

The Power of Controlling the Plant Floor for Food and Beverage



At a Glance:

- This paper highlights the value of using a single-source cloud ERP system to control your food processing plant floor.
- A comprehensive ERP solution with a built-in manufacturing execution system (MES) offers food processors/manufacturers a clear view of what is happening on the plant floor so they can track complete genealogies.
- Support for food and beverage industry standards compliance makes it easy to control quality while providing virtually automatic compliance as well.

[PLEX.COM](https://www.plex.com) | 855.534.8012

The Power of Cloud ERP on the Processing Plant Floor

Today's food processors/manufacturers gain a key competitive advantage by implementing an ERP system with a built-in MES that enables strong plant floor management.

While many ERP software companies claim to support food processors, they do little more than accounting, order entry and other office tasks. They lack an MES and are therefore not suitable for use on the plant floor. They provide little value to the steps involved in manufacturing, processing or packaging and they do little to support processors in complying with food safety mandates such as the Food Safety Modernization Act (FSMA).

The key is to implement a solution that includes process instructions, recipe management, traceability and product genealogy, production scheduling, real-time ingredient control, production tracking, lot control, and labor tracking in a single, tightly integrated solution.

“Intuitive touch screen control panels give employees access to everything they need to do their jobs more efficiently.”

MES Control on the Plant Floor

A comprehensive ERP and MES system supports a food processor's plant floor activities in the following ways:

- Easy-to-use screens efficiently track and control all processing steps.
- Complete plant floor visibility enables complete genealogies and end-to-end traceability.
- Real-time, up-to-the-minute product data improves plant floor productivity.
- Barcode labeling and printing creates automatic traceability resulting in processing efficiencies.

PLEX.COM | 855.534.8012

Employee Productivity

Easy-to-use panels, logs and screens are available for employees right in their work areas on the plant floor. Intuitive touch screens give them access to everything they need to do their jobs more efficiently. The control panels and process area logs are just a few examples.

- Control panels provide a simple-to-use, yet powerful user interface for plant floor personnel to review work instructions, track and control process activities, record labor hours, production, inventory, and much more.
- Process area logs provide detailed histories of all events that occur during process set-up, including all production, maintenance and downtime. Users can access the logs to pull reports on uptime, availability and machine efficiency.

Production Visibility

Rigorous barcode track and trace, process area logs, and many other plant floor tools are integrated with production tracking, inventory, labor tracking and hazard analysis with critical control points hazard analysis and critical control points (HACCP) plans to enable complete visibility across all processing steps. Users can better manage quality, scheduling and work-in-progress inventory by tracking individual containers or individual ingredients as they flow through their processing steps.

Best-in-class ERP solutions provide a complete genealogy of all inventory, including one-up and one-back traceability. This is ideal for identifying and isolating any issues in the case of an audit or recall.

Comprehensive Data Management

A robust ERP solution like the Plex Manufacturing Cloud maintains all of the data for the entire organization in a single, central, secure database to eliminate separate data silos. For example, the system contains all ingredient lists, recipes and formulations needed for each finished food product as well as all of the customers, jobs, and certifications needed to run the business.

- Ingredient lists – Robust plant floor tracking includes a master list of

[PLEX.COM](https://plex.com) | [855.534.8012](tel:855.534.8012)

ingredients with all associated data such as food product descriptions, ingredient types and recipe revisions. The item list automatically links with many other functions and areas within the ERP system such as key item dates, customer item numbers, inventory, shipment history, customer problem histories and more.

“The Plex Manufacturing Cloud brings advanced technology to help food processors maximize productivity on the plant floor.”

- Recipes – A thorough recipe includes each process step, process name, approved process areas and suppliers, weights, container types and related data.
- Formulations – Each process has a distinct formulation which defines the ingredients that make up an item. A flexible function offers methods for visualizing and editing formulations.

In their daily work, plant floor personnel access various trackers that help them improve the speed and quality of processing steps, including set-ups and clean-ups. Here are a few examples:

- Production and work order trackers – Plant floor personnel use production trackers and work order trackers to retrieve instructions, track activities and record production against processing requests – all in real time.
- Set-up and clean-up trackers – The set-up/clean-up tracker function records process area set-up times and issues, including detailed data on reasons for set-up delays. This helps employees shorten set-up times and improve set-up consistency.

Advanced Planning and Scheduling

Included material requirements planning (MRP) makes it easier to determine the proper quantities of ingredients as well as when to purchase them to ensure timely delivery that lessens the risk of spoilage.

[PLEX.COM](https://plex.com) | 855.534.8012

Finite Scheduling

When scheduling becomes more complex and must take into account dependencies for available resources, finite scheduling can help to fit individual jobs into the plan while considering constraints of human, machine, time, and even financial resources.

Supply Chain Planning

Go beyond orders for a more forward-looking plan that enables enterprise-wide cross-functional sales and operations planning to optimize master production scheduling and more timely order fulfillment with “available to promise” dates.

Manufacturing Intelligence

Modern manufacturing is a data-driven business but too many companies are unable to make use of the vast amount of data they collect. With analytic applications for different functional areas that provide easy-to-read dashboards and business insights, sales, finance, and manufacturing leaders have the “telemetry” they need to make faster, more confident decisions.

Closed-loop Quality Management

Integral Control Plans

Quality is key to MES but is often a separate tool with its own integrations to manage. With control plans that actually control production operations you have much less risk of quality leaks because the system controls each step in production.

Automatic Checksheets

When the control plan specifies an inspection or measurement, a checksheet can be automatically presented and required to ensure that the operator does not take shortcuts. Even the entry fields are randomized so they cannot be repetitively filled out without actually doing the inspection.

[PLEX.COM](https://www.plex.com) | 855.534.8012

Integration of Digital Devices

Many manufacturers use digital devices like temperature probes, weigh scales and other automation for faster, more accurate inspections. By connecting the devices directly, the numbers are inserted automatically in the right fields of the form.

Real-time Statistical Process Control (SPC)

With SPC, quality managers can monitor trends in dimensions and tolerances but with SPC charts that are produced automatically at the workcenters, an operator can catch a measurement trending out of control limits and make corrections or call for help before product is out of spec and wasted.

MES Gives You Control

For food and beverage manufacturers, there is no better way to control the plant floor than with a powerful cloud MES solution. But when MES is combined as a native component of your ERP solution, you gain more than shop floor control. You control your entire manufacturing business.

PLEX.COM | 855.534.8012

About Plex

Plex is the Manufacturing Cloud, delivering industry-leading ERP and manufacturing automation to more than 500 companies across process and discrete industries. Plex pioneered cloud solutions for the shop floor, connecting suppliers, machines, people, systems, and customers with capabilities that are easy to configure, deliver continuous innovation, and reduce IT costs. With insight that starts on the production line, Plex helps companies see and understand every aspect of their business ecosystems, enabling them to lead in ever-changing markets. Learn more at www.plex.com.