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BEST PRACTICES

AWARDS

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2020 BEST PRACTICES AWARD



GAINSystems

Think of Everything... Optimally

**2020 NORTH AMERICAN SUPPLY CHAIN
PLANNING & OPTIMIZATION SOLUTIONS FOR MRO
TECHNOLOGY INNOVATION LEADERSHIP AWARD**

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Background and Company Performance

Industry Challenges

Long lead times, high costs, multiple sources for the same part, and random and low-volume part usage patterns make supply chain planning (SCP) for maintenance, repair, and operations (MRO) a complex task. In addition, global supply chain operating models, interaction with a broad, diverse, and complex set of channel partners in the value chain, and expansion into new markets and segments make the challenges facing SCP for MRO companies that more daunting.

Overall, the goal is to increase service parts sales, ensure repair parts availability, reduce inventory investment, lower operating costs, reduce carrying/handling costs, and increase the quality of service levels. However, ineffective, time-consuming, and labor-intensive manual planning efforts hinder these goals. For example, conventional strategies such as Excel- or enterprise resource planning (ERP) rules-based procedures and standalone planning solutions are inadequate due to these reasons. Furthermore, standalone solutions do not integrate well.

Successful solution providers must offer a comprehensive approach that enables a simple integration with other systems, thereby reducing information technology (IT) involvement, ensuring quick implementation, and eliminating the need for additional software.

As MRO companies evolve, they need not only a vendor but also supply chain experts who will offer a comprehensive, leading-edge planning and optimization solution with built-in MRO industry-specific functions to tackle the aforementioned challenges and secure market leadership.

Technology Leverage and Business Impact

GAINSystems, a technology pioneer in the optimization of supply chains for over 45 years, primarily focuses on advanced planning and inventory optimization. The company's General Adaptive Inventory Solution (GAINS), a multi-echelon SCP software solution, offers supply chain optimization, demand planning and forecasting, inventory optimization, replenishment/production optimization, and sales, inventory, and operations planning (SI&OP). As a fully-integrated and holistic SCP optimization solution for the MRO sector, GAINS enables MRO companies to run their entire supply chain from just one place. Standalone competing solutions, on the other hand, are neither comprehensive nor do they take into account all of the parameters and costs across an MRO organization to profit-optimize their supply chain.

How It Works

GAINS helps customers plan appropriate inventory policies by employing a dynamic selection of forecast models, thus automatically enabling the selection of the most plausible approach from 40 different statistical models. The result is an optimal forecast for each SKUL (SKU/part by location), whereas most competing solutions use stationary and, hence, inaccurate forecasting techniques for all types of items/parts. As an optimization solution powered by methods such as dynamic, budget-or-profit-optimized inventory policies and exception-based replenishment planning, GAINS is loaded with

purpose-built functions such as independent demand forecasting, item supersession, inventory classification, constrained service level optimization, bill of material (BOM) planning, and part/repair process optimization to address the common challenges prevalent in the MRO sector. GAINSystems' powerful, built-in advanced analytics, stochastic models, and proprietary algorithms provide MRO companies with a new level of decision support to dynamically optimize the various complexities inherent in supply chain interdependencies and enable the achievement of targeted service levels, maximized margins, and minimized costs.

Frost & Sullivan research reveals that GAINSystems' innovation leadership is evident based on the company's ever-evolving solutions and capabilities. GAINSystems is heavily committed to advancing its solutions, and invests a third of its budget into research and development (R&D). Specific innovations include:

- *Increased Scalability:* GAINSystems is making significant improvements in terms of scalability; hence, the company can currently accommodate tens of millions of SKUs (50+ million planning records). The company has also made an order-of-magnitude improvement in speed, leading to a 90% reduction in core processes and run times that subsequently improve simulation and on-demand processing capabilities. As GAINSystems can efficiently streamline demand and replenishment planning down from two hours to as low as 15 minutes, the additional bandwidth opens up room to add more advanced functions. For example, in the past advanced capabilities such as machine learning (ML) and multi-echelon inventory optimization (MEIO) that were relegated to weekend runs only can now be run throughout the week. The abovementioned speed and scale improvements also allow GAINSystems more efficient failover recoveries.
- *Packaged ML/AI Applications:* Over the past few years GAINSystems has been focused on allowing its user base to utilize ML capabilities for various applications like workflow automation, replenishment suggestions (i.e., auto-approval for purchase and replenishment orders), outlier detection, and nearest neighbor matching. Nearest neighbor matching is a unique process capability that identifies previous/old items that are similar to a given new item, and is subsequently configured by the user to search for similar items within a user-defined population.
- A major tier 1-automotive OEM's aftermarket applications division uses GAINSystems' nearest neighbor matching capabilities to great effect. For instance, this functionality assists the company with their planning purposes i.e. to identify previous parts of old models that match with new parts of new models.
- *A Supply Chain Optimization Network:* This network provides customers with multi-enterprise viewing and access to various upstream and downstream data. Unlike competitors who only provide demand sensing, GAINSystems also focuses on supply sensing to offer more accurate risk assessment. For instance, if a particular supplier has a disruption because of some type of disaster, the GAINSystems can model that disruption as well as provide customers with a risk exposure assessment that includes recovery timelines.

- *Sales, inventory, and operations planning (SI&OP):* One of the primary capabilities or applications of SI&OP is the ability to create workflows with multi-party stakeholders as well as alert and notification capabilities. GAINSystems' workflow creator was rolled out three years ago but the company has been improving it incrementally, making it more robust and flexible. Keeping in mind that there is a business need for a sequential review process involving multiple parties, the offering allows users to create, assign, and audit subsequent tasks before finalizing or submitting them. The company's workflow creator also utilizes business process elements. As a result, users can create different workflows using varying process elements and decisions or steps (either of which can be automated or user-driven and which include notifications to participants). The workflow creator is useful not only for SI&OP but also for general aftermarket and MRO applications. A multi-national energy giant is using workflow creator for its parameter reviews, and employs a two-tiered approval process whereby inventory controllers manage parameters and, if changes are made beyond a certain threshold, managers are subsequently notified for review and approval.
- *Advanced order delivery assurance* allows companies to analyze the ramifications of a large repair or customer order through all BOM levels and the full distribution network, determine what the downstream dependencies are, and understand where any deficiencies may be in terms of their ability to support that order. Advanced order delivery assurance also provides different views that allow users to dig into the details impacting a particular order.
- *On-demand assembly configuration/ page configuration by end users:* GAINSystems' browser-based user interface is modular and flexible due to the use of codeless configuration. The user-friendly approach eliminates the need to hire expensive software developers or coders to make changes to the user interface. Instead, non-technical users can quickly make changes or configure components in real-time without specialized assistance. Different components in the user interface (e.g., graphical components, inspector components, or data grids) are referred to as assemblies and come straight out of the box. However, users can easily modify the assemblies on the front end by right-clicking the customize option.

Overall, Frost & Sullivan applauds GAINSystems' focus on incorporating state-of-the-art functionalities so that its solutions are on par with, or exceeding, industry requirements.

Business Impact

Frost & Sullivan believes that the aforementioned value propositions contribute to the exciting growth momentum GAINSystems is experiencing across the organization. Specifically:

- *Organizational expansion alongside a focus on sustainable growth:* 2019 represented 40% growth for GAINSystems and the company is focusing on making that growth sustainable through various measures including ramping up its organizational expansion, e.g., creating new roles and practices such as a SI&OP practice. GAINSystems also expanded its professional and customer service team

by roughly 40% and is focused on bolstering its training tools (e.g., video tutorials), internal knowledge management, and documentations for both new analysts and customers. The company's software engineering team also increased by 25%. Overall, GAINSystems is focusing not only on bringing new folks onboard but also on provisioning new tools for efficiency improvement.

- Offering hosting and application management services: Three years ago GAINSystems transitioned from a licensing to a subscription-based model, and plans to fully migrate its current licensees to subscribers within a few years. The company's subscription components include unlimited user support, application management such as identification and diagnosis of processing issues, database back-up & restoration, cloud hosting via Microsoft Azure, GAINSystems' primary hosting partner, and continuous improvement services such as proactive health checks and training to ensure customers are maximizing their return on investment. With offices across the globe GAINSystems can proactively respond to issues. Furthermore, the company's improved scalability measures include incorporating self-healing methods such as event monitoring and dashboards, active resolution, and early warning mechanisms to ensure ongoing support, performance, and uptime.
- Increasing customer base and customer success: GAINSystems has as an impressive set of 150+ customers and, in 2019 alone, added 23 new subscribers across multiple verticals and geographies. Some of its leading customers include Sysmex, JP Gould, Menards, and BIC Graphic. Frost & Sullivan independent analysis confirms that the aspect of GAINS that delivers some of the greatest customer value for MROs is ensuring the continuous availability of parts. As a result, end users are assured of increased service parts sales, improved customer service, decreased inventory investment and operating costs, a reduction in stock-outs, and, finally, the knowledge that no system becomes out of service due to a lack of parts availability.
- Customer success: Noteworthy clients expanding their use of GAINSystems' solutions include a multi-national energy giant and a leading industrial automation and technology company. For example, since implementing a limited rollout of GAINSystems' technology in 2017 to address MEIO across their raw materials, finished goods, and distribution network, this industrial automation company has gone on to expand the use of GAINS across its organization. For example, in 2018 GAINSystems worked with this industrial automation provider on demand sensing and supply risk applications. In 2019, the company leveraged GAINSystems for their supply planning and capacity planning and in 2020 GAINSystems expanded into their aftermarket group (i.e., the customer service and MRO groups). The multi-national energy company implemented GAINSystems' solutions for their spare parts MRO planning. Currently, this energy company's Australia-based operations are looking to expand GAINS across twelve additional business units. Graybar, although not specifically a MRO customer, shares many of the same challenges (e.g., sporadic demand) that MRO clients do. With millions of SKUs and

\$600 million worth of inventory, Graybar leverages GAINS for forecasting, setting inventory parameters, and stock replenishment. Graybar did a large-scale implementation and, within a year, the company achieved powerful benefits such as reducing days on hand from 70 to 60 and increasing material availability from 87% to 92%.

Currently, the company's areas of focus in 2020 and beyond is to deepen optimization through extended AI (i.e. evolutionary algorithms for multi-echelon optimization); leveraging emerging ML and advanced analytics capabilities to enhance demand sensing and planning automation, and the inclusion of weather, sensor and macroeconomic data for better prediction and optimization models.

Conclusion

In an increasingly complex marketplace, Maintenance, Repair & Operations (MRO) companies need comprehensive Supply Chain Planning (SCP) solutions to meet budget requirements, increase service parts sales, ensure repair parts availability, lower operating costs, and improve service level quality. GAINSystems' cutting-edge GAINS solution is a fully-integrated SCP optimization platform that leverages artificial intelligence, machine learning, and advanced analytics to provide superior capabilities to MRO clients. With the ability to significantly increase scalability and speed through innovative features such as nearest neighbor matching, advanced order delivery assurance, and on-demand page configuration, GAINSystems leverages decades of expertise to further enhance its customer value proposition and growth potential. For its strategic client-centric offerings, technical excellence, and powerful value proposition, GAINSystems is recognized with Frost & Sullivan's 2020 Technology Innovation Leadership Award.

Significance of Technology Innovation Leadership

Technology-rich companies with strong commercialization strategies benefit from the demand for high-quality, technologically innovative products that help shape the brand, resulting in a strong, differentiated market position.



Understanding Technology Innovation Leadership

Technology innovation leadership recognizes companies that lead the development and successful introduction of high-tech solutions to customers' most pressing needs, altering the industry or business landscape in the process. These companies shape the future of technology and its uses. Ultimately, success is measured by the degree to which a technology is leveraged and the impact it has on growing the business.

Key Benchmarking Criteria

For the Technology Innovation Leadership Award, Frost & Sullivan analysts independently evaluated 2 key factors—Technology Leverage and Business Impact—according to the criteria identified below.

Technology Leverage

Criterion 1: Commitment to Innovation

Requirement: Conscious, ongoing development of an organization's culture that supports the pursuit of groundbreaking ideas through the leverage of technology.

Criterion 2: Commitment to Creativity

Requirement: Employees rewarded for pushing the limits of form and function by integrating the latest technologies to enhance products.

Criterion 3: Technology Incubation

Requirement: A structured process with adequate investment to incubate new technologies developed internally or through strategic partnerships.

Criterion 4: Commercialization Success

Requirement: A proven track record of commercializing new technologies by enabling new products and/or through licensing strategies.

Criterion 5: Application Diversity

Requirement: The development of technologies that serve multiple products, multiple applications, and multiple user environments.

Business Impact

Criterion 1: Financial Performance

Requirement: Overall financial performance is strong in terms of revenue, revenue growth, operating margin, and other key financial metrics.

Criterion 2: Customer Acquisition

Requirement: Overall technology strength enables acquisition of new customers, even as it enhances retention of current customers.

Criterion 3: Operational Efficiency

Requirement: Staff is able to perform assigned tasks productively, quickly, and to a high quality standard.

Criterion 4: Growth Potential

Requirements: Technology focus strengthens brand, reinforces customer loyalty, and enhances growth potential.

Criterion 5: Human Capital

Requirement: Company culture is characterized by a strong commitment to customer impact through technology leverage, which enhances employee morale and retention.

Best Practices Recognition: 10 Steps to Researching, Identifying, and Recognizing Best Practices

Frost & Sullivan analysts follow a 10-step process to evaluate award candidates and assess their fit with select best practices criteria. The reputation and integrity of the awards are based on close adherence to this process.

STEP	OBJECTIVE	KEY ACTIVITIES	OUTPUT
1 Monitor, target, and screen	Identify award recipient candidates from around the world	<ul style="list-style-type: none"> • Conduct in-depth industry research • Identify emerging industries • Scan multiple regions 	Pipeline of candidates that potentially meet all best practices criteria
2 Perform 360-degree research	Perform comprehensive, 360-degree research on all candidates in the pipeline	<ul style="list-style-type: none"> • Interview thought leaders and industry practitioners • Assess candidates' fit with best practices criteria • Rank all candidates 	Matrix positioning of all candidates' performance relative to one another
3 Invite thought leadership in best practices	Perform in-depth examination of all candidates	<ul style="list-style-type: none"> • Confirm best practices criteria • Examine eligibility of all candidates • Identify any information gaps 	Detailed profiles of all ranked candidates
4 Initiate research director review	Conduct an unbiased evaluation of all candidate profiles	<ul style="list-style-type: none"> • Brainstorm ranking options • Invite multiple perspectives on candidates' performance • Update candidate profiles 	Final prioritization of all eligible candidates and companion best practices positioning paper
5 Assemble panel of industry experts	Present findings to an expert panel of industry thought leaders	<ul style="list-style-type: none"> • Share findings • Strengthen cases for candidate eligibility • Prioritize candidates 	Refined list of prioritized award candidates
6 Conduct global industry review	Build consensus on award candidates' eligibility	<ul style="list-style-type: none"> • Hold global team meeting to review all candidates • Pressure-test fit with criteria • Confirm inclusion of all eligible candidates 	Final list of eligible award candidates, representing success stories worldwide
7 Perform quality check	Develop official award consideration materials	<ul style="list-style-type: none"> • Perform final performance benchmarking activities • Write nominations • Perform quality review 	High-quality, accurate, and creative presentation of nominees' successes
8 Reconnect with panel of industry experts	Finalize the selection of the best practices award recipient	<ul style="list-style-type: none"> • Review analysis with panel • Build consensus • Select recipient 	Decision on which company performs best against all best practices criteria
9 Communicate recognition	Inform award recipient of recognition	<ul style="list-style-type: none"> • Announce award to the CEO • Inspire the organization for continued success • Celebrate the recipient's performance 	Announcement of award and plan for how recipient can use the award to enhance the brand
10 Take strategic action	Upon licensing, company is able to share award news with stakeholders and customers	<ul style="list-style-type: none"> • Coordinate media outreach • Design a marketing plan • Assess award's role in strategic planning 	Widespread awareness of recipient's award status among investors, media personnel, and employees

The Intersection between 360-Degree Research and Best Practices Awards

Research Methodology

Frost & Sullivan's 360-degree research methodology represents the analytical rigor of the research process. It offers a 360-degree view of industry challenges, trends, and issues by integrating all 7 of Frost & Sullivan's research methodologies. Too often companies make important growth decisions based on a narrow understanding of their environment, resulting in errors of both omission and commission. Successful growth strategies are founded on a thorough understanding of market, technical, economic, financial, customer, best practices, and demographic analyses. The integration of these research disciplines into the 360-degree research methodology provides an evaluation platform for benchmarking industry players and for identifying those performing at best-in-class levels.

360-DEGREE RESEARCH: SEEING ORDER IN THE CHAOS



About Frost & Sullivan

Frost & Sullivan, the Growth Partnership Company, helps clients accelerate growth and achieve best-in-class positions in growth, innovation, and leadership. The company's Growth Partnership Service provides the CEO and the CEO's growth team with disciplined research and best practice models to drive the generation, evaluation and implementation of powerful growth strategies. Frost & Sullivan leverages nearly 60 years of experience in partnering with Global 1000 companies, emerging businesses, and the investment community from 45 offices on 6 continents. To join Frost & Sullivan's Growth Partnership, visit <http://www.frost.com>.