

## CASE STUDY: *lia sophia*

### QC Software helps *lia sophia* achieve Gold Standard in Warehouse Automation

Founded over 30 years ago, *lia sophia* is a direct selling company that offers an extensive line of high-quality jewelry at affordable prices through a vast network of Advisors (independent sales representatives). In 1986, respected entrepreneur Victor Kiam, known for his success with Remington Shavers, purchased the company. Formerly known as Lady Remington, the company adopted the name *lia sophia* in 2003.



Due to *lia sophia*'s exponential growth, management recognized that the manual system in place at the Bensenville, Illinois, distribution center was unable to support its needs. In 2006, the company opened a new 200,000 sq. ft. facility in Roselle, Illinois, and took the opportunity to reconfigure its current distribution environment to prepare for the future.

#### PROJECT HIGHLIGHTS:

- **Phase I:** QC OMS™ and QC Navigator™ - Implementation of Wave Planning to manage the work released to the floor, and “zone-skipping” for effective picking.
- **Phase II:** Facility Expansion – A-Frame integration to automate picking process.
- **Phase III:** QC SMS™ - Streamlined shipping process.
- **Phase IV:** QC IMS™ - Replacing existing inventory system without production interruption.

“Our systems were manual and paper-based,” said Tom Lang, Director of Operations. “Warehouse staff walked to the stock locations, picked the product, and walked the orders to shipping. We realized we need a more automated facility to support our growth projections with increased capacity, and improved efficiency.”

With a goal to improve the material flow and increase the throughput of the material handling system, *lia sophia* worked with a systems integrator that recommended QC Enterprise™ system as the best fit for functionality and configurability.

Phase I was completed in the late fall of 2006 with the implementation of QC OMS™ (Order Management System) to plan orders for picking using specific cartonization rules that optimized the number of cartons for order fulfillment. Orders are now planned in waves of boxes for the Pick-to-Light (PTL), A-Frame or both. The PTL waves are planned for the slower moving items and to supplement A-Frame picking, where the A-Frame waves are planned for the faster moving items to automate the picking process. A print and apply system was added to

the A-Frame's carton induction to keep pace with the A-Frame. If the A-Frame reports a short pick, the QC OMS automatically schedules and re-picks the shorted item at the PTL. This streamlining of picks has reduced shipping costs because back orders are kept to a minimum.

Cost-effective management tools with high-level functionality for your warehouse operations

The implementation of QC Navigator™ has enabled lia sophia to route cartons to their proper pick zones. Communicating with PLCs and implementing “zone skipping” expedited the picking process that was further automated by implementing communication with Pick-to-Light (PTL) technology.

Phase II of the project was implemented in 2007 because lia sophia was still growing exponentially, and required additional capacity to fulfill their orders. A second A-Frame, with a print and apply system for carton induction, was added to provide additional system throughput. To eliminate the pack-out area bottleneck, a second pack-out area was added. The new-order expedite function allowed the company to isolate individual orders for rapid processing. To complete the expansion, a new stand-alone PTL supply area with a dedicated pack-out station was added to handle the supplies order volume.

“We have two A-Frames and a PTL line,” said Lang. “Our fastest moving items are in the first A-Frame, and the second A-Frame is for redundancy and additional capacity. They contain exactly the same products. Because our products are cyclical, there are days when we need to run one A-Frame and others when we need to run both. We try to start and complete orders using the A-Frame because it’s the fastest path.”

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--Tom Lang  
Director of Operations

In Phase III, lia sophia implemented QC SMS™ (Shipment Management System) to streamline the automated shipping process by providing reliable shipping manifests for parcel and LTL shipments. From a financial point of view, shipping costs were significantly reduced.

QC Software’s Navigator, OMS, and SMS modules had helped lia sophia improve the accuracy, capacity, and flexibility of its order fulfillment operations while enhancing personnel productivity and resource scheduling. But, lia sophia’s management became increasingly concerned over the shortcomings of its existing inventory management system. In 2008, lia sophia made the decision to initiate Phase IV of the project, and engaged QC Software to supply a replacement inventory management system. Lang explained the process:

“We became increasingly concerned regarding weaknesses in our legacy inventory management system. The software wasn’t stable, or well supported, and lacked some key functionality. In addition, our concerns were growing over the future financial stability of the company developing the software. We decided that it didn’t make sense to continue

developing the product, and we would be better off putting our energy into something to replace it. We felt that it would be better to migrate to a single platform, and we worked with QC Software to implement its Inventory Management System (IMS), so that we had a single suite of integrated software tools from a single vendor.”

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Lang explained a key business requirement that wasn't addressed in the legacy system. "We are in the direct selling business. We don't just sell jewelry, we sell a business opportunity. Perhaps even more critical than shipping the jewelry is getting business supplies to our independent reps. New lia sophia Advisors are supplied with what's referred to as a Starter Kit. It contains samples and the necessary staples they need to start a business. In addition, they need supplies to sustain their business. Those two types of shipments are extremely critical, and we wanted to make sure that they get the appropriate attention. We have a separate PTL line dedicated to those orders. The old inventory management system was designed to manage the jewelry inventory, but did a poor job managing the Starter Kits and business supplies. One of the key requirements of the new system was to manage both types of products."

It was essential that lia sophia implemented the new system without any business interruptions. Adhering to an aggressive schedule, lia sophia went live on QC Software's IMS module on August 11, 2008. Lang explained:

"We made the decision to go with QC Software in the early spring of 2008. We needed to get the system live prior to our busy season. Our business practice is not to make any changes to our business systems as we near our peak holiday season, as we don't want to take the risk of disrupting our order flow.

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Director of Operations*

"We went live over a weekend, switching from one system to another. That's when you have to trust your software supplier, and have confidence that if anything goes wrong they will be there to support you. I felt very confident working with the QC Software team. I've implemented a lot of distribution systems, and there will always be things that you didn't anticipate. It's important that you have the team in place to respond to those things quickly, and resolve any issues and minimize the impact."

A key element to a successful implementation is the support from the software vendor. "The support we received from QC Software was fabulous," said Lang. "They are extremely dedicated and competent. Their staff was on-site at least a couple of weeks before and after the go live date to make sure everything went smoothly. You can do a lot of support over the phone, but you can't beat a physical presence on-site when you're doing a project like this."