



manufacturing

S2K Enterprise Edition for Manufacturing

More than ever, manufacturers are facing increased pressure from domestic and international competition. To effectively compete and grow the business, manufacturers are examining all aspects of their operations in order to minimize costs, maximize profitability, and open new markets. Manufacturers require modern, easy-to-use, cost-effective solutions that deliver a real return on investment. VAI addresses these needs with the S2K Enterprise Edition for Manufacturing.

Whether your business is a process or discrete manufacturer, make to stock or make to order, S2K Enterprise Edition for Manufacturing provides you with robust tools to manage and analyze every aspect of your business. Although modular in design, S2K's suite of manufacturing applications are tightly integrated, linking forecasting, manufacturing orders, MRP, CRP, shop floor control, and quality control functions. Combine S2K Manufacturing and S2K Distribution applications that include Financial Management, Order Processing, Sales Analysis, Purchasing, and Warehouse Management to manage all your manufacturing operations with superior responsiveness and performance.

Consider the benefits of end-to-end integration:

- Reduced operating expenses through optimal planning and resource management
- Improved inventory control and material management
- Increased customer satisfaction and loyalty
- Improved partner and supplier relationships
- Improved employee productivity and overall company responsiveness

Key features include:

- Extensive reporting capabilities that enable you to get the most from your data
- Customization capabilities to meet your unique business requirements
- Scalability through features and functionality that grow and expand with your business
- Security to protect your most valuable information assets
- A wide range of services to support you every step of the way

Challenges and Solutions

| Challenge | Solution |
|--|--|
| Increased errors and missed shipments | Integrate order processing with manufacturing for more timely shipments and increased accuracy with VAI's Work Order Processing application. |
| Manual, time-consuming tasks slow processes and cause errors | Automate and track the usage of material and labor through the shop floor, improving production time and reducing errors with VAI's Shop Floor Control application. |
| Improve planning and scheduling | Analyze current and future production and material requirements and enable users to plan more effectively using VAI's MRP and MPS application. |
| Inaccurate forecast data | Let sophisticated forecasting formulas eliminate time-consuming manual processes and establish consistent and accurate forecasts with VAI's Forecasting software. |
| Poor management of plant resources | Spot situations where capacity is short or long, quickly resolve bottlenecks, and shift production with VAI's CRP application. |
| Improve quality control | Integrate inspection planning with purchasing and production to track product and process characteristics with VAI's Product Quality application. |
| Improve supplier and customer communications | Web-enable your organization and collaborate with suppliers and customers to quickly execute business processes across critical applications with VAI's e-business applications. |

The S2K Enterprise Edition for Manufacturing includes the following modules:

Work Order Processing

S2K provides a powerful yet easy-to-use application that facilitates the creation of a manufacturing order. S2K provides:

- Support for multiple bills of material (BOM) for one finished item.
- The ability to configure the bill of material using unlimited features and options directly from order processing.
- Straightforward processing so you can generate orders to stock, make to order (MTO), or planned orders—all from one screen.
- The ability to drill down to material availability and costs, select substitutes, and create or change routing steps based on capacity.
- Order status screens that allow inquiries into orders with shortages and material commitments and show the effect on scheduling and other functions.
- Workflow triggers that help control and enforce work practices around the enterprise as they relate to the design, manufacturing, and support of engineered products by notifying management of critical issues through the use of conditional e-mails.
- A production costing application that closes the manufacturing and accounting loop.
- Extensive management reporting that includes standard vs. actual analysis, material variances, scrap reporting, labor efficiencies, etc. for a top-level overview of production efficiency.

Shop Floor Control

S2K's Shop Floor Control system allows you to record both material and labor usage on the shop floor using a variety of data collection devices, including hand-held RF scanners. With real-time functionality, the Shop Floor Control application will immediately update a manufacturing order's item usage (including scrap), as well as capacity requirements planning in order to determine available capacity at a given machine, work center, or department. Plus, extensive inquiry and reporting capabilities show key data, such as employee productivity, material variances, and comparisons of actual versus standard cost.

Material Requirements Planning (MRP)

Managing sufficient material levels is one of the most critical and time-consuming aspects of manufacturing. S2K's Material Requirements Planning (MRP) module can help you eliminate purchasing and scheduling problems and speed up the work processes. This powerful application can help purchasing and production managers analyze current and future material and distribution requirements and enable them to plan more effectively.

S2K's Material Requirements Planning (MRP) offers:

- Integration with other S2K modules, including Customer Orders, Inventory, Sales Analysis (Forecasting), Purchasing, and Manufacturing.
- The ability to differentiate between company- and location-specific criteria.
- Analysis of the existing on-hand position of an item, open purchase orders, open manufacturing orders (including planned, stock, and custom orders), open commitments, and sales forecast data, to produce a running balance.
- The ability to view demand analysis daily, weekly, or monthly.
- Complete pegging, allowing the user to drill down to view critical data, such as when

purchase orders are due, when manufacturing orders are due to be completed, and the actual customer orders making up the commitments of an item.

- Suggestions based on parameters, such as minimum balance, lead time, etc. that can be analyzed through the MRP inquiry function and then modified or converted into manufacturing work orders and vendor purchase orders.

Forecasting

S2K Sales Forecasting eliminates time-consuming manual processes and ensures consistency and accuracy by employing several forecasting methods. These processes provide managers with a flexible, accurate, and high-performance forecasting mechanism.

With S2K Sales Forecasting, you can:

- Generate forecasts for an item, divisions of items, classes of items, customer, or a specific location.
- Dynamically select the level of aggregation when forecasting, combined with multiple forecasting methods, such as seasonality and growth (Holt Winters), growth only (Holt), simple exponential smoothing, least squares, or historical to proactively manage inventory levels.

Key features of Shop Floor Control include:

- Real-time data collection
- Fixed station or RF device support
- Recording of material usage and scrap supported
- Easy entry of labor time supported
- Modification of routing steps allowed
- Physical inventory
- Cycle counting
- Suggested inventory movement
- Required transfers from stock to the shop floor
- Complete visibility into WIP across the plant
- Support for back flush
- Complete lot and serial number tracking
- Production reporting and updating
- Ability to view on-line product drawings
- Detailed display of work orders
- Drill down capabilities throughout the order
- Actual versus standard comparison
- Employee tracking
- Productivity analysis
- Material variances
- Labor analysis
- Work load analysis

- Dynamically select forecasting periods, months, or weeks.
- Use smoothing constants to the item level and added forecasting measurements, such as mean average percentage error, mean squared error, mean average deviation, variance and R-squared, to aid in the analysis process.
- Download sales information to Excel®, including formulas that enable users to utilize the Solver functionality within Excel.

Master Production Schedule

Totally integrated with Material Requirements Planning, the Master Production Schedule (MPS) system allows you to view the schedule on a daily, weekly, or monthly basis. The MPS takes input from Manufacturing Orders, Forecasting, Customer Orders, and Purchasing modules. With it, you can change due dates of orders, view the production schedule for the selected time period, and even test the schedule for capacity constraints online. Final requirements are then automatically generated and passed on to S2K's purchasing and work order applications.

Capacity Requirements Planning

S2K's Capacity Requirements Planning software helps to determine your company's ability to meet manufacturing demand. It can be used as a long-range planning tool as well as a short-term production scheduling aid. S2K CRP offers:

- Powerful inquiries that allow users to view soft, firm, and planned demand.
- Detailed analysis of both actual and projected capacity requirements.
- Flexible design and tight integration to S2K enterprise applications.
- Summary information so you can spot situations where capacity is short or long, making it easier for you to shift production and manage resources efficiently.
- Multiple views so you can analyze machine, work center, and department capacities.
- Extensive capabilities so you can drill down into detailed scheduling data, including orders making up the demand, as well as analysis of bottlenecks.
- Alternate routings that allow the automatic calculation of "available to promise" (ATP) dates for easy bottleneck resolutions.

- An S2K Finite Capacity Scheduler for creating a finite capacity schedule based on the planned capacity stated in the shop calendar for each work center.
- Job selection rules that are used to determine the order in which shop orders are loaded into the schedule.
- The ability to sort shop orders according to due date, critical ratio, or priority job selection rules.

Product Quality

Integrated with Inventory, Purchasing, and Shop Floor Control, the Product Quality module allows you to track user-defined tests, their results, and the disposition of an item upon its receipt and through the manufacturing process.

With the Product Quality module, you can automate quality control processes, such as placing items on quality hold pending processing of necessary tests, instructing users as to the test that needs to be performed, prompting a value to be entered, and then indicating whether the item has passed or failed. In addition to the historical storage of this data, a Product Quality Certificate (C of A) can be produced from S2K indicating all the tests performed, as well as their individual results.

Distribution Management

S2K Manufacturing applications are completely integrated with S2K Distribution Management modules. By providing seamless

integration between these applications, S2K provides end-to-end software functionality for comprehensive enterprise management and support. Distribution applications include:

- **Financial Management**—Tighten control over payables and receivables, improve cash flow, and react to business cycles.
- **Order Processing**—Integrated manufacturing capabilities provide a seamless link between order processing and manufacturing.
- **Inventory Management**—Assess your organization's actual stock situation based on quantity and value criteria.
- **Purchasing**—Integrated with MRP, purchasing provides a detailed analysis of purchasing activities and procurement processes.
- **Warehouse Management**—Enables accurate and efficient tracking of goods through your entire facility by using bar code scanning for precise data capture.
- **Sales Analysis**—Quickly identify profitable or unprofitable customers and items and improve vendor and customer relations based on sales volumes, costs, and profitability.
- **CRM**—Provides an enterprise-wide view of all interactions with customers and prospects, and helps you identify, acquire, develop, and retain your most profitable customers.

| Item | Description | BU | Buyer/Planner | Release Date | Promise Date | On Hand | Avail. Table | PD/M | Suggested | Change |
|-------------------|------------------------|----|---------------|--------------|--------------|---------|--------------|--------|-----------|--------|
| ROU100 | Roast Item | P | R10000 | 7/22/04 | 7/13/04 | 00 | 00 | 00 | 100.00 | 9999 |
| ROU100 | Aqua Item | P | R10000 | 7/22/04 | 7/13/04 | 00 | 00 | 165.00 | 100.00 | 9999 |
| ROU100 | Special Item | P | R10000 | 7/22/04 | 7/13/04 | 00 | 00 | 00 | 1.00 | 9999 |
| CRROT5 | Carrots | P | R10000 | 9/29/04 | 9/29/04 | 454.04 | 260.00 | 00 | 14.91 | 9999 |
| CRROT5 | Carrots | P | R10000 | 9/27/04 | 9/27/04 | 454.04 | 260.00 | 00 | 23.41 | 9999 |
| CRROT5 | Carrots | P | R10000 | 11/04/04 | 11/04/04 | 454.04 | 260.00 | 00 | 23.31 | 9999 |
| CRROT5 | Carrots | P | R10000 | 10/11/04 | 10/11/04 | 454.04 | 260.00 | 00 | 13.32 | 9999 |
| DIRECT_LABOR | Direct Labor | P | | 7/13/04 | 7/13/04 | 00 | 20.00 | 00 | 10.00 | 9999 |
| DIRECT_LABOR | Direct Labor | P | | 7/13/04 | 7/13/04 | 00 | 20.00 | 00 | 10.00 | 9999 |
| DIRECT_LABOR | Direct Labor | P | | 7/19/04 | 7/20/04 | 00 | 20.00 | 00 | 10.00 | 9999 |
| DIRECT_LABOR | Direct Labor | P | | 7/19/04 | 7/20/04 | 00 | 20.00 | 00 | 10.00 | 9999 |
| ENERGY | Energy | P | | 7/13/04 | 7/13/04 | 00 | 20.00 | 00 | 10.00 | 9999 |
| ENERGY | Energy | P | | 7/19/04 | 7/20/04 | 00 | 20.00 | 00 | 10.00 | 9999 |
| ENERGY | Energy | P | | 7/19/04 | 7/20/04 | 00 | 20.00 | 00 | 10.00 | 9999 |
| FINISHED_PROD_HND | Finished Product Handl | P | | 7/22/04 | 7/13/04 | 00 | 20.00 | 00 | 10.00 | 9999 |

The MRP Manager Screen provides a comprehensive view of all manufacturing and material requirements, including the suggested action required to restore balance.

e-business/Portals

VAI offers leading-edge web solutions that can help lower business costs by improving efficiencies in your business processes, help increase sales by reaching your customers in new ways, and improve productivity by making the right information available to your employees. With powerful e-commerce applications, you can make it easier than ever for customers to buy your products or services, allow customers to service their own accounts, and provide your company with valuable, real-time feedback to help improve your business.

By providing industry-leading portal solutions for your on demand business, VAI and IBM can help improve employee productivity, cut costs, and strengthen relationships with your customers and trading partners. Specifically, you can:

- Allow people to interact with your company in a personalized way.
- Provide employees, trading partners, and customers with a web site on which the information and applications they need have been consolidated and organized for easy access and use.
- Enable employees, trading partners, and customers to quickly execute business processes across critical applications and collaborate with portal users to make faster decisions.

Advanced Features

The S2K Enterprise Edition suite of solutions includes advanced features that can enhance the value of your existing systems. These include:

Workflow Alerts: The S2K Enterprise Edition Workflow Alerts supply today's management with the tools required for successful business-making decisions by providing automated, timely information and support via e-mail. Alerts can be entered to specify tolerance levels and multiple users can be notified of the same event. Some examples of Workflow alerts include:

- **Accounts Receivable**—Alert credit managers of credit issues, disputed invoices, returned checks, and write-offs.
- **Customer Orders**—Alert sales managers of price changes, gross profit issues, large-dollar sales, sales of restricted items, late customer shipments, or inactive customers.
- **Purchasing**—Alert buyers about late vendor shipments, item receipts and variances, and invoice price discrepancies.
- **Manufacturing**—Alert production managers about customer order changes, BOM changes, late customer shipments, and completed production orders.

Job Scheduler: The S2K Enterprise Edition Job Scheduler provides users with the ability to process reports and other events at specified times and intervals throughout the course of their business cycles.

Desktop Integration: S2K Enterprise Edition software provides complete integration with PC-based productivity products, such as Microsoft Outlook®, Excel®, and Word®. This integration provides users with the flexibility to utilize desktop applications while taking advantage of the power, reliability, and security of VAI's Enterprise software.

Business Intelligence: Through rich data analysis and data mining capabilities, powerful Business Intelligence tools enable you to provide all of your employees with critical, timely business information tailored to their specific information needs.

EDI Integration: EDI is available with several translator software packages and Value Added Networks (VAN). It offers businesses inbound and outbound mapping capabilities, forward/storage systems for trading partner transmissions and fast- response, error-free, efficient handling of accounting transactions.

As an award-winning IBM Premier Business Partner and software developer, VAI solutions provide the power and unsurpassed value that companies need to address key industry requirements and deliver bottom-line results. Our long-term partnerships with technology leaders, such as IBM, can help you develop a resilient technology infrastructure that provides a security-rich, agile, available, and recoverable environment for your business. One that gives you the flexibility to adjust to changing pressures, demands, and expectations. All supported by a comprehensive set of services, reflecting years of industry knowledge and experience. At VAI, we bring together the best of IBM—and our strategic partners—to effect change and optimize business performance.



Vormittag Associates, Inc.

120 Comac Street, Ronkonkoma, New York 11779

8 0 0 - 8 2 4 - 7 7 7 6

w w w . v a i - s o l u t i o n s . c o m



Microsoft, Outlook, Excel, and Word are registered trademarks of Microsoft Corporation in the United States and/or other countries. IBM and WebSphere are registered trademarks of International Business Machines Corporation in the United States, other countries, or both.