# Mitigating the Risk of Untracked Assets with Holistic Telematics

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# Executive Summary

Telematics technologies have grown in popularity in recent years as businesses seek to enhance the capabilities of asset management and loss prevention. While specific use cases may vary, telematics solutions facilitate productivity gains, optimize operational efficiency, effective maintenance and streamline asset utilization.

For example, the construction sector relies heavily on telematics to track machinery between storage locations and job sites. Market growth for construction-equipment telematics alone has a projected CAGR of 14% through 2024.[1] Meanwhile, fleet telematics are now standard on as many as 15% of vehicles, with projected annual growth of 23% through 2025.[2] Telematics have also gained traction as a management tool for supply chain visibility, with use cases ranging from monitoring warehouse forklifts to tracking pallets full of goods throughout the various steps of transportation and delivery.

Monitoring high-value assets provides significant benefits in terms of visibility, maintenance scheduling, cost control and more. Unfortunately, many traditional telematics require expensive technologies or large devices, often making it counterproductive and cost-prohibitive to track assets that are small or those that have a high service value despite their lower financial value.

As smaller and more affordable tracking devices enter the market, however, the capabilities and benefits generated by telematics have begun to extend to ancillary assets that have not been traditionally monitored using tags, sensors and other telematics devices. Newer technologies have elevated asset-management capabilities for this type of equipment, significantly reducing the cost of replacements for lost items and improving the use of existing assets.

# Implementing Asset Tracking for High Service Value Equipment

Across the supply chain, pallets often never return from the customer and hand trucks get left on loading docks. Service truck operators leave tools and small assets at job sites. Construction projects may eat the cost of tens of thousands of dollars in simple hand and power tools on a single project. While asset-tracking solutions often focus on large-ticket items, lower-value, ancillary items receive less attention. Over time, however, lost tools and equipment can have a significant negative effect on meeting project deadlines, maintaining service levels and ultimately preserving profitability for businesses across industries.

Research has shown that two-thirds of construction contractors replace 10% to 30% of their tools annually.[3] As many as 30% of reusable pallets are not returned in the supply chain, with each requiring the purchase of a new pallet to replace it.[4] Other costs also compound the cost of replacing the item itself.

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For instance, increased labor costs may further exacerbate the negative financial effect as workers backtrack, retrace their steps or enlist co-workers to help find tools or equipment misplaced or left behind.

"While the value of smaller equipment such as tools is oftentimes considerably lower—in many cases even negligible compared with large equipment such as machinery—the benefits of keeping track of smaller items can still be considerable," said Rickard Andersson, principal analyst at Berg Insight, an internet of things (IoT) market research firm. "For example, if a crucial but small hand-held tool is lost, a field worker can waste precious time in the process of locating the item to be able to resume his work. The effect of losing a small item can thus be as detrimental as losing a considerably larger and more valuable equipment item, but much more likely as a small item is, indeed, easily lost."

Realistically, many of these lost items go unmeasured entirely, making it extremely difficult to estimate the costs incurred by failing to track them. While many telematics exist to track vehicles, heavy equipment, shipping containers and other high-value assets, until recently, it wasn't cost-effective to invest in tagging simple assets, such as diagnostic equipment or hand tools.

"Let's look at service fleets," said Kinana Hussain, vice president of product line management for CalAmp, a Software-as-a-Service

and telematics solutions provider. "Service fleets have a variety of small assets and tools on their vehicles. Those tools by themselves might not be very expensive—say you have a ladder that might cost $500—but the utilization of that ladder is where its real value comes in. If you're not tracking that small ladder, it might get left behind at a job site. That ladder might only be $500, but if the operator has a schedule of six different customers that need service with that ladder, then the entire service schedule gets delayed or cancelled."

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The use of cellular technologies once made tags prohibitively expensive for items considered low or medium in value, but the expansion of Bluetooth low-energy wireless technology has facilitated the development of highly efficient, longer-lasting, cost-effective tags. These newer tags are also available in sizes small enough to tag an expansive range of common tools and other ancillary assets. By combining broader fleet and equipment telematics with more granular telematics capabilities for lower-valued equipment, it is possible to significantly cut losses and give a substantial positive boost to the bottom line.

# The Advantages of Tracking Ancillary Assets

Expanding telematics capabilities to track lower-value ancillary assets offers a variety of benefits beyond simple bottom-line gains generated by lower asset turnover. Some of these include:

- **Better asset use.** Awareness of the location of critical tools and equipment ensures that it will be available when it needs to be used.
- **Enhanced operator efficiency.** Drivers and equipment operators can focus on their primary assignments without searching for tools, diagnostic equipment or other assets that otherwise may have been left behind.
- **Minimized project and scheduling delays.** Misplaced assets often have a ripple effect on service, project and delivery schedules, which reflects badly on a business and harms customer relationships.

- **Improved preventive maintenance.** Careful tracking of ancillary assets ensures they are in the right place at the right time for any necessary scheduled maintenance.
- **More accurate estimates.** Some providers add lost assets to the invoice after project completion, which causes them to exceed their initial estimate, while other companies circumvent this by padding estimates on the assumption that small assets will get lost.
- **High return on investment.** Keeping track of equipment using affordable telematics ultimately pays for itself and continues to generate savings over time.
- **Expanded visibility.** Tagging lower-value assets offers expanded visibility into the full potential and capabilities of a business.
- **Low integration costs.** Solutions that track ancillary assets typically integrate with existing telematics software, resulting in a relatively low onboarding cost.

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# How Do Small Asset-Tracking Tags Work?

The latest generation of smart proximity sensors has moved away from cellular and RFID technologies in favor of more cost-effective Bluetooth capabilities. While traditional stand-alone cellular solutions may be too prohibitively expensive for lower-value asset deployment, Bluetooth-enabled tags can be widely deployed across all assets in a fleet, on a construction site, in a warehouse or on outgoing returnable assets to ensure optimal tracking and monitoring.

"Bluetooth low-energy technology has become very mainstream now to the point where it can be deployed in a commercial environment with the right level of security, the right level of range and robust connectivity," Hussain said. "Traditional trackers were all cellular-connected, so there was an associated data plan that increased costs. With Bluetooth, you just deploy it and the sensor reports to the telematics' edge device to provide visibility."

The potential applications for small and affordable smart proximity tags are quite broad.

By using compact smart proximity sensors, business leaders, project managers, fleet managers, supply chain managers and many others can implement tailored solutions that affordably track an expansive range of tools and assets with full visibility and edge intelligence.

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USE CASE #1

# Service Fleets

If a service truck leaves a crucial piece of equipment behind after a call, a smart proximity tag associated with an edge telematics device communicating with a telematics platform can notify the driver in near real time that the equipment is missing as soon as the truck is out of range of the tag. This allows the driver to immediately turn around and retrieve the equipment without significantly affecting the rest of their daily schedule.

USE CASE #2

# Construction Sites

On the construction site, tools can often be misplaced, lost, or in the worst-case scenario, stolen. Smart proximity tags on the tools can give project managers full visibility into all tools on the job site, ranging from simple hand tools to more expensive yellow iron equipment attachments.

USE CASE #3

# Sustainable Supply Chain

Many companies have shifted to reusable pallets in pursuit of more sustainable operations. While a simple wood pallet may cost less than $100, a reusable pallet may cost $800 or more. As such, reusable pallets are only cost-effective if they are returned to the original owner. By placing smart proximity tags on reusable pallets, owners can track pallets through their various touch points and see who had them last when they don't come back.

"It is important to consider the actual needs of the organization in relation to the items to be tracked," Andersson said. "Mining typically takes place in remote locations, in many cases even underground, which makes it hard to replace lost items in a timely manner. Agriculture operations oftentimes operate with very slim margins, whereby time lost searching for the right tools or implements can severely affect profitability. Aviation, another time-sensitive industry, can leverage asset tracking to keep track of diverse assets ranging all the way from specialized tools to wheelchairs that are needed to ensure first-class service for passengers with reduced mobility."

Ultimately, the use cases for small asset telematics are relatively limitless and will differ from case to another depending on the specific details and assets of an operation.

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# See How Small Asset Tracking Can Improve Your Bottom Line

Currently, 22% of general contractors tag equipment to track assets, with an expected increase to 42% by 2022.[5] An analysis of IoT asset-management initiatives showed revenue generation potential ranging from $220,000 to more than $19 million, depending on the size of the program and the user company.[6] Studies such as these suggest that a more holistic asset-management solution will positively affect the bottom line of any business that regularly deploys large volumes of small assets in the field.

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