

WATER TREATMENT AUTOMATION

# HORIZON

SCADA Platform

TECHNICAL SPECIFICATION

## Platform Overview

Horizon is a web-based SCADA platform engineered for water treatment facilities. It delivers real-time monitoring, advanced alarm management, equipment asset control, and full operational traceability — all in a secure, scalable architecture.

## CORE STANDARDS

- ◆ ISA-95 Plant Hierarchy
- ◆ ISA-18.2 Alarm Management
- ◆ ISA-101 HMI Design
- ◆ EEMUA 191 Alarm Systems

## 12 Integrated Modules

HMI Visualization · Plant Model · Tag Management · Alarm Management · Alarm Analytics · Command System · Setpoint Control  
· Asset Management · Maintenance · Reporting · Audit Logging · Edge Agents

# Agent System (Edge Data Collection)

Edge & Connectivity

Standards: IEC 62443

Deployment: Distributed Edge Nodes

## KEY CAPABILITIES

Industrial protocol communication, Real-time data acquisition, Local processing & filtering, Secure transmission, Offline buffering, Command delivery

Horizon uses a distributed Agent Architecture to collect and transmit industrial data from field devices to the SCADA platform. Agents are lightweight services deployed near PLCs or RTUs. Responsibilities include device communication using industrial protocols, real-time data acquisition, local processing/filtering, secure transmission, command execution, and offline buffering for network interruptions.

# Alarm Analytics & Reporting

Analytics & Compliance

Standards: ISA-18.2

Deployment: Web-based

## KEY CAPABILITIES

Frequency analysis, Duration analysis, Response time tracking, Flood detection, Priority distribution, ISA-18.2 compliance

Advanced reporting tools for alarm performance analysis and regulatory compliance. Available reports include Alarm History, Alarm Frequency, Alarm Duration, Alarm Response Time, Standing Alarm, Shelved/Suppressed Alarm, Alarm Flood Analysis, and Priority Distribution Analysis. These analytics support compliance with ISA-18.2 and alarm management best practices.

# Alarm Management System

Alarm & Safety

Standards: ISA-18.2

Deployment: Web-based

## KEY CAPABILITIES

Active alarm display, Alarm history, Shelving & suppression, Acknowledgment workflow, Alarm metadata & context

A comprehensive alarm management framework designed to support operational awareness and safety. Capabilities include Active Alarms display, full Alarm History, Alarm Shelving for maintenance periods, Alarm Suppression to prevent nuisance alarms, Alarm Acknowledgment, and detailed Alarm context with operational metadata.

# Command Management System

Control & Security

Standards: ISA-95

Deployment: Web-based

## KEY CAPABILITIES

Command creation & tracking, Cancellation, Full history, Role-based authorization, Operator traceability

Horizon enables secure control commands to be issued to industrial equipment through a command management framework. Capabilities include command creation, tracking, cancellation, history, and authorization. Every command is recorded and linked to the responsible operator for full traceability.

# Equipment Asset Management

Asset Management

Standards: ISA-95

Deployment: Web-based

## KEY CAPABILITIES

Asset representation, Operational status tracking, Tag association, Equipment classes & templates, Property inheritance

A comprehensive equipment management system for representing physical industrial assets. Each equipment object includes operational status, associated tags, maintenance services, configuration properties, and HMI interface. Equipment classes support reusable templates for pumps, valves, blowers, sensors, and other asset types with inheritable property definitions.

# Hierarchical Plant Model

Asset Management

Standards: ISA-95

Deployment: Web-based

## KEY CAPABILITIES

Enterprise-to-Unit hierarchy, Scalable deployments, Structured navigation, Localized monitoring, Distributed control

Horizon organizes industrial assets using a multi-level ISA-95 inspired hierarchy: Enterprise → Site → Area → Work Unit → Unit. This enables scalable industrial deployments, structured navigation through facilities, localized monitoring and reporting, and distributed control environments. Each hierarchy level provides dedicated views for alarms, trends, commands, HMI screens, and operational data.

# Industrial Data Reporting

Analytics & Compliance

Standards: ISA-95

Deployment: Web-based

## KEY CAPABILITIES

Historical data analysis, Operational performance reporting, Site-level filtering, Hierarchy-based reports

Reporting tools for operational data analysis. Tag reports allow engineers to analyze historical process data, operational performance, and system behavior over time. Reports can be filtered by site and asset hierarchy, supporting data-driven operational decisions.

# Maintenance & Service Tracking

Asset Management

Standards: ISO 14224

Deployment: Web-based

## KEY CAPABILITIES

Service registration, Maintenance history, Equipment service records, Asset lifecycle tracking

Equipment maintenance activities can be registered and tracked within the platform. Capabilities include service registration, maintenance history, equipment service records, and asset lifecycle tracking. This provides a complete view of asset health and maintenance status across the facility.

# Real-Time HMI Visualization

Core Visualization

Standards: ISA-95

Deployment: Web-based

## KEY CAPABILITIES

Live process visualization, Real-time equipment status, Interactive process navigation, Dynamic screen layouts, API-driven data refresh

Horizon provides interactive HMI pages for monitoring industrial processes and equipment in real time. Operators can access graphical process views representing operational units such as treatment systems, pump stations, and chemical dosing systems. Capabilities include live process visualization, real-time equipment status, interactive process navigation, dynamic screen layouts, and data refresh through API endpoints.

# Secure Audit Logging

Security & Compliance

Standards: IEC 62443

Deployment: Web-based

## KEY CAPABILITIES

Centralized audit trail, Configuration change tracking, Command execution logging, User action records, Regulatory compliance support

Horizon records all critical system activities through a centralized audit log. Tracked activities include configuration changes, command execution, alarm interactions, user actions, and system modifications. This ensures full operational traceability and supports regulatory compliance requirements.

# Setpoint Management

Process Engineering

Standards: ISA-95

Deployment: Web-based

## KEY CAPABILITIES

Centralized configuration, Setpoint editing, Version tracking, Equipment-specific control, PLC-independent management

Operational setpoints can be configured and maintained within the platform without modifying PLC logic. Features include centralized setpoint configuration, setpoint editing, version tracking, and equipment-specific setpoint control. This allows process engineers to manage operational parameters efficiently.

# Tag Management System

Data Acquisition

Standards: ISA-95

Deployment: Web-based

## KEY CAPABILITIES

Tag creation & configuration, Historical data storage, Real-time visualization, Trend analysis, Authorized command write

Tags represent real-time process variables including sensor values, PLC signals, actuator states, and calculated values. The tag system supports tag creation and configuration, value updates, historical data storage, real-time visualization, and trend analysis. Features include Tag History, Tag Trends (interactive time-series charts), and Tag Commands for authorized write access to control systems.

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TECHNICAL SPECIFICATION — 2026

## Get in Touch

For technical inquiries, demonstrations, or deployment discussions,  
please reach out to the Horizon team.

### CONTACT INFORMATION

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Horizon is designed for water treatment systems requiring high reliability,  
real-time visibility, and regulatory-compliant operations.

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