

PLEX SYSTEMS

MANUFACTURING SOFTWARE REVIEW BY SHELDON NEEDLE



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Plex Systems

Plex is an ERP system developed for an auto parts manufacturer and expanded to address issues in several industry verticals. Purchased in June 2012, Plex is owned by Francisco Partners, a private equity group specializing in high tech business. Plex's main office is in Troy Michigan and has about 300 employees with about 750 clients; each client may have multiple installs.

Introduction

Plex is an ERP system which specializes in SaaS, Software as a Service, or "Cloud Computing," which means you do not purchase or run the software on your server. The application and your data reside on a server provided by the vendor which is accessed via secured web connections. Your technical responsibilities include maintaining web access and the network running at your location. Maintenance of the application and the database is handled by the vendor. Implementation and integration are performed mostly through Plex's own consultants but several partner relationships are used for sales and implementation.

Plex powers over 1,100 plants in 20 countries with a 95% renewal rate and over 75% of customer employees log into Plex every day. Plex provides its entire ERP solution via an online service, meaning users need nothing but a log-in and a web browser to get started. Unlike retrofitted solutions that claim to be in the cloud, Plex provides a single technology stack to all of its customers, meaning lower costs, higher scalability, and access to continuous innovation.

Plex Profile

- Plex is best suited to repetitive discrete manufacturing for Make-to-Order (typical in Auto) and Make-to-Stock. It is not ideal for Engineer to order.
- Plex is -focused on Motor Vehicles, Aerospace and Defense
- Plex is best suited to companies of \$50M + in revenues and multiple plants
- Plex was designed from the ground-up to connect suppliers, manage materials, control machines, and deliver the accounting, human resources and business intelligence manufacturing organizations need.
- Fully integrated EDI as well as key trading partner mappings are included.
- Complete machine integration means Plex connects people and machines and tools on the plant floor.
- The Plex development process is completely driven and informed by manufacturing customers.
- Plex is a unified comprehensive suite. Every aspect of the Plex Manufacturing Cloud Plex has been organically built based on customer needs.

Industry Verticals Served

Plex focuses on discrete, mix mode, process and make to order manufacturing processes. It has strong engineering and its shop floor functionality makes it very suitable for the industry verticals it seeks to support:

- Aerospace Defense
- Automotive and OEM
- Metal Formers
- High Tech/Electronics
- Industrial Mfg.

Component Modules

Plex Systems is comprised of the traditional ERP modules which include accounting, manufacturing, materials management and customer order management. Going beyond the traditional offering, Plex Systems also addresses additional functionality to provide a wider approach beyond the traditional ERP systems.

- **Accounting** - Includes: the traditional modules accounts payable, accounts receivable, general ledger (budgeting, costing, financial statements, inventory valuation and multi-company financial consolidation are additional features included with the package).
- **Management System / Document Control System** - Includes: document control system, CAD Integration, and Universal Attachment System all of which are becoming standard with packages addressing an engineered product.
- **Costing** - Includes: actual costing, standard costing, , and part cost structure makes this function very comprehensive..
- **E-Commerce** - Includes: online orders, shipping, inventory tracking and online supplier management but it's not clear what, if anything, is available for product configuration.
- **Groupware Communications** - Includes: activity/task manage, broadcast e-mail, bulletin board, calendar, checklist system, contact management, in/out board, issue management, key performance indicators, team/group setup, visitor log, and workflow among other features.
- **Human Resources** - Includes: positions & job descriptions, employee records, health/safety, training, skill matrix, employee expense tracking, time & attendance, labor tracking, time clock payroll interface, and labor activity tracking all extra functionality which is not normally part of an ERP system.
- **Inventory Tracking** - Includes: serialization, parts traceability & product genealogy, physical / cycle Inventory, consignment inventory, lot tracking, scrap & rejection tracking, containerization, returnable container tracking, job tracking system make this a very comprehensive offering.
- **Project Management** - Manages part numbers, revision levels, part specifications, manufacturing routings, and bills of materials , fairly standard suite of capabilities for project management
- **Manufacturing Execution System/Manufacturing Operations Management** - Includes: bar code labeling, track containers, integrated engineering controls, support for rapid assembly operations, support for Kanban, PLC/machine integration, preventative maintenance, production scheduling and shop floor control and automated tool tracking and will all be needed to support the wide variety of industrial sectors Plex serves.
- **Quality Management** - Includes: statistical process control, part specifications, control plans, and inspection data collection
- **Business Intelligence** - Includes: pre-programmed reports which contain data filters; various presentation reports and

graphical presentation options are available

- **Supply Chain** - Includes: supplier quality control management and EDI which will need to be combined with the functions listed above to completely address the application.
- **Customer Relationship Management** - Includes: opportunity tracking, quote tracking, estimating, configurator, pricing, field service, commissions tracking, and competitor database, all of which are good additions to a traditional ERP offering.

Product & Program Management

Product & Program Management is an integral part of the Plex Manufacturing Cloud giving you a distinct advantage over separate, stand-alone tools as with typical ERP systems. Virtually everything that happens in Plex including production, quality, inventory tracking, purchasing, cost accounting and even shipping starts with a common source of data and is managed throughout a program.

Plex Product & Program Management offers:

- **Single Source of Data** - Customer requirements and documentation are securely accessible and synchronized across your production operations so that all team members and stakeholders can make decisions with confidence that they are looking at a single version of the truth. Because it is an integral piece of everything we do, cost and quality from the shop floor can be collected and managed from the top floor.

- **Managed Change** - The only constant in product design is change so it's important that you can react quickly before you produce too much of a down-rev product. With Plex, a specification change made anywhere is reflected everywhere so you don't have to hunt through the system to identify affected objects. With revision control and effectivity handling, your cross-functional teams stay synchronized.
- **Program Execution** - Plex Program Management helps your cross-functional teams to drive standardization and continuous improvement into your new programs. Stakeholders can drive increased productivity and capacity because they have visibility of program progress and the ability to easily track and respond to program issues, timing, actions and costing.

Production Management (Discrete)

Production Management is at the heart of the Plex Manufacturing Execution System (MES) with efficient scheduling and a unique Control Panel that is connected all the way to your shop floor equipment. Unlike any other MES solution, Inventory and Quality Management are completely embedded to deliver a uniquely unified MES solution.

Plex Production Management offers:

- **Scheduling Efficiency** - With Plex Production Management, you can plan, schedule, and dispatch production operations for more agile, efficient, and repeatable execution. You can make faster and more efficient scheduling trade-off decisions to better manage production

schedules - even with finite resources. And with real-time production scheduling, you can communicate issues immediately - resulting in more lean operations.

- **Production Hub** - The Plex Control Panel is a common, unified production hub that monitors and controls inventory, quality, and cost in real time. You can eliminate multiple systems with a single, configurable, touch-screen-optimized, Control Panel to directly capture setup, inspection, production, scrap, maintenance, and labor information in real time. Easy to learn and use touchscreen puts data collection and ownership in the hands of your operators for better accuracy and accountability.
- **In-the-Box Connectivity** - Plex Production Management includes machine integration tools to connect the production hub with your shop floor equipment wherever you need it. With direct connectivity (including wireless) to shop floor automation you capture data in real-time to eliminate errors and increase traceability and accountability. You can even stop production automatically to prevent quality issues from getting out of control.

Quality Management (Discrete)

Plex Quality Management brings together increased supply chain visibility and real-time quality capture at the “manufacturing moment” to ensure repeatability, predictability, and compliance certification while reducing variations and defects. Plex Quality Management is an integral component of the Plex Manufacturing Execution System (MES).

Plex Quality Management offers:

- **Supply Chain Visibility** - Increased visibility through tighter tracking of your supply chain allows you to improve supplier performance resulting in improved overall efficiency. Your Plex enabled suppliers can utilize Plex to fill out checksheets in their system that automatically validates quality in real-time before it gets to you. This paperless process facilitates quicker, more comprehensive analysis.
- **Integral Quality** - Improve your overall performance and reduce the cost of quality and risk of recalls or warranty issues by making quality management integral to your ERP system. Synchronizing quality data throughout production such that a specification change made anywhere is reflected everywhere, eliminates errors and your risk of poor quality.
- **Certified Quality** - You can achieve and retain quality certifications important in your industry - or for your customers - with best in class quality certification. Managing supplier certifications with scorecards managed directly in Plex gives auditors instant access to required documentation.

In addition to these software features Plex details the business processes which form the basis of its programming design. Users of the software can remodel their own processes to the Plex System to assure close alignment to these processes.

Technical Discussion

Plex is built on the Microsoft Operating System with Microsoft SQL as the database. Several programming languages including C Sharp, Visual Basic, ASP.Net, Dynamic HTML, Vector Markup,

ASP and Java Scripts were used to create the application. Traditional cost per user is not relevant when calculating the software's cost since subscription cost is based on the number of transactions the server processes.

- Financials and Costing functionality are very strong and complement the package's functionality

Comments on Noteworthy Components

Plex is a comprehensive software solution which has modules and features that address business solutions beyond the traditional ERP systems. Operating in the "cloud" provides a solution for small and mid-sized companies seeking comprehensive solutions to their business issues.

The buyer however should be aware of the following:

- While "cloud" solutions typically have a lower entry cost, that cost will grow as transactional volume increases
- Using technical resources at Plex to support on-going operations may require additional expense
- Automated interfaces with common carrier's systems may have to be programmed
- Available to promise at order entry may not consider component level inventory
- Remote warehouses and plants may not have different costing methods
- Physical Inventory, both cycle and annual counts, may require stopping all inventory activity instead of just blocking relevant transactions
- Purchasing/Receiving is strong but references at the PO line level to manufacturing order or customer order is not featured and will require additional programming
- If your company is an importer, then landed costs allocation, during receiving, will need to be programmed

Summary

Plex is a comprehensive ERP system with considerable capabilities. Plex claims to have a rapid implementation cycle since hardware infrastructure is not a component to it. Rarely, however, do we find hardware infrastructure an implementation delay factor but we do find divergence between the software and user business practices a significant cause of delay. Notwithstanding the vendor claims of flexibility, be sure your business practices match Plex in your due diligence investigation or be prepared to undertake Business Process changes or additional programming costs as part of the implementation.

Finally, understand the costs of “Cloud Computing” thoroughly since there is a benefit of

not having to be concerned with hardware infrastructure and employing people to technically support the ERP environment. Similar to non-cloud offerings, however, you will still have to provide applications support for users of the system. In addition be sure you understand business growth issues and the potential increased transactions and cost impact that would be generated.

Plex has awards for excellence and a review of the functionality of their package is impressive. If your company is in the industrial verticals they serve and you are interested in a cloud solution, then Plex should be on your short list of potential solutions.

About Sheldon Needle



A former CFO, consultant and software designer, Sheldon Needle has authored or co-authored more than 20 books on software selection and has contributed articles to major publications, including the Journal of Accountancy and Nation's Business. CTSGuides.com has the distinction of being the very first company to do hands-on, independent evaluations of software for the middle market.

Sheldon speaks with business owners and managers every day about software selection and makes personalized recommendations based on their needs and budget. He is widely known and respected throughout the business software community for his independence, integrity and expertise.

As part of registering for our free software selection kit, you receive a 15-minute consult with Sheldon. Sheldon understands financial and business issues and speaks your language.

He knows the leading software companies—how they compare, their strengths and weaknesses, where they fit into the market and which ones would be suitable for your business.