

Fulfillment Automation for Sports Apparel Firm

A \$30M sports apparel e-commerce business (17M projected annual units) faced high labor costs and inefficiencies in its current pick, pack, and ship operations.

Improve operational efficiency by researching and implementing automation technologies to streamline fulfillment processes

Approach:

- Conducted time-and-motion studies to identify inefficiencies in the fulfillment workflow.
- Designed appropriate storage solutions (Pallet vs. Case) based on inventory profile / SKU velocity.
- Recommended appropriate forward slotting solutions – based on order profile / SKU profile
- Researched and recommended automation solutions, including Put-to-Light systems, automatic bagging, carton sealing, and small parcel sortation technologies.
- Designed an implementation roadmap to integrate automation into existing workflows, minimizing disruption.

Project Budget & ROI Summary by Option - Design Year 2025:

	Greenfield	Option 1 - AMR Person to Goods	Option 2 - AMR Goods to Person
Pick Storage & Equipment	\$544,251	\$2,145,060	\$5,990,000
Bulk Storage	\$3,761,800	\$3,761,800	\$3,761,800
Pack & Ship System	\$85,700	\$2,600,698	\$2,600,698
Miscellaneous	\$44,100	\$52,500	\$52,500
Forklifts	\$542,500	\$542,500	\$542,500
Software	\$0	\$250,000	\$250,000
Additional Costs	\$385,822	\$705,448	\$1,003,431
Project Contingency @ 20%:	\$1,072,835	\$2,011,601	\$2,840,186
Total Cap-Ex Budget:	\$6,437,008	\$12,069,606	\$17,041,114
Double Deep Reach Adder**	\$448,894	\$448,894	\$448,894
Cost Delta Vs Baseline		(\$5,632,598)	(\$10,604,106)
FTE Reduction Vs Baseline		(60)	(98)
Payback Years @ \$55K / FTE		1.7	2.0

Business Outcomes:

- Reduction of 60 full-time employees (FTEs)
- Improved order processing speed & accuracy
- Payback Period: 1.7 years for AMR Person to Goods Solution

