ORDER FULFILLMENT
Order Fulfillment Solutions
The Right Technology = The Right Results

Understanding what improvements would make your business successful is critical to ensuring the right order fulfillment technology is chosen. Whether you’re looking to improve order accuracy, ramp up productivity for pick operators or increase customer satisfaction—or all of the above—we can provide a solution tailored to your warehouse.

Faster Order Fulfillment with the Right Solution
Implementing order fulfillment technology is one way to quickly make improvements to your processes without increasing operational costs or expanding building footprint. Furthermore, understanding your pain-points and opportunities will help ensure the best technology is chosen to increase efficiency and fulfillment speed of each order.

Reduce Costs with the Right Automation Technology
Order fulfillment technology is capable of reducing labor costs with improvements in service levels, higher throughput and scalability. By understanding the needs of your current operations and future goals, we can match your warehouse with the best automation solution to fit your criteria and return the lowest cost per order.

This brochure highlights some of the common pain points businesses are seeing in today’s market along with order fulfillment technology to address those issues. To find the right answer for your particular situation, our team of experts will work closely with you to pinpoint solutions for your business challenges – from design through installation – helping to ensure project success.

Growing Demand for Order Fulfillment Solutions

While it’s no surprise the rise in multi-channel order fulfillment is a major contributor to increasing demand, other factors also hold key opportunities that could be costly to your business if overlooked. In order to keep up with growing interest, businesses must understand the full list of potential challenges that contribute to a need for better order fulfillment solutions.

Factors such as costly labor and the rise of global markets all present their own opportunities that can no longer be ignored. Below are three major factors contributing to a greater need for improved order fulfillment solutions.

Customers
- Instant-gratification society (millennials) increases growing demand for quick, accurate order fulfillment
- More power with instant reviews and word-of-mouth in social media

Labor Costs
- Workforce is aging - less people retiring, which drives up costs and a need for more accommodations in the warehouse
- Employee benefits costs increasing

Global Market
- Fiscal issues
- Economic uncertainty
- Worldwide competition
- Ensuring order fulfillment scalability for sudden increases in demand

Whether or not some or all of these factors apply to the current state of your order fulfillment operations, it’s important to understand how these factors present a challenge. The next step is understanding the technology available and qualifying options based on a set of questions similar to the following:

- Where should I use technology to enhance my operations?
- What technology fits my operational needs?
- Will I get the improvement results I expect?
- Will I stay within budget?
- How will employees react to the changes?
As demand continues to rise for improved order fulfillment solutions, technology continues to adapt with a heavy focus on features such as speed and accuracy of order picking, increasing capacity for large SKU quantities and real-time inventory tracking. Bastian Solutions offers a wide variety of technology in order to bring the best possible solution to your business.

**“Goods-to-Person” Order Fulfillment Technology**

**Perfect Pick**
Increase speed of order fulfillment with the high-throughput rates of the Perfect Pick system. IBots™ are engineered to move vertically and horizontally through the aisle for ultimate efficiency.

**AutoStore**
Store more with less footprint by using the adaptable, high-density storage capabilities of the AutoStore system. Add more storage as needed.

**Servus**
Servus Intralogistics offers an innovative solution with shuttle transport technology that leaves the buffer to deliver goods throughout the warehouse.

**Mini Load Automated Storage & Retrieval Systems**
Taking less space to store more products, AS/RS mini load systems are appropriate for moving high volumes of inventory in and out of distribution/ manufacturing centers.

**Robotic Systems**
Industrial robots automate processes, allowing you to increase throughput and protect your employees against dangerous conditions.

**Up-and-Coming Order Fulfillment Technology**

**Augmented Reality Order Picking**
Smart glasses provide a new frontier of possibilities for order fulfillment. With features such as hands-free barcode scanning, this technology will soon change the way we think of order picking.

**Pick to Light**
Pick to Light is a popular and time tested solution that increases accuracy and productivity up to 5x faster than a traditional paper system.

**Put to Light**
Similar to pick to light, put to light focuses on store replenishment. The overall system makes store restocking efficient and easy.

**Put Wall**
A Put Wall system uses our Exacta software to handle multiple orders. This paperless process increases efficiency and order accuracy.

**Voice Picking**
The Exacta voice system lets operators interact with the warehouse management system by speaking into a headset. Voice picking increases productivity to about 150 to 350 lines per person per hour.

**RF Scanners & Devices**
The Exacta browser-based software provides real-time access and data collection for increased productivity and visibility on a variety of devices.
“Goods-to-Person” Technology
Shuttle / Mobile Robotics Technology

“Goods-to-person” technology might seem new, but technologies like carousels, automated guided vehicles (AGV) and automated storage and retrieval systems (ASRS) have been accomplishing goods-to-person order-fulfillment for decades.

What is “Goods-to-Person” technology?
In its basic definition, goods-to-person functionality involves stored product retrieval to an operator for order picking. Defining goods-to-person becomes more complex when you discuss the type of options and growth this technology has seen. For instance, if you compare the original technology to today’s advancement in productivity, space utilization and flexibility, there is significant difference. Although AGVs and AS/RS are still important order fulfillment technologies, the advantages of new, advanced systems can’t be ignored.

Benefits of “Goods-to-Person” technologies

Ergonomics
no walking needed for product retrieval

Productivity
operators naturally become more productive and efficient with less travel time

Space
goods-to-person systems are dense, vertical structures that lessen storage footprint

Security
storage is safe and beyond reach unless initiated by the system

Scalability
goods-to-person technology easily expands with company growth

Newest industries to succeed with goods-to-person technology

Pharmaceutical
Medical Devices
Retail Distribution (non-perishable)
Consumer Electronics
Building/Maintenance

Perfect Pick™
Perfect Pick is an energy-efficient solution for “goods-to-person” order fulfillment.

Using proven iBot™ technology to retrieve and put away goods, Perfect Pick is also the fastest in-aisle picking solution in the industry today, running at up to 1000 picks per hour. iBots are engineered to move vertically and horizontally through each aisle for maximum throughput.

Perfect Pick has a simple, flexible design allowing for complete scalability in both speed and size. A single aisle system can be easily expanded by adding modules or more aisles, and additional iBOTs™ can be quickly introduced or removed from the system in a matter of minutes. This allows throughput rates to be easily adapted to ever-changing business demands and cycles.

AutoStore
Unprecedented storage capacity meets mobile robot deliveries of 500+ totes per hour

The AutoStore system is an innovative storage solution that allows complete configuration and flexibility. Bins are stacked vertically in a grid and retrieved by robots that travel on the top layer of the system. This makes it possible for the grid to be placed around columns, on mezzanines and on multiple levels. The system can also be easily expanded and modified because of this design.

Bins are then delivered to ports where operators can easily pick and replenish the products. Robots continually queue bins for future orders so that they can be quickly and efficiently transported to the operators when needed. The speed and capacity of each system is designed to meet each customer’s needs.
Servus®

Improve order fulfillment with automated “goods-to-person” picking.

Order fulfillment with Servus is made possible with the systematic ability of the autonomous robotic carrier (ARC). From receiving to shipping, products are handled and moved by this unique transport robot by means of track that runs under the ceiling. In addition to its ability to transport products, the ARC3 (Autonomous Robotic Carrier Generation 3) is an independently acting swarm robot that is able to navigate track and transport products on the shortest route possible.

Servus empowers its design to align with your company’s vision without industry-specific restrictions. ARC3 robots can be tailored with accessories such as articulated robotic arms, turning devices, hoppers and feeders along with optional specially made part carriers and fittings.

If security is a concern, Servus’ decentralized architecture grants high-process security that is easily adjustable for individual production levels.

Robotic Picking

Pick and place robotics increase efficiency and reduce ergonomic issues in the workplace.

High-speed pick and place robotics automate picking operations with pinpoint accuracy. They provide increased efficiency and lessen labor costs when compared to human pick and place applications. Picking robots can also be integrated with other technologies, such as fast-moving conveyor, to increase output.

Applications for pick and place robots include fast assembly, inspection & quality control, fast packaging and sortation.

Mini Load AS/RS

Automated Storage and Retrieval Systems (AS/RS) offer a high-density storage solution while reducing the potential for human error.

AS/RS thrive in applications where high volumes of inventory move in-and-out of manufacturing or distribution operations. Storing with AS/RS means accurate, real-time data is kept on inventory - eliminating need for physical inventory inspections and also providing direct access to items at all times.

Utilizing AS/RS increases throughput and efficiency. It saves space, allows you to use your “air rights” and reduces building costs.

Mobile Robotics

Mobile Robots provide a modular and highly efficient solution, often tripling productivity of a traditional system.

Mobile robots address the need to pick individual items from storage units and deliver the items in a specific sequence for palletizing. Other functions include replenishing inventory and picking case items while freeing up skilled workers from pulling carts and delivering loads.

Multiple robots within the system leads to greater reliability. If a bot fails, it can simply be removed and replaced with a spare and does not prevent an aisle from use.
Up and Coming Technology
Order picking by Augmented Reality

Warehouse pickers are always on the move. When every second counts, how can we know for certain that standard order picking processes used are making the most of each step a picker takes?

Introducing Augmented Reality Order Picking technology — innovative, hands-free, wearable glasses that provide a new level of order fulfillment efficiency.

Wearable glasses allow hands-free order picking along with the capability of providing step-by-step audio and visual prompts to the operator. Benefits include reduced labor costs, higher throughput and increased picking accuracy.

Bastian Solutions is currently developing an order fulfillment solution with augmented reality capabilities. If your company is interested in benefiting from this ground-breaking technology, our engineers would be glad to speak with you.

Put Wall
Put wall systems use Exacta software for multiple orders of goods

Put walls consist of multiple compartments that represent customer orders. Items are received in batches by tote or pallet. Once an item is scanned, the light directed system will acknowledge the input and will illuminate the designated compartment for placement until the order is filled. Upon completion, the backside of the wall will indicate the order is ready for packing and shipping.

Voice Picking
Easy and efficient picking solution

Keep operators’ hands and eyes free, and allow them to focus more on the task at hand. Each operator is equipped with a mobile device or voice dedicated terminal and a headset with microphone. Easy-to-understand voice prompts direct operators to locations and instruct them as to what task needs to be performed. Multi-modal feedback via an operator’s voice, a barcode scan or direct text entry provides additional operational flexibility.

Pick to Light & Put to Light
Light solutions offer versatility and improved accuracy and productivity

Pick to light and put to light systems include lights above racks or bins where an operator will be picking or placing. Pick to light systems illuminate picking quantities of items to be picked over containers. Operators confirm items picked by pushing a button next to the light. Put to light systems illuminate quantities of items to be placed in a container that also includes confirmation with the push of a button.

RF Scanning Devices
Operators work effectively in real-time host systems

Access to data from anywhere is no longer a value add—it’s a necessity. RF Scanning Devices are a proven order fulfillment option. Wearable devices and real-time WMS communication make RF Scanning a quick, accurate picking solution.

Exacta’s mobile platform is designed specifically for use on RF hand-held scanners and includes capabilities such as configurable screens and multilingual support.
Technology Overview
Compare by speed, price & application

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<tr>
<th>Application</th>
<th>RF Mobile Scanning**</th>
<th>Voice**</th>
<th>Lights</th>
<th>Automated Storage*</th>
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* Pricing based on 2000 locations
** Prices include software only. Does not include device cost.

Bastian Software Solutions
Exacta Warehouse Execution System for Order Fulfillment

Since we specialize in integrating material handling systems, we are proud to offer the Exacta Warehouse Execution System (WES) for Order Fulfillment as an independent solution for order fulfillment technology. Exacta comes as a fully integrated solution or it can function as separate components to ensure your warehouse operates efficiently.

**exacta** Features

- **Automation Integration**
  Easily integrate conveyor routing & sortation, pick-to-light, AS/RS

- **Software Integration**
  Easily integrate with your current ERP or host system

- **Scalable Solutions**
  Peace-of-mind when adding other order fulfillment technologies in the future

- **Thin-Client**
  Intuitive web-browser user interface

- **No Upgrades Required**
  You decide when upgrading makes sense for your business

- **Centralized Control & Visibility**
  Gain centralized control for multiple types of order fulfillment technologies from Exacta WCS. With a single point of communication to your host system or WMS, you can add technology and software modules for your choice of fulfillment equipment.

Exacta’s suite of browser-based analytic tools helps you quickly and easily answer questions about current order processing. Create and save custom views of key performance indicator (KPI) charts in a dashboard view. Knowing your system is running smoothly is reassuring — but having proof is better.
Case Studies

NewEgg

Bastian helped NewEgg create an entire new system for their Indianapolis, IN, location to support order fulfillment for their California location. This NewEgg system features two OPEX Perfect Pick units, an energy-efficient goods to person picking and stocking solution and a ZiPline conveyor system, Bastian Solution’s new quiet-line conveyor.

BHFO

As the largest seller of retail and apparel on eBay, BHFO needed an order fulfillment system that could keep up with its growing number of daily auctions. The company chose Perfect Pick to better utilize available storage space, increase throughput and reduce picking errors.

Southern Wine & Spirits

Southern Wine & Spirits of America is the largest wine and spirits distributor in the United States with operations in 35 states. Southern Wine & Spirits turned to Bastian Solutions for their newest distribution center in Puyallup, WA to improve picking operations and throughput.

Automate Your Warehouse with Our Experts

Bastian Consulting and Design Services

Our experience and capabilities

From optimizing supply chain networks right down to the best locations for a certain product, our experts have the knowledge and experience to find the perfect solution for your order fulfillment needs.

Decades of working with order fulfillment technology and researching industry trends have given our team an unparalleled understanding of current challenges to businesses and how meet & surpass expectations. No matter what stage your project is in, our team is ready to equip your business for success.

Our approach

Order fulfillment solutions do not come in one-size-fits-all packages. Let our experts customize a solution that fits your company’s needs.
Our Global Offices

**United States**
- Indianapolis, Indiana (Corporate HQ)
- Pomona, California
- Atlanta, Georgia
- Boise, Idaho
- Greenfield, Indiana

**Evansville, Indiana**
- Fort Wayne, Indiana
- Chicago, Illinois
- Lexington, Kentucky
- Louisville, Kentucky
- Baltimore, Maryland
- Detroit, Michigan
- Grand Rapids, Michigan

**St. Louis, Missouri**
- Cincinnati, Ohio
- Memphis, Tennessee
- Dallas, Texas
- Philadelphia, Pennsylvania

**Sydney, Australia**

**Sao Paulo, Brazil**
- Montréal, Canada
- Toronto, Canada
- Bangalore, India
- Mexico City, Mexico
- San Luis Potosi, Mexico
- Madrid, Spain

To view contact information for each office, please visit www.bastiansolutions.com/about/global-office-locations or send us an email at info@bastiansolutions.com.

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### Some of Our Clients

**Pharma & Healthcare**
- Roche
- CVS
- Becton Dickinson

**E-Commerce**
- iHerb
- NewEgg
- Hudson’s Bay

**Manufacturing**
- Johnson Controls
- International Paper
- Amtrak

**Parcels**
- USPS
- DHL
- FedEx

**Apparel & Retail**
- Puma
- BHFO
- PETZL

**Food & Beverage**
- Pepsi
- Anheuser-Busch
- Southern Wine & Spirits

**Consumer Goods**
- Amway
- Mary Kay
- Epson

**Automotive & Aerospace**
- Tesla
- The Boeing Company
- Rolls-Royce

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