



Driving value and fulfillment flexibility:

THE BUSINESS CASE FOR COLLABORATIVE MOBILE ROBOTICS



SOLUTION REQUIREMENTS: ONGOING VALUE

Improve year-over-year rates; increase utilization and value with enhancements and new applications

Unlike conveyor systems and other infrastructure-heavy automation solutions rejected by the interviewees, robotics offer the unique potential to improve after deployment. The benefits can be realized in ongoing over-the-air and cloud-based software enhancements to direct activities more effectively and new applications to increase system utilization and value.

Software enhancements

6RS' data team analyzes all assignments and tasks to find performance improvement opportunities, which are quickly turned into product enhancements and deployed to customer sites.

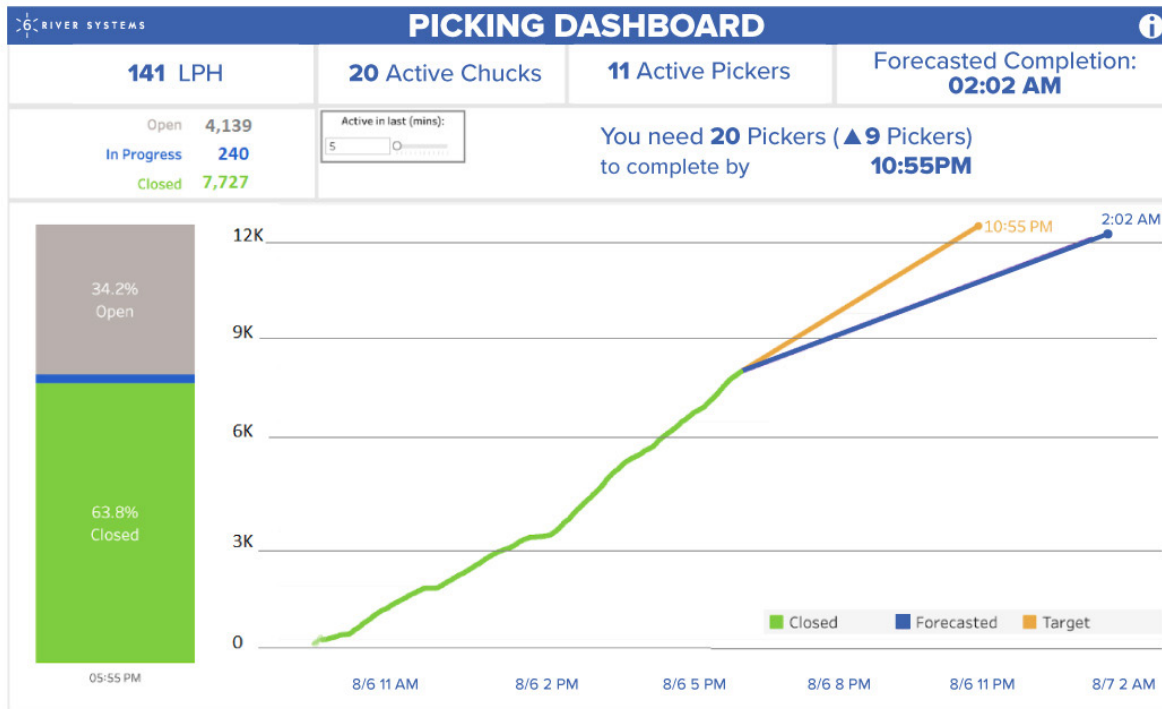
These efforts enable 6RS to deliver on its promise of year-over-year improvements that increase the value of the system and accelerate or amplify the return on investment. On average, year-over-year productivity at customer sites was improved by 10% in 2019. Significant improvements included:

- Directing associates to place the bins used most often in an assignment in the most easy-to-reach locations on the Chuck
- Increasing pick density through assignment creation enhancements
- Refining algorithms to better predict where and when a Chuck should be sent to an associate
- Reducing the travel time from meeting point to first pick by more than 22%
- Increasing Chuck speed by 4.6% without compromising safety

“Our solution from 6 River Systems enables us to increase our throughput and get more orders out the door and into customers’ hands. We are excited about 6 River Systems’ commitment to continually improving and developing their product.”

- GLEN SUTTON, SVP AMERICAS,
INGRAM MICRO COMMERCE &
LIFECYCLE SERVICES

Additionally, 6RS deployed an expanded range of configurable and actionable dashboards that help operators to optimize performance and SLA compliance. This visibility helps customers to proactively address “problem orders,” view order progress, forecast labor needs and gain detailed insights into labor and equipment utilization.



Capabilities beyond picking

The CMR providers considered by the interviewees all offered picking solutions. The interviewees said that it was important for them to work with a provider with the vision and capability to drive value beyond picking. Only 6RS offered replenishment, sortation and packout capabilities.



FINANCIALS

Return millions of dollars to the bottom line

The projected 5-year benefits below are from an ecommerce fulfillment operation with 15% annual growth in the area where 6RS replaced cart picking. The operation had Year 1 volume of more than 7.5 million units and 5 million lines. Using 6RS, the operation was able to perform the work with 20 order pickers, 72% less than with manual carts. The solution delivered a return on investment in 15 months and a projected \$7.1 million net present value in the 5-year period.

| | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 |
|------------------------|-------------|-------------|-------------|-------------|-------------|
| 6RS benefit | \$1,840,533 | \$2,112,612 | \$2,425,304 | \$2,784,690 | \$3,197,763 |
| Total Investments | \$1,886,119 | \$442,400 | \$472,370 | \$506,836 | \$546,471 |
| Cash flow | \$(45,586) | \$1,670,212 | \$1,952,934 | \$2,277,854 | \$2,651,292 |
| Net cumulative benefit | \$(45,586) | \$1,624,626 | \$3,577,560 | \$5,855,415 | \$8,506,707 |

ROI → 15 MONTHS

NPV* → \$7,109,888

*Calculated at 5% cost of capital.

6RS benefits

| Cost Impact Area | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 |
|---------------------------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| Reduced picking labor | \$1,286,511 | \$1,479,488 | \$1,701,411 | \$1,956,623 | \$2,250,116 |
| Induct labor costs | \$(40,407) | \$(46,468) | \$(53,438) | \$(61,454) | \$(70,672) |
| Pick ticket management | \$40,000 | \$42,000 | \$44,100 | \$46,305 | \$48,620 |
| Reduced supervisor hours | \$80,007 | \$92,008 | \$105,809 | \$121,681 | \$139,933 |
| Training benefits | \$192,977 | \$221,923 | \$255,212 | \$293,493 | \$337,517 |
| Cost avoidance - reduced supplies | \$46,620 | \$53,613 | \$61,655 | \$70,903 | \$81,539 |
| Cost avoidance - WMS fees, RF devices | \$174,825 | \$201,049 | \$231,206 | \$265,887 | \$305,770 |
| * Reduced replenishment labor | \$20,000 | \$23,000 | \$26,450 | \$30,418 | \$34,980 |
| * Reduced packout labor | \$40,000 | \$46,000 | \$52,900 | \$60,835 | \$69,960 |
| Total benefits | \$1,840,533 | \$2,112,612 | \$2,425,304 | \$2,784,690 | \$3,197,763 |

* The projected five-year benefit includes \$134,848 savings in replenishment and \$269,695 savings in packout. These applications were not available in other CMR solutions.



ABOUT 6 RIVER SYSTEMS

Founded in Waltham, Mass. in 2015, 6 River Systems is a leading collaborative mobile robotics fulfillment solution provider and part of global commerce company Shopify Inc. Founders Jerome Dubois and Rylan Hamilton were previously executives at Kiva Systems (now Amazon Robotics).

The 6 River Systems solution is operating in more than 50 facilities in the U.S., Canada and Europe, fulfilling millions of units each week for companies including Lockheed Martin, CSAT Solutions, ACT Fulfillment, DHL, XPO Logistics and Office Depot.

To learn about 6 River Systems
and its wall-to-wall fulfillment
solution, please visit
www.6river.com

