

STATEMENT OF QUALIFICATIONS

DISTRIBUTION & FULFILLMENT

You need a partner that shares your vision for bringing value and reliable processes to make your operation successful. **Burns & McDonnell's turn-key delivery model assembles all the components of technologically driven planning into a single delivery pathway.**



COMPLETE SOLUTIONS

INTEGRATED DESIGN AND CONSTRUCTION

Turn-Key simplicity.

Our offering: true design-build. What is the difference? As a fully integrated, single-source design and construction partner we can pursue aggressive schedules with cost certainty and fully aligned partners using proven technology and equipment.

AUTOMATED PRODUCTION RATES

Industry-leading lean manufacturing practitioners.

Our knowledge in material conversion, automation data analytics, assembly operations and quality control, yields increased production rates, accuracy, lower overhead costs and safer working environments.

PARTNER STYLE COLLABORATION

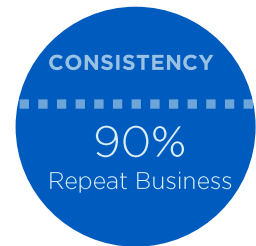
Our passion is making our clients successful.

True partnerships lead to successful projects and, as employee-owners, engineers, architects, construction professionals and scientists, we carry the commitment of ownership: We succeed when you do.

RAPID-FIT WITH COMMITMENT

Early Commitment to Schedule & Cost.

Our integrated approach to managing these key factors, as well as other performance measures, keeps your project on track to successful completion. We implement the latest tools, monitor progress, and consult the best-trained staff to bring it all together. Working together to provide risk management on outside influences that can impact cost and schedule. Our project controls staff offers a total project management package of integrated schedule, cost, and resource data.



70+ Burns & McDonnell offices worldwide

SOLUTION DEVELOPMENT

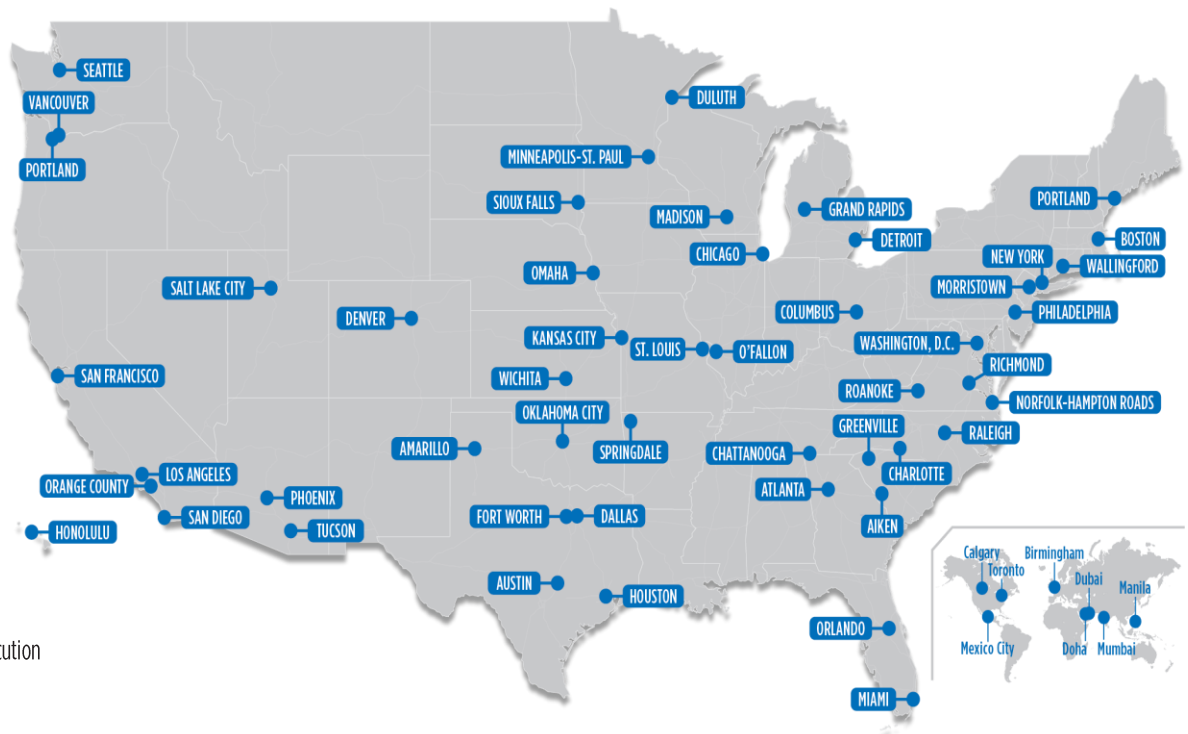
- Capital analysis & planning
- Evaluations & assessments
- Front-end planning
- Site selection & analysis
- Master planning
- Due diligence

DESIGN SERVICES

- Automated material handling equipment
- Civil/site
- Architectural/structural
- Thermal & vapor control
- Refrigeration
- HVAC, plumbing, electrical
- Fire suppression
- Supplier design & coordination

CONSTRUCTION SERVICES

- Engineering coordination & execution
- Procurement
- General contracting
- Commissioning
- Start-up



AUTOMATION

Designed, Delivered, Commissioned.

Our engineering, procurement and construction support team can update or transform your existing process or facility. By using a comprehensive approach to automation, we can help you organize, plan, coordinate, and merge with limited interruption to existing operations.

Advancements in automation adoption allow human resources to be reassigned from repetitive, monotonous, and physically straining tasks.

AUTOMATED STORAGE & RETRIEVAL SYSTEMS (ASRS)

Reduce employee paid walking time by 99%.

Our team is supplier/brand neutral and will help select and deliver the right solution for your specific needs. Systems type and solution approach are often unique and require a proper fit analysis for every operation. We let data drive the technology selection, sizing a solution that will maximize all the benefits to your business.

Automated Storage & Retrieval Systems (ASRS) provide increased throughput capacity while improving order accuracy and reducing operating costs. Appropriately implemented, these systems can provide a significant competitive advantage.

DISTRIBUTION / FULFILLMENT FACILITIES

Pallet, Case, & Piece solutions, up to 85% labor savings.

Productivity is directly tied to efficient planning, layouts, and operations execution. Our teams work to maximize space use, safety as well as equipment utilization and materials flow.

We begin each project with systematic evaluation of materials to be stored or processed and create a plan for every item to be succinctly managed. These operations are more than just storage warehouses - they are sophisticated systems that allow you to deliver with speed, precision, efficiency, and flexibility. Coordinated facilities housing these systems maximize every cubic foot of vertical storage within the envelope and provide ample space for floor level operations.

ENVIRONMENTALLY CONTROLLED FACILITIES

Improve retention through workplace safety & comfort.

Our professionals have supported more than 250 projects and have decades of combined experience designing and constructing environmentally sensitive distribution solutions in refrigerated, dry, moist, and frozen conditions.

Our team has a comprehensive understanding of environmental requirements in food, pharma, and specialty products industries. We can support you with determining strategies to manage campus or individual facility expansion, maintenance, and upgrades.

DESIGN BUILD, PURCHASE
AND LEASE OPTIONS

FULL PALLET, MIXED-CASE
PALLET, AND PIECE SYSTEMS

STABILITY

\$8B
Annual Revenue

RELATIONSHIPS

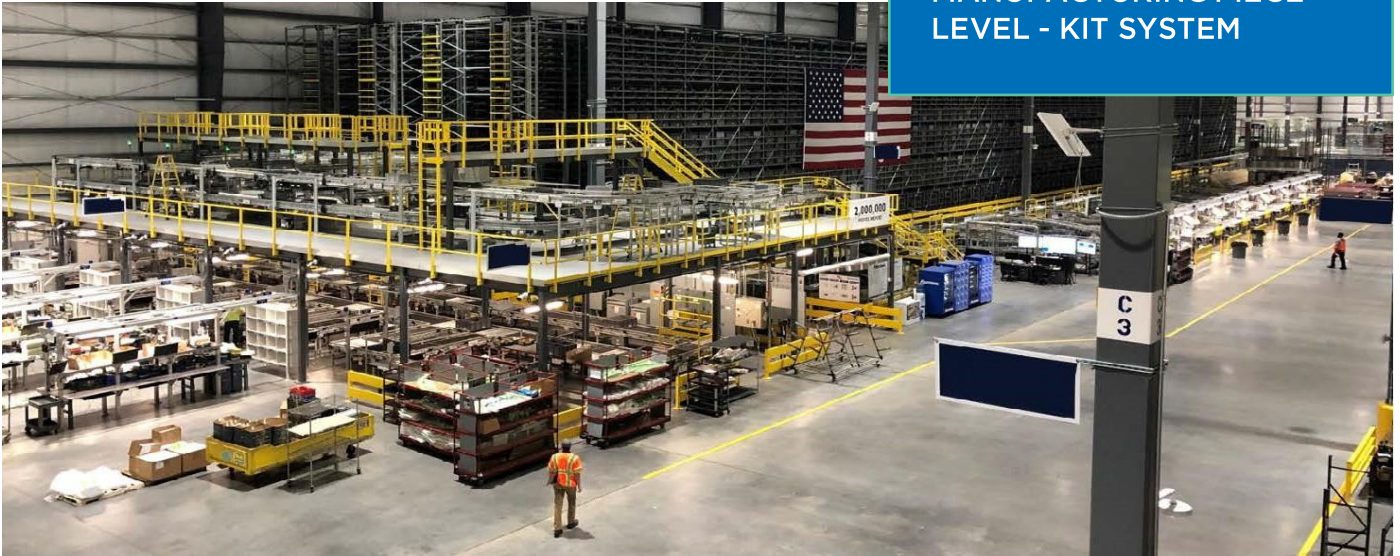
125 Year
Reputation

EXCELLENCE

14,000+
Employee-
Owners



AEROSTRUCTURES MANUFACTURING PIECE LEVEL - KIT SYSTEM



BURNS & MCDONNELL ASRS WAREHOUSE EXPERIENCE INCLUDES:

AEROSPACE MANUFACTURING AUTOMATED DISTRIBUTION CENTER

One of the world's largest manufacturers of aerostructures for commercial aircraft, defense platforms, and business jets — utilizes an on-site automated distribution center to receive parts from its global supply chain and assemble parts kits used in manufacturing assembly operations.

The client came to Burns & McDonnell to design, engineer, and construct the building as well as system design selection, procurement, and management of the equipment suppliers for the system.

The project consisted of consolidating approximately 350,000 square feet of existing facilities into the new 156,000 square foot automated fulfillment center. Through the innovative use of automated equipment, we were able to utilize vertical space and reduce building footprint. By using this vertical space, we reduced space use and construction costs. To meet the anticipated rate of the process a shuttle system was employed. The system contains twenty-eight levels and manages 75,000 SKUs and can process 60,000 pieces per day with five receiving stations and 8 kitting stations.

The building and system were designed with growth in mind and is readily expandable to meet future rate increases.

Utilizing more than one hundred shuttles, and multiple receiving and kitting stations, the solution delivered by Burns & McDonnell processes the client's operational demands using half the labor and half the facility footprint.

FEATURES

- 90,000 SKUS
- 60,000 PIECES / DAY
- 4,000 KITS / DAY
- 156,000 SF FACILITY
- 40' SYSTEM HEIGHT
- 1,200 LINES/HOUR



MIXED-CASE PALLET & PIECE SYSTEMS

JASCO PRODUCTS OMNI-CHANNEL FULFILLMENT SYSTEM

Jasco Products provides a lineup of home automation, lighting, security, home entertainment, power, and mobility products. Their Omni-channel distribution facility maintains product inventory, fulfills and distributes mixed-pallet and parcel orders. Jasco enlisted Burns & McDonnell to develop, design, and build a new automated material handling system capable of fulfilling orders.

The solution consists of an inbound carton sortation system, a tote based automated storage and retrieval system (ASRS), pick stations, pack stations, and a semi-automated ergonomic palletizer/wrapper. The system uses eighty shuttles, a warehouse control system (WCS), and conveyors to sequence orders for optimized fulfillment with minimal operator travel distances.

The operation removed 60% of time wasted walking miles picking cases from floor level positions. In addition, worker safety and accuracy have vastly improved using proven systems to manage operator performance. The system is expandable by 25%+ to accommodate future growth. The solution delivered by Burns & McDonnell processes the client's operational demands using 57% less labor.

Burns & McDonnell worked with Jasco to establish success criterion to balance project cost with system features, risk mitigation. Ultimately the team optimized the design to manage inventory for about 97% of the operational throughput – for the remaining 3% of throughput (items too large to fit in the totes) are fulfilled manually.

While ROI is important in every solution, Jasco continues to see benefits in a process that requires less human effort, is safer, highly accurate and produces jobs that are more attractive in our ever-shrinking warehouse workforce.

FEATURES

- **3,500 SKU'S**
- **50,000 TOTE POSITIONS**
- **2,500 LINES / HOUR**
- **80 ROBOTIC SHUTTLES**
- **50,000 SF OPERATION**
- **30' SYSTEM HEIGHT**
- **SEMI-AUTOMATED PALLETIZERS**
- **2-DISCRETE PICKING STATIONS**



**WHOLESALE DRY FINISHED
GOODS WAREHOUSE**

**CONFIDENTIAL MANUFACTURER,
HUNTSVILLE, ALABAMA**

Burns & McDonnell provided analysis of manual and automated solutions for this dry storage application. The team helped facilitate ROI-based decision-making with the client to optimize the value created by the new facility. Through this process it became clear that an automated solution was not the optimal fit for the need, so the team moved forward with a large manual warehouse. By insourcing more of their storage the client increased their control of their outbound finished product supply chain while significantly reducing operating costs.

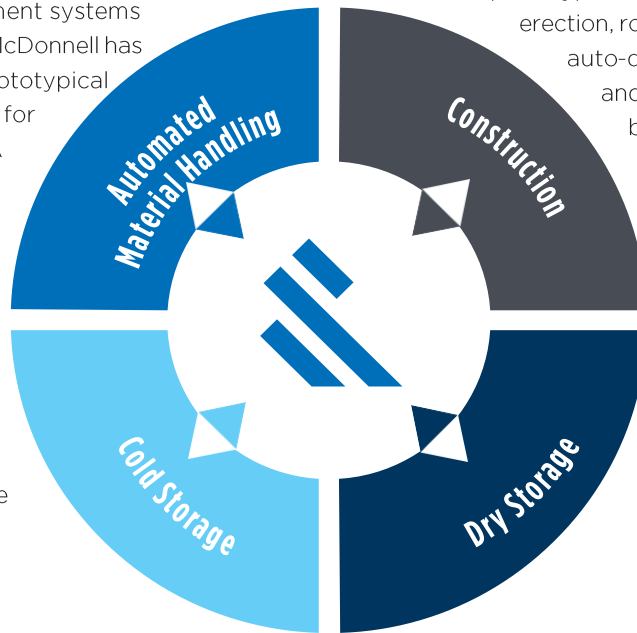
The team worked across the client’s large organization to deliver a project that balanced the collective success criterion of their various functional teams including facilities, logistics, traffic, security, IT, and sustainability. Burns & McDonnell used its integrated design-build team to deliver the project in phases. The client was able to occupy half of the facility under a partial occupancy certificate just 10 months after breaking ground. This timeline was accomplished during the significant global steel and roofing supply chain impacts from COVID-19. The team worked to design and secure materials early in the project life cycle as well as leverage key suppliers to source critical materials that ultimately delayed many other non-Burns & McDonnell warehousing projects in the market during the pandemic.

FEATURES

- **BULK STORAGE**
- **\$38M TIC & 16 MONTHS (INCLUDING DESIGN)**
- **LOAD-BEARING TILT-UP CONSTRUCTION**
- **ESFR SPRINKLERS**
- **STEEL FIBER SLAB ON GRADE**
- **72’ SPEED BAY**
- **546,000 SF**
- **28-ACRE SITE**

E-COMMERCE MULTI-TEMP AUTOMATED WAREHOUSE

As online sales and demand for efficient multi-temperature order fulfillment systems continues to increase, Burns & McDonnell has forged ahead to complete a prototypical design to address this demand for diverse markets and products. A fully engineered plan is ready. to be site adapted per your geographic needs. Our solution is capable of multi-temperature order processing using the leanest labor principles available in the industry today. Ambient, chilled, and frozen order processing is simplified, efficient and flexible. This shuttle



ASRS-based solution uses tote and/or tray containers to maximize product size flexibility and reliability.

Our prototype integrates automated package erection, robotic picking, dry ice generation, auto-dunnage placement, case closing and print-on-the-fly, package-unique branding. The design maximizes throughput with minimal staffing.

Orders can be processed immediately for shipment or pre-staged for longer-term service-level agreements. Viable use of this piece-picking design includes several groups in the fulfillment industry for grocery, frozen foods, consumer products and pharmaceutical.

MULTI-TEMP FOODS & CONSUMER PRODUCTS



BURNS & McDONNELL
CREATE AMAZING.



burnsmcd.com | Offices Worldwide