



# RF Enabled SAPConsole Transactions Help Manufacturing Plant Reduce Labor Expenses and Inventory Levels

## ORGANIZATION:

A leading manufacturer of adhesives and coatings used by the automotive, aerospace, and aircraft industries. The company has manufacturing plants in the US, and Asia Pacific regions.

## APPLICATION:

Implementation of a SAPConsole radio frequency (RF) system integrated with SAP R/3 4.6c enterprise resource planning (ERP) system.

## ENVIRONMENT:

Workers hand wrote labels and recorded inventory transactions on paper which required a considerable amount of time, often led to errors, and kept inventory records at least a day out of date.

## KEY BENEFITS:

- Eliminated delivery of incorrect parts to assembly line minimizing assembly shut down
- Product moves into inventory in one hour compared to one day in past
- Reduced labor expenses
- Reduced inventory levels

## Overview of Organization

The company made the decision to use Radio Frequency for data entry in four manufacturing plants and selected PEAK Technologies, a SAP systems integrator, to define the scope and implement the project. Workers, who in the past hand wrote labels and manually recorded inventory records, now have automatically generated bar-coded labels for every incoming shipment and use handheld wireless computers to track inventory movements through the plant to update SAP on a real-time basis. Substantial productivity gains have been achieved because it takes just a few seconds to generate RF transactions compared to minutes to fill out a form. Additional time has been saved because the RF system makes it practical to track the location of every item, saving time that was previously spent looking for parts. The system also automatically checks that the right components are being stored and delivered at multiple stages of the process, virtually eliminating errors.

## Challenge/Opportunity

Several years ago, the company implemented SAP with the goal of providing access to information that would enable people at all levels of the organization to make better decisions in order to improve efficiency and quality. The implementation was successful but managers realized that the reports generated by the ERP system were only as good as the company's ability to update it on a timely basis. The initial implementation made it necessary for workers to write information down on paper and, when they had time, hand the forms off to clerks who entered them. This presented a particular problem in the manufacturing plants because the company's success is largely dependent upon ensuring a continuous supply of high-quality raw materials.

The weaknesses of the previous approach began when components were delivered to the company's receiving docks. Employees in receiving wrote out labels by hand that were used to track the flow of the goods. It took a considerable amount of time to generate labels and there was always a risk that a data entry error could reverberate through the manufacturing process. The lag in this process



and delay for data entry meant that it was typically a full shift before an incoming shipment would show up in the ERP system.

In the past, after the goods were labeled, workers moved them to a storage location. There wasn't time to record the location where the goods were stored so workers performing picking operations had to rely upon their memory to find them. Sometimes, a shipment might be lost and required a considerable amount of time to track down. In addition, a mistake in either the labeling or the picking operations could result in a similar-looking but incorrect component being delivered to production. In a number of cases, the assembly workers didn't notice the mistake and spent considerable time and money assembling the product only to have to do it again when quality control rejected the entire batch.

In addition, much of the incoming material is delivered on consignment and is only purchased from the supplier at the time of assembly. This used to make it necessary for supervisors to keep track of which products were on consignment, make entries on paper forms, and later record them at a terminal. This manual process left a lot of room for data entry errors. Another similar problem came when parts were removed from inventory or manufacturing for destructive testing. The paper-based process of recording these transactions was also error-prone, which on occasion forced assembly lines to be shut down because the company planned to use components that no longer existed or were no longer in inventory.

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The manufacturer's management concluded that they could dramatically improve the efficiency of their operations by recording transactions with handheld wireless computers and updating the SAP database more efficiently with an RF system. Accomplishing this goal was complicated by the fact that the RF system needed to interface closely with the company's SAP system and their SAP implementation team was no longer available. Another challenge was that the company wanted to bring four of their manufacturing sites online within a very short period of time, straining the resources of most RF integrators.

## Application/Solution

The manufacturer selected PEAK Technologies to provide a complete RF solution, including designing and installing the RF infrastructure, developing the RF transactions within SAPConsole, and provide training and go-live support for all sites. PEAK was selected because of its extensive experience in integrating RF systems with SAP. In addition, PEAK's global capabilities not only made it possible to bring all four sites on line in two-week intervals but will also make it possible to implement RF systems in the company's other facilities around the world. PEAK's SAP expertise was particularly useful in this application because PEAK consultants were able to fully understand the SAP configuration without input from the original implementers and developed transactions that took full advantage of the configuration. For example, the manufacturer's staff originally didn't realize that the SAP Lean Warehouse Management (Lean WM) module had been installed for finished goods warehouses. PEAK consultants not only pointed out its existence but also took advantage of its capabilities to upgrade several existing processes.

The new RF-enabled process begins when material is received from suppliers. Employees now use handheld wireless computers to scan barcodes on inbound crates or manually enter the information on the handheld thereby updating inventory information in SAP immediately. A nearby printer then automatically prints a bar-coded label based on the receipt of material thereby eliminating the time and risk of errors involved in producing the label by hand. The

putaway transaction allows the user to scan the product off the receiving dock and into the storage bin which provides location tracking of every item in the warehouse. This allows workers the ability to query the system to find the location of any item from their handheld wireless computers in both the Inventory Management (IM) maintained raw material warehouses or the Warehouse Management (WM) maintained finished goods warehouses. When the material is correctly scanned into the put away bin, the product immediately appears as being available in SAP. The RF user scans each item during the picking process and the transaction is programmed to validate that the worker has picked the right quantity of the correct item. In case an error is made, the operator receives a message explaining what is wrong and is asked to correct the erroneous data. The transaction has also been enhanced to automatically alert the user that they are picking consignment material and allow them to automatically process the consignment transaction on the handheld wireless computer at the exact same time they are picking the product. This has totally eliminated the need for manual tracking of consignment material.

## Benefits/Results

The RF system provides major gains in productivity by eliminating paper forms and manual data entry. Product now moves from the loading dock into inventory in about an hour compared to one day in the past, reducing labor expenses and making it possible to reduce inventory levels. The multiple validation features incorporated into the RF transactions have eliminated the delivery of incorrect parts to the assembly line, increasing manufacturing productivity and quality while minimizing assembly shut-downs. The RF system distinguishes items that have been delivered on consignment and, when they are delivered to the assembly area, automatically generates an accounts receivable transaction so the consignment vendor can be paid in a timely manner. The RF system also automates the process of tracking items that are removed from inventory for destructive testing.

**The Company saved substantial amounts of labor and also has improved quality in plants manufacturing engineered components.**



A PLATINUM EQUITY COMPANY

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