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## Enterprise Resource Planning 101

### Getting more from business management software

By Rich Porayko

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Glass companies are no different than any other corporation; in order to be competitive they must invest in the equipment and tools to achieve their goals. National Glass Association members participating in a 2006 NGA Competitiveness Survey reported that they invested an average of 3.7 percent in information technology, and 44 percent planned on increasing that number.

#### ERP basics

An Enterprise Resource Planning system is one single system that serves the needs of the entire company from sales to production to human resources to finance. Historically, these departments have their own systems designed specifically for the ways that each department works.

ERP systems, such as Glassware V4.0 by Simplicity Computer Solutions, Ajax, Ontario, are built to integrate the data and processes all functions into one single system that uses a unified database. ERP handles transactions, maintains records, provides real time information and facilities planning and control. Essentially, ERP is a standardized set of best practices for performing a variety of tasks, including purchasing, production and finance. As a result, the various departments can more easily share information

and communicate with each other as well as to store data for various functions found throughout the organization.

#### Advantages of ERP systems

- One integrated system
- Streamlined processes and flows
- Superior communication with the ability to easily share data across various departments
- Improved productivity
- Better efficiencies
- Reduced waste
- Enhanced tracking and forecasting
- Increased throughput
- Improved customer service
- Cost reduction

In order to be considered ERP, a software system must provide an organization with functionality for two or more systems. Most ERP systems will cover multiple functions, while some packages will only cover two functions, for example QuickBooks for payroll and accounting. In many legacy systems functions such as CRM, Finance, Logistics, Manufacturing, and Human Resources may all be stand-alone applications with their own software and data stored in independent databases. Unfortunately, many of these systems are not able to communicate

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with one another or the data needs to be edited or rewritten for cross-computer system communication. With ERP they can all be centralized.

#### Key to ERP is integration

Integration cannot be under-emphasized with regards to ERP. The system's primary goal is to integrate data and processes from the entire organization and unify it for easy access, control and throughput.

Each different department, both upstream and downstream, sees the same information and has access to update the data. As the order passes from one department to another, the ERP system automatically routes the electronic order to the next process. To inquire about an order status, users can easily track it real-time through the ERP system as opposed to chasing paperwork. With a lot of dedicated planning and teamwork to get the implementation done properly, orders flow smoothly, throughput is increased and defects are reduced and customers are happy.

An integrated approach can have enormous benefits if the software is implemented correctly.

#### ERP embraces lean manufacturing

Glass companies often find that other glass companies across the continent, but not necessarily around the world, make the same product using the same methods. Specialized ERP systems written specifically for glass facilities come with standard methods for automating many of the steps of the glass manufacturing process including cutting, seaming, fabrication, silk-screening, tempering, laminating and insulated glass manufacturing. Using a specialized, integrated ERP system to standardize internal and external best practice processes such as inventory management and harp rack organization can increase productivity, save time and lower staffing levels.

In addition, ERP can reduce or even eliminate manufacturing muda (waste) (what is that?). ERP increases the visibility of purchasing, W.I.P.??? and finished product fulfillment. Better visibility opens opportunities for reduced raw material inventory. Through capacity planning and forecasting, the manufacturing process flows more smoothly, minimizing wait,

over processing and overproducing. Advanced scheduling also helps users better plan deliveries, further reducing finished product congestion in shipping areas. The ripple effect of this means less handling and less product damaged internally.

ERP can have a direct impact on defect reduction—for example a simplified and standardized order entry procedure can cut data entry errors—however, it also can be extremely valuable in capturing the information necessary to reach the higher hanging fruit such as scratches, distortion and missing W.I.P.

#### Generic vs. specialized ERP systems

ERP packages are made of an intricate system of database tables, thousands of them. Information system programmers and end users must configure these tables to match their desired business processes. Each table has a decision switch which defines the direction that the software will follow. Knowing precisely how the tables and switches should be set up requires an intimate understanding of the industry's best practices that is not available in a generic ERP system.

Specialized flat glass ERP systems, like Simplicity's Glassware, come off the shelf with standardized methods for glass processing, some including cutting, insulating glass manufacturing, laminating, drilling, screening, edging—i.e. adding for edgework—and tempering. Glass specific ERP systems also are pre-programmed with the unique characteristics and storage/handling/processing requirements of coated and non-coated glass. Glass ERPs have cleaner interfaces with industry CNC equipment and are designed to handle the quirks of the glass industry, such as complicated shapes, weights, thicknesses and edgework additions.

Generic ERP systems are often shipped as a shell system in which end users or outside consultants must determine and configure the basic micro level of how the system will function. This requires making thousands of long-term tactical decisions on the fly. These series of snap decisions will affect how their system functions and have a direct impact on core business activities.

Most glass-industry specific ERP systems are pre-configured, optimizing the number of procedural settings needed to be made by the customer to hundreds, rather than thousands.

#### Green benefits

Increased efficiency and reduced defects translates into less waste. In addition to the availability of smarter glass cutting optimizing software—for example SCS's YieldGenie—and a more streamlined, leaner operation as a whole, some ERP systems, such as Glassware, are written to accommodate common forms of digital documentation such as AutoCad files, MS Word, MS Excel, PDFs, photographs and



electronic scans of original purchase orders, notes and quotes.

The idea is driven by a number of motivators including productivity gains, costs savings, space saving, the need to share information and reduced environmental impact. ERP is designed to share information so the system simplifies the need to label and catalog the digital documents. Such storage allows the digital documents to be found more easily.

An organization with a successfully implemented ERP system will find more space and better organization with regards to desktops, filing cabinets, folders, shelves and drawing cabinets, all of which take up considerable space, requiring maintenance and equipment.

### Sourcing considerations

1. Prioritize your needs. Determine which features are “must haves” and which are “nice to have,” but are not necessary.
2. Is the vendor’s system designed specifically for the flat glass industry?
3. Consider location with regards to after-sales and service. Downtime related to time zones can be frustrating and costly. Even though a provider may have a sales office near your time zone, many glass software developers are located offshore. Overseas holidays are different than holidays in North America.
4. Will competent technical support be available in an emergency? What are the native languages of the support technicians? Due to time zone variances, overseas developers are known to provide customer support by “e-mail only within 48 hours.” Two days of production downtime waiting for an e-mail can feel like a lifetime. What is the clear response time for a technical support issue?
5. Will the ERP package communicate with your current equipment and software?
6. What pricing model(s) does the vendor’s ERP system support?
7. What are the hardware requirements? Network? User?
8. Is the vendor’s software bundled/packaged or is it modular?
9. What are the data conversion services and associated fees available to move corporate data, such as customer, pricing, product, supplier information, from the legacy system to the new client/server?
10. What customization options are available? What custom programming options are available and what are the associated costs?

Investigate the alternatives before purchasing. Do some homework to see what the current users’ opinions are of the system and of the supplying vendor. ■

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