



How growing manufacturers can modernize operations, simplify complexity and optimize asset utilization

Enhancing production efficiency, flexibility and profitability while staying ahead of the competition

Rising customer expectations and competitive pressures are pushing manufacturers to modernize, intensifying demands on factory performance, data security, and systems reliability and resilience. Dell Technologies can help simplify OT/IT complexity by aligning infrastructure, data and operations to support scalable production across discrete and process manufacturing.

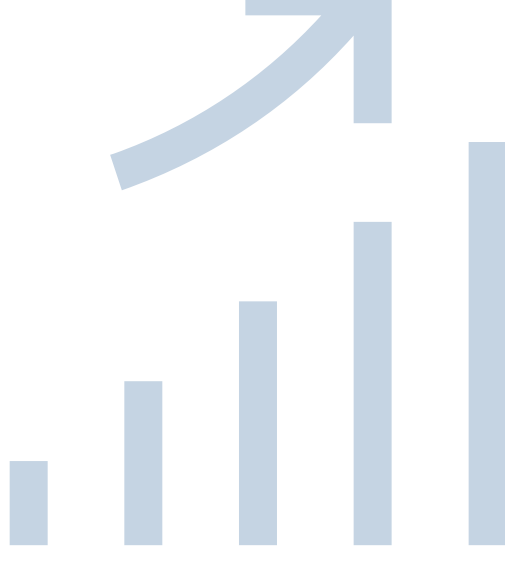
In fact, digital manufacturing modernization — including IoT, AI and additive manufacturing — was the fastest-growing topic in SMB manufacturing discussions in 2025, increasing 63% year over year.¹

What modernization can deliver on factory floors



What a successful plant modernization can provide day-to-day operations

Here are five key outcomes that manufacturers should expect their modernization investments to produce:



- 1 More predictable operations**
Improved equipment availability and fewer disruption risks, ensuring planning and delivery commitments are met.
- 2 Higher quality and throughput**
Increased yields, less scrap and rework, and consistent output quality across production runs.
- 3 Reduced maintenance expenses**
Reduced maintenance expenses, energy waste and labor inefficiencies tied to manual processes — as interest in automation to protect profits continues to rise (+38% YoY).⁷
- 4 Greater resilience**
Assured continuity and recoverability so disruptions are resolved faster.
- 5 Better decision-making**
Enhanced plantwide visibility so teams can act on timely information rather than partial views.

Turning integration into an operational advantage

Modernization moves faster when manufacturers avoid isolated projects and standardize on integrated solutions that increase interoperability and data sharing across systems.

Standardized, integrated technologies are easily scalable
Proven integrations of interoperable solutions and systems can reduce the effort required to manage performance, identify issues and apply what works across different production lines and plant sites.

Local processing cuts latency, boosts visibility
Edge computing reduces latency, limits dependency on connectivity and improves timely action while work is underway.

Resilience and data security work better when designed in
When environments are engineered for continuity from the start, data security is enhanced and incident recovery is simpler with disruptions easier to contain.

Manageability matters
Integrated solutions — including passwordless access with Windows Hello and passkeys — reduce manual intervention and credential-related issues, lowering day-to-day burdens on limited staff while maintaining strong security.

Security and AI work best when built into the platform
With Dell devices powered by Intel and built on Windows 11, security and AI are embedded into the platform by default — delivering chip-to-cloud protection and built-in AI that teams can use immediately, while staying ready for Copilot and agent-based workflows over time.



Five ways AI and analytics can provide measurable value

AI and analytics deliver the most value when embedded into existing workflows—maintenance, inspection and operational monitoring — rather than as standalone experiments.

- Predictive maintenance identifies early signs of failure and enables planned interventions that reduce downtime and cost.
- AI-based inspection improves defect detection consistency in real time on the line, supporting higher yields and more stable output.
- Energy optimization uses continuous analytics to boost power efficiency, lower emissions and improve sustainability.
- Digital twins allow teams to test changes virtually before applying them on the factory floor, supported by real-time data and local compute.
- Process and workflow optimization with AI-driven analytics help identify bottlenecks across production, improving scheduling, throughput and coordination between machines, people and systems.

Together, these outcomes show how modernization can deliver strong returns while protecting productivity and overall equipment effectiveness (OEE). A Windows 11 foundation optimized for neural processing units in Dell AI PCs enables local, secure AI today while preparing manufacturers for Copilot and agent-based workflows as automation expands.

How integrated technologies can deliver operational advantages

With integrated technology solutions, manufacturers can connect systems and scale plant operations with confidence. Here are four areas where Dell Technologies, in partnership with Intel and Microsoft, can help:

**Integrated endpoints and workspaces for plant personnel**
Dell's comprehensive PC portfolio delivers secure, easy-to-manage business PCs that help small businesses standardize reliable computing for engineering, maintenance, operations and quality teams.

**AI-capable devices at the point of work**
Dell Pro PCs and Dell Pro Precision workstations support local AI processing at the point of work, enabling organizations to run select analytics and intelligent workloads while maintaining greater data control with Windows 11 and unique Copilot+ experiences.

**Modern infrastructure for production and factory operations**
Dell PowerEdge servers, PowerStore and PowerMax servers offer a powerful foundation for MES, industrial analytics, virtualization and operational data, with Dell APEX enabling flexible, consumption-based scaling. Built on Intel® processors and integrated with Microsoft Windows Server and Azure hybrid service.

**Applied AI and analytics for manufacturing operations**
The Dell AI Factory solution and PowerEdge servers with accelerated compute capabilities can support well-governed AI use cases, including real-time monitoring, anomaly detection and performance analytics.



Modernization for greater profitability, sustainability and competitive advantage

Dell Technologies helps manufacturers modernize with confidence by replacing fragmented, piecemeal architectures with integrated foundations across infrastructure, edge and operations. This integrated approach reduces complexity, strengthens resilience and governance, and enables manufacturers to scale modernization without disrupting production — while building readiness for what comes next.



To learn more, visit Dell.com/Industries

1. Digital Listening Research of Verticalized SMB Conversations, Metia + Dell Technologies, December 2025.
2. Ibid Why Predictive Maintenance Is Manufacturing's Next Big Advantage: The High Cost of Downtime in 2025, June 19, 2025.
3. Ibid Why Predictive Maintenance Is Manufacturing's Next Big Advantage: The High Cost of Downtime in 2025, June 19, 2025.
4. Manufacturing Today Why Predictive Maintenance Is Manufacturing's Next Big Advantage: The High Cost of Downtime in 2025, June 19, 2025.
5. Averroes, Stats & Impact of AI in Manufacturing [2025], March 11, 2025.
6. Ibid, Stats & Impact of AI in Manufacturing [2025], March 11, 2025.
7. Digital Listening Research of Verticalized SMB Conversations, Metia + Dell Technologies, December 2025.

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