

APRIORI RECEIVES THE 2023 PRODUCT LEADERSHIP AWARD

*Identified as best in class in the global digital
manufacturing solutions industry*



Best Practices Criteria for World-Class Performance

Frost & Sullivan applies a rigorous analytical process to evaluate multiple nominees for each Award category before determining the final Award recipient. The process involves a detailed evaluation of best practices criteria across two dimensions for each nominated company. aPriori excels in many of the criteria in the digital manufacturing solutions space.

AWARD CRITERIA	
<i>Product Portfolio Attributes</i>	<i>Business Impact</i>
Match to Needs	Financial Performance
Reliability and Quality	Customer Acquisition
Product/Service Value	Operational Efficiency
Positioning	Growth Potential
Design	Human Capital

A Market Snapshot

Frost & Sullivan analysts track how the next generation of plants and factories are starting to demonstrate success by complementing the physical world with the virtual world. In this regard, digital solutions act as

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- Samantha Fisher
Best Practices Research Analyst

the bridge connecting these traditionally separate factions. Falling digital solutions’ prices and new technologies (e.g., digital twins) and smart manufacturing are revolutionizing the industrial sector. As the industry remains focused on improving business process efficiency, quality, and the customer experience, more industrial organizations opt to transform digitally.

However, ongoing challenges continue to impact full market adoption. The industrial fields are experiencing a labor shortage, particularly with mature,

technologically savvy workers. Moreover, manufacturing organizations are hesitant to adopt solutions that require impractical transformations (e.g., high upfront costs and profound re-engineering or rip-and-replace requirements).

Therefore, a successful vendor must provide an advanced, yet easy-to-use solution that integrates with existing technology.

Best Practices Excellence: aPriori

Founded in 2003 and headquartered in Concord, Massachusetts, aPriori is a digital solutions provider with offices in Germany, Northern Ireland, and Sweden, and a solutions partner in Japan. The company provides a unique, end-to-end digital twin solution that empowers organizations to accelerate innovation, growth, cost savings, and sustainability.

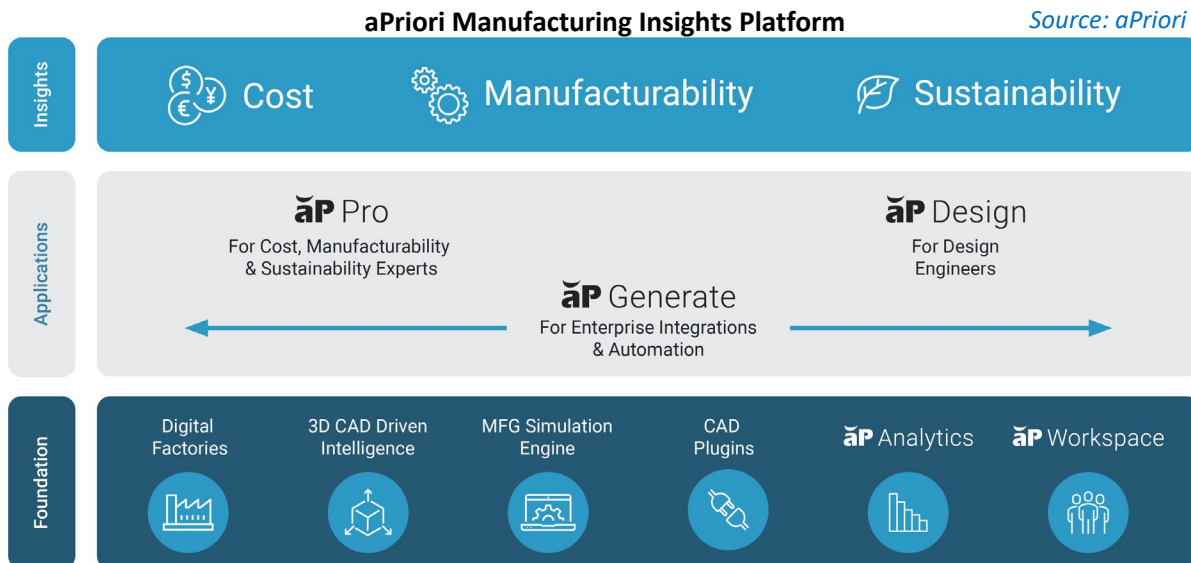
aPriori uses the digital twin concept to simulate the entire product manufacturing process. By connecting aPriori’s product design, manufacturing process, and factory “digital twins,” manufacturers can gain visibility across the product development lifecycle.

This includes running “what-if” scenarios for product designs, manufacturing processes, and individual factories or production regions – and using the results to make decisions quickly regarding cost, sustainability, supply chain risk, and more.

aPriori simulates hundreds of manufacturing process models and also provides manufacturing cost data for nearly 90 regions globally. aPriori updates its manufacturing cost data quarterly, which includes regional labor rates, manufacturing overhead, and material costs.

Consistent Performance for Sustained Leadership

aPriori has spent more than two decades building and refining its digital manufacturing solutions portfolio, enabling use cases across discrete manufacturing – including aerospace and defense, automotive and transportation, high-tech electronics, and industrial equipment. The company’s Manufacturing Insights Platform empowers multiple stakeholders through the value chain, as aPriori simplified its solutions to enable end-users of various backgrounds to achieve best-in-class results.



The cloud-based platform helps organizations bypass the time-consuming prototyping phase; it allows customers to meet their price and time constraints by incorporating the most efficient practices in manufacturability, cost, source, quote, and sustainability. Leveraging a customer’s product lifecycle management (PLM) system, the solution provides a customized report that offers manufacturing feasibility along with related predictions for expenses and carbon emissions.

By connecting to an organization's 3D computer-aided designs (CAD), manufacturing processes, and specific factory/production capabilities, aPriori enables companies to simulate the impact of changes across the product development process and help manufacturers address any issues proactively.

The company's software platform includes the following cloud-based, integrated applications:

- **aP Pro:** The company's flagship application, aP Pro, provides actionable insights into a product's manufacturability by providing detailed manufacturing process simulations of 3D CAD designs. Key features include geometric analysis, an automated routing optimization engine, digital factories, and enhanced design-to-cost capabilities. It is designed for cost engineers and other "power users" requiring detailed product cost, manufacturability, and sustainability data.
- **aP Design:** This application also provides simulation-driven insights like aP Pro, but it is purpose-built and streamlined for product design engineers focused on the early design stage. aP Design includes automated analysis of 3D CAD parts and assemblies, along with interactive guidance based on design changes (e.g., alerts for potential manufacturability issues or cost overruns).
- **aP Workspace:** This collaboration and task management application enables teams to work together in real time to help accelerate product design. Cross-functional teams can pose questions directly on 3D models, assign tasks, and use aP Workspace for traceability and decision history.
- **aP Generate:** This application integrates with PLM systems to help provide greater analysis and faster decision-making at scale. Cost engineering and procurement teams, for example, use aP Generate for bulk-costing analysis. aPriori reports enable users to focus on cost and manufacturability outliers rather than manually reviewing each part of an assembly.
- **aP Analytics:** This business intelligence (BI) software enables teams to analyze large amounts of product data at scale. Using data from aP Pro and aP Design, aP Analytics provides users with standard and custom reports to view costs, compare scenarios, track trends, and compare multiple variables, such as target costs vs. actual costs.

Moreover, aPriori continues to demonstrate its efficacy through its customers' successes. For example, Caterpillar saved \$1 million in one hour by negotiating supplier costs with aPriori.¹ Danfoss consistently reduced product costs while improving time to market and promoting innovation.² Meanwhile Alstom leverages aPriori's technology to model manufacturing costs for 20,000+ parts per year, reducing supplier costs by 40% through zero request-for-proposal activities.³

A Leading Position

With its Manufacturing Insights Platform, Frost & Sullivan appreciates how aPriori is addressing an unmet market need not easily replicated by competitors, as it is the only standalone manufacturing intelligence platform to optimize products for cost, manufacturability, and sustainability. Automated insights help organizations accelerate product development and identify potential issues early in development.

¹ "True Partnership." *aPriori*. Web page. Accessed 8 September 2023. <https://www.apriori.com/about/>

² "How to Implement a Digital Manufacturing Solution." *aPriori*. Case Study. PDF. Accessed 22 September 2023.

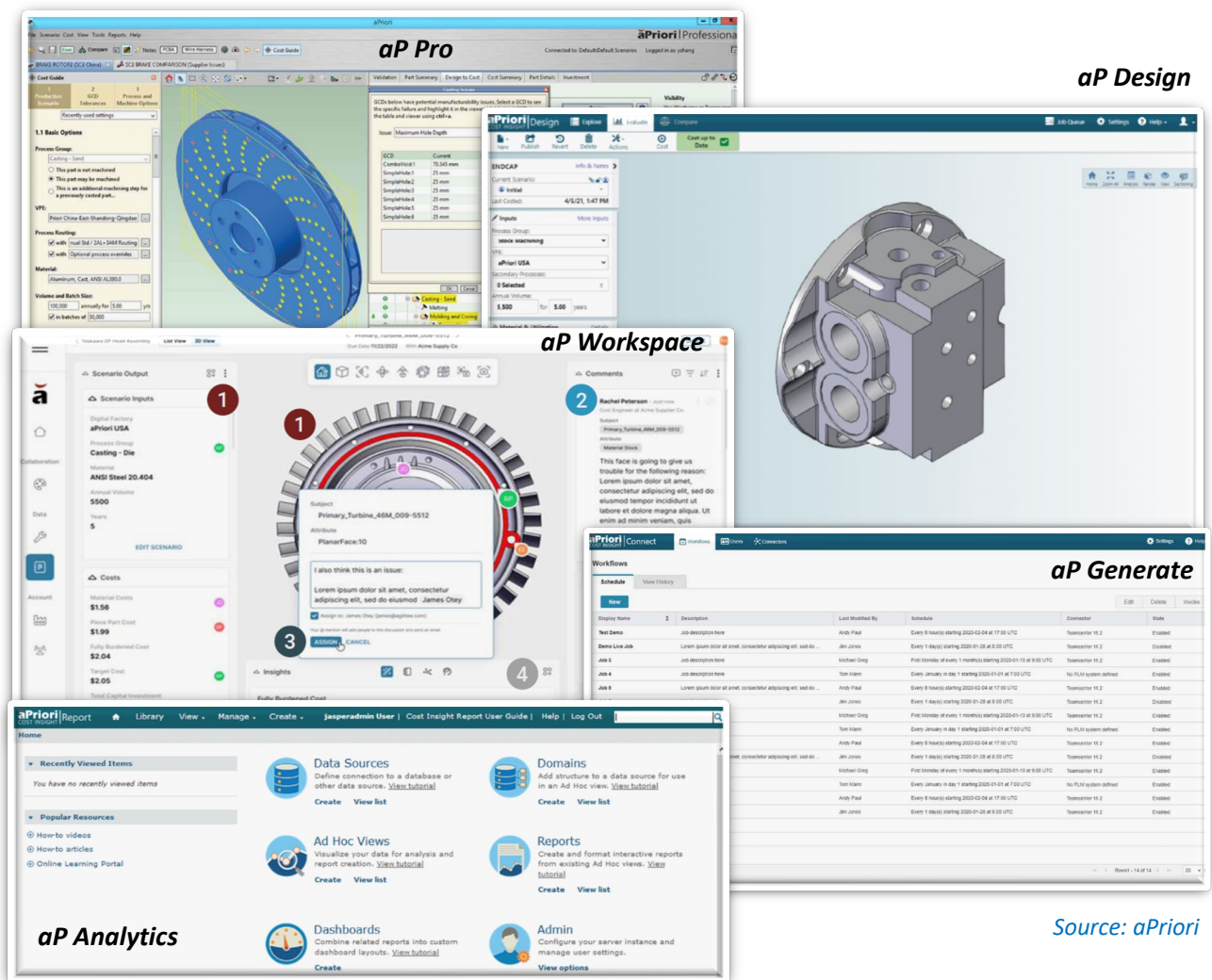
³ "How Alstom Reduced RFQs to Zero Using aPriori." *aPriori*. Case Study. Web page. Accessed 22 September 2023. <https://www.apriori.com/resources/case-study/how-alstom-reduced-rfqs-to-zero-using-apriori/>

aPriori’s solution analyzes designs automatically when they check into a PLM system, delivering reports that rate/prioritize potential problems associated with cost or design.

The company prioritizes quality by engaging customers to understand any requested new feature. This approach helps the company ensure it addresses both business and technical requirements. In addition, aPriori has a rigorous quality and testing process, including a team to manage and mitigate potential issues before a new capability launch. The company plans to continue adding features to its platform and enhance its backend capabilities to ensure the speed and performance required for a 24/7 global economy.

Moreover, aPriori enables manufacturers to incorporate sustainability into design and production, which includes establishing baseline emissions, identifying design and manufacturing alternatives to reduce carbon dioxide and equivalent (CO₂e) emissions, and considering the impact of product manufacturing in different regions.

The solution provides insights into the production of CO₂e emissions and the regulatory implications. For example, the European Union is implementing a carbon tariff on goods that do not meet its sustainability requirements, which began to go into effect in October 2023.



Source: aPriori

Customer-focused Growth Strategy

With its customer-focused strategy, aPriori consistently brings to market best-in-class products designed to provide end-to-end value. The company targets customers' specific business problems and establishes metrics to illustrate how it can help address these challenges (e.g., identify cost outliers, streamline procurement, etc.). By addressing business and technical problems, aPriori quantifies its value in a clear manner, resulting in a 90%+ customer retention rate, a six-month payback, and an average 603% return on investment in three years.⁴

For example, in November 2022, aPriori introduced "Sustainability Insights for Manufacturers" to measure, reduce, and report on its products' carbon footprint during product design and production. By adding CO₂e emissions data, aPriori provides the only intelligence platform for manufacturers to optimize products for cost, manufacturability, and sustainability. More importantly, aPriori measures greenhouse gas emissions (GHG) throughout a manufacturer's supply chain (cradle to gate).

At the same time, aPriori incorporates customer feedback into its product roadmap to maximize short-term growth opportunities while providing a path to future revenues. To ensure it continues to address relevant client needs, the company offers organizations consulting opportunities for customer stakeholders to address pain points and develop a roadmap to address these challenges. This process

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- Sebastián Trolli
Head of Industrial Automation

includes strategy meetings to assess progress toward the customer's goal, along with ongoing support such as training.

Additionally, aPriori's management meets with its Executive Advisory Board to receive feedback regarding its product roadmap. This group comprises of current and former senior executives from industry giants like Boeing Global Services, GE Intelligent Platforms, Spirit AeroSystems, and PTC.

While evolving from a product standpoint,

aPriori never loses sight of its customers' perspective. Its brand maintains its North American presence while meeting customer-specific needs. Given today's landscape, Frost & Sullivan believes the company is in a prime position to increase its market share in this highly competitive digital manufacturing solutions industry.

Rapid Growth Momentum

Frost & Sullivan analysts track how aPriori is at the forefront of the fiercely competitive digital manufacturing solutions market. With a deep-rooted history of purpose-fit innovation, the company shapes the industry's trends, impacting its role in the market. The company continues to record double-digit growth year-over-year as well as accelerate adoption of its cloud-based solutions. Moreover, aPriori is strengthening its market position through various partnerships and collaborations.

⁴ Frost & Sullivan and aPriori interview. (August 2023)

In May 2023, aPriori announced it is expanding its relationships with PTC, a software-based product management and development solutions provider, to support manufacturers' environmental sustainability goals in product dematerialization and manufacturing efficiency. PTC and aPriori are pushing for greater interoperability between PTC's Windchill and aPriori's software.

Together, these solutions enable users to review designs in CAD and PLM, and generate reports for part costs, manufacturability, and environmental footprint. If changes are required, aPriori's software can generate recommendations for improvements for the designers. This process can increase the likelihood of making changes before excessive costs and footprints are committed.

Overall, Frost & Sullivan finds aPriori well-positioned to outpace its competitors due to its application breadth and depth, ease of use, and strategic approach to the market. The company's impressive growth momentum and trajectory are a testament to its product leadership, earning its clients' trust and loyalty and enabling it to capture market share.

Conclusion

To be a product leader, a company must properly understand the market's needs and deliver a solid solution designed and embedded with high-quality and reliable performance.

Frost & Sullivan finds that aPriori clearly embodies this concept and exemplifies it with best practices implementation. The company's Manufacturing Insights Platform stands apart as the only platform of its kind that optimizes products from a cost, manufacturability, and sustainability standpoint.

aPriori rounds out its value proposition with a product suite that includes easy-to-use, best-in-class solutions like aP Pro, aP Design, and aP Workspace. Moreover, the company maintains a healthy, innovative spirit through ongoing products and services enhancements.

With its strong overall performance, aPriori earns the 2023 Frost & Sullivan Global Product Leadership Award in the digital manufacturing solutions industry.

What You Need to Know about the Product Leadership Recognition

Frost & Sullivan's Product Leadership Award recognizes the company that offers a product or solution with attributes that deliver the best quality, reliability, and performance in the industry.

Best Practices Award Analysis

For the Product Leadership Award, Frost & Sullivan analysts independently evaluated the criteria listed below.

Product Portfolio Attributes

Match to Needs: Customer needs directly influence and inspire the product portfolio's design and positioning

Reliability and Quality: Products consistently meet or exceed customer expectations for performance and length of service

Product/Service Value: Products or services offer the best value for the price compared to similar market offerings

Positioning: Products serve a unique, unmet need that competitors cannot easily replicate

Design: Products feature innovative designs, enhancing both visual appeal and ease of use

Business Impact

Financial Performance: Strong overall financial performance is achieved in terms of revenues, revenue growth, operating margin, and other key financial metrics

Customer Acquisition: Customer-facing processes support efficient and consistent new customer acquisition while enhancing customer retention

Operational Efficiency: Company staff performs assigned tasks productively, quickly, and to a high-quality standard

Growth Potential: Growth is fostered by a strong customer focus that strengthens the brand and reinforces customer loyalty

Human Capital: Commitment to quality and to customers characterize the company culture, which in turn enhances employee morale and retention

About Frost & Sullivan

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The Growth Pipeline Engine™

Frost & Sullivan’s proprietary model to systematically create ongoing growth opportunities and strategies for our clients is fuelled by the Innovation Generator™.

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Key Impacts:

- **Growth Pipeline:** Continuous Flow of Growth Opportunities
- **Growth Strategies:** Proven Best Practices
- **Innovation Culture:** Optimized Customer Experience
- **ROI & Margin:** Implementation Excellence
- **Transformational Growth:** Industry Leadership



The Innovation Generator™

Our 6 analytical perspectives are crucial in capturing the broadest range of innovative growth opportunities, most of which occur at the points of these perspectives.

Analytical Perspectives:

- **Mega Trend (MT)**
- **Business Model (BM)**
- **Technology (TE)**
- **Industries (IN)**
- **Customer (CU)**
- **Geographies (GE)**

