



How Wireless Networks Are Driving Business Inside The Modern-Day Warehouse

An E-Book by SecurEdge Networks
www.securedgenetworks.com



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The Current State of Warehouse Wi-Fi Networks

The Old Days

Traditionally, most warehouses and manufacturing businesses have always had a problem with visibility into their operations.

These "blind-spots" were creating all kinds of problems for managers and important decision makers.

Problems such as:

- Not knowing how much of each product they had in stock
- Ordering inaccurate amounts of new resources
- Relying on outdated and inefficient manual processes like using pen and paper to keep track of inventory levels.

These old processes and lack of business visibility were causing decreased productivity and consequently rising operational costs.

When you combine all of these issues that most warehouse businesses were dealing with, not being able to see what was going on inside of your operations was killing any chance of success.



The Intelligence REVOLUTION

While many warehouses still operate in these environments others have realized there is a better way; a more intelligent way of doing business.

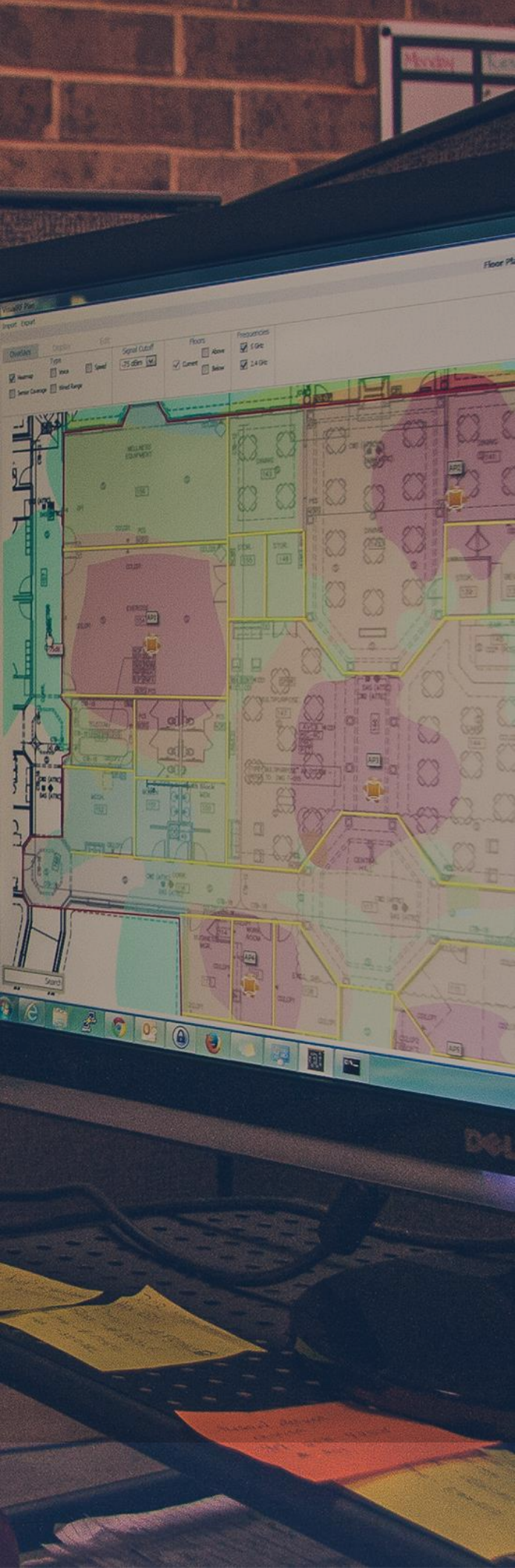
In today's modern manufacturing and warehouse industries using real-time data to drive smarter business decisions is the key to success. And to do that you need a reliable, high-speed wireless network.

Warehouses and industrial companies of all shapes and sizes understand that success today is built on five things:

- Visibility
- Efficiency
- Productivity
- Collaboration
- Flexibility

The goal is to uncover hidden insights into your business through real-time intelligence by using wireless, to enable better processes and make smarter, faster decisions.

Leading warehouses and manufacturing businesses understand they need a ubiquitous Wi-Fi network to make this new strategy of intelligent operations possible.



The Intelligence REVOLUTION

You need to increase connectivity, eliminate redundant workflows, maximize the assets you have, and guarantee its security from outside malicious threats.

What do we mean when we say “intelligence”? Many people today look at wireless and realize it's a necessity, but they think throwing up a few access points will do the job.

Wireless networks extend beyond connectivity, especially in the industrial environment. Today, sensor-enabled machines can communicate with each other and more importantly with you. This provides you with real-time data that allows the right person to make smarter decisions at the right time.

With this kind of advancement being made, warehouses and manufacturing alike can use automated systems and workflows to monitor the health or performance of individual machines, allowing for proactive maintenance, lowering the cost of managing inventory through better efficiency, and tracking products from one process to the next.

For example, using big-data analysis tools, companies can create improved pricing forecasts utilizing more accurate inventory data against current customer demand, allowing you to make relevant decisions to maximize your potential revenue.

Basically if you're interested in implementing a warehouse management system or an inventory control system, wireless networks are what make this possible to do.

This kind of collaboration is what we like to call intelligent networking and it's revolutionizing the way that manufacturers, warehouses and other industrial companies are doing business. There are literally an endless amount of possibilities through the use of intelligent wireless networks, and we're just getting started.



Challenges Inside Today's Warehouses

The warehouse and manufacturing environments are easily some of the most challenging environments to support wireless and other intelligent networking platforms.

Unfortunately, there aren't many resources who understand the industry and can properly support this emerging business model using wireless technology. To implement a proper solution you need to find a company who understands the challenges, frustrations, and critical areas of your operations to tailor a customized wireless solution to fit your specific business needs.

Here's a list of the top challenges facing manufacturing and warehouse companies today:

- Understanding how the modern warehouse uses wireless technology, what can be done, what processes can be improved and what infrastructure is needed to make this happen.

- How to automate your inventory system when pairing tablets with applications or running software over Wi-Fi using hand-held devices.

- Your current network is outdated and being shared across too many different business operations and is insufficient to support your applications.

- Unable to manage your inventory efficiently.

- Keeping up with demand is nearly impossible while also trying to increase your efficiency.

- How to implement a network that is able to address the challenges created by your physical environment.

- How to plan and scale your network's capacity to support the increasing numbers of connected or "smart" devices.

- Automating picking orders and processing orders.

- Implementing communications using headsets and scanning guns for barcode scanning.

- Continuously trying to establish new means to increase productivity and reduce your costs.

- Needs for safety improvements including real-time monitoring of equipment and better employee productivity.

- Lack of performance and increased costs due to disparate or individual networks for each area of operations.

- Extremely high energy costs.

- Dealing with unexpected downtime and the inability to pinpoint the exact problem.

- Inability to increase network performance such as uptime, QoS, throughput etc.

- Deploying proper network security measures

The Potential of Industrial IoT

The warehouse and manufacturing industries are the most common places for the Internet of Things today.

But how can warehouses and manufacturing companies leverage it to drive business? What sort of role does the Industrial Internet of Things play?

Let's start by looking at the Industrial Internet of Things strictly by the numbers.

IIoT BY THE NUMBERS

By 2022 there will be over
50 BILLION IP devices connected.

There is over **\$14.4 Trillion Dollars** at stake that can be realized from IoT by 2022.

27% of that 14.4 Trillion will be in
manufacturing alone.

Which equals **\$3.88 Trillion Dollars** in business by 2022.

"Smart-Warehouses" will generate
\$1.95 Trillion in potential business.

The Potential of Industrial IoT

There have been 3 major "industrial revolutions," with the most recent before now being in the 1970s, where IT and electronics started to automate processes for production.

Today we're in the beginning of the 4th industrial revolution and it's called Industry 4.0.

Industry 4.0, also known as the integrated industry, will transform traditional warehouses and manufacturing by combining communications, data, IT, and physical elements into one singular, collaborative system.

Industry 4.0 will have long-lasting effects on current and future industrial companies by increasing revenues through expanding production, building new hybrid business models, capitalizing on intelligent technologies to power innovation that will ultimately revolutionize your workforce.

Current predictions and research suggest that the Industrial IoT will develop in four waves spanning both near-term and far-term goals. The leading early adopters of Industrial IoT are focusing on operational efficiency. This includes reducing operational costs through things like preventative maintenance, increasing productivity, and maximizing asset utilization. This first wave of industrial IoT implementation could allow businesses to increase their productivity up to 30 percent according to Deutsche Bank Research.

While Industrial IoT is still in its infancy, one thing is clear, it's time to start thinking differently about products, assets, and processes. From how we develop products, to how we distribute them, their facilities, and everything in between, there are changes taking place with Industrial IoT that are revolutionizing the industry.



Seeing the Value

One of the greatest benefits we've seen from this new transformation in the industrial industry is the scope of collaboration.

By breaking down barriers that once existed between each individual network and each operational team, manufacturers can finally push innovation forward.

There are new automated systems taking shape, as well as creative and more efficient service models, both of which are seeing widespread adoption throughout the industry.

The future of warehousing and manufacturing is going to continue to focus on driving business through better visibility to make smarter decisions.

You will be able to achieve greater speeds, better flexibility, and establish real-time visibility across your entire operation, including your equipment and supply chains.

With a properly connected environment you'll have the ability to integrate all of your systems together under one intelligent network.

Seeing the Value

Having proper visibility supports the ability to adapt quicker to sudden changes such as product demand, inventory levels, new product introductions, and maintenance alerts.

Communications will also see a major benefit from these new changes. You now have the ability using wireless networks to connect everything from data and machines to people, both on-site and remote.

Unified wireless networks will play a central role in supporting the industry 4.0 strategy by delivering performance, security, and reliability to your new mission critical applications, including: RFID tags, sensors, human machine interfaces, hand-held devices, inventory tracking, and even troubleshooting.

Forward-thinking industrial executives are looking to converged networks to seamlessly integrate their physical environments with their business systems, creating new opportunities to reduce costs and increase productivity.

The warehouse as we know it today is quickly evolving, for those that want to transform their business and take it to the next-generation now is the time.





Putting It All Together

Wireless networks are delivering potential new growth opportunities to warehouses and manufacturing businesses that are starting to plan for and implement new intelligence driven strategies. While the “Industry 4.0” revolution is still developing and there are different challenges and critical obstacles to overcome, (especially in the form of wireless connectivity and network security), it promises to change the way you do business for the better.

If the idea of changing your entire operation seems overwhelming, it's okay, you don't have to do everything all at once. There is a method to implementing these new processes, products, and services to scale with your business as it grows. We always advise to start with your top priorities first and expand from there.

For warehouses this starts with knowing what's going on in your business operations and for many this means starting with an inventory and/or warehouse management system. Both of which are driven by having the right wireless infrastructure in place. However, your success depends on how well you understand your environment and what you want to achieve. As we always say it's better to, "Plan Twice, and Implement Once".

In order for any business to remain a contender in this new intelligence driven, connectivity demanding future, businesses must adapt and change.

There are countless new opportunities that were not previously possible through Wi-Fi, take the initiative to be the front-runner amongst your competition and drive your business to the next level today.

“ At SecurEdge Networks, we want to provide the platform that people use to boost productivity, increase efficiency, collaborate, and grow their businesses.”

- Philip Wegner | Founder, CEO

SecurEdge Networks



About SecurEdge Networks

Yes, it's true, we're geeks. But the real reason we are passionate about wireless is because of what it can do.

Mobile devices and other mobile technologies have changed the fabric of what it means to be alive today. There is not one area of our lives that has not been touched by the possibilities that wireless and mobile have created.

The best part is, in many ways, we're just getting started.

However, Wi-Fi doesn't just work, although many people seem to think it should. It's a very complex and constantly changing system that inherently comes with many critical security challenges. How safe has your data been lately?

Fortunately, there are people (like ourselves) that really want to help make sure that your business is getting it right, the first time.

At SecurEdge, it's our life's work to educate you on how you can leverage wireless to help your business succeed.

Our goal is to provide the infrastructure, services, and support organizations need to do all the cool and cutting edge things they want to do with wireless technology.

We want to provide the platform that companies use to increase productivity, learn more effectively, collaborate more efficiently, and ultimately grow their businesses.

We live by one simple truth, wireless can make it happen.