Advancing innovation and IT/OT convergence with end-to-end observability in manufacturing

Insights from Splunk and Logicalis

The manufacturing industry faces constant system stressors — demand spikes, supply chain holdups, natural disasters, and other adverse events that test organizations' ability to stay up and running.

Disruptions can occur at any level of the digital ecosystem and severely curb production. For example, an assembly line connected to the enterprise IT system can go down at a manufacturing plant, a centralized industrial control system can crash at the supervisory level, or even a third-party ERP cloud solution can fail, bringing everything to a halt.

In the face of these challenges, manufacturers have become resilience experts. Over the last few years, they have successfully negotiated an onslaught of supply chain challenges, personnel constraints, inflation pressures, and shifting regulatory requirements. And whether by design or destiny, the industry has largely found itself in a better position.

At the same time, the manufacturing industry is accelerating digital transformation. With disruptive technologies, such as AI, digital twinning, digital-to-physical conversion, and automation, organizations want to revolutionize operational processes and improve production efficiency. But optimizing IT and operational technology (OT) requires observability and collaboration across siloed teams and complex digital systems.

Manufacturers that prioritize building a modern observability practice have more visibility into their interwoven environments, which translates into fewer slowdowns, less downtime, faster issue resolution, greater confidence in their systems' reliability — and, ultimately, more revenue.

By embracing observability, organizations can keep digital systems resilient and reduce the human toll of operating them by letting software do more of the heavy lifting to find and fix problems faster.

90% of organisations struggle to access performance insights across their digital estate, creating blind spots that delay issue detection and recovery.
Logicalis 2025 CIO Report

The need for observability rises as complexity increases

As organizations have moved to the cloud and increased their pace of innovation, it's become harder to validate the impact of changes — both to their business and the customers' experience.

Cloud integration, comprehensive data ingestion, and network connectivity issues hamper the optimization across IT and OT systems. And IT and OT teams that rarely work together will need to prioritize, collaborate, and communicate in new ways to reduce duplicative efforts, operating costs, and complexity.

Manufacturers also face top- and bottom-line impacts, including:

Slowed growth
Manufacturers have surpassed production expectations in today's changing climate with policies and support from non-governmental organizations helping to boost the industry. However, despite recent growth in demand and production capacity, continued growth is not guaranteed. In addition, macro uncertainties, like inflation, trade barriers, and the geopolitical climate, continue to put pressure on manufacturing organizations to get more visibility into their supply chains.

Operational inefficiencies
The industry is pushing digital transformation by creating "smart factories" to combat personnel shortages, supply chain disruption, and macroeconomic uncertainties. This accelerated pace of digitization leads organizations to adopt point solutions that solve problems in their IT, OT, or IoT infrastructure but don't integrate with other systems in their workspace, plant, or corporate networks. These visibility gaps hold back manufacturers' insight and traceability efforts.

Poor customer experience
Customer expectations remain high. Macro conditions, like inflationary pressures, climate change, and the economy, impact how organizations get products to their customers globally — and visibility into the process is essential.

42% of manufacturing respondents say observability solutions deliver significant positive impact in improving problem detection time.

2024 Splunk State of Observability in Manufacturing

End-to-end observability: From the front office to the factory floor

As disruptive technologies, like AI, digital-to-physical conversion, and automation, gain traction, organizations seek to revolutionize operational processes and improve production efficiency. It's not always clear how software and infrastructure performance problems directly impact metrics the business cares about. End-to-end observability unlocks all kinds of efficiencies. Manufacturers can prevent or minimize outages with comprehensive insights and standardized workflows. And they can detect incidents before they become customer-facing problems. Also, they can improve orchestration across all tools — and corporate IT and plant-level OT environments — to streamline operations.

With increased visibility, environmental, social, and governance (ESG) commitments are easier to prioritize and prove. For example, manufacturers can advance their environmental agenda by getting visibility into current CO2 emissions — simplifying manual, laborious data collection and using that real-time view to make progress against goals.

And visibility is an essential part of achieving full traceability, which makes it possible to see every aspect of a product's life cycle and understand how each element impacts performance. Traceability might identify new ways to strengthen supply chains, streamline operations, and minimize downtime, ultimately improving both quality and profitability.

Advancing observability to bridge the IT/OT divide

Unified observability is essential for helping manufacturers accelerate performance while gaining real-time insights — and that's exactly what Splunk is built for.

Splunk helps bridge the IT/OT divide with edge-to-enterprise visibility, allowing critical operational systems to stay up and running. With Splunk, manufacturers can:

Manufacturers that have embraced observability see a 2.6x annual return on investment.

2024 Splunk State of Observability in Manufacturing

Deliver seamless data integration
Secure and seamlessly integrate IT and OT, including untapped data that lives on the edge.

Monitor rapid technology adoption
Identify ways to deploy integrated solutions across complex and dynamic landscapes with a higher view of data that can provide faster insights.

Automate extensive data management
Use AI to help IT and OT teams with event correlation and analysis, performance insights, and anomaly detection.

Harness data across systems
Provide comprehensive visibility of industrial assets, systems, and critical equipment to improve availability and performance.

Minimize system outages
Improve orchestration across all tools — and corporate IT and plant-level OT environments — to optimize operations.

Improve supply chain performance at scale
Tackle security, IT, and OT complexity with out-of-the-box machine learning (ML) features that reduce time spent analyzing data.

Optimize hybrid and on-prem performance
Link application performance monitoring to business metrics and every network, API, and service applications rely on.

Provide complete business visibility
See across three-tier architectures, cloud-native apps, all domains, and owned and unowned networks.

Splunk empowers the entire observability journey

Digital resilience is a journey. But the path is far from linear — and it can vary greatly. Splunk has a proven maturity journey to help ITOps and engineering teams use observability to improve their digital resilience. It takes organizations from getting visibility to being more prioritized and proactive, integrating workflows in and between teams for safer and more resilient digital infrastructures.

Logicalis helps customers get more value from Splunk by simplifying fragmented tools and improving visibility, enabling faster diagnosis and stronger outcomes.

Building a leading observability practice

Foundational Visibility
See across environments

Troubleshoot mission-critical apps and infrastructure by combining metrics with logs.

Guided Insights
Detect threats and issues with context

Prioritize issues based on business impact and reduce alert noise to focus on what matters.

Proactive Response
Get ahead of issues

Prevent outages and accelerate MTTR with guided root cause analysis.

Unified Workflows
Collaborate seamlessly

Standardize observability practices across teams to improve productivity, with shared data, context, and workflows.

Accelerated by Splunk AI

Forging ahead on the observability journey with Splunk and Logicalis

Splunk Observability, which is now supercharged by Splunk AppDynamics, makes it possible for manufacturers to transform from reactive to proactive with complete business, process, and service monitoring. By injecting the right business context, Splunk helps organizations troubleshoot business problems and keep digital systems up and running.

With Splunk, manufacturers can:

- **Improve orchestration across all tools** — and corporate IT and plant-level OT environments — to optimize operations.
- **Monitor critical business performance** with full observability across ERP environments.
- **Tackle security, IT, and OT complexity** with out-of-the-box ML features that reduce time spent analyzing data.

Let's accelerate together.

> The Logicalis 2025 CIO Report highlights the growing need for unified, end-to-end visibility as organisations struggle with complex, fragmented environments. Modern digital estates demand real-time insight across applications, infrastructure, and security. Solutions that bring this visibility together help teams detect issues faster, improve performance, and make more confident decisions.
>
> **Logicalis**

Are you ready for complete business visibility to prevent threats and disruptions? Contact our team today to learn how we can help.

Logicalis

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