

BENCHMARK BRIEFINGS

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SITE

Zenith Aviation
Fredericksburg, VA

APPLICATION

Specialty Aviation Spare Parts Distribution

EQUIPMENT

23 Horizontal Carousels and Six Shuttle® VLMs with
Power Pick® Global Inventory Management Software

SUMMARY

Implementing automation, Zenith Aviation has increased productivity and throughput, maximized floor space and improved pick accuracy to 99.9% to drive down the cost of warehousing.



With this industry leading technology now on site, Zenith boasts a 50,000 square foot warehouse facility with a parts storage capacity of over 750,000 line items.

Efficiency Soars In Automated Warehouse At Zenith Aviation

With deep roots in the aviation industry, Zenith Aviation has emerged as an industry powerhouse providing spare parts to regional airlines and business aviation as well as consignment parts services. The staff at the headquarters in Fredericksburg, VA consists of professionals from various sectors of the aviation industry, including aircraft and parts sales, aviation consulting services, and warehouse and inventory management from both the airlines and business aviation. Zenith's success is due to its unwavering commitment to the needs of their customers.

With an entrepreneurial spirit at their core, Zenith has invested over the last few years in an automated inventory storage and retrieval system to maximize their efficiencies. Using 23 horizontal carousels and six Shuttle Vertical Lift Modules (VLMs) from Kardex Remstar, Zenith Aviation has increased productivity and throughput, maximized floor space and improved pick accuracy to 99.9% to drive down the cost of warehousing - delivering savings to their valued partners.

Automating for Capacity

With traditional racking and a mezzanine shelving system at near-capacity, Zenith first invested in 11 horizontal carousels and two Shuttle VLMs to manage spare parts inventory supporting regional airlines and business aviation customers. Relocating these parts from 12,000 square feet of shelving to a compact 4,688 square feet recovered over 60% floor space. The concept

of "goods to man" parts delivery eliminated unproductive walk and search time and productivity soared as a result.

A visionary company that focuses on smart growth, Zenith set their sights on expansion. "These machines fit perfectly into our smart growth business model," said President Robert Stanford. With his forward thinking, he knew the added capacity would allow for greater growth and success. Soon after the first automation implementation Zenith doubled down and added 12 more horizontal carousels and four more Shuttle VLMs to their facility. With the added capacity, the consignment program took off.

With this industry leading technology now on site, Zenith boasts a 50,000 square foot warehouse facility with a parts storage capacity of over 750,000 line items. "Zenith Aviation made a commitment to our clients that we would support their aircraft long into the future, and we have set a course for smart, scalable growth to make good on that commitment," said Stanford. "We invested in and built this system for anticipated future growth and doing so has opened doors to new opportunities for manufacturer distributorships and client consignment deals which have accelerated our growth!"

Handling SKU Fluctuation

Due to the nature of the aviation aftermarket parts business, SKU fluctuation is inevitable. Parts are rarely, if ever, reordered



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and restocked. Instead, Zenith’s core business model has been to find aircraft operators that are either upsizing or downsizing their fleet, or going out of business, and then purchase their remaining parts for these platforms. “It is important that our system is able to handle a large influx of new parts,” said Stanford, “When we make a purchase, we retrieve an average of 3-4,000 line items – bring them in and perform a thorough inventory and quality inspection for each part before it is stored for future sale.”

The added automation has allowed Zenith to greatly increase capacity and improve efficiency without adding additional labor. Since the implementation, physical, on site inventory has grown from 20,000 line items (SKUs) and 3 million individual pieces to over 41,000 SKUs that equals more than 5 million individual pieces. Further, once parts are stored they are delivered back to the worker with a click of a button, eliminating unproductive search time, allowing Zenith to meet customer demand faster.

Growing Consignment Business

In addition to reselling aviation parts, the added capacity has allowed Zenith to grow their existing consignment program to aviation operators looking to sell excess new parts or reduce their surplus parts inventories. Through this program, Zenith manages the storing, inventorying, advertising, selling, invoicing, payment collection, packaging and shipping of these parts.

To complicate this matter for Zenith, the operator or consignor retains title of their inventory until it leaves the warehouse. Managing consigned parts owned by multiple operators within one warehouse can be tricky, but not with the system Zenith has in place. Using Power Pick Global inventory management software, every SKU is assigned to a specific operator, so parts inventories are kept separate on the books, but allowed to come together within the storage unit for maximum storage density. Real time reporting allows Zenith to view and monitor each operator’s inventory individually.

Without a brick and mortar expansion, Zenith is able to deliver more parts in a shorter amount of time, meeting customer demand quicker. “With the added capacity available in the system, now there is no deal that’s ‘too big’ for us,” said Stanford.

As part of their customer commitment, Zenith encourages visits and quality audits from potential and current clients at any time. “The physical presence and size of the system adds credibility to our operations,” said Stanford, “the wow factor is undeniable.”

Inside The System

The automated equipment is divided into six work zones. Zone one consists of five horizontal carousels, zone two consists of three Shuttle VLMs, zone three consists of six horizontal carousels, zone four consists of six horizontal carousels, zone five consists of six horizontal carousels (stacked directly on top of zone four) and zone six consists of three Shuttle VLMs.

The ERP on site manages the process from the quote to the shipment. When a quote becomes an order it is sent to accounting and then transferred to the warehouse for order fulfillment. The order is electronically sent to Power Pick Global (the software interface to the automated storage units) and simultaneously a pick ticket is printed. The printed pick ticket directs the worker to one of the six zones to start the order fulfillment process.

Once at the first zone, the worker bar code scans the pick ticket and the machines begin to move to retrieve the parts required for the order. For increased accuracy rates, pick to light technology is integrated into all machines. Upon delivery, a pick to light bar indicates to the operator the exact location of the part and quantity to pick. Once completed, the worker confirms the pick and the next pick is indicated via the pick to light system. Once all parts required from the zone are picked, the worker moves to the next zone that has the required parts needed. When the order is complete the worker returns to the shipping area to pack and ship the order.

Implementing the “goods to person” principle, has proven to be an effective automated order-picking technique at Zenith, maximizing efficiencies and driving down costs.



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