



NUCLEUS
RESEARCH

SUPPLY CHAIN PLANNING TECHNOLOGY VALUE MATRIX 2022

ANALYST

Isaac Gould

THE BOTTOM LINE

Supply shortages, labor shortages, geopolitical disruptions, and demand fluctuations still plague global supply chains. Organizations require technology to prepare for these unforeseen disruptions. As a result, Supply Chain Planning (SCP) solutions take center stage as businesses seek to drive efficiencies and impart greater resilience throughout their supply chain processes. With increased adoption across the board, SCP vendors are investing in research and development at unprecedented rates. Customers can expect enhancements to machine learning decision-making, multi-tier supplier networks, and signal detection. Vendors also compete on usability, offering accelerated implementation methodology and Sales & Operational Planning collaboration tools.



MARKET OVERVIEW

Competition within the SCP market has reached a fever pitch. With unforeseen labor shortages, supply shortages, demand fluctuations, and evolving geopolitical events, organizations turn to technology to adapt to market disruptions. Specifically, organizations seek supply chain planning solutions to forecast demand at granular levels across weekly to multi-year time horizons; manage supplier collaboration and replenishment planning; optimize

inventory and allocation; design channel and distribution plans; and implement Sales and Operational Planning (S&OP) strategies.

With high customer expectations for on-time in full (OTIF) deliveries bleeding into the business-to-business (B2B) world, agility is paramount. Businesses need to react to disruption events within hours. The SCP solution must detect the occurrence before supply chain planners can be notified of a disruption, which requires extensive external and internal data streams. SCP solutions address the external factor by sourcing transportation, weather, commodity pricing, and global trade data either through dedicated teams or partnerships. Internal data sources should be consolidated in a single system of record from across the entire organization. As such, ease of integration with ERP, CRM, TMS, WMS, and other systems depending on the business, such as Point of Sale solutions for retailers, are key differentiators. With accurate real-time data, SCP solutions can detect, predict, and alert supply chain managers to stockouts or production delays.

Leading SCP vendors have been offering AI-driven predictive analytics and prescriptive suggestions capable of replacing human decision-making to manage regular fluctuations in demand and supply for years. People, however, have been slow to trust black-box approaches to AI/ML methodologies. Therefore, vendors have been pushing out more transparent ML capabilities that give context to the decisions of their systems, displaying parameter weights and the leveraged data.

Recently Nucleus has observed a marked increase in the adoption of AI functionality among end-users as ML-generated forecasts routinely outperform traditional statistical models, which rely on historical data that is no longer relevant. Given daily orders in the tens of thousands, if not more, large enterprises have often leveraged AI decision-making for uses cases such as alternative suppliers and route selection. SMBs also stand to benefit from similar capabilities to bolster their smaller team sizes as they grow to manage a larger volume of work orders without increasing headcount.

In this Technology Value Matrix, Nucleus evaluated supply chain planning vendors based on their delivery of value to customers through the functionality and usability of the software (Nucleus Research s142 – Understanding the Value Matrix, September 2018). Capabilities considered included sales and operations planning, integrated business planning, demand planning and sensing, supply planning, scheduling, logistics management, inventory planning and optimization, capacity planning, and what-if scenario analysis. Customer value is the most important factor in Nucleus evaluations of vendor offerings and can take many forms depending on company size, industry, and adopted use cases for the software. The research is intended to serve as a snapshot of the SCP technology market, help inform customers about how vendors are delivering, and take stock of what can be expected in the future based on present investments.

LEADERS

BLUE YONDER

Blue Yonder is a leader in this year's Supply Chain Planning Value Matrix. Blue Yonder is a SaaS-delivered supply chain management platform used by approximately 3,000 large enterprise customers.

The vendor offers its Luminate platform to provide users with real-time data for end-to-end supply chain synchronization, helping organizations make better business decisions faster. Blue Yonder solutions allow users to leverage risk detection and course correction to respond to supply chain disruptions early with ML predictions, and users can leverage the mobile app to access the platform while in the field. The solution also provides AI and ML functionality to support demand forecasting and supply planning. Leveraging the Luminate Platform, companies can create customized models that fit their businesses and even bring in their own analytics and ML algorithms from third-party systems. Users gain increased end-to-end visibility with tailored dashboards to display configurable KPIs that best match their business to react to market trends faster. The vendor also offers users a partner advantage portal and network, where companies deploying Blue Yonder can collaborate directly with suppliers, distributors, and other trading partners from multiple tiers.

In recent years, Blue Yonder has improved the user experience to offer planners the ability to collaborate on scenarios and accelerate decision-making processes with persona-driven dashboards and digital situation rooms. Decision-making has been improved by investments in optimization engines that provide speed and higher quality plans that enable planners to be more agile and to better anticipate disruptions in the supply chain. New ML-driven inventory segmentation based on supervised and unsupervised techniques allows organizations to align market changes and inventory decisions. Furthermore, target service levels can be adjusted by segments.

Blue Yonder appeals to customers looking to gain more supply chain visibility by providing prepackaged industry workflows. By leveraging Blue Yonder, users can gain more insight into how their decisions affect KPIs. Luminate Platform's scalability and Luminate Control Tower's functionality in supply chain planning and management are key value drivers and often cited by customers during the selection process.

WOLTERS KLUWER CCH TAGETIK

Wolters Kluwer is a leader in the 2022 SCP Technology Value Matrix, recognized for its acquisition of Vanguard, a leading SCP solution in the previous year's Value Matrix. CCH Tagetik Supply Chain Planning (formerly known as Vanguard Predictive Planning) is an integrated platform that combines financial and operational data to improve organizational

visibility and optimization. With end-to-end capabilities across demand, supply, capacity and production planning, multi-echelon inventory optimization and S&OP, users across virtually all industries have reported improved forecast accuracy and planning efficiency. The SCP solution is underpinned by AI/ML models, which use probabilistic predictive intelligence to update forecasts, detect anomalies, and identify new opportunities to optimize efficiencies automatically in real-time. The demand planning module analyzes promotions, advertising, new products, seasonality, and competitor behavior to prescribe users an optimal course of action. Enterprise-grade data integration and scaling ensures that users can build out resilient supply plans for capacity, product introduction, production scheduling, and material requirement planning (MRP), improving inventory turnover, optimizing margins, and preventing stock shortages. CCH Tagetik users can collaborate and orchestrate high-level operations across multi-enterprise networks, from departmental plans to supply chain data, to resolve manufacturing bottlenecks and delivery issues. CCH Tagetik covers a wide range of verticals, including food and beverage, consumer packaged goods, manufacturing, automotive, pharmaceutical, and retail.

- The vendor has introduced several product improvements over the last year, such as enhanced predictive intelligence, additional configuration options, and streamlined order workflows.
- Sigma Method, the latest predictive algorithm to be added, solves the challenge of reconciling top-down and bottom-up forecasts to improve accuracy at all levels, especially applicable to CPG and Retail.
- Integration of operational and financial KPIs and improved customized KPI reporting provides users, customers, and implementation partners with more comprehensive management views of overall supply chain and organizational performance.
- Updated workflows provide better visibility, status tracking, alerts, and recommendations throughout the procurement process.

We believe that CCH Tagetik's comprehensive integrated planning expertise across supply chain planning, operational planning and financial planning, budgeting, and forecasting will continue to drive strong returns for customers that leverage multiple solutions. Nucleus expects the vendor will continue to invest in its AI/ML capabilities and provide more demand planning segmentation options to improve positioning on future editions of the Value Matrix.

E2OPEN

E2open is a leader in the 2022 edition of the SCP Value Matrix. E2open provides a comprehensive suite of intelligent applications to orchestrate supply chain planning, execution, and optimization processes and address ongoing challenges with product proliferation, variable demand, and market volatility while optimizing for financial and

performance goals. E2open's partner network, E2net is one of the largest collaborative networks of supply chain partners with over 400,000 connected enterprises across 201 countries. With E2net, users can integrate data flows from their entire operational ecosystem, including immediate neighbors and their associated partner's networks, enabling rapid disruption sensing and improved delay and shortage warning capabilities. E2open's holistic approach to supply chain planning has created an end-to-end solution with a wide breadth of use cases, including real-time supply chain visualization and shipping optimization to improve profitability. E2open is well suited for enterprises with highly complex supply chains as its differentiated network integration and real-time sensing capabilities provide high levels of agility to combat disruptions wherever they occur.

Since the 2021 version of the SCP Value Matrix, E2open has continued to expand its integrated partner network and develop new functionalities to increment end-user value. Newly delivered capabilities include:

- New supply sensing analytics featuring predictive analytics, enabling organizations to assess short- and long-term inventory risks across their supply chain network.
- The Enhanced Business Planning View improves data visualization and planning accuracy, leveraging an in-memory graph engine to expedite business rule calculations and a tree-structured layout to plan across hierarchies and time periods.
- The simulation run feature enables users to run scenarios and understand the impact of potential changes, such as adding a new retail location or supply source.
- A new promotion planner user experience improves cross-functional collaboration across sales, marketing, and demand planners.
- Enhanced AI/ML forecasting algorithms improve forecast accuracy with fine-tuned machine learning and deep learning algorithms, enabling users to capture revenue opportunities, lower costs, or both.

Nucleus expects E2open to maintain its position as a leader in future editions of the SCP Value Matrix as it continues to expand its integrated partner ecosystem and invest in new intuitive planning functionalities.

INFOR

Infor is a leader in the 2022 edition of the SCP Technology Value Matrix following continued improvement to Infor Supply Chain Planning (SCP). Infor SCP is a comprehensive supply chain planning solution with demand sensing and planning, sales and operations planning, supply planning, capacity management, and scheduling capabilities. Following the go-to-market strategy of Infor's other enterprise applications, Infor SCP services automotive, aerospace and defense, fashion, high technology, industrial manufacturing and machinery, retail,

transportation, and wholesale industries. Capable of scaling to large and complex global enterprises, Infor SCP can function as a standalone solution or as an extension to a broader Infor ecosystem.

With native connectivity to Infor Nexus, Infor SCP grants organizations end-to-end visibility of order flow and state, supply, demand, and capital across multiple supply chain tiers. Users leverage real-time data availability to quickly generate forecasts and scenarios plans while maintaining the flexibility to respond to disruptions as they occur. Infor SCP also boasts native connectivity with Infor CloudSuite ERP, integrating merchandise, marketing, and demand data to extend planning across operations, production, and sales. Customers can also configure Infor SCP to prioritize metrics centered around their individual requirements and connect with a wide range of third-party applications.

Infor SCP maintains its position as a leader in part by leveraging Infor's breadth of industry-specific builds and seamless integration with Infor Nexus, Infor ERP, and Infor CRM. While Infor SCP is relevant in competitive deals as a standalone solution, customers who implement Infor SCP alongside other Infor applications gain synergetic benefits, such as understanding current and projected financial and operational impacts to user-made changes in real-time. Looking forward, Nucleus expects Infor to continue its development of industry-specific capabilities and further integrate Infor Birst and embedded analytics.

JOHN GALT SOLUTIONS ATLAS PLANNING PLATFORM

John Galt Solutions is a leader in this year's SCP Technology Value Matrix, recognized for its Atlas Planning Platform. The Atlas Planning Platform's SaaS infrastructure enables rapid deployment and configurable applications thanks to its low-code/no-code model. Atlas is a comprehensive end-to-end supply chain planning solution with capabilities to help companies bridge the gap between planning and execution by synchronizing, automating, and optimizing supply chain processes. Atlas' integrated system offers sales and operations planning (S&OP), demand, supply, inventory, replenishment, transportation optimization, and manufacturing scheduling capabilities. John Galt Solutions improves organizational visibility by breaking down data siloes, connecting and consolidating internal and external data from various systems and sources in real-time; and turning data into demand and supply strategies. AI/ML models empower users to transform raw data into tangible insights and prescriptive recommendations for better decision-making. Users can automate redundant manual tasks and streamline workflows to simplify business operations and raise productivity.

With Atlas' digital twin modeling capability, planners can proactively explore alternative scenarios, evaluate potential outcomes, and assess trade-offs across capacity, service, and finance while incorporating multiple time horizons. Supply chain models can be configured to match the individual characteristics of an organizations' supply chain network designs, performance targets, and desired business goals for service level performance, profitability,

and sustainability (e.g., reduced carbon emissions and streamlined inventories) while also accounting for risk and uncertainty.

John Galt Solutions has made some significant product enhancements over the last year, including enhanced capacity planning and advanced scenario planning features.

- With the enhanced capacity planning feature, users can incorporate various factors, such as cost, demand, risk, cross-functional constraints and objectives, profitability, and efficiency, into their supply chain models.
- Enhanced scenario analysis capabilities enable organizations to understand demand and supply trade-offs, create multiple simulations simultaneously, and model operational and financial implications across various time horizons.

Nucleus expects John Galt Solutions to continue to drive value for its customers with new improvements to its AI/ML model and automation capabilities.

ONE NETWORK

One Network is a leader in the 2022 SCP Value Matrix. One Network specializes in providing supply chain planning and control tower solutions to aerospace, defense, automotive, grocery, retail, healthcare, pharmaceutical, and 3PL/4P industries, among others. One Network's planning tools are offered through its NEO platform, which provides integrated business planning, sales, and operations planning, demand sensing and planning, supply planning, global logistics management, transportation planning, and inventory optimization functionality. One Network allows its users to work with their upstream and downstream partners through a multi-tier and multiparty network that improves collaboration and supply chain visibility.

One Network's NEO agent based technology can be deployed at any stage of the demand and supply orchestration process to automate decision-making with AI/ML capabilities that leverage an integrated and network-wide dataset offering prescriptions that solve demand, supply, and logistics problems. Labor efficiency is also enhanced based on automating certain processes like dock door scheduling and rescheduling. Continuous learning improves the accuracy and efficiency of NEO agents to better support complex and erratic supply chains. Users report that NEO often helps reduce supply and lead time variance, thus improving the overall demand/supply match on a global basis. One Network also enables a single version of the truth across trading partners through a federated MDM capability where data exists only once in the network and is accessed through a secure permissions framework. This allows organizations to consolidate financial and operational data onto a single platform, which improves the consistency of analytics, eliminates stale data that leads to poor decision making, and reduces the amount of time necessary to compile data and create reports. Recent updates for One Network include:

- NEO Predictive Analytics provides causal-based ML and prescriptive recommendations that resolve execution issues across partner networks. The prescriptions are dynamic and react to the changes experienced in the underlying network. It also includes the capability to capture decision-making patterns to provide more effective suggestions in the future.
- NEO Supply Constrained Planning provides customers with the optimal volume and product mix to produce for a market with constrained supply of materials or capacity.
- NEO S&OP/SIOP Execution Driven Scenario Planning provides execution updates into the S&OP process to continuously update execution projections, improving forecast accuracy during S&OP cycles.
- NEO Autonomous Forecasting incorporates advanced AI/ML algorithms to adjust the demand forecast in real-time based on trends and other external vectors that drive forecast variance. All trading partners across all tiers in the network can access these updates in real-time, which are translated through a distributed BOM into an actionable perspective based on the role and company in the network.
- NEO Continuous and incremental supply/demand planning run in the background based on targeted KPI's solving for problems and issues at both the global objective level for the network as well as across connected groups of trading partners.
- NEO OIE (Optimized Inbound Execution), provides seamless planning to execution enabling real-time adjustments based on actual logistics, inventory, and order updates inbound to the DC and load building outbound through omnichannel DOM.
- NEO LMA (Last Minute Allocation), provides the capability to adjust inventory allocation and order prioritization outbound across the last mile including to shelf or consumer.
- Other Updates include NEO Distributed BOM, NEO MEIO, NEO Optimized Planning and Execution, NEO AI/ML Bring Your Own Intelligence, Telematics, Gamification, and Supplier Network Enablement.

EXPERTS

GAINSYSTEMS

GAINS is an expert in this year's SCP Technology Value Matrix. The SCP solutions provider specializes in the manufacturing, retail, distribution, and service parts industries and offers built-in analytics capabilities to optimize and manage supply chain interdependencies.

Customers can achieve tangible results as fast as in eight weeks, with GAINS' proprietary Proven Path-to-Performance (P^3) implementation methodology. GAINS consolidates demand planning & forecasting, inventory optimization, replenishment & procurement automation, supply & production optimization, and sales & operations planning (S&OP) capabilities into one unified cloud platform.

The GAINS SCP platform notifies users of demand and supply variances and provides detailed explanations of the events and root causes of the swings. Organizations can automatically detect and respond to changes to improve service levels and reduce inventory and supply chain costs with GAINS' AI-based Multi-Echelon Inventory Optimization (MEIO) approach. Organizations can optimize their inventories by considering network-wide bill-of-materials (BOM) requirements and setting optimal service levels for each SKU by location. The SCP platform also provides executives with a unique vantage point and more decision-making confidence by consolidating operational, financial, and sales data into a single-version-of-the-truth. Management can evaluate business plans based on financial and volumetric measures and track their team's activity on one intuitive dashboard. GAINS made significant product enhancements over the last year, including updated ML, new continuous planning, and improved scenario analysis features.

- Updated ML algorithms increase GAINS forecasting accuracy by integrating more attributes such as change magnitude, demand hierarchies, replenishment data, projected weather, and other SKU-specific data into the prediction models.
- New continuous planning empowers organizations to scale up operations by reducing run-times by up to 90 percent across core planning processes. This enables organizations to increase the number of planning records and conduct higher-value analyses, such as MEIO (Multi-echelon Inventory Optimization).
- Improved scenario planning features enable users to plan for numerous conditions and be prepared for new constraints and supply trends. Organizations can become aware of demand and supply swings sooner and take proactive measures.

Nucleus expects that GAINS will continue to provide value to its customers by improving its proprietary AI-driven algorithms to facilitate end-to-end scenario analysis. Other new GAINS platform capabilities include SCO Network for multi-enterprise collaboration (supplier planning portals) and Continuous Network Flow Optimization (CNFO) to adapt quickly as supply chain design, costs, and volumes evolve.

KINAXIS

Kinaxis is an expert in this year's SCP Value Matrix. The vendor provides SCP solutions to customers in the aerospace and defense, automotive, consumer products, high-tech and electronics, industrial, life sciences, and retail industries. Kinaxis is run on a SaaS platform and

provides a wide range of planning functionality, including inventory planning and optimization, demand sensing and planning, capacity planning, supply and production planning and scheduling, control tower, S&OP, and IBP. Additionally, task automation capabilities can be coupled with functionality across multiple planning areas, including demand sensing and control tower, to help businesses identify variance drivers. Kinaxis also provides what-if scenarios modeling tools and AI-generated suggestions to guide decision-making based on internal priorities and leverages that learning in post-game analysis to help improve automated decision-making over time. This empowers people to focus on high value-add activities while automatically resolving mundane tasks. Customers can also create and test new algorithms and workbooks in the Kinaxis environment, allowing users greater control and standardization of their supply chain processes. New users should find that Kinaxis provides a wide range of out-of-the-box functionality and seamlessly integrates with a variety of third-party applications, which together help bring an improved experience and shortened time-to-value.

Recent updates since the release of last year's value matrix include:

- The introduction of a new foundational package known as Kinaxis Planning One, which provides customers with control tower, operational planning, and concurrent supply, demand, and inventory planning, all implemented in as few as 12 weeks.
- A new Kinaxis RapidResponse application developed alongside 4flow enables users to glean insights into their rail, ocean, air, and truck transportation costs and provides customers with optimal loads based on supply and demand. Kinaxis is also working with other Solution Extension partners beyond 4flow such as Everstream, project44, OCYO, Wahup, Blume, and more to develop applications across various planning areas, and provide digital input signals that allow customers greater end-to-end transparency and risk management.
- The addition of Value Added Resellers provides the midmarket with greater access to SCP solutions with out-of-the-box functionality and planning capabilities to aid in their digital transformation initiatives.
- A new composite AI framework combines heuristics, optimization and machine learning to solve scenarios and generate forecasts. The AI enhancements automatically detect which techniques to chain together based on how fast a customer needs an answer and at what level of accuracy.

MANHATTAN ASSOCIATES

Manhattan Associates is an expert in this year's Supply Chain Planning Value Matrix. Manhattan Associates offers its cloud-native Manhattan Active Supply Chain solutions, including warehouse, labor, and transportation management systems. Manhattan Active

Warehouse Management allows users to execute workflows efficiently for real-time distribution planning and picking optimization. Customers can use gamification tools from the Manhattan Active Labor Management functionality to incentivize their workforce and boost productivity. While solutions can be purchased individually, Nucleus found customers extract the most value from their Manhattan deployments when leveraging the entirety of the platform.

In 2021, Manhattan Associates released the Manhattan Active Transportation Management functionality to reduce time spent optimizing transportation networks and remove boundaries between distribution and transportation.

Manhattan Associates use case-specific solutions are key value drivers for customers seeking a platform that automatically scales, doesn't require manual updating, and provides real-time data visualizations for modern supply chain orchestration.

O9 SOLUTIONS

o9 Solutions is an expert in the 2022 SCP Technology Value Matrix. The vendor provides comprehensive enterprise-scale decision management solutions with functionalities across sales and operations planning, demand sensing and shaping, promotions and merchandise planning, and integrated business planning. The cloud-native o9 Digital Brain platform unifies internal and external data sources with planning and decision-making processes to develop adaptive strategies to optimize demand. Using o9's Enterprise Knowledge Graph technology, companies can make a digital twin of their supply chain, including its planning and predictive maintenance processes. The digital twin models a customer's supply chain with high granularity along innumerable hierarchies using various ML algorithms. o9 solutions are tailored for large enterprises and serve numerous industries, including consumer products and goods, high tech, industrial manufacturing, medical devices, oil and gas, pharmaceuticals, and semiconductors. Since the 2021 edition of the SCP Technology Value Matrix, o9 Solutions has committed to expanding its multi-cloud availability while continuing product development.

- In September 2021, o9 Solutions announced availability on Google Cloud Marketplace to better serve clients in retail, fashion and apparel, and industrial manufacturing who choose to run o9 on Google Cloud.
- In December 2021, the o9 Digital Brain was added to the Microsoft Azure marketplace to grant customers the scalability and security of Azure while streamlining deployments and management
- In January 2022, o9 Solutions joined the AWS Partner Network to improve customer access to scalable infrastructure and cloud computing while accelerating deployments on the AWS Cloud.

By widening its public cloud presence with extended partnerships, o9 Solutions provides customers the flexibility to use the cloud architecture suited for their growth strategy. Due to its breadth of integrated planning solutions, o9 Solutions draws customers looking to restructure their data streams to enable dynamic and integrated planning across operations, revenue, and supply chain management. Nucleus expects o9 to improve its positioning in future editions of the Value Matrix to likely reflect improved customer reports of value as the vendor continues to invest in its platform's performance and the expansion of its partner network.

FACILITATORS

ANAPLAN

Anaplan is a facilitator in this year's Supply Chain Planning Value Matrix. Anaplan offers a supply chain platform that includes supply and demand planning and sales, inventory, and operations planning (SI&OP). The vendor serves organizations in consumer goods, retail, manufacturing, healthcare, high tech and life sciences industries, among others. Supply chain planners can increase accuracy for their demand and supply forecasts as well as balance plans using what-if planning with unique hyperscale computing. Furthermore, customers can drive sales and operations planning (S&OP) to better respond to changes in the supply chain and utilize course corrections to meet targets. Anaplan Predictive Insights connects enterprise and market data and enables predictive modeling at scale to deliver actionable planning insights. Anaplan's use case flexibility further helps customers across industries meet challenges in adapting planning to execution reality. The vendor's product can be implemented with more than 175 partners and has many instances of business teams trained to self-implement for cost savings.

In recent years, the vendor released PlanIQ, integrated with Amazon Web Services Amazon Forecast, to provide an intelligent forecasting framework including machine learning to produce accurate and fast forecasts. In recent years, the vendor released PlanIQ, integrated with Amazon Web Services Amazon Forecast, to provide an intelligent forecasting framework including machine learning to produce accurate and fast forecasts. Furthermore, in 2022 the vendor is launching its Connected Planning solution with Google Cloud's Digital Supply Chain Twin for improved execution visibility, real-time dashboards, and alerts on supply chain disruptions. Anaplan has released integrated demand planning with Vertex AI from Google for improved forecasting. Users can now access Anaplan's platform from their mobile and desktop devices and integrate with Docusign and Slack using Anaplan's collaboration tools to increase customer engagement. In addition to Anaplan's collaboration tools, Anaplan UX allows users to create reports to deliver critical insights. Anaplan's Hyperblock technology

allows customers to create models which manage large data volumes for planning decision support, enabling users to plan multiple scenarios within planning lead times. Anaplan's CloudWorks allows for workflow automation and third-party data integration with external cloud-based data and service providers. Although Anaplan is also interoperable with AWS S3, Azure, BigQuery, the vendor plans to introduce an SDK connector for a more open platform.

Anaplan's intelligent forecasting framework, hyperscale computing, self-service capabilities, and public cloud partnerships are some of the key value drivers for customers. Customers want a solution that can integrate with other platforms to allow for more flexibility of use and cost savings.

BLUE RIDGE

Blue Ridge is a facilitator in this year's SCP Technology Value Matrix. The vendor serves organizations in the distribution, retail, and manufacturing sectors, specializing primarily in verticals such as wine spirits & spirits, foods services, furniture, hardware, HVAC, plumbing, and pet supplies. Blue Ridge's integrated system consolidates demand planning, pricing optimization, integrated business planning (IBM), segmentation management, and AI/ML analytics capabilities. Organizations can upgrade their outdated legacy systems at an accelerated pace, thanks to native cloud delivery, industry-specific out-of-the-box functionalities, and an intuitive user interface (UI). Blue Ridge bridges the gap between operations and demand planning by providing over 40 ERP connectors and incorporating information from other external applications, such as CRM and BI systems. Users can streamline the demand forecasting processes by automatically adjusting prediction models based on identified seasonality, new items, and demand variability. With Blue Ridge's pricing feature, users can adjust pricing based on granular segmentation attributes, including revenue, expected margin, customer discounts, and price elasticity.

Blue Ridge has made significant product improvements over the last year, including the consolidation of pricing and inventory management capabilities, advanced manufacturing capacity planning features, and embedded analytics.

- The new integrated architecture combines pricing and inventory data, enabling users to account for price fluctuations and sensitivity levels across the inventory management process.
- With new manufacturing-specific planning capabilities, organizations can optimize capacity, replenishments, and production levels via AI/ML-based recommendations.
- The embedded analytics engine offers new intuitive dashboard visualizations of KPI metrics and rapid BI analysis options.

With Blue Ridge's continued enhancements to its AI/ML models and analytical engines, Nucleus expects the vendor to provide additional value to its customers with more industry-specific functionalities and demand planning segmentation options.

LOGILITY

Logility is a facilitator in the 2022 SCP Value Matrix. Logility provides its customers with demand sensing and optimization, pricing and promotion analysis, inventory optimization, merchandise planning, vendor management, supply and replenishment planning, and automated order promising functionality. Customers can leverage Logility's breadth of capabilities to incorporate multi-horizon S&OP and IBP initiatives across their entire operation. Logility focuses on serving customers in apparel, electronics, durable and consumer packaged goods, process manufacturing, food and beverage, life sciences, and other verticals.

The Logility Digital Supply Chain Platform enables its customers to standardize their data which lets users conduct complex analysis and create forecasts while supporting continuous process automation with machine learning and artificial intelligence. Logility also enables what-if scenario analysis, allowing users to visualize the impact of disruptions to internal operations and upstream and downstream partners. Customers benefit from the configurability of solutions within the platform, accelerating deployments without changing the underlying software infrastructure. This flexibility and scalability ensure solutions are tailored to particular business needs, and administrators do not require a technical understanding of how the back end operates, which improves overall usability.

Recent updates since last year's Value Matrix include:

- Update 21.03 provides supply chain visualization tools through its supply chain network maps. 21.03 also introduces new PLM dashboards where users can compare product performance and costs to internal benchmarks.
- Update 21.02 introduced new corporate social responsibility (CSR) features that provide visibility into social compliance information across users' supply chains. It also provides the ability to create and implement corrective action plans for social responsibility and allows users to track progress towards those goals. Additionally, users can see suppliers' emissions data and environmental status to ensure products are being made with adherence to the highest CSR standards.
- Update 21.01 provides supply chain traceability to document chain of custody and automated order promising to evaluate ATP, CTP and PTP capabilities. It also introduced configure-to-order capabilities to support build-to-order, assemble/pick-to-order or configure-to-order environments.

MPO

MPO is positioned as a facilitator in this year's Supply Chain Planning Value Matrix. MPO's global cloud platform, underpinned by its Triple I Planning Engine for instant, integral and intelligent supply chain orchestration, provides users with real-time analytics to serve multiple industries, including retail, healthcare, and industrial services. The vendor offers supply chain control and visibility across all order types and supply chain management across geographies for improved collaboration and optimization across suppliers and partners. Furthermore, users can monitor KPIs across suppliers and customers and leverage MPO's real-time analytics to control order flows. Using MPO's supply management allows customers to automate and customize purchase orders while decreasing production mistakes. The vendor's platform allows users to forecast flows through micro supply chains and manage orders using mobile devices to optimize supply chain movement.

In recent years, MPO has integrated AI, ML, and deep learning capabilities to the MPO platform for automated learning and closed feedback loops that continuously improve forecast accuracy and planning performance. The vendor's UX functions, such as mobile apps and dynamic visualization, improve supply chain visibility and scores high usability scores with customers. Users can also leverage MPO's real-time sourcing and routing planning of order flows. MPO has integral sustainability planning for customers seeking sustainable solutions to calculate and minimize environmental impact per order.

MPO's supply chain visibility and control are typical value drivers for users who seek optimal supply chain movement, improved supplier collaboration, and customer engagement.

TOOLSGROUP

ToolsGroup is a facilitator in this year's SCP Technology Value Matrix. ToolsGroup's Service Optimizer 99+ (SO99+) platform specializes in inventory planning and optimization with the ability to create an end-to-end model for all possible SKU-location combinations that reduce costs while maintaining service level fulfillment. The SCP provider combines demand planning and sensing, sales and operations planning (S&OP), allocation and replenishment, promotions planning, and production planning into one unified platform. ToolsGroup serves organizations across various industries, including manufacturing, food and beverage, retail, distribution, automotive, and consumer packaged goods. The SO99+ platform breaks down data siloes by integrating a wide range of third-party applications, such as ERP, CRM, and BI, to improve organizational visibility and facilitate collaboration between cross-functional departments. The intuitive user interface (UI) enables users to add new products quickly to existing portfolios and automatically identify possible demand factors based on the historical data of similar products. This empowers organizations to scale operations, from standard demand planning to granular enterprise-wide forecasting. ToolsGroup has made significant product improvements over the last year, including new retail planning capabilities.

ToolsGroup's acquisition of retail planning solutions provider, Mi9, extended the vendor's retail planning capabilities to include product allocation, assortment planning, merchandise financial planning, price and markdown management, and promotion management. This allows SO99+ customers to build resilient supply chains by optimizing operations from production to purchasing across multiple retail channels.

Nucleus expects ToolsGroup's continued investments in industry-specific functionality will drive significant returns for new and existing customers within targeted verticals.

CORE PROVIDERS

ALLOY

Alloy is a core provider in the 2022 edition of the SCP Value Matrix. With Alloy Planning, users can integrate point-of-sale demand data to inform their supply chain planning, sales, and marketing decisions. Leveraging this integration, Alloy enables collaborative planning for supply chain disruptions by providing a single source for sales to view their POS information, customer forecasts and orders, marketing to track their promotions, and supply chain planners to generate demand and inventory plans. These capabilities allow user organizations to identify execution issues and future sales opportunities to improve profitability. Alloy serves the consumer goods industry, including consumer electronics, toys, and food and beverage, providing a variety of planning and analytics tools related to consumer demand and retail supply chains. Because of Alloy's demand-side focus and commitment to serving the consumer goods industry, the vendor is well suited for organizations looking to optimize their supply distribution to improve demand-matching and minimize risks of potential demand disruptions.

Over the past year, Alloy has expanded the capabilities of Alloy Planning to improve the solution's value proposition for organizations in the consumer goods industry. New capabilities delivered over the past year include:

- S&OP planning allows supply chain planners to work cross-functionally with internal business units to generate consensus demand and inventory plans based on POS-based demand projections, sales forecasts, marketing promotions, and capacity forecasts, feeding into the S&OP process.
- Continuous planning to update near-term demand plans and pass on adjustments for future time periods as real-time data regarding POS demand, customer orders, and inventory positions are evaluated against plans.

- Comprehensive demand source selection, integrating available sell-in, sell-through, and D2C demand data to improve demand planning and forecasting.
- On February 24th, 2022, Alloy expanded Alloy Planning to include Inventory Planning functionality giving customers a connected environment for Demand and Inventory Planning. With this new unified experience, customers can generate near- and long-term inventory plans in line with demand expectations to minimize stockouts.
- On February 24th, 2022, Alloy also delivered multiple capabilities aimed at simplifying the user experience and accelerating time to value, including various out-of-the-box forecasting models, automated plan exporting, as well as highly granular plan visualizations and analytics.

As Alloy continues to invest in expanding its partner ecosystem and improving Alloy Planning's industry capabilities, Nucleus expects improved customer reports of value as will potentially be reflected with improved positioning in future editions of the SCP Value Matrix.

COUPA

Coupa is a core provider in the 2022 edition of the SCP Technology Value Matrix following its acquisition of supply chain design and planning provider LLamasoft. Following the acquisition, Coupa has integrated its vast transactional spend data with LLamasoft's supply chain design and planning platform with the goal of delivering a comprehensive Business Spend Management platform. Coupa Supply Chain Design and Planning is best known for its supply chain design capabilities; however, the solution is also capable of sales and operations planning, inventory optimization, capacity management, analytics, and network strategy. Serving industries including automotive, healthcare, financial and business services, food and beverage, manufacturing, oil and gas, retail, and technology, the platform centralizes operational data and evaluates key decisions to optimize the organization's production and distribution strategies.

Beyond supply chain design, customers can also model and analyze current and alternative plans and model potential impacts of demand fluctuations. Customers can also pair Coupa Supply Chain Design and planning with Coupa's Sourcing solution to minimize supply shortages and automate sourcing. In addition, Coupa's Supplier Management solution minimizes supplier risk and improves collaboration across network partners. As Coupa further integrates Supply Chain Design and Planning with its suite of Business Spend Management solutions and continues to develop its AI and ML capabilities, Nucleus expects customers to report increasing value as a result of the acquisition.

QAD DYNASYS

QAD is positioned as a core provider in this year's Supply Chain Planning Value Matrix, recognized for QAD DynaSys, the flagship supply chain planning solution. QAD DynaSys is a SaaS supply chain platform used by various industries, including life sciences, automotive, and high technology. The vendor offers integrated supplier management to allow users to exchange real-time information with their supply trading partners, remove manual processes, and reduce risks associated with supply chain disruptions. The solution also provides QAD automation solutions, QAD SRM (supplier relationship management), QAD precision global trade, and transportation execution for users to manage shipments and screen suppliers. Furthermore, users can leverage QAD DynaSys to better respond to disruptions in the supply chain. It includes QAD DynaSys DSCP (digital supply chain planning) for users to build supply chain plans. QAD appeals to businesses looking to increase supplier and distributor collaboration, track customer orders in real-time while responding to demand fluctuations and prepare for disruption events to reduce service and financial impacts.

In recent years, QAD DynaSys has implemented scenario management and comprehensive scenario analysis for users to plan for the impact of potential events, compare multiple plans, and weigh them against objectives for better decisions. This feature aligns with QAD's risk management capability, which reduces risks associated with new opportunities such as product introduction and supplier selection. By using QAD's financial solutions, users can supplement their financial metrics with tools such as Production Overtime and Expedited Freight to decrease cost. QAD's differentiated Accounts Payable and Accounts Receivable features are unique to QAD DynaSys DSCP. Users can leverage Social Collaboration to create auditable discussion records with internal and external stakeholders.

QAD's scenario management, financial metrics, and collaboration functionalities are typical value drivers for users as they require solutions that identify disruptions before they even occur to mitigate risks while improving partner, demand, and supply alignment.

SMART SOFTWARE

Smart Software is a core provider in the 2022 SCP Technology Value Matrix. Smart Software specializes in providing its Smart Inventory Planning & Optimization (IP&O) platform to its customers in the manufacturing, distribution, and service parts industries. Smart IP&O is run on a multi-tenant cloud hosted by Amazon Web Services and provides native integrations with Epicor Kinetic & Prophet 21, Microsoft Dynamics 365 ERPs, and NetSuite. The Smart platform provides a suite of end user apps for demand and supply planning, inventory optimization, reporting and analytics. Smart Software's patent pending probabilistic forecasting addresses intermittent demand, complex seasonal patterns, and variable lead times. By generating thousands of future demand and lead time scenarios that leverage daily demand signals, the platform prescribes the most profitable service level targets and

inventory control parameters. What-If Planning supports comparison of how alternative inventory policies are projected to perform across a variety of KPIs and Consensus Planning ensures knowledge from internal and external stakeholders is incorporated into the forecast. BI Reporting ensures automated reports are readily available to track actual operational performance over time. Smart Software remains a strong option for prospects in mid-market manufacturing and distribution as well as large aftermarket spare parts & MRO businesses.

VALIZANT

Valizant is a core provider in the 2022 SCP Value Matrix. Valizant runs on Anaplan's no-code platform, which provides customers with its ML capabilities for demand, supply, inventory, and S&OP. Because the product is run on a no-code platform, organizations can tailor Valizant to their processes without changing how their business operates. Solution flexibility means Valizant is a business-owned and managed technology, where users can add or remove rules without IT intervention or costly consultant and developer usage. This ease-of-administration differentiates Valizant from other platforms that require deep technical knowledge and coding capabilities. Valizant also provides its "30/30/3" commitment to customers, where it seeks to provide its customers with a 30 percent performance improvement and a 30 percent increase in planner capacity in three months or less.

Recent updates to Valizant since the release of last year's Value Matrix include:

- Demand Readiness allows users to recognize changes in expected demand and updates supply plan drivers to enable users to react to changes in demand while minimizing the impact of outdated demand plans.
- Autonomous Ordering automates the ordering process for orders that fall within a set tolerance of demand variation, order quantity, value, and new product or change order activity. This feature reduces the burden on planners, allowing them to focus on high-priority items, analysis, and decision-making.
- ML Statistical Forecast provides users with forecasts using Amazon's Machine and Deep Learning capabilities which consider multiple factors to optimize and develop intelligence over time.