FROST & SULLIVAN

DRISHTI

2022 TECHNOLOGY INNOVATION LEADER

North America
AI-powered Video Analytics
for Manufacturing 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. Drishti Technologies excels in many of the criteria in the AI-powered video analytics for manufacturing industry.

Innovating Human Performance

Mountain View, California-headquartered Drishti Technologies (Drishti) leverages AI-powered computer video analysis to assist manufacturing companies in streamlining workflows. The firm focuses on developing and building solutions with cutting edge technologies for production companies, intended to support defect reduction, process monitoring and optimization, remote visibility, and collaboration. Despite the growing use of modern technologies, such as artificial intelligence (AI) and machine learning (ML) in the manufacturing industry, digital transformation remains in flux. Manufacturers continue to encounter supply chain issues and product defects, interfering in the goal of just-in-time, in-sequence, and on-demand production. However, legacy technology renders root cause discovery almost impossible.

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>
> ***- Samantha Fisher, Best Practices Research Analyst***

Additionally, the COVID-19 pandemic revealed weaknesses in various industries and served to propel remote access and digital transformation from a growing trend to critical need status. As a result, several firms continue to invest in new and relevant technology solutions to drive operational efficiency, reduce costs, and increase quality. Drishti

targets the relatively unaddressed manual assembly lines with its leading-edge technologies, uniquely optimizing plants.

While the competition focuses solely on assets and machines, Drishti looks at the interactions between people and systems. To this end, the company empowers its clients with Drishti Trace (Trace), a standalone video capturing solution that provides visibility into all stations in assembly lines. Trace also enables various use cases, including remote visibility to the entire assembly process, a video database with searching capabilities, and video materials for training purposes. Drishti builds on this keen technology through Drishti Flow (Flow), which adds an AI layer that enables advanced performance analytics for Trace. Specific use cases include bottleneck identification, cycle time measurement, and line performance improvement. Trace delivers a rich data set that Flow analyzes, enabling the customer to improve productivity and quality. Additionally, Drishti Assist (Assist) extends the AI capabilities by detecting and validating specific process steps within the individual cycles that Flow measures, all in real-time. An example of Assist's uses is as a Digital poka-yoke that provides a continuous analysis of the standardized work process and, like a spell checker, assists the line associates in accurately and efficiently doing their work. Drishti's solutions are also very easy to deploy, requiring less than 90 days for setup and installation.

Enabling Digitally Lean Processes

Drishti designed Trace and Flow to contribute to the digital lean, a methodology that builds on Toyota's "lean" principle and extends it to include digital transformation technologies, analytics, and management practices. The company identifies AI as a critical facet to digital lean as it provides manufacturers a means to capture data on manual assembly. By integrating and implementing this powerful technology, Drishti improves three essential areas of digital manufacturing: quality, speed, and cost.

Quality

To improve quality, Drishti focuses on holistic video traceability and in-line quality inspection while also mitigating human error in the end-of-line inspection process. The company also designed its platform to identify bottlenecks, analyze cycle time measurement, and improve line performance. The company leverages *genba*, which translates to the factory floor in manufacturing. Trace provides remote genba view through the live streaming video available for remote viewing, no-click recording and storage, and rewind, which replays videos based on various search parameters, including data, time, and location. The solution also offers video search and share, tagging, training, and annotation. Flow adds analytics to Trace's video features to provide keen insights into how and why an event (e.g., deviation) occurred.

Speed

Digital lean also focuses on the efficiency with which a vendor ships high-quality parts to the customer. Drishti provides rapid delivery through its AI-enabled automated optimization in areas such as order fulfillment, inventory, and demand planning. Drishti's AI-based platform streamlines the manufacturing process by identifying areas of improvement and bottlenecks, which means production cycle length shortens, resulting in quicker shipping times and positive customer experiences. Drishti's technology also enables flexible manufacturing, which is important, specifically since the 2020 emergence of the COVID-19 pandemic, which increased demand for remote work.

Cost

Drishti delivers cost-efficiency through overall equipment effectiveness (OEE) and overall production effectiveness. The company enables its customers to improve their manufacturing processes continuously and automatically through AI and ML. These technologies learn from the video and process data and provide keen insights and analytics via the Drishti platform. Drishti also supports cost reduction through the training opportunities provided by Trace, which includes video sets and playlists, side-by-side video comparison to identify non-standard practices, instructional content builder for classroom settings, and shared curated content for operator guidance. Flow carries on this trend with advanced spot training (videos available on the line, rapid and collaborative performance resolution) and in-station feedback on cycle time performance.

Frost & Sullivan finds Drishti's digital lean processes reduce waiting time, enabling the company to achieve greater transparency than many competing technologies. Moreover, the company's Trace and Flow solutions streamline production and eliminate non-value-added processes and excess spending across multiple production lines.

Use Case Flexibility

Drishti provides keen flexibility when it comes to use-cases for its technology. To this end, the company's Trace and Flow are equally applicable to various industries, including automotive, medical device, and industrial.

Case Study: Hella

Hella, a global Tier 1 automotive supplies manufacturer, approached Drishti to discover areas of optimization in its processes. The company deployed 12 Drishti video streams with both tiers of Drishti software (Trace and Flow), focusing on several areas, such as line variability. Overall, Hella's team saw a 7% decrease in cycle times, a 5% increase in productivity, and a 4% increase in OEE. As the manufacturer expands in areas such as China, Eastern Europe, and Mexico, it plans to increase its Drishti deployment.

Case Study: A Global Medical Device Manufacturer

This global leader in structural heart disease decided to transfer the production of certain medical products from its main United States-based site to lower-cost areas. Line transfer projects require significant monetary and time investment, as well as the required knowledge-base at the receiving facility. The customer deployed Trace to document this process at the sending site, benchmark its replication at the receiving site, and facilitate new line associate training. The accelerated learning enabled the client to save time and costs by shortening the line transfer process, and minimizing production interruptions.

Case Study: American Tool Manufacturer

An American tool manufacturer approached Drishti to streamline its testing process to provide safety and durability, and to identify and rectify problems before going to market. The customer deployed Trace to increase testing speeds while achieving thorough and deliberate testing. As a result, Trace enabled the manufacturer to exceed quality expectations, streamline new product introduction, andincrease market share.

Strategic Best Practices and Growth

Founded by Akella, Gupta and Chaudury, Drishti has built and deployed its tech in 30 customers in automotive, medical device, and electronics. In July 2021, the company appointed Gary Jackson as chief executive officer to build out its marketing, sales, and service approaches. In September 2021, the company also on-boarded Dave Berg (vice president of product strategy), Marie Alexander (vice president of customer success), and Scott Foote (chief security officer), which, when combined, bring over 50 years of experience in areas like technology leadership to Drishti. As of 2021, the company has about 160 people working on everything from sales and marketing to product building, with additional 65-80 team members that help annotate the data for training. By retaining knowledgeable staff, Drishti ensures it creates innovative products that solve critical and emerging customer needs. The company's product team continues to develop technology for consistent use by operations, quality, and management teams, simplifying their day-to-day processes and providing a better understanding of occurrences on the line. Frost & Sullivan applauds Drishti for its commitment and dedication to the improvement of manual assembly line processes.

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>
> ***- Doraiswamy Bharath, Industry Analyst***

Thus far, Drishti continues to receive positive word-of-mouth responses from existing customers to their peers in the market. The company also focuses on increasing its marketing efforts, particularly in its three target areas (automotive, medical device, and electronics). As the world fully recovers from the COVID-19 pandemic, Drishti aims to leverage its relationships with existing clients combined with robust marketing strategies to attract new business. This approach also builds on another critical focus for the company: geographic footprint expansion. While currently headquartered in North America, Drishti's goal is to expand across the globe in Korea, India, and Japan. To this end, the company collaborates with key investors, like Presidio Ventures, Hella Ventures, and Sozo Ventures. It also pursues opportunities in Europe. As of 2021, the company's financial backing provides a robust foundation of about $37 million, with support from firms like Toyota AI Ventures and Sozo Ventures playing an active role in expanding Drishti's presence in Japan.

Conclusion

Despite automation proliferation in the manufacturing industry, human workers still provide the heavy lifting for manual assembly lines. Manufacturers continue to encounter issues regarding supply chain and product defects; however, traditional visibility technology renders root cause discovery almost impossible. Drishti Technologies (Drishti), a California-based company, leverages artificial intelligence (AI) and machine learning to streamline workflows for manual assembly lines through its Drishti Trace and Drishti Flow solutions, a combination of video and analytics that offer insights into issues on the line. The company continues to prove the excellence of its technology through various use cases, which deliver robust benefits to clients. Moreover, Drishti keeps an innovation focus, enabling it to create next-generation technology to support the client and their workers.

For its dedication to digital lean processes in manual assembly lines, best-in-class technology, and strong overall performance, Drishti earns Frost & Sullivan's 2022 North American Technology Innovation Leadership Award in the AI-powered video analytics for manufacturing market.

What You Need to Know about the Technology Innovation Leadership Recognition

Frost & Sullivan's Technology Innovation Leadership Award recognizes the company that has introduced the best underlying technology for achieving remarkable product and customer success while driving future business value.

Best Practices Award Analysis

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

Technology Leverage

Commitment to Innovation: Continuous emerging technology adoption and creation enables new product development and enhances product performance

Commitment to Creativity: Company leverages technology advancements to push the limits of form and function in the pursuit of white space innovation

Stage Gate Efficiency: Technology adoption enhances the stage gate process for launching new products and solutions

Commercialization Success: Company displays a proven track record of taking new technologies to market with a high success rate

Application Diversity: Company develops and/or integrates technology that serves multiple applications and multiple environments

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™

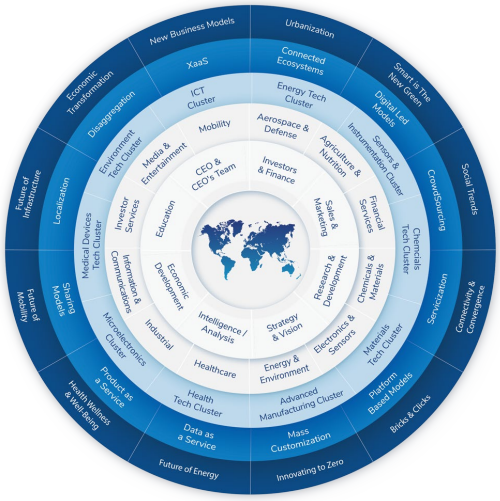
Frost & Sullivan's proprietary model to systematically create ongoing growth opportunities and strategies for our clients is fuelled by the Innovation Generator™.
Learn more.

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)