

CASE STUDY

Implementing a Modern Distribution Center for a Digital World

How SSI SCHAEFER and Pepperl+Fuchs came together to build an advanced distribution center for the next digital generation.

ssi-schaefer.com

 **PEPPERL+FUCHS**

 **SSI SCHAEFER**

A LONG HISTORY IN TECHNOLOGY

Pepperl+Fuchs has been servicing an array of clients by providing innovative technology products since 1945. Today, Pepperl+Fuchs is a global pioneer in automated sensor technology and electrical explosion protection products. The Pepperl+Fuchs diverse product portfolio offers sensors for standard applications to complete custom solutions.



GAINING A HOLISTIC VIEW INTO FULFILLMENT OPERATIONS

The Challenge

A need for a new distribution center within the United States prompted Pepperl+Fuchs to choose Katy, TX as the location. The Texas facility is located near the hub for the oil and gas industry, which is perfect for the electrical explosion technologies that Pepperl+Fuchs offers clients. The harbor is near and it is a major airline hub—benefits for any manufacturer. There were several goals outlined for the new Katy

distribution center. First, Pepperl+Fuchs wanted to erect a new facility that would utilize their automation sensors. Second, they wanted the technology within the facility to give a holistic view into the fulfillment operations. Most importantly, Pepperl+Fuchs needed to service their clients quickly with accurate product.

SSI SCHAEFER prepared an innovative and highly technical material flow concept, which is supported by WAMAS® warehouse management software, and WAMAS® Lighthouse.



“We wanted to use SSI SCHAEFER as our partner because we knew they were professional, and we wanted to make sure that we were using the latest technologies like WAMAS® and WAMAS Lighthouse to monitor our system and to be successful in the future”

Robin Stratthaus,
Logistics Project Manager

PEPPERL+FUCHS

To meet this challenge, SSI SCHAEFER worked closely with Pepperl+Fuchs while implementing the proprietary software WAMAS®, the warehouse management system from SSI SCHAEFER. Data from Pepperl+Fuchs sensors feed into WAMAS and WAMAS Lighthouse, which operate the entire system and give real-time updates on key performance indicators throughout the facility.

However, the main objective of the system was to create faster customer deliveries with error-free picking. Together with SSI SCHAEFER, Pepperl+Fuchs achieves this goal. Advanced technology throughout the facility highlights an array of analytic information that prevents bottlenecks and allows the operation team to be proactive for preventive maintenance and other key events.

THE SOLUTION

The new facility encapsulates both pallet racking and a fully-automated storage and retrieval system (ASRS) that houses individual components. The new facility is one that also scales to hold approximately 28,000 locations. The new distribution center provides a complete facility to warehouse, distribute, and create custom applications for clients.

Receiving / Goods In

The entire goods in process starts long before product is received. With WAMAS® warehouse management software, the Pepperl+Fuchs team knows exactly what is arriving at the docks before it arrives. With over 300 packages arriving daily, this feature enables the team to prepare for shipments before the day starts. Once product arrives, each pallet is broken down and inducted into the system using a scanner. The information automatically enters WAMAS and a storage location assigned. The system utilizes multiple tray configurations to maximize space.

Once scanned and entered, the system determines whether the product goes directly into storage or to quality assurance for inspection. Sensors track the product throughout the system using an array of electronic sensors that record data into WAMAS. A VB24 barcode scanner located on the scan bridge scans the product to ensure that the right product is located on the tray. The system weighs the product by using a weight scale during the conveying process. The product then moves on and into storage.



Secured Storage

Tucked away neatly within the back corner of the facility, the ASRS system sits in a secure area. Three Schäfer Miniload Cranes (SMCs) work daily to place product into secure storage once received and to pull product out when needed.

The system was built with technology in mind—engineered more so for data than throughput—but delivers 388 totes per hour. Product is nestled in more than 27,720 storage locations with room to expand as demand grows.



The Picking Process

Four SSI SCHAEFER Pick to Light workstations are linked with a 2-D LiDAR Sensor OMD30M-R2000 that enables error-free picking. Each product moves to a workstation for picking. The user can determine the correct product to pick based on an illuminated light, while the 2-D LiDAR sensor validates the picked product. While the system hosts four workstations, there is room to scale to six.

In addition to the Pick to Light workstations, there is also a pick station for internal work orders. This picking station enables Pepperl+Fuchs employees to utilize WAMAS® and pick the materials they need for just-in-time assembly. The product is delivered right outside the clean room area where production and assembly take place for custom applications.

A Consolidated Packout Process

Once items are picked, they are sent to the consolidation area for processing. The user ensures the correct item has been picked and if any additional parts are needed from the manual area. Packing is added to the package for safe

“We chose an ASRS for a number of reasons. The most important reason was speed of response to customer demand, which enables us to pick materials and pack them in a fraction of the time. It allows us to deliver error-free products to our customers.”

Colin Ankers,
Director of Operations

transport. During this time, the weight is checked and recorded. WAMAS® generates the shipping label and boxes are automatically strapped and sent for shipping



A SIGHT FOR CUSTOMERS TO SEE

The new facility is one that takes advantage of the bright sunny Texas days. Windows illuminate an SSI SCHAEFER ASRS systems colored in the Pepperl+Fuchs corporate green. The facility hosts two Schäfer Miniload Cranes (SMCs) for automatic storage and retrieval and three aisles with a maximum of 27,720 storage locations. There are four picking stations with Pick to Light workstations and four packing consolidation areas. And, there are four levels of pallet storage for production.

The facility is open for tours to potential Pepperl+Fuchs and SSI SCHAEFER customers who wish to view both the SSI SCHAEFER ASRS system as well as the WAMAS® software technology. The tour displays the facility, the system, and the Pepperl+Fuchs sensor data technology in action. Potential users can highlight specific items and retrieve information regarding products via a mobile tablet application.

FIGURES/DATA/FACTS

System Highlights:

Site surface area	110,000 sq. ft.
Order-picking principle	Goods-to-Person
Bins per day	1,875 per day

Scope of supply and services by SSI SCHAEFER

Planning, Implementation and Service

Design concept	<ul style="list-style-type: none"> - Turn-key preparation of a state-of-the-art logistics concept - Visualization with key performance indicators
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Automated Storage and Retrieval System

AS/RS	Schäfer Miniloader Cranes
Storage locations	27,720 storage locations

Pallet Storage

Pallet locations:	4 levels of pallet racking to accommodate 1,100 pallet locations
Long-good locations:	300 standard Euro and industrial pallets

Workstations

Pick to Light workstations	4 with expansion capabilities to 6
Manual picking stations	1

Software

Logistics software	WAMAS® Warehouse management software
Real-time visualization:	WAMAS® Lighthouse





REASONS WHY YOU SHOULD CHOOSE SSI SCHAEFER:

- **Stability:**

As a financially independent family business, SSI SCHAEFER is committed to long-term solutions. You can trust that our team of experts will be there for you tomorrow and in years to come.

- **Efficiency:**

SSI SCHAEFER solutions are scalable and grow with your business. You can always add to your reusable packaging system to help meet your business needs.

- **Quality:**

As a leader in intralogistics, SSI SCHAEFER provides a single-source solution. As an original equipment manufacturer, SSI SCHAEFER guarantees quality and the right solution for your needs.

- **Sustainability:**

Reusable packaging from SSI SCHAEFER is 100% recyclable.

- **Know-how:**

SSI SCHAEFER is always on the cutting edge of reusable packaging trends within the market. Our team of experts can answer any question you have regarding reusable packaging.

- **Global Network:**

As an international company, SSI SCHAEFER has local offices worldwide. Our manufacturing facilities are located throughout North America in both the U.S.A and Mexico. With over 70 office locations, our team of experts speak your language.

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