications

Drive immediate action and informed decision making through the clear visualization of instrument alarms, alerts or faults through the Vital Supervision Notifications feature.

For each new event, authorized users can quickly identify the specific source instrument, event state, event priority and length of active alarm time. Once acknowledged by authorized users, event details and actions are easily accessible from within the Notifications dashboard.

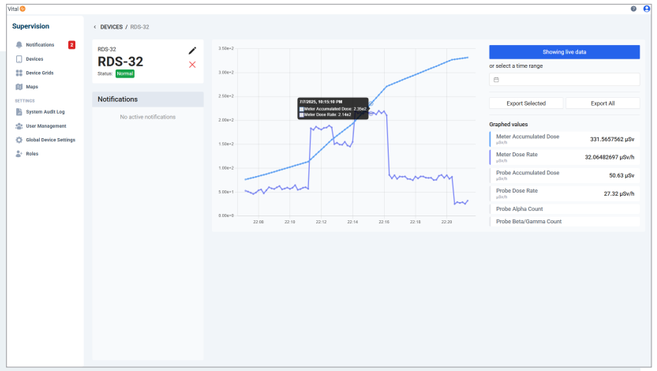


Alarm Notification and Management

Devices

The Devices feature provides users with easy access to a detailed view of any instrument within the network.

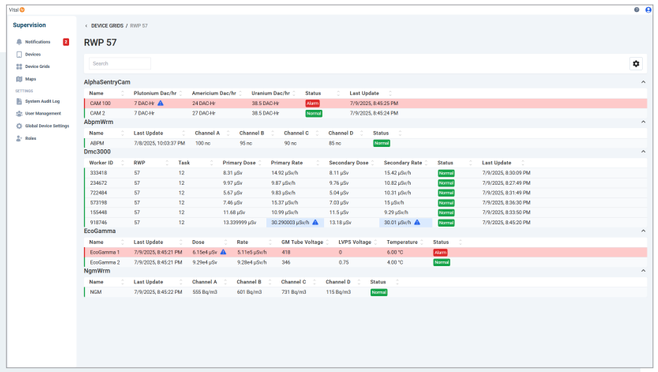
- Inspect alarming devices
- Review devices and access controls
- Analyze data and optimize



Device Detail Screen

Device Grids

The Device Grids feature allows users to monitor specific instruments based on customizable criteria, including instrument type, location, or Radiation Work Permit (RWP) and task information. This is particularly useful in telemetry situations, such as a nuclear power plant outage. With the Device Grids feature, users can enhance monitoring capabilities, improve response times, and maintain a safe working environment.



Device Grid Thresholds and Statuses

Maps

Having visibility of the status and physical location of instruments across a site is critical when responding to events and maintaining equipment. The Maps feature within Vital Supervision provides users with an intuitive way to navigate and see the location of instruments sitewide.

Maps allow for the inclusion of graphical images that indicate instrument location and data. Multiple maps can be added to display various areas across the site, including different buildings, floors within buildings, and specific rooms or system details.

Site Maps

Historical Data

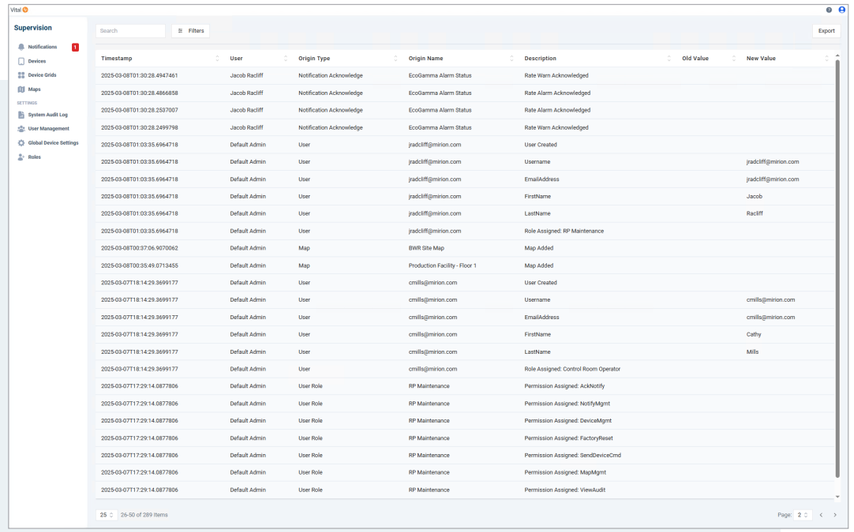
While Vital Supervision is designed for real-time data and event monitoring, it also includes a robust data historian. All instrument data is stored in a database for review and analysis. The Device Detail screen can easily switch to historical mode, allowing users to examine data from any time period. This historical data is invaluable for identifying trends in measurement data and instrument state of health – ensuring regulatory compliance, streamlining maintenance, and optimizing preparation for future scenarios.

Critical Control

Simplify set-up and scaling for your evolving operational needs. Adopt a robust, secure platform to build upon - with confidence.

Audit Logging

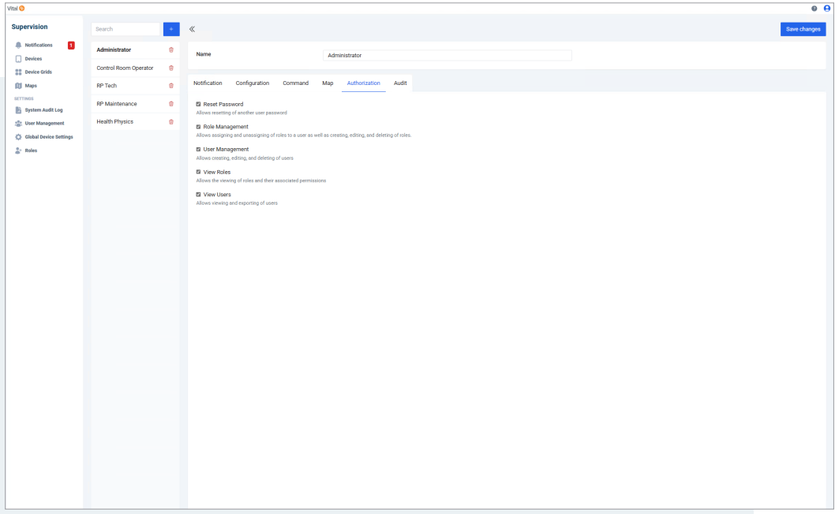
System audit logging is critical, as it provides a detailed record of user actions and system changes. Vital Supervision logs each event with the precise time, user information, and modified parameters – including the state before and after the change. This data helps sites ensure compliance with safety regulations, troubleshoot technical issues, maintain overall system security, and identify suspicious activity. Incorrect changes can be investigated, and training can then be applied to ensure workers understand the impact of their activities.



System Audit Log

User Authentication and Authorization

With Vital Supervision, access to information and operational control is easily managed through role-based security. Simply define key roles for the site, set permissions for key activities, and assign those roles to users. Many different users can benefit from the data in this system, and managing access through roles makes it easy and efficient.

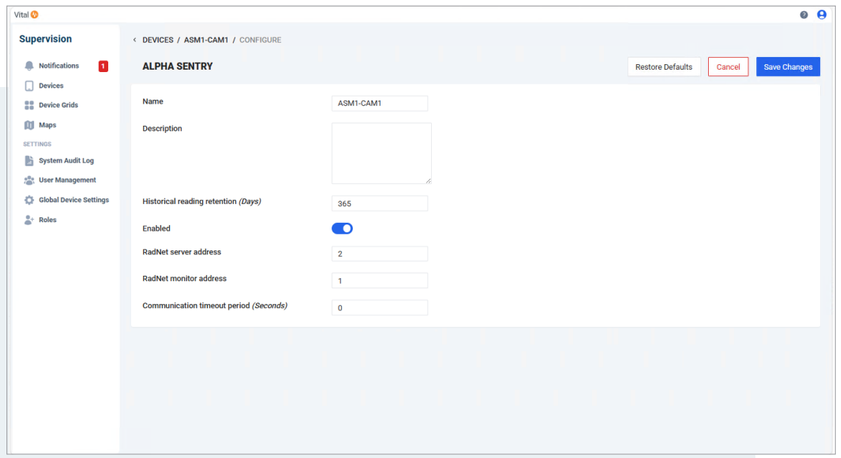


Role-Based Authorizations

Device Communication and Configuration

Managing hundreds or thousands of instruments across a site can be challenging. Vital Supervision is designed with a robust communication engine that can scale with your site needs. Communication to each instrument is tailored to an instrument's protocols – capturing all its analysis data, recording its state of health, and handling fault conditions such as communication loss.

This mission critical supervisory system allows instruments to be added, modified, disabled, or removed from a live system without affecting operations with other instruments. In addition, Vital Supervision is designed for fast, low-cost deployment by supplying the recommended default communication parameters for each instrument. Quickly standup temporary systems, or even a large site, in minutes rather than days or weeks of complex configuration.



Role-Based Authorizations

Vital Platform

Vital Supervision is Mirion's premiere application built on the Vital software and data platform that brings a wide range of advantages.

Drive Integrated Operations. Consolidate Software. Prioritize Safety.

Empower your operations with a unified software ecosystem that seamlessly integrates data and instruments, ensuring consistent results and a familiar user experience. The Vital platform supports flexible deployments and is built to scale with your needs.

By monitoring instrument operation and detecting anomalies early, your team can reduce downtime and maintenance costs, while enhancing site safety and operational efficiency.

Optimizing operations and prioritizing safety isn't just necessary. It's Vital.

Vital Platform - Core Features and Benefits

Core Features	Practical Benefits
Single, Unified View of Data, Instruments & Insights	Achieve consistent results across your applications and site(s) from a common analysis engine and workflow tools.
Common Platform for Multiple Applications	Consolidate IT software footprint for easier deployment and maintenance of multiple applications across the device lifecycle and among your departments.
Web-Based UI; Multi-User Access	Leverage an intuitive, easy-to-use interface for different users among your organization and across large sites.
10,000+ Instrument & Sensor Data Collection	Keep users assigned and focused on the machines/groups that they work with regularly, reducing the data 'noise'.
Applications for Use	Gather your instrument data in one repository for easy data oversight and instrument control within multiple areas at your site. Add radiological instruments and related software applications to the platform to accommodate growing usage and additional applications to meet your evolving needs. • Radiological Instrumentation Monitoring: Ideal for monitoring a wide variety of radiological instruments at power plants, industrial, and research facilities. • Safety Management: Enhances safety through real-time monitoring and remote operations. • Operational Efficiency: Streamlines operations and improves efficiency with remote control capabilities.
Historical Instrument Data	View measurement data and SoH data for post-incident analysis, trend analysis, and process improvement. Export data for further external analysis and reporting.
Audit Logging	View system records of all user actions and changes to instrument and system settings for strong system security and insights into how user actions impact the system.
Flexible Setup Options	Meet IT requirements with options for on-premise, cloud or hybrid deployment.
Cyber Secure	Maintain robust data security with a system designed based on guidance from NEI 08-09, NIST SP 800-53,82, and 10 CFR 73.54.

Vital Supervision Application - Core Supported Features and Benefits

Application Features	Practical Benefits
Collect and store instrument data	Easily access instrument data for real-time responsiveness and optimized operations.
Real-time instrument monitoring	Access live data – including radiological alarms, events, and state of health (SoH) – to optimize daily operations and make an informed response.
Instrument Oversight: • Track instrument maintenance and calibration per site requirements and regulations. • Monitor and track instrument status and state of health.	Maintain and optimize operations: • Maintain quality control; ensure compliance; and simplify auditing. • Detect equipment anomalies early and take action to reduce unplanned maintenance and instrument downtime. • Efficiently manage routine maintenance and keep mission-critical instruments operational and ready.
Remote instrument operation	Streamline processes and reduce staff entry into radiological areas to perform instrument operations, including configuration changes, alarm setpoint changes or triggers.
Supported Instruments	• AlphaSentry CAM with ASM2000 • DMC 3000™ Personal Dosimeter • DRM-3000™ & EcoGamma™-g Radiation Monitoring Systems • iCAM™ Alpha/Beta Particulate Monitor • ABPM Particulate Monitors • NGM Noble Gas Monitors • RDS-32™ & RDS-31™ Survey Meter Additional instruments will be added regularly with new software releases

Product Specifications

Desktop Installation	Windows 11
On-Premise Server	Windows Server 2022
Database	SQL Server 2022
Browser Support	Google Chrome, Microsoft Edge

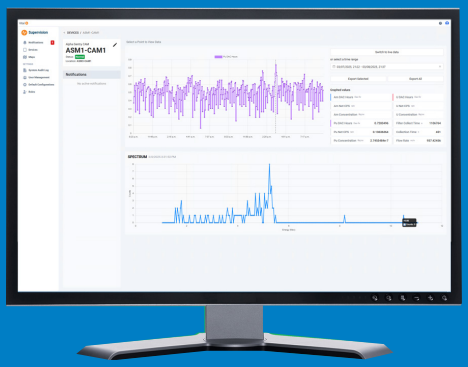
Product Security

- Secure development based on NEI 08-09, NIST SP 800-53,82, and 10 CFR 73.54 guidance
- Generation of Software Bill of Materials (SBOM) in standard formats to aid easy/consistent security evaluations
- All modules are code signed using x.509 certificate provisioned by Mirion's Public Key Infrastructure (PKI)
- Automated vulnerability scans on code to identify weaknesses and prevent exploitation

The Mirion Product Security Inquiry Response Team (PSIRT) is an available resource to help customers with security-related inquiries for our software products.

Ordering Information

Product Code	Short Description	Long Description
VS Base System Licenses		
VS-BASE-DT	Vital Supervision Desktop System	Includes Desktop license and 1 Client license (all runs on 1 PC). Must be combined with instrument communication (CM) Licenses.
VS-BASE-C5	Vital Supervision Server System, 5 Clients	Vital Supervision Server System, 5 Clients Includes Server license. Must be combined with instrument co
VS-BASE-CU	Vital Supervision Server System, Unlimited Clients	Vital Supervision Server System, Unlimited Clients Includes Server license. Must be combined with instrument communication (CM) Licenses.
Telemetry Communication (CM) Licenses		
VS-CM-TEL-XX	Vital Supervision Comm License for up to XX Telemetry Devices	Vital Supervision Comm License for up to XX Telemetry Devices Includes instrument communication, data historian, and device detail screens for any instrument transmitting via WRM2/WRM3 telemetry protocols using wired or wireless connection.
Instrument Communication (CM) Licenses		
VS-CM-INS-XX	Vital Supervision Comm License for up to XX Instruments	Vital Supervision Comm License for up to XX Instruments Supports instruments via direct serial or Ethernet connection. For all instruments other than Spectroscopy and Telemetry. Includes instrument communication, data historian, device detail screens, and any remote two-way command & control functions for instruments that support it.



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