



# Innovations that Matter

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Unleash the Power of Your Mobile Workforce

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In this 4th Quarter issue, we are bringing tactical and strategic ideas for people to consider rolling into 2017. Tactically, year-end means we're finalizing detailed project commitments and looking for ways to squeeze every ounce of value out of our budgets. We've included a few simple ideas for you on contract consolidation and budget planning. Take a look. These ideas might help your planning for 2017.

We also know that 2017 could be a year when your company wants to take big steps forward in productivity or quality. So,

we've focused this issue on IoT and the Connected Supply Chain. You will find ideas to take Track and Trace to higher levels of accuracy as well as to drive higher quality and productivity inside the warehouse.

As always, we hope you find these insights helpful. Don't hesitate to give us your feedback or suggest an area you'd like to see some research on. We'd be happy to do the research and share lessons learned.

Regards,  
**The Heartland Team**

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# Protect Your Brand Image and Consumer Health with the IoT

Featuring Bruce Stubbs from Honeywell



**Bruce Stubbs**

Director, Supply Chain Marketing

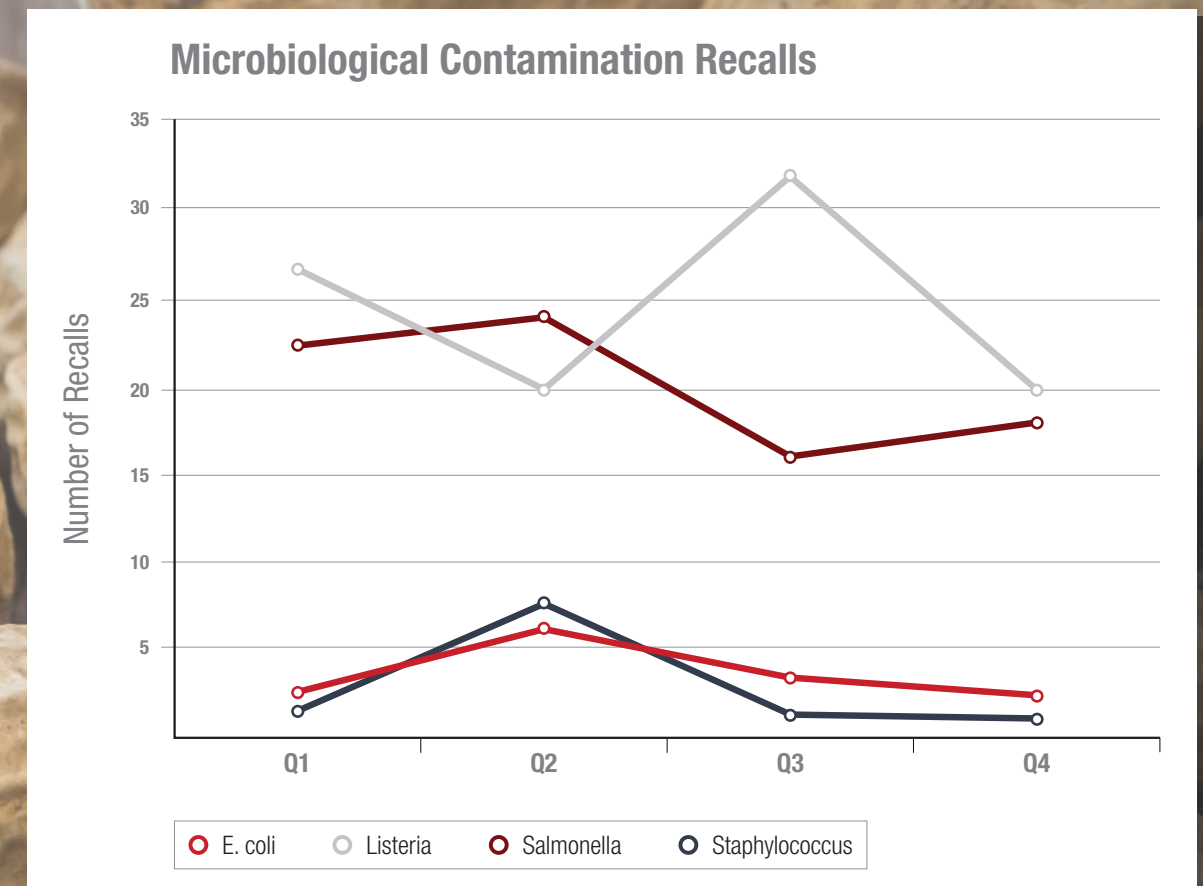
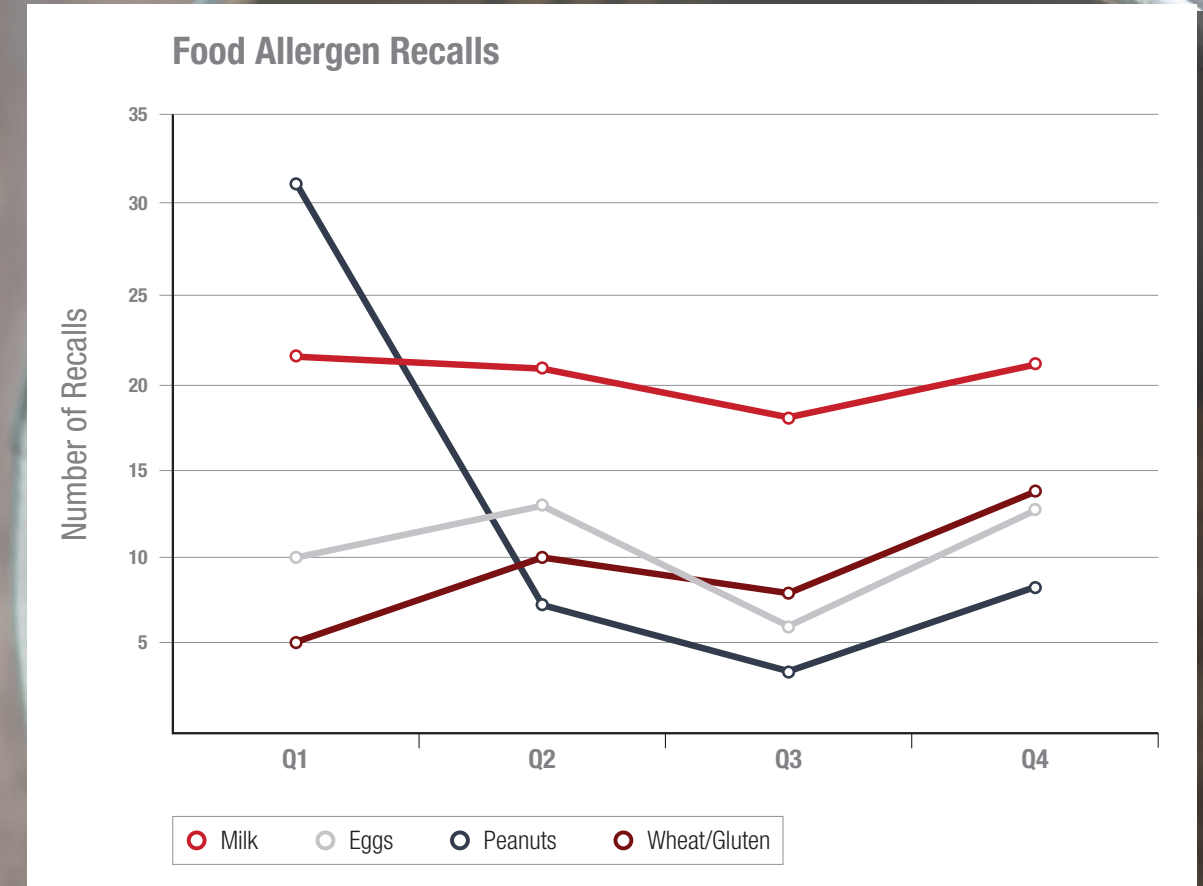
Traceability in the supply chain has been gaining focus over the past several years. A lot of that focus has centered on food, pharmaceuticals, and high-value assets.

With the numerous instances of recalls within the food chain associated with either allergens or microbiological contamination, as evidenced by 2015 numbers in Tables 1 and 2 gathered by Food Safety Magazine. The problems and threats posed are very real.

It has always been the goal of the Food Chain (consisting of growers/farms, manufacturers, distributors, and stores) to provide the highest levels of consumer safety. However, for years the processes in place were very cumbersome and reactive due to the methodologies deployed,

typically paper-based recording and retrieving of critical traceability information. This led to slow reaction times which resulted in unfortunate instances of severe consumer health consequences and many times, adverse company perception and profitability. Going forward that should be the rare exception vs the rule.

There are now technologies in place that provide the visibility to issues in real-time and the capability to address them in a manner which protects both consumer safety and brand identity. Traceability information can be gathered at the Point of Harvest using automated data capture solutions (scanners, printers/labels, software) and passed through the entire food chain to the Point of Sale, including the systems of record at the manufacturing, distribution, and store levels as well as all transportation modes transporting between the entities. This information captured



electronically in real-time and stored as such can be retrieved immediately and used to make proactive decisions with accurate data if an issue arises. Adoption across the food chain has been higher for larger, more technology savvy organizations than it has for smaller, traditionally paper-oriented organizations. However, all organizations need to understand the risk of not adopting these solutions – to both the consumers they serve and their company’s existence.

The IoT (Internet of Things), or more simply stated, connected environments and workers has opened the possibility of even greater technology advances that could provide greater levels of visibility and collaboration across the food chain. Let’s imagine a specific cold chain example:

**Scenario 1** – For years, food distribution centers have monitored the temperatures of arriving perishable/frozen foods to ensure quality. When the trailer arrived at the dock it was opened and temperature readings were performed on both the trailer

and product. However, this was only a snapshot in time – that time - and provided no insight to what may have occurred during the trip from the supplier to the DC. If temperature ranges spiked that may have affected the quality, freshness or shelf life of the food it was not evident. Unfortunately, a lot of DC’s still operate in this manner.

**Scenario 2** – Technology advancements have provided the capability to attach sensors/monitors to loads (trailer and product) to record what is actually occurring during the entire trip. Upon arrival at the DC, the sensors can be read and supply the DC personnel with a total trip view, including any readings that were outside accepted ranges. However, this is still a snapshot (albeit of the entire trip) taken at the end of the trip and while providing the DC and Buying personnel the ability to judge more clearly the quality, freshness or shelf life of the food, it does not provide the ability to act proactively to replace the food in a timely fashion which may impact sales.

**Scenario 3** – Imagine the benefit to both the consumers and the food retailers/wholesalers of having visibility to the adverse conditions affecting the food at the point in time that the instance occurs. Using sensors and analytic, cloud-based software in a connected environment to alert those subscribing to the data in real-time of events or non-events they can proactively address. Being notified days in advance of a cross country delivery that temperatures spiked beyond acceptable ranges provides the food provider the ability to place replacement orders immediately which can lessen the impact of inventory shortages if the original load is found to be unacceptable upon arrival.

The adoption of IoT has been slower than anticipated and nearly half of the companies surveyed have stated that they are unsure of how it could benefit their operations. However, the 50% that understand the value of actionable insights gathered from a connected enterprise (environment and worker) will continue to be market leaders in their segments and drive additional revenues through cost savings to the company bottom line.



## | Reduce service costs and delays by consolidating mobile device service agreements.



Service agreements for mobile devices can become a real headache. Many companies have bulk purchases and acquisitions that mean different devices renew on different dates in different locations. As time goes by, small or individual purchases muddy the water further, leading to literally monthly agreement renewals for some portion of your devices... somewhere or everywhere as devices are shared and transferred to meet needs.

This creates significant complexity as well as unnecessary expenses. Devices come in throughout the year and some are no longer on-agreement. This means the device must be repaired under a T&M arrangement that may be more expensive than a multi-year agreement, depending on your incident rates. It also leads to service delays, as vendors won't make repairs without an agreement. Once a year, IT departments typically look at agreements for renewal. Records can be very out of date, and IT may not be able to see "local purchases." So, renewal processing takes weeks to complete, distracting from more important work. Sound like your situation at all? Read on – there is hope.



## We Created a Guide to Help You Sync Your Service Agreements to Optimize Vendor Performance and Repair Costs

We see this frequently and have helped quite a few customers get to a simpler, lower cost way of managing vendor performance and device availability.

Here are three simple steps:

- 1. Take Inventory of All Active Devices** – If you're like many companies we see, you'll find devices you didn't know existed and devices that are old, supported but not used. Get an accurate inventory by location of all mobile devices. By the way, even those who use Mobile Device Management software (MDM) discover devices. Take an inventory. You can refresh asset management information at the same time to help your financial team out. Create one consolidated spreadsheet unless you're using a formal asset management system. You won't regret having this later.
- 2. Update Agreement Termination Dates** – Working with your vendors, identify the current state of agreements. Update the agreement termination date for all the devices. Most vendors will give an extract file, but, in our experience, you'll also need to make some phone calls for items that don't match up.
- 3. Negotiate and Approve Co-Terminus Blanket Agreement** – Select an appropriate termination date to meet the needs of your accounting department and something close to the most prominent agreement renewal date. Calculate the weighted renewal price for the contract and use the spreadsheet as the attachment to the new blanket agreement.

Now, it is time to negotiate the new agreement. Since you are renewing your contract across all devices, make sure you get something for the effort. Perhaps there are some concessions on cost or consider these ideas as add-ins to your new blanket agreement:

- Negotiate shipping costs
- Sharpen penalties for unrepaired devices sent back as repaired
- Get some T&M support hours as part of the contract. Careful analysis will show you that some devices with low failure rates might be better on T&M. If you ask your vendors, you can get failure rate trends for several years and find devices that are trending better. Be careful when it comes to older devices. They can hit "cliffs" where failures and spare parts can soar.
- Up the expectations on performance management and make sure you're getting quarterly review meetings to discuss strategies for lowering incident rates.

This process simplifies vendor management, improves user service levels, and can save you tens of thousands of dollars. In more complex cases, this can take weeks to complete and be very distracting. Not sure you have the time? Heartland can help. Contact your account representative or call us directly at: **800-708-7226**

## | Under price or profit pressure in beverage markets?

### Focus on profiting from each stop.

Distributors in today's beverage, beer and wine markets are facing increasing complexity and earnings pressure at the same time. SKU proliferation has become the dominant challenge of the day. SKU counts are doubling or tripling in many warehouses, and each stop has many more SKU's to handle. Even soda delivery has become a craft marketplace. All of this means that cost per stop is up, and productivity is down.

Years ago, companies had to make at least \$60 gross per stop just to break even: that has changed. Higher mix per order increases the complexity of racking and shelving. Higher mix at the retail site makes selling and promotional end caps increasingly more challenging. Complexity is forcing the cost per stop up by as much as 50%.

Many companies' cost and planning assumptions have not been updated, so actual profits per stop suffer. The lack of visibility into actual cost per stop means that companies profits go out the door, stop by stop, and it can be hard to understand where the margin went. Companies can flat out lack the dashboards to review these metrics and make week to week adjustments.

At Heartland, we think there is a pragmatic way of addressing this challenge and driving more margin from every stop.

**Get the Average Right** – If you've not looked at profit per stop in recent years, chances are things have changed. We suggest a simple first step – get the average right. Start by re-analyzing your average total delivered cost. To do this, take a second look at how you allocate all costs, starting from the facility, through to delivery of the shipment. Take these total costs and divide by total number of deliveries to get average.

**Pareto the Gap** – How does the current revenue align to average? You can learn a lot from looking at options for moving “below the line” options up to or above average. Look at the biggest gaps first. Change the mix? Modify Frequency? Create actions that address about 80% of the gap and go implement. Oh, don't forget the incentives for your account teams. You might be surprised to see how much more margin per stop emerges.

**Maximize Profit per Stop and Route** – Here's a question: what would happen if you optimized routes not around driver utilization but around profit per stop? To do this, companies need to develop a more accurate view of real margin per stop.

What is it worth? Most costing projects reveal shockingly strong results when executives get an accurate, updated view of costs, margins, and profits at a granular level. Don't be surprised if you have the very real chance to improve gross margins by 15% to 20%!

Not sure where to start? Call Heartland and we'll arrange a discussion with experts that know how to help you think about profit per stop.





## | IoT in the Warehouse – Just the Buzz or Real Value?

Gartner, the grand predictor of the future of automation, (ok, really, one of the leading IT research and advisory firms) recently pronounced that 4 years from now, in 2020, there will be 25 billion smart devices transmitting data through the cloud. From smart homes to smart cars to containers and facilities throughout the supply chain, data will be coming from almost anything.

It is certainly true that in the supply chain environment, IoT (Internet of Things) / RFID (Radio Frequency Identification) can enable improved automated tracking of equipment, movement patterns, containers, pallets, or packages.

### These improvements affect critical functions like:

- Inventory Tracking
- Receiving
- Put-Away
- Cycle Counting
- Picking
- Re-Stocking

Perhaps you've even considered these things, researched them or even piloted them.

At Heartland, we got curious not about feasibility but about return on investment (ROI). Enough has been done to prove feasibility across the range of functions. What's the point of any of this though without an ROI. Innovations that Matter is all about finding high impact solutions; so, in this segment, we're going to look at ROI. Can IoT deliver a real, measurable, meaningful ROI, or is it still a science experiment full of promise but no measurable incremental benefits?



Obviously, each of these areas is complex enough to consider that we could write a whole article on one aspect of benefits. In this segment, we're going to inspect some common threads of benefits that we've seen emerge across industries and vendors. We hope you find this helpful in considering what value you may find with IoT.



## Recent McKinsey analysis shows that:

- Predictive maintenance can decrease total machine downtime by 30% to 50% and can increase machine life by 20% to 40%. If you have automation in your warehouse, look carefully at both planned and unplanned downtime. The McKinsey report suggests both can be reduced.
- Industry 4.0 can typically reduce costs for inventory holding by 20% to 50%. Why? A more real-time view of inventory that doesn't rely primarily on physical inventory counts (including cycle counting) allows you to reduce on-hand inventory from the shop floor through the warehouse. If you've been tying up capital in inventory, cut it closer without risking service levels through IoT in your warehouses. Take a look at safety stock levels and your ability to meet surprise demand.
- Costs related to suboptimal quality can be reduced by 10% to 20% through Industry 4.0 levers.

Most interesting of all, the McKinsey survey indicated that over 80% of US companies felt they were ready to take on Industry 4.0 innovations. Where are you at in this area? Even if the survey is off, there's a good chance that over 50% of companies, likely skewed toward larger companies, are ready for Industry 4.0. Are you?

As we scanned the marketplace of real business cases, we identified the following common benefit levers of IoT as areas to consider.

Thinking about a strategic initiative in your warehouse for 2017? IoT might be something to consider with the benefits articulated above.

**3 Industry 4.0: How to navigate digitization of the manufacturing sector. McKinsey&Company.**

## Common Benefit Levers for IoT

Lever	Potential Ranges of Benefit
<b>Inventory Counting</b>	<ul style="list-style-type: none"> <li>- Reduce cycle counting costs by 25% to 50%</li> <li>- Reduce manual inventory counting by 50% to 60%</li> </ul>
<b>Chain of Condition</b>	<ul style="list-style-type: none"> <li>- Keep accurate, constant temperature readings</li> <li>- Reduce regulatory filing costs</li> <li>- Reduce or eliminate shipping damaged/spoiled goods</li> <li>- Clarify or isolate your warehouses' roles in gaps in damaged/spoiled goods</li> </ul>
<b>Chain of Ownership</b>	<ul style="list-style-type: none"> <li>- Know location as accurate as specific freezer locations</li> </ul>
<b>Stock Outs</b>	<ul style="list-style-type: none"> <li>- Reduce stock-outs</li> <li>- Simplify fulfilling emergency stock</li> <li>- Simplify cross-docking</li> </ul>
<b>Unnecessary Travel</b>	<ul style="list-style-type: none"> <li>- Reduce "dead travel time" often up to 50% of forklift operator time</li> <li>- Optimize routes through visual inspection of movement of people/trucks</li> </ul>
<b>Truck Load Sequencing</b>	<ul style="list-style-type: none"> <li>- Eliminate manual verification of truck load sequencing</li> </ul>
<b>Food Safety Compliance</b>	<ul style="list-style-type: none"> <li>- Gain end-to-end insight on conditions/temperature to minimize spoilage and to quickly isolate true root cause of spoilage.</li> </ul>

It may be time to get outside the box a bit in 2017. Take a hard look at IoT, especially if you've already taken many steps to automate and optimize process.

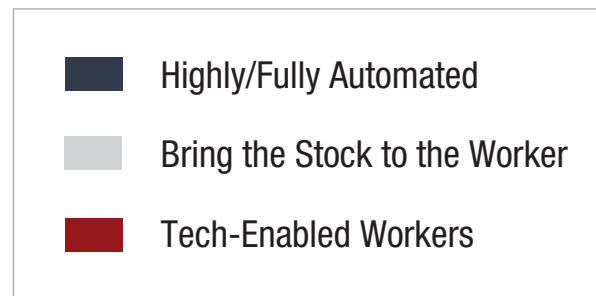
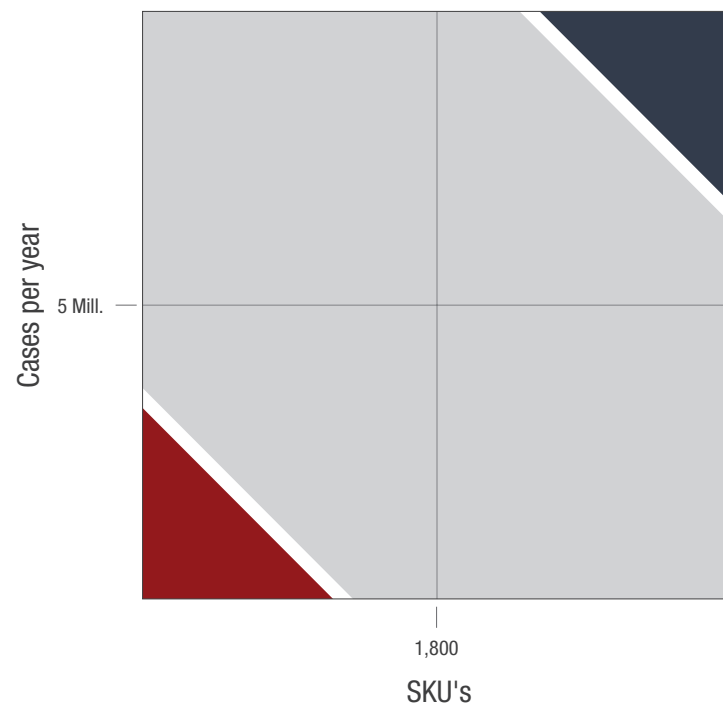
# Bring the Stock to the Worker – the Optimal Strategy for Most Beverage Facilities to Drive the Next Level of Throughput, Quality and Service.

As we discussed previously, the beverage markets (soda, beer, etc.) are facing SKU proliferation. Craft beers, craft sodas, craft liquor are increasing volumes and complexity for nearly every distributor. With that comes the increased perception that “case” and “each” picking means more workers, more shifts, a higher risk of injury, etc.

Acquisitions are immediately broadening SKUs, but few acquisition plans account the change in complexity that comes with significant increases in SKU count. Where the sales team sees more to sell, operations is faced with a dramatic set of new obstacles with no add to staff.

Luckily, a whole new range of partial automation solutions has entered the landscape that are driving as much as 50% improvements in warehouse throughput

with the same staff... all without adding the risk and cost of full automation. We call these solutions, “Bring the Stock to the Worker,” solutions.



Stage 1 Tech Enabled Workers – Easy things first. In the beverage industry, if you’re under 3 million cases and/or under 1,800 SKUs, your best answer, for now, is to have the right WMS and leverage the right mix of technology in the hands (or ears for voice solutions) of the worker. Unless you’re just shipping pallets (and who does that these days) automation break-even points will be five or more years in the future. The good news is technologies like **Voice** as well as the newest generation of handheld and tablet solutions are providing great benefits.

Productivity or throughput opportunities range from 15% to 25% at the lower end of complexity. At this level of complexity, we recommend focusing on the productivity of the worker – literally how the worker executes his/her tasks. For more on this, [click here](#).

If your automation feels like “Tech-Enabled Workers” and you’ve got mid to high volumes or SKU counts, your opportunity may range from 20% throughput to more than 50% increases.

High-End Fully or Highly Automated Facilities – Well over 1,800 SKUs and 5 million cases per year, you may find yourself with a new acquisition or set of suppliers that monkey up the perfect order of your highly automated facility. Think “downshifting” to blended automation solutions before you invest in reconfiguring the automated answer.

The middle ground is where most of the Beverage warehouses exist in volume-complexity. How far along are you in bringing the stock to the worker?

## Bring the Stock to the Worker

- Pareto your Pallet – Layer throughput
- Pareto your Case – Each throughput
- Look for thin solutions that complement ERP, if that is a barrier.



Benchmark your potential benefit ranges to find your first step:

### Get the benefits right:

**Throughput** – Blended automation solutions have generated 20% to nearly 100% increases in throughput, holding resources and facility constant. 50% throughput increases are not uncommon versus Tech-Enabled Workers.

**Order Quality** – Pick to Light and other partial automation solutions have dramatically increased quality. Ask, what would it be worth to be at 99.9% perfect orders?

**Order Window** – With more throughput in place, you can offer your customers a later cut off window, improving service levels and differentiating from your competition. Ask, “What is it worth to your customers to have a longer ordering window?”

**Safety** – Travel time is the single greatest contributor to low throughput and cost in a warehouse. It also increases the likelihood of accidents that cause damage and worker downtime. If you’re finding that your forklift operators are pressed for time and pushing the speed on trucks, bringing the stock to the worker will substantially reduce accidents and the related OSHA compliance burdens. The fastest way to increase safety may be to reduce the number of lifts and lift travel time.

**Employee Turnover** – Too little automation and workers are frenzied responding to SKU proliferation or pressure for higher productivity. Highly automated solutions can demand

that remaining workers move like track stars, traveling great distances in pick to light operations. Either way, blended automation strategies bring the stock to the worker leading to less stress, wear and tear on employees. This, in turn, decreases turnover and reduces the learning curve for new employees.

Heartland is focused on optimizing the performance of the mobile workforce. Not beholden to any vendor and not focused on selling orders, we focus first on finding solutions that optimize the performance of your mobile workforce. Interested in what Bringing to Stock to the Worker might mean for you? [Contact Heartland](#) for your free, no obligation study and business case.



At Heartland, our mission is to optimize mobile worker performance so your business outperforms customer expectations and profit goals.

In today's high pressure supply chain environment, capitalizing on every opportunity to Advance Performance is critical. By focusing on these key areas, Heartland can help your mobile workforce unlock new levels of productivity.

## Advance Mobile Worker Performance by Optimizing Task Execution

How each worker executes a given task can vary, causing uneven performance. Furthermore, unproductive time between tasks and the physical user interface of a device can also hinder productivity. Wasted seconds during task execution add up quickly and eliminating them can result in large gains.

## Drive Productivity and Quality Across Mobile Supply Chain Processes

In each case, workflows are critical, but through the lens of the worker, we can often help even the most automated companies unlock higher levels of productivity across the supply chain.

- [Manufacturing Operations](#)
- [Route Accounting](#)
- [Warehouse Operations](#)
- [Direct Store Delivery](#)
- [Field Service](#)
- [In-Transit Visibility](#)

## Benefit from Our Broad and Deep Understanding of Mobile Computing Alternatives

As the mobile technology industry becomes increasingly more consolidated, we can help you make the optimal choice by acquiring the right technology at the right price points across:

- Mobile Computing Hardware
- Network Connectivity
- RFID
- Supply Chain Software
- Print Solutions

## With Our Expert Support, Consulting and Repair, You're Never Alone

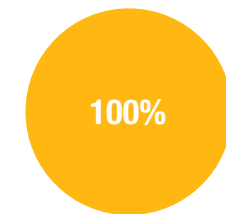
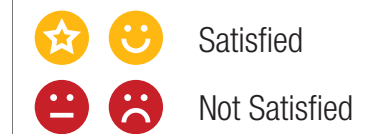
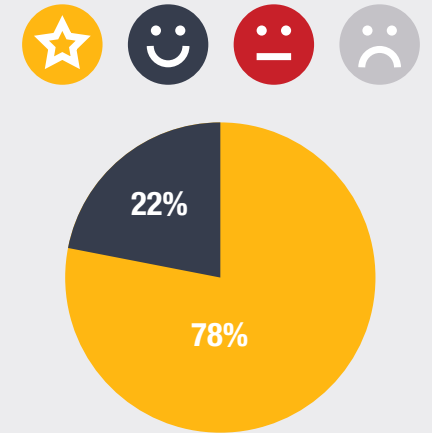
Mobile technologies are challenging to support and absolutely critical to today's lean, high-performance supply chains. Heartland supports your mobile teams so you get the uptime they need at the lowest total cost of ownership.

- Device Configuration
- Incident Triage
- Technical Support
- Repair Management
- Spare Pool Management
- Mobile Device Management Software
- Integrated Vendor-Device Performance Reporting

*It's time to start expecting more for your mobile technology partner.*

# The Results Are In On Our Customer Support Survey

We asked our customers to rate us by choosing the icon that best described their satisfaction level.



Our Customers are **100% SATISFIED** with our support.





**HEARTLAND**  
COMPUTERS <sup>INC</sup>

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Unleash the Power of Your Mobile Workforce

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