

Meet the Ovation™ Root Cause Agent

The **Ovation Root Cause Agent** helps diagnose issues by ranking likely causes, presenting supporting evidence, and recommending next steps for investigation.



The Challenge

Identifying the true cause of equipment degradation requires connecting multiple data sources and evaluating competing explanations.

- APR models detect anomalies, but cannot determine whether the cause is a failing asset, a sensor issue, or a process disturbance
- Engineers spend hours manually correlating alarms, trends, and history to build a diagnostic picture
- Traditional tools show data, but they do not always compare competing explanations or show the reasoning path.



The Solution

The Ovation Root Cause Assistant acts as an on-demand diagnostic engine for complex equipment events.

What It Does

- Triggered by predictive maintenance events, alarm activity, sensor drift alerts, or direct user requests
- Correlates events by time proximity, asset hierarchy, operating mode, and shared contributing sensors
- Retrieves relevant fault matrix and FMEA knowledge to ground every conclusion in engineering evidence
- Evaluates whether the anomaly is equipment degradation, a sensor fault, a process disturbance, or an operating-mode effect
- Returns ranked likely causes with supporting evidence, recommended next checks, and escalation criteria



How It Delivers Value

Faster Diagnosis

- Correlates event evidence into a structured advisory response
- Answers follow-up questions using active event context

Higher Confidence

- Supports conclusions with fault matrix evidence and plant-specific data
- Distinguishes between strong hypotheses and issues requiring additional data

Prevent Misdiagnosis

- Evaluates sensor faults and process disturbances before recommending maintenance
- Identifies instrumentation issues to help avoid unnecessary maintenance work

Continuous Learning

- Captures events, evidence, and engineer dispositions in advisory memory
- Improves guidance over time by retrieving similar historical cases



Why It Stands Out

- Correlates evidence across multiple agents, including Predictive Maintenance Agent, Alarm Insight Agent, and Sensor Drift Agent
- Distinguishes the initiating driver from downstream symptoms
- Grounded in fault matrices and FMEA knowledge, not generic document retrieval
- Full reasoning chain preserved, with every conclusion traceable to its source evidence



Product Snapshot

- Requires Ovation 4.0 with Ovation Virtual Advisor
- On-prem GPU infrastructure powering proprietary Large Language Models (LLMs)
- Operates within the security of Ovation highways' closed networks
- Subscription licensing available in 1, 3, and 5-year plans



Customer Inputs

- Control philosophy (Recommended)
- Operating philosophy (Recommended)
- Maintenance guidebook (Recommended)

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Start Your AI Journey?**

We are.

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