4700 140th Ave North #112
Clearwater, FL. 33762
727-538-2250
www.ndsapps.com

R E A L – T I M E
S O L U T I O N S

Forecasting & Advanced Planning

In most manufacturing and distribution companies, inventory represents one of the largest assets on the balance sheet. Too much inventory has an adverse effect on cash-flow and leads to increased obsolescence. Not enough inventory causes lost sales opportunities and lengthy delivery times, along with a multitude of problems on the manufacturing floor. Most of these problems can be averted by properly utilizing statistical forecasting and advanced planning tools. Statistically analyzing past performance provides a logical look into future requirements. Using these forecasts, along with accurate lead times and safety stock, can help to bring inventory levels in line with expected demand. The result is predictable inventory levels. When used in conjunction with your industry knowledge, the statistical forecasting and advanced planning tools that reside in the NDS ERP application can help you to maintain proper inventory levels and reduce or eliminate inventory shortages. By properly utilizing the forecasting and planning tools that come with the NDS ERP Solution—Your company can expect to gain some significant benefits:

- Coordinate inventory, production & purchasing

- Create a disciplined manufacturing environment

- Improve inventory turnover & delivery time

- Reduce production delays & the need to expedite

- Keep inventory levels in line with demand

- Greater customer satisfaction

The Forecasting and Advanced Planning tools in the NDS ERP Solution are Statistical Forecasting, Master Production Scheduling (MPS), Material Requirements Planning (MRP), Reorder Point, and the latest NDS planning tool - Proxy Item Planning.

Statistical Forecasting concentrates on using the past to predict the future by identifying trends, patterns and business developments within the company to create a forecast. This process uses mathematical formulas to identify the patterns and trends, while testing the results for mathematical reasonableness and confidence. In many forecasting processes, statistical forecasting forms the baseline that is adjusted throughout the process. Companies that implement accurate sales forecasting processes realize important benefits such as:

- Knowing when and how much to buy

- The ability to plan for production and capacity

NDS
get connected

4700 140th Ave North #112
Clearwater, FL. 33762
727-538-2250
www.ndsapps.com

[**R E A L – T I M E**
S O L U T I O N S]

- The ability to identify the pattern or trend of sales

- In depth knowledge of customers and the products they order

- Enhanced cash flow

The Statistical Forecasting module in NDS uses sales data to calculate forecasts of future activity according to rules set up for each item. These rules involve such things as: Do we base forecasts on sales orders shipped or taken? How do we properly group the items for the best results. Is seasonality a factor? Using the alpha and smoothing factors assigned to the group, the forecast calculation will not only calculate future requirements but will also analyze safety stock requirements. Additional forecasts can be added to handle things unknown to the forecasting module such as: upcoming promotions or new products. The forecast calculation results are merged by the application with any manually entered forecasts prior to being processed by MPS or Reorder Point.

A **Master Production Schedule** (MPS) is a manufacturing plan that quantifies significant processes, parts, and other resources in order to optimize production, to identify bottlenecks, and ensure component availability when needed. Since MPS drives shop floor activity, its quality dramatically affects a company's profitability. The MPS is a statement of what the company expects to produce and purchase, expressed in selected items, specific quantities and due dates. The MPS translates the business plan, including forecast demand, into a production plan using planned orders in a true multi-level optional component scheduling environment. Using MPS helps avoid shortages, costly expediting, last minute scheduling, and inefficient allocation of resources. Working with MPS allows businesses to consolidate planned parts and produce master schedules. The Master Production Schedule has become a necessary tool for many organizations to synchronize their planning and manufacturing operations and become more efficient. A Master Production Schedule is designed to set production schedules for just-in-time, make-to-order, make-to-stock and repetitive environments and to accept forecast data from a variety of sources. The MPS results may be presented in units or currency. The MPS is bucketless with a user-defined series of reporting periods for easy reference. The master scheduler establishes three planning time fences: the planning horizon, the firm planning time fence and the demand time fence. The planner can maintain planning exception messages, priority and filter levels for each message. A wide range of planning characteristics can be established at the item and plan level to define the planning rules. Such as component or parent scrap, lead time offsets and minimum and maximum production rates per period to help achieve just in time production. As planned orders are authorized, the capacity plan is automatically maintained. The MPS uses features such as statistical

4700 140th Ave North #112
Clearwater, FL. 33762
727-538-2250
www.ndsapps.com

R E A L – T I M E
S O L U T I O N S

forecasting, independent forecasts, rounding mechanism definition, variable period size and abnormal demand masks.

Material Requirements Planning (MRP) is a inventory and production planning tool used to manage manufacturing operations. Manufacturing organizations, whatever their products, face the same problem – the customers want products to be available in a shorter time than it takes to make them. This means that some level of planning is required. MRP is intended to meet three objectives:

- Ensure materials and products are available for production and delivery to customers.

- Maintain the lowest possible level of inventory.

- Plan manufacturing activities, delivery schedules and purchasing activities.

Companies need to control the types and quantities of materials they purchase, plan which products are to be produced and in what quantities and ensure that they are able to meet customer demand, all at the lowest possible cost. Making a bad decision in any of these areas will negatively impact profit margins. MRP is a tool to deal with these problems. It provides answers for several questions: *What* items are required? *How many* are required? *When* are they required? MRP can be applied to items that are purchased from outside suppliers and to finished goods and sub-assemblies, produced internally. All this enables manufacturers to realize substantial savings and improved efficiencies, including quicker inventory turns, more efficient use of production equipment and floor personnel, streamlined reporting procedures, and better use of vendors and suppliers. MRP allows users to shape their material planning process to fit their business. In addition to applying industry standard MRP logic, the NDS ERP engine provides for user-defined time periods and horizon. The planning data is retained in both bucketless and bucketed forms. The lag time between scheduled receipt and inventory availability is also user defined. MRP operates in simulation mode with an authorization step. After calculation of the MRP results, the new plan may be released to the system or it can be regenerated without affecting the production system. MRP can be calculated for a single plant or a group of plants. Managing material plans is simplified by the way in which data is viewed in the system. For example, an inquiry can be made which displays the complete plan for a part, including planned and released orders, projected available inventory and pegged requirements; or a simple inquiry which displays messages only. As planned orders are authorized, the capacity plan is automatically maintained. Like MPS, MRP also includes the minimum and maximum production rates for Just In Time manufacturing, full pegging and message inquiries and reports, scrap percentages and lead time offsets.

R E A L – T I M E
S O L U T I O N S

Many of our distribution customers use **Reorder Point** planning rather than MPS or MRP. This process uses the delivery lead time and the safety stock to determine inventory requirements. The reorder point for replenishment of stock occurs when available inventory drops below a user defined amount. The two factors that determine the appropriate order point are the delivery lead time of the item and safety stock which is the minimum level of inventory that is held as a protection against shortages. The result is replenishment requests get placed when the inventory reaches its reorder point. The new inventory should arrive before current stock is depleted. The NDS Reorder point program provides for retail and distribution center replenishment. The reorder point calculations can utilize forecast data from the NDS Forecasting program. It provides for a quick look at either a single item or items that currently have demand. If there are sales orders with future demand, we can limit demand by order due date. Items can be analyzed by buyer, planner, or product group. Interplant transfer requests can be automatically generated Purchase requisitions or planned manufacturing orders are created with a push of a button.

The latest NDS planning tool is **Proxy Planning**. Proxy planning is essentially spec controlled production planning. The NDS proxy planning program works in conjunction with other NDS planning engines, like MPS and MRP. Demand and supply requirements are gathered for the proxy item. When the plan is authorized, the proxy planning tool is used to review availability for component items that have specifications that fit the proxy item. Components are selected and manufacturing work orders are created. All from a single screen. The Proxy Planning tool can be used in environments that use raw materials such as: metals, plastics, paper, packaging, lumber, and many more. Among the features of the NDS Proxy Planning Tool are: Manufacturing work order release is determined based on the availability of any component that matches the requirements. By changing the base specifications of the proxy item, we can run a variety of "what if" scenarios. The same screen is used to match requirements, select components and release work orders to the production floor. If no components are currently available, purchase orders can be generated directly from the proxy planning screen. Pegging and netting information is available in user defined buckets within the user defined horizon period.

These robust and powerful advanced planning tools are just some of the many features included in the NDS ERP Application Suite. NDS-ERP is state of the art in both application capability and underlying technology. This web based software is developed with Oracle tools and operates on an Oracle database and application server. Along with the NDS ERP application, NDS also provides Xephr – a robust data integration, collaboration and presentation toolset. Use Xephr to develop web based customer or vendor portals, shopping carts or any type of custom user interface. NDS Systems and our Nationwide Partner Network are dedicated to providing the best possible ERP product, support, consulting, training and implementation services.

For more in depth information about the NDS Planning tools and how it can help your company, contact the NDS Sales Department or see the NDS Online Help at http://www.ndsapps.com/webhelp.htm.