SOTI CONNECT

The BluePRINT for Printer Management Success

Keep Printing, Keep Working with SOTI Connect

Congratulations on Your New Fleet of Mobile and Industrial Printers:

Now Here Are Six Problems You're Bound to Face and One Solution to Help You Solve Them All

You found the right printers for your organization: They're small, compact printers delivery drivers can take with them to print labels. They're thermal desktop printers for healthcare workers to quickly print patient wristbands. They're powerful industrial printers for the warehouse assembly line. They're sleek and stylish and look like they came from the future. They have the tiniest display screens – or maybe none at all – and so many cool buttons and lights. And all you have to do is plug them in, turn them on and let them print for years and years.

Right?

Not so fast.

In a perfect world, it would be ideal if your new printers would print brilliantly, last forever and never experience a moment of downtime. Unfortunately, that isn't the case. At some point, maybe, a mobile printer in a hospital will take minutes to print out a patient wristband instead of seconds, slowing down triage times. Or the print head on an industrial printer on an assembly or packing and shipping line will overheat and grind production to a halt. Or a mobile receipt printer no bigger than the palm of your hand that's deployed in a retail location suddenly disappears, and it's up to you to find it.

Oh, and about those problems. They're happening hundreds or even thousands of miles away from where you are. And you need to solve them ASAP.

After all, that's what organizations do with business-critical mobile devices, right? Think about it from a smartphone perspective: If you're an IT administrator, would you ignore a security risk within your fleet of smartphones? Would you manually touch and configure each smartphone prior to deployment? Would you physically travel to each smartphone to perform necessary updates to ensure compliance? You would fly out halfway around the world to reset or reboot a smartphone to get it working again?

Of course not. That's inefficient, ineffective and pretty much impossible.

So why do the same with your printers?

In this eBook, we're going to look at some of the common printer pain points your organization may be dealing with and how they're detrimental to your business operations. More importantly, we're going to show you the one solution that can solve them all.

DEPLOYMENT

Efficiency and convenience are paramount. For industrial thermal printers found on the assembly line, desktop thermal printers at the hospital triage station or rugged mobile printers drivers use to print delivery labels, it would be incredibly efficient and wonderfully convenient if they could just be plugged in, powered up, turned on and ready to go.

But that isn't necessarily the case.

Rather than a streamlined approach, the current practice requires multiple individuals, numerous steps and several locations to stage and deploy printers. What should be a simple, straightforward process becomes a costly, manual mess that can take up to three weeks[1] and add thousands of dollars to your printing budget.

Consider what happens before the purchase is made:

• For almost one-third of enterprise technology buying decisions, the time frame is six months or more, depending on unexpected factors such as changing business priorities, budgetary adjustments and even sick days, which can delay purchasing cycles.

• Most of the time, at least six people are involved in the purchasing decision, and 20% of the time, that number swells to more than 16 people.

6
MONTHS
REQUIRED TO MAKE AN ENTERPRISE TECHNOLOGY PURCHASE DECISION[2]

16
PEOPLE
CAN BE INVOLVED IN MAKING A BUSINESS PURCHASE DECISION[3]

Then, of course, there's the actual purchasing of the printers, which can run hundreds of thousands of dollars or more depending on how many and what type.

A business has invested significant time and resources – in both finances and personnel – to select the best printers for its needs. The last thing it wants to do is spend more of each to get them printing.

But some businesses do. It doesn't make sense, and it doesn't have to be this way.

Printer Deployment: A Complicated, Expensive Process That Doesn't Need to Be

It can cost up to $120 (USD)[4] to manually stage and deploy a single printer. That may not seem like much, but the costs will add up quickly.

Imagine a large regional or national organization in any industry purchasing 5,000 printers. For example:

National Retail Chain with 1,000 Locations	• 2,000 mobile thermal printers for shelf-edge labels • 2,000 desktop printers for packing labels • 1,000 rugged mobile printers for receipts
European Transportation and Logistics (T&L) Business with 250 Warehouses	• 3,000 mobile thermal printers for on-site printing of delivery packages • 1,000 industrial printers to be installed on packing lines • 1,000 desktop label printers for inspection stickers
National Pharmacy in Brazil with 2,500 Locations	• 4,000 desktop barcode label printers • 1,000 mobile receipt printers for prescription delivery drivers

These printers will ultimately be deployed in various retail stores, warehouses and pharmacies. Using the estimate above, it will cost $600,000 (USD) and at least months to deploy them all. And those numbers are above and beyond the time and cost of researching and purchasing the printers.

> At $120 (USD) to manually stage and deploy a single printer, **it can cost $600,000 to stage and deploy 5,000 mobile and industrial printers.**[5]

At a high level, here's why it takes so long and costs so much. And remember, this is just for ONE printer

STEP	DESCRIPTION	POTENTIAL RISK	TIME (APPROX.)
System Integration	Printers are shipped to the system integrator, who sets up things like darkness and print speed settings on behalf of the customer to meet their requirements. This is done manually or using a variety of tools, and, of course, it costs time and money.	Settings are incorrectly established, making the printers unable to meet business needs. This is partially due to the challenges of working on a small, hard-to-use interface screen or multiple management tools, depending on the printer manufacturer.	Two days
Delivery and IT Review	Printers are shipped to the customer's IT department, where administrators and technicians review the settings made by the system integrator and make final changes based on where the printers are used.	Shipping delays lengthen the delivery time. Printers cannot be tracked during shipping and can be lost, stolen or damaged in transport. Conducting recounts and inspections for every transit, regardless of length or size, becomes an expensive endeavor.	Eight days (10 business days total)
Delivery to Final Location	After IT validates the printer settings, they are shipped to their final destinations. The further the location, the longer it will take for the printers to arrive.	Printer shipments can be delayed. Sometimes, the wrong printer is shipped to the wrong location, adding time to the process.	Five days (15 business days total)
Staging	Once printers reach their destination, they sit in a box because nobody is on-site to set them up. Therefore, third-party technicians are dispatched to stage the printers and prepare them for deployment and use.	Technicians updating security and certificates require access to secure Wi-Fi networks, which poses a security risk. Technicians may be delayed due to workload, bandwidth or other priorities, lengthening the staging process.	Four days (19 business days total)
Deployment	The printers are finally ready to be deployed and used.	If the printers are not set up correctly or printing as expected, further work is required to ensure they meet performance standards.	Two days (21 business days total)

Add it up. You have at least five more steps, numerous additional people and extra days added to what's already been a long, complex and expensive process. As evidenced above, each new step and person introduced to the process can add more risk. Plus, the longer it takes for a printer to reach its destination and begin printing, the longer it takes for an organization to see value from it. Organizations are looking to generate a return on capital (ROC) as quickly as possible, and having to wait 21 days (or more) for printers doesn't help whatsoever.

Another thing to consider for organizations concerned about sustainability scores regarding CO_2 emissions is the impact of the manual process of constantly shipping printers to multiple locations.

It all begs the question: If the hard work was done before the printers were purchased, why does it cost so much and take so long to get them printing after you procure them?

It shouldn't. And it doesn't have to.

Fewer Steps + Fewer People = Faster Deployment

In healthcare, for example, a late printer is an unavailable printer, and an unavailable printer means patients can't receive their prescriptions on time. Pivoting to transportation and logistics (T&L), delayed printer deployments equal goods not being loaded onto trucks on time, resulting in late deliveries and unhappy customers; 36% of whom will shop elsewhere if they have to wait more than two days for delivery. In retail, a problematic mobile printer for shelf-edge labels can lead to incorrect pricing and fines of up to $10 million (CAD).[6]

Listed below are examples of critical printing tasks within selected industries:

HEALTHCARE

Pharmacy labels

Identification tags
(for example, patient
wristbands)

Lab work labels

Sample collection labels

TRANSPORTATION
& LOGISTICS (T&L)

Packing slips

Shipping labels

Delivery lists

Bills of lading

RETAIL

Receipts of point of sale
(POS) terminals

Shelf-edge labels

Price tags

Shipping labels

Following a manual process, newly ordered printers must be delivered to numerous locations – and handled by numerous people – before arriving at their destination. As a result, critical operations are disrupted and bottom-line ROI is either reduced or postponed.

With printing being so critical, why would businesses purchase mobile and industrial printers but not get the immediate benefits? What's the solution?

Fast and Easy Printer Deployment with SOTI Connect

SOTI Connect is an enterprise-grade printer management solution which enables printers to be directly shipped to their destination site. Instead of spending weeks and thousands of dollars on printer staging and deployment, SOTI Connect reduces the time to as little as two or three days and the cost by potentially thousands of dollars. Remember that $120 (USD) cost to stage and configure a single printer? SOTI Connect can reduce that to $50 (USD) on average[7]. Here's how:
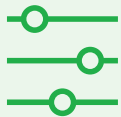
AUTOMATED SET UP

SOTI Connect can be set up to automatically discover, configure and secure compatible printers when they join a Wi-Fi network:

AUTO-DISCOVER

SOTI Connect identifies the printer as soon as it wakes up as a trusted device, allows it to become part of the Wi-Fi network and groups it accordingly.

AUTO-CONFIGURE

Darkness levels. Print speed. However the mobile or industrial printer needs to be configured, SOTI Connect automatically does it.

AUTO-SECURE

Because printer security is critical, SOTI Connect provides the latest firmware and certificate updates to the printer, ensuring it's protected from the latest threats.

It's simple: if less people interact with the printer, human error becomes less likely. And as steps are taken out of the process, printers arrive at their end destinations faster and ready to work.

SOTI Connect completely transforms the process of staging and deploying new printers. Instead of being cumbersome and expensive with too many people involved, it becomes convenient, efficient and automated.

[7] SOTI Customer Estimate

ENTERPRISE-GRADE MANAGEMENT

One of the first things a user often asks when turning on a printer is "Is it working?"

This is a great question when it comes to enterprise technology like thermal, mobile, desktop or rugged printers. Once the printers are connected and deployed to a network, they must be managed, monitored and maintained. This process is a major challenge if the IT office and the printers are hundreds of miles away.

Additionally, just because a printer is printing doesn't mean it's working properly. Here are three common issues which may go undetected by the naked eye and ignored because the printer may appear to be operating normally:

WRONG PRINTING SPEED
Printers which print too fast can make labels difficult to read. Printers which print too slow can hamper productivity. The slightest change in print speed can have a big impact, but that small change can quickly go unnoticed.

PRINT HEAD TEMPERATURE
Overheated print heads, on average, take 15 minutes to cool down; that's 15 minutes of a printer doing nothing. Prolonged overheating of print heads can cause catastrophic failure of major printing parts that would require replacements of entire units.

OUTDATED FIRMWARE
Printers operating with outdated firmware are not protected against security threats. They may not perform as well as expected and produce lower-quality print outputs.

It's estimated that 51% of all help desk calls are printer-related and that IT departments spend 15% of their time resolving printing issues.

51%
OF HELP DESK CALLS
ARE PRINTER RELATED[8]

IT DEPARTMENTS SPEND
15%
OF THEIR TIME ON
PRINTING ISSUES[8]

Printer management is essential to maximizing printer performance and ROI. In fact, with a printer management solution, organizations can save up to 40% on printing expenditures.

Printer management can reduce costs by **up to 40%.**[9]

[8] SOTI.net
[9] Pharos.com

Using OEM Print Utilities is Complicated

Not all printer original equipment manufacturers (OEMs) provide their own management and print utilities. While utilities do work, they aren't enterprise-grade, so they're somewhat limited in what they can do. They also work on a limited number of printers at a time; this is passable if you only have a small number of printers, but not practical if you have thousands of printers in thousands of locations:

National Retail Chain with 1,000 Locations	• 2,000 mobile thermal printers for shelf-edge labels by printer manufacturer 'X' • 2,000 desktop printers for packing labels by printer manufacturer 'Y' • 1,000 rugged mobile printers for receipts by printer manufacturer 'Z'
European Transportation and Logistics (T&L) Business with 250 Warehouses	• 3,000 mobile thermal printers for on-site printing of packages by printer manufacturer 'A' • 1,000 industrial printers to be installed on packing lines by printer manufacturer 'B' • 1,000 desktop labels for printing inspection stickers by printer manufacturer 'C'
National Pharmacy in Brazil with 2,500 Locations	• 4,000 desktop barcode label printers by printer manufacturer 'B' • 1,000 mobile receipt printers for prescription delivery drivers by printer manufacturer 'C'

In the example above, there are six printer manufacturers in total. They don't have the same interface, and they don't do the same thing. They may not use the same protocols either. There isn't a single OEM utility that will work with all six of them. And that can lead to several problems:

TRAINING: It takes time and resources for IT personnel to train and become familiar with each individual printer OEM. Employing some math, if an IT department has 20 people, that will require 120 training sessions in total. Of course, if a new printer OEM (OEM 'A') is brought on board for printing wristband labels, that will mean more training time is needed.

LACK OF CONSISTENCY: Each OEM utility does things differently, which results in a confusing, inefficient experience for the admin and user. One OEM utility may provide device details at its start page, while another may lead with security. It slows things down and makes printer management much more cumbersome and painful than necessary.

INCONSISTENT UPDATES: Mixed printer environments mean that some printers with OEM management tools may be updated automatically while others without OEM management tools are updated manually. This may require someone to either go on-site to touch the printer or have the printer shipped back to IT for re-staging. Using different methods for different printers at different times means an organization really doesn't know if all its printers are updated.

OEM printer utilities may not offer the printer management features you need to deploy printers quickly, ensure they're protected against the latest threats and have visibility into everything from memory usage to battery life to ink levels. They require the support team to learn multiple printer management tools, and constant training is required. They're inconsistent from one printer manufacturer to the next. And they may not get updated frequently enough to properly maintain printer performance, security and compliance.

So, why should organizations use them at all?

The answer is they don't. And one reason – perhaps the main reason – is because it's just not that easy to do...

No Choice, No Security, No Visibility: Three Problems When You Don't Manage Your Printers

If you don't control and manage your printers, they'll end up eating away at your organization's productivity and bottom-line performance. Mismanaged printer fleets can cost a business up to 3% of its total revenue. If your business delivers $10 million in annual revenue, that's $300,000 lost to poor or non-existent printer management.

Printer mismanagement can cost an organization **up to 3% of its total revenue.**[10]

That's just money. There are other headaches associated with not properly managing your fleet of mobile and industrial printers:

LOCKED INTO A SINGLE PRINTER OEM	COMPLIANCE RISK	LACK OF A HOLISTIC VIEW OF PRINTER STATUS
In the example earlier, a business used six printer OEMs (with six different print utilities) to handle six different tasks. But what if the organization felt compelled to use one printer OEM because "it's easier?" That doesn't work because an OEM that excels at rugged mobile printers for receipts printing may not meet the business' needs for thermal desktop barcode printing. Thus, the organization is stuck with a suite of printers which isn't fully capable simply because it's already using that management utility.	Imagine working in a highly regulated industry, such as healthcare, where protection of patient data is beyond critical – it's paramount. All devices – including printers – must be compliant with security regulations such as HIPAA and GDPR. Again, using the earlier example, two of the four printer OEM utilities have been updated with the latest firmware. That means the other two haven't, which is a huge compliance risk. If that business was audited for safety, it would fail.	In today's world, everything is connected. A high-level example is when a smartphone, laptop and tablet "talk" to each other to ensure the same information is shared. That isn't the case with printer OEM utilities. They don't "connect" with each other. Referencing the earlier example above, OEM utility 'X' won't share security details with OEM utility 'Y' or printer health details with OEM utility 'Z'. The organization only has a limited view into what's happening with its printers.

Imagine moving into a new home and having to use a different key for every door in your house. Then, picture using a different hammer for every single nail and picture you hang on the walls. Neither scenario is ideal.

But that's what a lack of printer management does. It forces an organization to either use printers for tasks they aren't equipped for or use multiple printers for multiple tasks. It makes things complicated and puts the organization at risk.

For printer management, using OEM printer utilities compromises and handcuffs an organization. And simply not managing printers at all blinds it. What's the solution?

Manage Any Printer Make and Model with SOTI Connect

SOTI Connect is the enterprise-grade printer management solution which makes printer management a breeze. SOTI Connect supports numerous mobile and industrial printer OEMs. Different OEM utilities may not "talk" to each other, but they "talk" to SOTI Connect – giving you total visibility into what's happening with your printers.

SINGLE PANE OF GLASS CAPABILITIES

One dashboard gives you access to all the rich management data you need for mobile and industrial printers. Through powerful and customizable charts and graphs, you can visualize the data. Know the security and firmware status of ALL your printers. Push updates to all or some of your printers with just a few clicks from the same interface.

FREEDOM OF CHOICE

Because SOTI Connect is OEM-agnostic, it allows an organization to select the best mix of printer OEMs to meet its needs. Select the right OEM for each business-critical printing operation your business has and let SOTI Connect manage them all.

PRE-EMPTIVE ALERTS AND UPDATES

Once you go with SOTI Connect, you'll know how your printers are performing, as SOTI Connect sends out alerts and updates based on your criteria:

• Firmware out of date? You'll know.
• Printer ink below 10%? You'll know.
• Print head temperature higher than expected? You'll know.

And once you know about it, you can resolve it thanks to SOTI Connect's management capabilities.

Plus, SOTI Connect reports on issues before they become disruptive. This lets you proactively solve problems in advance to minimize the potential and impact of costly printer downtime.

SOTI Connect ensures your printers are performing as expected and proactively lets you know when they're not. Printers no longer become an afterthought, only to be tended to when there's an issue. Instead, IT decision-makers receive real-time insight and real-time data into the health and status of printers.

And because SOTI Connect is OEM-agnostic, it eliminates the need to train and learn how to use multiple OEM utilities. SOTI Connect standardizes and streamlines printer management so it's fast, easy and efficient – as it should be.

PROBLEM 3
SECURITY

When it comes to printer security, an adage can be applied: it's better to have it and not need it than it is to need it and not have it.

For business-critical devices such as smartphones, tablets and even desktop computers, the adage rings true, as 77% of organizations are confident in their ability to protect mobile devices from threats. There's a good chance that your organization takes great care in securing its fleet of mobile devices.

The question then becomes, is the same level of security protection afforded to printers as it is to other mobile devices?

Unfortunately, the answer is no. Earlier studies have shown that only 19% of organizations are considered print security leaders, while 56% of enterprises leave printers out of their security strategy altogether.

As a result, it's estimated that less than 2% of printers are considered secure.

19%
OF ORGANIZATIONS ARE CONSIDERED PRINT SECURITY LEADERS[11]

2%
OF PRINTERS ARE CONSIDERED SECURE[12]

56%
OF ENTERPRISES IGNORE PRINTERS IN THEIR SECURITY STRATEGY[13]

[11] Quocirca
[12] DSI
[13] HP

As mentioned previously, it's estimated that less than 2% of printers are considered secure. Below is a breakdown of how security threats impact printers in various industries:

National Retail Chain with 1,000 Locations	• 2,000 mobile thermal printers for shelf-edge labels • 2,000 desktop printers for packing labels • 1,000 rugged mobile printers for receipts	If only 2% of printers are secure, that means in a fleet of 5,000 printers, only 100 are protected. For this retail organization, that equals 4,900 printers at risk of a data breach where customer details – including credit card information – can be accessed.
European Transportation and Logistics (T&L) Business with 250 Warehouses	• 3,000 mobile thermal printers for on-site printing of delivery packages • 1,000 industrial printers to be installed on packing lines • 1,000 desktop labels for printing inspection stickers	2% of 5,000 is 100; which means 4,900 printers are unsecured. In retail, that could lead to a distributed denial of service (DDoS) attack on the printer - otherwise known as "printjacking" – where hackers send an infinite amount of print requests to the printer, which makes the printer unavailable to print time-sensitive shipping labels.
National Pharmacy in Brazil with 2,500 Locations	• 4,000 desktop barcode label printers • 1,000 mobile receipt printers for prescription delivery drivers	At a 2% rate, just 100 printers would be considered secure. That means 4,900 printers are at risk of a data breach where confidential patient information can be accessed, stolen and exposed.

It's obvious that printers are at risk of a security breach, and yet, organizations aren't tackling the problem. Why?

Printer Security: Often Overlooked

First and foremost, it could be a matter of mindset. In today's world, a "phone" is not a "phone"; it's a connected, business-critical networked supercomputer with data sharing, tracking and productivity that fits in your pocket. It just so happens to let you make voice calls too.

The same mindset must be applied to thermal printers for labels, barcode label printers and mobile rugged receipt printers. A "printer" is not a "printer"; it's a device which contains confidential information and access to connected computers and corporate networks. Therefore, it's a potential point of entry. It just so happens to print shipping labels, barcodes, receipts or price tags too.

So why is printer security often overlooked? Here are some reasons:

Out of Sight, Out of Mind	Industrial and mobile printers in far-flung or remote locations don't get the same attention as business-critical smartphones, tablets and desktop or laptop computers.
It's Too Cumbersome	Navigating a small screen or using a USB port to secure a single printer takes too long. Doing it for hundreds of printers in disparate locations? There's just no time.
Can't Afford the Downtime	Productivity can't stop for 20 minutes to have a printer offline for a security update. With numerous printers, organizations don't want to bring operations to a halt.
Undefined Responsibility	In some industries – retail, for example – stores may be franchised and securing printers would be the responsibility of the owner, not the parent company. If this isn't clearly defined, printer security can get overlooked.
Complex to Manage Security	Each printer manufacturer has its own tools to manage its printers. The more printer manufacturers an organization utilizes, the harder and more cumbersome it is to use various management tools to enforce security policies, apply updates and monitor threats.
Shipping Costs	Shipping printers back to IT for a security update takes too long and costs too much. It's also bad for the environment and can lower a business' CSR score.

Whether the gap is technical, financial or operational, the result is the same: Only 19% of organizations believe their printer infrastructure is protected against a security threat (a number that dropped 4% over the course of a year; it was 23% in 2022) – meaning 81% are hoping, that nothing happens with their printer security.[14]

Organizations are Capable of and Responsible for Monitoring and Updating Their Printer Security

Any organization worth its salt will make printer security a top priority. In fact, 75% of CIOs predict printers will become the focus of data breaches in the near future.[15]

Data breaches can expose critical information that's found on corporate or internal networks, including:

PII (Personal Identification Information)

Payment Information and Details

Government Records (i.e., Social Security or Health Card Numbers)

Employee Names, Records and Information

Patient Health Records and Data

Business Documentation

Email Communications and Correspondence

Data Collected by Apps

This information may not be stored on or even printed from an unsecured printer, but it can definitely be accessed from an unsecured printer. Unfortunately, less than half (48%) of organizations apply firmware updates to maintain printer security to protect their printers. Finally, 66% of IT professionals believe their printers already contain data-stealing malware.

66% of IT professionals believe their printers already contain malware.[15]

Organizations which don't update mobile and industrial printer security are, in essence, willing to live with the risk of a security breach. Consider the following:

11% of all security breaches are print related.[16]

**60%** of enterprises have experienced data loss due to a printer security breach.[16]

63% of enterprises operating a mixed fleet of printers have experienced a data breach.[17]

Now consider the consequences:

The average cost of a printer data breach is over **$950,000** (USD).[18]

Regardless of source, the average data breach takes **277 days** to fully contain.[19]

Finally, here are some industries which are hardest hit by a data breach (costs in USD):

HEALTHCARE	TRANSPORTATION & LOGISTICS	RETAIL
$10.1 million	**$3.59** million	**$3.27** million
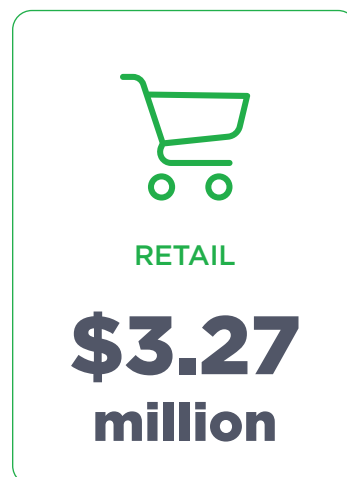
Failing to secure mobile and industrial printers is a recipe for disaster and the catalyst for a downward spiral of catastrophe.

First, the printer is hacked. Then, employees get fired due to their negligence. Next, the organization is fined for the breach (in an early example of a printer-type data breach, a healthcare organization was forced to pay a $1.2 million (USD) fine due to exposed records). Finally, impacted customers may wish to launch a lawsuit (which another healthcare organization is facing due to exposed patient information stored and accessed from a printer).

So, the steps required to secure mobile and industrial printers are too cumbersome, costly and complicated. Yet, the risks and results of not securing printers are incredibly punitive. Organizations are unable to do the former and unwilling to deal with the latter. What's the solution?

[16] SOTI
[17] Industry Analysts
[18] Industry Analysts - Converted from GPB
[19] IBM

Secure Your Mobile and Industrial Printers with SOTI Connect

SOTI Connect is the enterprise-grade printer management solution which enables IT administrators to remotely monitor and update printer security to protect against threats – without having to physically touch each printer or take them offline during peak operational hours.

DEPLOYMENT OF FIRMWARE UPDATES AND WI-FI CERTIFICATES

Ensure your SOTI Connect managed printers, including thermal, mobile, industrial and barcode printers, are protected. Not sure which printers have outdated firmware? SOTI Connect identifies and updates them. Because if one printer isn't updated, it's the same as if no printers are updated.

ENFORCEMENT OF PASSWORD AND SECURITY POLICIES

Wired or wireless printers are connected to networks, and that's how hackers get in and steal data. Make sure certain printers are protected when it comes to unauthorized network access.

SCHEDULE SECURITY CONFIGURATIONS

Push security notifications to printers at dates and times which best suit the business. Early morning? Middle of the night? Over lunch? Ensure printer security and productivity without compromising either.

SOTI Connect eliminates the possibility of people missing, skipping or forgetting to update printers manually. It alleviates the need – and cost – of a team of technicians going from location to location and updating every single printer one by one. It lets organizations control which printers will be updated and when.

SOTI Connect completely transforms the process of securing mobile and industrial printers. It goes from being expensive, easy to ignore and tedious to being cost-effective, proactive and efficient.

ASSET TRACKING

Industrial printers don't just grow legs and walk away. And, despite the name, neither do mobile barcode label printers or mobile shelf-edge label printers. Yet printers, despite being essential to business success, always seem to disappear. A large organization may have many printers scattered across many acres of facilities located around the world. One day, a printer can be found inside a transportation and logistics warehouse, and the next, well, nobody knows. The printer is just gone physically and not connected to a known network.

The problem of the disappearing "I-thought-it-was-here-but-now-it-isn't" printer is more prevalent than you think. An astounding 90% of organizations have no idea how many printers they have.

90%

OF ORGANIZATIONS DO NOT KNOW HOW MANY PRINTERS THEY HAVE[20], WHICH MEANS THEY DON'T HAVE INSIGHT INTO...

The actual physical location of the printers

The network they're connected to

The status and health of the printers

Occasionally, printers go missing. Printers can sometimes mysteriously vanish, spontaneously change locations, disconnect from networks or be sent away for urgent repairs. Whatever the case, printers on the move can be incredibly difficult to track down.

So, rather than being "found," these missing or misplaced printers are considered "lost". And while that may be an easy solution for enterprises – to merely shrug off lost or misplaced mobile and industrial printers as simply the cost of doing business – it's impractical and fraught with risk. Ignoring the importance of locating these assets exposes businesses to data breaches, operational inefficiencies and financial burdens.

20 SOTI.net

Lost Printers, Big Problems

For this exercise, let's use some round numbers. Imagine an organization with 5,000 thermal printers deployed in various locations. Using another round number, imagine that 10% – 500 printers – have gone missing. Here's the impact based on specific industries:

National Retail Chain with 1,000 Locations	Those missing printers mean pricing labels can't be printed. It's a poor customer experience as customers either have no pricing information available (because labels are missing) or will be viewing incorrect information (because old labels have yet to be replaced).
European Transportation and Logistics (T&L) Business with 250 Warehouses	Five hundred missing printers means shipping labels can't be printed. As a result, critical, time-sensitive deliveries are delayed. Customers become frustrated and the organization fails to meet its delivery SLAs, damaging its reputation.
National Pharmacy in Brazil with 2,500 Locations	Prescription delivery is an essential pharmaceutical service as more and more patients opt for it. But if labels can't be printed, prescriptions can't be delivered. Suddenly, a patient expecting to receive a prescription delivery on Tuesday has to wait until Thursday; which is two extra days of not having the medication they need.

So, what will these organizations do about these 500 missing printers?

- Hopefully they have enough swap stock inventory – 500 printers – sitting around in storage doing nothing except collecting dust. With an average price of $350 (USD), that's $175,000 (USD) worth of spare printers.

- Make certain those printers are still in good working order and can meet the needs of the business. After all, how long have they been sitting there?

- Get those printers out to the correct location. It's entirely possible the swap stock is in the IT office, yet the printers have gone missing from a remote warehouse that's hundreds of miles away.

- Set up, deploy and test the printers to ensure they're working as expected and configured properly. That requires someone from IT actually going to the location to do it. If that isn't feasible, IT has to coach a non-technical person over the phone through the steps, a frustrating, time-consuming experience which takes both people away from more essential tasks.

Finally, once that's all done, the business must replace additional printers to replace the swap stock just to keep enough printers on hand. If additional printers move locations and can't be accounted for, the above process repeats.

That's just one issue associated with being able to track printers on the move. Here are some more:

INACCURATE PRINTER AUDITING: It's recommended that organizations conduct an annual print audit. Any print audit starts with a basic counting of printers. And that means going to every location – warehouse, store, office, etc. – and physically counting every printer one by one. There's a risk of devices getting skipped; especially if they're difficult to locate. And it's time-consuming, as it takes approximately 15 minutes to audit a single printer before moving onto the next. Ongoing printer movement and swaps can cause printers to be falsely reported as lost or missing. That means the organization is making critical decisions based on incorrect data.

> After driving to a remote store location, **it takes 15 minutes for a retail organization to count and audit** just one printer before moving on to the next.[21]

LACK OF VISIBILITY INTO PRINTER ROI: To accurately assess printer performance, an organization must know where its printers are located. An astounding 90% of companies don't track printing costs, and part of that is because, well, they just don't know how many printers they have, where they're located or how they're doing.

> **90% of companies do not track printing costs**[22], possibly because they cannot track how many printers they have or where they're located.

POOR CUSTOMER SERVICE: A mobile receipt printer which should be at a self-service checkout isn't there. A shipping label printer at the end of a packaging line is missing. Where did they go? Missing printers can impact customer service quality, as customers can't get their receipts or product deliveries in a timely manner. Depending on the location and function of the printer, if it goes missing, everything can grind to a halt; and customers won't stand for it.

REGULATORY ISSUES: Many industries have compliance and regulatory requirements for handling sensitive data. Printers either print or have access to sensitive information. A missing or unaccounted printer is one that's considered a security risk, and the result can lead to financial penalties, legal disputes or reputational damage. If the printer is lost, it may as well be considered stolen.

[21] SOTI Customer
[22] Flipsnack

It seems innocuous. A printer may have just been moved from the front of the store or warehouse to the back 20 feet away. But without visibility into its movements, it may have been relocated 1,000 miles away. In essence, 20 feet is the difference between being compliant or facing a penalty; it's the difference between knowing where a printer is and having to buy a replacement. It's the difference between delivering a great customer experience or a poor one.

Tracking Printers Across Your Network is Important...and Doable

There are many reasons why a mobile and industrial printer may move from one location to another:

WORKSITE MOBILITY: In certain settings, such as a warehouse or manufacturing facility, printers are used in dynamic work environments where they must perform tasks at various locations.

FIELD SERVICE REQUIREMENTS: In field services or other industries like T&L, printers allow workers to print receipts, barcodes, identification labels and other critical information directly on-site.

TEMPORARY PROJECTS: A mobile or industrial printer may have to move to support a specific project, such as a trade show or temporary facility, to ensure seamless operations and customer satisfaction.

IMPROVED ACCESSIBILITY: Printers may get moved to support areas of a business with limited printing capabilities or immediate printing needs, such as wristband printing in healthcare.

EQUIPMENT SHARING: Mobile and industrial printers may be moved between departments or teams to optimize resource utilization and maximize efficiency while minimizing costs.

MAINTENANCE OR REPAIR: Printers may need to be moved to a specific location for maintenance, repairs or upgrades to ensure they remain in good working order and address any potential issues.

As listed, there are many good and valid reasons for mobile and industrial printers to move locations. That's not the issue. Rather, the concern is not being able to track them as they go from place to place. A printer that was in one location is now in another. What's better: assuming the printer is lost or misplaced and dealing with the ramifications or being able to see where it is?

The second option is preferable. So, what's the solution?

Track and Audit Printers with SOTI Connect

SOTI Connect is an enterprise-grade printer management solution that discovers when your printers join a network and tracks them as they move across networks. Instead of taking 15 minutes to count and audit a single printer, SOTI Connect counts and audits them all in only two minutes.[23]

AUTO-DISCOVERY OF PRINTERS ON A NETWORK

SOTI Connect automatically groups printers as their location changes. For example, you have two networks: 'West Warehouse' and 'East Warehouse'. When the printer comes online where it's supposed to be – the 'West Warehouse' – or if it's moved to the 'East Warehouse,' SOTI Connect tracks them. If the printer is moved to another network, say, the 'Maintenance Warehouse' where equipment gets sent for repairs, SOTI Connect tracks them.

INVENTORY REPORTS

SOTI Connect can automatically run and deliver inventory reports based on printer model, make and location. This real-time reporting allows for informed decision-making on things like printer inventory, available swap stock and maintenance allocations.

SOTI Connect puts an end to painful, costly and inefficient manual printer audits by enhancing audit accuracy. Human error is replaced by automated, precise counting and the expenses associated with unnecessarily replacing printers decrease drastically.

Ensure all your mobile and industrial printers are documented and accounted for in real-time. SOTI Connect does the hard work of auto-discovering printers once they attach to your networks. With greater visibility into how many printers you have and what internal network they're on, you can make smarter decisions on when to purchase new printers, when to replace old printers, when to replace supplies and when to schedule maintenance.

VISIBILITY

Not having visibility into mobile and industrial printer health and performance is akin to buying a new car and then turning off the dashboard warning lights. You would have no clue if your car was performing as expected or on the verge of running out of gas.

Printer visibility is critical, but not all businesses invest in it, which is quite suboptimal. It's estimated that total printer costs – from deployment to management to supplying printers – account for 3% of an organization's annual revenue. It's also estimated that unmanaged printing can chew up 15% of business expenses. Finally, it's estimated that less than 2% of printers are secure.

3%
ORGANIZATIONAL REVENUE SPENT ON TOTAL PRINTER COSTS[24]

15%
COST OF UNMANAGED PRINTING TO BUSINESS EXPENSES[25]

2%
OF PRINTERS ARE SECURE AND PROTECTED FROM THREATS[26]

A business that has printers as mission-critical to its business model should at least have visibility into what is happening with them.

Five (Not So Good) Reasons Why Organizations Don't Invest in Printer Visibility

IT'S A MANUAL PROCESS: For some organizations, if they want visibility into their mobile or industrial printers, they must, you know, go to them. That might work for the first five or ten printers. But what if there are 100 printers scattered throughout multiple locations? Who is going to check all of them? Chances are, nobody will. So, the printers are ignored and the organization has no visibility into their status or performance – except when they fail. Then, everybody notices.

LACK OF ACCOUNTABILITY: Who is responsible for maintaining visibility over printer performance? Is it the purchasing agent? The IT decision-maker? The end user? A department manager? Somebody else? And that's just one location; who oversees printer visibility at the warehouse, or the retail store, or the distribution center? This fragmented approach results in a lack of overall visibility and understanding of what is happening with printer deployments.

[24] Fraser AIS
[25] Papercut
[26] HP

NO TECHNOLOGY: If organizations are manually checking in on printers, they're probably manually documenting their status as well. We're talking pen-and-paper forms, which may or may not get entered into a spreadsheet which may or may not get updated on a regular basis. This is problematic in a few ways. Firstly, there's no guarantee that all printers will be monitored. Secondly, if information isn't entered promptly or correctly, it's immediately out of date and incorrect.

OUTDATED PRINTER MANAGEMENT SOFTWARE: Some printer OEMs provide provide their own management solutions. But if they become outdated or incompatible with an ever-evolving printer fleet, printer visibility suffers. Older mobile and industrial printers may not support or allow for advanced monitoring capabilities or complete visibility.

OUTDATED VISIBILITY INTO PRINTER STATUS: Over the past few years, there has been a rapid advancement in workplace technology, and printer technology is no exception. As organizations embrace the latest technological developments, numerous companies have emerged to offer Managed Print Services specifically tailored for office printers. However, these print service providers have not recognized the need for a smart solution when it comes to M&I (Manufacturing and Industrial) printers. Unlike office printers, industrial printers were not initially designed with the same level of connectivity in mind.

Printer Visibility Matters More Than Ever

It's simple: when printers stop, everything stops:

National Retail Chain with 1,000 Locations	A problematic printer prevents employees from giving customers their receipts in a timely manner.
European Transportation and Logistics (T&L) Business with 250 Warehouses	A printer that isn't performing properly or is on the verge of downtime can bring the supply chain to a halt.
National Pharmacy in Brazil with 2,500 Locations	Printer downtime results in prescription deliveries being delayed. Expanding to include healthcare in general, a malfunctioning printer can keep patients in the triage station instead of getting the full care they need in a hospital room.

Not only does everything stop, but it also gets more expensive. If a business relies on a third-party service provider to resolve printer issues, it can cost up to $330 (USD) per incident. Of course, that doesn't include the four hours it takes them to travel to the location of the troublesome printer.

$330 (USD)

COST OF A PRINTER SERVICE CALL PROVIDED BY A THIRD-PARTY[27]

4 HOURS

TIME IT TAKES FOR THIRD-PARTY SERVICE PROVIDERS TO RESPOND TO A SERVICE CALL[28]

Therefore, if an organization has 10 printer problems per month, that's $3,330 (USD) spent and 40 hours lost. Then, of course, the service provider must determine what the problem is – and, really, who knows how long that will take or what extra costs will be incurred.

Complete visibility into the status of mobile and industrial printers is the answer. Going back to the car analogy earlier, it's infinitely better to know if it's going to run out of gas as opposed to it actually running out of gas and then sending someone to figure out why it ran out of gas earlier than expected. So, what's the solution?

[27] CartridgeWorldUSA
[28] SOTI.net

Total Visibility Into Mobile and Industrial Printers with SOTI Connect

SOTI Connect is an enterprise-grade printer management solution which allows organizations to monitor mobile and industrial printers. If all your printers are in peak working order, you'll know about it. If any printers are exhibiting issues, you'll know about it. And if any printers experience downtime which can impact business-critical operations, you'll definitely know about it.

AUTOMATED ALERTS

Automation rules on SOTI Connect can issue alerts and even take actions when predefined conditions are met on a printer. For example:

- If print head temperature surpasses a specific temperature, the printer can be shut down.
- If printing speed slows to a certain level, the printer can restart and reboot itself accordingly.

REGULAR REPORTS

SOTI Connect delivers regular reports based on devices, groups or device types. Reports can be run at regular intervals, such as the start of a shift and the end of a shift. With detailed reports sent right to you whenever you want them, you get complete visibility into what's happening with your mobile and industrial printers.

Total Visibility Into Mobile and Industrial Printers with SOTI Connect

VISUAL WARNING WIDGETS

It's visibility through visualization. SOTI Connect features warning widgets which visually display key information such as:

• Low paper and ink levels
• Battery levels
• Available memory

Warning widgets provide fast access to key properties and actions for each device in a user-friendly and intuitive manner.

VISUALIZATION DESIGN STUDIO

Create tailored and customized visual boards to get the exact visibility you need for your mobile or industrial printers. View relevant data immediately and perform specific device actions. Upload printer images and build charts, graphs and gauges using a simple drag-and-drop interface.

With the Visualization Design Studio, an IT admin who is hundreds of miles away can have faster and deeper insight into a printer's condition than someone who is standing right next to it. And instead of trying to walk and talk someone through the steps of accessing printer information (press this, click that, scroll here), the Visualization Design Studio automatically provides it.

Whether the printer is down the hall, across town or around the world, SOTI Connect gives you total visibility into your printers and the issues which can lead to costly and unproductive downtime. Instead of being reactive and responding to issues after they occur, you can be proactive and detect problems before they negatively impact business-critical mobile operations.

SOTI Connect replaces guesswork with real-time information about printer status, health and performance. Armed with this data, organizations can make better, smarter decisions to maximize the effectiveness, lifespans and ROI of mobile and industrial printer investments.

SUSTAINABILITY

The lifespan of thermal printers, barcode label printers or assembly line printers depends on things like usage rate and where and how it's deployed. A thermal receipt printer, for example, can last three to five years. An industrial label printer can last at least six years.

Don't forget about the components inside printers: Print heads are measured in millions of linear inches printed. It's not uncommon for a print head that prints a 130 mm message on 5,000 labels a day six days a week to last around a year. Printer batteries, meanwhile, may need replacing after 300 to 500 charge cycles.

Armed with this information, IT decision-makers should know when printers are no longer effective and when print consumables are nearing or needing replacement. This would maximize functional printer lifespans and ROI.

But that isn't the case. Enterprise devices from smartphones to tablets are routinely thrown away early, and a staggering 55% of IT decision-makers admit printers are disposed of unnecessarily.

ENTERPRISE DEVICES DISPOSED OF UNNECESSARILY[29]
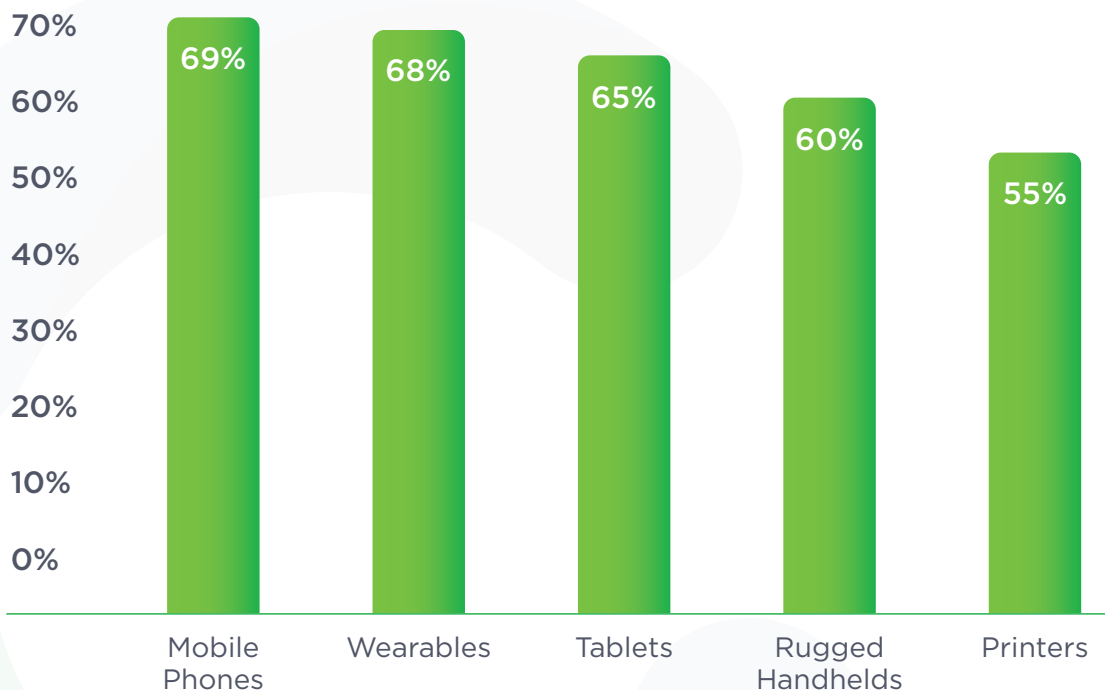
It gets worse: 52% of IT decision-makers admit to getting rid of battery-powered devices – such as mobile printers – even if the batteries are in good working order; the device gets tossed aside for a newer model.

That begs two questions:

1. Why are perfectly good mobile and industrial printers being replaced way before they need to be?

2. Where are these perfectly good devices going?

IT Departments Are Blind When It Comes to Printer Health

As previously mentioned, 52% of IT decision-makers are getting rid of battery-powered devices based on expected lifespan,[30] not actual lifespan.

There are a few reasons for this. Firstly, there's budget contraction. IT decision-makers may feel compelled to spend their allocated budgets in full, lest they shrink in the future if there are any unused dollars. Secondly, there's the misguided belief that device life and battery life are the same. If the battery dies, the printer is sure to follow suit; so why not replace everything at once?

And then there's the fear of mid-shift battery failure costing workers an average of 50 minutes of productivity. When it comes to mobile and industrial printers, imagine losing the ability to print the following for almost an hour:

HEALTHCARE

Pharmacy labels

Identification tags
(for example, patient wristbands)

Lab work labels

Sample collection labels

TRANSPORTATION & LOGISTICS (T&L)

Packing slips

Shipping labels

Delivery lists

Bills of lading

RETAIL

Receipts of point of sale (POS) terminals

Shelf-edge labels

Price tags

Shipping labels

Printer failures can result in delays in patient care. Or unhappy customers at the retail store. Or bottlenecks in supply chain deliveries. To avoid the risks associated with untimely printer failures, IT decision-makers have adopted a proactive approach of replacing printers early rather than waiting for critical failures. However, there is a more sustainable alternative: updating printers or print consumables precisely when needed.

Constantly Replacing Printers Is Not Sustainable for the Planet

Just for reference, a 100-mile ground delivery of a single package weighing 25 lbs. emits 0.61 kg of CO_2. A 1,000-mile flight delivery of the same package emits 16.86 kg of CO_2.[31]

To put it simply, needlessly getting rid of perfectly serviceable printers is bad for the environment. Three elements – the printer itself, the ink cartridge (should the disposed of printer use one) and the battery all conspire to damage the environment. Here's how:

The Printer	Printers may contain hazardous materials, such as lead and mercury, which can leach into the soil. Mercury is problematic because once it enters the soil, it can accumulate in organisms, plants and animals. In fact, e-waste from printers, smartphones, tablets, etc., is the largest source of mercury in municipal waste in the U.S.[32]
The Ink Cartridge	Ink cartridges are known to contain volatile organic compounds (VOCs) such as methylbenzene, ethylbenzene, xylene – and other things which end in "ene" and don't seem very safe. VOCs are chemicals that can be emitted as gas and released into the air as the cartridge breaks down. VOCs can also leach into the soil and groundwater.
The Battery	Chemicals inside batteries, such as cobalt and nickel, can seep out and make their way into and through soil and be absorbed by plants. If batteries are incinerated, the chemicals will foul the air. And in extreme cases, discarded batteries can cause fires or explosions.

No mobile and industrial printer will last forever; nor should it be expected to. Neither should print heads, ink or any other print consumable. But it's also worth noting that when it comes to e-waste – a designation which includes printers – only 17% gets properly collected and recycled. The rest wind up in landfills.

Only 17% of e-waste – including printers – gets recycled annually.[33]

[31] Consumer Ecology
[32] Chron
[33] Statista

If just 17% of e-waste gets recycled each year, what's happening to the remaining 83%? And what impact is it having on our environment? Well, consider the following:

- Excessive raw material extraction occurs when devices get disposed of needlessly. This results in a significant loss of already scarce and valuable raw materials.

- Every device ever made has a carbon footprint, and throwing old ones away early and replacing them just expands that footprint.

- When e-waste is burned, dioxins can be released into the air, causing pollution and harming respiratory health.

- Rain can flush metal toxins which have seeped onto the ground and into water systems which impact human, animal and plant life.

It's an endless cycle: manufacture a device such as a printer at an environmental cost, dispose of it needlessly at an additional cost, and then repeat. How long can the planet sustain that type of waste production? And what can be done about it?

More Visibility = Less Waste

Could you imagine driving a car without a working gas gauge?

Think about it. It tells you how much fuel you have and allows you to select the best possible time to fill up. When the fuel drops below a certain level – typically around 10% to 15% of the tank's capacity – the fuel light comes on to give you notice that you'll run out of gas soon.

Now imagine NOT having access to that information. Imagine, for example, thinking you need to fill up your car (and trying to), but you only need to put $10 in just to get the tank topped up.

That, in essence, is what organizations are facing with mobile and industrial printers. They don't have insights into battery levels. They are unsure about memory usage, print head temperature or print cycles. They may not even know how many printers they actually have, which is a problem for 90% of organizations.

> **90% of organizations** do not know how many printers they have.[34]

It's no wonder perfectly good mobile and industrial printers are being replaced needlessly at an alarming rate when organizations:

- Don't have visibility into the current health and lifespan of their printers

- Have no idea if things like print heads are still in good working order or if they need replacing

- Are guessing at the number of printers actually deployed and in use

So, what's the solution?

Get Real-Time Visibility into Your Printers with SOTI Connect

SOTI Connect is an enterprise-grade printer management solution which gives IT departments and administrators total visibility into the health and status of printers. Instead of guessing how printers are performing, SOTI Connect allows organizations to make smarter decisions using real-time data.

ACCESS NUMEROUS DATA POINTS
SOTI Connect reports on printer data, including battery health, print head health, darkness levels, printing speed, temperature levels and more.

VIEW DATA VISUALLY
Create tailored and customized dashboards to visualize the data and make smart, environmentally sound decisions. For example, if a printer battery level is low, instead of automatically disposing of the printer, it can be redeployed to another part of the business where printing requirements are lower, extending its lifespan, saving money and keeping it out of the landfill. Build charts, graphs and gauges so the printer performance data you need is available when you want it, where you want it.

NETWORK INVENTORY
SOTI Connect can be set up to automatically discover printers on your network and map them accordingly. When printers physically move locations, SOTI Connect tracks them and updates their group mappings accordingly.

The three tenants of sustainability are "reduce, reuse and recycle."

- SOTI Connect reduces the need for replacing printers too soon and ensures they aren't needlessly disposed of.
- SOTI Connect can help organizations reuse printers effectively instead of disposing of them.
- SOTI Connect can help organizations recycle printers when necessary, and not before, ensuring perfectly good and serviceable printers don't end up in the landfill.

Six Problems, One Solution: SOTI Connect

You may have noticed that for each of the six problems mentioned in this eBook, there was always the same solution: SOTI Connect.

That wasn't accidental.

SOTI Connect is the enterprise-grade printer management solution designed to help you take control of your mobile and industrial printers – whether they're thermal printers, barcode printers, mobile wristband printers or rugged assembly line printers. Instead of being afterthoughts, easily disposed of or replaceable devices, SOTI Connect lets you manage them with the same level of visibility and precision as you would your other business-critical mobile devices.

Ask yourself the following:

IF YOU'RE IN...	WHY SHOULD YOU...
HEALTHCARE **TRANSPORTATION & LOGISTICS** **RETAIL**	• Spend weeks and hundreds of dollars deploying printers you've already spent thousands on? • Fumble with complicated and cumbersome processes to manage your printers? • Worry about the security of your printers from devastating threats which cost you time, money, customers and your reputation? • Wonder where your printers are located within all the networks of your organization? • Be blind to the basic health and performance status of your printers? • Not have access to detailed metrics that help you get the most from your printer investments? • Not be able to meet your sustainability requirements and ensure you don't dispose of e-waste unnecessarily?

Those questions all have the same answer: You shouldn't. And you don't have to with SOTI Connect

Want to learn more about SOTI Connect?

VISIT
Check out **soti.net/connect** for additional information.

TRY
Begin a **free 30-day, no-obligation trial** of SOTI Connect.

REQUEST
Let us show you the power of SOTI Connect with a **free demo.**

soti.net