

## Entivity Material Handling Success Story #404



### Customer Profile

FloStor Engineering has a national reputation as a solutions-oriented company for material handling integration of complex automated systems.

#### Application

- Material Handling

#### Industry

- Mail Order Fulfillment

#### Location and Web Site

- Hayward, CA
- [www.flostor.com](http://www.flostor.com)

#### Key Benefits

- Better inventory control
- Improved accuracy
- Integration with shipping manifest system through simple Visual Basic program
- Debug and simulation tools permitted control program testing/debug before actual start-up
- 90% reduction in development time for serial barcode interface

#### Mission Critical Capability

- Reduced from two shifts to one while increasing volume



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# E-Fulfillment Solution Doubles Throughput with Entivity™

Peet's Coffee & Tea is known for their dark roasted coffee. Because of strong growth in their mail order/website business, they needed to automate their roasting plant's packaging and shipping system. This led them to FloStor Engineering, another Bay Area company, to meet their automation needs.

"We needed a new automated fulfillment system for the busy December season, which can be 250% more than our normal volume of 3,500 packages per week," according to Ray McKay, Peet's Mail Order Fulfillment Manager. The old fulfillment system was a manual operation, requiring two shifts to complete the orders for each day.

Given Peet's priorities, FloStor Engineering went to work on the system design. Now, the daily shipping operation is down to just one shift.

#### Ease-of-Use Requirement Leads to Live!

According to Chuck Ireland, Vice President of FloStor Engineering, "We chose Think & Do Live! from Entivity and Honeywell's Smart Distributed System (SDS) to bring in a great solution. The SDS control network uses a single 4-wire cable for device-level connections. SDS devices have advanced device-level functions and preventative diagnostics. Live!'s intelligent network driver automatically identifies devices on the network and allows direct access to device attribute information and diagnostic data.



FloStor's material handling installation at Peet's Coffee & Tea (control station at center)

#### E-manufacturing with Live!

"One of the more complex areas of integration is that the new system had to work with Peet's existing shipping manifest software," according to McKay. This system generated an order file with theoretical weight per order, destination zip code, and transit time classification. This information is forwarded to the shipping manifest system, which selects the best-cost shipping method and assigns tracking/delivery confirmation numbers to each order. This file is transferred back to the legacy system in order to print confirmation numbers on peel-off address labels.

Each barcode label documents order items, estimated weight, and shipping information. According to that information, boxes are filled with coffee, tea, and accessories. The automation system designed by FloStor utilizes the barcode labels throughout the fulfillment process to:

- Confirm that the box is within expected weight limits (if outside the limits, the box

## Customer Satisfaction

**“We chose Think & Do Live! from Entivity and Honeywell’s Smart Distributed System (SDS) to bring in a great solution for Peet’s Coffee & Tea.”**

*Chuck Ireland  
Vice President  
FloStor Engineering*

is diverted and manually fixed by an operator prior to being sent to the appropriate shipping lane)

- Send the filled box to the appropriate shipping lane

Prior to actual shipment, each box is scanned again to verify its exact weight. The automation system collects this information and sends it to the shipping manifest software so that appropriate carrier payments can be made according to the exact weight of each order.

### Conveyors That Do More Than Convey

The high throughput requirements of the conveyor system meant the automation system had to remove manual labor bottlenecks by adding a barcode scanning station and automated box taper. These devices, along with the in-line weigh scales, were connected to the automation system via serial inputs.

Additionally, the PC-based automation system included an SDS protocol network of about thirty 24V DC-powered control devices running on two SDS nodes. The devices included motor starters, photoelectric sensors, proximity sensors, input and output modules, E-Stop pull cord switches, solenoid

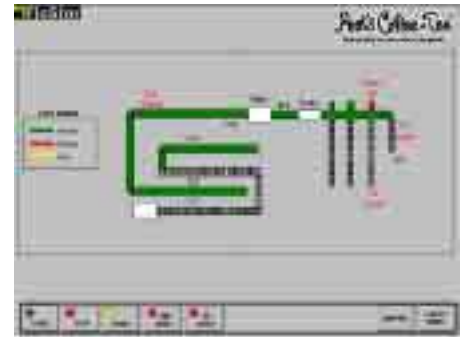
valves and valve banks. FloStor Engineering contracted control programming to John Skates, Senior Project Engineer with Banziger Banks, Inc. According to Skates, “Live!’s flowcharting tools are extremely effective for material handling applications. I probably saved 50% in programming time alone compared to using a PLC solution.”

Other Live! features that Skates mentioned as helpful during the project’s testing were the AppTracker debugging tools and simulation flowcharts. AppTracker is a multi-paned application debug tool. “With both AppTracker and the simulation tools, I was able to pre-commission (test) flowcharts prior to start-up,” Skates noted. Start-up time was quicker because the code was well debugged and tested.

### Better HMI Screens

By using the new HMI screens, Peet’s operators can quickly identify if something is wrong and fix it. According to Neil Rowe, Peet’s Director of Plant Operations, “Change for any person is not always easy. But after our operators became comfortable with the system, including how to use its graphical screens, they wouldn’t have it any other way.” The HMI layout consists of a Main Menu, Production Information screens, and System Diagnostic screens.

As a control programmer, Skates especially likes ScreenView, Live!’s HMI editor, which is well-integrated with the flowchart tools. ScreenView accesses the same list of application data names as the flowchart tools, saving development time by avoiding the need to retype



HMI Overview screen of conveyor system, using ScreenView’s logic-dependent colors for alarms

data names. Skates points out another major benefit of Live!’s integrated HMI: “It is really handy using Live! because I’m able to modify the HMI screens online. As compared to other HMI packages — precious time is wasted because they require a complete offline recompiling step for a change to be implemented.”

### Support for Any Problem

Live!’s technical support staff received rave reviews from all. FloStor’s Ireland emphasized, “From the start, Live! support convinced me that I made the right technology decision. If someone helps me and is committed to solving my problems, I will continue to buy from them.” Control programmer Skates also emphasized, “Live!’s tech support was brilliant. We had some obscure serial communications problems during start-up that were the result of hardware issues, and they were able to solve the problem.”

For more information on how Entivity can help solve your application, visit our website at [www.entivity.com](http://www.entivity.com), or call (800) 722-6875.