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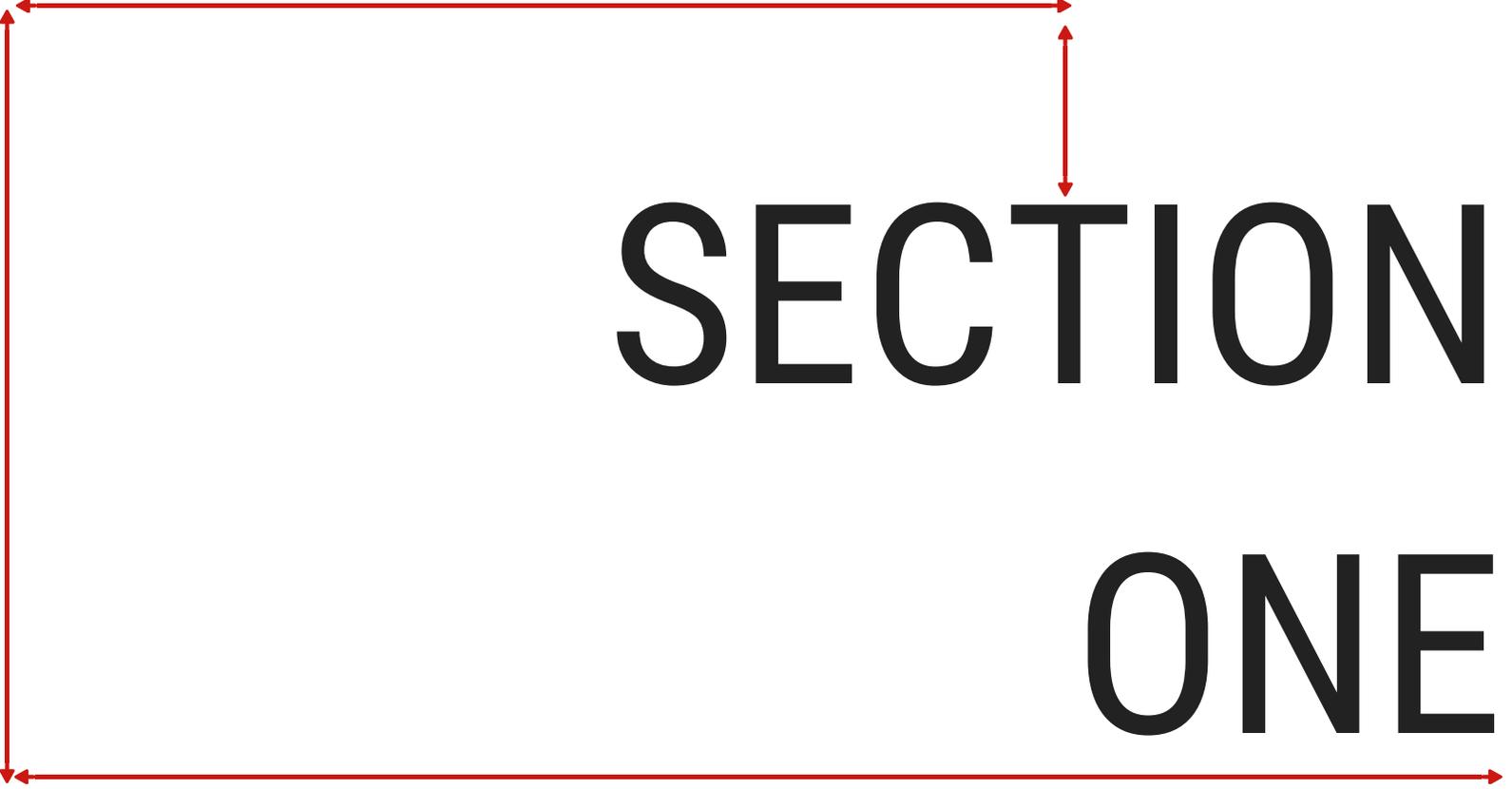
The Expert's

GUIDE TO MANUFACTURING

IN THE CLOUD

Contents

SECTION ONE

Why cloud computing matters for manufacturing

How You Can Benefit from the Cloud

Over the years, the face of warehouse management has changed. New realities demand faster turnaround times, better communications, and deeper insights into business data.

Enter Cloud computing (or "the Cloud" for short). The Cloud has brought several new realities to manufacturers and distributors, including mobility options, rapid ERP and WMS deployment, and connectivity through the organization. Many manufacturers and distributors are considering moving their ERP and warehouse management software systems (WMS) to the Cloud if they have not already done so.

A 2015 study conducted by DC Velocity indicates that only 8 percent of all warehouses are using cloud software. Manufacturers who adopt Cloud solution now will be ahead of the game and are likely to attain a competitive edge against those who do not utilize the Cloud.

Why adopt Cloud software? The Cloud expands options for inventory management and warehouse automation, allowing manufacturers and distributors to perform crucial inventory management tasks via everyday mobile devices (such as iPhones, iPads, Androids, or Windows devices). Such adoption improves accuracy and speed of all processes and provides valuable insights into business data that can help companies become more productive and profitable.

This paper examines the many reasons why Cloud computing matters for manufacturing - and how your firm can benefit by adopting Cloud solutions. With these tips, you'll become an expert yourself in Cloud computing for manufacturers.

Seven Reasons Why You Should Make the Move to the Cloud

There are probably as many reasons to move to the Cloud as there are manufacturers.

These seven stand out at the best reasons your manufacturing or distribution operation should make the move this year.

1. Reduces the need for IT support.

When you run your warehouse management software in the Cloud, you don't have to rely on your IT staff to implement, upgrade or maintain your system; this is all the responsibility of the Cloud provider. This allows your IT staff to focus on the more important issues to keep your warehouse up and running smoothly.

2. Improves communication and collaboration in the warehouse

With the Cloud, you can share important data and business information seamlessly across the organization. Instead of having to email reports to various departments, software users can log into the software wherever they are and view the information in real-time. This is extremely beneficial for the customer service department, as employees can view customer profiles and access order status instantly.

3. Increases efficiency and productivity in the workplace.

Due to the streamlined communication between different departments, efficiency and productivity in the workplace increase. With the Cloud, your staff doesn't have to waste time requesting documents or tracking down information. They can pull the information they need when they need it, allowing them to get more work done faster.

4. Creates faster warehouses.

Cloud-based warehouse management solutions have a faster ROI, can be implemented quickly, and easily integrate with other software applications. Cloud-based solutions can be implemented in a matter of days, allowing you to start attaining your return on investment (ROI) much faster.

5. Supports real-time inventory tracking and mobility options.

For manufacturers and distributors, tracking inventory in real-time is essential. With Cloud-based solutions, you can monitor inventory levels via your mobile device and instantly share that information with warehouse managers and executives in (and out of) the office.

6. Reduces hardware expenses.

When your software is deployed in the Cloud, you don't have to purchase or maintain expensive hardware. This allows you to allocate your resources to more business-critical tasks.

7. Supports lean efforts by reducing paper waste in the warehouse.

While this is not the main reason to move your warehouse management software to the Cloud, it is an added bonus. By operating your warehouse in the Cloud, you can reduce the use of paper in your warehouse and cut paper costs significantly. This is not only green, but it also supports lean efforts and can dramatically reduce your overhead costs.

The Benefits of Cloud-Based Inventory Management

The cloud isn't just for storing photos anymore. It has applications throughout the business world, even in your most critical operations. Inventory management in the cloud offers significant flexibility so that you can quickly adapt your operations for growth, or changes in product strategy.

Inventory Management in the Cloud Expands to Fit Your Needs

Think about rain clouds for a moment instead of data clouds. Rain clouds grow according to how much moisture is in the atmosphere. They shrink when the moisture is released, and the "demand" on them is lessened.

Cloud computing is similar. As your company's processing needs increase, the cloud expands to accommodate it. If you have one user on the system working late at night, it shrinks your usage so that you are using less.

More importantly, cloud computing can scale up as you need more bandwidth for your customers. Manufacturers with heavy seasonal demands may find that cloud computing easily adjusts and flexes to the demands at specific times of the year when order volume is high.

During other times of the year, when the volume is low, their computer demands decrease. Instead of investing in new hardware to handle the high volume time periods, cloud computing adjusts with the needs easily and swiftly.

A Flexible Approach: Easily Add More Users

Another way in which the cloud can expand to fit your business is by easily adding new users onto the system at any given time. A busy warehouse may need to add temporary workers during certain seasons. The cloud can accommodate more logins without adding unnecessary terminals or additional software packages.

You can also add users from multiple locations. Some companies use freelance office workers, marketing or sales people to supplement their workforce. With cloud-based systems, you can add additional workers easily onto the system. They can access the database through their home computers, tablets, or smartphones. All you need is a web connection. It's an easy way to get everyone working from the same data, and keeping your systems up-to-date no matter who accesses them.

Excellent Security

One concern that many business owners have when they consider cloud computing is the security level. Cloud computing works off of shared servers, and companies often worry that their data may be compromised or somehow less secure when it is kept off-site than when it is housed on hard drives within their four walls. If you require your systems to be on-site, you can still gain many benefits from an on-premises cloud. If you choose to have a cloud hosting vendor, you can expect to see some of the strictest security protocols available in place to ward off viruses and hackers intent on damaging or stealing data. You can't "accidentally" access anyone else's data on the cloud, so your company's information is secure. Cloud computing is secure computing.

The Cloud Is Here to Stay

Cloud computing has moved from a "nice to have" to a "must have" as more businesses embrace cloud technology. It's simple to use, highly secure, and less expensive than older technologies. Many systems can run off of the cloud, including your operations. When paired with a cloud-based ERP, inventory management in the cloud offers remarkable benefits. If you are on an outdated inventory management system, now is the time to try the cloud.
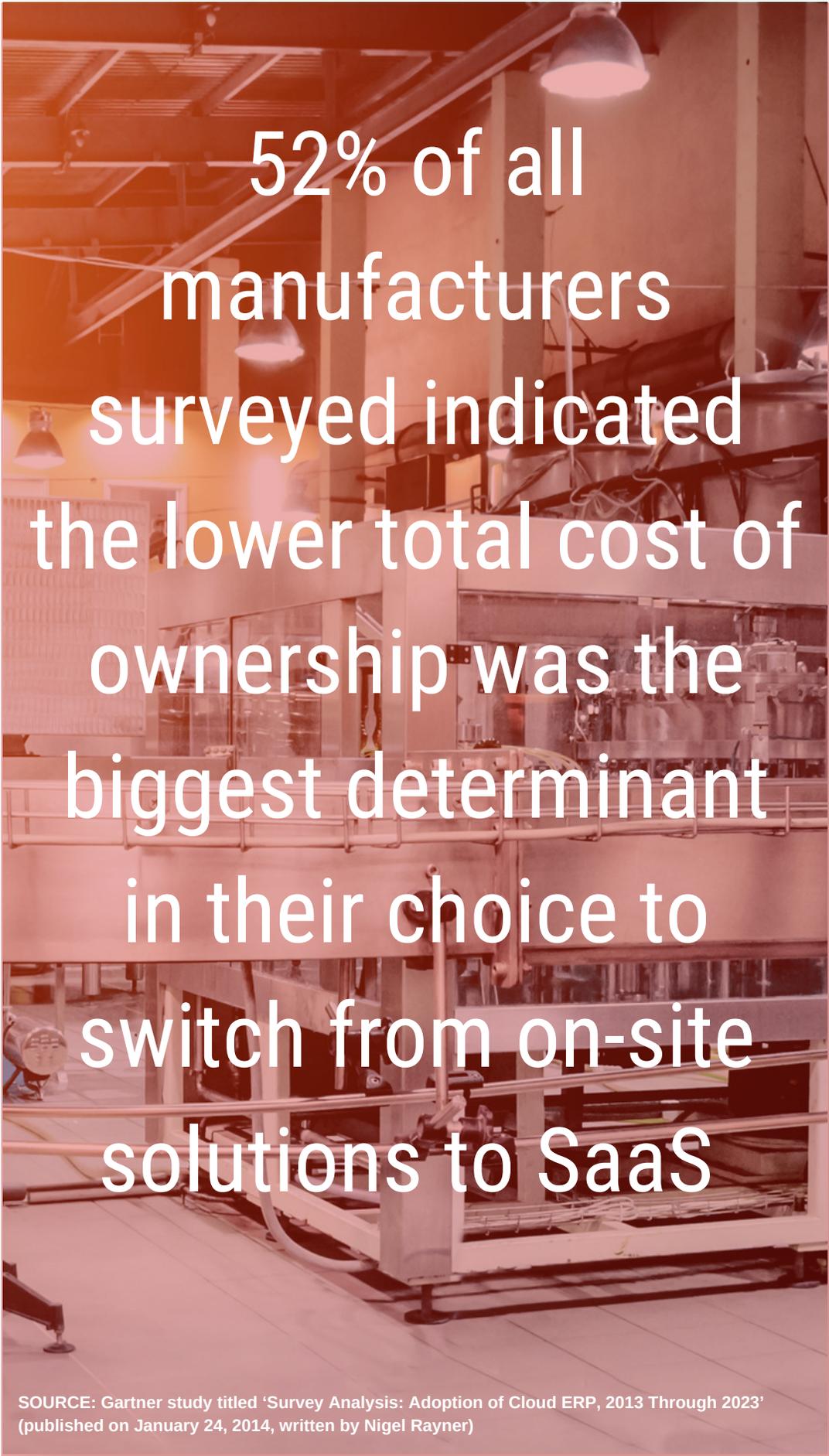
52% of all manufacturers surveyed indicated the lower total cost of ownership was the biggest determinant in their choice to switch from on-site solutions to SaaS

SECTION TWO

How manufacturers benefit from cloud technology

Cloud-based computing offers the flexibility companies require in today's fast-paced business environment. As cloud software technology matures, companies are moving toward putting their core systems on the web including their warehouse management systems. In fact, more than half of US companies now use some form of cloud technology and much more are making plans to move additional systems to the web.

Companies that have installed warehouse automation have already realized the benefits of standardizing processes, controlling costs, and improving accuracy.

Companies that have installed warehouse automation have already realized the benefits of standardizing processes, controlling costs and improving accuracy. The warehouse automation market is going through a revolution driven by the accessibility and scalability of cloud solutions. Cloud warehouse management products provide even more benefits.

Here is what you can expect:

- **Lower Costs:** Cloud-based warehouse management provides access from any device on any platform without expensive software or customization. Using a cloud model, you can automate your warehouse using iOS or Android devices, lowering costs, and providing a faster Return on Investment (ROI).

- **Increased flexibility, scalability, and accessibility:** The cloud model is especially valuable when you have multiple locations that need access to real-time updates and reports. Cloud-based warehouse management, integrated with your ERP, increases the ability to collaborate among a global workforce and enables more agile decisions.

Whatever your views of the technology, we can all probably agree that the Cloud has changed the way we think about technology today. Often described as the most revolutionary technology invention since the PC, the Cloud has caused quite a stir among businesses and technology consultants. As companies across the globe turn to the Cloud for data storage and information accessibility, many are wondering whether the Cloud is actually as beneficial as it seems. Does it really help you cut down on IT costs? Is it as safe as they say? How much can you actually save by moving to the Cloud?

These questions are at the forefront of business leaders' minds and – in some cases – are preventing many from making the transition to the Cloud. Hesitation to move to new technologies is understandable, especially in today's day and age. However, if uncertainty about the Cloud's cost is holding you up, we'd like to put some of your doubts to rest. We've done our research, talked to Cloud users, and formulated our own views based on years of experience. The following is what we've found regarding the Cloud, its benefits, and its cost (or lack thereof).

Cloud Warehouse Management Software Soars in Popularity

CDW's 2013 State of the Cloud Report reveals some interesting information about the Cloud and today's businesses. According to the report, companies are moving their ERP and warehouse management software solutions to the Cloud at the highest rate in history. In fact, the Forrester Research "Sizing the Cloud" report predicts a six-fold increase for Cloud computing solutions, moving from $40.7 billion in 2011 to $241 billion by 2020. With so many companies making the move, there have to be substantial benefits – right?

Benefits of Cloud-Based Warehouse Management

Cloud applications provide many benefits, but the main benefits we'd like to focus on are:

1. **Elasticity and scalability**
2. **Decrease in IT support**
3. **Faster implementation times (which leads to a faster ROI)**
4. **Cost-savings**

The Cloud is elastic and scalable, meaning you can use how little or how much you deem necessary at any given moment in time. Unlike traditional software servers that require you to invest in a certain amount of CPU, the Cloud allows you to pay for only what you use. The outcome is a much more affordable solution with less risk for your company. In addition, the Cloud requires very little (if any) hardware needs, freeing your IT staff to focus on more important issues. On-premise software solutions require rack space, electricity, cooling, bandwidth, hardware, and a trained IT staff to operate effectively; the Cloud simply requires a connection to the Internet and devices you most likely already own.

An added benefit of moving to the Cloud is its speedy implementation. You can have your Cloud-based warehouse management solution up and running in a fraction of the time it takes to implement a traditional, on-premise system. This allows you to reap the benefits of the Cloud much faster and attain a full return on your investment in no time at all. You won't even have to worry about applying the latest security patches as the Cloud always has ongoing updates that are applied seamlessly and automatically.

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The True Cost of the Matter

The above benefits contribute to the overall cost-savings of Cloud warehouse management software. Less hardware, lower upfront costs, and quick implementation times all factor into the Cloud's low-cost model. However, the most compelling reason for switching to the Cloud can be seen when you compare the long-term costs of on-premise solutions with Cloud-based solutions.

On average, businesses replace their on-premise software systems every five to eight years. Some companies may try to stretch this timeframe, but on average this is the lifespan of an on-premise warehouse management solution. This is something many executives and managers don't take into account because they see the cost as being too "far off" to make a difference. The reality is, however, that the cost does make a difference in the long-term cost of your solution. If you are replacing or upgrading your system every 5 – 8 years, your total cost of ownership (TCO) is extremely high.

With the Cloud, your TCO is much lower as updates occur automatically. You don't have to worry about investing in a new solution every five years, and you can rest assured that your software is up-to-date and relevant with your warehouse management technology. So while you may balk at the monthly fees, the long-term cost is actually cheaper when you consider having to replace your on-premise solution every 5 – 8 years.

47% of organizations surveyed intend to move their ERP solution over cloud-based solutions within five years.

SOURCE: Gartner study titled 'Survey Analysis: Adoption of Cloud ERP, 2013 Through 2023' (published on January 24, 2014, written by Nigel Rayner)

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SECTION THREE

True Story – Acumatica Cloud ERP Helps Lighting Manufacturer Improve Processes, Scale Rapidly

Overview

FSC Lighting Inc. began as a fluorescent lighting manufacturer, later expanding to include LED lighting with an emphasis on controls, automation, and energy efficiency. Projects range from commercial lighting to industrial parking garages and beyond. To benefit the local economy and surrounding community, FSC's 30-person manufacturing operation is supported onsite by 10 adults with developmental disabilities and up to 200 offsite from Pomona Valley Workshop. For decades, the company ran on tribal knowledge and Sage DacEasy, which wasn't set up properly, lacked accountability and couldn't scale as the company grew. FSC Lighting chose Acumatica for its flexible, scalable, cloud-based ERP and excellent value.

SOLUTION
- Acumatica Financial Management
- Acumatica Distribution
- Management
- JAAS Advanced Manufacturing
- Software (JAMS)
- Scanco Warehouse for Acumatica

KEY RESULTS
- Better control of inventory
- Dramatically reduced invoicing time
- Straightforward, comprehensive reporting
- Multiple entity capabilities
- Mobile access makes on-the-go approvals easy

"FSC Lighting has a very complex supply chain, with vendors based all over the world, but our company was running on processes that were established, as far as I can tell, about 1990," says John Watkins, CEO of FSC Lighting. "We employed a variety of very inefficient paper processes that were onerous, difficult to manage, and almost impossible to track from an inventory and production management standpoint."

When Chad Treadwell, Vice President of Operations, joined FSC Lighting, the company was poorly operating with Sage DacEasy, and it was a nightmare, he says. "DacEasy was an older system … and it didn't incorporate MRP and warehouse management and the rest of the manufacturing process. There were no inventory locations, and there wasn't any accountability. The warehouse manager would bring us a list of things he thought we might be low on, maybe, to order."

In addition, he says, "a lot of items were ordered under miscellaneous part numbers; things were really put together with rubber bands and tape and it worked because the company has a lot of tribal knowledge. But as we started to grow, we found ourselves becoming out of stock on items and scrambling to keep up with customer orders. We needed a system that would allow us to scale our business from a very manual operation to an automated operation."

Before Treadwell, the company had purchased a Sage replacement for DacEasy but had not implemented it yet. He quickly rejected it. "The version wasn't robust enough for our business," he says. "It was only a replacement for DacEasy. I had launched Sage before and decided it was older technology and a bit clunky. I wanted to find something we could do in the cloud, add an ERP and barcode scanning, and then add on from there."

Solution

After some research, Treadwell found Irvine-based consultancy firm Klear Systems Inc., which introduced FSC to Acumatica. "FSC needed a solution that would help them get organized and into this century," says Kimberly Tucker, Business Development Manager at Klear Systems. "Chad's vision for FSC involved a system that was modern, intuitive and very easy to use. He was really impressed with Acumatica's cloud-based, highly open and flexible approach. FSC also chose to implement JAAS Advanced Manufacturing Software (JAMS) and automate inventory and shipping processes with Scanco Warehouse for Acumatica, so the entire FSC operation now flows through Acumatica in real time."

Says Treadwell, "We interviewed many different resellers. Because we move very fast as a company, we needed somebody that was going to be flexible, someone that we enjoyed working with, and that was going to go the extra mile for us. Klear Systems was very responsive to our needs."

"The process to implement Acumatica was actually very quick," he reports. "We started in October and launched live in January. Klear Systems made that happen for us."

The partner "has been fantastic since go live, being very available and actively working with us on adding new modules," adds Treadwell. "They're great and very quick to make changes I've asked if I needed a different setup."

Benefits

Better Control of Inventory

Because FSC Lighting is a nearly 50-yearold company, Watkins and Treadwell streamlined many of the company's processes as part of its Acumatica implementation. "Before Acumatica, our version of checking inventory was a sales guy running to the warehouse to ask how many units we had," Treadwell says. "Having Acumatica, JAMS, and Scanco integrated allows us to manage all our inventory from a single location. We can easily look it up in the system and have confidence that it's accurate."

Previously, the warehouse manager kept all sales orders, purchase orders, and other paperwork out in the warehouse, and would match the paperwork with inbound receipts. "Now, he has a dashboard and he can see items instantly when they come in and receive orders right into the warehouse," Treadwell says. Acumatica takes the guesswork out of production. Since the warehouse manager was often the only person who knew where things were, if he were absent, finding items took time. "He was really the only person that knew where everything was," Treadwell says. "Now we have location based picking so anyone can bring the product into manufacturing."

In addition, he says, "If an item was missing from a certain order, someone would just grab one, which meant inventory was off. Now, inventory is accurate and true and we have policies in place so people don't do that, so our inventory counts have improved dramatically and we have confidence that it is properly decremented as products are built."

Greatly Improved, Faster Invoicing

FSC Lighting has cut its invoicing time from as many as five days to a mere 20 minutes, Treadwell says. The previously manual process was cumbersome and involved many steps, including following paperwork as it traveled through the warehouse and manufacturing process.

"Now it's automatically done each day," he says. "Acumatica has brought us so much more control over our business. There were times before when invoices were missed altogether and that just doesn't happen anymore."

Says Holly Pugno, Director of Operations for FSC Lighting, "I am loving working with Acumatica. We joke that we were in the 19th century and now we've come to the 21st century!"

> "Having Acumatica, JAMS, and Scanco integrated allows us to manage all our inventory from a single location. We can easily look it up in the system and have confidence that it's accurate."
>
> Chad Treadwell
> Vice President of Operations

Straightforward, Comprehensive Reporting

"Reporting is fantastic in Acumatica," Treadwell says. "Recently when a salesman and I were looking something up, we pulled it up immediately because finding information in Acumatica is relatively straightforward and simple. He said to me, 'You realize what you just did would have taken us six hours in the old system.' That's just one of Acumatica's tremendous benefits. It's a matter of just clicking a couple of buttons, and we can get every piece of data we're looking for."

**Multiple Entity Capabilities and Mobility**

Treadwell deployed Acumatica in his remote contract warehouse in Chicago as well as Pomona Valley Workshop's facilities so he can drop ship from either location. Acumatica's ability to handle multiple entities also allowed FSC to use the software with its joint venture partner in Taiwan.

Watkins has enjoyed Acumatica's mobility in his business travels. "The iPhone app has been super beneficial because I am in the building maybe 20% of the time. I'm able to go through all my approvals from POs coming inbound to our POs going outbound and approve all those on-the-fly," he says.

Overall, FSC Lighting is incredibly pleased with all aspects of Acumatica. "It's an affordable solution with an unlimited user base," Treadwell says. "We wanted to control costs upfront so we paid for the software upfront. We had heard about other vendors who get you in and then crank up the price later, but Acumatica doesn't do that."

With DacEasy and its manual systems, FSC Lighting couldn't grow, Treadwell said. "Acumatica and the processes we are developing are helping us double our sales without doubling our staff. The idea of being handcuffed to tribal knowledge is also going away. Before we had a hard time keeping up with growth, and now we can meet increasing customer demand."

"We needed something very flexible, in the cloud, and overall, something that was a good value for us. And we found that in Acumatica."
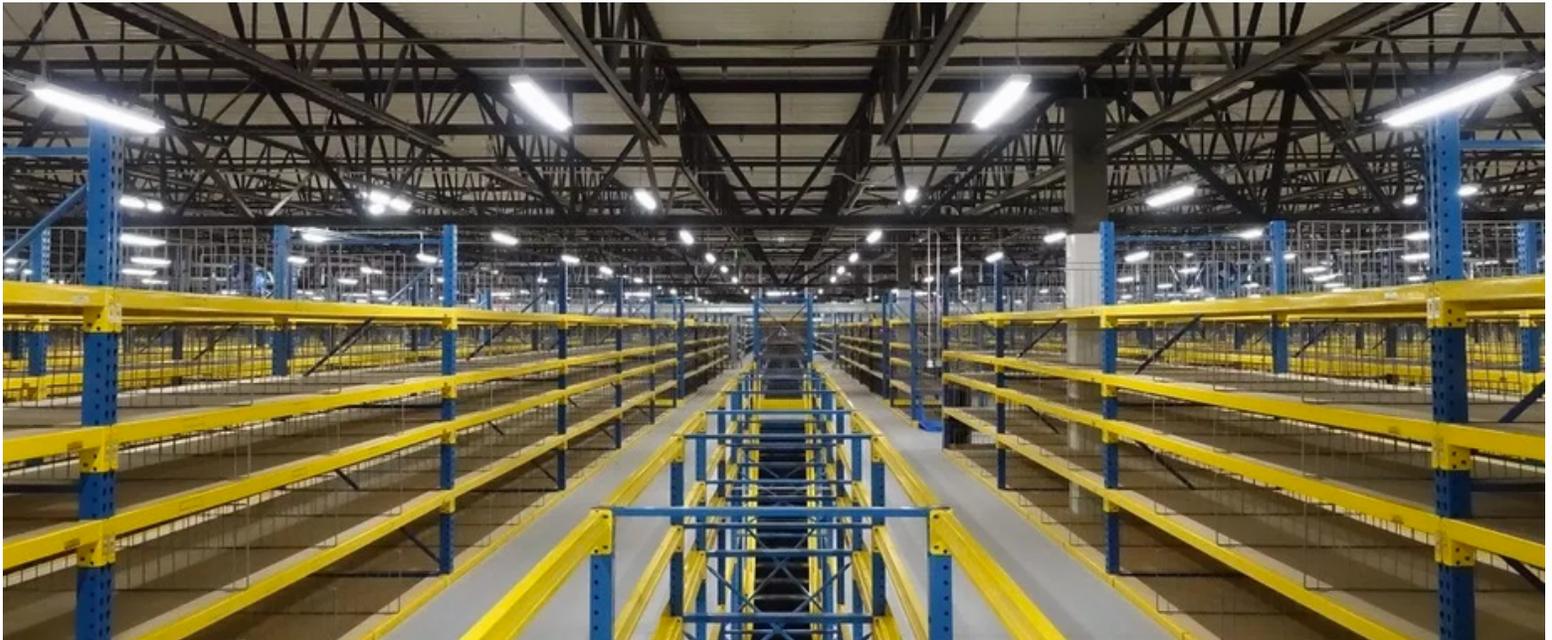
SECTION FOUR

Implementation
Roadmap

Implementing a barcode inventory management system can be tricky. Not only does it require you to implement the barcoding system correctly, but it also requires you to successfully integrate your new barcoding system with your existing software systems (think ERP or warehouse management solution). While your barcoding software provider can certainly implement your barcoding solution for you, many companies would rather attempt it themselves. We've witnessed and performed numerous barcode inventory management system implementations over the years and have developed the following seven tips to help you successfully implement your solution.
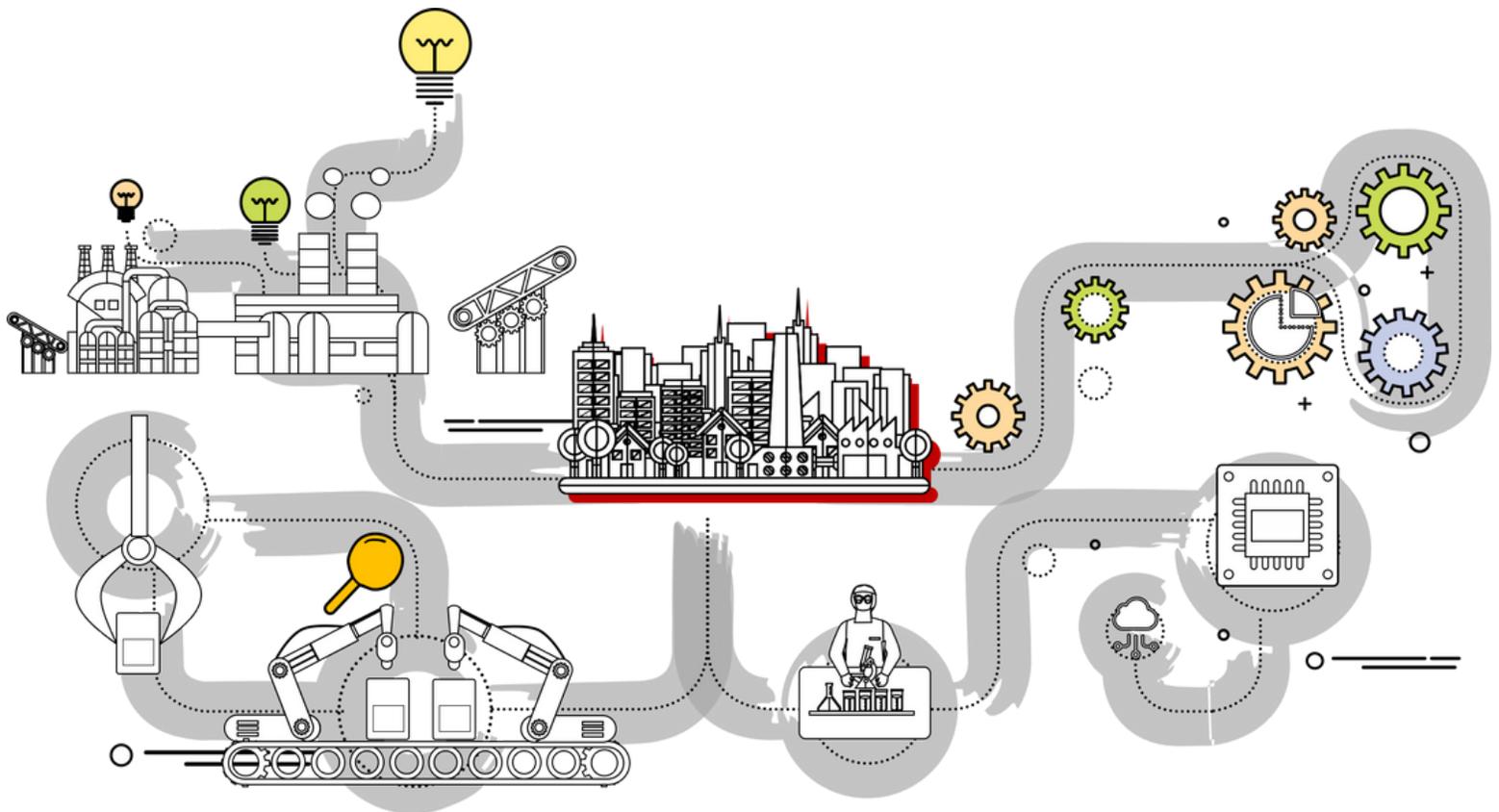
Choose the right barcode label printing solution for your company's needs.

Ensuring barcode quality is key to any barcode label printing solution. Make sure that you select a barcode printer that is fully capable of meeting your company's requirements for durability, legibility, and speed of barcode generation. If your fast barcode label printer does not produce legible or durable barcodes, it is not the right solution for you. It will ultimately be less cost-effective in the long run than a slow printer that produces better quality barcode labels. Make sure you choose the right barcode label printing solution for your needs and not just the "cheapest" solution.

Consider how the labels will be used.

While the physical barcode label materials you use may be the least expensive component of the entire barcoding system, they are the most susceptible to environment changes. Your products, forms, and barcode labels can experience harsh conditions in and outside the warehouse and may sit on stockroom shelves for long periods of time. If your barcode labels degrade over that period of time, your company may be forced to re-label the entire inventory (a process that is not only time-consuming but also costly).Make sure that you choose the proper barcode labeling materials prior to barcode implementation. Most label manufacturers can provide you with the material specifications of their labels and the environmental limitations of their labels. Choosing the right barcode label can make a huge difference in your cost-savings.

Test before deploying.

This may seem like an obvious step, but many companies jump straight into labeling their products before testing their barcode labels. In addition to testing your barcode labels to ensure that they contain the right information, you will need to thoroughly test your printed barcode labels in the actual workplace over a specific period of time. It should be long enough to mirror the life cycle that a real barcode label will encounter in your warehouse. While this will lengthen the time you spend in the testing phase, it will prove to be beneficial in the long run. By spending time in the testing phase, you have the opportunity to work out all obstacles prior to deploying the entire barcoding system.

Review all support options.

Make sure that you examine the support options of all the devices you will be implementing, including software, barcode scanners, barcode labels, and any other equipment. These support plans will most likely not be coming from the same vendor, so make sure you have a thorough understanding of where your company stands in terms of the support of the products you are about to implement.

Integrate your barcoding system with existing information systems.

This is the biggest challenge we've seen and experienced in implementing barcode inventory management systems. Because most companies already have an information system in place (such as an ERP or warehouse management system), the new barcoding solution will need to be integrated with the existing system. This requires more than simplifying the physical infrastructure; it requires an understanding of how the data will arrive at the system's database from the barcode label.

Get to know your vendor.

It's important to choose a vendor who you can rely on in the future. Make sure your barcode inventory management system vendor is committed to assisting you not only in your implementation but also throughout your system's lifecycle. The worst thing that can happen is to find out – months or years later – that your solution provider has disappeared or no longer supports your specific solution. You will need a vendor who has the reputation and expertise to deliver a quality barcoding solution.

Stay current on your technology.

While barcoding technology has been around for years, manufacturers and distributors are just now beginning to implement it into their warehouses. The technology is advancing at a rapid rate, so it's important to keep up with new barcoding trends. Don't fall behind the technology curve – make sure that you are taking advantage of all the new barcoding technology has to offer.

Important Questions to Ask when Choosing a Cloud Manufacturing Solution

If you are considering implementing a manufacturing barcoding system next year, review these three critical questions. Some of these needs are "non-negotiable" and essential to get the most out of your manufacturing automation implementation. Failing to ask key questions can lead to poor results.

- Have you received feedback from the entire team? Invite key managers and support staff to discovery meetings and take copious notes to help you form a "wish list" for a project scope.

- Is this system configurable? The ease with which systems can be configured is an important part of your decision-making process. Balance the need for configuration with the need for a solution to meet your requirements as much as possible 'off the shelf' without any tweaks or changes. When the balance shifts in favor of an off-the-shelf system, with minimal customization needed, you've probably found a worthwhile solution.

- Is this system made for manufacturers? Many barcoding systems are made just for warehouse purposes. Manufacturing barcoding needs can be very different. It is better, to begin with, the right solution than to fit a square peg into a round hole.

Expert Tips for Barcode System Implementation

Are you new to warehouse barcoding? Or do you have a warehouse barcode system that you would like to replace? Here are some great tips to make your selection and implementation a success.

- Find an executive sponsor or champion: An executive sponsor or champion can help you secure buy-in for your warehouse barcode system project throughout your company's executive team. An executive sponsor not only ensures that you have the budget you need for your project but removes potential roadblocks to project success. Their enthusiasm and open support for the project sends a powerful signal throughout your company that this is an important project not just for your warehouse operations, but to the entire organization.

- Assign a project lead: A project lead is someone within the organization who takes responsibility for developing the potential scope of work, vendor selection, and project coordination. Choose someone for the role who is organized, thorough, and a good communicator.

- Form a representative project group: It's important to have members from every department on the project team that will be affected. A warehouse barcode system can impact more than just the warehouse floor; consider the effect on accounting, manufacturing, sales, and others.

- Create a project plan with ROI: A project plan with detailed ROI metrics, milestones, and measurements will help management understand the benefits of the warehouse automation project and how to measure its success.

- Work with an experienced vendor: A vendor with experience in warehouse automation has the benefit of past projects to learn from and guide your implementation. Experience, good product and warehousing knowledge, and a strong training and service component are also important for success.

Cloud-based systems are ideal for a manufacturing environment. With the right system, you can manage operations, inventory, and business day effectively. Start today to find the best system for your needs and join the Cloud evolution.

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http://www.dcvelocity.com/articles/20150424-wheres-the-payback-in-software/
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https://www.forrester.com/report/Sizing+The+Cloud/-/E-RES58161

About

Scanco

Software

Since 1989, Scanco has been a leading provider of supply chain automation software and services. Since our inception, we have focused on innovative warehouse management solutions with a unique technology-driven approach. Our solutions deliver unequaled efficiency and visibility for distribution and manufacturing companies around the globe.

From basic barcoding to the most complex distribution and manufacturing operations- Scanco software is positioned to grow with our customers ever changing business needs. We are focused on providing top-tier, fully integrated automation solutions built specifically for your ERP solution. Today, thousands of world-class distribution and manufacturing companies have automated their facilities with cutting-edge Scanco technology.

For more information contact,
sales@scanco.com
or visit
www.scanco.com