

Top 8 Manufacturing Challenges for 2023

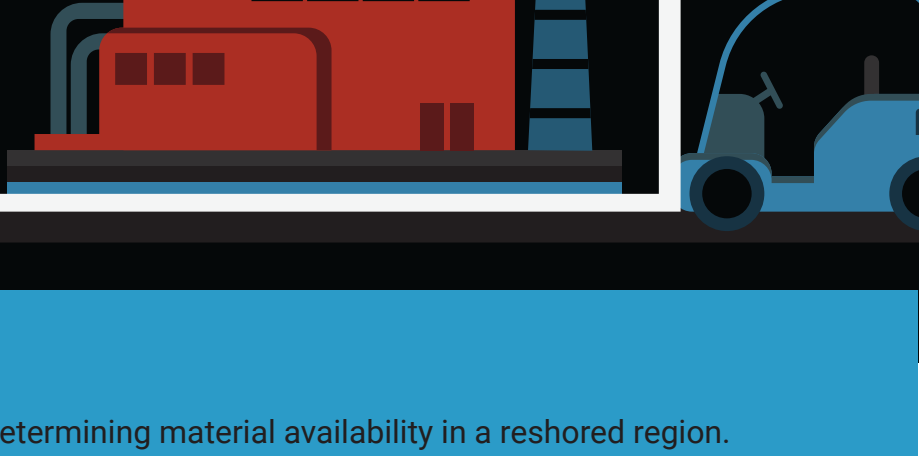
Get our insights to address today's biggest manufacturing barriers.

1 Reshore Manufacturing to Mitigate Risk

Reshoring is becoming central to supply chain resiliency strategies.

83%

83% of U.S. manufacturers responded "likely" or "extremely likely" to reshore.¹



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- ✓ Effective analysis includes determining material availability in a reshored region. To gauge production capacity, manufacturing teams simulate production runs in targeted reshored geographies.
- ✓ Teams then review these results to compare factories and regions based on cost, capacity, and production speed.

2 Extend Supply Chain Visibility

Cost and production capacity insights only tell part of the story.

79%

of companies have **supply chain visibility challenges**.²



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- ✓ Identify an overreliance on production in a specific geography
- ✓ Find alternative global regions to source parts when factories or shipping routes close in other countries
- ✓ Evaluate other manufacturing methods and use suppliers with different capabilities to make parts
- ✓ Classify parts by manufacturing process to work effectively with relevant suppliers
- ✓ Reduce SKUs through consolidation and redesign to cut cost and supply chain complexity

3 Protect Profit Margins Against Inflation

Take steps to blunt inflation's impact.

68%

68% of manufacturers agree that inflation is likely to remain elevated.³



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- ✓ **Simulate product designs** using different materials and receive alerts if a material substitution creates a design for manufacturability (DFM) risk. Teams can then compare all options and determine next steps.
- ✓ Use regional cost data – including labor, overhead, and tool-shop rates – to evaluate **country-specific manufacturing costs** accurately.

4 Design Products for Sustainability

C-level manufacturing executives are struggling with ESG execution.

Respondents cite the following challenges incorporating sustainability into the development process.⁴

23%

No link to performance metrics

18%

Subjective metrics



35%

Limited capability building, tools, and shared understanding of what "good" looks like

24%

No central policy on sustainability dimensions

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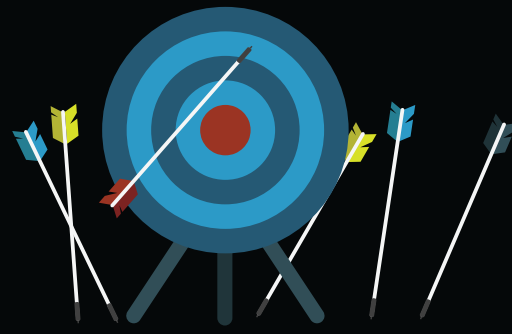
- ✓ Incorporate sustainability into your overarching DFM/design for excellence (DFX) benchmarks and processes to:
 - Understand a product's CO₂ impact during early design phases
 - Evaluate opportunities to reduce a product's carbon footprint
- ✓ Simulate design alternatives using different materials and manufacturing processes to meet CO₂ emissions, cost, and performance targets.

5 Invest in Digital Enhancements Wisely

Manufacturers that don't have a clear DX strategy often miss the mark.

70%

Up to 70% of DX efforts don't meet expectations.⁵

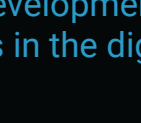
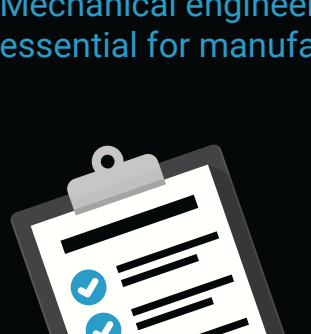


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- ✓ Because DX solutions are typically deployed in phases, manufacturers implementing DX may also still rely on legacy systems including spreadsheets.
- ✓ Using outdated information from legacy systems adds risk to the product design, sourcing, and manufacturing process.
- ✓ To improve product development, manufacturers are incorporating sourcing into their DX efforts to:
 - Reassess sudden sourcing changes quickly
 - Streamline and automate the increasingly complex procurement process

6 Address Manufacturing and Tech Skills Shortages

Mechanical engineering, software development, and other technical skills are essential for manufacturing success in the digital economy.



83%

of U.S. manufacturers say hiring and retaining quality employees is a top focus.⁶

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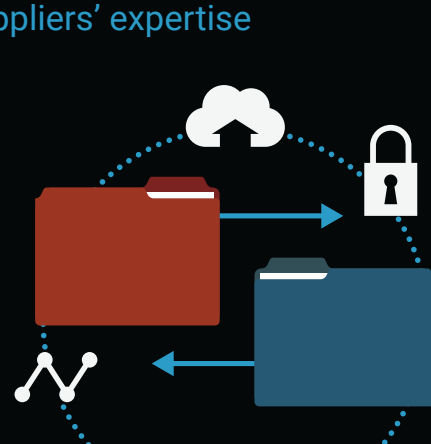
- ✓ Automate tasks and processes, and enable employees to focus on more valuable activities
- ✓ Connect teams through collaboration to simplify real-time information sharing
- ✓ Provide junior engineers with real-time guidance to improve product DFX

7 Strengthen Brand-Supplier Collaboration

Manufacturers are increasingly drawing on suppliers' expertise and resources to help reach their goals.

Manufacturing industry companies that advance data sharing across key areas stand to gain

\$100+ billion in total value.⁷

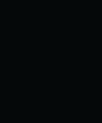
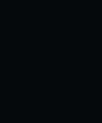


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- ✓ Sharing digital product twin information between manufacturers and suppliers is essential to drive value.
- ✓ Product brand-supplier transparency that starts early during new product development can reduce operational costs, mitigate disruption, and accelerate time to market.

8 Launch Products Faster

Speed is an underlining business imperative.



Accelerate time to market 20-40% by digitizing key business operations.⁸

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- ✓ Businesses can improve **planning accuracy** by simulating production based on detailed product specifications, sourcing information, and manufacturing parameters. Manufacturers and their suppliers can then use this insight to identify the best path to market with confidence.
- ✓ Companies that combine speed and visibility can capitalize on new opportunities and address supply chain challenges quickly.

Learn how aPriori can help you develop products faster, reduce cost, and mitigate risk.

Contact us at productcost@apriori.com to learn more or **schedule a demo today.**

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¹<https://www.thomasnet.com/insights/83-of-north-american-manufacturers-are-likely-to-reshore-their-supply-chains-in-2021-report>

²<https://www.forbes.com/sites/forbestechcouncil/2022/01/10/what-supply-chain-visibility-means-for-logistics-businesses/?sh=35c79c524e0d>

³<https://www.pric.com/us/en/industries/industrial-products-library/inflation-supply-chain-manufacturing.html>

⁴<https://www.mckinsey.com/industries/technology-media-and-telecommunications/our-essentials/responsible-product-management-the-critical-tech-challenge>

⁵<https://www2.deloitte.com/us/en/pages/about-deloitte/articles/press-releases/deloitte-and-the-manufacturing-institute-big-gains-in-perceptions-of-us-manufacturing-as-innovative-critical-high-tech.html>

⁶<https://www.bcg.com/publications/2020/manufacturers-unlock-value-from-data-sharing>

⁷<https://www.accenture.com/us-en/services/industry-x-smart-connected-product-design-development>

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