

# The Challenge: Supply Chain Management, Environmental Factors, and Logistics

## Baggage Scanner/Inspection System

### The Client

The Client is a leader in scanners for baggage inspection systems used in airports around the world. Because of FAA controls and the potential for air service delays, the systems are designed with rigorous reliability controls to assure non-stop operation.

The Client has built a reputation for systems that are:

- ▶ Highly effective in detecting dangerous items and substances
- ▶ Exceptionally reliable
- ▶ Cost competitive with alternative systems available in the industry

### The Business Problem

The baggage inspection system incorporates a sophisticated uninterruptable power supply (UPS). The completed UPS consists of components from several suppliers and includes large, heavy batteries, which have a carefully controlled shelf life.

The Client came to ConRes because the UPS subsystems were failing during a key customer's field trials. Without a quick solution, they risked losing an important new customer.

Managing deployment of the UPS system presented unique issues. Battery life degrades over time; batteries stored uncharged for more than six months cannot be deployed and batteries need to be trickle-charged to maintain a delivery-ready full charge. Furthermore, the UPS consisted of parts from multiple suppliers, which complicated just-in-time delivery of the completed systems. The Client was looking to outsource the entire process of ordering, assembling, managing and shipping of the complete UPS systems and wanted to address key problem areas:

- ▶ The system's large size and 150lb weight required several people to deploy
- ▶ Just-in-time delivery, coordinated with baggage scanner installations, was difficult due to component lead times that ranged from two to eight weeks

- ▶ Batteries frequently were not in a proper charge state for shipment
- ▶ Storage of the UPS systems in a humid warehouse was causing corrosion on the battery terminals

### Client Requirements

- ▶ Buffer the delivery of long lead time items
- ▶ Manage multiple suppliers
- ▶ Establish a battery quality control process and inventory stocking plan
- ▶ Monitor battery shelf life and maintain delivery-ready charge state
- ▶ Ship systems in a container that can be managed by a single person
- ▶ Coordinate deliveries with installations of the airport baggage inspection systems

### The Solution

The Client brought these challenges to the ConRes' OEM and Embedded Solutions group. The OEM and Embedded Solutions group has extensive experience in coordinating projects involving multiple suppliers; has professional logistics services; and has a clean, dry, 65,000 square foot facility very suitable for working on and storing the large batteries.

ConRes assigned a project manager to the task, whose responsibility was to develop an ordering plan to assure the just-in-time availability of the backup system package.

A battery charging schedule was implemented to keep stored batteries at full capacity while in inventory, and an ISO-controlled shipping process was developed that included testing and final charging of the batteries to ensure proper performance upon delivery.

More...

ConRes designed and implemented a custom-manufactured wooden container that could be deployed by one person. To protect against humidity and condensation, ConRes engineered the container using vapor corrosive inhibiting (VCI) plastic packaging.

Along with the batteries, each container included a number of accessory parts. To ensure consistency, the ConRes project manager developed a comprehensive scope of work detailing the packing process. This ISO-controlled document ensures that every system is packed exactly the same way with all piece parts.

With the implementation of the ConRes program, what was once a complex process with difficult logistics for the Client became a streamlined process allowing the Client to order a complete UPS system on a single part number and have it shipped in a day.

## Benefits

- ▶ A multi-vendor order process was consolidated into a single SKU for a complete system
- ▶ The Client's inventory management and shipping delays were eliminated
- ▶ The order-to-shipment cycle was reduced from eight weeks to next-day
- ▶ Warehousing at the Client's humid facility was eliminated
- ▶ Battery shelf life was managed so that all systems were fully charged at the time of shipment
- ▶ Shipment, delivery and installation were simplified with the use of a shipping container manageable by one person
- ▶ Risk of corrosion eliminated by storing in a dry environment and shipping with protective packaging
- ▶ The cost to the Client increased marginally over the cost to directly buy the parts in house and was more-than-offset by the personnel time saved by outsourcing
- ▶ The Client's relationship with its customer was protected

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