

# Genius ERP by Genius Solutions

for (Engineer-to-Order) ETO ERP  
Manufacturing Retail

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## TEC CERTIFICATION REPORT

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TEC Certification Reports provide detailed analysis of  
leading software solutions that have successfully  
completed TEC's Certification Program

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# About This Report

**Product:** Genius ERP

**Version:** 11

**Release date:** 16 March, 2018

**Certification by:**

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Technology Evaluation Centers (TEC) is pleased to announce that Genius ERP by Genius Solutions is now TEC Certified for online evaluation of Engineer-to-Order (ETO) Manufacturing ERP solutions in the ERP Evaluation Center. The Engineer-to-Order Manufacturing ERP model enables you to compare and evaluate functionality based on TEC's comprehensive model of Engineer-to-Order Manufacturing ERP software. Data used in the Evaluation Center are obtained from the vendor's responses to TEC's research questionnaire. Certification ensures that Genius Solutions has demonstrated Genius ERP's support for specific real-world business processes chosen by TEC analysts, and that TEC analysts have analytically and comparatively reviewed research questionnaire data about Genius ERP against known benchmarks.

# Genius ERP—Complete Solution for Custom Manufacturers

The Genius ERP solution is a particularly strong fit for companies where the engineering department needs to be engaged throughout the manufacturing process. Because the software is built with engineering in mind, Genius customers can manage engineering changes on the fly—a situation that trip up other software solutions.

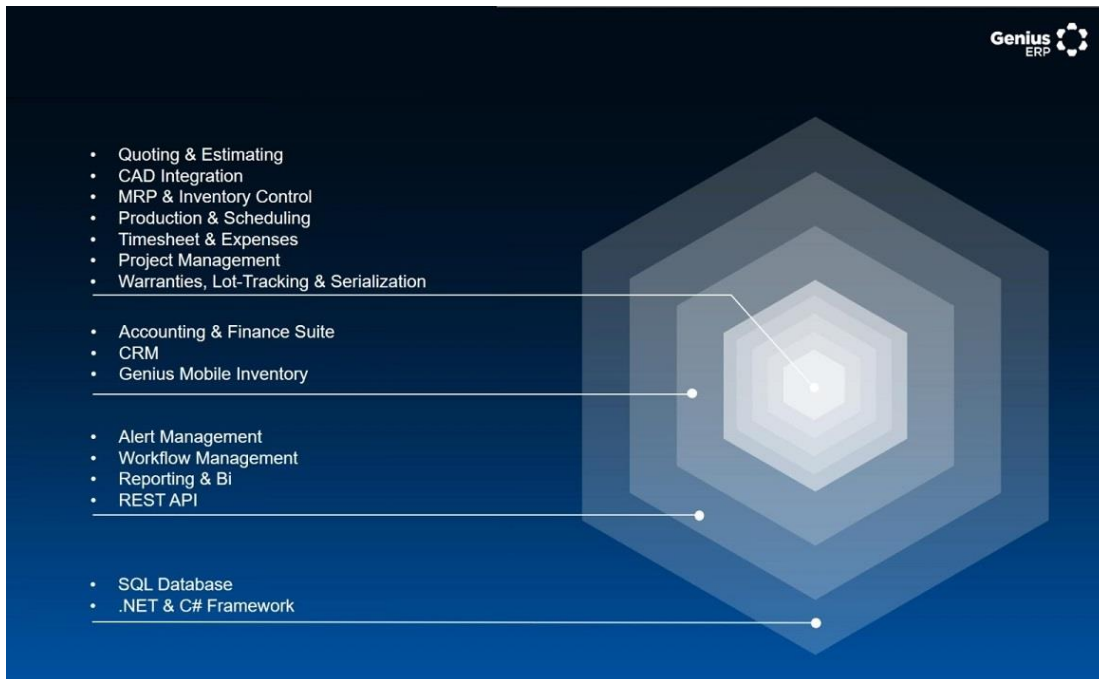


**Figure 1.** Genius ERP customer profile

Genius Solutions was founded in 1989 by industrial engineers to offer professional consulting services in industrial engineering. The first release of Genius manufacturing enterprise resource planning (ERP) system was in 1995 to fill unmet needs of manufacturing organizations. The Genius ERP solution is built to be a complete solution for small to midsize (SMB) manufacturers with custom-manufacturing requirements. Though Genius ERP support large-volume repetitive manufacturing operations, the solution's sweet spot is companies that operate one of the "to-order" manufacturing modes, including engineer-to-order (ETO), configure-to-order (CTO), and make-to-order (MTO) manufacturers (figure 1). The company has been in business for more than 30 years and as of 2019, hundreds of companies across North America trust the Genius platform to run their business operations.

Genius ERP is a full-suite ERP solution designed to support all core business processes in a manufacturing company (figure 2). The system capabilities focus on manufacturing

processes with support for quoting and estimating, computer aided design (CAD) integration, manufacturing requirements planning (MRP), inventory management, production and scheduling, project management, and lot and serial number controls. Genius ERP rounds out the ERP capabilities with full functionality for accounting and financials, customer relationship management (CRM), and mobile inventory solutions.



**Figure 2.** Genius ERP solution overview

The system is built using the Microsoft technology stack, so it runs on Microsoft's SQL database with the .NET and C# Framework. Other Genius platform capabilities include alert management, workflow management, and reporting and business intelligence (BI).

Genius focuses on a number of key verticals. These include machine and equipment manufacturers; mold, tool, and die; transportation (trailers, rails, and work trucks); PV and tank; automation solutions; and food and bakery (ovens). The company's sweet spot is companies with 20 to 300 employees. Genius understands that most ERP implementations fail because they aren't a good fit from the start. Genius focuses on getting a good fit to make sure that the ERP project won't fail.

Genius Solutions provides all services for its customers, from software selection to implementation through to ongoing system support. There are no third-party vendors that need engaged the Genius ERP application. Genius codes, implements, and supports the product from cradle to grave.

# Benchmark Results for Genius Solutions' Genius ERP

The TEC Focus Indicator presents the results of benchmarking Genius Solutions' Genius ERP against an **Industry Average**. TEC calculates the industry average for a given software market space based on product data from real-world software solutions, scoring solution support for hundreds to thousands of features and functions. The Industry Average circle in the middle of the graph is a normalized representation of the average of the scores.

- The Focus Indicator represents neither the quality of the product nor an absolute quantity of supported functionality. Rather, the **graph is normalized** to show *support relative to the average quantity of functionality supported*.
- The functional criteria have been equalized (attributed equal weight).
- High and low thresholds have been set in order to create the "Dominant," "Competitive," and "Minimal Support" zones (see below for more details).

## Reading the TEC Focus Indicator

The axes represent the main modules of a typical Engineer-to-Order Manufacturing ERP product and the red dots show the relative support of the product compared with the Industry Average. The closer a red dot is to the center, the more functionality the product supports for that module.

The **Industry Average circle** marks the relative support of the average Engineer-to-Order Manufacturing ERP product within the indicated market space.

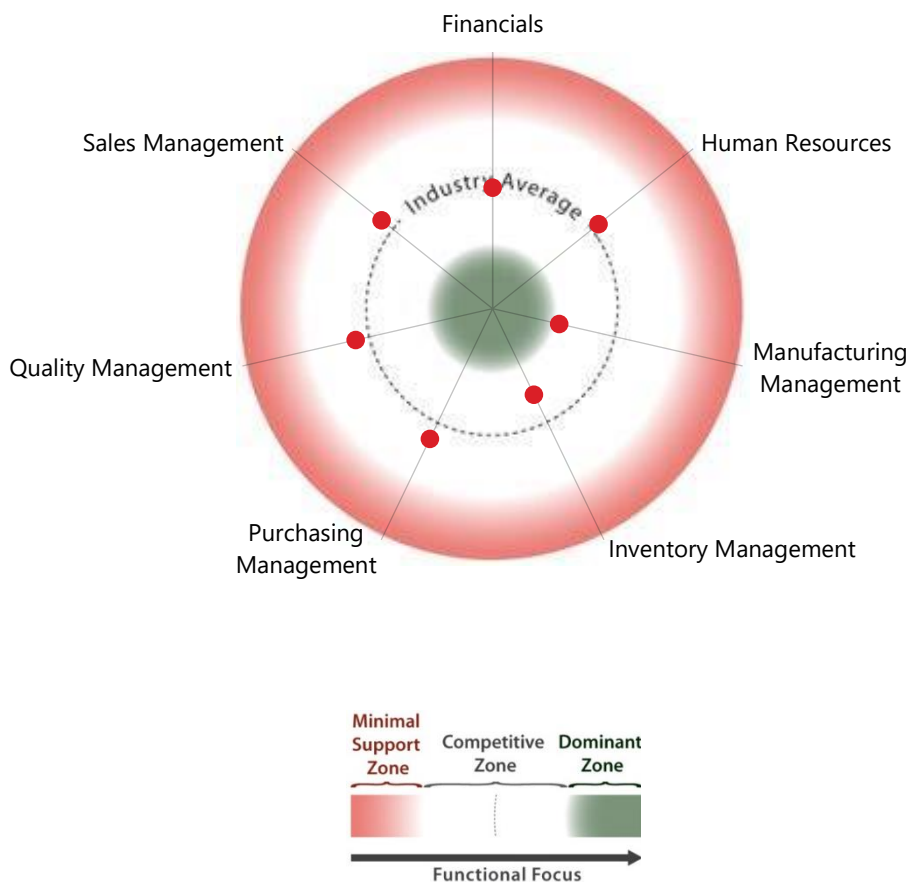
The **Dominant Zone** (green) shows where the product supports more functionality than the average solution. Dominant modules are likely to be competitive differentiators for the vendor.

The **Competitive Zone** (white) shows where the product supports about the same amount of functionality as the average solution. This typically indicates that most vendors in this market space support this functionality.

The **Minimal Support Zone** (red) shows where the product supports less functionality than the average solution. Minimal Support modules might indicate less of a focus for this functionality, as it may not have as much of an importance within the vendor's target market.

If your needs correspond to modules ranked closer to the center of the Focus Indicator Genius Solutions' Genius ERP may be an application worth evaluating.

This **TEC Focus Indicator™** shows you which types of functionality are likely differentiators for Genius Solutions' Genius ERP solution in the Engineer-to-Order Manufacturing ERP software space.



**TEC Focus Indicator for Genius ERP**

The Genius ERP solution scores in the Competitive Zone in all the modules of the ETO ERP module including Financials, Human Resources, Manufacturing Management, Inventory Management, Purchasing Management, Quality Management, and Sales Management. It scores higher in the manufacturing and inventory management modules.

Digging deeper into the results in TEC Advisor reveals that a number of features are currently being developed and are slated for upcoming releases.

Use TEC Advisor to compare for Genius Solutions' Genius ERP with other ERP solutions for Engineer-to-Order Manufacturing, according to your organization's needs and characteristics. [Compare now.](#)

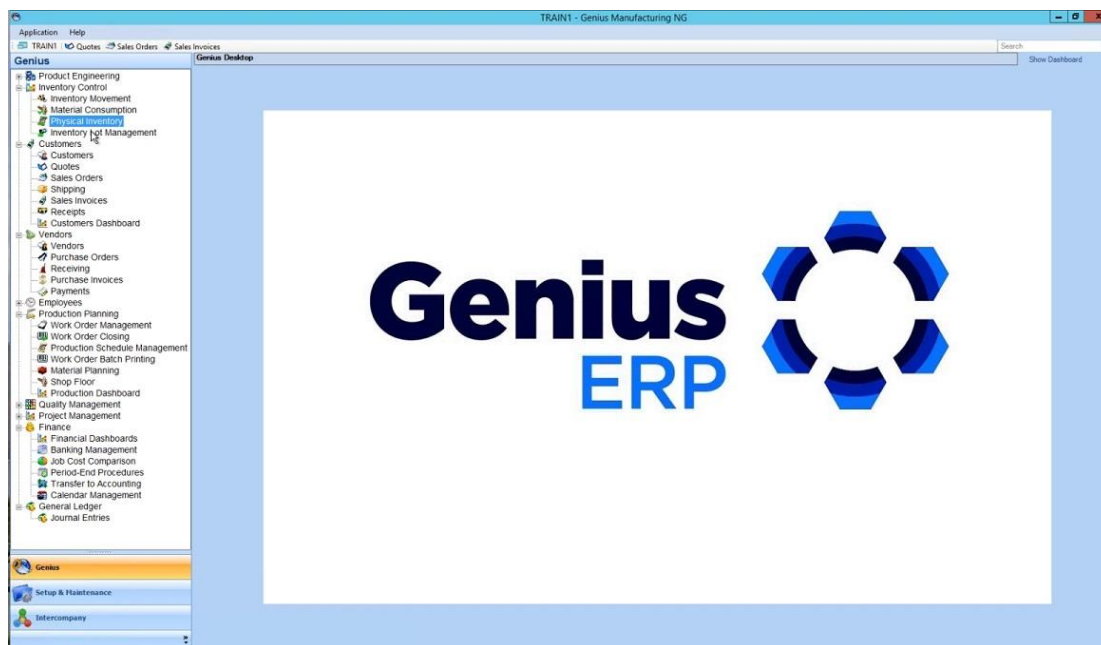
# Product Review: Genius Solutions' Genius ERP

Genius ERP was presented to TEC in a multi-hour, scripted demonstration. The presentation team demonstrated the latest version of the Genius ERP solution to TEC as part of the product certification process. During the first part of the product demonstration, Genius Solutions was tasked with showing the product's user interface, usability, customization features, and underlying business platform support such as reporting, document management, and alerts. In the second part of the demonstration, the Genius Solutions team showed the live execution of a suite of real-world business process scenarios including a quote-to-cash process and inventory management and purchasing processes.

## Fit and Finish

### Ease of Use

Users of Genius ERP will immediately recognize common interface features from other Microsoft products such as collapsible menus structures, application menus, and functions accessible from the ribbon bar at the top of the screen. The Genius ERP system was built using the Microsoft toolset and takes advantage of the common user interface elements available in this toolset. Figure 3 shows an example of the home screen in Genius ERP displaying a long list of functions available in the system. Of course, all the functions shown below would be available to only a user with the privileges to perform all these operations.

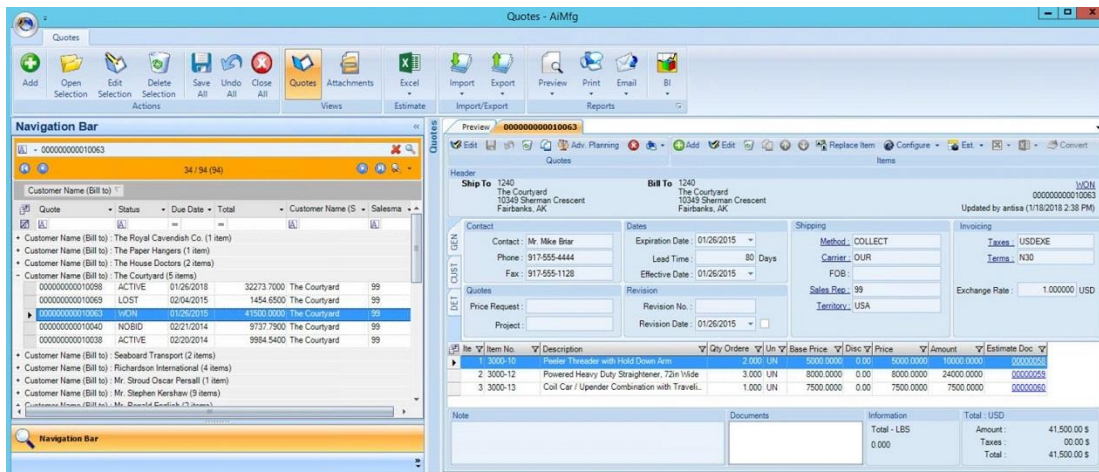


**Figure 3.** Genius ERP home screen

### Layout



Figure 4 exemplifies a common transaction screen in the system. This figure is an example of a quote screen showing a searchable and sortable list of quotes on the left side of the screen. The right-hand side of the screen displays the details of the particular quote selected on the left. A user can open any number of detailed quotes on the right-hand side, which will be available in separate tabs. This screen shows the common functions available from the ribbon bar such as open, edit, delete, save, print, etc.

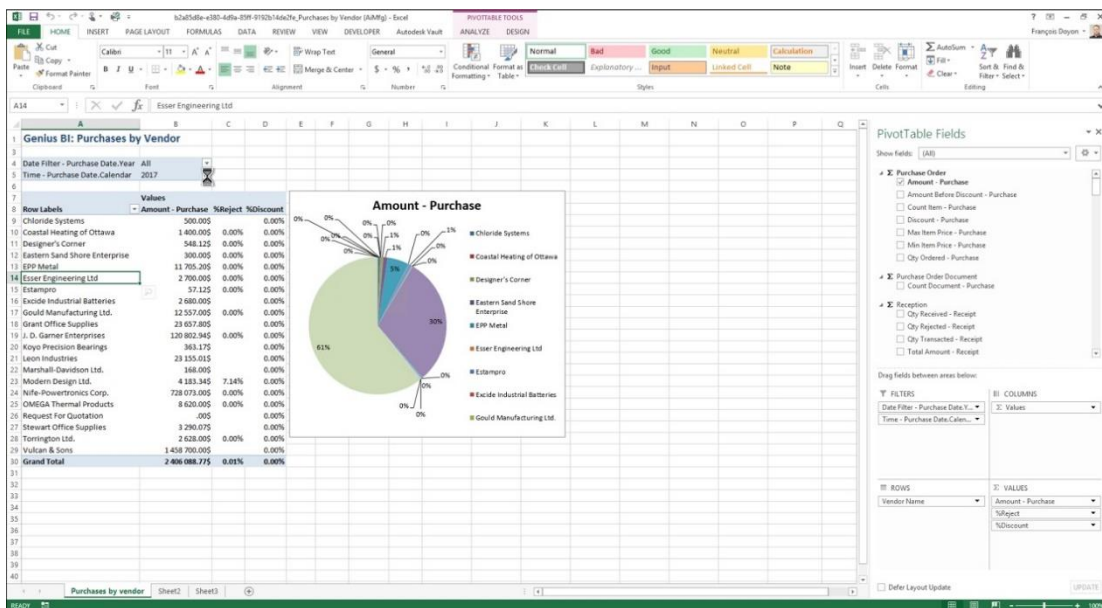


**Figure 4.** Genius ERP quote screen

## Reporting and Analytics

The majority of the production reports are built using Microsoft's SQL Server Reporting Services (SSRS). The reports are built on top of data views. Genius has built the reports on top of data views so that the views will remain stable over time even though there may be changes to the underlying tables and fields.

Genius also has a number of data cubes built for business intelligence users. The data can be pulled into Excel for analysis, graphing, pivot table creation, etc. (figure 5). This gives customers a lot of flexibility and freedom to create their own reports. The cubes can be set to refresh at whatever frequency the customer desires but are normally updated on a nightly basis.



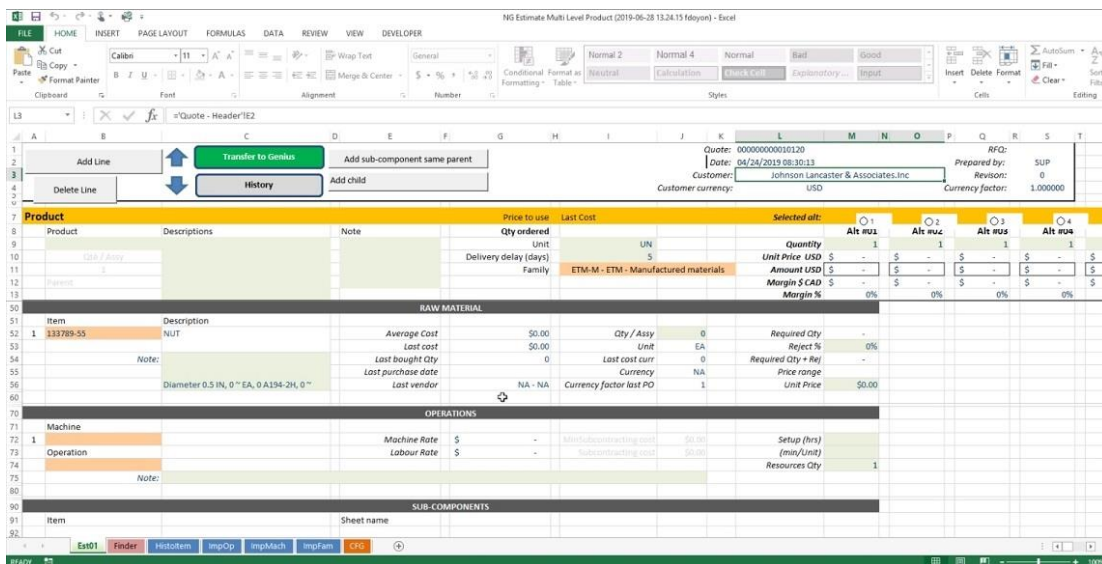
**Figure 5.** Purchases by vendor extracted into Excel

Users can also look at the cubes, data views, and underlying base data tables using Microsoft's Power BI. Power BI is very powerful and has many wonderful data visualization capabilities. Genius Solutions plans to release more reports using Power BI in the near future.

## To-Order Manufacturing Process Features

### Quote Development

Genius allows for quotes and estimates to be developed and processed via a couple different mechanisms. The first way is to allow clients to continue using their in-house spreadsheets for developing quotes. Many of Genius' clients have very intricate spreadsheets that have been developed over years to put together quotes. Genius decided that it was better to leverage this work than to try to replicate or move the logic into a configure, price, and quote tool. They have built an interface to customer quoting sheets that let a customer continue to work in their sheets and generate the quote back into Genius ERP (figure 6). The integration will pull in and validate relevant ERP data such as customer and product info. The import capabilities can import items, routings, pricing, etc. The final quote is pushed back into Genius ERP for the subsequent business operations of manufacturing, shipping, and billing.



**Figure 6.** Customer quote sheet integrated with Genius ERP

Genius ERP also has a full-featured product configure, price, quote (CPQ) application that can be used for creating custom product configurations. As this configurator comes built-in the product, it obviates the need to purchase a separate CPQ solution. The tool supports the use of different field types of components for selection, for example, radio buttons, drop-down menus, images. The different component selections can be cross-checked, and images can be included in the configuration.

In addition to these tools, and as shown in figure 4, the system lets users work on multiple quotes for the same order while maintaining versions of the quote. There are often multiple quotes and estimates that are worked on during the development of the final product for the customer. A customer often needs to add small tweaks to the order or engineering might need to make some changes. The system supports the ability to work through different versions of a final product by letting the sales team or engineers maintain multiple product quotes in the system. The system also tracks quotes that never made it into the product, so a company can track those that are active, lost, and won. Then, when the user is satisfied, they can flag a particular version as the engineered version that will move on to production.

## Computer Aided Design (CAD) Tool Bidirectional Integration

Genius ERP has full two-way integrations with SolidWorks and Inventor, and it can integrate with other leading CAD providers. These platinum partnerships give Genius ERP one-touch conversion from CAD models to a bill of materials (BOM). Figure 7 shows how a product designed in SolidWorks has had its BOM created in Genius ERP.

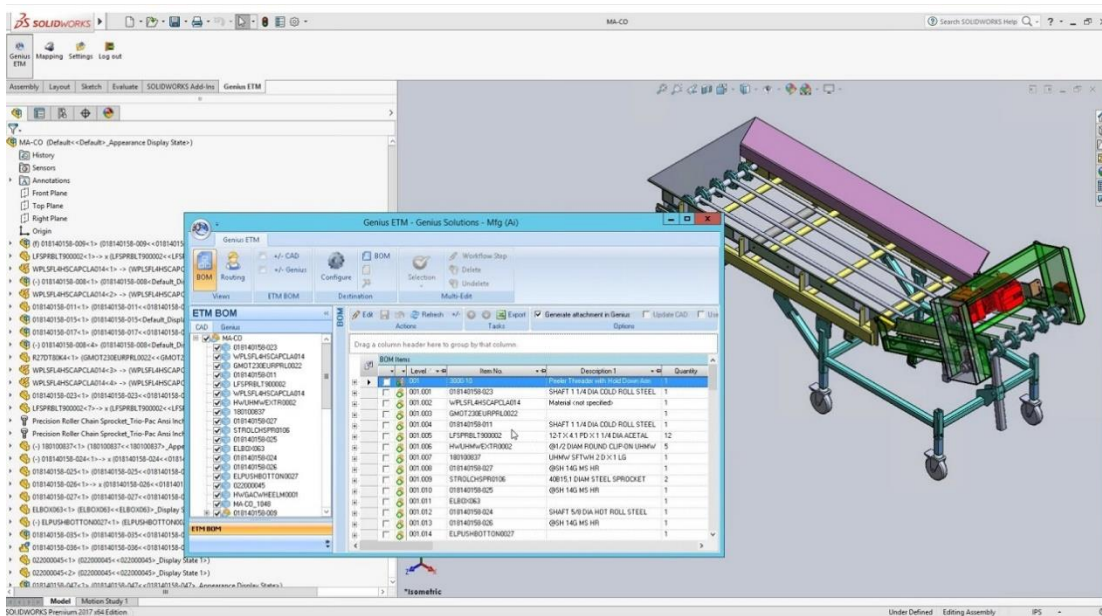


Figure 7. SolidWorks and Genius ERP integration

## Manufacturing Management

An example manufacturing job in Genius ERP is shown in figure 8. The left-hand side of the screen lists the job and all the components that are needed to complete the job. On this screen, a user can view all the components and subassemblies of the product on the left. The right-hand side has more details for the job, with tabs that break down other information regarding the job, such as any shipments, invoices, material planning requirements, job milestones, and shipping information.

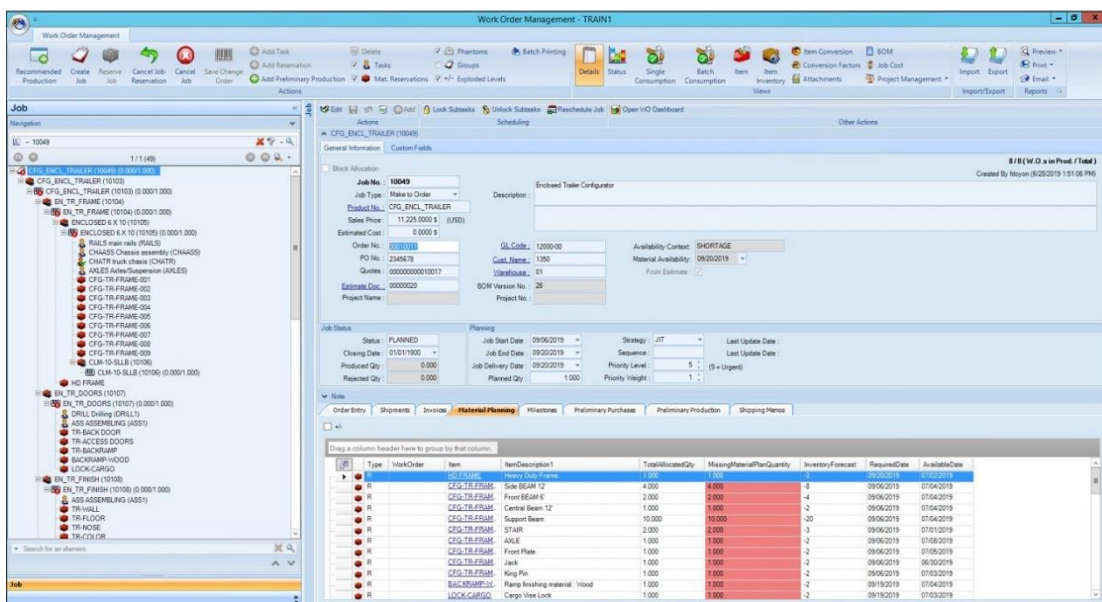


Figure 8. Manufacturing job screen

There are some very elegant features in Genius ERP that are especially well suited to to-

order manufacturing operations. One such feature is the ability to initiate purchasing and manufacturing work from the quote even before the manufacturing job has been initiated. Manufacturing jobs can also be changed while in progress. The purchasing requirements for a particular job are easily initiated by dragging the purchasing requirements for a job up into a purchase order for immediate creation. These are all subtle features are not supported by other ERP systems.

# TEC Analyst Observations on Genius Solutions'

## Genius ERP

Genius ERP has some particularly well thought-out capabilities to support to-order manufacturing processes. These features support processes that are vitally important to customers of the solution, such as quoting and estimating, CAD integration, and production scheduling. These features are unique to Genius ERP and make it stand out from the crowd when comparing it with other discrete manufacturing ETO ERP systems.

Functionally, Genius ERP is a complete solution for small to midsize manufacturers requiring a "to-order" manufacturing solution. To-order manufacturing companies include engineer-to-order (ETO), configure-to-order (CTO), and make-to-order (MTO) manufacturers. The solution is complete in that it is competitive across TEC's ETO ERP model, which includes modules for manufacturing, financials, inventory, CRM, purchasing, sales, and human resources. The solution is stronger in the manufacturing, inventory, and financials area than in other areas such as human resources, where it relies on third-party solutions to fill in gaps.

The architecture and user experience are built on Microsoft technologies, which provide a solid fundamental base for the solution. The Microsoft .NET and SQL server technologies allow the solution to work with other parts of the Microsoft ecosystem, including cloud deployment on Azure and use of Microsoft's Power BI tools. However, the solution would benefit from a refresh of the user experience using the latest design approaches that are being adopted across the enterprise application landscape. Genius Solutions has plans to move forward with this refresh and we look forward to seeing this unfold and to see the underlying capabilities backed by a modern user experience.

Overall, the Genius ERP solution is a good fit for to-order manufacturers, especially those requiring hands-on engineering before and during the manufacturing process. Genius is not a big name among the many North American discrete manufacturing solutions, but it should be on the shortlist of solutions for organizations looking to move to an ERP solution to support their to-order manufacturing needs.

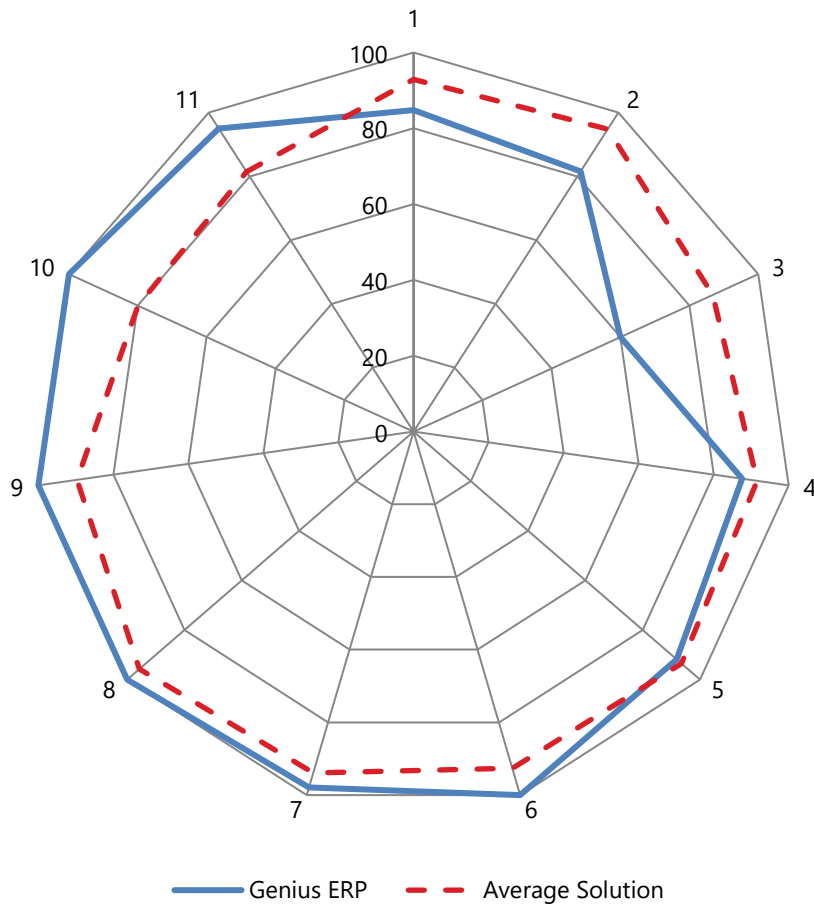
# Detailed Functionality Graphs for Genius Solutions - Genius ERP

The following functionality benchmark graphs represent the quantity of support by Genius ERP for the functionality within each module identified in the TEC Focus Indicator, on a scale of 0 to 100 points. The closer the plotted value is to 100 (toward the outside in spider graphs, toward the top in bar graphs), the more functionality Genius ERP supports. The functionality of Genius ERP is shown in blue; an average of what competitor solutions offer is shown in red.

Financials  
Human Resources  
Manufacturing Management  
Inventory Management  
Purchasing Management  
Quality Management  
Sales Management

## Financials

The Financials module provides features and functions that allow accountants and financial managers to ensure financial transactions are tracked and properly recorded, and that this information is available via reports and other data retrieval tools. Traditionally, this module includes the General Ledger, Accounts Payable, Fixed Assets, Cost accounting, Cash Management, Budgeting, Accounts Receivable, Financial Reporting, and Project Accounting submodules. Because of the project-based nature of ETO manufacturing, this module also includes the ETO Project Accounting and Project Billing submodules.

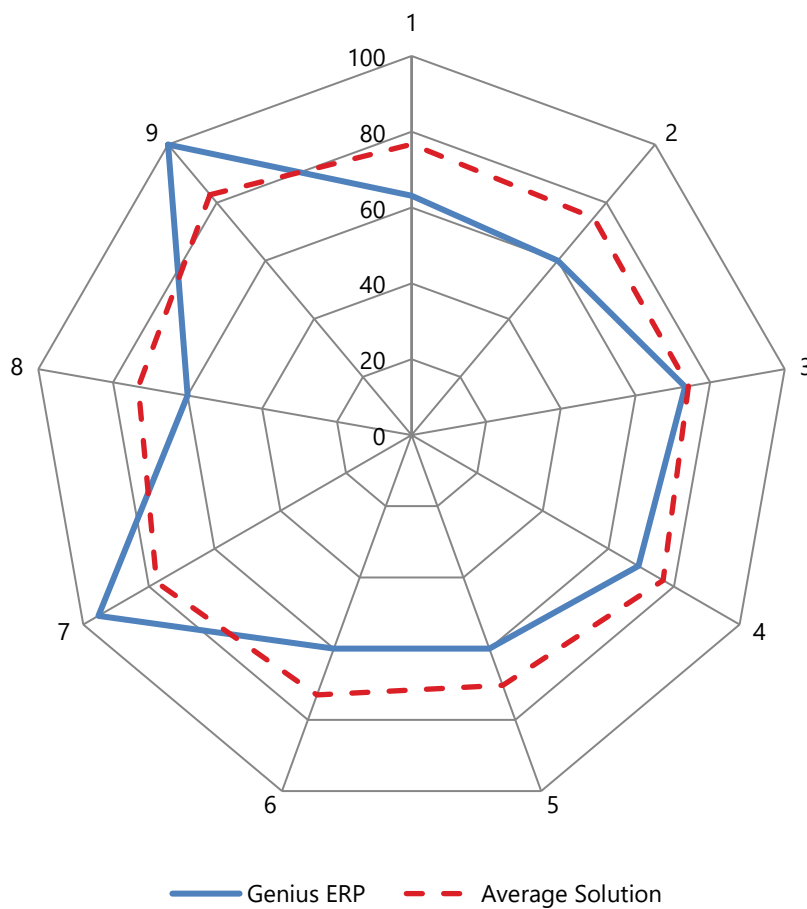


Criteria	Genius ERP Score	Average Score
1 General Ledger	84.8	92.9
2 Accounts Payable (A/P)	81.6	94.8
3 Fixed Assets	60.0	86.8
4 Cost Accounting	87.6	91.6
5 Cash Management	91.9	93.5
6 Budgeting	100	92.6
7 Accounts Receivable	97.9	93.9
8 Financial Reporting	100	95.7
9 Project Accounting	100	89.7
10 ETO Project Accounting	100	79.9
11 Project Billing	95.0	81.5



## Human Resources

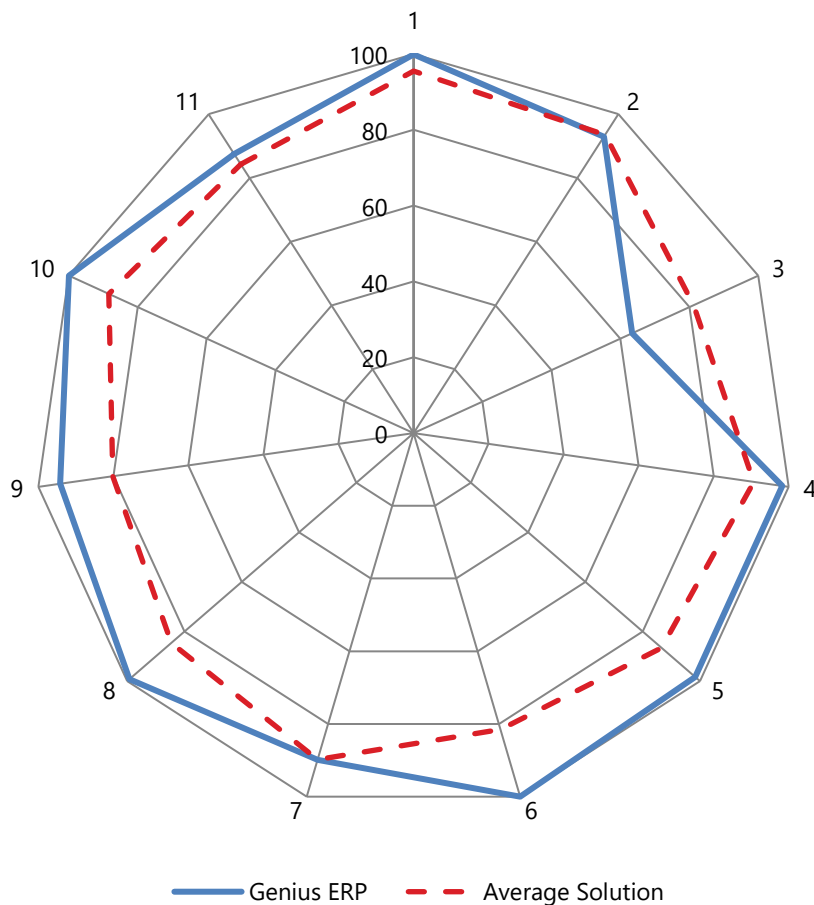
Human Resources management encompasses all the applications necessary for handling personnel-related tasks for corporate managers and individual employees. Submodules include Personnel Management, Benefits, Payroll, Employee Self-Service, Employee Metrics, Health and Safety, Workforce Management, Training, and Automated Time and Attendance.



Criteria	Genius ERP Score	Average Score
1 Personnel Management	63.1	76.7
2 Benefits	60.0	74.8
3 Payroll	73.3	74.2
4 Employee Self-Service	69.1	76.7
5 Employee Metrics	60.0	70.3
6 Health and Safety	60.0	73
7 Workforce Management	95.4	77.7
8 Training	60.0	73.2
9 Automated Time and Attendance	100	82.7

## Manufacturing Management

Manufacturing Management for the ETO manufacturing model covers the project-based aspect of ETO manufacturing and provides the ability to plan production according to projects at various scales, rolling high-level plans down into daily schedules of individual machines and workers, and tracing real-time situations on the production shop floor and in the planning to control ETO manufacturing. This ensures that manufacturing facilities follow production projects in an accurate and timely manner, and that manufacturing schedules and operations are altered as required. It involves product configuring, work center and machine dispatching, all aspects of work-in-progress management, along with comprehensive product costing functionality. It also provides a consolidated view of the production situation using extensive multilevel reporting capabilities, and integration with product development or lifecycle management systems.

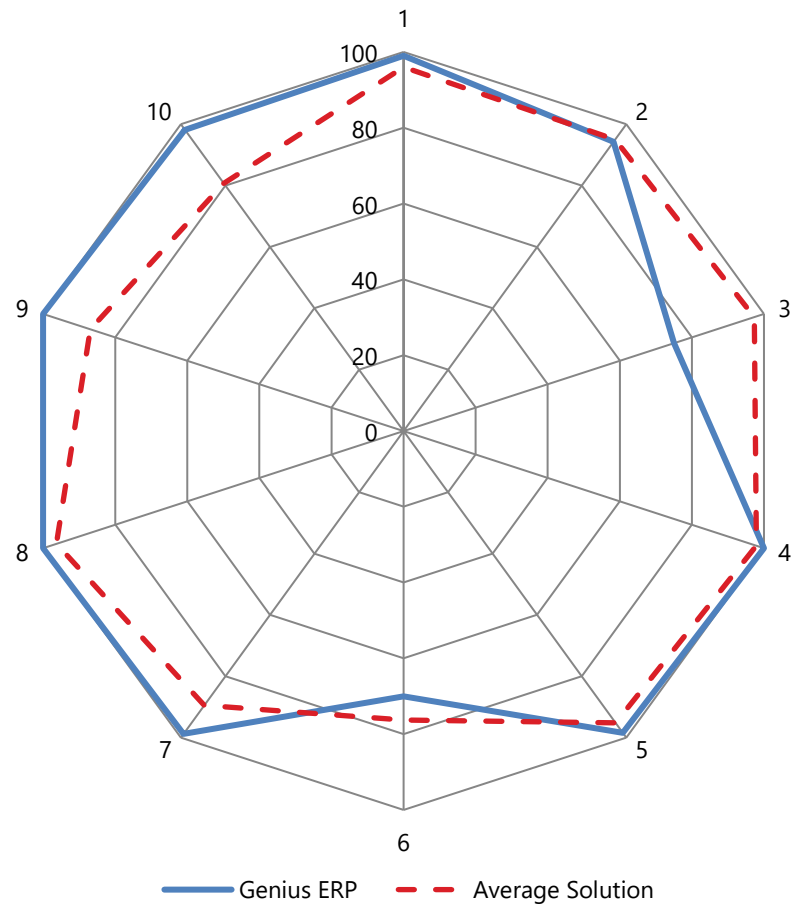


Criteria		Genius ERP Score	Average Score
1	Product Costing	99.9	95.5
2	Shop Floor Control	92.9	93.5
3	Field Service and Repairs	63.4	81.2
4	Production Planning	98.3	90.7
5	Project Management	98.3	86.6
6	ETO Project Management	100	81.5
7	Product Data Management (PDM)	89.9	89.8
8	Product/Item Configurator	99.2	84.6

9	Item Master, Product Structure, PDM and PLM	94.2	80.2
10	ETO Manufacturing and Production	100	88.4
11	Shop Floor Data Collection (SFDC)	87.5	84.3

## Inventory Management

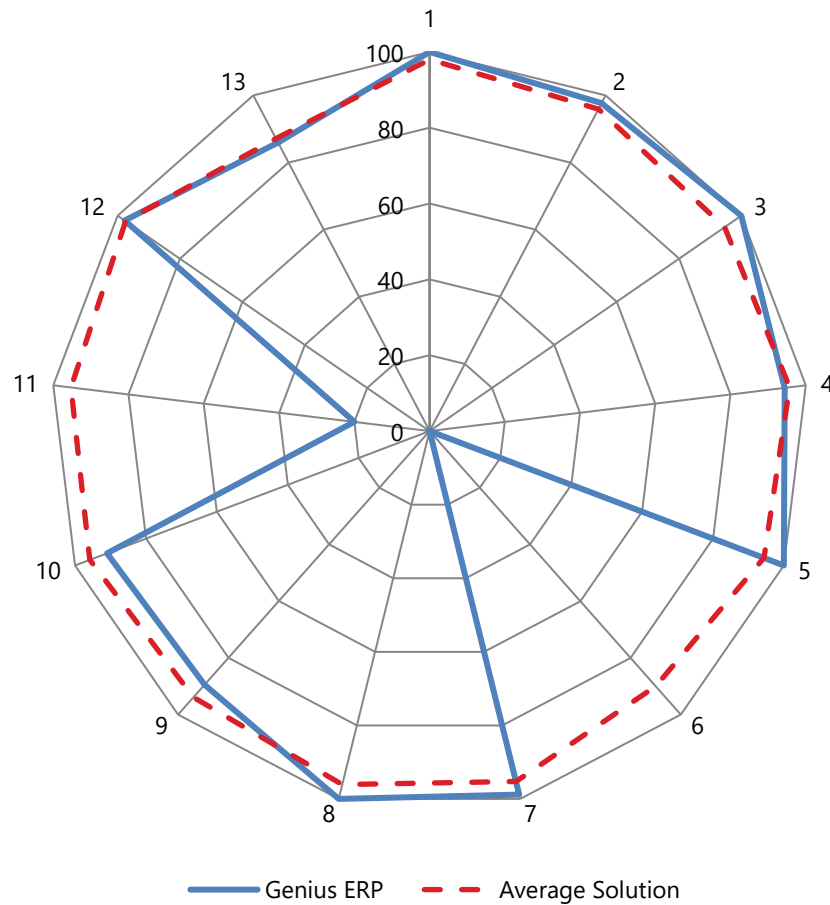
Inventory Management functionality addresses the record-keeping of warehoused goods, and the managing of the movement of these goods to, from, and through warehouses. Forecasting, finished goods reservation and allocation processes, ETO-specific criteria, and inventory adjustments are also a part of this functional module.



Criteria		Genius ERP Score	Average Score
1	Inventory Management—Online Requirements	99.0	96
2	Processing Requirements	94.3	95
3	Data Requirements	75.0	97.3
4	Reporting and Interfacing Requirements (Inventory Management)	100	97.9
5	Locations and Lot Control	98.5	95.2
6	Forecasting	70.0	76.3
7	Reservations and Allocations	98.8	89.5
8	Adjusting Inventory	100	96.3
9	ETO Inventory	100	86.9
10	Customer-furnished Items	98.2	80.7

## Purchasing Management

Purchasing Management encompasses a group of applications that controls the purchasing of raw materials and manages inventory stocks. It also involves creating purchase orders or contracts, supplier tracking, goods receipt and payment, regulatory compliance analysis and reporting, as well as ETO-related purchasing specifics.

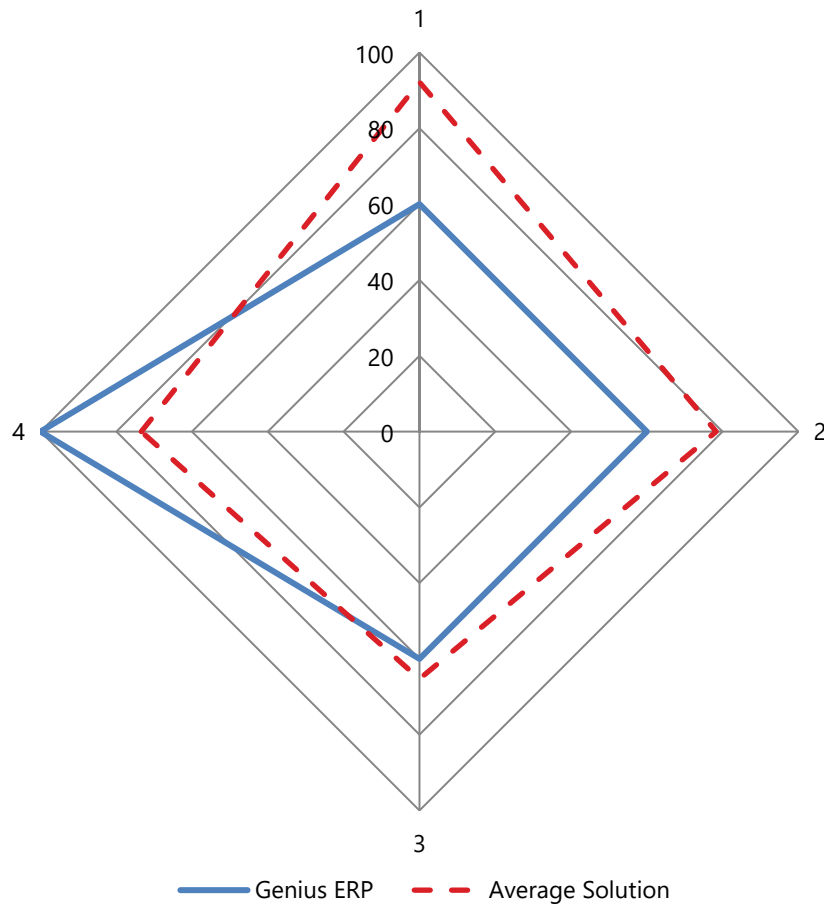


Criteria	Genius ERP Score	Average Score
1 Profile of Suppliers	100	98
2 Rating of Suppliers	97.7	95.9
3 Requisitions and Quotations	100	94.6
4 Purchase Orders (POs)	94.4	95.7
5 Pricing	100	94.4
6 Vendor Contracts and Agreements	0	90
7 Management of POs	98.8	95.3
8 Procurement Reporting and Online Reporting	100	96.1
9 Repeat Procurement	89.5	93.9
10 Receipts for Procurement	91	95.9
11 Online Requirements for Purchasing Management	20	95.3
12 Reporting and Interfacing Requirements for Purchasing Management	97.8	97.5

13	ETO Purchasing Management	86	87.1
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## Quality Management

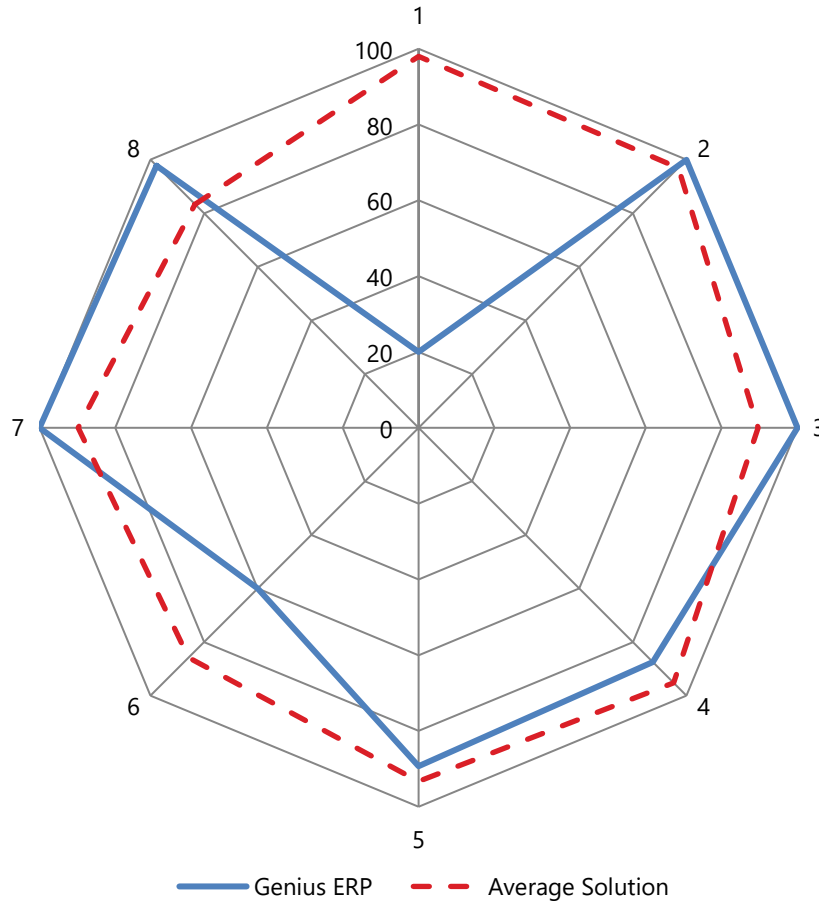
Quality Management refers to the set of actions taken by an organization to ensure that it creates and delivers high-quality products. Organizations must comply with national and international rules and regulations related to product quality, but they often also create and use internal requirements for quality control. Specific procedures need to be set up in order to ensure that the end products comply with internal or external quality standards. All these activities need to be well documented in order to provide the information needed when customers are not satisfied with the quality of the products received. Government agencies may also require this information for control and verification.



Criteria		Genius ERP Score	Average Score
1	Production Quality Management	60.0	92.2
2	Workflow Management	60.0	78.3
3	Non-Production Quality Management	60.0	65.3
4	Inventory Quality Management	100	73.4

## Sales Management

Sales Management encompasses a group of applications that automates the data entry process of customer orders and keeps track of the status of orders. It involves order entry, order tracing and status reporting, pricing, invoicing, etc. It also provides basic functionality for lead tracking, customer information, quote processing, pricing and rebates, etc.



Criteria	Genius ERP Score	Average Score
1 Online Requirements (Sales Management)	20.0	98
2 Reporting and Interfacing Requirements (Sales Management)	100	97
3 Available-to-Promise (ATP)	100	89.6
4 Pricing and Discounting	87.4	95.2
5 Customer Service and Returned Goods Handling	89.3	93.3
6 Customer Relationship Management (CRM)	60.0	85.8
7 Customer Support	100	89.8
8 Sales Management and Quotation	97.8	83.4

Use TEC Advisor to compare for Genius Solutions' Genius ERP with other ERP solutions for engineer-to-order (ETO) manufacturing, according to your organization's needs and characteristics. [Compare now.](#)