IDC FutureScape

IDC FutureScape: Worldwide Supply Chain 2024 Predictions — Asia/Pacific (Excluding Japan) Implications

A Complimentary Excerpt from IDC

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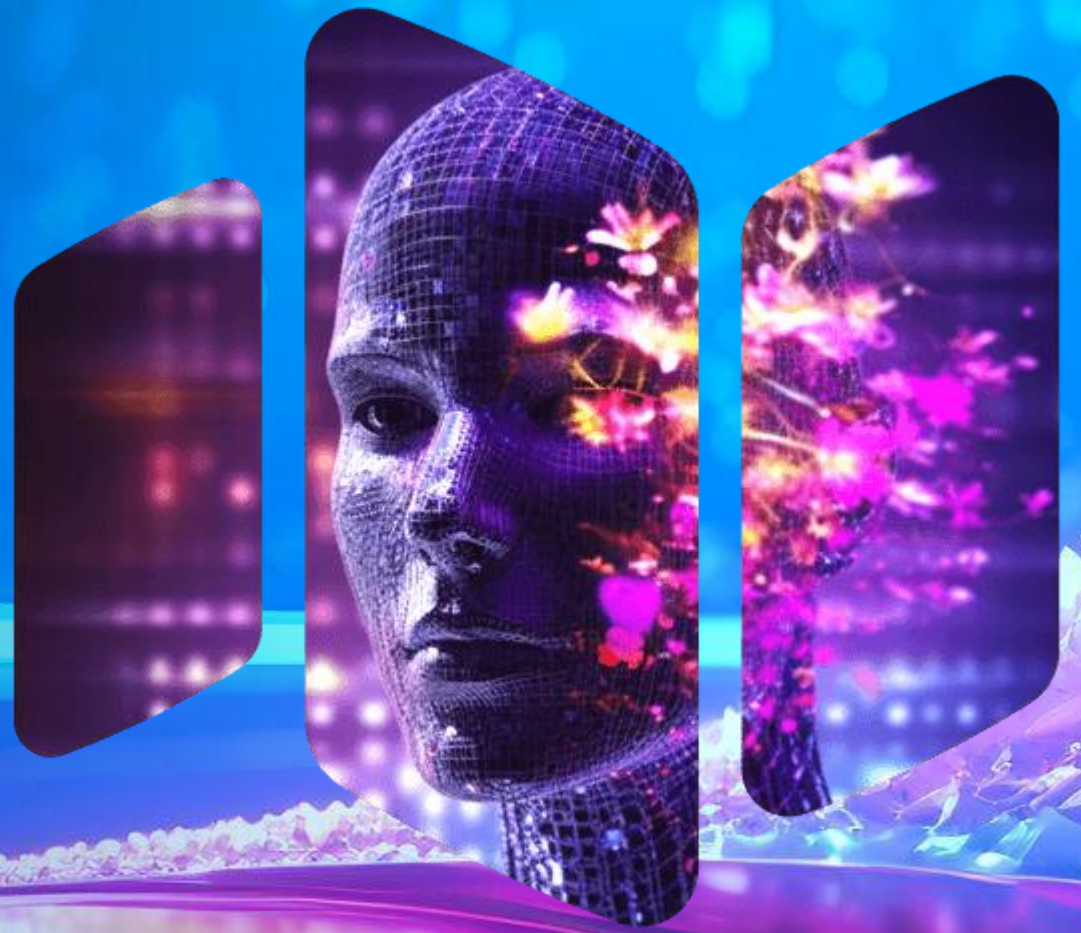


Executive Summary

This IDC Presentation discusses the Asia/Pacific (excluding Japan) regionalization of *IDC FutureScape: Worldwide Supply Chain 2024 Predictions* (IDC #**US50873823**, October 2023) where it dives deep into the **10 predictions and underlying drivers expected to impact IT investments in supply chains in 2024 and beyond.**

The digital transformation wave, accelerated by ubiquitous AI integration and the rise of ecommerce, demands enhanced operational resilience and agility. AI, ML, cloud computing, and generative AI technologies are being rapidly deployed to combat the skilled labor deficit, particularly in supply chain planning and logistics, offering advanced capabilities in demand forecasting, optimized routing, and automated decision making, thus streamlining operations and bolstering supply chain resilience, are highlighted in this excerpt.

This IDC FutureScape presents information about technologies, markets, and ecosystems to **help Technology Leaders better understand future trends and their impacts**. It also addresses the issues that technology and IT teams may encounter as they define, build, and govern the technologies necessary to succeed in a digital-first world while providing guidance on points to consider in IT strategy planning.

Supply Chain: APEJ Situation Analysis

Challenges

In Asia/Pacific region (Excluding Japan)

- Economic uncertainties
- Geopolitical upheavals
- High inflation
- Currency fluctuations
- Talent Shortages

Existing Gaps

IDC's 2023 Supply Chain Survey

- Lack of supply chain visibility and agility
- Shortfall of digital competencies
- Lack of sufficient collaboration with external suppliers and customers

Response to Challenges

- Organizations have shown a concerted effort toward technological investment.
- APEJ supply chains are leveraging government policies and infrastructure initiatives to become pivotal manufacturing and service hubs.

Opportunities

CIOs & Senior IT Leaders

- To explore a collaborative ecosystem by building on partnerships with tech vendors and industry peers to drive innovation and growth.
- Invest in skills enhancement programs for future digital readiness.
- Collaborate more closely on AI initiatives.

Key to Success

As APEJ supply chains look to the future, closing existing gaps becomes crucial to avoid compromising effectiveness.

Strengthening collaboration with external partners is essential for a cohesive supply chain network.

Supply Chain: APEJ Situation Analysis

Automation is rapidly advancing as a strategic response to the pressing labor shortages across the supply chain sector.

With an eye on 2023 and beyond, **companies are deploying robotics and automated systems in warehouses to enhance picking and packing processes**.

- IDC's *2023 Supply Chain Survey* revealed that almost half of APEJ organizations are moving to some sort of robotics in warehousing and distribution facilities.
- The demand for information automation has increased, streamlining data processing and analytics to support these advanced operational capabilities
- The reliance on automating technologies, including route optimization and order management for last-mile delivery, has been increasing.
- The integration of Internet of Things (IoT) devices for inventory management and predictive maintenance has improved operational efficiency and reliability.

These automation efforts **compensate for the lack of skilled labor and create new job roles** focused on the oversight and maintenance of automated systems, **reshaping the workforce and employment landscape** in the region.

Supply Chain: APEJ Situation Analysis

With current foundational technologies, such as wireless connectivity and advanced analytics, **APEJ supply chains are setting the stage for future needs**. Over the next three years, these technologies, alongside supply chain cloud platforms, are anticipated to become even more integral to support the region's supply chains in overcoming obstacles and achieving robust, adaptable frameworks.

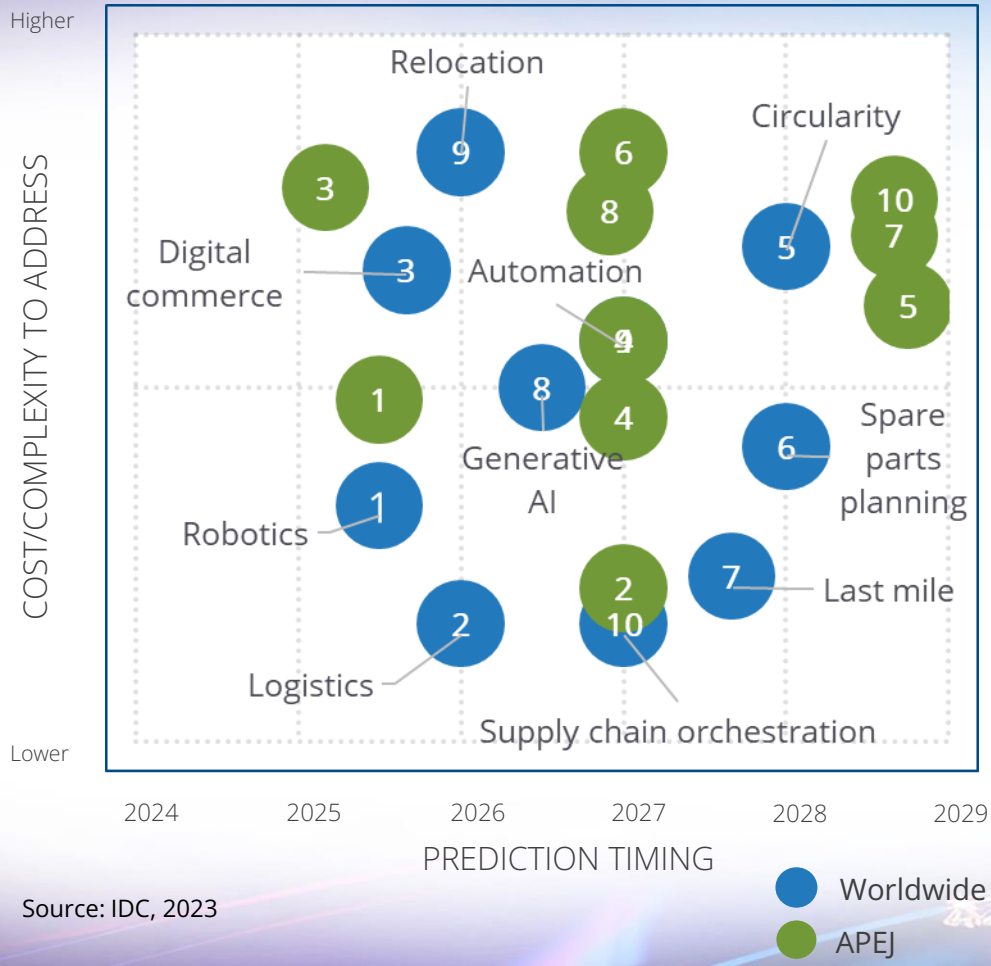
As APEJ supply chains navigate a challenging landscape marked by economic volatilities and talent shortages, **their evolution over the next five years will be characterized by a deeper integration of AI and automation, a stronger commitment to sustainability, and more collaborative networks**. These transformations, propelled by strategic technological investments and government support, are not merely reactionary but part of a deliberate shift toward creating more adaptable, efficient, and environmentally responsible supply chains equipped to meet the demands of a rapidly changing Asia/Pacific market.

Supply Chain: Worldwide Drivers

- ✓ AI Everywhere — Generative AI Takes the Spotlight
- ✓ The Drive to Automate — Maximizing Efficiency and New Opportunities
- ✓ Global Supply Chain Resiliency — Push for Diversification
- ✓ The Digital Business Imperative — Competitiveness and Outcomes
- ✓ Dynamic Work and Skills Requirements — New Work Mode Era
- ✓ Operationalization of ESG — Measuring and Implementing Sustainability

For additional details on the above Drivers, please refer to report *IDC FutureScape: Worldwide Supply Chain 2024 Predictions* (IDC #US50873823, October 2023).

IDC FutureScape:
Supply Chain Worldwide and APEJ Implications — Fig. 1



Source: IDC, 2023

1. By 2025, 50% of APEJ companies will implement broad robotics automation to improve order fulfillment speed and accuracy, resulting in increased pick speed of 10% and reducing pick errors by 2% to 3%.
2. By 2027, 40% of APEJ logistics teams will have deployed advanced visibility, enabling AI/ML analytics insight generation, which optimizes performance, resulting in a 3% savings in logistics spend.
3. By 2025, 60% of A2000 organizations will have a digital commerce platform in place for ecosystem operations, driving a 10% higher data capitalization rate and improving customer retention by 10%.
4. **By 2027, 60% of Asia/Pacific-based organizations will augment operational roles with automation technology, elevating employee engagement and unlocking a 50% increase in worker efficiency.**
5. **By 2028, 50% of Asia/Pacific-based manufacturers will operationalize circular economy principles to improve availability of strategic/direct materials and improve supply reliability by 15%.**
6. By 2026, 40% of the A2000 will look to autonomous service parts planning to ensure mean time to repair can be improved, ensuring customer or operator assets are productive.
7. By 2028, increased planning and execution integration, nearshoring, improved inventory allocation, AI-based ecommerce, and fulfillment optimization will improve last-mile profitability by 5%.
8. **By 2026, 60% of A2000 companies will use generative AI tools to support core supply chain processes as well as dynamic supply chain design and will leverage AI to reduce operating costs by 5%.**
9. By the end of 2026, 30% of A2000 companies will have relocated final assembly capabilities closer to demand, resulting in a 10% reduction in overall logistics costs.
10. By 2028, 35% of A2000 companies will be using supply chain orchestration tools that integrate key suppliers/customers, including digital twin capabilities, improving supply chain responsiveness by 15%.

IDC FutureScape

Prediction 4: Automation

By 2027, 60% of Asia/Pacific-based organizations will augment operational roles with automation technology, elevating employee engagement and unlocking a 50% increase in worker efficiency.

- In APEJ, workforce-related challenges stemming from an **aging population and shortages of skilled workers** have wide implications on the manufacturing sector.
- Organizations recognize the **importance of workforce engagement and need to elevate employee experiences to retain talent and reduce turnover rates**. Automation plays a pivotal role in improving employee efficiency.
- Manufacturers are increasingly turning to automation technologies to augment their workforce to improve productivity, reduce cost and increase operational efficiency.

Source: IDC 2023 Future Enterprise and Resiliency Survey, wave 5 report

Source: IDC, 2023

IDC FutureScape

Prediction 4: Automation

IT Impact

- The **IT** team **needs to work closely with the line of business** (LOB) to determine deployment strategies and road maps for integrating automation technologies into existing operational processes and system, ensuring minimal interruptions and effective workflows.
- A **holistic assessment by IT will be required to** ensure that the infrastructure is scalable to cope with the growing demands of automation systems.
- As automation technology becomes more integrated into daily operations**, IT will need to strengthen IT and operational technology (OT) cybersecurity** to prevent potential breaches and improve data security management.

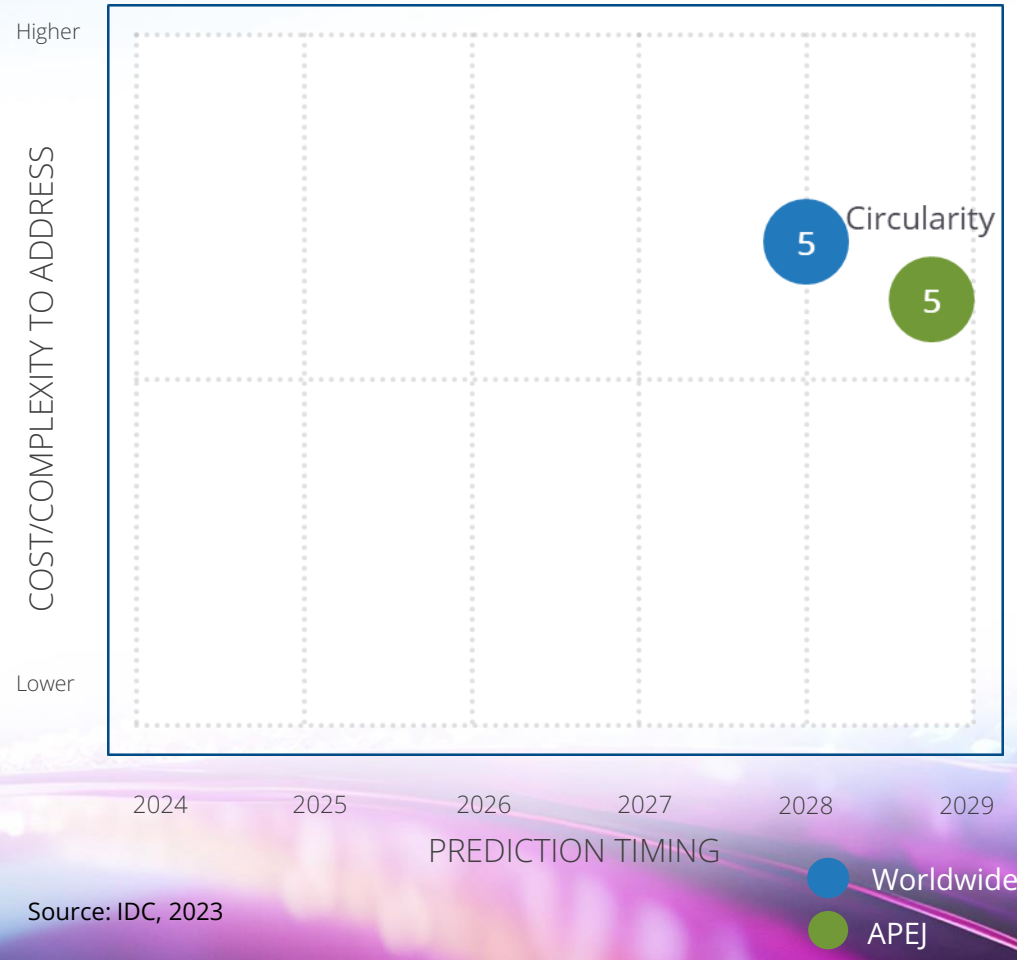
Guidance for Technology Buyers

- **Define clear objectives about what the organization aims to achieve from its automation initiatives.** Engage relevant stakeholders and identify tasks and processes in which automation provides the most value to the business.
- **Establish performance metrics** to measure the impact of automation on your organization. Evaluate and monitor the performance of the automated processes and look for opportunities to refine them.
- **Work with your chosen automation solution providers to customize** integration options and complete training for the employees who will work with the automated systems.

Prediction 5: Circularity

By 2028, 50% of Asia/Pacific-based manufacturers will operationalize circular economy principles to improve availability of strategic/direct materials and improve supply reliability by 15%.

- Regulatory pressures, resource limitations, and changing social expectations are converging as powerful forces that will propel companies toward significant shifts in sustainable practices.
- **Over the next three to five years, these forces will substantially influence all aspects of supply chains, from logistics to procurement, focusing on direct materials of strategic significance**. Businesses are expected to harness advanced analytics to create more efficient products and processes to enhance supply reliability and mitigate risks.
- Case studies:
  - Lucro, a Mumbai-based company, implemented circular economy models to reuse consumer-used materials. For instance, it turned plastic milk pouches into recycled pellets or new films, thereby reducing environmental pollution.
  - Amcor is also innovating by using recyclable materials to reduce its environmental impact.
  - Samsung has also pledged to use more recycled materials and renewable energy to achieve circularity in its production process.



Source: IDC, 2023

Prediction 5: Circularity

IT Impact

- **The advancement of circularity will need to be supported by providing platforms and infrastructure that support digital twins**, enabling sophisticated simulations of physical assets to enhance system optimization, reduce waste, and prolong product life cycles.
- The **IT** team **must support the implementation of standard data formats and protocols** to guarantee compatibility and interoperability among diverse systems and stakeholders throughout the product life cycle, from suppliers to recyclers.
- A **unified data management system will be required** to integrate data across all product life-cycle stages, ensuring large volumes of data are handled, data quality is high, and actionable insights are provided.

Guidance for Technology Buyers

- **Consider future business needs when selecting platforms** to support product life-cycle management for product circularity, including expanding into new markets, complying with regulations, and adapting to new types of products and materials.
- **Ensure compliance with industry standards** that support collaborations across various business functions, including design, supply chain, and sustainability departments, allowing for a cohesive approach to product life-cycle management.
- **Incorporate features that help organizations comply with relevant environmental and recycling regulations** by maintaining accurate records that facilitate reporting and regulatory compliance.

Prediction 8: Generative AI

By 2026, 60% of A2000 companies will use generative AI tools to support core supply chain processes as well as dynamic supply chain design and will leverage AI to reduce operating costs by 5%.

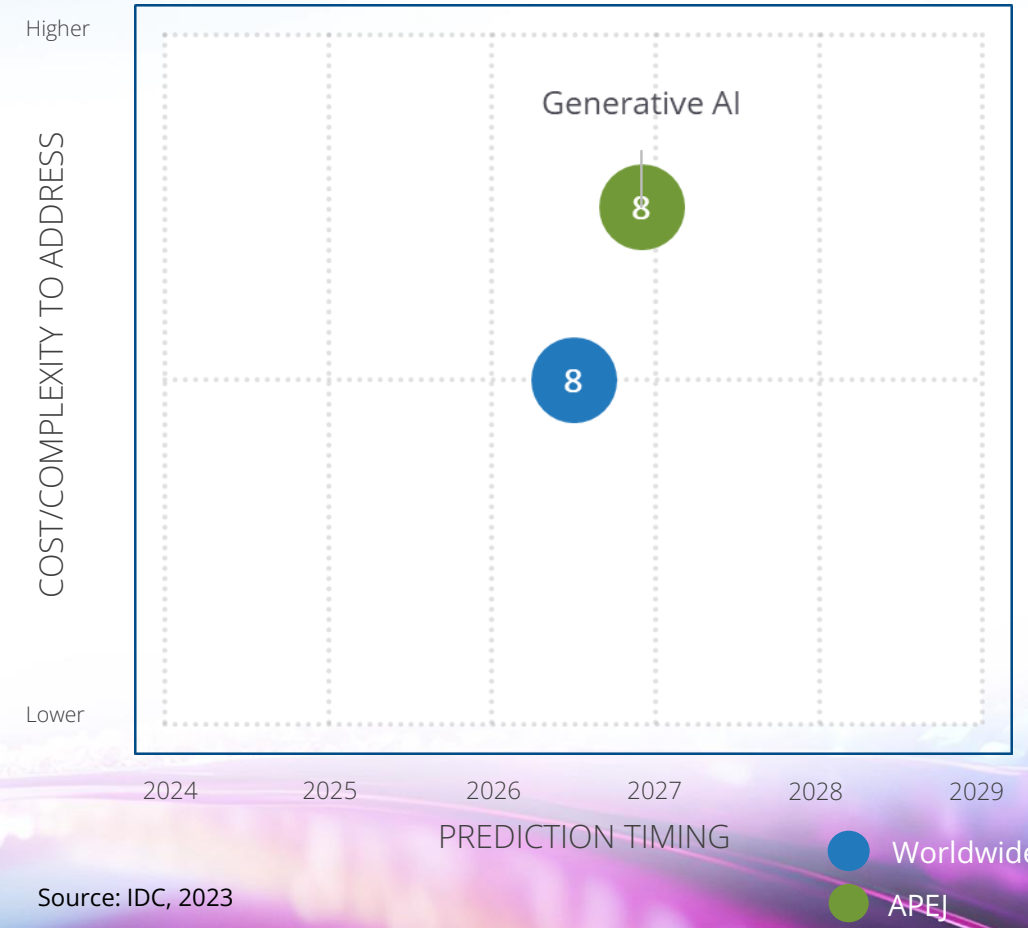
As technology evolves alongside increasing labor skill demands and macroeconomic challenges, the push for process automation and optimization grows more urgent. IDC's *2023 Supply Chain Survey* found that **46% of Asia/Pacific supply chain executives struggle to fill skilled positions amidst global cost pressures, underscoring the imperative for efficiency.**

AI, specifically generative AI, is set to minimizing human intervention and bolstering consistency by

- Automating routine processes
- Enhancing exception handling, and
- Improving change management

This technological advancement will redefine supply chain roles, empowering professionals to focus on high-level tasks, such as analytics, strategy, and scenario planning, with generative AI as a pivotal tool in their strategic arsenal.

This shift optimizes workforce efficiency and leverages AI's predictive capabilities to refine supply chain design for optimal responsiveness, inventory management, cost efficiency, and growth strategies.



Source: IDC, 2023

Prediction 8: Generative AI

IT Impact

- **Systems will need to be regularly updated** to ensure AI-generated documents meet regulatory standards because regulations frequently change and evolve. Noncompliance can result in legal penalties, shipment delays, and increased costs.
- A **seamless integration with supply chain systems is essential** for preserving data accuracy, ensuring uninterrupted workflows, facilitating informed decisions, and fostering user acceptance.
- The **IT** team **will be needed to ensure robust data governance, maintain regulatory compliance, secure sensitive information, and manage accessibility** for stakeholders.

Guidance for Technology Buyers

- Document regulatory compliance can be automated by **implementing dynamic rule engines to refresh document templates with current regulations**, utilizing ML for ongoing regulatory text analysis and document adjustment, integrating AI systems with regulatory databases for real-time updates, and establishing application programming interface connections for automatic knowledge base refreshes.
- **Implement strict data policies and conduct compliance audits** to maintain data integrity and adhere to regulations for AI training data sets.
- **Secure sensitive data with encryption, establish version control for tracking, and educate stakeholders** on ethical data practices and governance responsibilities.

Call to Action for Tech Sales & Marketing Leaders

Technology sales leaders need to **demonstrate visibility and agility enablement**. Tech buyers are now seeking solutions that can connect and unite their operational data across the entire enterprise for long-term supply chain integration. Illustrate how your product can create a digital thread that can enhance visibility, extract valuable insights, and ultimately improve operational efficiency to enable a more flexible and dynamic supply chain.

Showcase technology compatibility with cutting-edge solutions, including AI/ML, generative AI, control tower, digital twin, and cloud computing. Emphasize the scalability, compatibility and capability of your technology to interact effectively within networks, such as software-defined WAN (SD-WAN), Wi-Fi, and 5G, and illustrate their ability to seamlessly adapt and integrate with existing and future technologies.

Build strategic partnerships. Forge partnerships with other technology providers that complement your offerings within the ecosystem. Collaborative solutions can be more appealing to organizations looking for comprehensive, integrated technologies. By underlining the strength of your ecosystem, you position your technology as a comprehensive and adaptable solution for the evolving needs of businesses.

Source: IDC FutureScape: Worldwide Supply Chain 2024 Predictions — Asia/Pacific (Excluding Japan) Implications: Positioning for Success — Opportunities for Tech Sales and Marketing Leaders, #AP50370323, December 2023

Recommended Resources

Watch On-Demand

Replay live-feed analyst fireside session recording on-demand.

Jump to timecode - *1:34:04* to listen Stephanie's insight on the Industrial predictions.

Click to Watch>>

Top 10 CIO Agenda Predictions Excerpt

CIOs and IT leaders' responsibilities are constantly evolving. Navigate 2024 with the top 10 CIO Agenda predictions. Download complimentary excerpt.

Download Excerpt

Resource Center

Visit and bookmark IDC's FutureScape Resource Center for the latest updates on research and other resources for your strategic planning.

Visit Website

Learn More

- *IDC FutureScape: Worldwide Supply Chain 2024 Predictions* (IDC Manufacturing Insights #US50873823, October 2023)
- *IDC FutureScape: Worldwide Manufacturing 2024 Predictions* (IDC Manufacturing Insights #US51276023, October 2023)
- *IDC FutureScape: Worldwide Manufacturing Product and Service Innovation 2024 Predictions* (IDC Manufacturing Insights #US50873723, October 2023)
- *IDC FutureScape: Worldwide Future of Operations 2024 Predictions* (IDC Manufacturing Insights #US48535322, October 2023)
- *IDC FutureScape: Worldwide Sustainability/ESG 2024 Predictions* (IDC Manufacturing Insights #US51294923, October 2023)
- *IDC FutureScape: Worldwide Future of Industry Ecosystems 2024 Predictions* (IDC Financial Insights #US50217123, October 2023)
- *IDC FutureScape: Worldwide Artificial Intelligence and Automation 2024 Predictions* (IDC #AP50341323, October 2023)
- *IDC FutureScape: Worldwide Supply Chain 2024 Predictions — Asia/Pacific (Excluding Japan) Implications: Positioning for Success — Opportunities for Tech Sales and Marketing Leaders,* (IDC #AP50370323, December 2023)

About IDC

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