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The Maturity Path for Manufacturers to Embrace AI-Enabled Operations

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In This White Paper

This IDC white paper provides a stage-by-stage framework that aims to guide organizations through the process of becoming data driven and preparing for the promises of AI.

The study explores a maturity model for data-driven operations across the dimensions of data, people/process, and technology, with each being made up of three sub-dimensions. The maturity of an organization's data-driven operations capability is limited by the strength or weakness across individual sub-dimensions.

Situation Overview

Customer and market expectations for more personalized products, deliveries, and services — as well as unanticipated events and sudden demand shocks from global disruptions — are driving change and creating the need for manufacturers to become more responsive to markets.

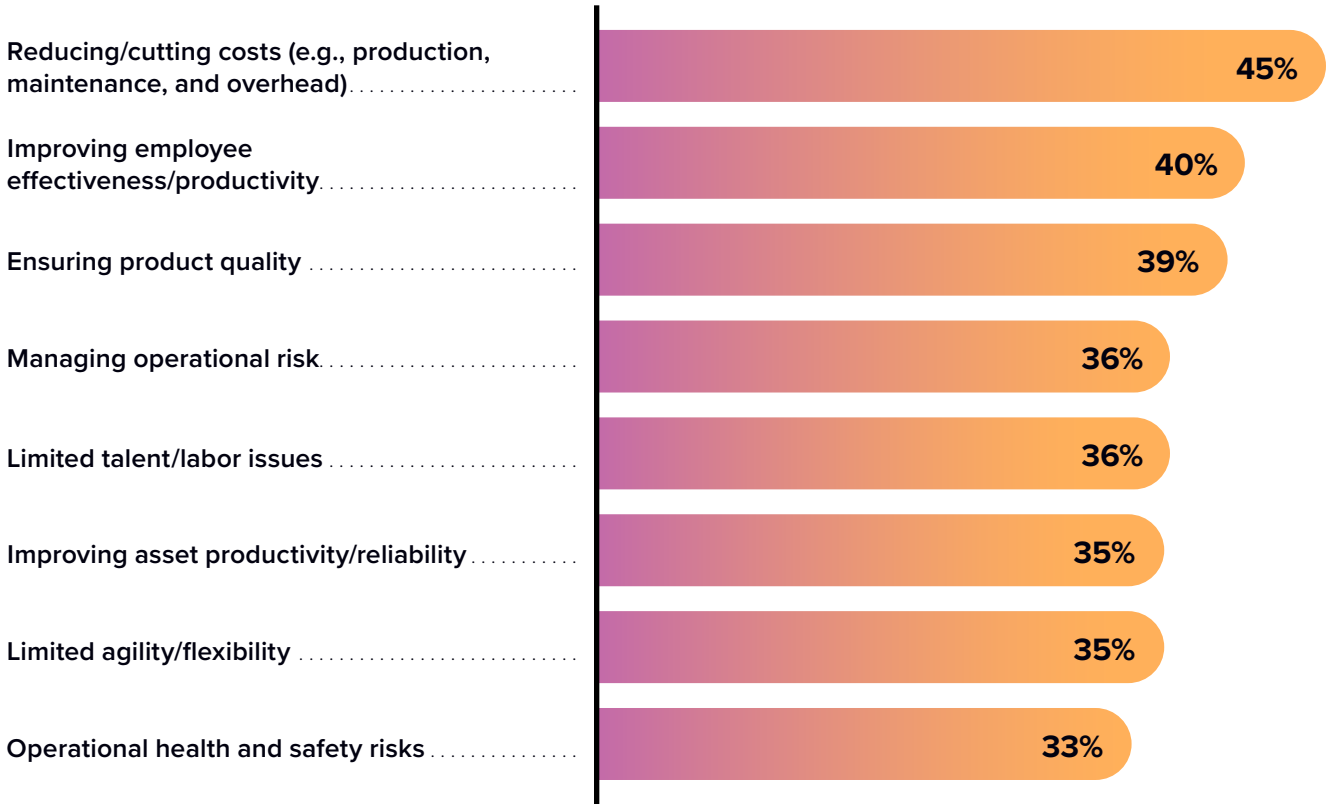
This is resulting in factories being relied upon to handle more complex operations — serving a wider range of products, with faster throughput and smaller lots/batches, while trying to minimize costs. For the past few years, supply chains have been disrupted by natural disasters, weather delays, geopolitical restrictions, and an ever-changing workforce, all of which have shattered the best laid plans of manufacturers.

The result has been predictable for those not prepared — higher costs, longer delays, lower quality, and poor visibility, which is the exact opposite of Lean Six Sigma objectives. At the same time, demand volatility, inflation, and economic uncertainty are looming concerns across the manufacturing industry, causing revenue, and profits, to shrink. As a result, manufacturers are focused on addressing these concerns — costs, productivity, quality, and labor (see **Figure 1,** next page).

FIGURE 1

Top Operational Challenges Being Faced Today

Which of these are your top three most significant challenges with respect to your organization's operations?
(Percentage of respondents)



n = 864; Source: IDC's *Future of Operations Survey,* August 2024

Competing in this dynamic environment has led many manufacturers to rethink fundamental aspects of their operations, and many have realized that the capability to optimize decision-making across operations using data and AI is critical to success. However, the most mature organizations understand this transition to AI-enabled operations is a journey filled with complex challenges to be addressed across their organization.

Challenges Holding Back Data-Driven and AI-Enabled Operations

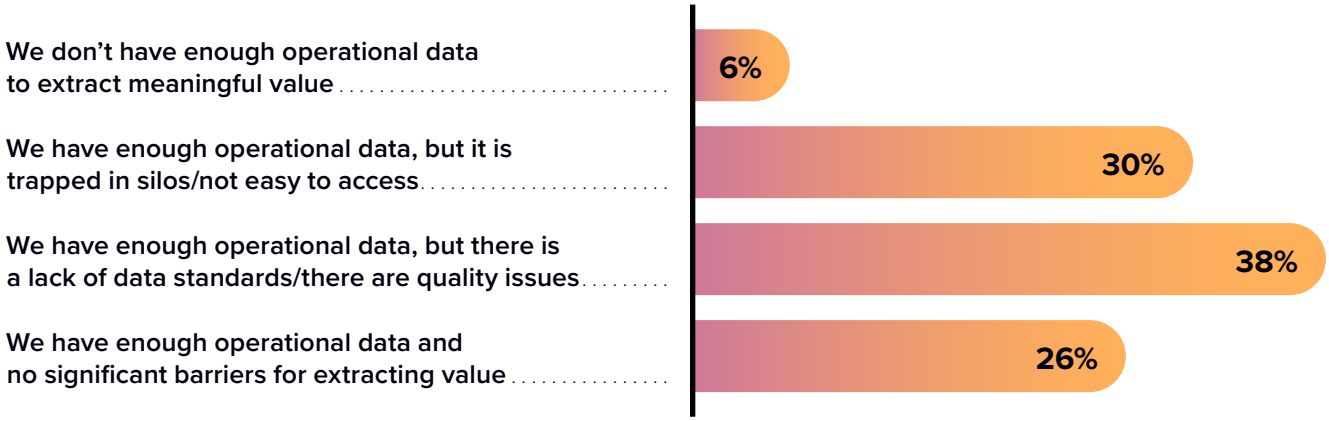
Manufacturers have encountered many challenges in their efforts to further optimize operations, but one of the most cited issues is outdated/legacy infrastructure. Many manufacturers tend to rely upon a mix of plants, assets, and technology systems that are decades old and limited in functionality. This situation results in information being difficult to access and analyze, hindering the ability to make the most effective decisions in the necessary time frame.

DC's 2024 *Future of Operations Survey* showed that only 30% of manufacturers reported the ability to provide frontline employees real-time operational data. It is typically not the amount of data available holding manufacturers back but the siloed nature or lack of data standards in place to maximize the value of data (see **Figure 2**).

FIGURE 2

Real-Time Access to Operational Data Still Holding Companies Back

Which of the following statements best describes the status of operational data in your organization?
(Percentage of respondents)



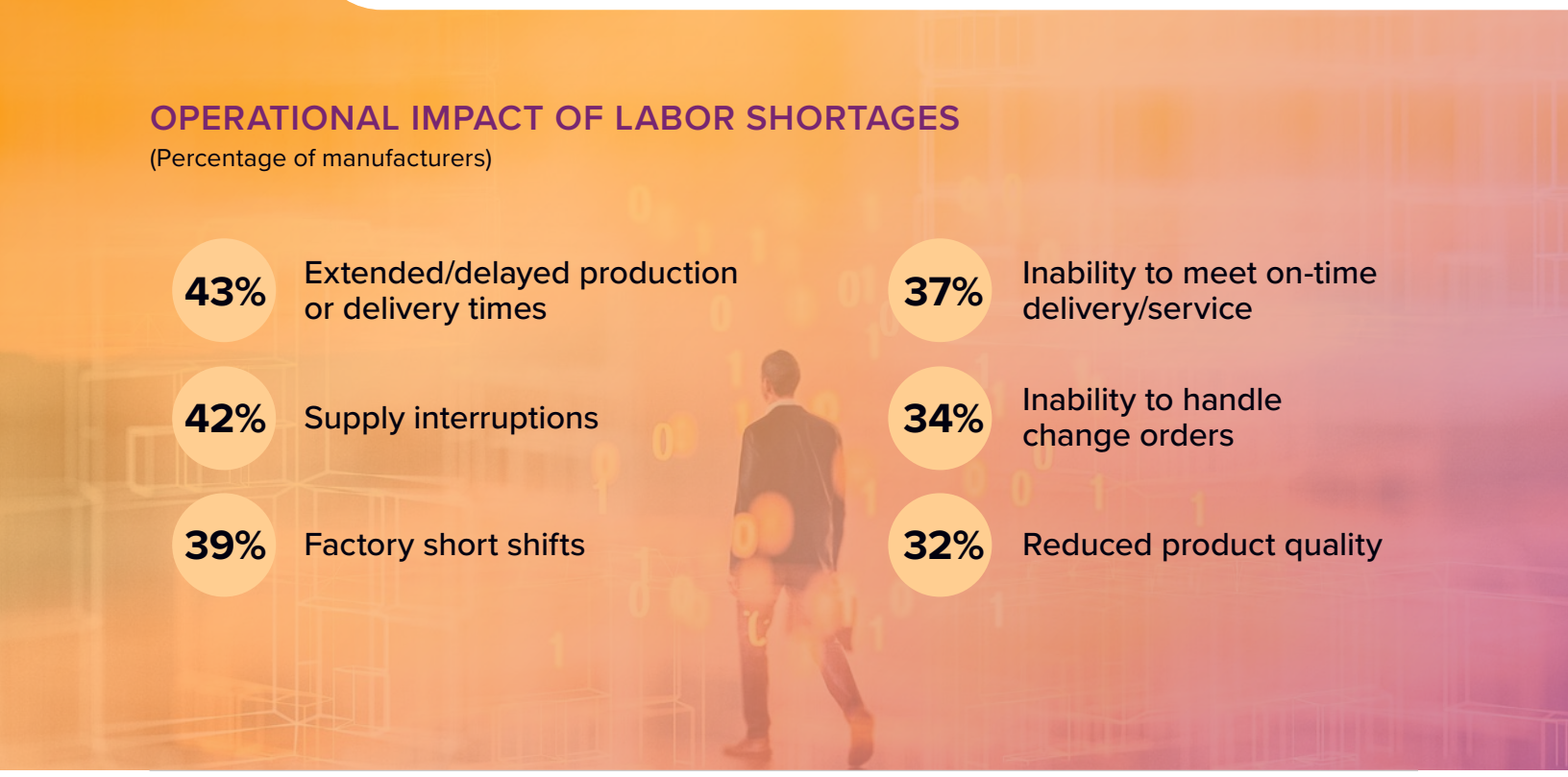
n = 864; Source: IDC's *Future of Operations Survey,* August 2024

With the speed and complexity of manufacturing operations increasing faster than ever, organizations hoping to compete in the digital economy can no longer accept manual/paper-based processes. Effective decisions are always based on data analysis and information, not speculation or conjecture, and this is no different for operational decisions. Also, it is important to keep in mind that this is just a current snapshot of operations struggle; the amount of data will only increase as time goes by. With the focus on connecting more data, the cybersecurity implications are rising as well, with manufacturing now being the most targeted industry for cyberattacks. Security concerns are especially high when it comes to integrating legacy OT systems with enterprise systems.

Another challenge facing manufacturers that is important to consider is their labor issues. While the workforce is by no means a new topic for the industry, in recent years, the problem has been accelerating as more workers retire/leave the business. Over 40% of manufacturers reported being understaffed across all of their roles (with operations leading the way), and that number is only expected to increase over the next 12–36 months. Keeping employees long term is a pressing concern, and the most successful manufacturers will differentiate by focusing on employee training/experience and supporting the workforce with technology. The expanded use of technology across the industry is another important component to consider, as manufacturing roles themselves have been evolving, with digital skill sets now becoming a priority.

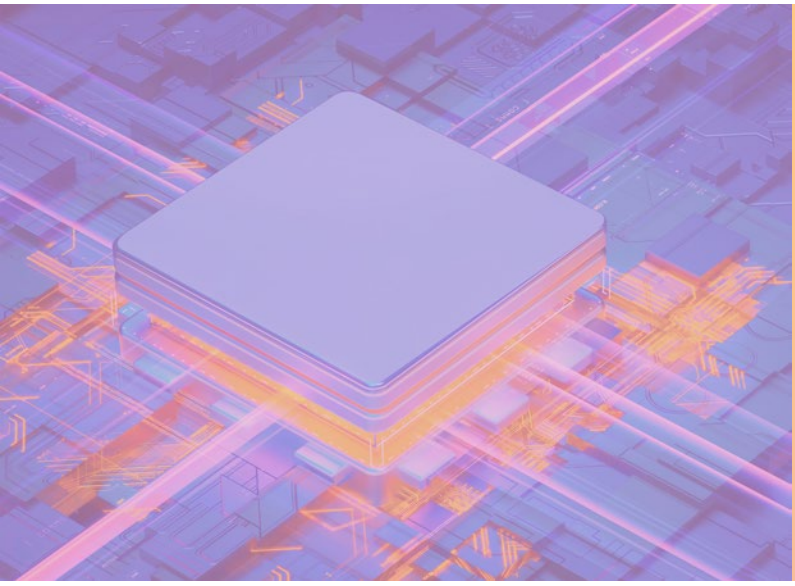
OPERATIONAL IMPACT OF LABOR SHORTAGES

(Percentage of manufacturers)



- **43%** Extended/delayed production or delivery times
- **42%** Supply interruptions
- **39%** Factory short shifts
- **37%** Inability to meet on-time delivery/service
- **34%** Inability to handle change orders
- **32%** Reduced product quality

All industries have the potential to be transformed by AI. While some segments may move faster than others, the future of manufacturing will be one that is AI enabled. This powerful emerging technology, particularly the advancements in new tools such as generative AI, is continually evolving, and companies that lead the way in its effective adoption will be rewarded through expanded capabilities and significant cost/time savings. While AI/machine learning (ML) represents tremendous potential for operations, it is still an emerging technology and as such comes with certain challenges and risks to keep in mind. It will take a well-thought-out and systematic approach for most manufacturers to realize the benefits that are being promised.



While AI/machine learning (ML) represents tremendous potential for operations, it is still an emerging technology and as such comes with certain challenges and risks to keep in mind.

Data-Driven and AI-Enabled Operations Maturity Model

An organization that leverages its operational data and AI tools to drive optimal decision-making throughout everyday operational processes can be defined as a data-driven organization.

This type of organization has established an enterprisewide approach to operational data management and collaboration and subsequently achieved nearly perfect visibility and predictability into its operations. To assess the maturity level of an organization on its journey to become data driven and AI enabled, IDC built a five-stage model across three main dimensions: data, technology, and people/processes (see **Table 1,** next page).

TABLE 1

IDC MaturityScape: Data-Driven Operations
Overview of Stages, Dimensions, and Sub-Dimensions

DATA	
Data Readiness	
Ad Hoc	Data is scattered throughout the organization, available only to local experts in role-based silos, or remains undigitized.
Opportunistic	Volumes of data support advanced analyses, digitized and stored on a site basis with limited cross-role visibility.
Repeatable	Data is sufficient for individual processes, unified at the organizational level on a batch basis. Centralized data is limited.
Scaled	Widespread digitization across a variety of sources is available about all operational processes and is available centrally.
Autonomous	An excess of data exists due to complete digitization. Roles can access data in real time across the organization.
Quality	
Ad Hoc	Little or no emphasis has been placed on data quality and normalization.
Opportunistic	Data quality is addressed on a project-by-project basis as needed. Data lacks context.
Repeatable	Data quality standards are addressed at a corporate level, but adherence is still at the local level. Data tagging begins to normalize.
Scaled	Data quality issues are addressed as well as automated processes for managing ongoing data quality.
Autonomous	All operational data is cleansed, contextualized, and normalized as it is collected.
DataOps/Engineering	
Ad Hoc	Data sets are received and integrated on a manual basis or are consumed separately based on source.
Opportunistic	Data integrations are identified on a project basis, and data pipelines are built manually through off-the-shelf APIs or custom code.
Repeatable	Data engineering is a nascent practice utilizing purpose-built platforms. Data sources are beginning to be cataloged in a central location for reuse.
Scaled	Data engineering is adopted broadly across site locations or managed centrally. The organization has a robust data catalog of industrial data sources.
Autonomous	A complete data fabric exists for engineering data pipelines and integrations even by nontechnical users. All available operational data is cataloged with role-based governance.

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TABLE 1 (continued)

IDC MaturityScape: Data-Driven Operations
Overview of Stages, Dimensions, and Sub-Dimensions

TECHNOLOGY	
Infrastructure	
Ad Hoc	Local, on-premises, and largely dated infrastructure is the predominant mechanism for data storage, retrieval, and analysis. Cybersecurity is not considered, and operations networks are air gapped.
Opportunistic	Local, on-premises infrastructure still predominates with limited cloud adoption in operations. Data is stored locally within applications. Cybersecurity awareness exists with limited network security in place.
Repeatable	A mix of local, edge, and cloud see utilization. Data is stored in the cloud on a limited basis. Some containerized apps are deployed locally with cloud connections, and security capabilities are broadly deployed.
Scaled	Hybrid cloud infrastructure is the dominant mechanism for operational infrastructure. Containers and virtualization are widely deployed from the cloud. Robust cybersecurity including advanced threat detection is in place.
Autonomous	Hybrid cloud infrastructure is dynamically optimized based on the workload. Many functions are managed remotely. All operational data is accessible/stored in the cloud. Containers and cybersecurity are centrally managed.
Analytics	
Ad Hoc	Inefficient manual analysis is done at the local level. There is no cross-correlation with other organizational operational data sources.
Opportunistic	Experimentation with advanced analytical tools is done for use on operational data. Last-mile insights are derived by subject matter experts (SMEs).
Repeatable	Multiple disparate purpose-built analytics tools are leveraged depending on use case and data type. Analytics are conducted across sites.
Scaled	Analytics are conducted through multivariate tools across multiple data types to identify novel insights.
Autonomous	Advanced analytical tools are routinely leveraged to provide actionable, predictive insights across all levels of the organization.

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TABLE 1 (continued)

IDC MaturityScape: Data-Driven Operations
Overview of Stages, Dimensions, and Sub-Dimensions

TECHNOLOGY (continued)	
Artificial Intelligence/Machine Learning	
Ad Hoc	The organization is still in the planning stage for AI usage and unsure how to effectively apply the technology to business priorities.
Opportunistic	AI pilots/POCs are in place to test out applicability with limited success/ROI. No long-term plans/road maps are in place across the organization.
Repeatable	The organization has seen success with AI pilots and is starting to scale out some projects across the business. A road map is in place for targeted/near-term operational use cases.
Scaled	AI projects scale across operations, reshaping workflows/processes as new insights are gained. AI is a core component of operational strategy with short/long-term plans in place.
Autonomous	AI is fully scaled across the enterprise and is driving transformative results. A closed-loop process is in place to manage and maintain AI models to ensure accuracy/alignment with organizational goals.
PEOPLE AND PROCESS	
Leadership	
Ad Hoc	Data management is local and functionally controlled, with limited leadership involvement. Purchasing decisions are made locally.
Opportunistic	Increased interest from senior leadership in extracting more value from operational data is expressed but not enacted. Technology purchasing is coordinated across locations.
Repeatable	Senior leadership is aligned, and data-driven operations are a priority. Digital budgets are established centrally, with IT and OT working together on strategy and purchasing decisions.
Scaled	Senior leadership has access/visibility into operational data and performance. Portfolio management and purchasing are orchestrated at the enterprise level.
Autonomous	Leadership makes long-term strategic decisions across the enterprise through data-driven visibility. Budgets across the organization reflect digital priorities and are managed collaboratively.

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TABLE 1 (continued)

IDC MaturityScape: Data-Driven Operations
Overview of Stages, Dimensions, and Sub-Dimensions

PEOPLE AND PROCESS (continued)	
Skills/Talent	
Ad Hoc	Digital skills beyond legacy operational technology are held by IT or leveraged through service providers.
Opportunistic	Some data management skills are adopted by line of business in collaboration with IT. Network and connectivity-related skills are developed by operations.
Repeatable	Data management and the use of advanced analytics and AI are available to operations with support from limited data science and engineering resources. IT assists with low-code development.
Scaled	Data management, analytics, AI, and low-code development are conducted by operations with limited support from IT. Prompt engineering and data model management education are provided to operations.
Autonomous	Operational staff are adept at self-service with digital skills in all salient areas of managing, modeling, and analyzing data as well as interacting with AI systems through prompt engineering.
Organizational Structure/Decision-Making Process	
Ad Hoc	IT and OT are separate/siloed organizations with no collaboration. Localized decision-making is based on acquired knowledge of SMEs with limited data validation.
Opportunistic	IT and OT are separate organizations that collaborate on an ad hoc basis. Localized decision-making is based on some data and basic analytical tools, but decisions are frequently retrospective.
Repeatable	Some IT and OT integration for ongoing collaboration is included. Decision-making is frequently based on best practices leveraging some external expertise — decisions are usually timely but not proactive.
Scaled	A center of excellence is in place for IT and OT collaboration. Decision-making is data driven with the involvement of the extended value chain. Just-in-time and proactive decisions yield increased value.
Autonomous	The digital engineering group is made up of both IT and OT expertise. Predictive, automated decision-making is based on data and algorithms, tied directly to key performance indicators/metrics.

Data

In most cases, an organization's operational data is not where it needs to be to extract additional value from it.

It is not unusual for operational data to be tied up in local, functional silos, which have their own conventions for data tagging and storage. When organizations attempt to aggregate the operational data in a central location, they face issues with normalization and quality. To ensure that operational data is of high quality and accessible, manufacturers must do a better job of effectively aggregating, storing, and contextualizing their data.

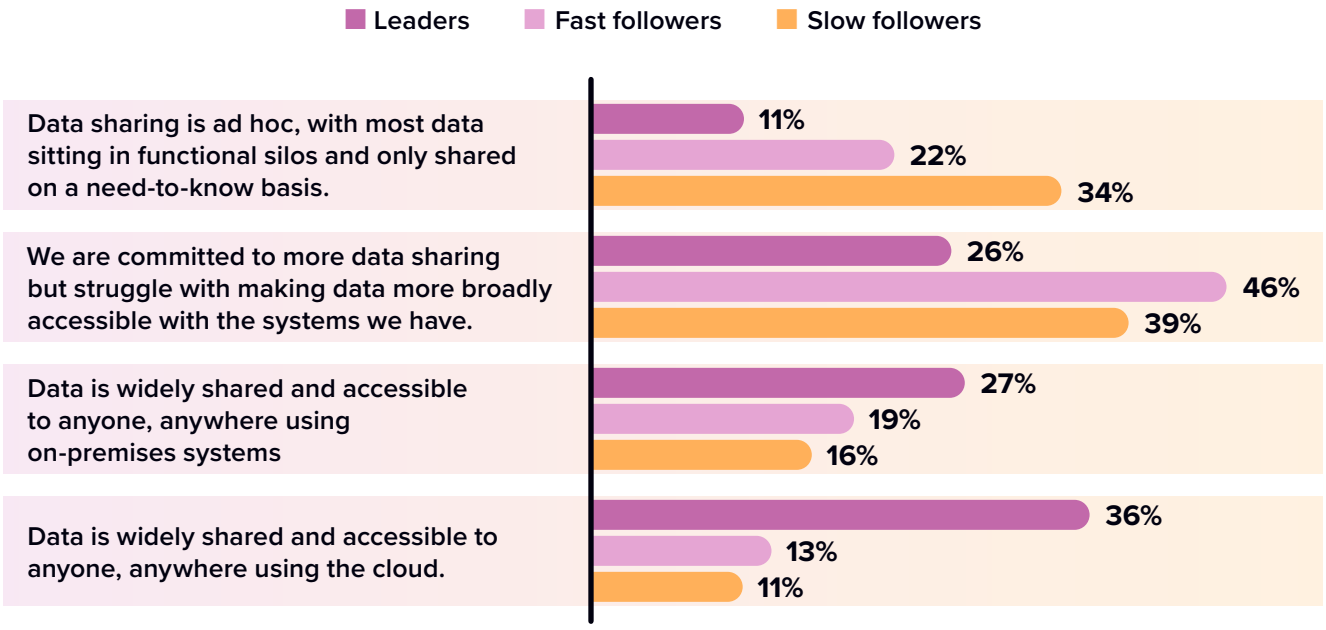
Manufacturers should accept that operational data management is an end in and of itself, as opposed to an afterthought relative to other transformation initiatives. Data-driven operations begin with getting operational data in a form that is usable and accessible. Silos must be broken down and the various types of operational data — including audio, engineering/design, event, inspection, sensor, and visual — must be centrally aggregated, validated, normalized, and contextualized. The main point is that data readiness and quality alone are not enough; building a complete data fabric on a platform that supports better management, analysis, and visualization is also essential. This is key to establishing a holistic, always-on, and data-driven view of the organization for all relevant stakeholders. The importance of the data dimension becomes clear when comparing the most mature manufacturers with their peers (see **Figure 3**, next page).

The main point is that data readiness and quality alone are not enough; building a complete data fabric on a platform that supports better management, analysis, and visualization is also essential.

FIGURE 3

Collaborative, Data-Driven Decision-Making Is a Hallmark of Leading Operations

(Percentage of respondents)



n = 864; Source: IDC's *Future of Operations Survey,* August 2024

For an accessible version of the data in this figure, see Figure 3 Supplemental Data in the Appendix.

Technology

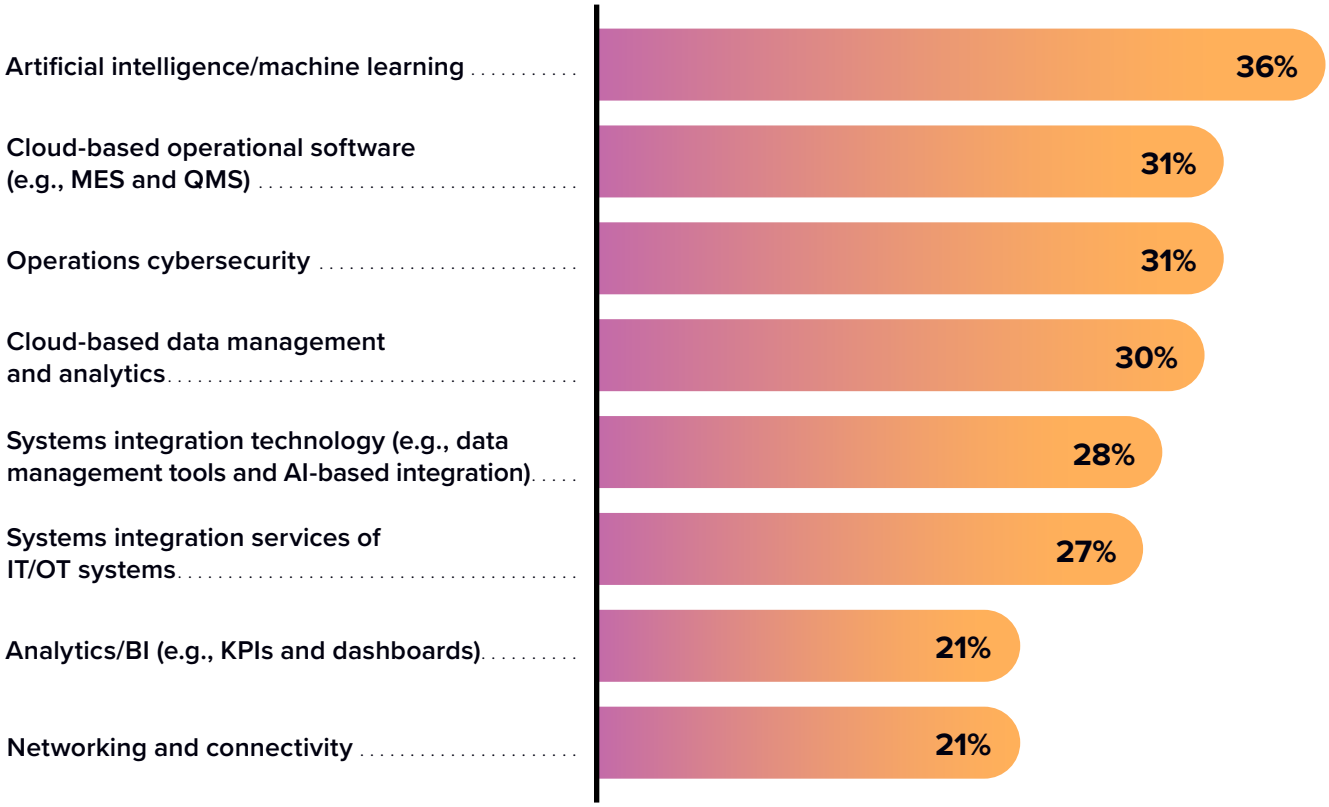
The cost of digitizing assets and processes has decreased substantially over the past decade, which has caused most organizations to consider how to best incorporate connectivity into their operations.

This rise in connectivity has presented an opportunity to take operational improvements to new heights, but it also comes with challenges. At the heart of it, surviving means being able to manage this new world of connectivity and adapting your business to smarter, data-driven decision-making. As a result, manufacturers are prioritizing investments in technologies that can support this goal of data-driven and AI-enabled operations (see **Figure 4,** next page).

FIGURE 4

Top Operational Technologies Prioritized for Investment

(Percentage of respondents)



n = 1,051; Source: IDC's *IT/OT Convergence Survey,* August 2024

The industry's continued shift away from legacy on-premises systems to the cloud is a crucial enabler to ensure the effective management of operational data. The cloud offers a centralized, scalable, and secure platform for operational data analysis, storage, and sharing. It is integral to reducing internal data silos and engendering the kind of collaborative processes that are characteristic of being a data-driven and AI-enabled organization. The scale of cloud usage has become a key indicator of how effectively an organization can leverage operational data to drive decision-making, with leaders being roughly three times more likely to be doing this when compared with followers. Manufacturing cloud adoption will only continue to expand over the next few years, and the cloud services available have also become more extensive and robust.

Once a company has standardized the way information is collected, the next piece is wrapping intelligence around the information with the use of analytics. Analytics provide decision-makers with intelligence around when and where a problem may occur and, more importantly, how to resolve the issue. The combination of analytics, alerts, and dashboarding modules can escalate events to the appropriate decision-makers at the right time, in the right format, to prevent or reduce the impact of incidents such as equipment failure. Technology is no longer viewed as a tool to keep the business running, but it is the foundation for building new revenue-generating products and services. Nowhere is this focus more prevalent than on the topic of artificial intelligence.

Business leaders are in near universal agreement that proper use of AI would lead to a competitive advantage for their business. On top of that agreement, there is the risk of inaction — organizations are already jumping to get a piece of the AI pie, afraid to miss out on the opportunities it presents. The opportunity to transform production into a digital business that delivers higher levels of productivity by leveraging new operating paradigms based on data and technology has made artificial intelligence and machine learning a top priority for manufacturers. AI/ML is already proving itself by automating/eliminating lower-value tasks (e.g., managing speeds/feeds and monitoring condition/quality), which frees up valuable resources to focus on higher-level strategic tasks and has decreased error rates on historically manual tasks. Longer term, AI/ML can use real-time data analysis to take over various aspects of decision-making and to anticipate and react to a wide variety of operating conditions and disruptions.

AI is not without risks, especially when it comes to ethical AI and data privacy, and companies need to carefully consider the best use cases in order to implement AI effectively. With optimism for AI being extremely high and every company talking about the potential, for manufacturers, currently, the hype is ahead of the reality.

This point becomes clear in IDC's 2024 ***Future of Operations Survey,*** when manufacturers were asked, ***"What is your organization's experience with AI/ML for operations?":***

- **19%** Not planning any AI/ML projects currently
- **14%** In the pilot/POC phase for AI/ML
- **11%** AI/ML in production but have yet to realize any value
- **36%** AI/ML in production, some value seen, not enough to justify costs yet
- **19%** AI/ML in production with rapid paybacks, met/exceeded investment

The ever-present barrier manufacturers report limiting the success of their AI initiatives can be traced back to the data (amount/quality/management of data). Manufacturers should first focus on having a well-defined data management strategy in place to ensure the accuracy and relevance of their data and then start applying AI/ML that can easily scale across operations.

Even though there are challenges and concerns that must be kept in mind, that does not mean that companies cannot start acting today:

- Understand how your organization could get value from AI, identifying the proper use cases and determining the readiness of the technology as well as your business.
- Approach AI projects with the appropriate expectations. The use of AI in operations remains immature, and as a result, success is not a foregone conclusion.
- Invest in operational data management as a prerequisite for AI project success. Data is the lifeblood of AI project success, and while effective operational data management does not guarantee fruitful AI projects, it is absolutely necessary.
- Select AI solution providers with the domain expertise relevant to your industry, your operations, and the problems you're trying to solve. Operational groups tend to lack AI/ML expertise in-house, and working with partners to augment these talent gaps is an effective way to get started.

Manufacturers should first focus on having a well-defined data management strategy in place to ensure the accuracy and relevance of their data and then start applying AI/ML that can easily scale across operations.

People/Process

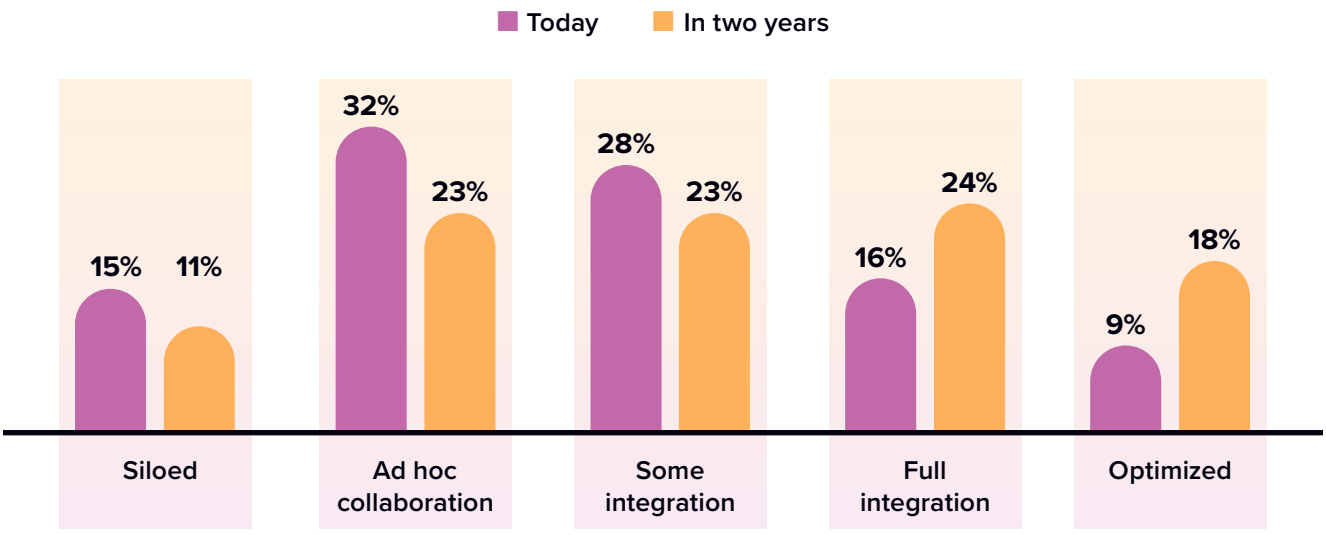
When armed with the necessary data and technology to make better decisions, ensuring that the organization as a whole is ready to embrace this approach is important as well.

Structurally, manufacturers that become data driven tend to become flatter, with a single source of truth driven by accessible, accurate, and actionable data empowering every level of the organization to make decisions rapidly and with confidence, with reduced oversight. The convergence between IT and OT is an area that highlights this push to change organizational structures. These are two groups that traditionally operated in silos, being separate organizations under separate executive leadership and making separate technology investment decisions. In recent years, manufacturers have pushed to integrate these two groups more and more, having IT collaborate with OT for operational investments. This push to integrate will only continue as time goes by, with good progress expected across manufacturing over the next two years (see **Figure 5**).

FIGURE 5

Organizational Structure for IT/OT Integration: Today Versus in Two Years

(Number of respondents)



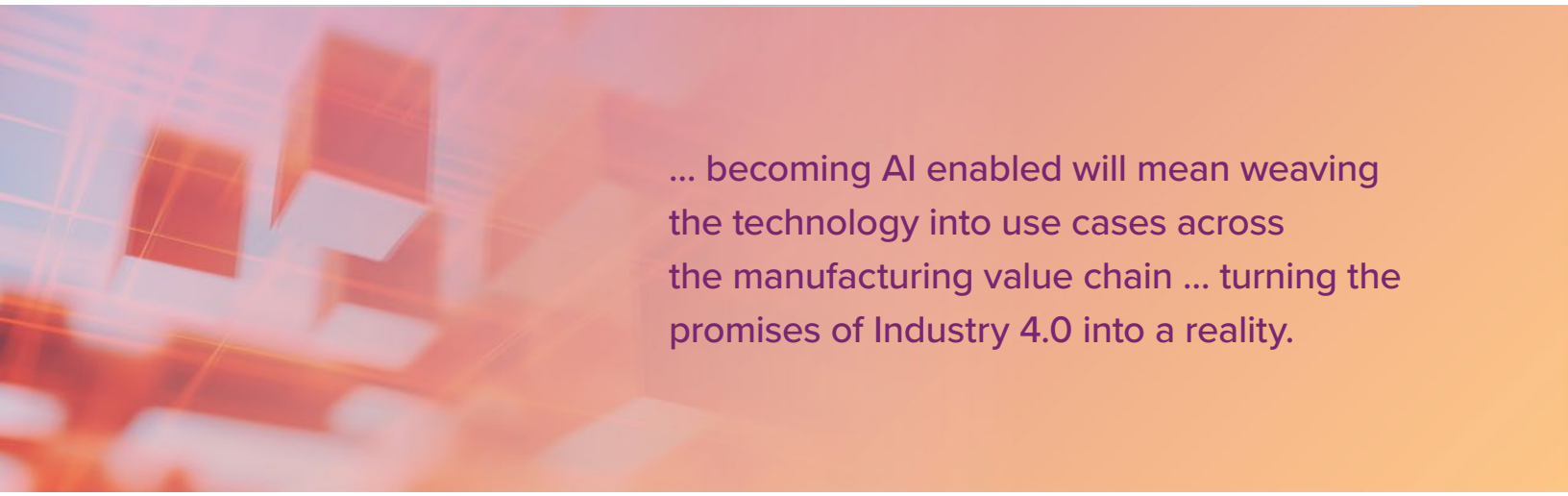
n = 1,051; Source: IDC's *IT/OT Convergence Survey,* August 2024

For an accessible version of the data in this figure, see Figure 5 Supplemental Data in the Appendix.

The ultimate goal of moving to the optimized approach is to ensure that the operations team possesses all the necessary skills to architect, deploy, and maintain digital solutions in operations without regular intervention from the IT organization. Integrated groups typically have a single executive leader in place that can take a more strategic approach to investment decisions and ensure they align with the company's overall priorities.

The ultimate goal of moving to the optimized approach is to ensure that the operations team possesses all the necessary skills to architect, deploy, and maintain digital solutions in operations without regular intervention from the IT organization.

The largest advantage for manufacturing leaders is having more resources/expertise available to them when making decisions, including business partners and external resources. This sharing of resources/expertise, backed by reliable data, allows for far more effective decisions to be made. Followers, on the other hand, still mostly rely on individuals making siloed decisions, sometimes backed by data, other times based upon guesswork. Operations are facing talent/labor shortages already, and this limited workforce can benefit from as much support as possible when making decisions. The approach leaders take is to adjust their organizational structure and decision-making process to support data-driven operations.



Moving from "AI Aspirational" to AI Enabled

The prospect of transforming business models, initiating new operating paradigms to support those models, and monetizing information for new levels of productivity has made AI a ubiquitous term across all industries, with manufacturing being no exception.

However, these are primarily aspirational goals currently; building an AI road map that delivers value in the short term and transformation over the long term is still a challenge to address. Many manufacturing AI projects get stuck in the pilot/POC phase and fail to scale across the enterprise. Choosing the right technology partners is important for both developing the strategy and executing the road map.

Initially, AI/ML can be used to identify unanticipated correlations between various manufacturing processes, helping optimize the cost, time, and quality of production. However, becoming AI enabled will mean weaving the technology into use cases across the manufacturing value chain (including strategic asset management, enterprise quality management, resilient lean, smart plant, and agile replenishment), turning the promises of Industry 4.0 into a reality. The business improvements that can be realized through data-driven decision-making are significant and cannot be overlooked. But these efforts also build a proper digital foundation that serve as a springboard for manufacturers to take the next step into AI-enabled operations, where true transformation can be achieved.

Advice for Operational Decision-Makers

For organizations seeking to develop their data-driven and AI-enabled operations capabilities, first assess your organization on the aforementioned maturity model outlined and then consider the following guidance for each stage:

Ad Hoc

- **Begin to acknowledge the value of data** to improve operations.
- **Educate staff about the role of modern technologies,** such as AI, in aggregating, analyzing, and executing data-oriented tasks.
- **Identify what data resources exist** and begin to take inventory of where there is insufficient data to inform decision-making.

Opportunistic

- **Identify low-hanging use cases** to prove out the value of data-driven decision-making.
- **Start to aggregate and centralize** operational data for later use.
- **Involve senior leadership** to prioritize and inform the organization about the data-driven operations strategy.
- **Bring together IT and OT groups** on a project basis to drive progress in AI-enabled use cases.

Repeatable

- **Advance data analytics initiatives** in parallel with the continued and expanded collection of new operational data.
- **Establish enterprisewide data management best practices** that recognize the appropriate roles of both edge and cloud.
- **Establish structured, integrated working groups** between IT and operations to focus on data efforts.

Scaled

- **Consolidate analytics and data management toolsets** for uniformity and versatility. Leverage the cloud and cloud services for centralized efforts.
- **Formalize diversely skilled data-driven operations teams** that contain subject matter experts as well as technical IT skills.
- **Evaluate new approaches to decision-making** and potential new business models.

Autonomous

- **Extend data sharing and collaboration** around operational data beyond the organization to the extended value chain.
- **Evaluate and integrate emerging technologies** on an ongoing basis to optimize the data-driven and AI-enabled operations strategy.
- **Establish a process for auditing and validating the models** necessary for autonomous operations.

Conclusion

The only way to survive long term in the always complex world of operations is to become data driven and AI enabled. Good products and operational efficiency are still incredibly important, but a critical differentiator will also be taking advantage of the data that a company already has inside its organization.

- Don’t fight this increasing complexity. Embrace it and **adapt your capabilities to reflect this new need.**
- The future of manufacturing is going to be smart and connected, and **being prepared to take full advantage of this opportunity will be essential.**
- No matter where you are in your operational transformation journey, it is important to **act now to ensure you are not left behind.**

Appendix: Supplemental Data

This appendix provides accessible versions of the data for the complex figures in this document. Click "Return to original figure" below each table to get back to the original data figure.

FIGURE 3 SUPPLEMENTAL DATA

Collaborative, Data-Driven Decision-Making Is a Hallmark of Leading Operations

	Leaders	Fast followers	Slow followers
Data sharing is ad hoc, with most data sitting in functional silos and only shared on a need-to-know basis	11%	22%	34%
We are committed to more data sharing but struggle with making data more broadly accessible with the systems we have	26%	46%	39%
Data is widely shared and accessible to anyone, anywhere using on-premises systems	27%	19%	16%
Data is widely shared and accessible to anyone, anywhere using the cloud	36%	13%	11%

n = 864; Source: IDC's *Future of Operations Survey,* August 2024

Return to original figure

FIGURE 5 SUPPLEMENTAL DATA

Organizational Structure for IT/OT Integration: Today Versus in Two Years

	Siloed	Ad hoc collaboration	Some integration	Full integration	Optimized
Today	15%	32%	28%	16%	9%
In two years	11%	23%	23%	24%	18%

n = 1,051; Source: IDC's *IT/OT Convergence Survey,* August 2024

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About the IDC Analysts

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Jonathan Lang is Research Director for IDC Industry Operations Insights responsible for the IT/OT Convergence Strategies practice. Mr. Lang's research focuses on digital transformation strategies in environments where operations technologies are deployed including Manufacturing, Utilities, Oil & Gas and Healthcare Provider settings. As IT capabilities redefine and extend the core value drivers of operations technologies, Mr. Lang's research examines strategies, roadmaps, and governance models to drive this convergence and manage the new data and processes it requires.

More about Jonathan Lang

Reid Paquin

Research Vice President, Infrastructure Systems, Platforms and Technologies Group, IDC

Reid Paquin is responsible for IDC's Future of Operations program. The program focuses on how operations will need to continually evolve to respond to rapid change and disruption. Traditional pressures (cost, efficiency, etc.) will always be present, but additional factors (increased customization, resiliency, etc.) are causing many to rethink operations. The goal of the program is to deliver thought leadership, strategic guidance, and best practices to organizations impacted by the growth of data-driven operations and how to become future enterprises able to meet the needs of the digital economy.

More about Reid Paquin

IDC Custom Solutions

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