Relay® Autonomous Service Robots (ASRs) Deliver ROI to Hospitals
Improved Labor Efficiencies, Productivity and Satisfaction Make a Case for Relay Adoption

In today’s healthcare environment, hospitals are fraught with challenges that stretch their ability to attract and retain technicians and nurses while assuring patient safety and quality care. According to the American College of Healthcare Executives’ annual survey, personnel shortages, safety and quality, and patient satisfaction rank in the top five issues confronting hospitals today.

To meet these challenges, pharmacy and laboratory directors are continually on the lookout for innovative solutions to support healthcare workers and improve overall patient care.

One such innovation that is optimizing labor and productivity is the Relay Autonomous Service Robot (ASR), an advanced delivery solution that helps effectively utilize resources to improve workflow, increase staff satisfaction, and ensure patients get the care they need, when they need it.

Secure, Traceable, Safe Delivery in Dynamic Public Spaces

Designed and built by Savioke, a pioneer and leader in autonomous delivery robots, Relay works safely and efficiently with and among people in dynamic public environments to increase operational efficiency and quality of care. Relay’s trackable, traceable chain-of-custody, means secure delivery of medicines (including hazardous drugs and narcotics), blood, specimens, and even snacks and documents 24 hours a day.

The only delivery robot designed to operate in front of house hospital environments, Relay quickly transports items throughout the hospital; freeing up nurses, pharmacists, lab techs, and other skilled workers, while delivering measurable return on investment. As Relay autonomously navigates hallways and independently operates elevators, he increases productivity and job satisfaction by taking over the time-consuming, menial task of delivery.
The ROI on Labor Savings

When it comes to delivery of drugs and specimens in a hospital, the cost of “sneaker power” is often overlooked yet can easily exceed hundreds of thousands of dollars per year. With salaries for skilled healthcare workers reaching all-time highs, Relay autonomous delivery can measurably reduce labor costs while, at the same time, delighting staff, patients and visitors.

**Use Case #1:** Relay robot delivery of chemotherapy from pharmacy to infusion center.

A three minute delivery from the pharmacy to the infusion center ends up taking a pharmacy technician upwards of six minutes round trip not counting stops to help visitors or check in with co-workers. With an average of 35 trips each day, the pharmacy tech wastes 3.5 hours—over 40% of their workday, walking back and forth between departments. At a wage range between $18-$25/hour, the hospital was spending approximately $16K-$23K in labor per year on this delivery cycle alone. The savings grows exponentially when Relay takes on additional delivery routes and operates around the clock seven days each week.

**Use Case #2:** Relay robot delivery of blood from cancer unit to central laboratory.

This seven minute (14 minute round trip) delivery includes autonomous operation of one elevator and three automatic doors. Prior to Relay installation, a nurse was required to walk the blood sample to the central lab for testing, which left the unit understaffed and the patients at risk. With over 10 deliveries each day and nurse salary of approximately $40/hr, the annual labor cost of this one delivery cycle was over $24K. In addition to cancer to lab delivery run, this hospital relies on Relay for other use cases, saving an estimated $100K in annual labor costs.

<table>
<thead>
<tr>
<th>Delivery Run (to central lab)</th>
<th>Days</th>
<th>Time of Day</th>
<th>Minutes/ Delivery (RT)</th>
<th>Delivery Frequency</th>
<th>Deliveries/ Hours</th>
<th>Deliveries/ Day</th>
<th>Total Delivery Minutes/ Day</th>
<th>Total Delivery Hours/Day</th>
<th>Total Delivery Hours/ Year</th>
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<tbody>
<tr>
<td>Cancer Center</td>
<td>Mon-Fri</td>
<td>8am-2:30pm</td>
<td>13.9</td>
<td>Every 15-20 min</td>
<td>3.4</td>
<td>22</td>
<td>305.8</td>
<td>5.10</td>
<td>1,330.23</td>
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<td>Clinical Lab (AM)</td>
<td>Mon-Fri</td>
<td>7am-8am</td>
<td>6</td>
<td>Every 10 min</td>
<td>6</td>
<td>6</td>
<td>36</td>
<td>0.60</td>
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<tr>
<td>Clinical Lab (PM)</td>
<td>Mon-Fri</td>
<td>2:30pm-7:30pm</td>
<td>6</td>
<td>Every 10 min</td>
<td>6</td>
<td>30</td>
<td>180</td>
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<td>Clinical Lab (WE)</td>
<td>Sat-Sun</td>
<td>8am-7:30pm</td>
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<td>Every 15-20 min (less after 1pm)</td>
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<td>Approx 1/hr</td>
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<td>10</td>
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<td>112.9</td>
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ROI beyond the numbers

In healthcare, return on investment goes beyond dollars and cents to include patient care and safety, employee productivity and satisfaction, and hospital rankings and perception. With a Relay robot, hospitals can improve all of these factors.

Patient Safety.
Suboptimal care, increased complications, and higher mortality rates occur when nurses and other healthcare workers spend less time with patients. Already short staffed, hospitals are continually seeking solutions like Relay to handle tasks that take healthcare workers away from their primary, critical responsibility of caring for patients.

Competitive Edge.
Enhancing the “hospitality factor” at a hospital offers a slew of benefits for both patients and employees. Similar to the way consumers shop for hotel rooms, prospective patients are now looking to social media rankings and reviews to select hospitals.

Relay, the #1 delivery robot in hotels, can enhance the patient experience through its combination of functionality, personality, and reliability. Relay’s high visibility in public environments, along with his friendly personality and customizable graphics, draws positive attention from the community and media and helps hospitals boost patient satisfaction rankings.

Delivering a Strong ROI

Adding a Relay to the skilled workforce can help hospitals address the challenges of personnel shortages, safety and quality, and patient satisfaction. For more information on what a Relay delivery robot can do at your hospital or healthcare facility visit swisslog-healthcare.com/relay.

«As the nurse-to-patient ratio decreases, nurses are under more time pressure. They don’t spend as much time with patients and errors tend to occur.»

— Benjamin Friedrich, Kellogg School of Management

Calculate Your ROI

Use this simple ROI Calculator at http://docs.savioke.com/roi-swisslog to determine the potential labor savings by employing a Relay robot in your hospital.

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