FROST & SULLIVAN

TRENDMINER RECEIVES THE 2023 PRODUCT LEADERSHIP AWARD

Identified as best in class in the global industrial analytics 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. TrendMiner excels in many of the criteria in the industrial analytics solutions space.

AWARD CRITERIA

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

A Market Snapshot: Challenges Facing Digital Transformation

Manufacturing companies regularly look for new ways to streamline operations and increase productivity and profitability. However, with the transition to Industry 4.0 and ongoing digital transformation activities, industrial organizations seek to optimize one of their most valuable assets: data. New data grows exponentially because of the drastic increase in networking and connectivity among people and machines/devices. Businesses also grapple with massive volumes of historical data. Managing the complexity of both historical and new data, making sense of it, and translating it into critical business decisions is daunting. To this end, organizations have transitioned to convert data into actionable insights and help manufacturers identify hidden bottlenecks or unprofitable production lines, improve decision-making, and drive revenue.

However, challenges associated with real-time data access and processing, insufficient storage capabilities, technical limitations in terms of hardware and software, and lack of funding for companies to invest in upgrading their infrastructure continue to restrain the market.

Moreover, the digital industrial platforms market is highly fragmented. Competition intensifies as traditional industrial automation vendors coexist with hyperscalers, information technology firms, and disruptive technology startups. These challenges, compounded with internal restraints (e.g., talent shortage, remote operations, and resistance to new technologies), continue to impact adoption.

Based on Frost & Sullivan research, digital industrial platforms market revenue stood at $5.8 billion in 2021. Its forecast anticipates $14.21 billion in annual revenue by 2026, with a compound annual growth rate of 19.6% from 2021 to 2026.[1]

Best Practices Excellence: TrendMiner

TrendMiner is a leading provider of industrial data analytics that empowers process and asset experts with advanced analytics, without the need for full data science training. The company was acquired by Software AG in 2018. This has enabled it to leverage synergies created with Software AG's portfolio, especially hybrid integration, streaming analytics, Internet of Things platform, and data science model management. TrendMiner has specific expertise in the developing and consulting of pattern recognition and analytics functionality for the chemical, oil & gas, energy, water, food & beverages, and other process manufacturing sectors. Its customer base includes many global leaders such as Total Energies, BASF, Bayer, Lanxess, BHP, Umicore, and Pfizer. The company also covers 50% of the top 50 chemical industry companies as customers.

In 2017, Frost & Sullivan recognized TrendMiner as the Entrepreneurial Company of the Year for its disruptive technology. It remains impressed with the company's significant growth, continuing innovation, and sustained leadership.

Redefining Manufacturing Analytics

Backed by world-class subject matter experts, TrendMiner designs its analytics software to enable organizations to unlock their data's potential. The solution iteratively generates and validates real-time, context-aware time-series insights for individuals or teams. Operators leverage the software to search, diagnose, and predict anomalies. They also use it to increase process efficiency, such as performing root cause analysis, defining optimal parameters, and configuring alerts to monitor production around the clock. TrendMiner's plug-and-play software (available as-a-service, on-premises, or private cloud) adds immediate value following deployment. It eliminates expensive investments in Big Data infrastructure and long implementation projects.

Moreover, the company's software improves efficiency and quality, reduces waste and energy consumption, and optimizes production performance across business teams.

Analyze	Monitor	Predict	Contextualize	Visualize
to find root causes fast	to get early warnings	what's likely to happen	to continuously improve	for operational storytelling
Search, as easy as using Google for process behavior in the past. Diagnose by instantly finding similar behavior with use of our patented pattern recognition technology and find root causes to improve process and asset performance.	Define optimal processes and set fingerprints to monitor production. These can be used to send out automated early warnings to control room staff in case of deviations, or to capture feedback and leverage knowledge across sites.	Why react when you can predict the future instead? Use our soft sensor builder, early warning discovery or a unique model-free predictive mode to predict quality, maintenance or future evolutions of batch runs and transitions.	Context can be captured via monitors, manually added, or via business applications. Now you can illuminate your time-series data with context, to get a clear view of operational behavior and improve operational excellence faster.	Each stakeholder from "control room to boardroom" can have their own Production Cockpit complete with actionable dashboards. It provides everybody the opportunity to act and optimize operational performance before issues arise.

Source: TrendMiner

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[1] *Frost Radar™: Digital Industrial Platforms, 2022* (Frost & Sullivan October 2022)

A pioneer and transformational leader, TrendMinder has a corporate culture that revolves around using purpose to drive innovation. Its product roadmap (i.e., planning, development, and implementation strategies) incorporate client feedback. This ensures its offerings align with customers' dynamic needs. The company remains in tune with market demands through several avenues, including market analysis and customer engagement. TrendMiner values and prioritizes client feedback by offering various engagement opportunities, such as:

- In-application Make-a-wish and chat features

- Follow-ups on client ideas

- Bi-annual engagement opportunities with the product team

- Annual strategic product board with key customer representatives

- TrendMiner's TrendLab user event featuring customers, partners, and TrendMiner product experts

TrendMiner offers standard integrations with various data sources including OSIsoft PI, Yokogawa Exaquantum, AspenTech IP.21, Honeywell PHD, GE Proficy Historian, Wonderware InSQL, Cumulocity, AWS S3, SiteWise, Timestream, Microsoft ADL, ADX, TSI, and SAP S/4 HANA DMC. Frost & Sullivan commends TrendMiner for its invaluable analytics platform and finds the company well-positioned from a technology standpoint.

Continuous Enhancement

Through customer feedback and market research, TrendMiner consistently upgrades and improves its solutions to ensure it exceeds its customers' needs and performance optimally compared to the competition. The company empowers its customers to share feature recommendations through an online portal handled by TrendMiner's product management and development teams. This feature continues to generate innovative solutions that strengthen the company's software, such as TrendMiner Next Generation, the most recent iteration of the company's data exploration platform. In this update, TrendMiner reports it has implemented more than 600 feature requests, enhanced the user experience, and renewed its technology.

Additionally, the company has evolved from a self-service analytics platform for operational experts (e.g., process

Analyze
- Search
- Find
- Improve

Monitor
- Guard
- Notify
- Learn

Predict
- Warn
- Prevent
- Predict

Contextualize
- Capture
- Unlock
- Decide

Source: Frost & Sullivan

engineers) to a fully advanced industrial analytics solution for various stakeholders in a globally operating enterprise. While TrendMiner leverages pattern recognition for analyzing time-series data, it has extended this functionality with contextual data captured through monitors or third-party business
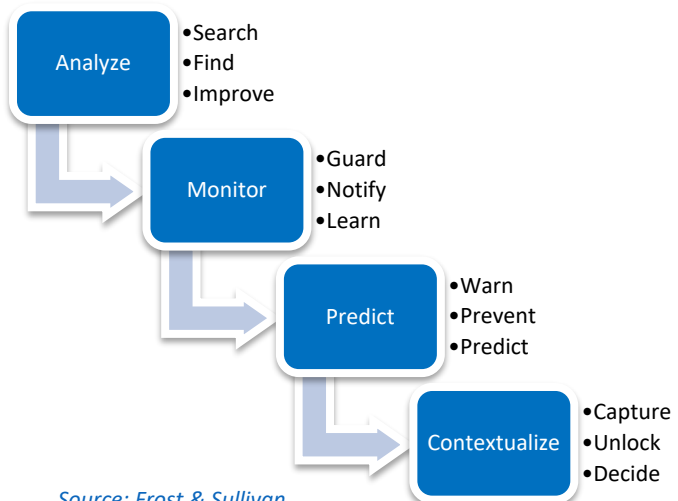
systems. Engineers get a clear view of operational performance and discover new data-driven anomalies or insights. All data analysis results are available in personal or group dashboards, optionally extended through third-party dashboard tiles.

Lastly, TrendMiner 2022.R2 includes MLHub, which allows organizations to improve collaboration between operational experts and central data science teams. The integration of Python notebooks, which first became available in the 2021.R1 release, helps solve use cases at any analytics maturity level: from simple trend viewing to extensive anomaly detection using machine learning techniques.

A Leading Position

With its best-in-class digital industrial analytics platform, TrendMiner addresses an unmet market need that competitors cannot easily replicate. The company specifically targets large process manufacturing companies, many of which face challenges related to sustainability, rising energy costs, overall resource scarcity (including personnel), and other pressures in many volatile markets. More important, these organizations are confronted with novel "solutions" that create even more challenges for their digitalization journey.

> *"TrendMiner's plug-and-play software (available as-a-service, on-premises, or private cloud) adds immediate value following deployment. It eliminates expensive investments in Big Data infrastructure and long implementation projects."*
>
> *- Samantha Fisher,*
> *Best Practices Research Analyst*

TrendMiner understands the stress involved in digital transformation and focuses on creating a seamless, end-to-end customer experience. It builds its platform with unique features to address customer needs. These include advanced data visualization, contextual data analysis, advanced analytics, ML, customizable workflows, automated data analysis, and multi-language support.

Moreover, TrendMiner attests its direct competitors or other similar products do not offer these features, setting the company apart in the market. It offers a variety of solutions and use cases to address market and customer pain points within the industrial process sector, such as predictive maintenance, process optimization, energy management, real-time monitoring, root cause analysis, and automated data analysis. These solutions help clients improve operations, reduce downtime, and increase efficiency and productivity.

Operational Strategies Promote Company Growth

With its product-led customer-focused strategy, TrendMiner consistently brings to market best-in-class products that deliver proven results. The company empowers manufacturing operations teams with best-in-class solutions designed to generate and validate real-time context-aware time-series insights iteratively. TrendMiner developed its platform with easy trend visualization, search, filter and ad-hoc calculations, diagnostic, contextual, and predictive analytics capabilities that enable rapid root cause analysis, define optimal process performance, and configure alerts for its 24/7 production monitoring. This technology allows operational experts to make data-driven decisions and directly contribute to improved operational excellence, production quality and safety, sustainability business objectives, and profitability.

While evolving from a product standpoint, TrendMiner never loses sight of its clients' perspectives. The

company's brand maintains its global presence while meeting customer-specific needs. As a leader in process-mining and time-series analytics software, TrendMiner has garnered a strong reputation for developing and deploying solutions designed to optimize industrial operations and drive business performance.

In previous years, TrendMiner positioned itself as a self-service advanced analytics provider for process engineers; however, as of 2023, the company is a complete advanced industrial analytics platform provider for all operational stakeholders, including control and board rooms, local operational teams, and central analytics teams. Finally, TrendMiner leverages its thought leadership, communications (e.g., press releases, articles, blog posts, webinars, trade show appearances, and more), and related campaigns to position itself and evolve its market perception.

The Road Ahead

TrendMiner demonstrates high-growth potential. The company is well-positioned in the market with an industry-leading product that provides tremendous value in high-demand sectors. TrendMiner reports much of its growth potential stems from the size and growth of the market, economic conditions, technological advancements, and industry trends. The company reports significant growth potential, especially backed by Software AG, which helps TrendMiner remain agile in changing market conditions. The acquisition by Software AG gives TrendMiner substantial support, financially and operationally, while providing clients with continuity and trust.

> *"TrendMiner'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. Given today's landscape, Frost & Sullivan believes the company is in a prime position to increase its market share in the highly competitive industrial analytics solutions industry."*
>
> *- Sebastián Trolli,*
> *Sr. Industry Analyst, Industrial Technologies*

TrendMiner's most recent developments involving context analytics and supporting its customers in industrializing ML into their operations demonstrates the company's agility. Moreover, the company's strategic partnerships with technology giants (e.g., Amazon Web Services, Microsoft, SAP, GE Digital, OSISoft) help it to expand its market footprint, forecasting its growth potential between 20% and 30% in annual recurring revenue. The company leverages a land-and-expand approach to growth, starting small via pilot projects and scaling fast based on proven value. Within this approach, TrendMiner guides its customers throughout the onboarding process, beginning with industrial analytics education through adoption and growth within the customer's organization. For 2022, TrendMiner reports it has more than 150 logos (i.e., companies using its platform), 7,000 users, and over 700 plants. The company started 2022 by announcing two new strategic partnerships and a 40% increase in monthly active users.

TrendMiner'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. Given today's landscape, Frost & Sullivan believes the company is in a prime position to increase its market share in the highly competitive industrial analytics solutions industry.

Conclusion

To be a product leader, a company must understand the market's needs and deliver a solid solution designed and embedded with high-quality and reliable performance. Frost & Sullivan finds that TrendMiner embodies this concept and exemplifies it with best practice implementation. The company is a leading process-mining and time-series analytics software provider with a solid reputation for delivering innovative solutions, enabling customers to optimize their operations and drive business performance. The company demonstrates its proven track record of success by its ever-growing customer acquisition and industry recognition. TrendMiner designs its solutions to help customers extract valuable insights from complex data and are known for their ease of use, scalability, and ability to deliver meaningful results. Moreover, the company maintains a culture of innovation, driven by a strong team and a focus on advancing the industry.

For its strong overall performance, TrendMiner is recognized with Frost & Sullivan's 2023 Global Product Leadership Award in the industrial analytics 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

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About Frost & Sullivan

Frost & Sullivan is the Growth Pipeline Company™. We power our clients to a future shaped by growth. Our Growth Pipeline as a Service™ provides the CEO and the CEO's growth team with a continuous and rigorous platform of growth opportunities, ensuring long-term success. To achieve positive outcomes, our team leverages over 60 years of experience, coaching organizations of all types and sizes across 6 continents with our proven best practices. To power your Growth Pipeline future, visit Frost & Sullivan at http://www.frost.com.

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™.

Learn more.

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)**